

*Two-Rock*

*10th Anniversary*

OWNER'S MANUAL

Thank you for your purchase of a *Two-Rock* amplifier from *K&M Analog Designs, LLC*.

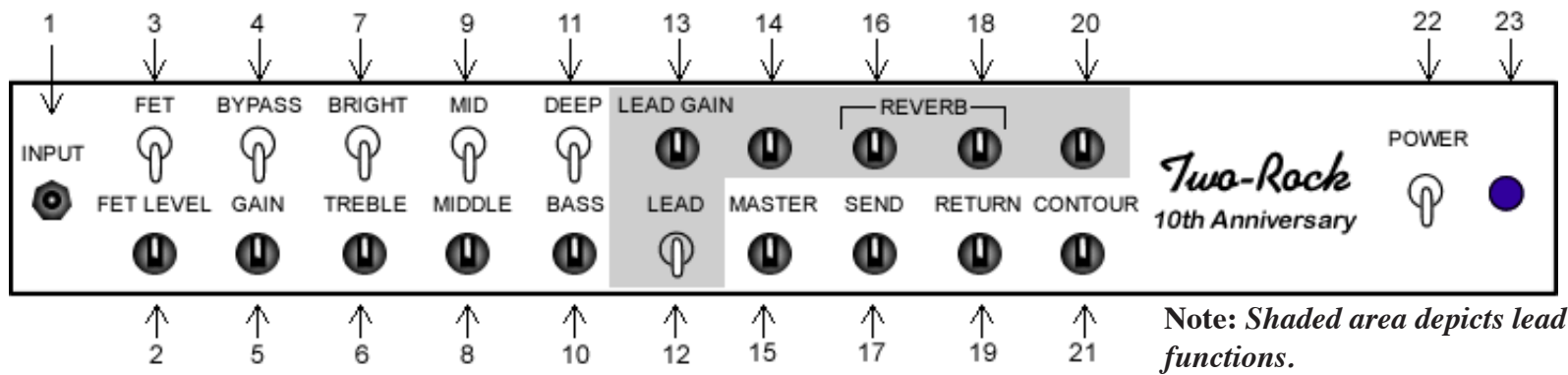
As a discerning guitarist, you know the road to great tone begins with great components.

Our Classic Design, carefully selected parts and hand-built approach combine to make 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.

# Front Panel Functions



Note: Shaded area depicts lead functions.

- 1. Input Jack-** High impedance input to the amplifier. Plug in your instrument here.
- 2. FET Level-** The FET (Field Effect Transistor) feature consists of a single stage high impedance preamp/buffer. This feature can be switched in and out via the front panel switch (“ON” is “up” position) or footswitch. This mode offers an additional buffered gain stage, and can be used to buffer the input from high output pickups or increase the signal of low output pickups. The FET GAIN control controls the amount of signal fed to the following stage(s){gain control}
- 3. FET Switch-** enables or defeats the FET feature. (“ON” is “up” position)
- 4. Bypass Switch-** This switch bypasses the tone controls, increasing both level and mid-range response. To enable footswitch control of this function, switch must be in the down position.
- 5. Gain-** Adjusts the overall gain of the amplifier. Start with this control in the 12 o’clock position.
- 6. Treble Control-** Adjusts the high frequency response. 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.
- 7. Bright Switch-** Boosts the high frequency response. This is most effective when the input gain is set at 12 o’clock or lower. The effect is less dramatic as the input gain control is adjusted past the 12 o’clock position.
- 8. Middle Control-** Adjusts the mid-range response. In the full counter-clockwise position, the tone will be somewhat “scooped” of mid-range response, emphasizing the highs and lows. In the full clockwise position, mid-range frequencies are allowed to pass to the next gain stage.
- 9. Mid Switch-** Boosts the mid range frequency response.
- 10. Bass Control-** Adjusts the bass response. In the full counter-clockwise position, low frequencies are cut. In addition, the response of the treble and mid-range controls is greatly reduced. In the full clockwise position, low frequencies are allowed to pass to the next gain stage.
- 11. Deep Switch-** Boosts the low and low-mid frequencies. This is a low frequency contour switch, changing the low and low-mid response.

NOTE: All switches are ON in the “up” position (except reverb switch, see description)

**12. Lead Channel Switch-** Sends the instrument signal through the lead circuit, adding extra stages of gain

**13. Lead Gain-** Adjusts the input level (gain) of the lead channel.

**14. Lead master-** Adjusts the output level of the lead channel.

**15. Clean Master-** Adjusts the output level of the clean channel.

**16. Lead Reverb Send-** 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. THIS MODEL has separate reverb send and return controls for the clean and lead channels.

**17. Clean Reverb Send-** See above description. This control is for the clean channel.

**18. Lead Reverb Return-** 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. THIS MODEL has separate reverb send and return controls for the clean and lead channels.

**19. Clean Reverb Return-** See above description. This control is for the clean channel.

**20. Lead Contour Control-** The contour control is an active wide band sweep. In the 12 o'clock position, the amps' frequency response is flat. Counterclockwise rotation reduces high end response and increases low frequencies. Counterclockwise rotation decreases low end and increases the high frequency response. This control is very useful for maintaining preamp tone control settings, while allowing a global adjustment to compensate for differences in room acoustics, speaker cabinets, or bright to dark guitars (PRS Humbucker to Strat, for example). This control also actively reduces the articulation available, allowing a softer setting, or extremely open and revealing, depending on your individual style and requirements. This amplifier is equipped with separate contour controls for both clean and lead channels.

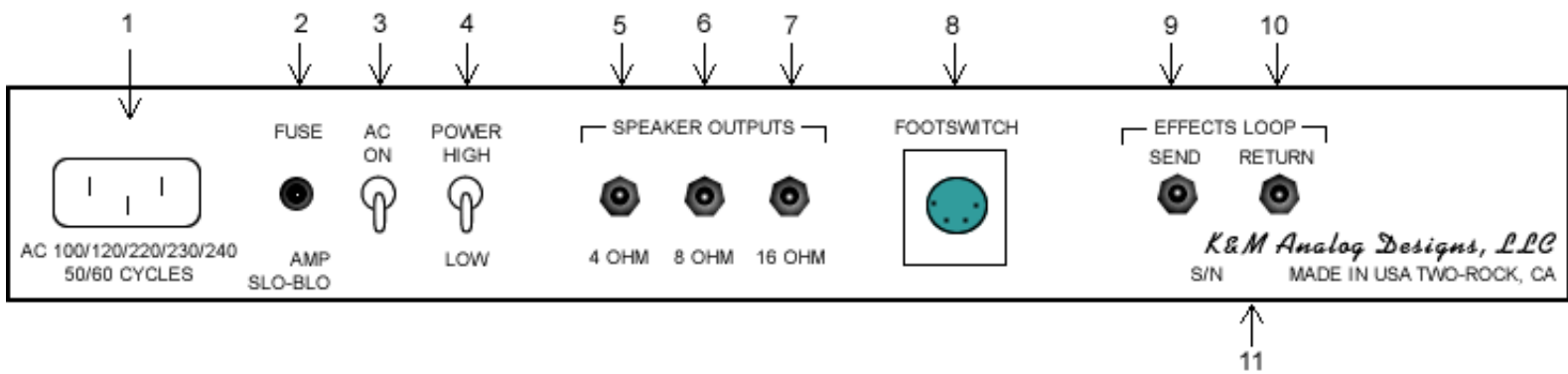
**21. Clean Contour Control-** See above description. This control is for the lead channel.

**22. Stand-by Switch-** Should be in the "down" or "stand-by" position when you apply power to the unit. After a few seconds, place the switch in the "up" position to use the amplifier. You may leave the unit "powered up" and place this switch in the "stand-by" position to mute the output.

**23. Indicator Lamp-** This lamp will illuminate when the power switch is in the "up" position, indicating the unit is receiving A/C power.

NOTE: All switches are ON in the "up" position

## Rear Panel Functions



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

**2. Fuse-** See Fuse Chart

**3. Power Switch-** Turns power on.

**4. Power Selector -** On 50 Watt Models, the HIGH power mode is Class A/B, the LOW power is Class A. On 100 watt (4x6L6) models, the HIGH power mode is 100 watts, the LOW power mode is 50 watts.

**5-7. 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.

**8. Footswitch Jack-** The footswitch connects here. The FET function, tone Bypass, and Lead functions can be activated via the footswitch. The respective front panel switches (FET, Lead and Bypass) must be in the “off,” or down position, to enable the footswitch functions.

**9. Effects Send-** Use this jack to send the amplifier's signal to outboard effects.

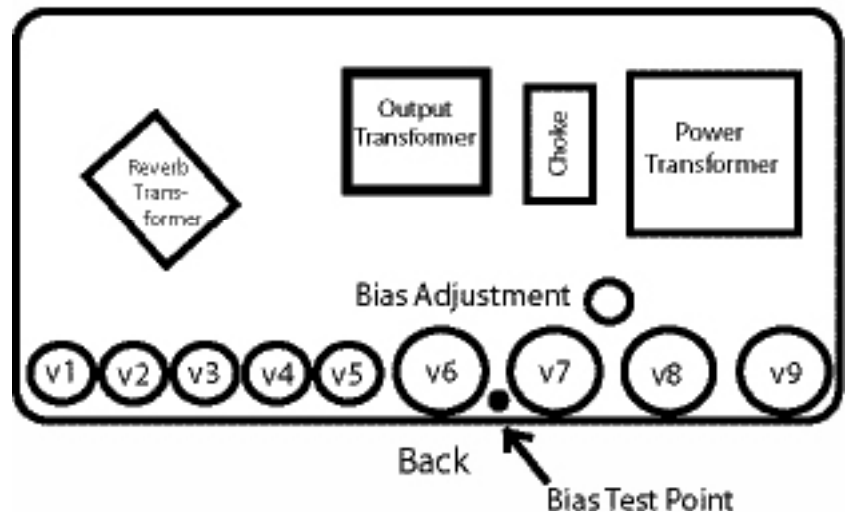
**10. Effects Return-** Use this jack to connect the output of your effects to the amplifier. This amplifier does not have a buffered effects loop. Some effects will work well without a buffer, while others may cause signal loss when inserted. If several effects will be connected in the loop, a buffered effects loop interface such as the Two-Rock ELI-1 or ELI-2 is highly recommended.

**11. 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. You can also register your serial number on our website at [www.two-rock.com](http://www.two-rock.com).

# Tube Complement

Front

V1- 12AX7, Rhythm channel  
V2- 12AX7, Lead Channel  
V3- 5751/12AT7, Reverb Driver  
V4- 12AX7, Reverb/effects  
V5- 12AX7, Phase Inverter  
V6,V7- 6L6GC, Output  
V8, V9- 6L6GC, Output (100 Watt)  
V8, V9- 5AR4 (50 Watt Tube Rectified)



Each fine production tube is tested and matched to our exacting specifications. External bias adjustment and test points are located on the chassis near the output tube sockets. A digital voltmeter and small screwdriver are required for bias adjustment.

## BIAS ADJUSTMENTS:

Power up unit and connect proper speaker load.

Set master volumes and effects return controls to zero.

**DO NOT** apply any signal to the input during the biasing procedure!

Take unit off standby and allow a few seconds for the circuit to stabilize.

Set voltmeter to Millivolt scale (or lowest volt scale 60 millivolts=.060 volts.)

With meter grounded to chassis and + probe at test point, measure voltage.

A reading of 0.055 to 0.060 volts is normal for 50 Watt amplifiers with (2) 6L6's. A reading of 0.115 to 0.120 volts is normal for 100 Watt amplifiers with (4) 6L6's. If not in this range, adjust by turning bias screw SLOWLY a small amount. **Do not set above .070!**

For other tube types (5881, 6550, EL34) check with the manufacturer or contact us for recommendations.

Settings higher than .065 with 6L6 tubes may cause premature tube wear and possibly damage the amplifier.

Keep in mind that tubes vary in quality, and some tubes can handle upwards of 40 ma each (a reading at the test point of .080!) However, to be on the safe side, use the above as a guide.

**NOTE:** Some amps are equipped with 2 bias pots, one for low power, the other for high power. Adjust bias in both hi and low power settings!

**NOTE:** Some amps are Class A/AB. In LOW POWER MODE(CLASS A), you will not get a proper reading-adjust bias in high power mode only.

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

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

# Fuse Chart

All Fuses are 3AG Type 250 Volt, SLO-BLO

## **Export 100 Volt**

3.5- 100 Watt Signature

2.8- 50 Watt Signature

## **Domestic Fuses:**

3.25- 100 Watt Signature

2.5- 50 Watt Signature

## **Export 220, 230, 240 Fuses:**

1.6- 100 Watt Signature

1.25- 50 Watt Signature

# Footswitch Functions



LEAD

BYPASS

FET

- BLUE LED

- RED LED

- GREEN LED

*K&M Analog Designs* amplifiers are brought to you by Bill Krinard and Joe Mloganoski.

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 some of your questions. Please contact us with any other questions or comments that you may have. We look forward to hearing from you!

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#### PRECAUTIONS:

DO NOT expose to rain or any other moisture.

DO NOT use cleaning solvents. Wipe exterior with a clean, dry cloth only.

Refer servicing to a qualified service technician.

This is a product of

*K&M Analog Designs, LLC*

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SERIAL NUMBER: \_\_\_\_\_