

## Service Notes

**Note:** Service should only be made by a qualified technician.

## Tubes

Tubes are consumables, as they have a given usable lifespan. They are part of the heart of the tone, so keeping correctly operating tubes is essential. Tubes can fail catastrophically or gradually, and it's good to know what to look for if they start to go bad. Periodically inspect them and look to see if anything inside the tube is glowing cherry red other than the normal orange glow of the filament. This would indicate a situation where the tube is conducting more current than it is capable of handling and most likely about to fail. Two other conditions to observe are: 1) filaments not glowing or 2) a miniature fireworks display inside the tube. Any of the above conditions indicate serious problems with the tube and should be taken care of immediately. Tubes quite often are the cause of spurious noise in the amp. Microphonic tubes will squeal or rattle with the vibrations of the cabinet. If suspected, tap each tube lightly with a pencil with the amp powered up—the suspect tube will let you know. Note that there is a normal metallic clinking when doing this, but a microphonic tube will be quite loud.

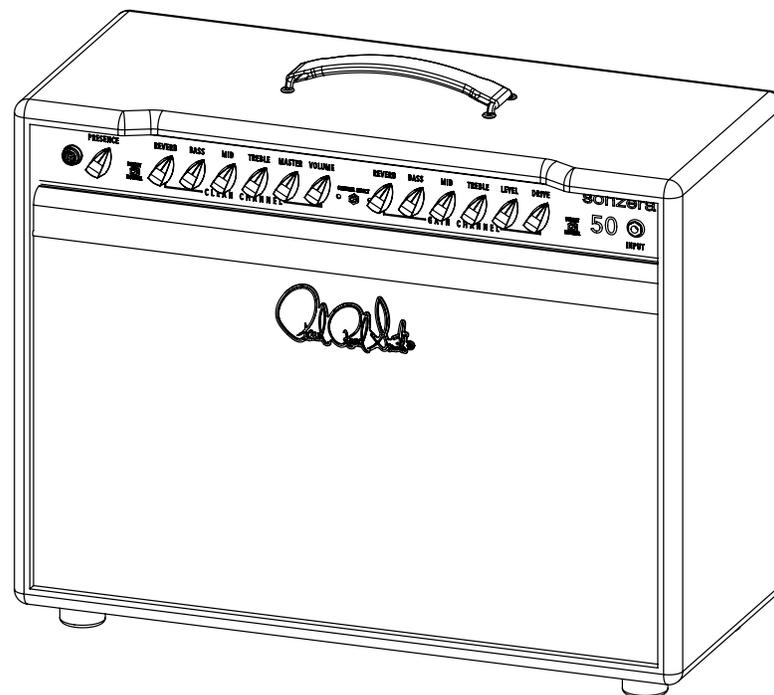
Replacing preamp tubes will not require any adjustment, but the power tubes will need rebiasing to assure proper operation. After power tube replacement, initially inspect the tubes often to assure there are no “cherry red” components within the tube. Tubes today can have a wide variety of tolerances and a re-bias is highly recommended with new ones.

Power tube bias should be adjusted to 30 mV, +/- 5 mV. If power tubes are mismatched by less than 5 mV, average the two around 30. Mismatched tubes beyond 5 mV will induce noise and may cause a degradation of tone.

**NOTE!** Capacitors may retain an electric charge and can be dangerous even when the unit is off, unplugged, and has not been played for an extended period of time. **USE CAUTION!!!!**

The logo for Paul Reed Smith, featuring the name in a stylized, cursive script with a registered trademark symbol.

## Sonzera Guitar Amplifier User's Manual 50W Head, 50W Combo, 20W Combo



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LIT-AMP-MAN-SONZ-REV-A

## Using your PRS Amplifier

**IMPORTANT:** Before using your amplifier, refer to the IMPORTANT SAFETY INSTRUCTIONS insert supplied with the product.

### Powering Up:

1. Make sure your speaker cabinet is connected to the correct speaker output impedance jack with a high quality speaker cable. Do not use guitar cords.
2. Make sure the power cord is connected to the correct earthed/grounded outlet.
3. Make sure there are at least 12 inches of clearance behind the amplifier to allow for proper cooling. Never place the amplifier against a wall or other equipment, and keep it clear of other heat sources, such as other amplifiers or stoves. Make sure there are no flammable items, such as curtains, behind the amp. Do not drape items over the amps that can prevent proper cooling. Do not set drinks or other liquids on top of the amp that can spill into the amp.
4. To increase the life of the tubes, set the "Standby" switch to the STANDBY position before powering on. Turn the POWER switch on and let the amplifier warm up for 2 minutes before setting the standby switch to "ON". If this is the first time you are turning on the amp, check to see if all of the tubes are glowing.
5. Plug in the guitar cable, turn the volume knob down, and turn the standby switch on and wait a few seconds for the bias to settle. Bring the volume up and play some tunes.

This equipment is capable of very high sound pressure levels. Prolonged exposure may cause hearing damage.

This equipment contains no user-serviceable parts. Refer all repairs to qualified service personnel.

Ensure that the mains plug is easily accessible to allow the unit to be switched off.

Only connect this unit to an earthed/grounded supply socket.

THIS UNIT IS CLASS I CONSTRUCTION AND MUST BE EARTHED/GROUNDED!

## Sonzero 50 Amplifier Front Panel Controls

**Input:** 1/4" Standard Mono Guitar Cable.

**Gain/Clean Selector:** Select your channels when not using the footswitch. When footswitch cable is inserted, the panel channel selector is overridden.

**Channel Controls:** The Clean (Gain) Channel is equipped with a Volume (Drive), Treble, Middle, Bass, Reverb and Master (Level) controls. Use the Volume (Drive) control to adjust the level of preamp gain. Use the Master (Level) control to adjust the overall channel volume. Adjust the tone controls to taste.

**Bright Switches:** These switches allow you to set the overall brightness of each channel.

**Presence Control:** This control is global and affects both channels. It controls the high end response at the power amp area of the circuit.

## Sonzero 20 Amplifier Front Panel Controls

**Similar to the Sonzero 50 except:**

The Clean Channel is equipped with a Volume, Treble, and Bass control only. The Gain Channel has a Drive, Level, Treble, Middle and Bass control and Bright switch. Presence and Reverb are global and affect both channels.

## Rear Panel Controls

**Mains Socket:** Always use the mains lead supplied. Your sales outlet can provide a lead suitable for your country. Always disconnect the equipment from the mains and ancillary units before moving.

**Fuses:** This amplifier is equipped with multiple accessible fuses. Replacement fuses must be of the same type and rating as indicated. Failure to comply may result in permanent damage to the product, and/or create a safety hazard. Always disconnect the equipment from the mains supply before replacing a fuse.

**Mains Fuses:** These are located in the mains socket.

**B+ Fuse:** This fuse is located next to the mains socket and is accessible via a thumb-turn fuse holder.

**Power On/Off and Standby Switches:** Power on the amp first with the Standby Switch in the OFF position. This effectively allows the tube filaments to warm up without applying high voltage to the tubes. Wait about 2 minutes, then switch the Standby Switch in the ON position to play the amp. The Standby can be used when not playing the amp for several minutes.

**Effects Loop:** This amplifier features a series effects loop that is integral to the overall sound of the amp. Connect the Send jack with a 1/4" mono instrument cable to the input of your pedal(s). connect your pedal(s) output to the Return jack also using a 1/4" mono instrument cable. To minimize your cables picking up hum, arrange the cables together for the first few feet away from the amp, and move them away from the power transformer and mains power cable.

**Safety Symbols:** The following symbols mean:



Warning: read instructions to understand possible hazard



Danger: electrical shock hazard

**Bias Jacks:** These jacks measure the power tube current draw in milliVolts.  $1mV = 1mA$ . Review the information on the back of this manual for guidance on replacing tubes. Biasing and tube replacement should be performed only by a qualified technician. Bias adjustments can be made with a small (jeweller's) Phillips-head screwdriver.

**Footswitch Jack:** Connect the included PRS FS2S footswitch to control channel switching and reverb on/off. Do not use other footswitches as they can possibly damage the amp. When attached, the footswitch bypasses the functionality of the panel switch to select channels. There are no special positions of switches on the amp to allow the footswitch to function properly.

**Speaker Jacks:** These are the main outputs for your combo speaker or cabinet(s). There are 5 total jacks to use. The 4 Ohm and 4 Ohm Extension jacks are wired in parallel, as are the 8 Ohm and 8 Ohm Extension jacks. There is also one 16 Ohm jack. Determine beforehand what your total speaker loading will be and use the appropriate jacks. Never use more than one jack of different ohms. It is best to always use speakers with the same ohm ratings. Examples of loads include two 8 ohm speakers combine for 4 ohms. Use the 4 ohm jack and 4 ohm extension to connect the speakers in this instance. Two 16 ohm speakers or cabinets would combine to create an 8 ohm load, so use the two 8 ohm jacks in this instance. Failure to correctly match the speaker load to the appropriate output jacks can cause tube socket arcs, blown power tubes, or failure of the amp.