

MESA/BOOGIE

.50 CALIBER PLUS

OWNER OPERATING INSTRUCTIONS

***MESA/BOOGIE***  
*The Spirit of Art in Technology*

**CONGRATULATIONS!** You've just become the proud owner of the boldest sounding, easiest operating 50-watt amplifier there is... and you're sure to enjoy it!

**GREAT SOUND.** Many months of patient, painstaking R&D were spent in developing the .50 Plus's special, high-gain "personality". We tuned (and retuned) its preamp section to make it capable of monstrous, fat lead tones while still offering plenty of crystal-clear headroom for rhythm. Its power section has been fitted with 6L6 tubes in a specially modified (and patented) circuit that offers fluid dynamic response with plenty of "give". And a custom-designed vintage Celestion speaker - made exclusively for MESA/Boogie - provides a perfect blend of full-bodied clarity and warm "crunch".

**GREAT SIMPLICITY.** One of the .50 Caliber's greatest virtues is its incredible simplicity of operation. It's nearly impossible to come up with a bad sound or a wrong setting. And here to help you get started is a brief explanation of your new amp's features and controls.

## **FRONT PANEL FEATURES**

**INPUT JACK** This ¼" guitar jack is the instrument input to your amplifier. Patented "Dual Mode" circuitry makes this single jack work for both Rhythm and Lead... providing very high headroom for sparkling clean Rhythm, and super high gain for monstrous Lead playing. Be sure to use a good-quality, shielded guitar cord.

**FOOTSWITCH JACK** This ¼" jack connects to the Lead/Rhythm footswitch via the unshielded cable provided. When the red LED on the footswitch box is illuminated, the .50 Caliber is in the Rhythm mode... red equals Rhythm. Stepping on the button switches the amp into the Lead model and the LED goes out.

Should you lose or forget your footswitch you can activate the Lead mode by pulling out the "Pull Lead" switch on the Volume knob.

**VOLUME (GAIN)** This control is active in both Rhythm and Lead modes. It establishes the amplifier's overall sensitivity to your guitar's output, and must be mixed in conjunction with the Master(s). In the Rhythm mode, the maximum clean setting is usually around 6 (varies with stronger or weaker pickups) and most players find their favorite cleanest, brightest spot between 3 and 5. But if you want some breakup in the Rhythm mode, turn the Volume up high.

In the Lead mode, the Volume knob is intentionally less sensitive so that there is no need to reset it when switching between the two modes. With most guitars, distortion begins around 2 with a real nice sounding blues-type tone reminiscent of old Fenders turned up loud. Settings above 3 or 4 produce the more modern and monstrous distortion sounds. Gain and distortion increase slowly as the Volume setting is increased, often producing the tightest, best-sounding heavy crunch tones between 7 and 9.

To prevent undesirable squealing, noise and feedback, the Volume should be reduced as playing loudness - via the Master and Lead Master - is increased.

MASTER This control regulates the power amplifier level and the actual overall loudness. (In Lead mode, the Master and the Lead Master work together "in series" to perform this function.) If you run the Volume at 10 and both Masters below 2 (in Lead mode), Grandma can nap in the next room while you annihilate Manhattan with monstrous metal performance! You'll still get the sound and feel of big amps cranked way up.

Turning up the Master begins to reveal the .50 Caliber's incredible sound-per-watt capability... it's noticeably louder than other comparably rated amps! The maximum performance for loud, clean Rhythm and hot, high-gain Lead playing comes around 5 and 4 on the Volume and Master, with the Lead Master set between 3 and 4. This puts the amplifier right in the middle of its range for great sound and easy footswitchability. The taper of the two controls is gradual enough so that dialing in both great Lead and great Rhythm sounds is quite easy to do.

However, the taper of the Master control gets radical above 5 and begins to unleash the maximum from your .50's power section. And this power amp has been designed to deliver its greatest crunch when turned up smoking loud! But you must turn down the Volume as you increase the Master, to avoid excessive squealing.

When you want to turn down to soft playing levels and continue to footswitch between Lead and Rhythm, merely turn down the Master. This will preserve the volume balance between the two modes.

LEAD MASTER This control affects only the Lead mode; it operates in series with the regular Master to determine the loudness of the Lead mode in relation to Rhythm. It should generally be adjusted after setting the Volume and Master controls. Since the Lead Master is located "before" the Effects Send jack (and the regular Master) in the signal path, it also acts as an effects send level for the Lead mode.

TREBLE This is the most powerful of the three rotary tone controls. At high settings (7 ½ and above) it will appear to minimize the effect of the Bass and Middle controls. But they will become the stronger controls when the Treble is set below 5. For those who split hairs tonally and want the very best, most bubbly and funky clean tones, you should find the exact spot on the Treble where all three tone controls are balanced. This will usually be somewhere between 5 and 7.

When playing hard-core crunch, especially at very soft practice volumes, the 50 will usually sound better with the Treble and Presence set quite high. This will help produce sustain and harmonic jumps at soft playing levels.

For silky, warm and round jazz tones, run the .50 Caliber in the Rhythm mode with the Treble set low and the Bass and Middle turned up higher. Add sparkle with the Presence control.

BASS, MIDDLE You've already read our recommendations for these settings in the TREBLE section above, and because the tone controls are interactive, all three must be set together.

That "sweet spot" setting for maximal funky clean tones also depends on the right amount of Bass and Middle. Settings of 4 to 6 for both of these controls will usually provide the best balance against "that perfect Treble setting" where the tone is springy and bright but not "hard" sounding.

The Bass and Middle response has been very carefully designed to allow fatness in the Rhythm mode while avoiding tubbiness or flab when footswitching to a crunch, lead or metal tone.

REVERB The .50 Caliber amplifier includes a 3-spring miniature Hammond-Accutronics reverb, and all-tube send/return electronics. Tonal quality is outstandingly good. NOTE: If both Reverb and Master(s) controls are set extremely high, acoustical feedback between the speaker and the reverb springs may occur. This does not indicate a fault or malfunction with the amplifier, and is only caused by an inappropriate and unnecessary combination of settings. Should this "reverb howl" begin to occur, turn down either the Masters or the Reverb.

PRESENCE This control lets you dial in your exact choice of extreme high frequencies and sets up the basic brightness of the overall tone. Brighter tones generally sound clearer and cleaner while less bright tones sound "warmer". Season to your liking ... most players run the Presence between 5 and 9.

GRAPHIC EQUALIZER This feature is fun to use and definitely expands the tonal flexibility of the .50 Plus. (But for those who opt not to use the Graphic - don't worry! All of the R&D for tonal performance was conducted without using the Equalizer... so that it wouldn't be necessary for obtaining good tone.) The three-position EQ Switch selects either "EQ IN" (bottom position); "EQ AUTO" (which automatically activates the EQ whenever you switch to the Lead mode); or EQ OUT (the unlabelled center position). If you are using the optional EQ Footswitch to control the Equalizer remotely (via the rear panel "EQ Footswitch" jack), the front panel switch should generally be set to its center EQ OUT position, since the footswitch cannot override the "EQ IN" mode (although it can be used to turn on the EQ when you're in Rhythm mode with "EQ AUTO" selected).

Although there are hundreds of ways to set the Graphic, there is one setting that's particularly useful and popular - the classic "V"! Move the first and last sliders about three-fourths of the way up. Move the second and fourth sliders two-thirds of the way up. Move the center slider about three-quarters of the way down... then fine-tune your sound using just this center slider. (You'll hear how a slight adjustment at the 750 Hz position makes a dramatic difference in the sound, whether you're playing with moderate distortion, heavy distortion, or perfectly clean.) This "V" setting makes the amp sound even bigger, bolder, fatter and "hazier"... especially at very soft playing levels.

## REAR PANEL FEATURES

FUSE Should your .50 Plus blow its fuse, be sure to replace it with a 2.5 Amp Slo-Blo type. Should the fuse repeat its blowing, check for a bad power tube. Often it will light up red hot all over the large metal plate inside. Repeated instantaneous fuse blowing indicates a bad rectifier diode or a shorted filter capacitor. Any of these events is very uncommon in the .50 Caliber Boogies.

GROUND This switch is often helpful in reducing buzzes which originate in the AC power wiring outside the amplifier. Leave the switch in its center OFF position unless position A or B definitely helps. This usually occurs only when the ground pin on the AC plug is being defeated via a ground-lift adapter at the wall socket.

DIRECT This feature provides a variable strength signal output originating right from the output transformer. Thus, good tone is supplied, all Effects and Reverb are included, and there is absolutely no loss of the Boogie's tone when running from the Direct Output to a mixing board or another amplifier. But bear in mind that speakers themselves exert a tremendous coloration to the tone, primarily by rolling off the highs very steeply above 5 to 6 kilohertz. Consequently, many players will still prefer the recorded sound of a microphone "listening" to the speaker.

In some sophisticated set-ups, players run their Boogie's Direct Out into an effects rack, and then from the last effects device into other external amplifiers. But such a set-up cannot route the last effect output back into the original Boogie. Also note that a speaker or load resistor must remain plugged into a speaker jack at all times, even when using the Direct. Otherwise the amplifier will operate improperly and damage may result from running without a load. Suggested value of the load resistor is 8 ohms, 50 watts minimum.

EFFECTS SEND & RETURN These jacks provide a low-noise patch loop within the 50's preamp for connecting external accessories. Compatibility is quite good with most line-level or rack-mount devices, although some will require you to trim down their input attenuators to prevent overload. (Pedal-type effects are designed to handle the low-level signals emanating directly from your guitar; therefore this type of device should be connected "in front" of the amplifier, rather than in the Effects Loop.)

Some manufacturers offer rack-mount multi-effects units for guitar which include compression, distortion, overdrive, etc. Although a good-quality compressor can be used effectively in your Boogie's Effects Loop, we do not recommend the use of multi-effect "guitar processors" in the Loop, as their inputs are often too sensitive and their added gain stages will tend to contribute some noise. If you wish to use this type of device with your Boogie, it should be patched in between the guitar's output and the amplifier's input.

The Send jack can also provide an external "preamp, out" signal without breaking the signal path that leads to the .50's power section and speaker. If you're using the Send as an output but you still want to hear the internal speaker, turn up the Master. If you don't want to hear the .50's power amp and speaker, turn the Master to zero. (Remember to leave the speaker - or a load resistor - connected to one of the speaker jacks).

Plugging a signal from another source into the Return jack provides direct access to the .50's power amp section. Remember to adjust the Master to an appropriate setting for best signal-to-noise ratio.

**SPEAKER JACKS** One 8-ohm and two 4-ohm speaker jacks are provided on the 50 Plus. Use the 8-ohm jack for maximum power and clarity with the enclosed 12" speaker (if combo version) or when using a single MESA one-twelve or four-twelve cabinet. Use the 4-ohm jack(s) when using two 8-ohm speakers or two 8-ohm cabinets, or when using a single MESA two-twelve cabinet (as these are 4-ohm cabs).

**EQ FOOTSWITCH JACK** This jack allows connection of the optional EQ Footswitch for remote Equalizer switching. It is compatible with any standard, grounding-type switch and should be used with a shielded, mono (two-conductor) cable. When the EQ Footswitch is in use, the front panel EQ Switch should generally be set to its center, unlabelled (EQ OUT) position, since the footswitch cannot fully override the "EQ IN" or "EQ AUTO" modes (although it can be used to turn on the EQ in Rhythm mode if "EQ AUTO" has been selected).

**CAUTION** The .50 Caliber Plus is intended to offer its full range of great sounds at any volume, from very soft to very loud. And in order to do this its controls must be very powerful. When turning up the Master and/or Lead Master and playing quite loudly, you should expect to reduce the Volume and possibly the Treble and/or Presence. Otherwise, you may push the 12AX7 preamp tubes beyond their reasonable range, and noise, feedback or ringing may occur. This is normal, however; it does not indicate a malfunction in the amplifier. It's like having a Ferrari that takes tight corners great... and also goes 160 miles an hour on straight-aways. Just because it can go fast doesn't mean it can also take tight corners wide open! Similarly, your .50 Caliber has been designed both to play quite loudly, and to simulate the characteristics of loud playing at soft volumes when its preamp gain is turned up high. But you cannot run both the Volume and the Masters wide open at the same time without encountering feedback. There will always be an optimal point between the two controls that balances preamp gain (Volume) against power amp loudness (via the Masters). Like the tires on a Ferrari, you will have to maintain your 12AX7 preamp tubes (especially "V1" the tube located nearest the input jack) much more carefully if you insist on "flying around those hairpin turns" with everything wide open!

**MAINTENANCE** Excessive noise, feedback, squealing or rattling sounds coming from the speaker are almost always the result of a deteriorated 12AX7 preamp tube, usually the first ("V1") or the second ("V2") tube on the right (as seen from the rear), nearest the input jack. Checking the preamp tubes in a tube tester is almost useless. The best procedure is to substitute a tube that's known to be good and noise-free in each possible tube location, one at a time. Here are some clues to speed up the process: if the problem appears only in the Lead mode, then the culprit is probably V1, V2, or V3. (V1 is the tube nearest the input jack; V2 is the "next one out"; etc.) If the problem is in the Rhythm mode only, then V2 is usually the problem. If the reverb is noisy or has some other problem, replace V4. (Unlike the other preamp stages, V4 requires a 12AT7-type tube.)

Sometimes the insides of the power tubes themselves can be heard rattling. If the power is weak and your tone is flat, try replacing the larger power tubes, type 6L6GC. We strongly recommend using only genuine MESA tubes; in fact, your amplifier's warranty is not valid if you use other brands or types. Power tubes are like guitar strings; they begin to deteriorate as soon as they're put into use. You may notice improved performance by replacing the 6L6's, every few months, depending on usage. But do not change the 12AX7 or 12AT7 preamp tubes unless a specific problem arises. Their aging is very slow and you won't likely hear any improvement by changing them unless one has become noticeably noisy (and in fact you may even incur worse performance if you change a tube that's currently working fine).

Your amplifier is equipped with a metal shield that clamps in under the preamp tubes, to protect them from vibration, flying footswitches, and other hazards. To gain access to the preamp tubes, merely release the barbed nylon catches and the aluminum plate will fold down on concealed hinges. Changing preamp tubes is easier if you first remove one or both of the larger power tubes. Make certain you have all the tube pins aligned properly before pushing them in.

If rough handling of the amp has occurred, or when replacing tubes, make certain that the tubes are plugged all the way into their sockets and are centered within the metal holes of the chassis sheet metal. A tube that is leaning over in its socket can vibrate and buzz against the metal chassis, causing annoying noises. Or even worse, a crooked power tube can cause a reduction in available clean power, and break-up similar to that caused by a bad speaker. Should this occur, make certain that the power tubes are seated squarely in their sockets.

ENJOY! Most of all... enjoy your .50 Caliber Plus. We think you'll find it's a great sounding amplifier, built to satisfy professional demands for performance and reliability. And it should last a lifetime with only moderate care and maintenance. It's extremely "user-friendly" and there's almost nothing you can do to damage it, short of an accident or outright abuse. We've put our best into the design of the .50 Caliber Plus, so you can get the most out of your playing. We've intentionally given it a real "spongy" feel with plenty of "give", so it helps your playing and even smooths over your little mistakes! (Or as one good player said, "It makes my sloppiness sound like expressiveness... I love it!")

So remember - when all's said and done, the essence of music is PLAYING! So grab your guitar and GO FOR THE GUSTO!

# MESA/BOOGIE

## 50 CALIBER PLUS

### SAMPLE SETTINGS

<u>STYLE</u>	<u>SOUND</u>	<u>VOLUME</u>	<u>MASTER</u>	<u>TREBLE</u>	<u>BASS</u>	<u>MIDDLE</u>	<u>REVERB</u>	<u>PRESENCE</u>
ROCK -	CLEAN RHYTHM SMOKING LEAD	5	3	6.5	3.5	5	3	8
ROCK -	CHUNKING RHYTHM* SCREAMING LEAD*	6	4	7	3	3	2.5	7
METAL-	FAT GRINDING RHY. SEARING LEAD	7	4	8	3	2	2	9
BEDROOM METAL -	CRUNCH RHYTHM INSANE LEAD	10	1	10	2	0	3	8
BLUES-	DRIVING RHYTHM SOULFUL LEAD	5	4	6	4	4	3	6
FUSION-	FUNKY RHYTHM ARTICLUATE LEAD	3.5	4	6.75	4	5	2.5	9
JAZZ-	WARM. ROUND RHYTHM	3	3	5	5	5	3	5
COUNTRY-	CLEAN, SPARKLING LEAD	3	3	7	3	4	3.5	8

USING THE LEAD MASTER - After setting up the tone and overall volume of the amplifier using the above controls, use the Lead Master to fine-tune the loudness of the Lead mode in relation to Rhythm.

NOTE: Extreme settings (above 6/6) on both the Masters and Volume controls may cause preamp tube squealing and feedback. If this occurs, simply reduce the setting of either control slightly; the squealing should then disappear.

\* Both of these sounds are obtained in Lead mode.