Owner's Manual

MM12/50, MM22/100

"MOD MACHINE"

Welcome to Colby Amplification. We share something in common; we care deeply about tone. After 40 years of playing guitar and a 40 year career based around guitar amplifiers, I started Colby Amplification with a desire to produce the very best possible tube guitar amplifiers. Colby amplifiers have been designed with tone as the number one focus, period. Everything possible is done to keep the signal path pure, all tube, and sounding great. There is and will never be a compromise when it comes to tone.

The MOD MACHINE was conceived as an amp that could produce many great British sounds. I know British amps. I worked for the US distributor of Marshall for 32 years and have been collecting amps for longer than that. I've been to the UK many times and scoured music stores for vintage treasures. I also had friends in the UK searching. I was lucky because I had an easy way to ship amps to the US (in containers with the Marshalls we were distributing).

MOD MACHINE was tweaked for over a year until the goal was achieved: be able to produce everything you want and need if you are looking for an amp that can recreate many of the big British sounds produced by different designs starting from 1962. The MOD MACHINE is a single channel amp that offers the full clean sound of an early to mid 1960s four input amp, the cutting clean sound from a 1970s four input, and just about every overdriven sound from the 1960s to the Master Volume amps of the 1970s and 1980s to the higher gain amps of the 1990s and later. It's got the right amount of detail, compression, note body, smooth or aggressive overdrive all with the turn of a few knobs and front panel switches.

The word MOD is a great adjective for this amp since it can be reconfigured to sound like so many different amps with the turning of two front panel rotary switches and a few controls.

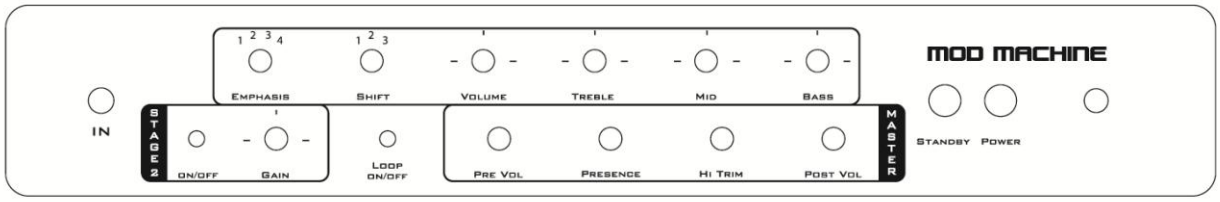
By incorporating a finely tuned additional gain stage (STAGE 2) the MOD MACHINE can go from super clean to high gain overdrive and sound great at the extremes and in between. The addition of power amp Pentode/Triode and Fixed/Cathode bias switches allows you to lower the power from maximum to about ¼ of full power in four increments. These switches create differences we can use for greater possible variation in tone and feel.

While designing we found that having two Master Volumes, each in a different spot in the circuit allows you to dial in all sorts of satisfying overdriven sounds at any volume level. In addition, you can dial in just the right setting so that the amp cleans up well using your guitar's volume control.

I know you want to get going so here is the **quick start guide**:

1) Set the STAGE 2 switch to the down position and the Gain control to minimum
2) Set the LOOP switch to the down position
3) Plug in a speaker and set the rear panel impedance switch to the same setting of the speaker
4) Set the controls as per the attached picture (insert picture)
5) Set the back panel EFFECTS Send and Return level controls to 12:00
6) Set all MASTER controls to 12:00
7) Set the Volume control to 10:00 to 11:00 and the Treble, Mid and Bass controls to 12:00
8) Plug guitar in. Turn the amp on (Up) with the ON/OFF switch. Wait 45 seconds and turn the STANDBY switch on (Up) and start playing!

Front Panel



The top row

EMPHASIS: This four way switch dials in different amount of pre-emphasis. Position 1 has none. Use this setting for a mellow tone. Position 2 is like an early lead amp and is similar to a traditional bright switch as used on a very popular American amp. Position 3 is an intermediate setting that is more aggressive. This position is great for a more nasal, cutting type tone. Position 4 is like a later, more aggressive amp and boosts everything from the mids and up. Use this for traditional rock/hard rock overdrive sounds. *(interesting note: in this setting, the Volume control works as a bass filter when set over half way. At the half way point, you have almost maximum gain but the lows are cut. Turn the volume control higher to add more lows)*

Shift: This changes the mid content of the sound. Position 1 is slightly scooped. This has various uses. For clean sounds this gives you something akin to a BF sound. Position 2 is the "normal setting" for 1960s big British clean sounds. Position 3 gives you more mids and is the preferred setting for rock/hard rock overdrive. *(note: this switch is more effective with higher setting of the bass control and lower settings of the mid control)*

VOLUME, TREBLE, MID, and BASS controls work as you would expect

The bottom row

STAGE 2

The Stage 2 On/Off switch brings in an extra gain stage in the On setting. With the Gain control on the minimum setting you will notice that there is little change in volume between the two settings but there is a tonal change. This is intentional. This give you more tonal variability and allows you to get the right tone whether you are going for a clean or overdriven sound, an old tone or a modern tone. In general, the Off setting is “better” for clean sounds and the On setting is “better” for OD sounds. Turing the Gain up (clockwise) adds more gain. The total gain is set with a combination of the Volume and Gain controls. The high and mid frequency content can be tailored by use of the Emphasis, Volume and Gain controls. More on this later in the SETTINGS section

LOOP ON/OFF: This turns the tube effects loop on or off. The send and return jacks and level controls are on the back panel

MASTER Section

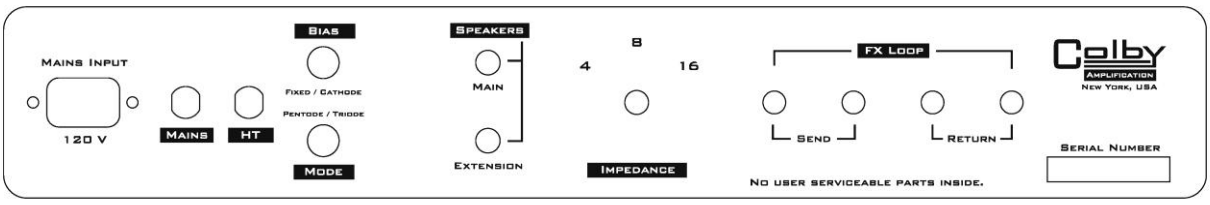
PRE VOL: This is the first Master Volume control. It is in the circuit where a “traditional” Master volume control goes and is useful for getting overdriven sounds at low volumes. However, it is not great for all types of sounds. That’s why we have another Master (Post VOL)!

PRESENCE: turning clockwise increases the top end by reducing the negative feedback at high frequencies

HI TRIM: This control cuts the high frequencies after the phase inverter. It is a very useful control that allows you to dial in the right top end frequency response for the different types of sounds this amp can produce

POST VOL: This is the second Master Volume control. It is after the phase inverter (PI) and is known as a Post Phase Inverter Master Volume or PPIMV. Since this control is after the PI and the PI adds gain, using this Master gives you even more OD possibilities. With higher setting of Volume, Gain and Master, the POST VOL can give you more gain than the PRE VOL master control. Having both MV types gives you the ability to get great overdriven sounds at just about any volume.

Back Panel



Mains input connector (make sure the wall AC voltage is correct for your amp)

Mains Fuse

- MM12/50 uses a 2 amp slo-blo fuse
- MM22.100 uses a 4 amp slo-blo fuse

HT Fuse. Both amps use a 1 amp slo-blo fuse

BIAS: This switch changes the way the power tubes are biased. Fixed bias puts a negative voltage on the control grids of the output tubes. Always use matched tubes but in this mode, the tubes can run hot or cold depending on the bias setting which is controlled by an internal trim pot. Please bring the amp to a qualified tube amp tech for proper biasing. Fixed bias is the traditional method of biasing for the big British amps. However the MOD MACHINE has a Cathode bias mode. This is normally used in smaller, low powered amps but changes the feel and sound. The Cathode bias mode gives a bit more touch sensitivity, compression, somewhat less overall power and chunkier low-mids.

MODE: This switch allows you to reconfigure the EL34 power tubes from the traditional high power Pentode mode to a lower power Triode mode. The Triode mode also has a less high end so you will probably want to set the tone controls differently for each mode. In the Pentode mode you may want to cut the highs by lowering the Treble, lowering the Presence or increasing the High Trim, or the opposite in the Triode mode.

Speaker jacks. Use the top one for the first speaker and the bottom on for a second speaker

Impedance selector: 4, 8 and 16 ohm settings

Effects loop SEND and RETURN Level controls

Effects Loop SEND and RETURN jacks

Notes on the Loop:

The loop in these amps is all tube and carefully designed so that your tone is preserved. The send is a cathode follower so that you can run long cables without any or much effect to your tone. The return is a “normal” gain stage. There can be some tonal effect however when you run long cables and lots of small cables between your effects. Be careful not to overload your pedals if you are using them in the loop. Some pedals are very happy with high signal levels, some are not. For pedals, it is recommended that you set the Send control to 12:00 or less and the Return for unity gain (the volume is the same with the effects loop on or off). Effects that should be used in the loop include reverb, delay and other time based effects. Other effects such as compression, OD and distortion are better used in front of the amp.