

# Power Station<sup>®</sup>100

## OWNERS MANUAL



**DUAL-MODE VARIABLE REACTIVE LOAD + TUBE POWER AMPLIFIER  
MODEL PS-100**



[www.fryette.com](http://www.fryette.com)

## *Welcome to the family!*

Congratulations and thank you for choosing the FRYETTE **Power Station®**!

You are constantly searching for new sounds and new ways to improve your existing sound. We understand the constantly evolving nature of artistic creativity and the search for the perfect sound to complement your ever-widening musical vision. Providing the tools to help you create your own sonic signature is our primary mission.

Amplifier attenuators have been around in various forms and configurations for decades and yet the most common and aggravating shortcomings which plague every available attenuator regardless of cost remain:

- 1) Lack of transparency – All resistive type amplifier attenuators negatively impact the tonal quality of your amplifier at some or all volume settings.
- 2) Limited controllability – Attenuators that use step type level select switches are typically difficult or impossible to set to the exact volume you may be trying to achieve. Variable rheostat type attenuators cause frequency losses and are often plagued by high contact resistance that can cause level dropouts and may even damage your amplifier output transformer.
- 3) Loss of dynamic amplifier performance – All resistive attenuators interrupt the natural interaction between the speaker and power tube stage of your amplifier causing an artificial, compressed sound and stiff feel.

The PS-100 is a 100-watt version of the award-winning PowerStation PS2. The PS-100 also has 2 sets of foot switchable front panel controls and a foot switchable FX loop.

The Power Station is designed to be transparent, user friendly, reliable and ultra-responsive to a wide array of guitar amplifier and speaker types. It also integrates seamlessly with any combination of internal and external speaker configurations.

The Power Station also excels as a **power booster**, something that no other attenuator can do. Just as you would connect a big amp to reduce output volume, the Power Station can also be used to **boost the output of a small amplifier**. Imagine taking your mini-amp or small vintage combo to a gig and having enough power to be heard without sacrificing feel and tonal quality. It is not only possible, but easy and fun!

Finally, your Power Station functions as a versatile silent reactive load for direct recording by simply connecting the Balanced or Unbalanced Line out to your recording interface.

Getting familiar with the Power Station is easy, so don't be terribly surprised when you find yourself up and running in no time. First-hand experience and real world application will yield the ultimate satisfaction of finding your own path to comprehension and self-expression.

## IMPORTANT SAFETY INSTRUCTIONS



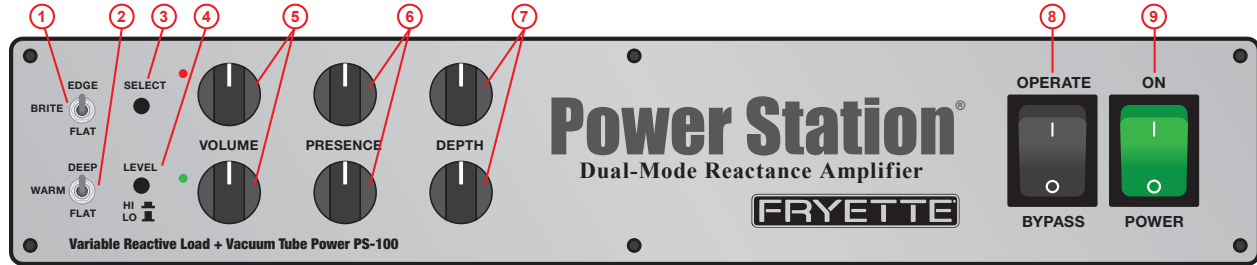
This symbol warns the user of dangerous voltage levels localized within the enclosure.



This symbol advises the user to read all accompanying literature for safe operation of the unit.

- ▶ Read, retain, and follow all instructions. Heed all warnings.
- ▶ Only connect the power supply cord to an earth grounded AC receptacle in accordance with the voltage and frequency ratings listed under the AC input on the rear panel of this product.
- ▶ **WARNING:** To prevent damage, fire or shock hazard, do not expose this unit to rain or moisture.
- ▶ Unplug the power supply cord before cleaning the unit exterior (use a damp cloth only). Wait until the unit is completely dry before reconnecting it to power.
- ▶ Maintain unobstructed air space behind and above the unit to allow for proper ventilation and cooling.
- ▶ This product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
- ▶ This product may be equipped with a polarized plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of this plug.
- ▶ Protect the power supply cord from being pinched or abraded.
- ▶ The power supply cord of this product should be unplugged from the outlet when left unused for a long period of time, or during electrical storms.
- ▶ This product should be serviced by qualified service personnel when: the power supply cord or the plug has been damaged; or objects have fallen, or liquid has been spilled onto the product; or the product has been exposed to rain; or the product does not appear to operate normally or exhibits a marked change in performance; or the product has been dropped, or the enclosure damaged.
- ▶ Do not drip or splash liquids, nor place liquid filled containers on the unit.
- ▶ **CAUTION:** No user serviceable parts inside, refer servicing to qualified personnel only.
- ▶ FRYETTE® amplifiers and loudspeaker systems are capable of producing very high sound pressure levels which may cause temporary or permanent hearing damage. Use care when setting and adjusting volume levels during use.
- ▶ Hazardous voltages may be present within the chassis even with the power switch off and power cord connected. Therefore, disconnect the power cord from the rear panel power inlet before servicing. The power inlet must remain readily operable.
- ▶ **EXTENDED USE OF YOUR AMPLIFIER AT HIGH OUTPUT POWER WILL PLACE THERMAL STRESS ON THE OUTPUT TUBES, OUTPUT TRANSFORMER AND ASSOCIATED COMPONENTS, AND MAY RESULT IN DAMAGE TO YOUR AMPLIFIER. OLDER AMPLIFIERS MAY HAVE CRITICAL COMPONENTS WHICH HAVE DETERIORATED OVER TIME, SUCH AS COUPLING AND FILTER CAPACITORS, WIRING INSULATION, TUBE SOCKETS, GRID RESISTORS, AND THE INTERNAL INSULATION OF THE OUTPUT TRANSFORMER WINDINGS. THESE COMPONENTS MAY BE EXCESSIVELY STRESSED UNDER SUSTAINED HIGH POWER OPERATION AND MAY FAIL IF NOT PROPERLY USED AND MAINTAINED.**
- ▶ **PLEASE CHECK THE CONDITION OF YOUR OUTPUT TUBES, AND REPLACE THEM IF THEY ARE OLD OR FRAGILE BEFORE USING THE AMPLIFIER AT HIGH POWER LEVELS WITH THE POWER STATION CONNECTED. OUTPUT TUBES CAN EASILY FAIL WHEN STRESSED. CATASTROPHIC TUBE FAILURE CAN ALSO DAMAGE OTHER COMPONENTS SUCH AS THE OUTPUT TRANSFORMER.**
- ▶ **THE POWER STATION IS NOT INTENDED FOR USE WITH SOLID STATE AMPLIFIERS THAT USE CURRENT FEEDBACK AND AN UNGROUNDED OUTPUT. USING THE POWER STATION WITH SUCH PRODUCTS MAY CAUSE OSCILLATION AND POTENTIAL DAMAGE TO THE AMPLIFIER.**
- ▶ **THE POWER STATION IS NOT INTENDED FOR USE WITH CLASS D OR PWM AMPLIFIERS.**
- ▶ **FRYETTE AMPLIFICATION IS NOT RESPONSIBLE FOR ANY DAMAGE TO YOUR AMPLIFIER THAT MAY OCCUR IN CONNECTION WITH ANY USE OF THE POWER STATION.**

## FRONT PANEL FUNCTIONS



### REACTIVE LOAD VOICING SWITCHES

The Reactive Load in the Power Station is what absorbs the output power of the amplifier connected to the Amp In jack, and therefore the volume of that amplifier. It's easier to think of the Reactive Load as a substitute or dummy speaker. It reacts to your amplifier in the same way that a speaker reacts to your amplifier and this is what helps your amplifier retain its original tone and feel at any volume. Like the speaker connected to an amplifier, the response of the Reactive Load and its interaction with the load amp changes at different volume settings. The Voicing Switches allow you to fine tune the response of the Reactive Load at your preferred playing volumes.

1. EDGE/BRITE/FLAT – This switch sets the high frequency (Treble/Presence) response of the reactive load in the Power Station. This will determine how much of your load amplifier's top end presence and clarity will be retained. At high volume settings, this switch will normally be set FLAT or possibly BRITE if you want a little more cut in your live or recorded mix.
2. DEEP/WARM/FLAT - This switch sets the low frequency (Bass/Resonance) response of the reactive load in the Power Station. This will determine how much of your load amplifier's low end punch and depth will be retained. At high volume settings, this switch will normally be set FLAT or possibly WARM if you want a little more low-end projection in your live or recorded mix.

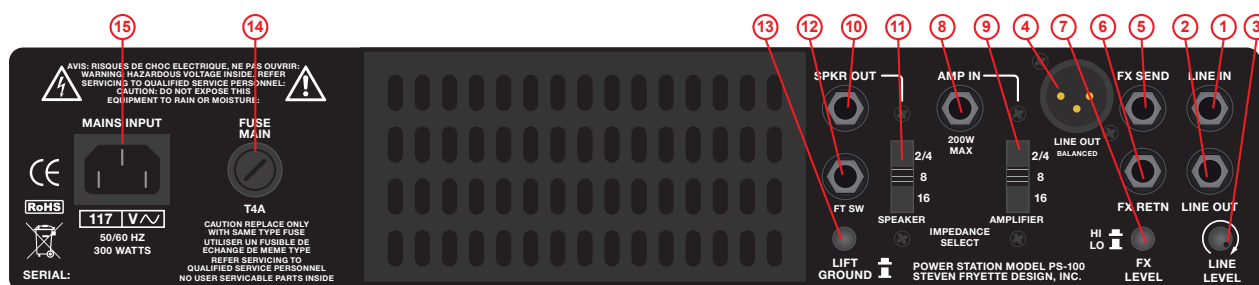
**NOTE: These switches only operate when your load amplifier's speaker output is connected to the Power Station Amp In jack. They remain operational in normal attenuation mode as well as in Silent Mode, whether the Power Station is powered on or off.**

### POWER AMPLIFIER CONTROL FUNCTIONS

3. SELECT – Switches between the Red and Green front panel Volume, Presence and Depth controls. This function can also be controlled by a remote footswitch (see #12 on page 6).
4. INPUT LEVEL SWITCH – Sets usable range of the Volume control relative to strength of Line Input or Amp In signal level. This is useful for setting your ideal playing volume whether you are attenuating a high powered amp, boosting a low powered amp or connecting a preamp to the Line In. Set the Level switch to HI for attenuating high powered amps or hot Line In signals or LO for boosting small amps or when using low level Line In signals.
5. VOLUME – Sets the overall playing volume, or sound coming out of your speaker cabinet.
6. PRESENCE – Sets the high-end frequency response of the power amplifier stage in the Power Station.
7. DEPTH – Sets the low-end frequency response of the power amplifier stage in the Power Station.
8. STANDBY/BYPASS – In Standby mode, this switch bypasses the Power Station, puts the internal tube power amplifier stage on standby and connects the load amplifier directly to the speaker cabinet.
9. AC MAINS SWITCH – Turns AC power on and off and indicates AC operation.

**NOTE: The Standby/Bypass switch only allows sound to pass directly through to the speaker in Bypass mode when your load amplifier speaker output is connected to the Amp In jack. When using only the Line In jack, this switch turns the Power Station on Standby mode. In Standby mode there will be no sound from the speaker.**

## REAR PANEL FEATURES AND FUNCTIONS



1. LINE IN – This input will accept signal from any line level source, such as a preamp, amplifier line out, effects processor, pedal preamp or iPhone. Virtually any device that you want to amplify to listening level through a speaker cabinet can be connected here.
2. LINE OUT – This is a frequency compensated output that takes the signal from the load amplifier's speaker output plugged into the Power Station Amp In jack and makes it available to drive any external device, such as a mixer, recording input, computer recording interface, power amplifier or signal processor. Use this feature to send your onstage sound to an external processor and then to FOH, an onstage powered monitor or a "wet" only amp/effect/speaker system.
3. LINE LEVEL – Simultaneously controls the output level of the unbalanced 1/4" line out and the balanced XLR out.
4. LINE OUT XLR – Transformer isolated, balanced line output of signal coming from amplifier connected to Amp In.
5. FX SEND – Low impedance effects send jack for use with external effects processor. This connection is post AMP IN and LINE IN, so any effect connected here will be inserted between your load amplifier or external preamp and the Power Station internal tube power amp. The FX loop can be remotely engaged or bypassed with a footswitch or remote switching device (see #12 on page 6).
6. FX RETURN – High impedance effects return jack for use with external effects processor. As with the FX SEND, this connection is post AMP IN and LINE IN, so any effect connected here will be inserted between your load amplifier or external preamp and the Power Station internal power amp.
7. FX LEVEL – This sets the signal level inside the loop. Use the HI position for line level (+4 to 0dB) devices. Use the LO position for guitar level devices (-10 to -20dB) such as pedal delays, etc. In LO mode you can even plug your guitar, bass, acoustic instrument pickup or keyboard directly in here for a great clean/jazz tube amplified sound.
8. AMP IN – Connect the speaker output from the amplifier that you want to attenuate or boost - the load amplifier - here. Set the Impedance Select switch to the desired setting to match your amplifier. The total power handling capacity of the reactive load is as follows:

Amp In (Max Continuous):  
 200W @ 2, 4 & 16 Ohms.  
 150W @ 8 Ohms

**NOTE: Set this impedance to match both the speaker and the load amplifier. Most cabs have a fixed impedance and you usually have a choice of impedance on your amplifier. Therefore it is best to choose the amplifier impedance that will match your speaker cab. This will assure that your amplifier and speaker are matched correctly when the Power Station is bypassed.**

9. AMPLIFIER IMPEDANCE – Sets the impedance of the internal reactive load for optimum performance from your amplifier. Simply set the impedance selector switch for the impedance required by your amplifier.
10. SPEAKER OUT – Connect this output jack to any speaker cabinet or combination of cabinets that total 2/4, 8 or 16 ohms impedance. For example, when using a 16 ohm cabinet (typically a 4x12 cabinet), you will set the switch to 16 ohms. To connect multiple cabinets, simply use an unshielded mono Y adapter or splitter cable.

**IMPORTANT:** The SPEAKER OUT jack has an open load protection feature. If no cable is connected to this jack the Power Station will remain locked in BYPASS/STANDBY mode regardless of the front panel Standby switch setting. This is done to prevent potential damage to your valuable vintage amp should the speaker cable become disconnected while in Bypass mode. Use only a standard mono (tip/sleeve) 1/4" phono plug.

11. CABINET IMPEDANCE – When the speaker jack is connected, simply set the impedance selector switch to match your cabinet.

**IMPORTANT:** The 2/4Ω amp and speaker setting is designed to be safe and compatible with all vintage 2Ω and 4Ω amplifiers. Because a reactive load is not an actual speaker, the impedance behavior of the load will not vary as wildly as an actual speaker and will therefore maintain a safe and stable load for your treasured vintage amps at this low impedance range. Even so, we do recommend that your power tubes are in good condition when using this device.

12. FOOTSWITCH JACK – Controls front panel Select function (tip) and FX loop bypass (ring) using any standard 2-function TRS latching footswitch or remote switch function provided by your pre-amp, modeler or effects switching device. Shielded or non-shielded cable is suitable for this application (Footswitch is sold separately).
13. GROUND LIFT – This switch separates the internal circuit ground from chassis and power ground in order to eliminate possible ground loops between the Power Station and the load amplifier connected to the AMP IN jack. Select the position which yields quietest operation. With a properly wired AC outlet and factory supplied AC cord, this switch may not produce a noticeable difference.
14. MAINS FUSE – Protects the amplifier from electrical faults. Replace only with type and rating specified on the rear panel of your amplifier.
15. AC MAINS INPUT – Connect to a grounded outlet in accordance with the voltage and frequency specified on the rear panel of your amplifier.



**USE ONLY THE FACTORY SUPPLIED CORDSET OR A UL APPROVED EQUIVALENT TYPE**

## USING SILENT MODE

Silent Mode allows you to use the Power Station as a silent adjustable reactive load for quiet direct recording or when sending a live amp signal to front of house with no speaker cab connected. In this mode it is not necessary to power up the Power Station. You don't even need to plug in the power cord. The Voicing switches, Low Pass Filter switch, FX Send (along with the FX Level switch), and the Balanced and Unbalanced Line Outputs all operate with no AC power applied.

## TUBE FUNCTION AND LOCATION

Power and phase inverter tubes are mounted horizontally near the back of the unit. The power tubes are factory biased for optimum performance. No provision for internal or external biasing is provided. To insure that the Power Station will remain within safe temperature operating limits, the bias must not be modified or tampered with. Doing so will immediately void the warranty. Tube types are factory selected for superior performance, consistent tone quality and reliability. Power tubes are factory tested and matched. For best performance, replace only with factory recommended tubes.



 **TO REDUCE THE RISK OF ELECTRIC SHOCK, PLEASE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. NO USER SERVICABLE PARTS INSIDE.**

V1 – 12DW7/ECC832 Power amplifier driver and phase inverter.

V2, V3 – 6550 Power tubes (Matched Pair).

 **USE ONLY 6550 OR EQUIVALENT. NOT INTERCHANGEABLE WITH ANY OTHER TUBE TYPES!**

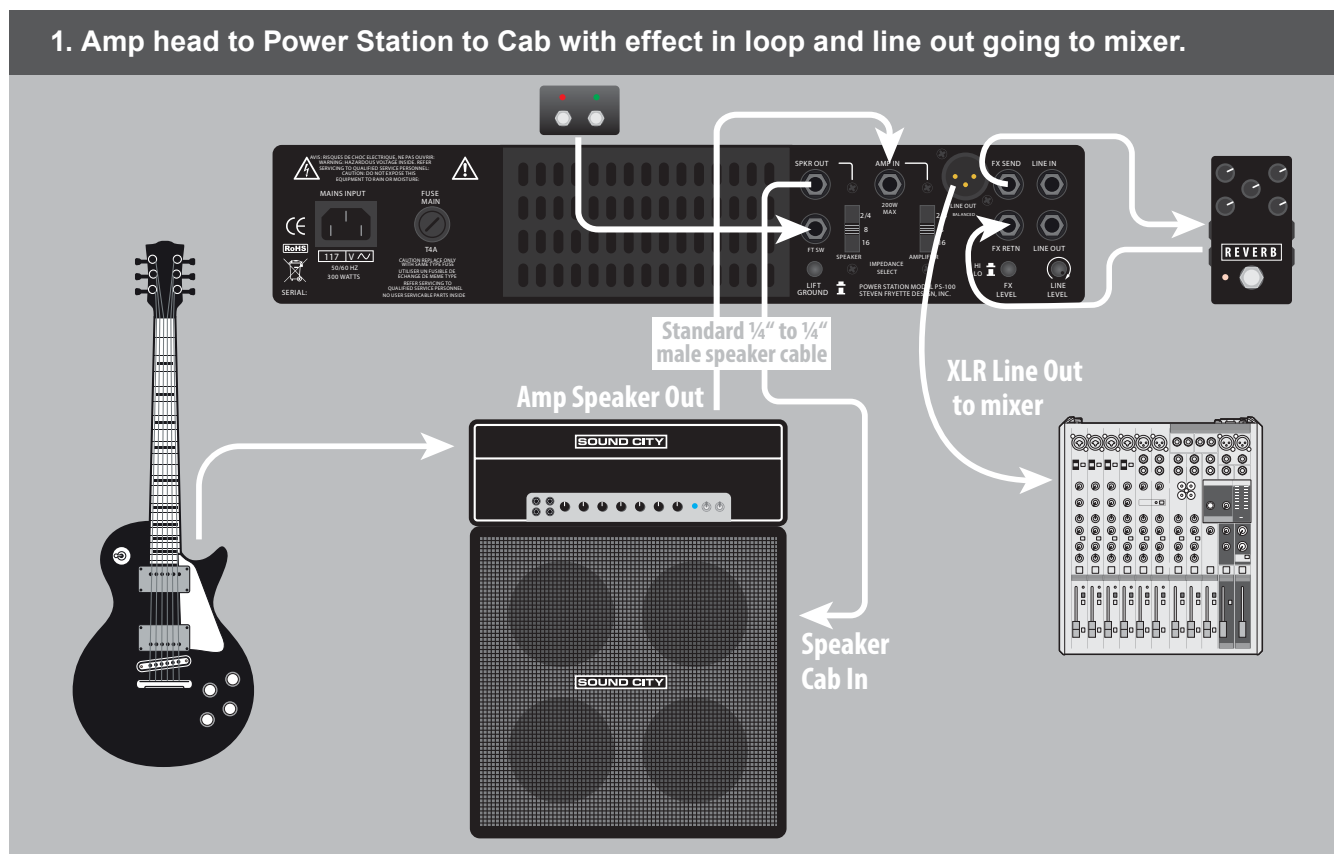
Any type or brand of 6550 or KT88 tubes can be used in this amplifier without adjustment or modification.

It is important to keep the amplifier on standby during breaks, and powered down when not in use to keep things cool and to extend tube life.

Even though you may follow this advice carefully, you will still observe that the amplifier tends to run hot during use. **This is normal** and there is not only a cooling fan and plenty of ventilation in the chassis design, but all of the critical components and transformers are designed to withstand much more heat than you will normally experience at during typical operation.

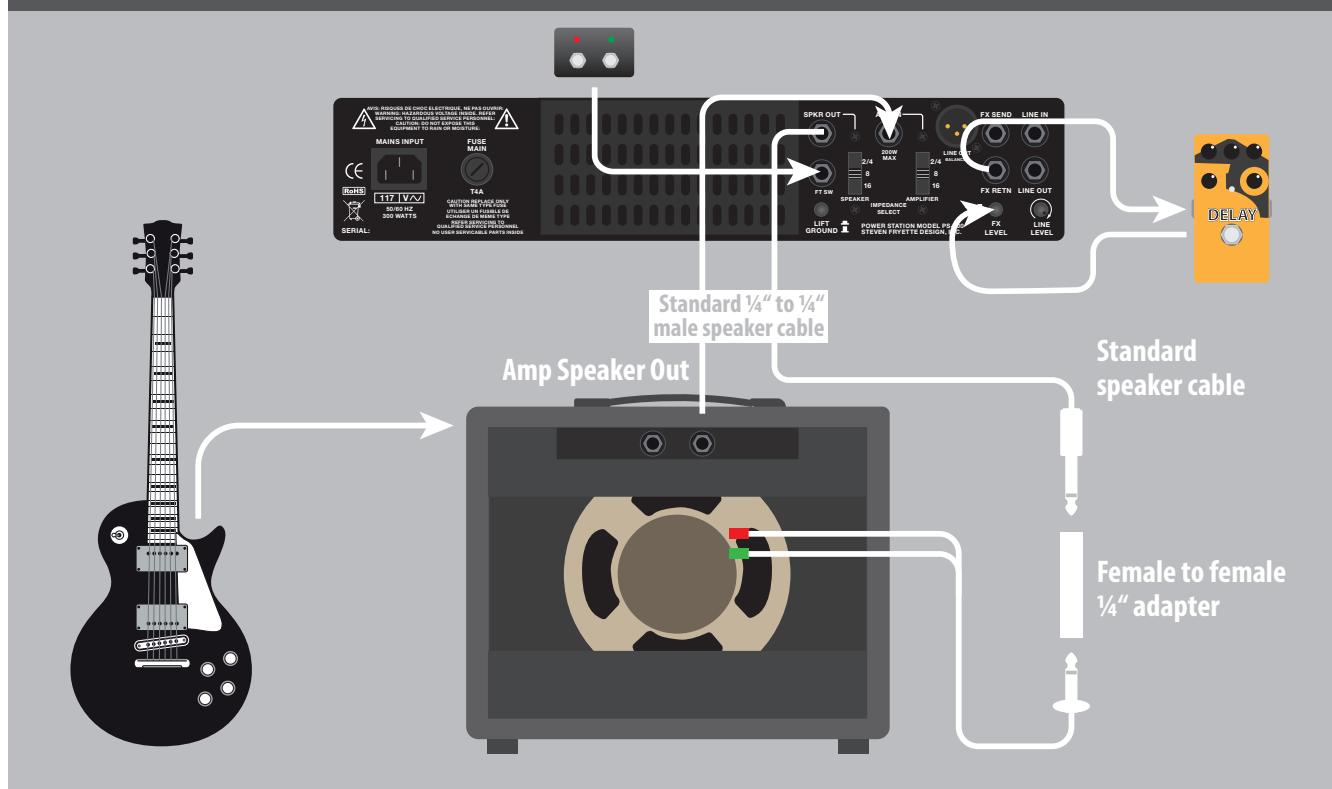
## APPLICATION EXAMPLES

### 1. Amp head to Power Station to Cab with effect in loop and line out going to mixer.

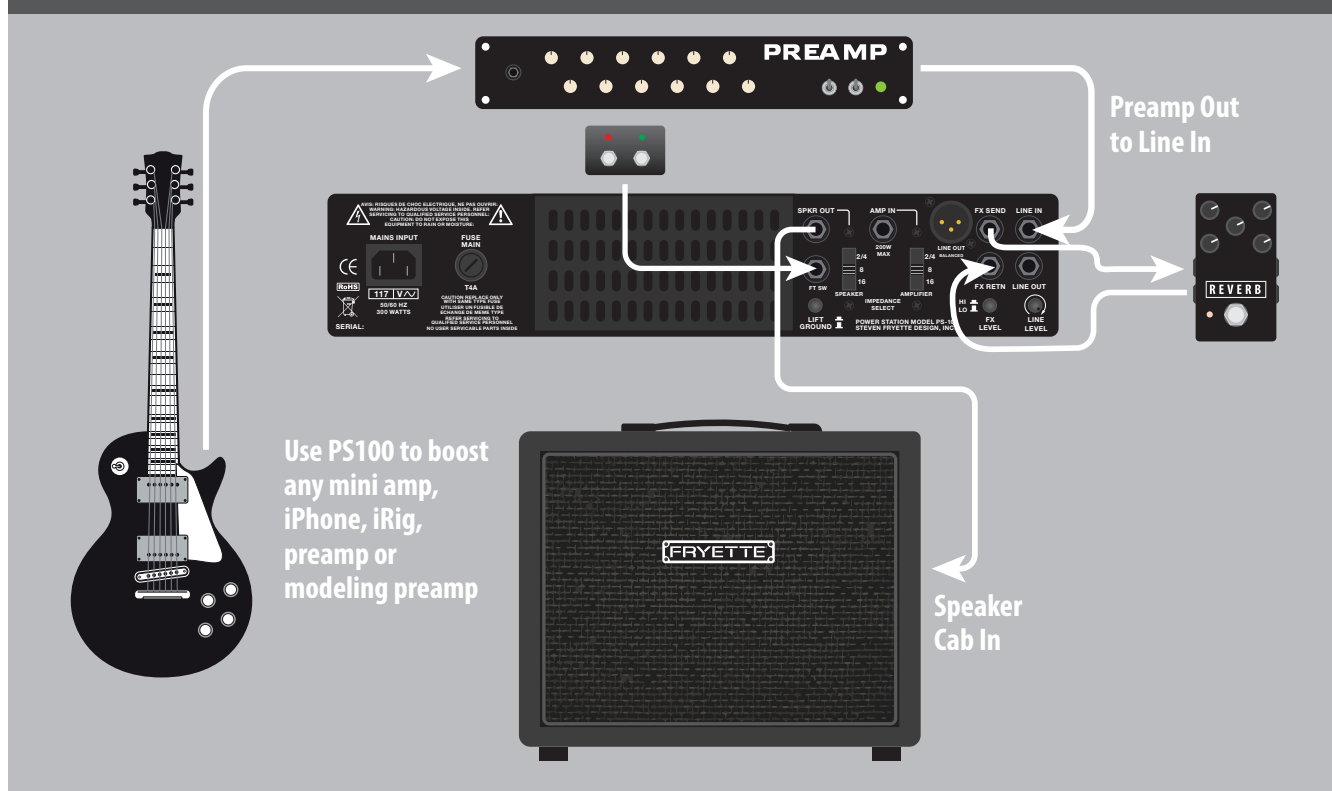


## APPLICATION EXAMPLES

### 2. Combo to Power Station and back to speaker with effect in loop.



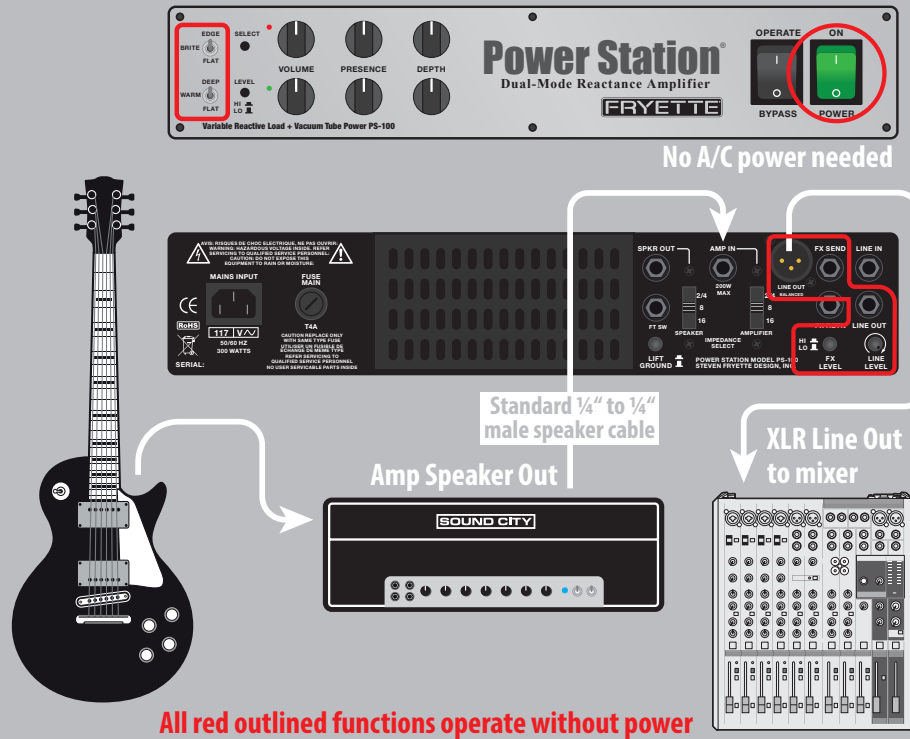
### 3. Preamp to Power Station Line In, effect in loop and Power Station speaker out to speaker.





## APPLICATION EXAMPLES

### 4. Silent mode.



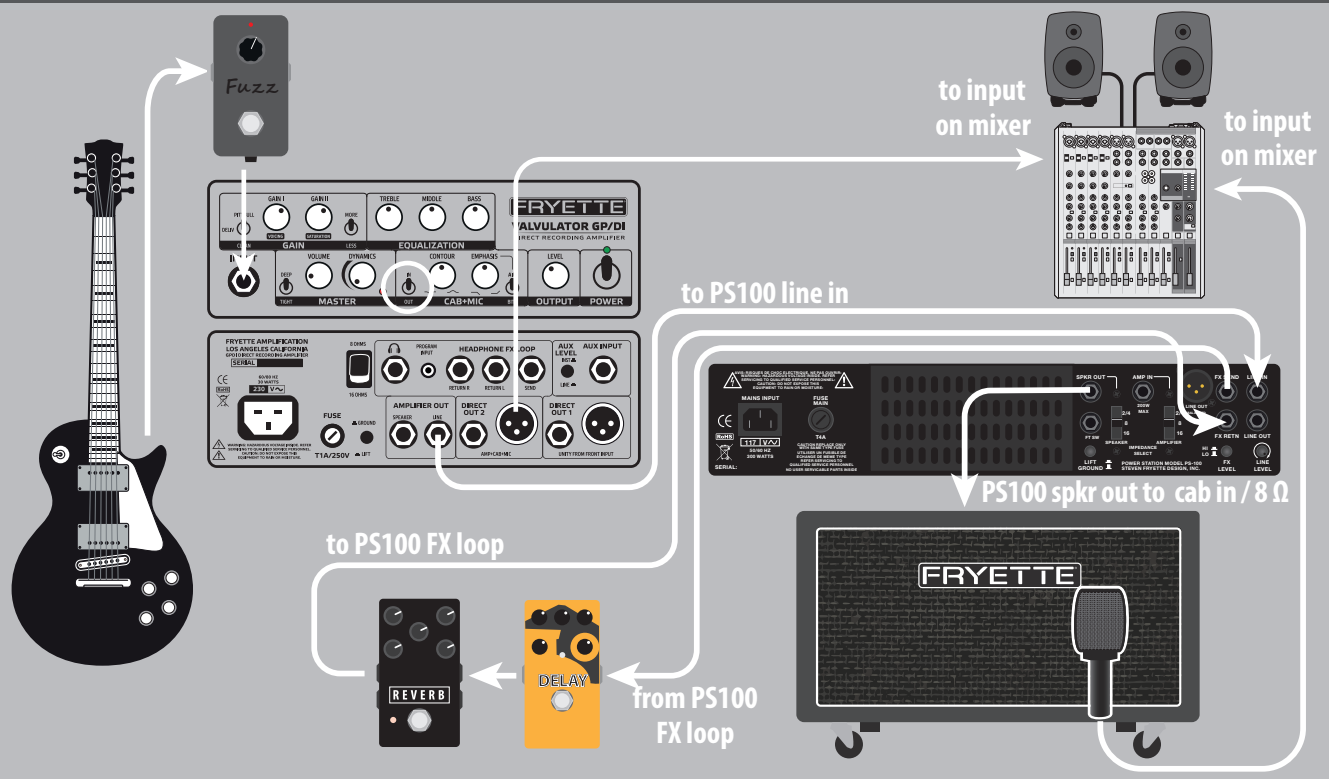
#### USING SILENT MODE

Silent Mode allows you to use the Power Station as a silent adjustable reactive load for quiet direct recording or when sending a live amp signal to front of house with no speaker cab connected. In this mode it is not necessary to power up the Power Station. You don't even need to plug in the power cord. The Voicing switches, FX Send (along with the FX Level switch), Line Out, Line Level control and the Balanced and Unbalanced Line Outputs all operate with no AC power applied.

**CAUTION!** The 200W maximum power rating of the Power Station's load depends on the fan being operational. Running the Power Station with no AC power disables the fan and the Maximum Power rating is reduced by 50%.

**WHEN USING A HIGH-POWERED AMP CRANKED, YOU MUST RUN THE POWER STATION WITH THE AC CORD PLUGGED IN AND THE POWER SWITCH TURNED ON.** In this case, leave the OPERATE/BYPASS switch set to BYPASS.

### 5. David Torn type setup for live performance and/or recording.



## TROUBLESHOOTING GUIDE

### WON'T TURN ON

1. Make sure AC cord is securely connected at both ends.
2. Verify the power source with something you know works.
3. Check the mains fuse, and replace if necessary. If it blows again, refer to qualified service personnel.

### NO SOUND

1. Check input cable.
2. Check volume controls.
3. Make sure the amplifier volume and/or gain controls are turned up.
4. Check to see if the effects loop is connected correctly.
5. Check speaker cable to see if it is disconnected or shorted.
6. Make sure that the impedance selector is fully engaged in its detent.
7. Check the standby switch.
8. Check for a blown speaker.
9. Check the mains fuse, and replace if necessary. If it blows again, refer to qualified service personnel.

### WON'T SWITCH TO OPERATE

1. Check the mains fuse, and replace if necessary. If it blows again, refer to qualified service personnel.

### SQUEEL / FEEDBACK

1. Move your guitar/pickups away from your amplifier. See Proximity Feedback info sheet at [www.fryette.com](http://www.fryette.com)

### EFFECTS NOT OPERATING

1. Make sure effects send and return cables are good and properly connected.
2. Check footswitch/remote switcher cable (TRS).

### RUNNING HOT

1. Make sure that the unit has adequate ventilation.
2. Make sure that the impedance selector is set to the proper impedance.
3. Power tubes may be drawing excessive current (refer to qualified service personnel).

NOTE: Always set the amplifier to standby when taking breaks and turn the amplifier off when not in use. This will extend tube life and improve long term reliability.

### DISTORTION

1. Check the impedance setting.
2. Check the speaker cable for shorts.
3. Check the speaker.
4. Check the signal level at other devices in the signal path or in the loop.
5. Power tubes may be weak (refer to qualified service personnel).

### BLOWING MAINS FUSE

1. Bad power tube or other internal power supply component (refer to qualified service personnel).

## SPECIFICATIONS

MODEL: POWER STATION 100  
MODEL NUMBER: PS-100.  
POWER REQUIREMENT: 300W  
POWER AMP OUTPUT: 100W RMS @ 5% THD,  
1kHz sine into 8Ω  
INPUT IMPEDANCE: 2/4Ω/8Ω/16Ω (selectable)  
OUTPUT IMPEDANCE: 2/4Ω/8Ω/16Ω (selectable)  
FUSE:  
**100V-120V UNITS:** T4A, 125/250V  
**220V-240V UNITS:** T1.6A, 250V.

DIMENSIONS:  
**HEIGHT:** 3.6 in (9.1 cm)  
**WIDTH:** 14 in (35.5 cm)  
**DEPTH:** 9 in (22.8 cm)  
**WEIGHT:** 16 lb (7.3 kg)



*Product specifications are subject to change without notice.*



## Certificate of Compliance

### Restriction of the use of Hazardous Substances (RoHS)

We certify that all of our products (exceptions see listed below) are compliant with the European Union Directive 2002/95/EC for the Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS).

No Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent Chromium (Cr+6), PBB or PBDE is intentionally added to these devices. Any trace impurities of these substances contained in the parts are below the RoHS specified threshold levels.

All information provided in this Certificate of Compliance is accurate to the best of our knowledge as of the date this Certification was issued.

## Certificate of Compliance

### Registration, Evaluation, Authorization and Restriction of chemicals (REACH)

We declare that all of our products are compliant with European Union Directive EC1907/206 for the Registration, Evaluation, Authorization and Restriction of chemicals (REACH), and contain none or less than 0.1% of the chemicals listed as hazardous chemicals in the REACH regulation. All information provided in this Certificate of Compliance is accurate to the best of our knowledge as of the date this Certification was issued.

## Declaration of Conformity

### EMC and Low Voltage Directive (CE)

Product Name: POWER STATION 100  
Model Number: PS-100

This is to certify that the product listed above complies with the following European Union Council Directives and Standards relating to electromagnetic compatibility (EMC Directive 89/336/EEC) and the low voltage Directive (73/23/EEC).

This declaration of conformity of the European Communities is the result of an examination carried out by Electromagnetic Engineering Services, Inc. in accordance with European Standards EN 50081-1, EN 50082-1 and EN 60065 for low voltage, as laid down in Article 10 of the EMC Directive.

Fryette Amplification  
6850 Vineland Ave. Unit P  
North Hollywood, CA 91605 USA



## LIMITED WARRANTY

Subject to the obligations and exclusions found below, this product is warranted by Steven Fryette Design, Inc., (herein SFD) against manufacturing defects in materials and workmanship for the period of Five (5) Years from the date of purchase, with the exception of the tubes, fuses and speakers where applicable, which carry a 90 day warranty.

The warranty period commences on the date of purchase by the original user. Performance under this warranty must be obtained at one of the following: an SFD Authorized Service Station, by returning the unit to the SFD factory with prior written authorization, or (in countries outside of the United States) by a representative SFD distributor.

### Obligations

1. This warranty will be honored only on the presentation of the original proof of purchase.
2. Transportation of the product to and from an authorized SFD service outlet is the responsibility of the user. Units sent directly to the SFD factory for warranty repairs must be authorized by SFD and shipped prepaid.

### Exclusions

1. This warranty shall not cover adjustment of consumer-operated controls as explained in the appropriate instruction manual, or products that have been altered or have missing, or defaced serial numbers.
2. This warranty shall not apply to the appearance of accessory items including but not limited to, cabinets, cabinet parts, or knobs.
3. This warranty does not apply to uncrating, setup, installation, or the removal and reinstallation of products for repair.
4. This warranty shall not apply to repair or replacements necessitated by any cause beyond the control of SFD including, but not limited to, any malfunction, defects, or failure caused by or resulting from unauthorized service or parts, damaged or broken tubes, incorrect line voltage, improper maintenance, modification or repair by the user, abuse misuse, neglect, accident, fire, flood, or other Acts of God.
5. Responsibility for the repair of any SFD product sold outside of U.S. boundaries is borne by the SFD representative in that particular country or territory. Also, the warranty term and conditions may be different from those stated above. Please contact the SFD distributor or dealer in your country for more information.

The foregoing is in lieu of all other expressed warranties, and SFD does not authorize any party to assume for it any other obligation or liability. In no event shall SFD be liable for special or consequential damages arising from the use of this product, or for any delay in the performance of this warranty due to causes beyond our control. Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of consequential damages, so the above limitations on implied warranty and consequential damages may not apply to you. This warranty gives you specific legal rights. You may have other rights that vary from state to state.

### WARRANTY REGISTRATION

**U.S. and Canadian residents: Please retain your purchase receipt as proof of purchase for warranty purposes. All other international residents please contact the authorized distributor your Fryette product was purchased from. For a list of international distributors please visit [www.fryette.com/dealers.html](http://www.fryette.com/dealers.html)**

FRYETTE AMPLIFICATION  
6850 VINELAND AVE. UNIT P  
NORTH HOLLYWOOD, CA 91605  
TEL (818) 980-2800 FAX (818) 980-2802 [www.fryette.com](http://www.fryette.com)

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