

I designed and built a 6DJ8 6A3 mono block amplifier.

The goals were:

Single Ended, which is intrinsically Class A unless you like listening to clipping.

Low power dissipation, so I could listen on hot weather days to a cooler amp.

(Yes I know, Class A has lower efficiency and more heating than Class AB. But the tradeoff was made for less parts and simplicity).

No feedback.

2 stages.

Good sounding (the listeners have to decide for themselves if it sounds good or bad).

Must work at near field or fairly close range for all the models of speakers I have (does not have to fill the larger living room with sound).

Good measured performance for how it will be used.

The starting point was a Heath Kit Class AB push pull integrated EL84 amplifier. It previously had been stripped down to just the small chassis and power transformer (that is all there was when I got it).

There is a volume control at the input, so a CD player or Tuner, and loudspeaker is all that is needed to play music.

One triode of a 6DJ8 is self biased, and uses a constant current plate load. The output is RC coupled to the 6A3 grid. The 6A3 is self biased, and has DC on the filaments. An air gapped output transformer matches the 6A3 to the loudspeaker.

The B+ uses HexFred rectifiers. It is choke loaded, for lower heating of the High Voltage secondary winding. The filter is LC, RC, RC. The filament secondary lights the 6DJ8.

A second transformer was added to the chassis with a 12.6V center tapped secondary connected to 6 Amp diodes driving a CRC filter to power the 6A3 filament.

The second half of the 6DJ8 is self biased, and has a large resistance plate load. This just keeps the "unused" triode section operating with a little current. If the tube ever goes into another amplifier, at least both sections have been tested and operated for the same amount of time.

The filament C-R-C filter has one more feature. The R has a 2nd resistor in series.

There is a switch across that 2nd resistor.

Closed switch is for the 6A3, Open switch is for the 300B. Tube tasting anyone?

It is time to listen to some music.