MESA/BOOGIE

STUDIO .22 PLUS

OWNER OPERATING INSTRUCTIONS

MESA/BOOGIE

The Spirit of Art in Technology

CONGRATULATIONS! You've just become the proud owner of the liveliest sounding, easiest operating, small caliber amplifier there is... and you're sure to enjoy it! When friends and strangers come up to compliment you on your tone, you can smile knowingly ... and hopefully you'll tell them a little about us! Because word-of-mouth is still the best way to spread the news about MESA/Boogie.

GREAT SOUND Many months of patient, painstaking R & D were spent developing the Studio .22 Plus so it would deliver professional quality sound that lives up to the MESA/Boogie reputation. (So even though our other models have more power and perhaps more features, your Studio .22 was designed and built as a totally professional, no-compromise instrument.) We figure that once you're hooked on great amp performance, you'll find yourself playing better and enjoying it more.

GREAT SIMPLICITY One of the Studio Boogie'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 inch jack is the instrument input to your Studio 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 inch jack connects to the Lead/Rhythm footswitch via the un-shielded cable provided. When the red LED on the footswitch box is illuminated, the Studio .22 is in the RHYTHM mode...red equals rhythm. Stepping on the button switches the amp into the LEAD mode and the light goes out.

Should you lose or forget your footswitch, you can activate the Lead mode by plugging a cable into the footswitch socket and shorting the tip of the other plug against the chassis or one of the metal handle caps.

VOLUME This control, which could also be called "preamp gain", establishes the amplifier's overall sensitivity to your guitar's output. It is active in both Rhythm and Lead modes, and must be mixed in conjunction with the Master (or, when in the Lead mode, both Masters). 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 break-up in the Rhythm model turn the Volume up high.

In the Lead mode the Volume knob is intentionally less sensitive so that there is no need to 'Ire-set" it for 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, "monstrous" distortion sounds. Gain and distortion increase slowly as the Volume setting is increased, often producing the tightest, best sounding heavy crunch tone between 7 and 9.

To prevent undesirable squealing, noise and feedback, the Volume should be reduced as playing loudness -- via the Master(s) -- is increased. We only recommend running the Volume above 6 when the Masters are below 6.

MASTER This control regulates the power amplifier level, or the actual overall loudness. (When you are in the Lead mode, both the regular Master and the Lead Master operate together -- in series -- to regulate the overall level.) If you run the Volume at 10, the Lead Master at 4, and the Master at 1 (in the Lead mode), Grandma can nap in the next room while you annihilate Manhattan with monstrous metal performance! You'll still get the overdrive and sustain of big amps cranked way up.

Turning up the Master begins to reveal the Studio Boogie's monstrous sound-per-watt capability…it's much louder than comparably rated amps! The maximum performance for loud, clean rhythm and hot, high-gain lead playing comes with the Volume and Masters around 5. This puts the amplifier right in the middle of its range for great sound and easy footswitchability. The taper of the 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 at 7 and unleashes the maximum output from your Studio's power section. And this power amp has been designed to deliver its greatest crunch when turned up smoking loud! Even with the single 12-inch combo speaker, your friends will be blown away by the .22's big, tight low end... it truly has the fat chunking sound of a 4x12!

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, which is operative only in the Lead mode, works together with the regular Master to determine your Lead volume. It is "in series" with the regular Master, and is located "before" it in the signal path. It is also located just before the Effects Loop, and therefore acts as an effects send control for the Lead mode (whatever level is set here is the level your effects will receive), whereas the regular Master is placed after the Loop. You'll most likely find your ideal Lead/Rhythm balance with the Lead Master somewhere between 3 and 5; its exact setting, of course, is up to you.

TREBLE This is the most powerful of the three rotary tone controls. At high settings (7½ and above) it will appear to minimize the effect of the Bass and Middle. 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, funky clean tones, you should find the exact spot on the Treble control where all the tone controls are balanced. This will usually be somewhere between 6 and 7. Some players are very particular about the exact spot; they say “6¼” or “6¾” gives them the ideal tonal balance.

When playing hard-core crunch, especially at very soft practice volumes, the or even all the way up. This will help produce sustain and harmonic jumps at soft playing levels.

For silky, warm and round jazz tones, try running the Studio .22 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 some recommendations for these settings in the TREBLE section, and because the tone controls are interactive, all three must be used together.

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

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

REVERB The Studio combo amplifier includes a 3-spring Hammond-Accutronics unit, 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 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, simply turn down either the Reverb or the Master (or Lead Master).

PRESENCE This control lets you dial in exactly the desired amount of extreme high frequencies, which determines 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 3 and 6.

GRAPHIC EQUALIZER (Optional) This feature greatly expands the tonal flexibility of your Studio .22 Plus. (But for those who've opted not to order this option -- 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 getting great tone.)

The EQ selector switch (located to the right of the sliders) offers three modes of operation: EQ AUTO (upper position); EQ OUT (center unlabelled position); and EQ IN (lower position). In EQ AUTO, the equalizer is activated automatically whenever you switch to the Lead mode, and is turned off when you switch to Rhythm. In effect, this gives you a separate tone preset for Lead. In EQ OFF, the equalizer is off in both modes, but can be footswitched remotely on or off with the optional EQ Footswitch (which connects to the rear panel EQ jack). In EQ IN, the equalizer will be active in both Lead and Rhythm (but cannot be footswitched remotely).

Although there are hundreds of different ways to set the Graphic, there's one setting that's particularly 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 the 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. This “V” setting makes the amp sound bigger, bolder and stronger... especially at very soft playing levels.

REAR PANEL FEATURES

FUSE Should your Studio Boogie blow its fuse, be sure to replace it with the same amperage, slow-blow type. If the fuse blows again, check for a bad power tube. Often the bad tube will light up red hot all over the large metal plate inside. Repeated instantaneous fuse-blowing probably indicates a silicon rectifier diode or a shorted filter capacitor. Any of these events are very uncommon in the .22, however.

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. In the center OFF position your Boogie cannot be the source of annoying "ground shocks" to the microphones, etc.

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 "slaving" into another amplifier. If used for direct recording, 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; thus, you'll want to approximate this effect with the EQ on your mixing console. But most players will probably still prefer the recorded sound of a microphone “listening” to the speaker.

In many sophisticated guitar rigs, players run their Direct output into their effects rack, and then connect the outputs from the last effects unit into external power amplifiers. However, in such a set-up, you cannot route the last effect unit back into the original Boogie. This would create a feedback loop. Also note that a speaker or load resistor must remain plugged into one of the .22's speaker jacks at all times, even when using the Direct output. Otherwise the amplifier will be operating without a load, and damage will likely result. (Suggested value for a load resistor is 8-ohms, 25 watts minimum.)

EFFECTS SEND & RETURN These jacks provide a low-noise patch loop within the Studio .22's preamp for connecting external effects units. Compatibility is quite good with most line-level effects (although you may need to adjust the input level controls on some units to avoid overload). Floor-pedal effects and "guitar processor" devices may not be compatible with your .22's Effects Loop, as they are often designed to accept instrument-level signals rather than line-level. If such units are used, they may need to be patched between the guitar and the amplifier input.

The Send jack can also be used as a "preamp output" without breaking the signal path that leads to the .22's power section. If you're using the Send jack for this purpose and you want to hear the .22's internal speaker, leave the Master turned up. If you don't want to hear the internal speaker, turn the Master to zero.

The Effects Return on your .22 can also be used as an "auxiliary" line input for connecting an external device, providing access to the .22's power section and speaker (and bypassing the preamp section). Use the Master control to adjust the output level. The Graphic EQ (optional) and the Presence control will also be active.

SPEAKER JACKS One 8-ohm and two 4-ohm speaker outputs are provided on the Studio .22 Plus. Use the 8-ohm jack when using only the internal combo speaker. Also use the 8-ohm jack for connecting an external 8-ohm cabinet (such as a Boogie 4x12 cabinet) without the internal speaker. If using an external 8-ohm cabinet and the internal speaker, plug them both into the 4-ohm jacks. If using an external 4-ohm cabinet (such as a Boogie 2x12), connect it to the 4-ohm jack (and preferably disconnect the internal speaker). You'll be nicely surprised at how well your Studio .22 responds when driving bigger cabinets... incredibly loud for its rated power output!

EQ FOOTSWITCH JACK Use this jack to connect the optional EQ Footswitch. The footswitch is fully operative when the front panel EQ selector is set to the center (EQ OFF) position. When the selector is set to EQ AUT09 the footswitch is partially operative -- it can turn the EQ on in Rhythm mode (but cannot shut it off in Lead). In the EQ IN mode, the EQ footswitch is not operative.

POWER TUBE MAINTENANCE The power section in your Studio .22 uses two MESA EL-84 tubes, also known as 6BQ5. These are the larger tubes in your amplifier, and they will require periodic replacement -- about once a year for the average player (this will vary widely with usage and output levels used). If the power seems weak and/or the tone sounds flat, it is probably time for replacements. Power tubes are like guitar strings; they begin to deteriorate as soon as they're put to

use. Please use only genuine MESA replacements (in fact, your amplifier's warranty is valid only if MESA tubes are used). Power tubes should be purchased and installed in matched pairs for optimum performance.

PREAMP TUBE MAINTENANCE Excessive noise, feedback, squealing or rattling is almost always the result of a deteriorated 12AX7 preamp tube -- most often the first or second tube on the right, as seen from the rear. Checking the tubes in a tube tester is almost useless. The best procedure is to take one spare tube that's known to be good (and non-microphonic), and try it in each possible preamp socket, while listening to the results each time. If the substitution doesn't cure the problem, put the original tube back and move the spare to the next socket. Do not replace preamp tubes indiscriminately or all at once. Their aging is very slow, and you won't likely hear any improvement by changing them, unless one has become noticeably noisy (in which case you should replace only the bad tube).

Here are some general guidelines for preamp troubleshooting: if the problem affects only the Lead mode, it's probably caused by the V1 tube (the one furthest to the right, as seen from the rear); but may also be V2 or V3. If the problem is in the Rhythm mode only, then V2 is usually the problem (V2 is second from the right, as seen from the rear). Sometimes a Rhythm problem can also be V3. If the reverb is noisy or has a problem, replace V4.

After rough handling of the amplifier or when replacing tubes, make certain they are plugged all the way into their sockets and are centered within the metal holes of the chassis sheet metal. A tube that has leaned over in its socket can vibrate and buzz against the metal chassis, causing annoying noises. Note: a power tube that is crooked can also reduce clean volume levels dramatically, and cause break-up similar to a bad speaker. Should this sound occur, ensure that your power tubes are seated squarely in their sockets.

ENJOY! Most of all... enjoy your Studio Boogie! It's a great sounding amplifier and has been built to satisfy professional demands for performance and reliability. And it should last a lifetime with only moderate care and maintenance. It is extremely “user-friendly” and there's almost nothing you can do to damage it, short of accident or obvious abuse. We've put our best into the design of the Studio .22 Plus, so you can get the most out of your playing. We've consciously made it feel real “spongy”, with a smooth response that “forgives” your little mistakes! As one Studio .22 player put it, “It makes my sloppiness sound like expressiveness… I love it!” So grab your favorite guitar and GO FOR THE GUSTO! And thanks for choosing MESA/Boogie!

MESA/BOOGIE
STUDIO .22+

Sample Settings

STYLE	SOUND	VOLUME	MASTER	LEAD MASTER	TREBLE	BASS	MIDDLE	REV	PRES
ROCK -	CLEAN RHYTHM, SMOKIN' LEAD	4	4	3-6*	6½	3½	5	3	8
ROCK -	CHUNKING RHYTHM. SCREAMING LEAD	7	6	"	7	3	3	2½	7
METAL-	FAT GRINDING RHY. SEARING LEAD	8	5	"	8	3	2	2	10
BEDROOM METAL-	CRUNCH RHYTHAI INSANE LEAD	10	1	"	10	2	0	3	8
BLUES-	DRIVING RHYTHM SOULFUL SINGING LEAD	4	7	"	6½	4	4	3	8
FUSION-	FUNKY BREATHING RHY. ARTICULATE LEAD	3½	5	"	7	4	5	2½	9
JAZZ -	ROUND WARM RHYTHM	3	4	"	5	5	5	3	7
COUNTRY -	CLEAN, SPARKLING LEAD	3	4	"	7	3	4	3½	8

* Use the LEAD MASTER to determine the Lead volume in relation to Rhythm. Settings of 3 to 6 are likely to produce the right balance.

NOTE: Extreme settings of both the Master(s) and Volume may cause preamp tube feedback or squealing. If this occurs, simply reduce these settings slightly to eliminate the problem.