

A while back I used what is left of my math skills to come up with a solution to the +ve FB question. All attached here. Actual measurements showed it to be never more than 1.5 to 2 db.

I tried OPTs with both 20% & 43%. For the 6AS7/6080 version the 43% solution was needed. The 20% worked but not nearly as well. The 20% solution would be OK for a pair of the 2A3 family.

The next version I built avoided the UL OPT entirely. See attached the original hand drawn version setup for 2A3s. And another easier to visualize done with Electronic Workbench software & a 6BQ7 diff amp front end. This one wastes more of the output power in the bootstrapping connexion.

When dealing with the 6AS7/6080 one needs to be careful with the biasing. Each grid needs to be biased separately by cathode biasing. Otherwise thermal runaway is a sure thing. I found out the hard way. Otherwise a bias servo for each grid.

The THD result on the previous post had a pair of 6080's as the OP. Running thru a special wound Hammond 1600 Series of 2150 ohms. I used a Pico Technology ADC-100 to get that result.

Just realized I wasn't with R&S at that point but rather Navair Div of Field Aviation. So was pushing IFR (now Aeroflex). Aside from cell site test, spec A's & so on not much tubes or hifi! I had managed to avoid both for about 40 years.