

Marantz 8B stereo amplifier. This Marantz 8B is probably the most unique Marantz 8 to be auctioned on Ebay. Why? Well it underwent a total ground up restoration. The complete amplifier was stripped, the chassis was cleaned and open holes welded up. I had the original colour duplicated and the silkscreen art was copied from the original. The ONLY changes I made to the inputs, was where I left off the second set of RCA sockets. These sockets passed through a passive high pass filter with a roll off which was -0.2dB at 49Hz, -1dB at 20.5Hz and -3dB at 11Hz and more importantly the signal had to pass through two extra capacitors which would degrade the sound.

Once the chassis had been painted and screened, I assembled the transformers (they were also painted), meter and tube sockets. The cheap RCA sockets were replaced with Teflon gold plated types and the speaker barrier strips were replaced with gold plated versions.. A decision had been made prior to the start of this project, to upgrade the power supply and all passive components. One of the major flaws in all vintage tube amplifiers is a poorly designed power supply. Typically the amount of storage capacitance was totally insufficient and input stages were not fed regulated DC voltage. This contributed towards the sound being lackluster and bloated. Small signal tubes were always fed with AC voltage on their filaments, a guarantee of hum being injected into the sensitive front end.

In order to make the changes I designed a new printed circuit card to hold all the components for the upgraded power supply and also the output transformer's compensation and feedback components. This was 100% necessary to keep the amplifier innards somewhat neat and tidy. All the audio circuits were rewired with point to point wiring using the actual components as the point to point parts.

Those who buy vintage gear and "demand" that no component be changed from the originals are not aware of some important facts. Most of the Vintage amplifiers and preamplifiers are approaching their 50th and 60th birthdays. After all these years, the passive components (resistors and capacitors) are not in good health. In the first place the resistors were all carbon composition types, probably the worst quality resistor ever made (good for certain RF applications though). After 50+ years, they have become noisier than they were, their values have changed and they sound worse than the day they were soldered into the circuit. The capacitors have faced a similar fate. They were not well made to begin with (Yes technology has progressed in the art of making components), and the quality of modern day capacitors is light years ahead of what was available 50 years ago. So with that said, it is obvious that I changed every part in the amplifier, with the exception of the three transformers, the HT choke, bias meter and bias switch. What are the ramifications of doing this, an amplifier which sounds superior to the original and one that measures far better on the test bench.

I shall now detail the changes I made. This may be important to those of you who would be interested in owning this amplifier. The amplifier changes are first and then the power supply is second.

- 1) Chassis details as I described above. THERE ARE NO SCRATCHES OR ANY OTHER BLEMISHES ON THE CHASSIS. SILKSCREENING IS 100% INTACT
- 2) The ONLY change to the actual amplifier circuits was the separate cathode resistors I used for the EL34 output tubes. I do not like a pair of push pull tubes to share a common cathode resistor and so the single 6.8 ohm was replaced by two 13 ohm parts. A shared

cathode resistor DEMANDS that you use matched tubes. Separate cathode resistors allow you to use non matched tubes. This information is available on many websites.

3) Bias and AC balance potentiometers were replaced with Bourns conductive plastic parts which are far superior to the original carbon film potentiometers. They remain far more stable over time.

4) All coupling capacitors in the amplifier were custom made polypropylene parts I had made by a company in Taiwan who specialized in exotic components. There are actually only two capacitors in the amplifier's signal path, those that couple the phase splitter-driver tube to the EL34 output tubes. The electrolytic capacitor in the cathode of the input tube is bypassed with a high quality film capacitor.

5) All resistors are low noise 1% metal film types.

6) The main rectifier diodes for the high voltage supply are now 15A fast recovery types. The original voltage doubler circuit is retained.

7) The capacitors in the voltage doubler are now 560mfd as compared to the 60mfd originals. This is followed by the choke and then a pair of 1,000mfd capacitors where the original was 40mfd. The total supply capacitance is now 2,280mfd. The energy storage of the original supply was 13 joules, it is now 431 joules!

9) The bias supply for the outputs tube's grids is now 100% regulated using an electronic regulator which maintains stability. Much has been written on this subject and there is no doubt that a stable, quiet bias supply is advantageous.

10) The heater supply to the four small signal driver tubes is DC which completely eliminates all AC induced noise. See the noise figures I obtain as compared to the original. There is a total of 40,000mfd of capacitance on the DC supply for these heaters.

11) To save tubes and prolong the lives of the electrolytic capacitors, I installed a time delay circuit which brings all voltages up slowly over a 45 second period. A high current Omron relay bypasses the surge limiting resistor after the 45 second period has elapsed.

12) All power supply electrolytic capacitors are bypassed with high quality film parts. It is important to note this. One can design a great amplifier (The 8B is) but put a poor power supply with it and you degrade the sound quality. The power supply is the fuel and the actual amplifier circuit is the valve which allows this fuel to feed the speakers. Bad fuel/power supply equals bad sound. An important note: The signal passes through those great big electrolytic capacitors in the power supply, loop wise which means simply that the quality of the parts in the power supply is as important as those in the audio signal circuits. One cannot ignore the power supply as it is actually part of the signal circuitry! I have rebuilt many Marantz, McIntosh and Dynaco amplifiers/preamplifiers and the results are always the same. Upgrade parts quality, upgrade the power supply drastically and you have a new ball game

That is the extent of the modifications I made. Below are some of the measurements I made on one of our Audio Precision System One test equipment. The THD resolution of this equipment is in the 0.0003% range. I have the other measurements and if you would like to see them, please email me at zedaudio@aol.com and I shall send them to you.

These are the original specifications. As can be seen from my tests, this amplifier bests the original measurements by a wide margin.

RMS Power Per Channel	35
Damping Factor @ Load Impedance	20 from 20 Hz to 20 KHz
Total Harmonic Distortion (THD)	.5%

Power Bandwidth	20 Hz to 20 KHz
Frequency Response	20 Hz to 20 KHz
Hum and Noise	90 dB down from 35 watts
Signal to Noise Ratio	90 dB
Intermodulation Distortion (IM)	.5% 20 Hz to 20 KHz
Cooling Fan(s)	No
Auxillary Metering	Yes
Output Impedance(s)	4, 8, 16 ohms

Please feel free to contact me with any questions you may have. The amplifier will be triple boxed at no expense to the winning bidder. The shipping weight is about 29Kg/65lbs. Actual UPS freight charges will apply. Overseas buyers please be aware of the weight of this unit as we only ship USPS for buyers outside the continental USA. Please contact me at zedaudio@aol.com for international postage. Please also be aware that we are not responsible for the UPS fees which Ebay post, we charge the actual UPS rates with insurance. Included with the auction will be some original documentation about this amplifier.

The winning bidder must contact me within 24 hours after the close of the auction. Good luck.