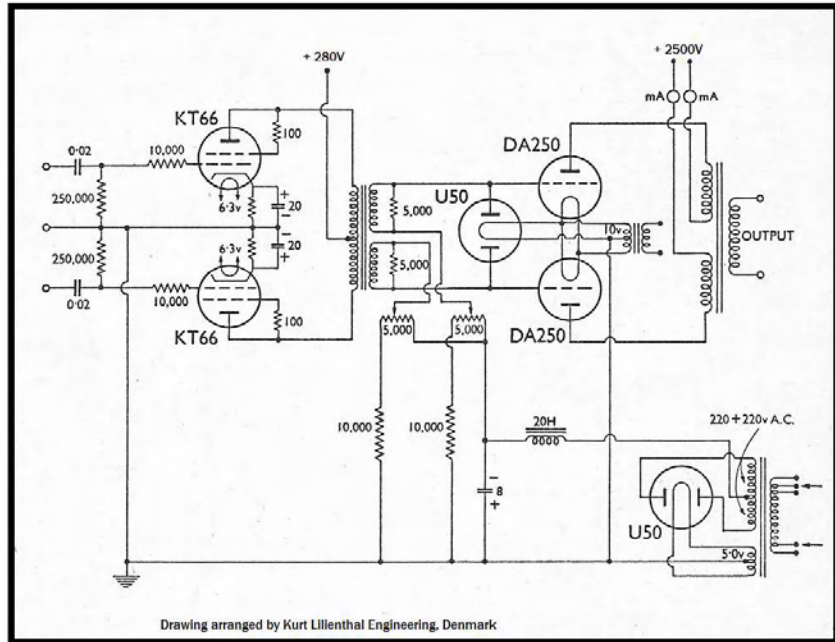
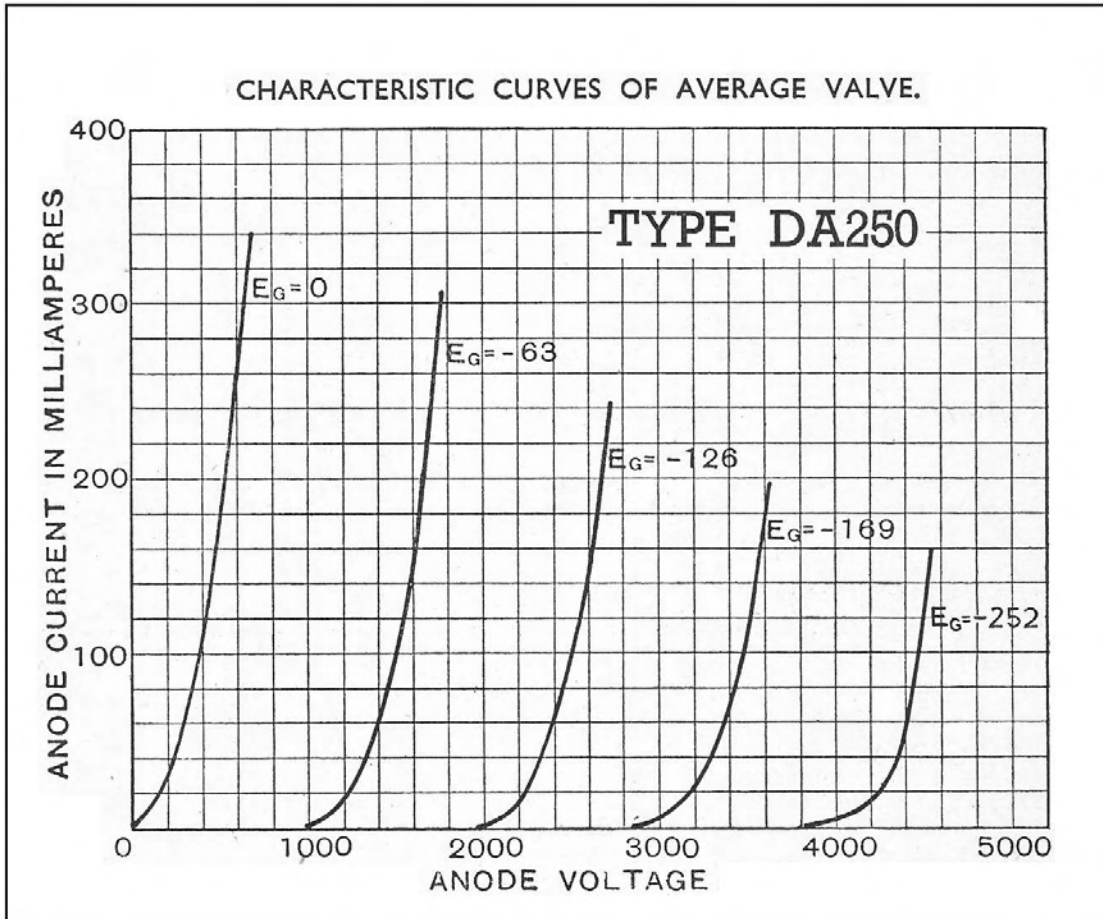


# TYPE DA250



Typical circuit for Class AB1 push pull with DA250 valves. The U50 is included in order to prevent the "trigger effect" due to the reversal of grid current during periods of excess input Voltage.



Osram DA250 PP, 1930's

This is indeed a monster amplifier. The British DA250 triode is similar to the Western Electric 212. Transformer power driven valve amplifiers has become quite popular again. These amplifiers are considered as the top of the best possible audio amplifiers amongst the hardcore valve amplifier audiophiles. Ken Kessler from the UK, HiFi News Magazine had the Marantz T1 in for a listen in 1997. According to K.K. it was a bombshell and made the best HiFi system he had ever experienced. Ken Kessler went so far as to rate this amplifier as the best ever made. The “secret” behind these power driven amplifiers are the transformers. I will reveal all about it in an article serie about power driven amplifiers, that I am still working on.

Now, this DA250 amplifiers is an extremist amongst the extreme. As a single end triode the DA250 will deliver up to 90 Watts ! ( Plate Voltage: 2500 Volts, cathode current: 100mA, load: 17-18k $\Omega$  ! ) In the application schematic above the plate Voltage is supposed to be 2500 Volts and the OPT should present a load of 12000  $\Omega$ . If we adjust the bias to a total of 100mA, we may obtain 400 Watt's Class AB with a driver Voltage swing of ca 160 V peak. Grid current will be negligible and the THD will be below 5% ! If the driver accepts up to 20 mA of grid current, we can drive the DA250 pair into an unbelievable 800 Watt's of massive power. A Voltage swing of up to 220 V peak is necessary and the output ask the PSU to deliver a current of 500mA. ( 1250 Watt's ) Yet, the THD according to Osram is less than 6%. I do not personally support the THD scheme, but in an amplifier without any feedback, THD figures witness about linearity.

I say hats off to the jumbo triodes from the golden age and we better bend to the engineers from Marconi Osram, better known as MO-valve and Gold Lion the team behind a number of famous valves. MO-valve was associated with G.E.C. England.