



Education Center with Trace Davis Tube Talk

Upgrading a Reissue Plexi

I have a 1987 model 50-watt reissue Plexi head that is completely stock. I don't care for the sound of an attenuator, and I want this amp to sound as close to an older Plexi as it can get. What do you recommend for the best possible tone?

We get this kind of question nearly every day. I'm sure you've heard the phrase, "No two Plexis sound the same," but there's a ring of truth to that. One could surmise that if Marshall (as well as other amp manufactures of the time period) ran short of parts it would substitute the next-closest thing to keep the production line moving along, which would logically explain the numerous differences in circuitry that have been documented. Additionally, a lesser known fact is that there were also transformer differences in the early Plexis.

If, for you example, you were to substitute one power transformer for another, the B+ (high voltage) might be higher or lower, which would have a direct impact on the tone, performance and feel of the amp. This helps to explain why some Plexis are harsh, overly bright and don't break up well, while others break up nicely, have a warmer tone and have a better overall feel.

How can you get your reissue Plexi to sound, feel and perform more like an older Plexi? First, let's agree that tone is a matter of taste, and in matters of taste there can be no right or wrong. Simply put, it comes down to whatever works best for each individual player based on his or her preferences in regard to tone.

Transformer Upgrades: Simply changing the output transformer is enough to satisfy the needs of some players. For others it also requires upgrading the power transformer as well as the choke. I'm sure there are many of you who may wonder, "Why change the choke?" Rest assured that selecting the right choke can make as much of a difference in tone and feel as changing the output transformer, and the same can be said about upgrading the power transformer. Many companies offer Plexi-spec output transformers as well as a complete Plexi-spec replacement transformer kits. **We exclusively use *Mercury Magnetics* and would encourage you to check them out.** Look at the transformers from other companies too. If you aren't certain what you use, please feel free to call us.

Components: This has been covered at great length on numerous forums and bulletin boards across the Internet. Can upgrading the components on the PCBs (Printed Circuit Boards) make an audible difference? Yes, absolutely. What are the best components to go with? Again, this is a subjective thing. Upgrading the coupling capacitors (caps) from the box style caps to higher-quality caps (e.g. SBE Orange Drops, Mallory, Hovland MusiCap, Solen, Auricaps, etc.) will no doubt provide an overall sonic improvement. For cathode bypass caps (caps in series with the cathode resistors in the preamp section), the majority of players seem to gravitate toward non-polarized cap cathode bypass capacitors versus the polarized bypass caps. For resistors I personally prefer metal film, since they don't drift off value over time and will produce less noise/hiss over time. Opinions vary from one person to the next, though, so use whatever you're most comfortable with.

Master Volumes: You can go with a pre- or a post- PI (Phase Inverter) master volume. Both have their advantages, but both have disadvantages as well. The easiest to hookup would be a pre-master volume (see JCM800 2204/2203 schematic), which is beneficial in that the EQ section (Bass, Mid, Treble) is much more active and responsive. There are various kinds of post-PI master volumes. Some are extremely transparent, while others color the tone of the amp in an undesirable way. The advantage to a post-PI master is that you can get the vintage distortion or breakup much like you do when you turn a Plexi to somewhere in the range of 5-7 (on a scale of 1-10). Our V-Plex Series amplifiers employ the post-PI master volume. Some of the Plexi reissues have not come with screen-grid or input-grid resistors. Without these resistors Plexis tend to sound squishy, muddy and smeary. For EL34's I recommend 5-watt 1K screen-grid resistors, and for the input resistors (pin #5) I recommend .5- watt 1.5K metal film.

Feedback resistors: We have seen many different values in the older '60s Plexis. We've also seen the resistor assigned to the 4-, 8- or 16-ohm tap as well as the positive side of the speaker jack. Do they all sound different? Yes, they do. Remember, there is no substitution for hands-on experience when it comes to determining what sounds and feels the best. I hope this helps you find the tone you want. Have fun tweaking your amp.

Trace Davis is the president of Voodoo Amplification Inc., which is considered to be the world's leading modification company and one of the foremost experts on vintage Marshall amplifiers. Trace is also an experienced session player, touring player, recording engineer and producer.

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