MESA/BOOGIE

STUDIO CALIBER

Owner's Manual

The Spirit of Art in Technology

1317 Ross Street Petaluma, CA 94954
USA

MESA/BOOGIE

The Spirit of Art in Technology

Thank you *for trusting MESA/Boogie to be your amplifier company. We wish you many years of toneful enjoyment from this handbuilt all tube instrument.*

MESA
ENGINEERING

Hello from the Tone Farm...

YOU, the smart player and all around intuitive human, have put your trust in us to be your amplifier company. This is something we do not take lightly. Our reward is that we've made a classic amplifier and by choosing this amplifier, you have become part of the MESA family...Welcome! Our goal is to never let you down. Your reward is that you are now the owner of an archetypical guitar amp bred of fine all tube amp heritage...benefiting from the many patented pioneering MESA/Boogie circuits that led to the refinement of your new instrument. Feel confident, as we do, this amp will inspire many hours of musical satisfaction and lasting enjoyment. It was built with you in mind, by players who know the value of a fine musical instrument and the commitment it takes to make great music. The same commitment to quality, value and support we make to you...our new friend.

Your MESA/Boogie Amplifier is a professional instrument. Please treat it with respect and operate it properly.

USE COMMON SENSE AND ALWAYS OBSERVE THESE PRECAUTIONS:

- Do not expose amplifier to moisture, rain or water, direct sunlight or extremely high temperatures.
- Always insure that amplifier is properly grounded.
- Always unplug AC power cord before changing fuse or any tubes.
- When replacing fuse, use only same type and rating.
- Avoid direct contact with heated tubes.
- Insure adequate air circulation behind amplifier.
- Keep amplifier away from children.
- Be sure to connect to an AC power supply that meets the power supply specifications listed on the rear of the unit.
- If there is any danger of lightning occurring nearby, remove the power plug from the wall socket in advance.
- To avoid damaging your speakers and other playback equipment, turn off the power of all related equipment before making the connections.
- Do not use excessive force in handling control buttons, switches and controls.
- Remove the power plug from the AC mains socket if the unit is to be stored for an extended period of time.
- Do not use solvents such as benzene or paint thinner to clean the unit. Wipe off the exterior with soft cloth.

YOUR AMPLIFIER IS LOUD! EXPOSURE TO HIGH SOUND VOLUMES MAY CAUSE PERMANENT HEARING DAMAGE!

No user serviceable parts inside. Refer service to qualified personnel. Always unplug AC power before removing chassis.

EXPORT MODELS: Always insure that unit is wired for proper voltage. Make certain grounding conforms with local standards.

READ AND FOLLOW INSTRUCTIONS OF PROPER USAGE.

STUDIO CALIBER

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STUDIO CALIBER Operating Instructions

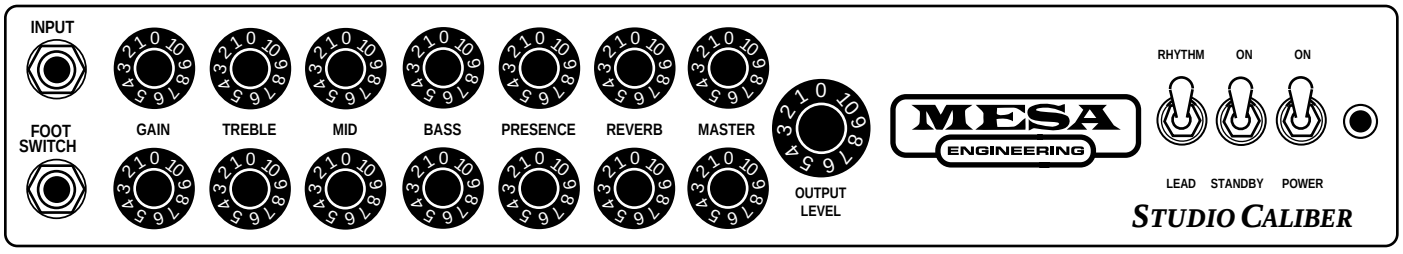
Overview:

Your ***STUDIO CALIBER*** amplifier was designed to deliver maximum performance in a format based on simplicity. Its easy to dial nature allows each of the two channels to deliver a wide range of sounds in clean and overdrive styles. The Dual Caliber uses two EL84s as power tubes to fuel its healthy twenty watt power section. We are pleased by its surprising headroom, yet truly musical "clipability" when pushed. The ***STUDIO CALIBER's*** pre-amp was no afterthought as you may have deduced by the six 12AX7s tucked snugly away under the swing away tube clamp. Two separate sets of tubes are used to accomplish the Rhythm and Lead channels. It's really like having two separate amplifiers built into one chassis. Ultimate flexibility is achieved by providing two complete sets of Tone and Master controls. In the ***STUDIO CAL*** two different sounds can be switched between without compromising tone or levels.

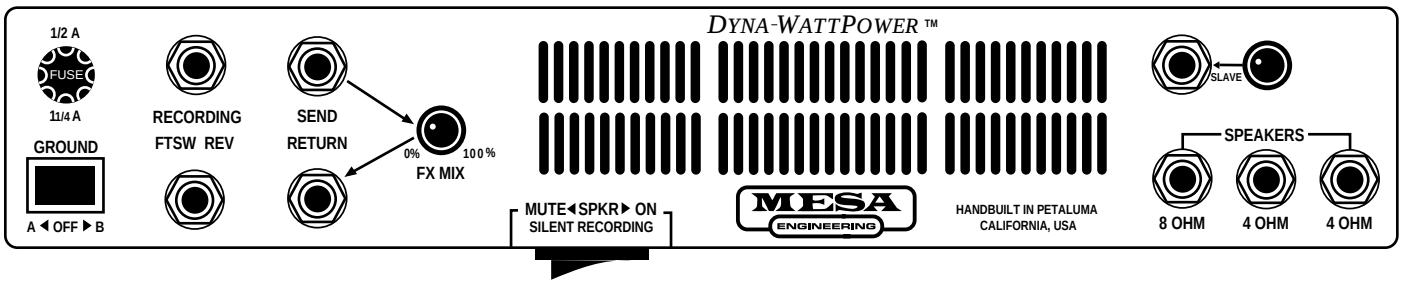
Looking at the rear panel will assure you that all interfacing needs have been covered. A parallel effects loop with a mix control provides tone insurance for even those questionable effects. A recording circuit dialed for direct to board sessions provides accurate reproduction of the ***STUDIO CALIBER's*** pre-amp. When the session goes late into the night, the silent recording Speaker Mute switch comes in real handy. To use the ***STUDIO CAL*** in larger rack systems, or to interface to other power sections, the Slave Jack and Level Control is a welcome feature. Three speaker jacks (one 8 ohm, and two 4 ohm) are provided to ensure the proper impedance match to many types of speaker enclosures.

As you can see, the new ***STUDIO CALIBER*** provides all the features any demanding pro could need and at the same time remains simple to operate.

FRONT VIEW *STUDIO CALIBER*



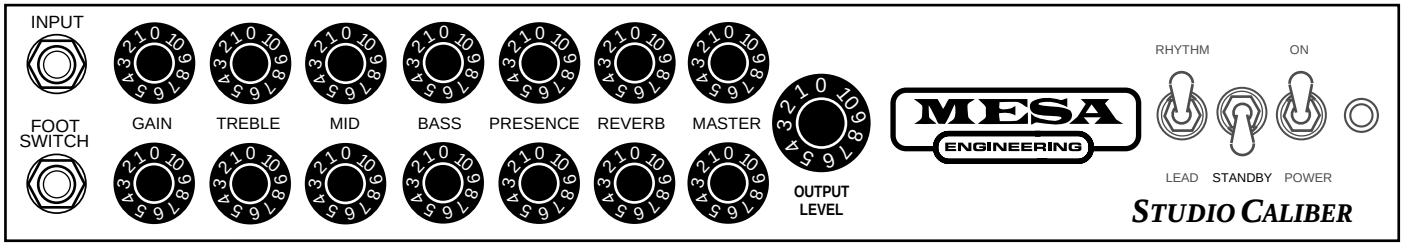
REAR VIEW *STUDIO CALIBER*



FRONT PANEL:

First familiarize yourself with the layout of the front panel and locate the Lead / Rhythm switch on the right side of the chassis, next to the Standby Switch. This toggles you between the top (Rhythm) Channel and the bottom (Lead) Channel. If you don't have the Rhythm/Lead Footswitch connected, this switch will activate the channel switching function. Before we get too critical about each control, let's audition the two channels with a basic clean setting in the Rhythm Channel and a fairly high gain overdriven sound in the Lead Channel.

POWER-UP: Connect your favorite guitar to the instrument input jack. Turn the power switch "On" while leaving the standby switch set to "Standby". It's always a good idea to practice this start up procedure as at least 30 seconds of warm-up time lessens the shock on cold power tubes, thus prolonging their life substantially. Next, using the example below as a guide, set the controls as illustrated and turn the Standby Switch to the On position to listen to the two distinctly different channels using either the footswitch or the Channel Select toggle switch on the right side of the front panel.

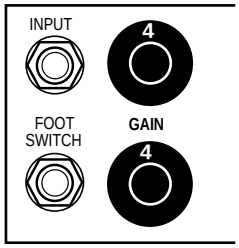


Again, these are merely examples of the two channels. Experimentation leads to finding many different sounds in each channel, and understanding the controls and the way they interact can make this much easier and more fun.

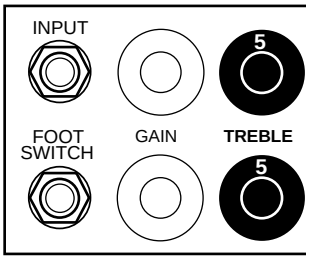
Now that you have heard the ***STUDIO CALIBER***'***S*** two channels, lets move on to understanding the controls and their interactive roles in achieving the sounds that *you* want to hear.

CONTROLS:

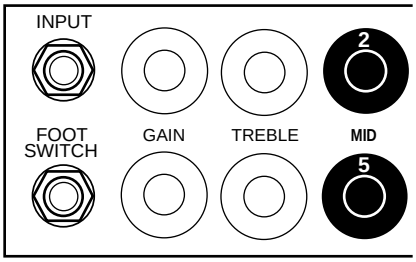
GAIN: This is by far the most powerful control in each channel. It not only determines the overall gain amount, shape and sensitivity of the channel...but it is **also a powerful Tone control.** Generally speaking, whatever is dialed here ultimately determines the channels personality. **Set low, it allows cleaner, brighter sounds with enhanced dynamic response,** especially in the higher frequencies. **Set high, the whole personality of the channel becomes darker, fatter and more overdriven.** We worked hard to make sure that the entire range of Gain available is usable in the ***STUDIO CALIBER*** and more importantly, *musical*. Don't think for a moment that this simple one knob layout limits you in any way in regards to the amount and texture of gain that is available. Long neurotic hours were spent to ensure that the ranges of gain were stylistically accurate. It's probably a good time to mention that most of the *great sounds* can be found in the ***STUDIO CAL*** by setting the GAIN Control moderately, especially in the LEAD Channel. For example, somewhere between ❷ thru ❻. In the RHYTHM Channel, try setting this control somewhere between ❸ through ❽. Use of moderation here will reduce the likelihood of pesky tube microphonic problems ever occurring, while at the same time making the two channels easier to balance in volume and effects send strength.



TREBLE: As with most guitar amplifiers, the TREBLE Control is the strongest of the three rotary tone controls. Its setting on the ***STUDIO CALIBER*** determines the blend and strength of the MIDDLE and BASS Controls. **Set high, it is the dominant control, minimizing the amount of MID and BASS that would otherwise be possible in the mix. Set low, the TREBLE becomes the recessive control and a warmer, darker blend is produced.** Dial with care. Subtle tweaking of this control tends to produce the best results.



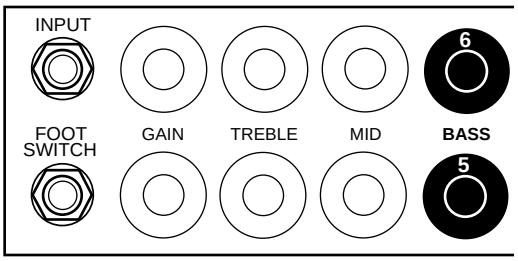
MIDRANGE: Through daily tone dreaming, the "if-only" design dictum led to the dial-in-gain boost. In the ***STUDIO CALIBER*** an over the top crunch sound was made possible by the inclusion of the **RHYTHM Channels dual purpose MID Control.**



From 0 to about 3 the taper is adjusted to act as a very effective MID Control. As you increase the MID to 4 and above, you will hear the lower Mids getting more pronounced and fatter. When the Mid Control is **set at about 6 the MID leaves behind the old notion of being a tone control and becomes a truly usuable *gain* control.** This upper range is a smokin' addition to the RHYTHM Channel's GAIN Control for all kinds of higher gain rhythm sounds. Try the MID set high and the GAIN Control at about 6 - 7 for a cool blues solo sound. "Dime" the MID for a grinding crunch rhythm sound. If this still isn't crazy enough for you...Max the GAIN and TREBLE Controls and set the PRESENCE Control to 0 - 1 and plug into a MESA 4x12 with some Celestion Vintage 30's or 25's. This should be sufficently heinous for even the sickest crunch fiends. As you can see, the versatility that this dual purpose Mid Control lends to the RHYTHM Channel greatly expands its usefulness as both a clean and overdrive channel.

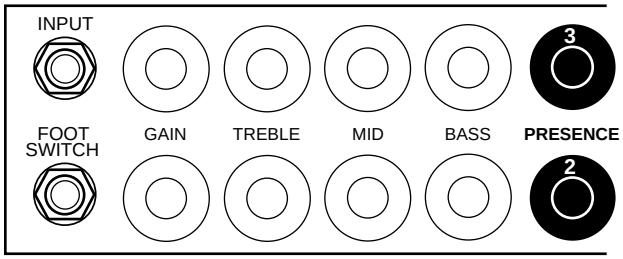
NOTE: *The lower region of the MID Control 0 - 3 determines midrange punch and boldness in lower gain sounds and a smooth "vocal like" blend in high gain sounds. It can be very effective acting as a "cut through the band control" in certain situations. Dial to taste, remembering that the setting of the TREBLE Control greatly effects this control's strength.*

BASS: This control blends in the lower frequencies and its effectiveness, again, depends on the setting of the TREBLE Control. It should be set with moderation, as extreme settings in either low or high directions can produce an unbalanced tone. Be especially careful in higher Gain settings of either channel. Too much BASS will cause a flabby unfocused sound that can't be dialed out because excessive BASS has been introduced to the pre-amp in the early stages. Try setting the BASS to 6 for clean sounds in the RHYTHM Channel and 4 or below when dialing up high gain overdriven sounds in this channel. In the LEAD Channel, try setting the Bass somewhere between 3 and 6.



NOTE: The settings as shown above may vary with the amount of Gain and Treble that you have dialed up. Again, experimentation is encouraged!

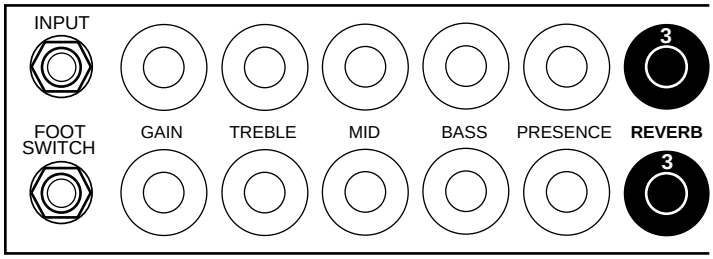
PRESENCE: The PRESENCE control in both channels attenuate the high end and control dynamic compression in the power section. High settings produce more sparkle, cut and lend a more open quality to the Channel. Low settings of the PRESENCE Control compress the sound and enhance the more vocal like qualities of single notes.



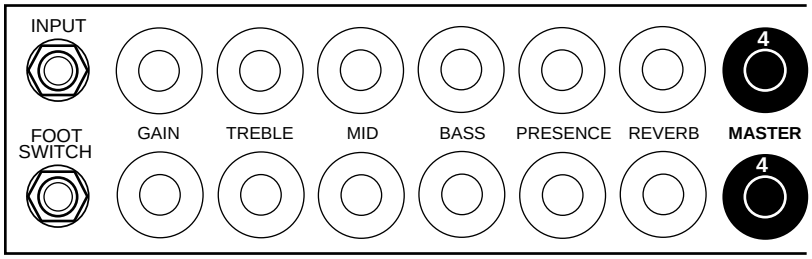
This control can also produce a fatter, warmer character, especially in the LEAD Channel. Lower Treble settings, *combined* with low Presence settings produce the richest, roundest lead sounds. Try setting the RHYTHM Channels' PRESENCE Control at around **5** or **6** for the sweet blend of sparkle and cut. This range in the RHYTHM Channel also tends to give the impression of more headroom. Try a LEAD Channel PRESENCE Control setting of **3** to start with and adjust to taste.

NOTE: Avoid setting the LEAD PRESENCE Control to **10** *when high Gain and Treble settings are in use. This reduces the likelihood of annoying microphonic tube problems.*

REVERB: The ***STUDIO CALIBER*** has an individual REVERB Control per channel. This enables different amounts of the rich *ALL TUBE reverb* to be mixed with the dry signal of each channel. It is normal for extreme settings of the REVERB Control to slightly alter the character of the channel as the voicing of the reverb circuit becomes more dominant in the mix.



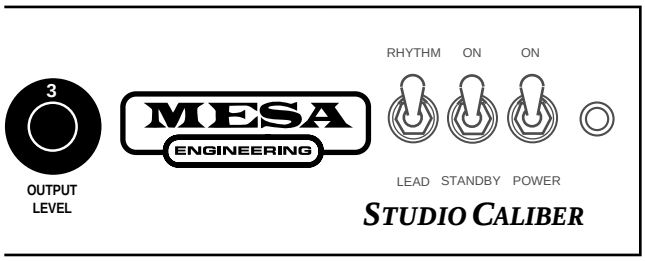
MASTER: The individual channel MASTER Controls serve three purposes in the layout of the ***STUDIO CAL.*** **FIRST:** They they serve as level balancing controls for each of the two channels. This enables a wide range of front end gain settings to be matched to a given listening level and the level of the other channel. **SECOND**: They act as effects send controls, for each channel, in the effects loop. As with many of the controls on the ***STUDIO CAL,*** the best results for balance and tone are usually found in the medium range of this control. **THIRD**: The Master Control is the Recording jacks' send level control.



When using the direct Recording jack found on the rear panel to interface directly to a mixing board or recorder, this control will determine the amount of signal you will be sending via this jack. In this application it is usually best to start with the MASTER Controls set to **0** and gradually increase them to the proper level. This minimizes the possibility of blowing speakers or eardrums in the event the engineer has an extremely sensitive input headroom setting in place at the console.

MASTER *(continued)* NOTE: *When trying to use your **STUDIO CALIBER** at extremely low volume levels it will be necessary to reduce the far left Gain control. Once the Masters and Output Levels has been reduced to roughly 1.5., reducing the Masters or Output Level below this point causes phase interaction that prevents a clean signal from passing through this circuit junction. If you must use your **STUDIO CAL** at whisper levels to practice late at night etc...get used to reducing the Gain as well as the Masters and Output levels. This effect is most noticeable in the Rhythm channel set for a crystal clean sound. In the Lead channel set for a high gain sound the interaction effect is greatly reduced and virtually unnoticeable.*

OUTPUT LEVEL: This lonely knob is the ***STUDIO CALIBER's*** final Output knob or *overall master*. After the relative balance of the two channels has been set with the channel Master controls, use this Output control to increase or decrease the listening volume. This is also the effects return level control, a point we just thought you should know. Designed this way, it simply makes for a simpler set up and one less knob to deal with when interfacing your favorite effects. Optimum setting depends on the size of the room you wish to rock, but generally the ***STUDIO CAL*** sounds best with a setting somewhere between **2** and **6** on the Output Level control.



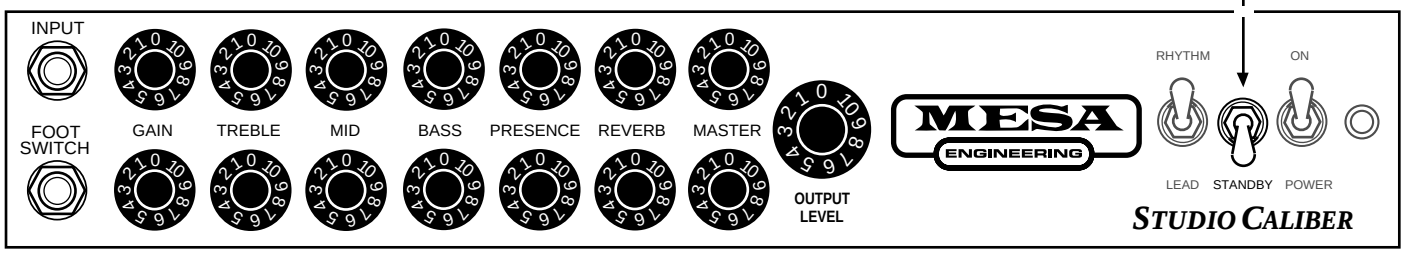
TOGGLE SWITCHES

RHYTHM / LEAD: This toggle calls up one channel or the other and can take the place of the channel select footswitch when there isn't one handy.

ON / STANDBY: Perfect for set breaks... this toggle switch also serves an even more important purpose. In the *Standby* position the tubes are at idle so that during power up they may warm up before being put to use. **Before Power is switched on make sure the Standby switch is in the Standby position.** Wait at least 30 seconds and then switch the Standby to the "On" position. This prevents tube problems and increases their toneful life substantially.

POWER: This switch delivers A.C. power to the ***STUDIO CALIBER***. Make sure the unit is grounded (All three terminals of the A.C. cord must be connected whenever possible to avoid injury to the user as well as to the unit) and that the proper voltage is present. Follow the cold start procedure described in the above section On / Standby when powering up your ***STUDIO CAL.***

Leave switch to the Standby position during power -up for at least 30 seconds.

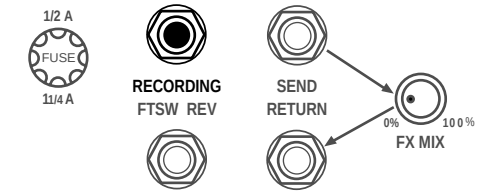


REAR PANEL:

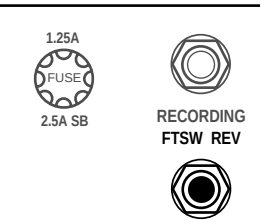
FUSE: This is the A.C.'s (Alternating Current) main fuse and provides electrical current protection from outside A.C. fluctuations, as well as power tube failure damage. Should the fuse blow, replace it with the same rating in a slo-blo type package. The domestic U.S. version requires a 1 1/4 AMP slow blo fuse. A power tube short or failure is often the cause of a blown fuse...Follow the cold start procedure mentioned in the On/Standby switch section and watch the tubes as you turn the Standby to the On position. If a power tube is going bad or is arcing you will see it! Turn the Standby Switch to Standby immediately and replace the faulty power tube and the fuse if necessary. If you see nothing abnormal as you lift the Standby, it is possible that a power tube shorted temporarily and blew the fuse. If this is the case it may work again normally. To be extra safe you may want to replace both power tubes in the "shotgun" troubleshooting tradition and save the replaced set as spares.

NOTE: Like tires on a car, spare tubes are always a measure of good insurance. Your ***STUDIO CALIBER*** *was carefully constructed with reliability in mind! Given the proper care and maintenance, it will deliver years of trouble free service. However, any pro guitarist who is out there gigging will tell you; spare tubes are a must for the fabled cord bag and may someday be worth their weight in gold. Spare fuses are also a very easy way to ensure an uninterrupted performance.*

RECORDING: This jack provides direct-to-console interfacing for recording or sound reinforcement applications. It is a circuit dedicated to reproducing the *roll off* that occurs in the output section with a speaker connected. With accuracy, it faithfully captures the *STUDIO CALIBER's* soulful character. The send level strength is determined by the Gain and Master Controls. From this recording jack, adequate signal level will be available to you for most of your recording needs and live performances.

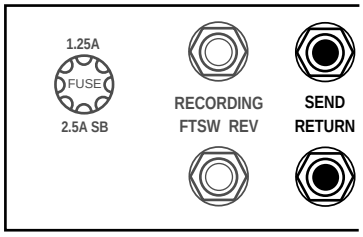


FTSW EQ/REV: This 1/4" Stereo jack allows you control of the Reverb remotely when a Mono cable and MESA Reverb Footswitch are connected. This footswitch is an option and can be ordered by calling us direct, or by contacting your nearest MESA / Boogie Pro Center.



REAR PANEL: *(continued)*

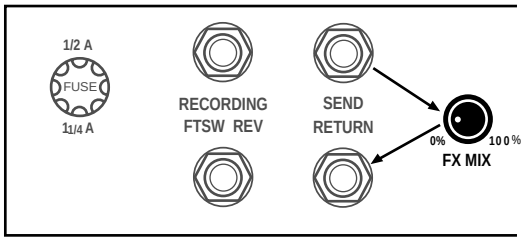
FX LOOP: SEND / RETURN:



These two 1/4" jacks are the patch point for external effects. The Effects Loop is wired in **parallel** with the normal signal. Connect the *Send* jack of the *STUDIO CAL* to your Effects *Input* jack. Connect the *Return* jack of the *STUDIO CAL* to the *Output* jack of your effect unit. The Effects Loop is a patch point between the pre-amp and power section, therefore the Return jack can double as a "Power Amp Input" jack. When the Return is used as an input, the Presence control of the active channel and the Output Level control are being utilized, all other controls are inactive.

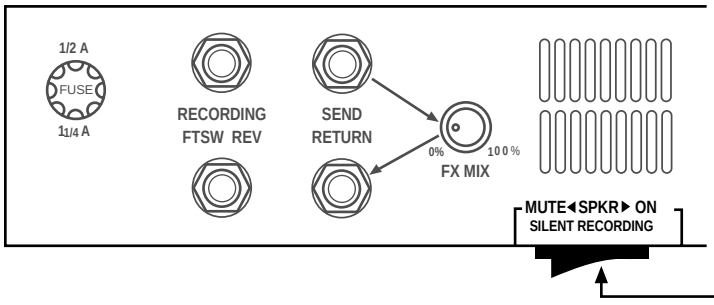
FX MIX:

This control determines the dry/wet blend of the FX Loop signal in relation to the unaffected signal. Set to 0% you will experience only the dry signal (no effect) and at a setting of 100% the entire signal will be wet (total effect.) For the best results...Set the mix of your effect to 100% wet. Then dial in the amount of effect that you wish to hear, starting at 0% with the FX Loop Mix Control. The *drier* (closer to 0%) signal you use, the better your tone should be. This parallel type FX Loop allows the amplifier to retain its purity with the smallest amount of degradation possible due to possible effect impedance mismatching.



SILENT RECORDING:

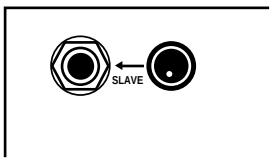
This rocker switch which is located down under the chassis and selects between the *live* "Speaker On" setting and the *silent* "Speaker Mute" setting. This is a perfect solution for *all-nighters!* This switch mutes all of the signal at the power section driver stage, removing the need for a speaker load **IN THIS POSITION ONLY!**



NOTE: ***When this switch is set to the "ON" position, a speaker load must be maintained by either a load resistor of some type or a speaker itself.*** *Failure to comply with this instruction could result in major damage to the amplifier. Leave your speaker connected.*

SLAVE:

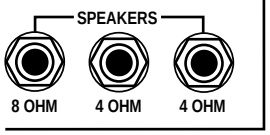
This 1/4" jack and control provide a signal derived from the speaker jack. Perfect for using the *STUDIO CALIBER* as a master pre-amp, or additional power amps may be connected for more power when needed. Some players use this to derive an FX Send Signal and go to other amps for their *wet sound.*



NOTE: Once a signal is taken from the Slave, it can ***not*** *be inserted back into the FX Loop Return jack or a feedback loop will occur. Much like holding a microphone into the PA system's cabinets...a loud high pitched squeal will occur.*

SPEAKERS:

Sensitivity to speaker mismatching in regards to ohmage differences is low, hence no damage to the amplifier will occur. However, very low ohmage loads will cause the power tubes to wear faster. When using two 8-ohm speakers, connect them both to the 4-ohm outputs provided (this will equal a 4 ohm load.)

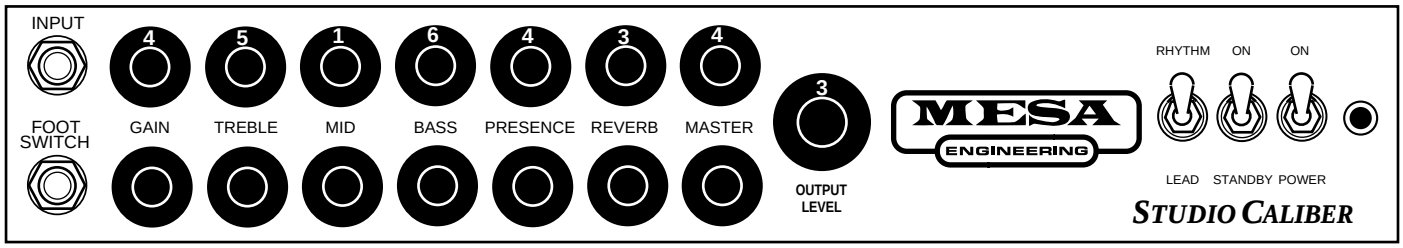


REAR PANEL: *(continued)*

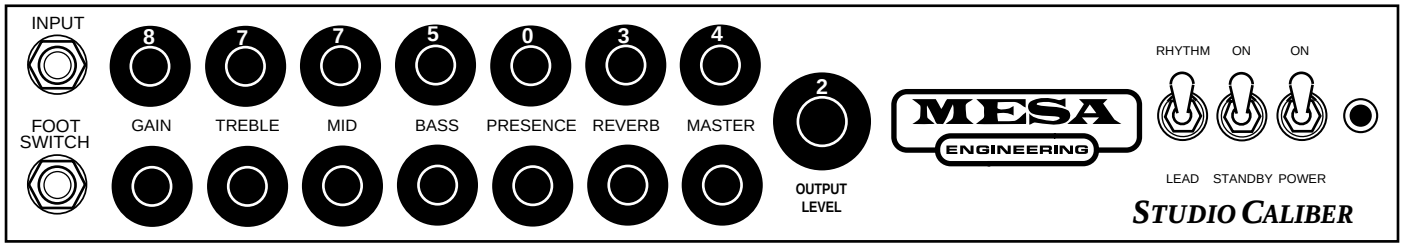
Some 4x12 cabinets may be 4, 8 or 16-ohms; if you are not sure of the impedance of your cabinet, you may need to remove the rear panel to see what the ohmage of the individual speakers is. MESA/Boogie 4x12 cabinets come standard wired to 8-ohms. They have four 8-ohm speakers wired in series parallel. Some Non-MESA 4x12 cabinets are wired 16-ohms using four 16-ohm speakers. By wiring all four speakers in parallel, you can reduce the cabinets impedance to 4-ohms (assuming that the speakers are 16-ohms each.) Keep in mind the greatest clean headroom is always achieved with the proper impedance loads...ie, an 8-ohm speaker connected to an 8-ohm jack.

SUGGESTED SAMPLE SETTINGS

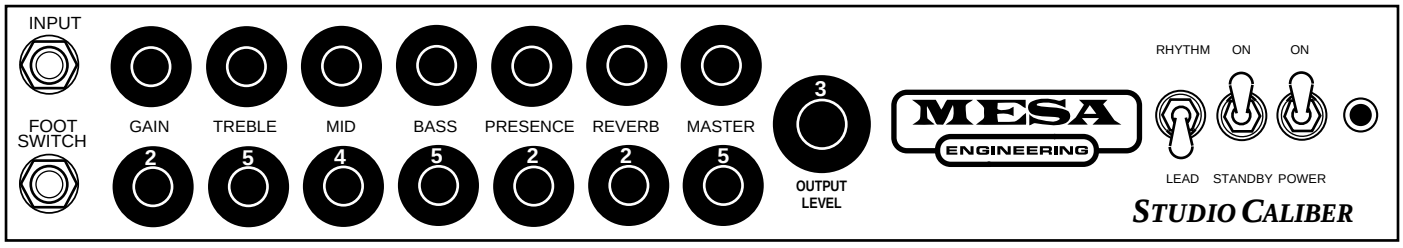
SAMPLE 1 Sparkling Clean — **CHANNEL** Rhythm



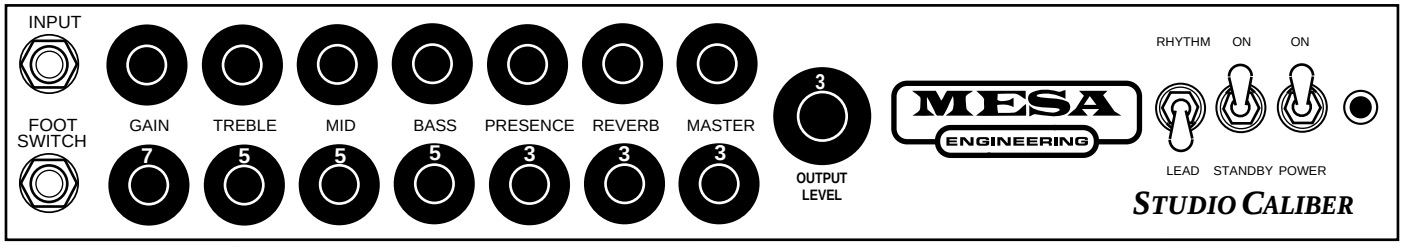
SAMPLE 2 Pushed Bluesy Rhythm/Solo — **CHANNEL** Rhythm



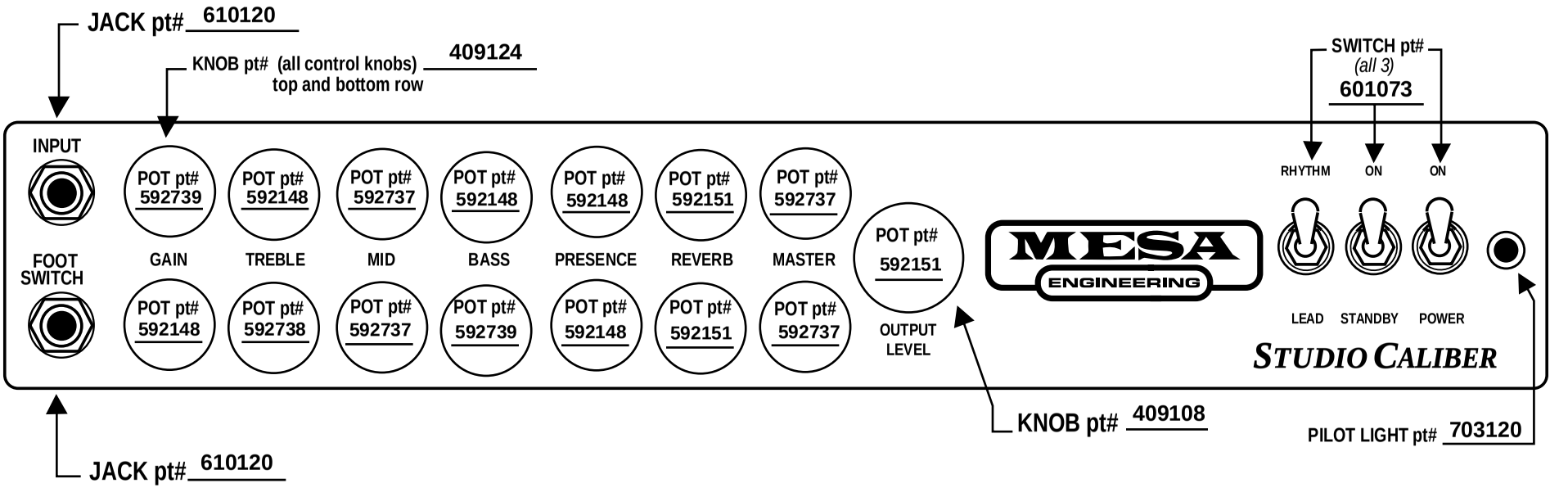
SAMPLE 3 Blues Lead — **CHANNEL** Lead



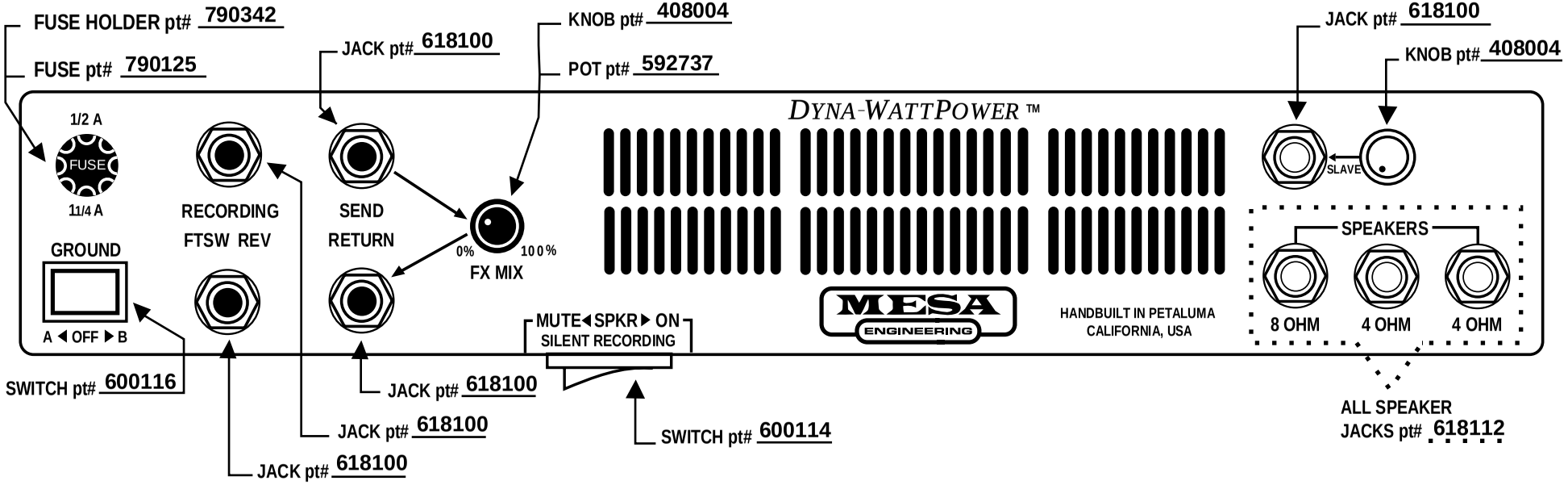
SAMPLE 4 High Gain Lead/Crunch — **CHANNEL** Lead



FRONT VIEW *STUDIO CALIBER*



REAR VIEW *STUDIO CALIBER*



The Spirit of Art in Technology

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