

I purchased the EICO 330 solid state RF Signal Generator at a Hamfest. I wanted some EICO test equipment to share the shelf with my EICO 753.

While not a tube type Signal generator, it did work but needed some TLC in terms of mechanical tightening, cleaning, component upgrading, and calibration.

The first order of business was to download the schematic and compare it to the actual PCB circuit:

<http://bama.edebris.com/manuals/eico/330/>

Circuit Description:

The signal generator uses 4 transistors: Q1 is the oscillator stage, Q2 is the buffer, Q3 is a modulated RF stage, and Q4 is a twin “T” audio oscillator.

The PCB ground is soldered to the chassis. The AC feed was already 3-wire with ground at chassis potential.

The upgraded power supply is shown on the first schematic. D1 and D2 are 1N4004 or equivalent. Filter caps are 35 volt rated.

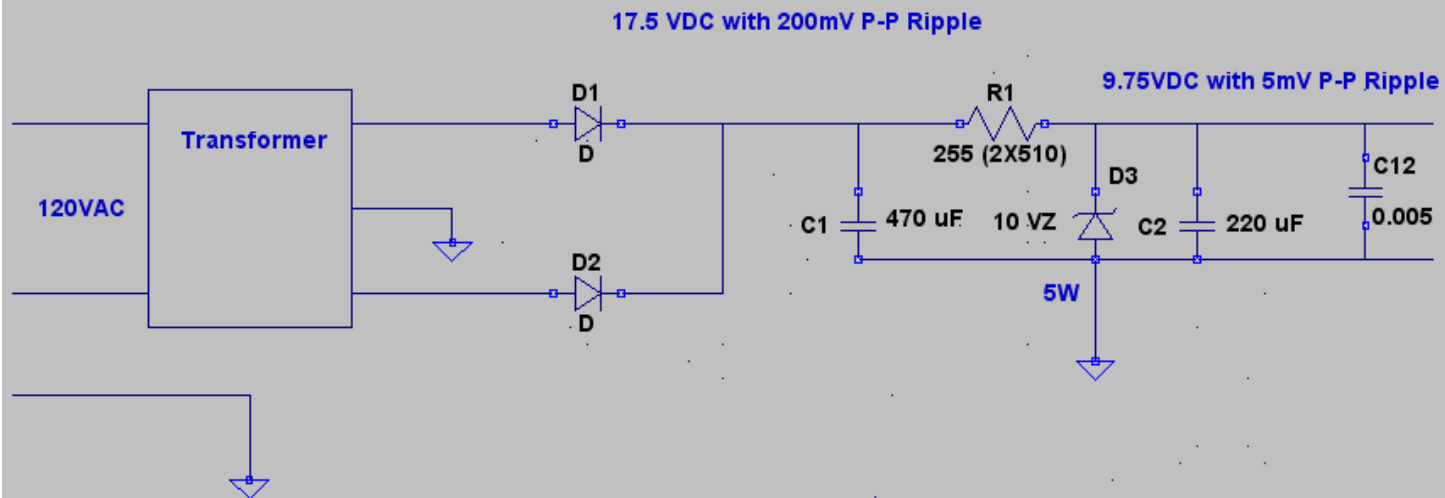
It was soon apparent that there were some differences between the PCB and the schematic. Imagine that?

Q4's R21 collector resistor should be 3.3k and not 5.6k in order to provide a low impedance for FB and bias. This audio oscillator produces a very clean signal when the R24 potentiometer is adjusted to compensate for the slightly increased PS voltage.

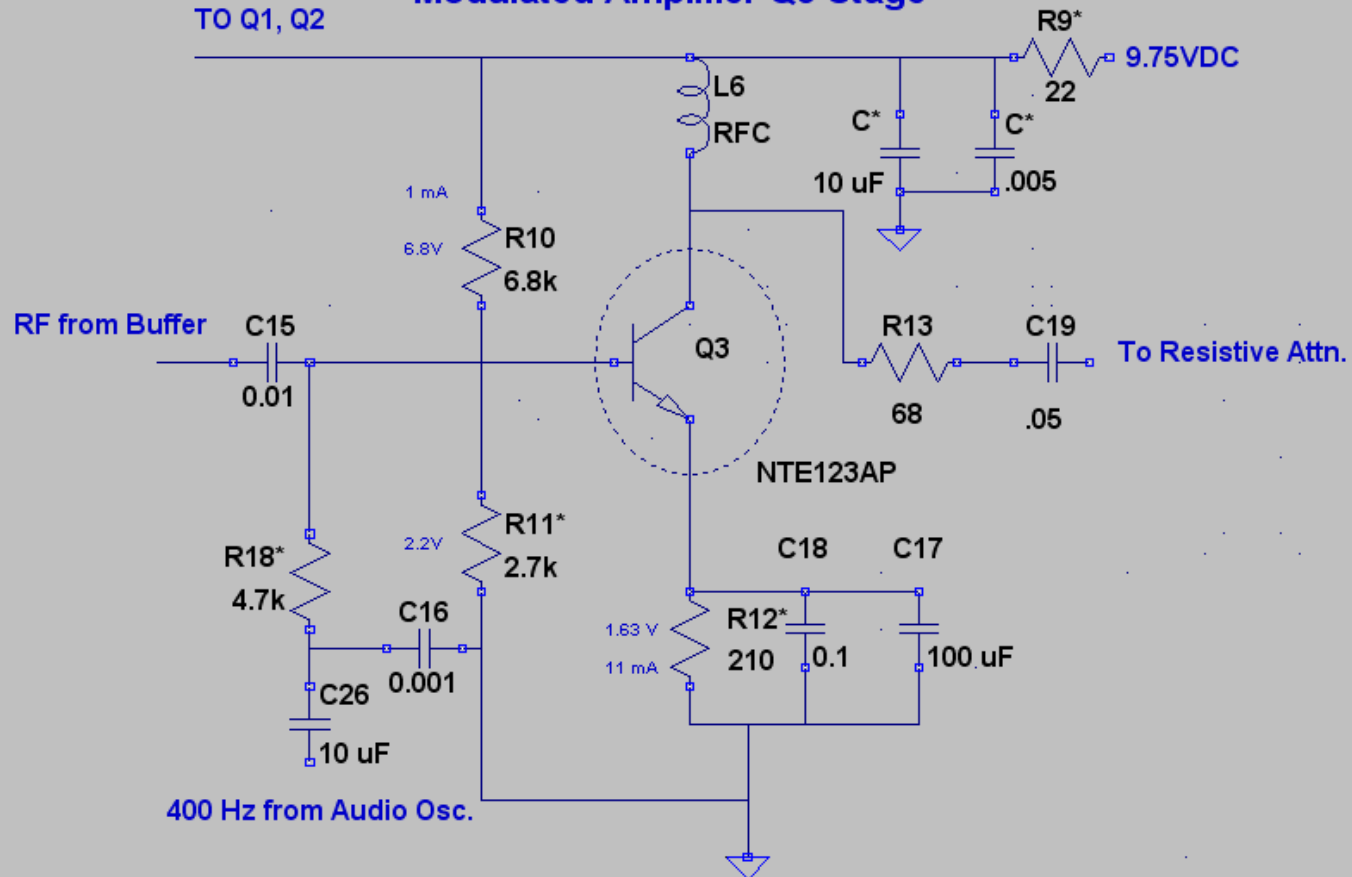
Q1 and Q2 are supplied 9.75VDC directly, and NOT via R9. R9's position on the original schematic is not correct.

R9 feeds the Q3 Modulated RF Amplifier stage, not the Q2 and Q1 stages. A 10 uF and 0.005 capacitor was added after R9 for extra filtering and isolation. Some improvement in modulated RF can be had by replacing the 10 uF electrolytics C20 and C26 with non-polar types. R11, R12 and R18 values were changed to allow a more linear operating point and better modulated RF.

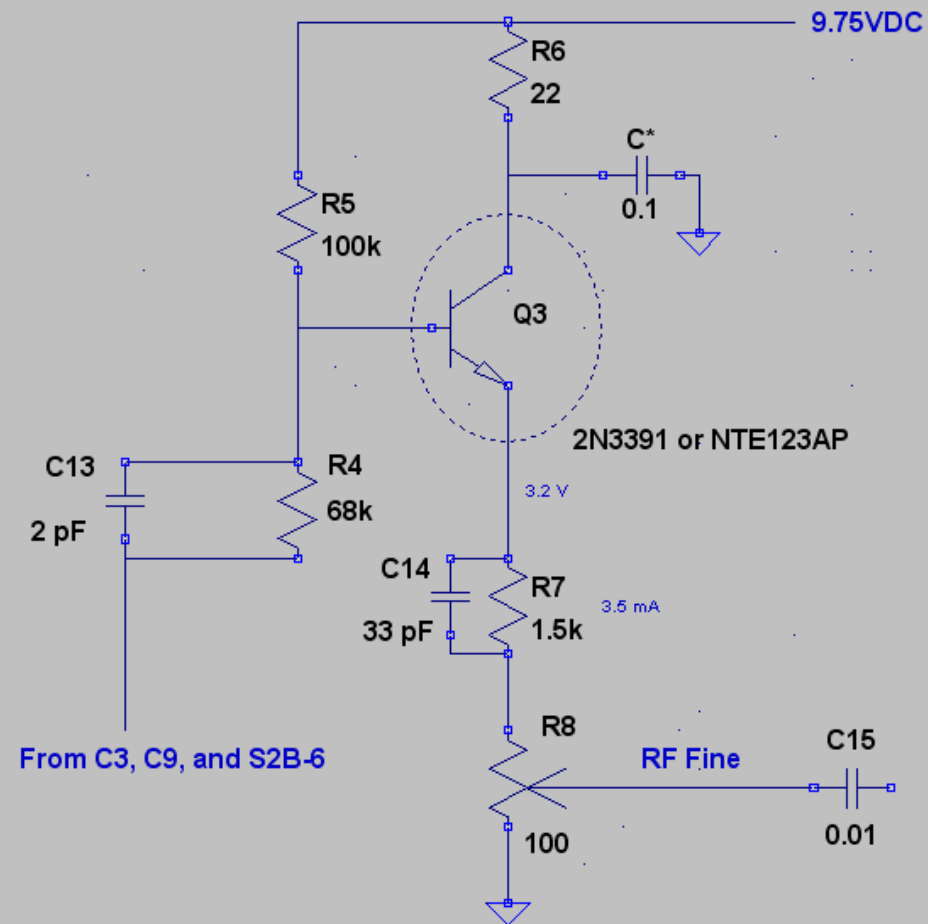
Calibration is as usual. Go to the low end of the scale, adjust L1-L5 for spot, then adjust C4-C8 for the high end scale marking.



Modulated Amplifier Q3 Stage



Buffer Amplifier Q2 Stage



TO Q1, Q2

Audio Oscillator Q4 Stage

