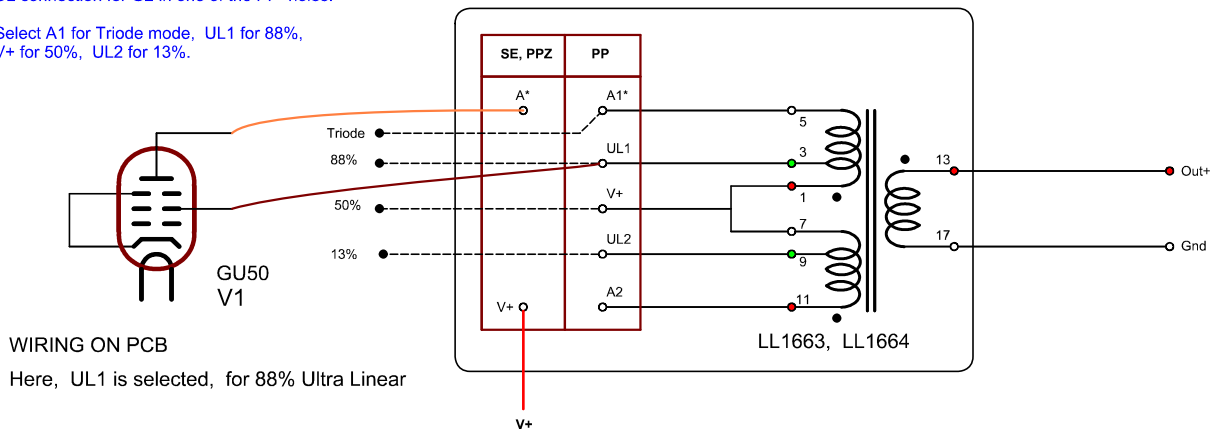


SE Pentode with variable Operation. Insert the UL connection for G2 in one of the PP holes.

Select A1 for Triode mode, UL1 for 88%, V+ for 50%, UL2 for 13%.



WIRING ON PCB

Here, UL1 is selected, for 88% Ultra Linear

ABOUT LL1682

LL1663 and LL1664 are almost the same as LL1682, only the Output windings are already connected in parallel inside. Also these do not have the taps of LL1682.

Different drawings are only shown here to keep it apart, but the PCB is universal and fits LL1663, LL1664 and LL1682. (Because of different pin out of LL1682 this is automatically done right by the PCB)

Using the Tap of LL1682 is unofficial, but possible. So use it as something interesting. This will reduce the output impedance. Or in the same way, it will reduce the primary impedance if the speaker remains unchanged.

ABOUT ULTRA LINEAR

This is an extremely interesting option, which is only possible with pentodes, and a transformer with a tap (or more taps). The tap(s) should be specially made for it, or could already exist when serializing some primary windings.

The second grid of a pentode, if connected to the anode, changes the tube into a triode. Or, when connecting it to DC, this "shields" internally, inside the tube, the anode AC field, making it a pentode.

Ultra Linear is a method which is in between. With 50% UL, the tube is half way in between Triode and Pentode operation. So to call it "UL Pentode", the UL Ratio should be lower than 50%. Often 1/3 is used, so 33%. To come closer to Triode mode, UL Ratio must be above 50%. And logically at 100%, G2 is connected to the Anode, it becomes full triode mode. So with UL, you can actually choose if the tube sounds more triode-like, or more pentode-like, depending on the UL Ratio.

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Document Title: **EE-63 Board, variable Operation for SE Pentode**

Date created: 22-Dec-2022

Last Revision: 1.0

Date:

Pages: 11 of 11

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