

FORTIN AMPLIFICATION ***"CALIFORNIA MOD"***

Cali Mod Overview:

The first 2 gain pots, the switch (or push pull pot) below are bright switches that allow you to select 2 different cap values with the center position no bright cap. The higher the gain settings the less effect the bright switch will have because they are wired across the pot's input and wiper, so with the gain pot full on, it basically shorts out the cap filter. Working both gain pots in different position with all the combinations of the bright switch positions gives you a plethora of options to tailor your tone.

The Master volume Saturation switch (or push pull pot): facing the amp, with the switch set all the way to the left is extreme clipping of the signal, guillotine style just before the tone stack. The volume drops in this mode a lot but it can still get to full volume when the master is set 4 o'clock. You'll hear that in this range it will jump dramatically in volume. The center position is no clipping, stock position. Switch all the way to the right is less clipping and is slightly brighter, rawer sounding, less compressed as the other clip setting.

The Feel switch on the back (or first Gain pot push pull), Tight is a resistor that clamps the second gain stage's grid impedance. Switch set to spongy removes that resistor and lets the gain pot be the impedance which is much higher, gives the stage more gain as well as bassier and looser feel. Toggle back and forth from tight to spongy to really hear and feel the difference.

Of course the Depth control (on the back panel or front) is like your Presence but for bass frequencies. This gives you that modern low end.

To get the stock Marshall plexi circuit, set the controls to the following: Depth off, Master maxed out w/ saturation switch set to center position for no clip circuit, Gain 2 set to about 9 o'clock w/ bright switch set to center position, then you just ride the Gain 1 pot just like the bright channel of a 1959 and set the bright switch to the left for the stock bright cap and you have the stock plexi circuit path but it won't hiss like a stock one because of the grounding and DC heaters.

DUAL BIAS:

Keep in mind this is per tube and you'll be reading the sum of 2 tubes at the test points in mV. With the Winged -C- SED (or NOS Svetlana), you can push them to the upper limits. The numbers are based on 50% to 70% maximum plate dissipation calculations and your amp's plate voltage (please double check yours). Following chart is with a plate voltage of 465Vdc.

Tube Chart:

6L6 (winged C) 33mA to 46mA
EL34 30mA to 38mA
6550 38mA to 54mA
KT88 45mA to 63mA

Get out your Digital Multi Meter and set it to DC mV (olts) setting and insert the black probe into the black mini meter jack on the back and the red probe into the V1&V4 red meter jack. Take the amp off of standby and measure and set bias pot located above the V1&V4 jack to set the 6550s to (2 times 53mA per tube) read 106mV. Then move your red probe to the other red mini jack labeled V2&V3 and adjust the pot located above that jack to set the JJEL34s to (2 times 35mA) read 70mV. Repeat to make sure that both sets of tubes are where they should be. Now you should be ready to rock.

CUSTOM OPTIONS

External Bias: The test points are the sum of 2 tubes so please keep that in mind when you change tubes. You can now mix and match output tube in matched pairs. You have a bias range of -30vdc to -65vdc.

Footswitching: 1/4" jacks are tip to ground orientated. Normal Marshall footswitches can be used or RJM Ampgizmo etc. The Gain Boost jack is assignable, you can max out the control for only Gain 1 or Gain 2 or both. This now makes the Cali mod much more versatile and can be easily set up as a Clean/Lead or Crunch/Lead configuration.

FX Loop: Default with nothing connected to the switching jacks, the loop is on. If you switch it to Series without anything plugged into the loop, no sound will occur until you plug something into. In Parallel it passes the signal unaffected and the loop functions as a side chain, i.e. the return pot becomes a MIX control to bring in the effects. Always try to use you loop in parallel mode as this is the best way to use a loop. You can refer to my Bones manual <http://www.fortinamps.com/BonesManual.pdf> for loop operation in greater depth. Also the loop is post master volume due to the location of the master volume. So when you increase the master, you have to adjust the send level to your effects.