

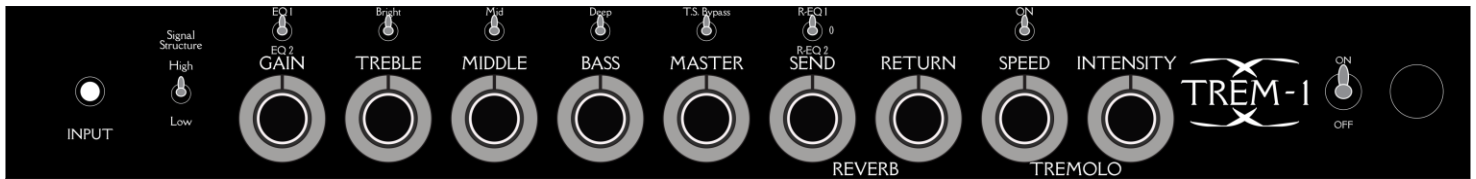
SINEWAVER AMPLIFIERS

Owners Manual

TREM-1

20 Watt, 50 Watt, 100 Watt Options

Front Panel Functions



- **Input** - Instrument input.
- **Signal Structure Switch** - The Signal Strength circuit is designed to optimize the front end of the amp and how it integrates into the back end of the preamp. This circuit offers two options:
 - o The high is more akin to an old vintage blackface in the way the bass and gain overpower the rest of the amp. This will instantly feel a bit more “old school” and will also offer more gain and volume. Overall headroom on the preamp side will be lower in this mode.
 - o The Low is more modern and will decrease the amount of “hash” or harmonic distortion that most vintage amplifiers have. It will also help smooth out the signal if overdriven from pedals. There will be more note separation in this mode and the lower amount of gain will allow more preamp headroom. The Gain and Master controls will need to be turned up to achieve level unity with the high mode.
- **EQ1/EQ2 Switch** - The front end EQ section is extremely balanced and will allow the player to achieve the correct levels in either the bedroom, studio, or on stage. The use of the EQ switch will give the player even more options depending on guitar/pickup arrangements, rooms, or just wanting to play at lower levels. There are two options here:
 - o EQ1 is a low gain option that changes the roll off zones of the tone controls and how they feed signal to the gain stage. Very useful for low level playing, archtops(to help reduce ambient feedback), or very high gain aggressive pickups.
 - o EQ2 is the normal gain range. With this setting the tone section will roll less signal off as it goes through to the gain stage.
- **Gain Control** - Adjusts the over amount of signal gain from the EQ to rest of the preamp.
- **Bright Switch** - Boosts the amount of high frequency that is generated after the EQ and increases it that frequency boost to the gain stage. The higher the **Gain** is set the less this boost will be noticed.
- **Treble Control** - Adjusts the high frequency response of the input signal as it hits the gain stage.
- **Mid Switch** - Boosts the input signal of the guitar as it hits the EQ. The result will be an increase in gain and mid range globally.
- **Middle Control** - Adjusts the mid range of the input signal.

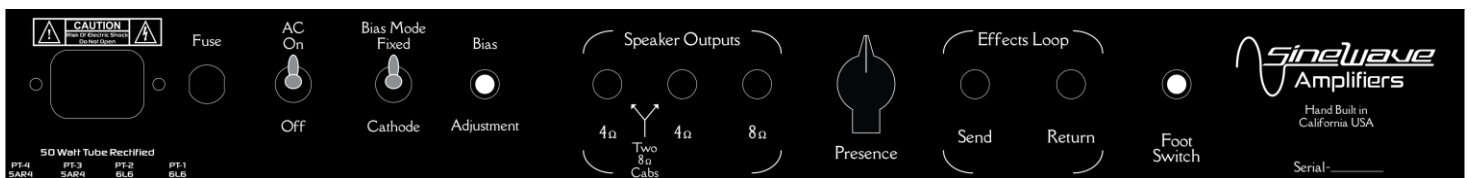
- **Deep Switch** - Boosts the lower frequency of the input signal. It will also change the response curve of the EQ and the gain stage.
- **Bass Control** - Adjusts the low end response of the input signal. It will also as it is turned both up and down change the amount of signal gain that will hit the gain stage.
- **T.S. Bypass** - The Tone Stack Bypass drops the EQ out of the direct signal path of the instrument. This bypass will increase the natural gain of the front end and increase the frequency response of the guitar and input tube stage. The bypass of the tone stack incorporates an internal balance circuit to maintain EQ parity. In bypass mode the EQ controls will have limited to no effect on the signal. However the Mid Switch and the Bright Switch will both have impact on the overall level and EQ of the signal. With the mid switch engage and the bypass engaged the amp will have the full extent of gain that is available.
- **Master Control** - Adjust the output level of the front end of the amp as it hits the Phase inverter and the Power Section. Will also control the signal level into the effects loop. Any pedal that is introduced into the chain will have its input level set by the Master.

- **Reverb Circuit** - Is a multi-stage tube driven circuit, incorporating an analog 3 spring reverb tank. The reverb is an extremely wide banded and versatile circuit that can allow a very subtle reverb or be pushed into an overly lush and washed wet/dry mix. It has been designed to mix with the dry signal in a very non-obtrusive way. The addition of a 3 banded EQ switch offers even more options.
 - **Reverb Send Control** - The reverb drive control determines the amount of signal applied to the reverb tank. Low settings will create a very open, small room reverb effect with a short decay time. Advancing the control clockwise increases the signal applied to the driver, and a very saturated effect with a sharp attack and a long decay can be obtained.
 - **Reverb Return Control** - The reverb return control mixes the reverb effect signal with the dry signal. At full counterclockwise rotation, the reverb effect is defeated. Using the return control in conjunction with the reverb drive control, a wide range of natural reverb effects can be produced.
- **Reverb EQ Switch** - The Reverb EQ is a three way switch that changes the frequency range of the mix signal.
 - 0- This is the normal mode and will be considered neutral in both voicing and feel.
 - 1- This setting will increase all the highs in the wet signal. Making the mix splashier.
 - 2- This setting will decrease all the highs and mellow out the reverb signal.

- **Tremolo Section** - This circuit is a tube based tremolo effect that is tied to the preamp stage of the amplifier. This will control the output level/volume of the signal as it hits the gain stage.
 - **Speed Control** – Adjusts the speed of the volume swells.
 - **Intensity Control** – Adjusts the depth or level at which the volume swells propagate.

- **On/Off Switch** - By turning the off the preamp stage and power stage will be put into a muted state. This is a good option when changing guitars, pedals, speaker cabinet, or small breaks in playing. While in the off position all of the tubes will still be in an “on” state. To insure tube life if the amp is not going to be played for some time we recommend that the power to the amp be turned off completely.

Back Panel Functions



- **AC Input Receptacle** - Input only supplied AC cord or one specified to your countries specific input voltages and pin-outs. Amplifiers are designed for voltages of 100VAC, 120VAC, 220VAC, 230VAC, & 240VAC and will operate at both 50 and 60 cycles.
- **Fuse** - Only use factory installed Slow-Blow fuse rated at the correct amps.
- **AC On/Off Switch** – This switch will allow the amp to be powered up and will also supply power to the tubes. When turning the amp off we recommend that the standby switch be left in the on position and the power switch be turned to the OFF position.
- **Bias Mode Switch and Bias Adjustment Control** - This part of the power section controls the operating range of the power tubes. Ultimately this can affect the feel of the amp plus change the harmonic content and breakup of the power section. This control circuit can only be installed on 20 and 50 watt amplifiers. Please contact us on how to bias the amplifier.
 - o **Fixed Mode** - This option leaves the bias point of the power section up to the player to set. There is a recommended range to follow to not burn out the tubes (please refer to bias range below). A digital multimeter will be needed to adjust this. This mode will allow the power section greater range in output power leading to higher levels of clean headroom. However the bias can be set to a “hotter” sweet spot and create natural power stage breakup. The Bias adjustment Control will need a flat head screwdriver to adjust. Just stick the driver into the controls center hole.
 - o **Cathode Mode** - This option is a preset circuit configuration that will allow the output section to have more natural breakup and harmonic content. The overall headroom of

the power section will be reduced and the amp will seem to get louder. This option is going to have more “sag” than the fixed mode and will lend itself to more of a “vintage” feel.

- **A note to this mode:** Since there is no need to adjust the bias tubes can be swapped in and out of the power stage. Can be very handy if a tube dies during rehearsal or a live event. Simply pull the installed tubes and install a new set. No need to worry about bias levels.

- **Speaker Output Jacks** - There are multiple impedance options here for speaker configurations. There is a single 8 ohm output and two 4 ohm outputs. The dual 4 ohm outputs are a parallel option for the use of the 8 ohm speaker cabinets.
 - **Never operate the amplifier without speakers plugged in. Damage can occur to both the output transformers and output tubes.**

- **Presence Control** - Adjusts the contour of high-frequency response. The high-frequency response will increase as you advance the control clockwise. The Control will also increase the “stringiness” of the guitar signal the higher it is turned up.

- **Effects Loop** -The effects loop is a passive insertion point after the **Master** control and inputs any effects post preamp and pre power stage. We don’t recommend installing any type of OD or boost pedal into the effects loop. You will find the most success with time based effects such as delays, reverbs, tremolo’s, or even loop stations.
 - **Effect Send** - Plug your buffered effects into this point. The Master volume will control signal into the effects.
 - **Effect Return** - The effect Chain will reintroduce signal back into the amplifier here. We recommend the use of another buffered pedal at this point as well.

- **Foot-Switch Input** - Insert stereo ¼” cable and connect to footswitch for control of T.S.Bypass and Tremolo options.

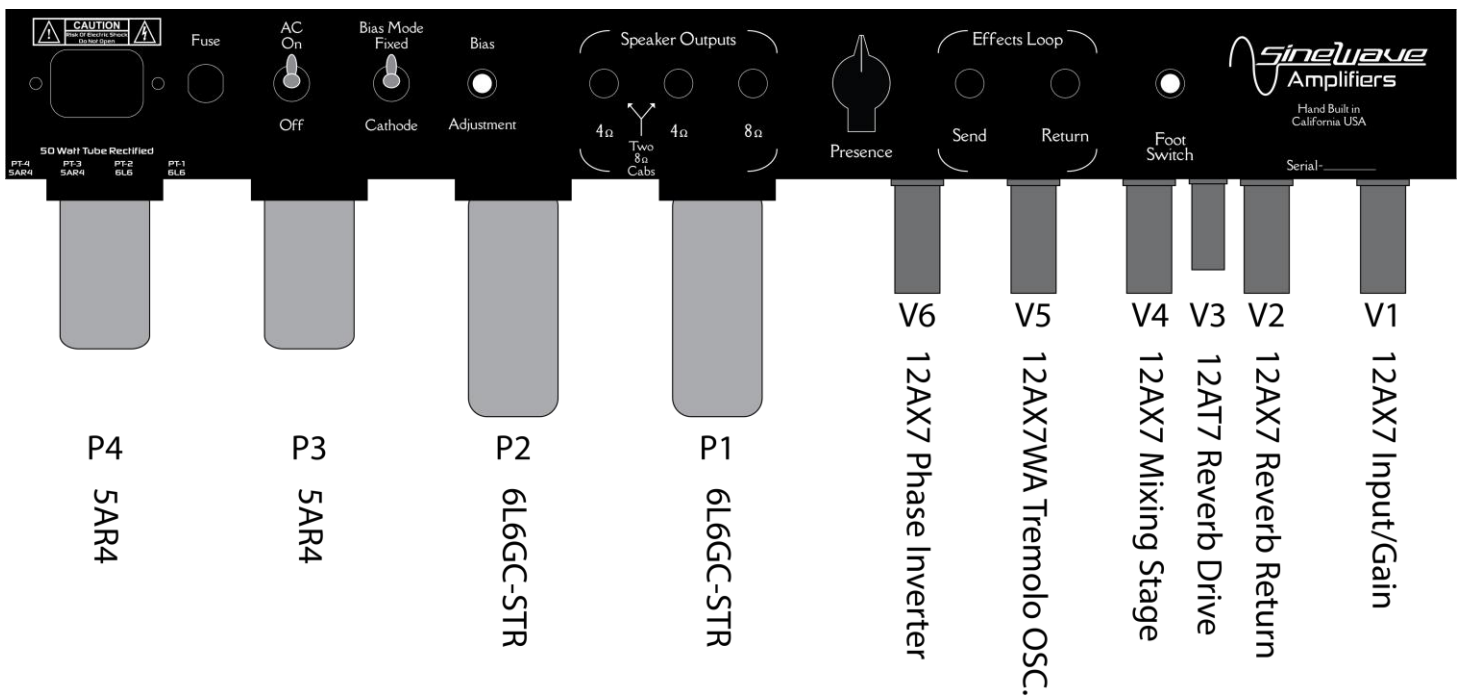
Fuse Options:

- **100VAC:**
 - **50 Watt 2.5 amp Slow-Blow**
 - **100 Watt 3.2 amp Slow-Blow**

- 120VAC
 - o 50 Watt 2.5 amp Slow-Blow
 - o 100 Watt 3.2 amp Slow-Blow
- 220VAC, 230VAC, & 240VAC
 - o 50 Watt 1.6 amp Slow-Blow
 - o 100 Watt 2.5 amp Slow-Blow

***Power Stage Tube Options: Only install tubes that your amplifier was built for. Installing different tubes will lead to failure of the tubes and damage the amplifier.**

Tube Layout



Standard Tube Compliment Is a 50 Watt Dual Tube Rectified Power Section.

Optional EI-34/6CA7

Optional 20Watt 2x6V6 Dual Tube Rectified Options

And

100 Watt (6L6 or EI-34/6CA7)Solid State Rectification

Are Available

P3 & P4 Become 6L6GC-STR For 100 Watt Power Sections

Please Contact Support If you Have Any Questions Regarding Tubes Or Service

Warning

**There Are No Serviceable Parts Inside!
Please Refer To Qualified Personal For Service.**

Thanks For Purchasing!



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For Service

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