

# ***MESA/BOOGIE***

## ***50/50 STEREO TUBE POWER AMPLIFIER***

### ***Operating Manual***

Thank you for your purchase of the "Fifty/Fifty Stereo" Power Amplifier! Inside this clean, compact, two rack-space unit is a true guitar amp that's unabashedly aggressive! Looking for raw punch? Guitar tone coloration? Power tube overdrive at manageable volume levels? You'll find it here. And to help you get down to it, here is a brief description of it's functions and features.

## **INPUTS**

Located on the rear panel, these two 1/4" jacks are the Channel A and Channel B inputs for the Fifty/Fifty. They are primarily designed to handle the "line-level" signals from a preamp or an effects rack; but they are also sensitive enough to permit direct connection of an instrument for test purposes, if needed. The amplifier is stereo, offering two separate channels of amplification. If you wish to use only one of its channels, it is necessary to: 1) Make sure a speaker (or load resistor) remains connected to a speaker jack on both channels, including the unused one; or 2) Turn the Level control of the unused channel to zero. (This is necessary because an amplifier channel receiving any amount of signal at its input will require a "load" at its output - or else damage will most likely result.)

## **SPEAKER OUTPUTS**

The Fifty/Fifty provides one 8-ohm and two 4-ohm speaker outputs for each channel. When using a single 8-ohm speaker or 8-ohm cabinet on a channel, connect the speaker or cabinet to the 8-ohm jack. If using two 8-ohm speakers (assuming they are wired in parallel) or cabinets on a channel, plug them both into the 4-ohm jacks. (The logic here is that two 8-ohm loads connected in parallel add up to a 4-ohm total load). Mismatching of speaker impedance will not cause damage or severe loss of power. (Extreme mismatches will decrease tube life, however). If you opt to use only one channel of the Fifty/Fifty with speakers connected to only one channel's output(s), you must turn the unused channel's Level control to zero! Otherwise the channel will be operating without a load, and damage to the tubes and/or the transformer will result.

## **POWER AND STANDBY SWITCHES**

AC Power is turned on via the Power switch and indicated by the pilot lamp. Before switching on the power, place the Standby switch into its "STANDBY" position and allow 20-30 seconds of warmup time before switching the Standby "ON". This helps extend tube life by preventing a high-voltage turn-on surge. (However, all of our amplifiers are tested to withstand this extra stress, just in case this procedure is neglected by the user). "Standby" mode should also be used to keep the tubes warm during set breaks.

## **LEVEL CONTROLS**

Each channel of the Fifty/Fifty has its own Level control. If the amplifier is being fed by signals from a typical preamp, try a setting of "2" as a starting point. If the amp is being fed by lower-level signals such as those from "minus 20db"- type effects units, etc., you may need to raise the Levels as high as "8".

Remember to turn the Level to "zero" on any channel not connected to a speaker or load resistor!

## **LO POWER SWITCH**

In the "LO" position, this switch provides a low (15 watt) power mode while still providing a bright and "searing" top end. As such, it's especially useful for situations (such as recording) where you might want the effect of "pushing" the power tubes into distortion but at moderate output levels.

## **PRESENCE CONTROLS**

Each channel on the Fifty/Fifty has its own "active" Presence control. These controls provide a boost in the upper mid-range zone, which are the frequencies that tend to get obscured in the energy of live performance; use them when you need to cut through a "loud mix."

## **TUBES**

The power tubes used in the Fifty/Fifty are MESA STR-420 type 6L6 GC's. These tubes have been tested in the amplifier during several "burn in periods" before leaving the factory. You can expect 6 months to 2 years (or more) of outstanding performance from your MESA power tubes, depending on use. Tube wear is gradual and usually goes unnoticed until new replacements are installed. Worn power tubes tend to sound flat with reduced punch, clarity and high end. Occasional loss of power or sporadic blowing of fuses is nearly always caused by troublesome power tubes. Often, you can spot the tube at fault and replace it alone, at considerable savings over replacing all the output tubes. A tube that arcs or "flashes over" inside should be replaced immediately. (In an emergency, you can just remove the bad tube and go on with the show...."running on 3 cylinders.") Sometimes a tube will "short out" intermittently, turning red-hot all over the large metal plate inside. But usually a momentary switching off of the Standby or Power Switch will enable the tube to straighten out its electron flow and return to proper operation. Should this happen repeatedly, careful observation will usually reveal which tube is shorting, even though one or two others may also turn red-hot after a few moments. Try to see which one is reddest or turns red first - that is the bad one and the others are most likely unharmed. Internal circuitry is built to withstand tube failure as much as possible; even if damage were to occur, it would be minor and easily repaired.

When replacing tubes, please use only the MESA types specified. Using other tube brands and/or types will invalidate your amplifier's warranty! To remove tubes, you must first push back the black spring retainers clamped against the tube base. When reinstalling power tubes, check that the spring clamps are making good contact with the tube base; bend them in toward the center before plugging in the tube, if necessary. Avoid excessive wiggling of the tubes when removing or installing them, as it can break off the small plastic key which insures correct orientation of the tube in the socket.

## **BIAS**

As with all MESA/Boogie amplifiers, the bias is permanently set during construction and never needs adjustment. This saves you any technician's fee for readjustment when replacing tubes, and prevents the bias from "wandering" or being accidentally set improperly.

## DRIVER TUBES

The two small tubes are type 12AX7A, also known as 7025 or ECC83. These tubes are very long-lasting and trouble-free in the Fifty/Fifty; should they ever need replacement due to a specific malfunction, genuine MESA replacements are recommended for best performance.

## LINE FUSE

The Fifty/Fifty is protected by a 3 amp fuse when operating on 100 - 120 V. AC. Should the fuse blow, replace it with a Slo-Blo fuse of the same amperage.

## GROUND ISOLATION SWITCH

This mini-rocker switch is extremely useful in reducing the hum and buzz caused by ground loops which occur in rack installations. Ground loops occur when there is more than one path for grounds between electronic units. There are three main type of ground loops; each one contributes its own trademark component of buzz or hum. The three types of ground loops are:

1) Grounds being connected via the ground lugs of the power cords on the units. The rule-of-thumb here is that one and only one unit in a rack should have a connection to the AC power ground; all the other units in the rack should have their grounds lifted by using 3-to-2 adaptors on their AC plugs.

2) Ground loops occurring because of two or more audio cables connecting two components. The most common solution is to disconnect the shield from the sleeve connection at one end of some of the inter-connecting cables, so that only one cable between each device has an intact ground shield. Some experimentation is required to find which cable is best for conducting the ground, and which cables are best suited to have the special "clipped ground." We recommend trying the intact-ground cables for the signal path which flows, say, from an Effects Send jack to an effects unit; and trying the clipped-ground method on the cable which connects the effects output back into an Effect Return.

3) Ground loops created by the physical contact between the metal chassis of the components and the steel rack rails. It is for this third type of ground loop that the Ground Isolation Switch was provided. The switch effectively lifts the electronic circuit ground from the metal chassis ground (which otherwise must be done manually by disconnecting a wire inside of the amp). Here again, the rule is that one device in your system - and usually only one - needs its circuit ground connected to its metal chassis ground; all others should be lifted (in other words, disconnected) for quietest operation. (Some effects units provide similar switches; some are constructed such that the input ground and the output ground are permanently separated; in other cases, the method used to isolate the grounds is unclear). Again, some experimentation is vital to discovering which combination of "lifted" and "grounded" works best in your rack ... and our Ground Isolation Switch makes it much easier. NOTE: If the Fifty/Fifty is operated outside of a rack installation, the switch should generally be set to the Normal position, or else squealing, buzzing and oscillation may occur. Always check this switch before thinking that something has gone wrong with your amp!!

Now that you've had this brief explanation of its functions and features, it's probably time to plug up! We think you'll be pleased with the sound of your Fifty/Fifty - so enjoy it and enjoy your music!

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