

## ABOUT THE VALVE MASTER

The Valve Master design criteria was to build an all-tube guitar amp that sounded better than anything else on the market (including amps costing three times more). That meant the Valve Master was going to be totally new from the ground up. It also meant that the Valve Master was going to be designed with tubes only—No IC's. However, more than it's all-tube design or the number of tubes—it's the way the tubes are incorporated into the circuits that makes the Valve Master a better sounding guitar amp.

To start off with, Carvin has long known about the effects of miss-loading a guitar pickup which can cause high frequency loss. The Valve Master guards against this loss with it's ultra high input impedance of 2.2 meg  $\Omega$ . This is 2.2 times greater than the typical 1 meg  $\Omega$  that Fender uses in their input. Also, we considered the capacitance of the average shielded guitar cable which can reduce the high frequency response of your guitar pickup even further. Unlike other amplifiers, we purposely did not add capacitance anywhere in the preamp to control high frequency oscillations. Instead, we controlled oscillations through careful component layout and lead placement allowing the shimmering highs to be produced.

Hum and noise could be another design problem with the high gain of the Valve Master amps. However, because we use precision film resistors, excessive noise is not generated. Mylar capacitors are used because of their tighter tolerance and non microphonic performance. And, the Sovtek™ 12AX7 preamp tubes are utilized in such a way that microphonics have been all but eliminated (unless of course it's a defective tube—microphonics produce an undesirable resonant ringing). Hum is also reduced because of a special DC filament supply used on V1 and V2 preamp tubes (guitar amps normally have AC filaments which can interject 60 Hz hum in sensitive areas).

The Channel 2 DRIVE is configured with tremendous gain pushing the 12AX7 preamp tubes to their full saturation. However, the unique DRIVE attenuator, allows control for semi-clean playing. Turn the VOLUME 2 up to 10 (acts as a master volume) and turn the DRIVE up to the desired level—you have an alternate semi-clean channel. Channel switching is controlled by the front channel select switch or FS22 foot switch. Internally, switching is done via a 2P2T relay to keep the signal purely tube generated.

The T-Bridge passive BASS, MID and TREBLE tone controls offer a wide range of tone settings. Take full advantage by setting them where it sounds best. Your sound may not be 5 on the dial. Instead, the treble and bass may need to be at 10 while the mid control at 0 (or) the treble at 1 and the bass at 10 depending if your using single or dual coil pickups. These controls will not affect or color your sound when set at extreme settings, nor do they interact with each other. The greater range of these passive controls comes from high impedance 1 meg sealed bearing pots (most guitar amps use 250k pots). The frequency of the bass control is set at 75 Hz while the mid control is set between 450—600 Hz. The treble control is set at 11k Hz giving the Valve Master it's shimmering highs.

The Valve Master II features two PRESENCE controls located on the rear control panel. Channel 1 incorporates an ACOUSTIC PRESENCE which adds a brilliance to the high frequencies of your guitar not normally available from other presence controls. Most presence controls work in the 3k to 4k Hz range. The Valve Master's presence is different. It works in the very high range of 12k to 20k Hz delivering a glassy output. The ACOUSTIC PRESENCE works off the negative feedback of the power amp section allowing the output transformer to play an important part of its tone.

Channel 2 features it's own LEAD PRESENCE for added penetration. It's frequency boost is concentrated in the upper mid band range giving the extra bite used by heavy-metal players.

The long tailed REVERB system in the Valve Master switches only the reverb "send" leaving the tail of the reverb to decay naturally, the way it's done in the studio. A special pre filter eliminates the spring "bong" normally heard in other systems giving it a "lush" sound. The all tube reverb system offers vibrant clarity with full depth reminiscent of the sixties.

The buffered EFFECT LOOP has a gain structure that is normalized to accept all effects devices without degrading the performance of the Valve Master. This means you can use battery powered foot pedals or professional rack systems with equal success. The loading (impedance) of the "Send" and "Receive" jacks have been guarded to protect the impedance of your effect device preventing premature distortion.

The cabinet voiced LINE OUT is designed as an output to drive other equipment requiring line levels. The 1.5 VAC output (referenced to 100 watts output at 8 $\Omega$ ) is more than adequate for any professional mixer or power amp. This output has been "cabinet voiced" which normalizes the frequency response for recording. This prevents excessive bass or highs at the mixer or power amp.

The Valve Master may be equipped with either EL34 or 5881 power tubes. Most models feature the Russian Sovtek™ brand selected for their smooth distortion, responsive sound and reliability. Our proprietary transformers offer the compression sag to react to the most subtle touch—if you play soft, the power tubes remain clean. If you increase your attack, the power tubes respond with enormous force and sustain. If you desire to change the type of tube your amp was supplied with, you can do so by re-adjusting the external BIAS control on Series II models. There is also an internal bias control that can be adjusted by a qualified technician.

If you want less power or earlier power amp clipping, simply move the rear 50/100 watt power switch to the 50 watt setting. The difference between 50 and 100 watts is only 3 dB which is not a huge difference in loudness. However, it does enable you to get power amp clipping at lower levels. When the 50 watt setting is used, the cathodes of the two outside power tubes are turned off. Close examination of the blue color gases within the tubes (as you play) will reveal the tubes that are turned on.

The rear speaker IMP (impedance) switch should be selected for the correct total speaker impedance. If not, tube life can be shortened along with losing the full potential output of your amp. The correct setting for two 8 $\Omega$  speakers (cabinets) should be 4 $\Omega$ . The correct setting for two 16 $\Omega$  speakers (cabinets) should be 8 $\Omega$ . Both speaker jacks are wired in parallel with each other. The power supply that feeds the Valve Master is guarded with four internal fuses and one external fuse associated with the rear AC cord connector for a total of five fuses. The 500 volt filter capacitors are carefully installed using RVT to secure them in place. Internal cables and wires are secured with tie-wraps. A portion of the Valve Master's protection circuits includes high voltage diodes placed across the high voltage section, protecting the power tubes and output transformer from high voltage arcing—a comforting thought, should a tube go bad!

Putting the technical information aside, the Valve Master is a very simple amp to operate. The control panel is logically laid out with the channel SELECT switch between the channels—just point the switch to the channel you want (be sure to leave the SELECT switch in the channel 1 position if a foot switch is used). Any standard foot switch with a stereo plug and 2 switches will work fine.