Two-Rock

TS-1

(2020)

OWNER’S MANUAL

Dear Customer,

Thank you for your purchase of a **Two-Rock!**

As a discerning guitarist, you know the road to great tone begins with great components.

Our Classic Design, carefully selected parts and hand-built approach combine to create an extremely versatile instrument.

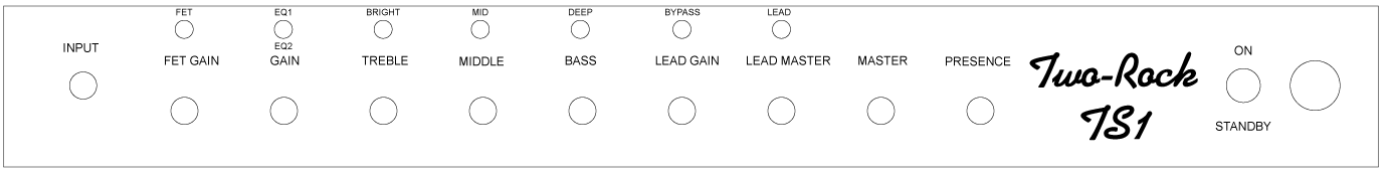
Please take the time to read this manual. We hope it will answer any questions that you may have.

We extend a warm welcome to you as a member of a select group of musicians who have chosen a Two-Rock amplifier.

Important Safety Instructions

1. Read these instructions
2. Keep these instructions
3. Heed all warnings
4. Follow all instructions
5. Do not use this apparatus near water
6. Clean only with dry cloth
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
8. Do not install near any heat sources such as radiators, heat registers, plugs, and the point where they exit from the apparatus
9. Protect the power cord from being walked on or pinched particularly at plugs and the point where they exit from the apparatus
10. Only use attachments/accessories specified by the manufacturer
11. Unplug this apparatus during lightning storms or when unused for long periods of time
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped
13. CAUTION: To disconnect the unit completely from the MAINS, unplug the unit. Turning the power switch off does not disconnect the unit completely from the MAINS.

Front Panel Functions



INPUT - High impedance input to the amplifier. Plug in your instrument here.

FET Switch - Enables or defeats the FET circuit. (“ON” is “up” position)
To enable footswitch control of this function, the switch must be in the down position.
When the FET circuit is switched on, the FET GAIN determines the level of boost or cut in the signal fed to the following stage of the amplifier.

FET GAIN - The FET (Field Effect Transistor) circuit consists of a single stage high impedance preamp/buffer. This is a very dynamic clean boost that when turned up past the 12 o’clock position can be used to boost the signal for increased gain, touch sensitivity, sustain and overdrive. This circuit can also be used to buffer the input from high output pickups. When set below the 12 o’clock position it will actually reduce the level of gain and bass, and essentially “clean up” the signal before it passes to the next stage of the amplifier.

EQ1/EQ2 Switch - This switch lets you choose between 2 completely different global equalization settings greatly affecting the overall personality of the amplifier.
EQ1 is a lower gain, higher headroom setting with extended midrange and bass response. This setting is suitable for any style requiring a pure clean tone with a nice round bottom end response, and plenty of headroom. It may seem weak and thin sounding when first switching to the EQ1 setting from the EQ2 setting. This is due to the lower gain structure of EQ1 thus the gain and master settings as well as the tone controls do need to be readjusted in order to take full advantage of the EQ1 setting.
EQ2 - This setting has more available gain yet still provides plenty of clean headroom if desired, along with a full and balanced response overall. This is the setting that most players will prefer to use especially with single coil pickups, and or any type of lower output pickups.

GAIN - Adjusts the overall gain of the amplifier. Start with this control in the 12 o’clock position then adjust to taste. This control determines the initial character of your tone, from cleaner/brighter tones at low settings to fatter/warmer tones at higher settings. As you turn this control up it also introduces more gain and bass into the signal path, and reduces the amount of available clean headroom especially when the master volume is set higher. Keep in mind that the amount of gain set here also determines the signal level feeding the lead channel. Lower settings of this control will reduce the available signal level in the lead channel so higher settings of lead gain may be required to achieve the desired amount of overdrive when in the lead channel mode.

BRIGHT Switch - Boosts the high frequency response. This is most effective when the Gain control is set at 12 o’clock or lower. This is great for adding sparkle to clean tones. The effect is less dramatic as the Gain control is adjusted past the 12 o’clock position.

TREBLE - Adjusts the high frequency response. At lower settings of this control the tone will be warmer and smoother. As you turn this control up the highs become more prominent and aggressive adding gain to the signal as well. This control is very interactive with the Bright switch, Middle control, and Deep switch. In the full counter-clockwise position, high frequencies are bypassed to ground. In the full clockwise position, high frequencies are allowed to pass to the next gain stage.

MID Switch - Boosts the midrange frequency response.

MIDDLE - Adjusts the midrange response. At low settings of this control the tone will be “scooped” of midrange response, emphasizing the highs and lows. As this control is turned up, the midrange frequencies are increased. This creates the “body” of your guitar’s tone and is very critical to both the tonality, feel and overall response of the amplifier. Higher settings of this control also help your tone to cut through the mix in both a live band situation as well as when playing the amp outdoors. In the full clockwise position, mid-range frequencies are allowed to pass to the next gain stage.

DEEP Switch - Boosts the lower bass frequencies. This low frequency contour switch also shifts the emphasis from the upper bass frequencies to the lower bass frequencies which helps smooth out and clarify the midrange response.

BASS - Adjusts the bass response. In the full counter-clockwise position, low frequencies are cut and the response of the treble and mid-range controls is greatly reduced. As this control is turned up, the bass frequencies are increased and allowed to pass to the next gain stage.

BYPASS Switch - Referred to as Tone Stack Bypass, this switch bypasses the Bass, Middle, and Treble controls effectively turning them up all the way and increasing both the volume and perceived mid-range response. The Bright, Mid, and Deep switches remain active in the Bypass mode. This function is also foot switchable. To enable footswitch control of this function, the switch must be in the down position.

LEAD GAIN - Adjusts the input level (gain) of the lead channel. Although we refer to this as the “lead channel” it is actually an additional “cascading” gain stage in the amp’s circuit driven by the FET, EQ1/2, Gain, Bass, Middle, Treble, Bright, Mid, Deep, and Bypass controls. It has been meticulously designed to add a very dynamic and touch responsive overdrive capability to the amplifier. The setting of the amp’s controls has a direct effect on the gain, tone and feel of the lead channel. Experimentation is key to striking the desired balance between the clean and lead modes.

LEAD Switch - This switch engages the lead channel. This function is also foot switchable.
To enable footswitch control of this function, the switch must be in the down position.

LEAD MASTER - Adjusts the output level of the lead channel. Use this control to set the desired volume of the lead mode in relation to the clean mode.

MASTER - Adjusts the overall output level of the amplifier. At lower settings on this control the amp will be much cleaner sounding as well as lower in volume. As this control is turned up the power section of the amp begins to work harder which increases sustain, fullness, and touch dynamics as well as raising the volume of the amplifier. At higher settings on this control the power section will be pushed into natural overdrive especially if the Gain control is set higher.

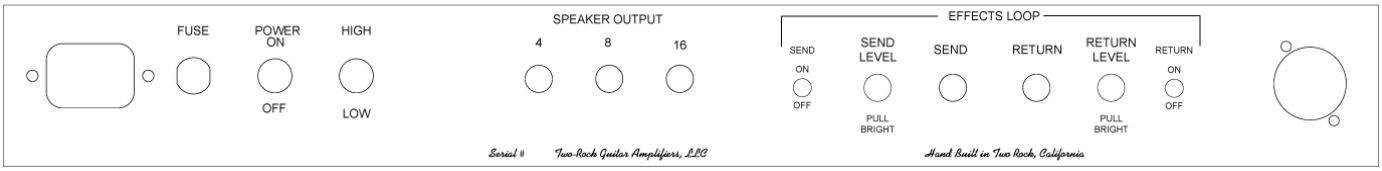
PRESENCE - Adjusts the contour of the high-frequency response. Turning this control up gradually increases the intensity of the upper frequencies. This is a subtle control which can be used to either emphasize sparkle and brightness when needed or smooth out your overall tone by turning the control down.

STANDBY - This switch should be in the down/STANDBY position before you place the Power switch to the up/ON position. After 20 seconds or more, place the Standby switch in the “up” position to play the amplifier. When you are taking a break from playing the amp you can leave the amp “powered up” and simply switch to the “stand-by” position to mute the output of the amplifier and prolong power tube life.

INDICATOR LAMP - This lamp will illuminate when the rear panel power switch is in the “up” position, indicating the unit is receiving A/C power.

NOTE: *All switches are ON when in the “up” position*

Rear Panel Functions



A/C Input - Connects the amplifier to A/C power via the power cable supplied. Unless otherwise specified, your amplifier is designed to operate on 120 volts A/C, 60 cycles.

Fuse - See Fuse Chart

Power Switch - Turns power on.

HIGH/LOW Switch - On 100/50w and 40/20w models the HIGH position is full power, and the LOW position is half power. The 100/50w and 40/20w proprietary output transformers, when switching from full power to half power, will automatically compensate for impedance differences so no impedance adjustment is necessary. On the 50w model the High position is fixed bias, and the LOW position is cathode bias. The cathode bias setting lowers the amp's headroom and power output while enhancing touch sensitivity.

Speaker Output Jacks - There are 3 speaker output jacks; 4, 8, and 16 ohms.
NEVER OPERATE YOUR AMPLIFIER WITHOUT A PROPER SPEAKER LOAD CONNECTED.
Be sure to match the impedance of your cabinet with the impedance (output) of the amplifier.

Fully Buffered Tube Driven Effects Loop:
Send On/Off - This switch engages the buffer for the effects loop send.

Send Level - This control adjusts the signal level at the effects send jack, use this to dial in the appropriate input level for the connected effects.
Pull Bright - The first "BRIGHT" switch enhances hi frequency response on the output (effect send) side of the buffer. This adds back brightness to the signal that can be lost in longer cable runs, and or through various effects.

Send - Use this jack to send the amplifier's signal to the effects that you want to use in the loop.

Return - Use this jack to connect the output from the effects in the loop back to the amplifier.

Return Level - This control adjusts the signal level of the effects return, use this to dial in the appropriate output level from the connected effects. This will allow you to compensate for various effects that may have lower, or higher output levels and thus help you maintain consistent signal levels feeding back into the amplifier.
Pull Bright - The second "BRIGHT" switch enhances hi frequency response on the input (effect return) side of the buffer. This adds back brightness to the signal that may have been lost in longer cable runs, and or through various effects.
Return On/Off - This switch engages the tube buffer circuit for the effects loop return.

FOOT SWITCH - The included footswitch connects here. The FET, clean/lead, and tone stack bypass functions can be activated via the footswitch as long as the corresponding front panel switches are in the down position.

FOOTSWITCH LED Indicators:

FET	-	GREEN LED
LEAD	-	BLUE LED
BYPASS	-	RED LED

S/N - Your serial number is located here. We strongly suggest that you record this number and have it handy in case you need service, or in the event that your amp is lost, stolen, or damaged.

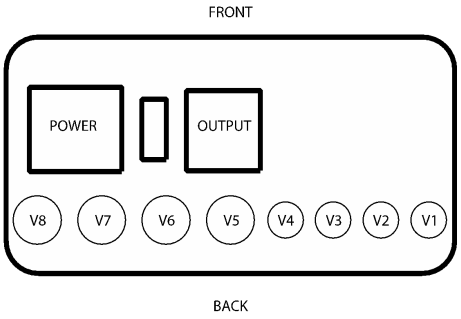
FUSE CHART

NOTE: All Fuses are 3AG Type 250 Volt SLO-BLO

	100V	120V	220V/230V/240V
40/20w and 50w	2.5amp	2.5amp	1.6amp
100/50w	3.2amp	3.2amp	2.5am

TUBE COMPLEMENT

V1 - 12AX7 - Clean Channel
V2 - 12AX7 - Lead Channel
V3 - 12AX7 - Buffered Loop Send and Return
V4 - 12AX7 - Phase Inverter
V5, V6- Output 6L6GC (100 Watt), 6V6GT (40 Watt) or 6L6GC (50 Watt)
V7, V8- Output 6L6GC (100 Watt), 6V6GT (40 Watt)



Each fine production tube is tested and matched to our exacting specifications. When the time comes that the power tubes need replacing, it's very important to use high quality, matched sets of power tubes. It's also critical that the bias of the amp be reset after installing new, or NOS power tubes. External bias adjustment and test points are located on the bottom of the chassis near the output tube sockets. A digital voltmeter and small screwdriver are required for bias adjustment.

BIAS PROCEDURE:

Make sure the speaker is connected properly, then power up the amplifier.
Set the rear panel power mode switch to Full or Hi
DO NOT apply any signal to the input during the biasing procedure!
Insert volt meter's positive probe into the bias test point socket (located underneath the chassis)
Connect volt meter's negative probe to chassis ground
Switch amp out of standby and allow a few seconds for the circuit to stabilize
Set voltmeter to millivolt scale (or lowest volt scale 60 millivolts =.060 volts.)
Observe the display on the meter to see the current bias setting
If an adjustment is needed, use a small flat blade screwdriver inserted into the bias adjust pot and adjust by turning bias screw SLOWLY in very small increments until the desired setting is achieved on the meter. Then wait a few moments for the bias to stabilize and re-adjust if necessary. You may need to repeat this procedure a couple of times. It is ok to play test the amp with the meter connected.

A setting of 0.030 to 0.032 volts is normal for 100 watt amplifiers with (4) 6L6's.

A setting of 0.030 to 0.032 volts is normal for 50 watt amplifiers with (2) 6L6's.

A setting of 0.022 to 0.024 volts is normal for 40 watt amplifiers with (4) 6V6's.

If an adjustment is needed, use a small flat blade screwdriver inserted into the bias adjust pot and adjust by turning bias screw SLOWLY in very small increments until the desired setting is achieved on the meter. Then wait a few moments for the bias to stabilize and re-adjust if necessary. You may need to repeat this procedure a couple of times.

The 100/50w and 50w amplifiers are designed to use 6L6GC power tubes.
The 40/20w amplifiers are designed to use 6V6GT power tubes.

WARNING! No user serviceable parts inside! Refer to a qualified service person only.

LINE CORD *- For your safety, connect to a grounded A/C receptacle only.*

We know your new Two-Rock amplifier will provide many hours of enjoyment and inspiration in the years to come. This manual is a resource for all basic operational information. Please contact us with any other questions or comments that you may have.
We look forward to hearing from you!

PHONE: 1(707)584-TONE (8663) (M-F 9am-5pm PST)

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ROHNERT PARK, CA 94928
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SERIAL NUMBER: _____

CE

DECLARATION OF CONFORMITY

According to EC Directive

Manufacturer:	Two-Rock Amplifiers, LLC
Address:	619 Martin Ave. STE 5 Rohnert Park, CA 94928
Phone:	707-584-8663
E-mail:	info@two-rock.com

Product Name: Audio Power Amplifier

Brand Name: Two-Rock

Model Numbers/Report Numbers:

Burnside:	R130829C, R130915
Cardiff:	R160425, SR160430
Classic Reverb(Signature):	R130829C, R130915
Coral:	R070212, R070213
Crystal:	R130829C, R130915
Sensor:	R070212, R070213
Studio Pro(PLUS):	R130829C, R130915
TS1:	R070212, R070213

Has been designed and manufactured in accordance to the following technical regulation:

Directive Device:

Low Voltage Equipment 2014/35/EU

Electromagnetic Compatibility 2014/130/EU

Conformity with the following standards:

The measurements made in accordance with the procedures according to the European Council Directive and EN Standards.

Council Directive and EN Standards:

- EN 55103-1:2009+A1:2012
- EN 55103-2:2009
- EN61000-3-2:2006+A1:2009+A2:2009
- EN61000-3-3:2013
- EN60065:2002+A1:2006+A11:2008+A2:2010+A12:2011

CE mark was affixed on the products: 2007-2017

The product(s) which are defined herein was (were) manufactured under the conditions of the European Union directive and standards. Also, this product(s) responsibility is under our firm's guarantee.

Manufacturer

Stamp & Signature

Name surname: Mac Skinner

Title: Owner/COO

Date: 1/1/2017