

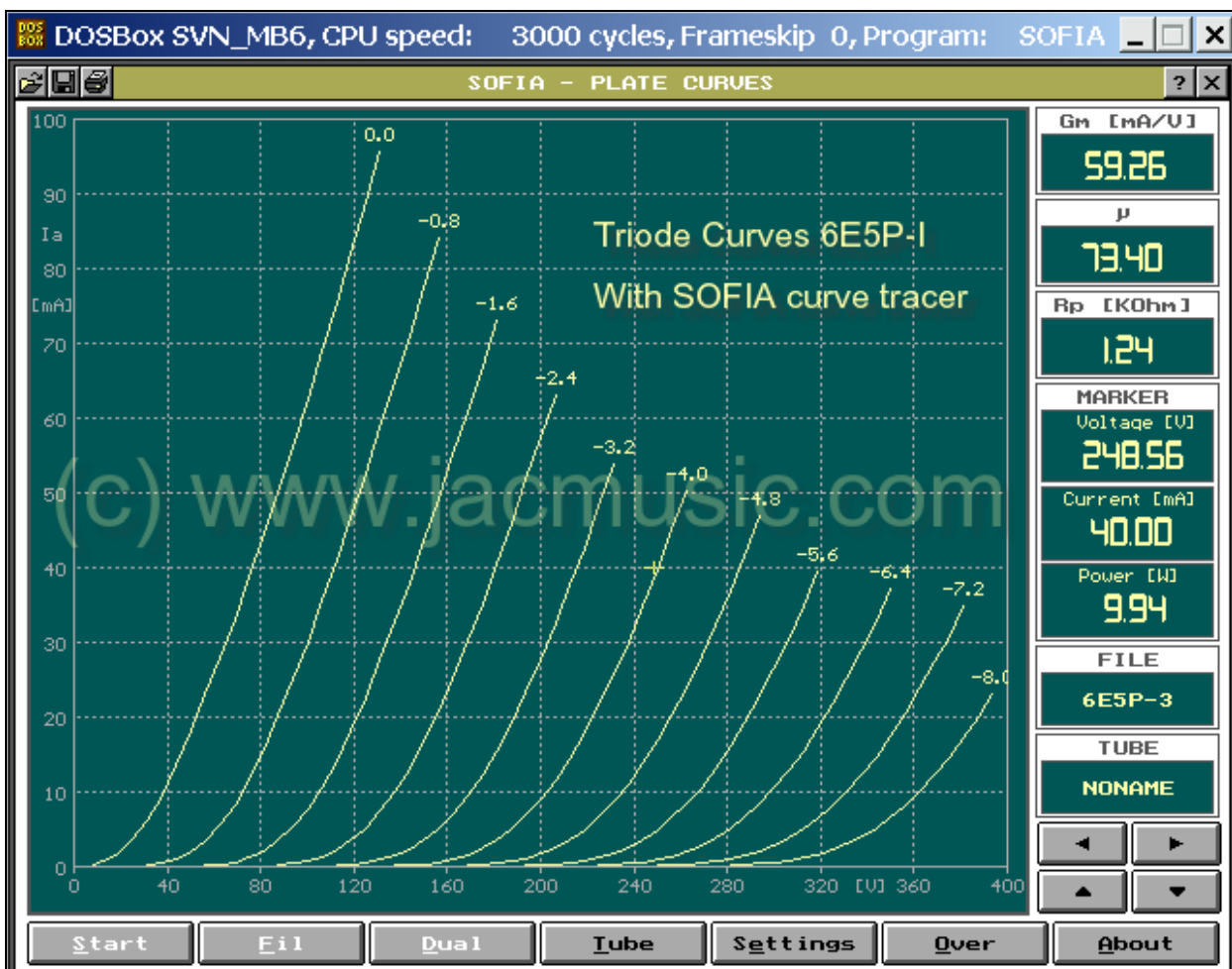
# 6E6P-1 Triode curves made with SOFIA curve tracer.

Jac van de Walle, 2016. April 24.

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If you need a secret tip... here it is! 6E5P-1 is a tetrode, but I list it here as triode, because that is the normal use at the moment. This is the most linear tube I have ever seen. Data Sheets can be found at [www.4tubes.com](http://www.4tubes.com) under "Manufacturer Scans".

This tube has a fully flat (surface) cathode. Which is technically ideal for the curves, this was known before. Only such a cathode radiates a lot of heat to the anode, and the tube would get a terrible dissipation problem, a grid emission problem, and grid wires will sag over time by the intense heat. Particularly with miniature tubes this becomes a problem, because internal distance is small, whereas for big size tubes this technology would make no sense as the tube would become irrational due to crazy heater dissipation. Yet, for the 6E5P-1 it was done, overcoming the problems nicely. To get the cathode heat out, they used a very wide anode distance, and then it works. To get the grid precision, and make it stable, they used a GOLD plated frame grid, made of two sections. (One section would be too large). There is the largest frame grid in this tube, I have ever seen. Some military stock rooms are selling those for crap prices to dealers, because they do NOT KNOW what they have here, and market price is driven by this stupidity, which will surely not last for ever. They cost just a few Euro, as long as supply lasts, but they are real jewels. Triode Gain is high, at amazing linearity. A fantastic driver, or head phone tube, and you can get a few Watt out of it, single ended. Anode voltage just normal, like 250V or so. When I have time, I take one apart and post pictures here, so you can see the curious anode shape, and the double section frame grid.



Look in the above picture at 248V, 40mA. When you look carefully, you see a small marker "+" sign there. With the free Sofia software, you can move this marker over the curves, and read the tube

characteristics from every operating point to you like. The result comes in the boxes on the right. So it was done here for those values as you can see. Gain at the outer edge of the curve chart is becomes not precise, as the software needs to estimate how the curves proceed. So below you find some more precise results, measured more in the center of the chart.

### 6E5P-1 Triode Mode Data

Ua (V)	Ia (mA)	Gain	Rp (Ohms)
150	45	47	1120
200	30	50	1340
350	15	53	2120



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