

The Undisputed Leader  
In High Speed  
Switching Power Supply  
Technology



Sales and Factory Service:  
Stewart Audio, Inc.  
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(209) 588-8111 Fax (209) 588-8113

PROFESSIONAL

**PA-50B/PA-100B**



**Owner's Manual**



WHEN THE PERFORMANCE DEPENDS ON IT

**AMPLIFIERS**

**Congratulations** on the purchase of your new Stewart Audio PA Series power amplifier. This amplifier has been designed and built to provide you with years of high-quality audio performance and trouble-free operation. If after reading this manual you should have any questions concerning amplifier installation and operation, please contact your Authorized Stewart Dealer, or you may contact us directly at:

Stewart Audio, Inc.  
14407 Cuesta Court  
Sonora, CA. 95370  
Phone (209) 588-8111 Fax (209) 588-8113

Your Stewart Audio PA Series amplifier is the result of years of research and experience in the design and manufacture of amplifiers and superior quality audio equipment. As such it provides a combination of performance and operational benefits that simply cannot be found in conventional amplifiers.

In order to obtain maximum performance from your PA Series Amplifier, please take time to read this brief owner's manual and carefully follow the guidelines for connection and operation

### Design Features

- Switching Power Supply—for efficiency, size reduction, dependability
- Superior Thermal Protection—effective protection with no noisy fan and no untimely shutdowns
- Full Complimentary Class A/B Amplifier—utilizes integrated Darlington Pairs for more linear operation. Sound is more musical, more “tube-like”
- High Dissipation Output Devices—insures operation well within their S.O.A. (Safe Operating Area) for effortless operation and device longevity

### Warranty

The Stewart PA Series Amplifiers are covered by a 2 year limited warranty. Please make sure you fill out the warranty card provided and mail it to us. We recommend you keep the shipping carton, packing materials, and your bill of sale.

## Specifications

		<b>PA-50B</b>	<b>PA-100B</b>
Maximum Output , 20Hz-20Hz Stereo		25W@8? single channel 50W@4? single channel	50W@8? single channel 90W@4? single channel
Bridged Mono		100Wx2@8? per channel 10Wx2@4? per channel	180Wx2@8? per channel 180Wx2@4? per channel
Frequency Response +/-0.5dB		20Hz - 20kHz	20Hz - 20kHz
Bandwidth +/-3.0dB		5Hz - 100kHz	5Hz - 100kHz
Noise (A weighted, any mode)		>100dB below full rated output	98dB below full rated output
THD (8? ) 20Hz-20kHz		<0.08%	<0.08%
Input Impedance		20K?	20K?
Input Sensitivity for Rated Output (8? )		1V	1V
Slew Rate (Stereo Mode)		<30V/microsecond	<30V/microsecond
Damping Factor		<200/8?	<200/8?
Number of Channels		2	2
Input Connectors		1/4" Phone	1/4" Phone
Output Connectors		Terminal Strip	Terminal Strip
Power Requirements ( 8? /Ch)		120C AC 100w	120C AC 100w
Power Supply Design		High Speed Switching	High Speed Switching
Dimensions	Height	1.7 in (4.4cm)	1.7 in (4.4cm)
	Width	8.5 in (21.6 cm)	8.5 in (21.6 cm)
	Depth	6.2 in (15.7 cm)	10.2 in (25.9 cm)
	Weight	3.5 lbs(1.6 kg)	5.5 lbs (2.5kg)

### Optional Accessories

RMK-100/RMK-200 19" Rack Assemblies  
for Single or Dual (side-by-side) Mounting

Stewart reserves the right to change features and specifications without notice.

## Troubleshooting

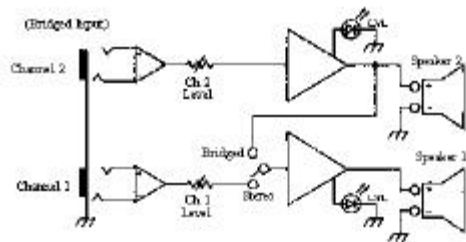
### Problem: Led not Lit.

**Procedure:** Is amplifier plugged into a live outlet? Is power switch pushed “IN”? Disconnect speaker. If amplifier turns on (after a few seconds delay), the problem is in the output connection. Check wiring and speakers for short circuits. If amp will not turn on, return it to your dealer for service.

### Problem: No output on one or both channels; LED Lit.

**Procedure:** Check level controls, input terminations, bridge switch, source, input cables, speaker connector and wiring.

### PA-50B/PA-100B Block Diagram



### PA-50B/PA-100B

## Contents

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## For The Record

Please fill out and return the enclosed warranty card at your convenience. This information will provide proof of ownership for warranty purposes and will allow us to notify you if necessary.

In the spaces provided below, record the model and serial number located at the rear of your amplifier.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

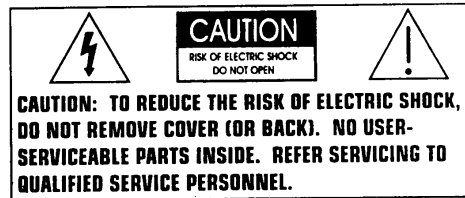
Purchase Date \_\_\_\_\_

Retain this information for future reference.

# Safety

Before using your Stewart Audio Inc. Power Amplifier, please read this **Owner's Manual** carefully to ensure optimum trouble-free performance.

**WARNING: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS AMPLIFIER TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.**



The lightning bolt within arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to person.



The exclamation point within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

## **Important Safety Instruction – Please Read Prior to Product Installation.**

1. All of the safety and operating instructions should be read before the amplifier is operated. Retain these instructions for future reference. All instructions should be followed; all warnings on the amplifier and in the operating instructions should be adhered to.
2. This amplifier should not be used near water, for example, near a bathtub, in a wet basement, near a swimming pool, etc.
3. The amplifier should be situated so that it’s location and position does not interfere with its proper ventilation. For example, the amplifier must not be placed on a rug, bed, sofa or similar surface that impedes airflow across the chassis. Airflow through the ventilation openings should be unobstructed.

# PA-50B/PA-100B Input Controls

The input sensitivity of each amplifier is adjustable for optimum performance with and line-level source. Adjustment is by means of screwdriver-adjust rotary controls, recessed behind the front panel. With typical program source levels present, adjust each channel to provide the highest level without distortion. If distortion persists, check the preceding components. The most noticeable distortion usually occurs in early stages of the audio system, such as in the microphone preamplifier stage of the mixer. If you are using a mixing console adjust the “gain” or trim control, not just the channel input fader.

If the program material you are using for setting levels is not overly compressed, the LED peak indicators (marked “O/L”) should illuminate on occasional program peaks. Desired listening levels should now be maintained at the mixer/preamp of other source.

# Rack-Mounting

Your PA-Series amplifier may be easily rack-mounted in one of several ways. Attach the optional RMK-100 Rack Assembly to mount one amplifier in one vertical space (1.75”) of a standard 19” equipment rack. Or mount two PA-Series amplifiers side-by-side in a single rack space with the optional RMK-200. The RMK-200 also allows side-by-side mounting of a PA-Series Amplifier and any other Stewart half-rack product, such as the ADB-4 or UDP1-A Preamplifiers.

# Some Courtesies to Extend To Your Amplifier

1. Allow ample ventilation; do not enclose amplifier so air cannot move freely around it, especially above it. If the top of the unit is to be covered, airflow must be provided.
2. Avoid operating in direct, bright sunlight.
3. Avoid contact with moisture. Don’t plug into a wet amplifier. If moisture has gotten inside, contact Stewart Audio Service for instructions.
4. Avoid excessive torque on input level controls.
5. Avoid very dusty environments. A clean amplifier is a happy amplifier.

## Configuring for Bridged (Mono) Operation

Your Stewart PA-Series amplifier may also be operated as a powerful single-channel amplifier. This so-called “bridged” mode requires special attention to input and output wiring configurations.

### Input Connections

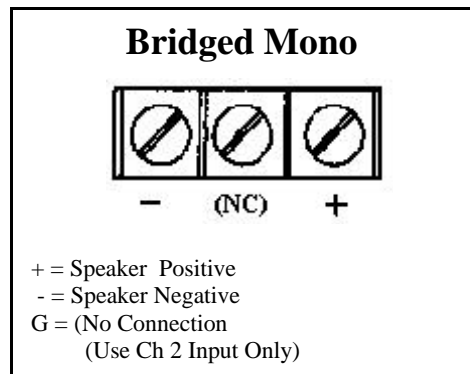
Wire the appropriate phone plug (TRS or TS) to the input cable as described on page 4. Insert the plug into CHANNEL #2 ONLY. **Make no connection to CHANNEL #1 Input.**

### Output Connections

Prepare the speaker leads as described on page 3. Insert the stripped leads onto screw terminals #1 and #3 ONLY (Channel 1 Positive and Channel 2 positive). **Make no connection to terminal #2.** Inspect for possible shorts or broken wires.

Depress the front-panel button marked Bridge/Stereo. Push it in as far as it will go. Be sure the power button is off (out), then plug the line cord into a grounded 120v AC outlet.

The amplifier is now ready for mono operation.



4. Do not place the amplifier near heat sources such as radiators, heat registers, stoves, or other appliances that product heat.
5. The amplifier should be only be connected to 120 VAC, 60 Hz power supply. Do not defeat the ground or polarization of the power plug.
6. Route power cord and other cables so that they are not likely to be walked on, tripped over or stressed. Pay particular attention to condition of cords and cables at plugs, and the point where they exit the amplifier. To prevent risk of fire or injury, damaged cords and cables should be replaced immediately.
7. Clean the amplifier with a clean damp cloth. Do not use solvents or abrasive cleaners. Never pour any liquid on the amplifier.
8. When left unused for a long period of time, the power cord should be unplugged form the outlet.
9. Damaged Amplifiers requiring service. The amplifier should be
10. serviced by a qualified service technician when:
  - a. The power cord or AC plug has been damaged.
  - b. Objects have fallen, or liquid has spilled into the unit
  - c. The amplifier has been exposed to rain or other moisture
  - d. The amplifier does not appear to operate normally or exhibits a marked change in performance.
  - e. The amplifier has been dropped or the enclosure damaged.
10. The user should not attempt to service the amplifier beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

## Special Features

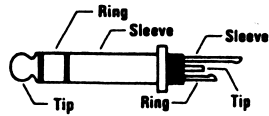
Please take a few moments to read through this section of the manual, which provides an overview of the features that make this amplifier unique.

NOTE: Observe proper polarity in interconnecting all system components.

CAUTION: Do not connect AC power until all other connections are made.

### Balanced Inputs

Balanced inputs will accept either balanced TRS ("Stereo," Fig. 1) or unbalanced TS ("Mono," Fig. 2) 1/4" connectors. It is recommended that cable runs over 300 feet be balanced, to reduce susceptibility to hum and radio-frequency interference. If you must run an unbalanced signal greater than 30 feet, a Direct Box such as the Stewart Model ADB-1 should be used to convert the signal to a balanced line.

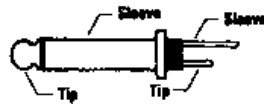


Tip = Positive

Ring = Negative

Sleeve = Ground

For connecting a balanced line to a balanced or unbalanced input



Tip = Positive

Sleeve = Ground

For connecting an unbalanced line to a balanced or unbalanced input

Fig. 1 TRS ("Stereo") 1/4" phone plug    Fig. 2 TS ("Mono") 1/4" phone plug

## Configuring for Stereo Operation

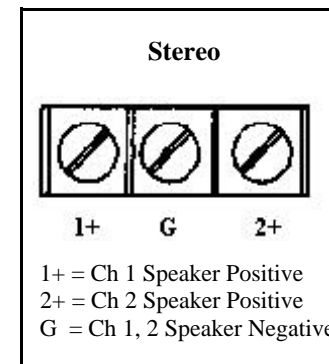
### Input Connections

Wire the appropriate plugs (TRS or TS) to input cables as described on Page 4. Insert plugs into Channel 1 and Channel 2 inputs.

### Output Connections

Speaker leads connect by means of a single three screw terminal block on the rear panel.

Prepare speaker leads by stripping insulation back 5/16" (8 mm). Twist strands together slightly to ensure that there are no stray strands. Connect to terminals that correspond to the channel outputs as follows:



With a small, flat-blade screwdriver, tighten the screw until the leads are held securely in place. Inspect for possible shorts or broken wires.

Check the position of the front panel Bridge/Stereo Mode Selector Switch. The button should be in the "out" position. Be sure the power button is off (out), then plug the line cord into a grounded 120v AC outlet.

The amplifier is now ready for stereo operation.