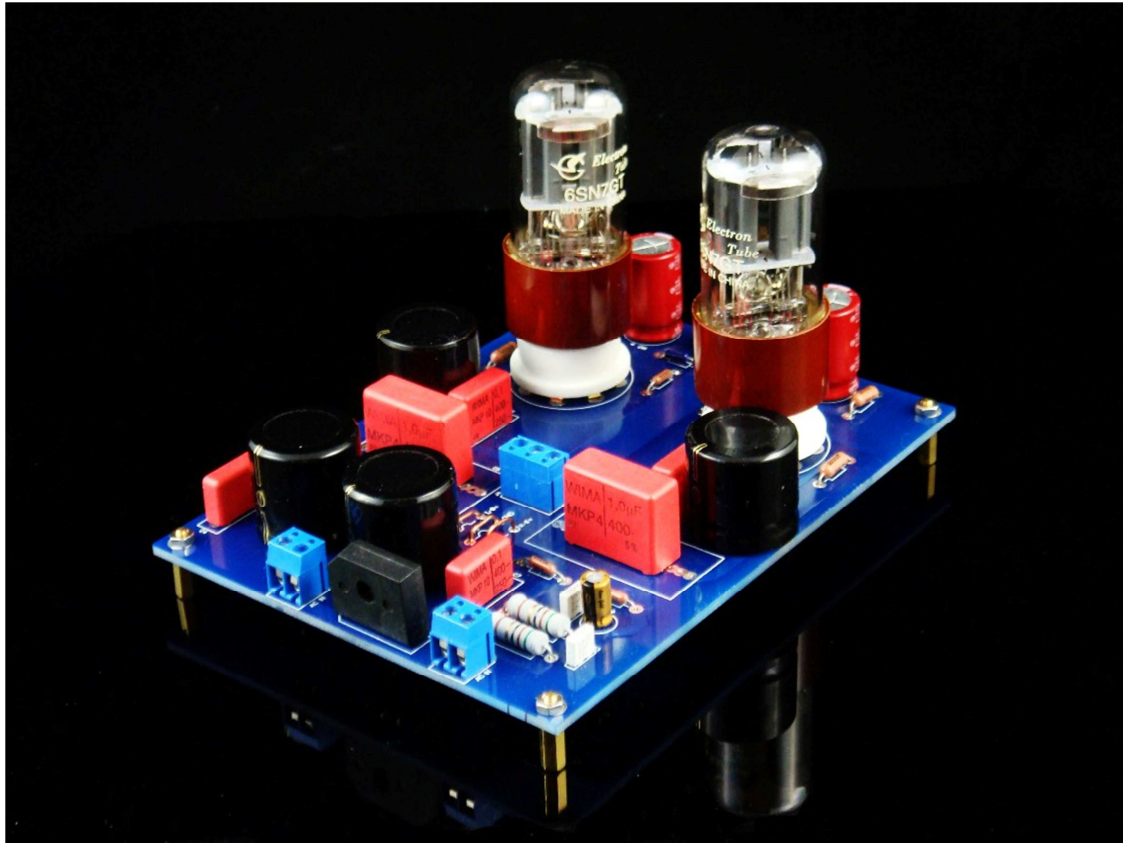


# **6SN7 SRPP Tube Preamplifier User Manual**

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## INTRODUCTION

Two dual triodes 6SN7 vacuum tubes are used for amplification in SRPP configuration. The filaments are biased at higher voltage than ground for noise immunity. Symmetric layout is designed with matching impedances between two signal paths and minimum parasitic, so it provides high linearity, fast responses and low signal distortion. Also, this board has built-in full wave rectification circuit and regulation circuit with an optional choke connector. The power supply unit and amplifier core are isolated on the board and connected by flying wires.

## FEATURES

- Two 6SN7 vacuum tubes in SRPP configuration.
- Board is designed with built-in full-wave rectification and regulation circuit. Spaces are left for large reservoir decoupling capacitors and option choke connection for filtering.
- Filament voltages are biased at around 60V above the ground plane.

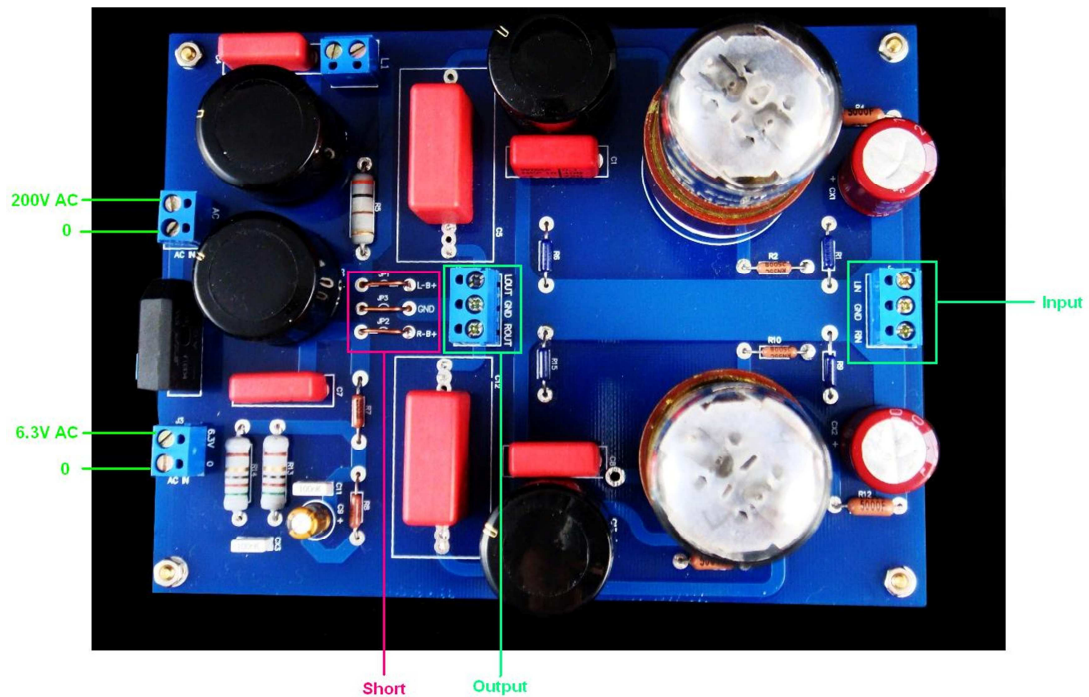
- Symmetric layout design between two channels.
- Isolated power supply unit and amplifier core of the board. Flying wires are used to interconnect between these two blocks.
- Dedicated power and ground railings. Shortest signal paths with minimum parasitic.
- Power requirement: 200V AC (100mA) and 6.3V AC (1A)
- PCB dimension: 120mm x 160mm, 2.5mm thickness and 2oz copper.

## **PRECAUTIONS**

- Do not use any body parts to touch the metal parts of the kit after power up or power off, since the high voltage capacitors may not fully discharge. It may cause serious electric shock.
- Use a power transformer with fuse (1-3A) socket to limit the supply current in case of short circuit or incorrect assembly.
- Double check the assembled components with the schematics.
- Do not attempt the measure the voltage by multimeter with hand after power up. The probes of the multimeter should be mounted by some stands to the points of the measurement before switching on the power supply.
- Turn off the power supply if you observe any smokes or hear strange sound coming out from the transformer or board. If there is short circuit, the transformer will be getting very hot shortly.

## **PROCEDURES**

1. Solder all the components according to the schematic, BOM list, and the photo. Notice to the polarity of the high voltage capacitors (C2, C3, C6 and C10). Just leave open for the flying wires of jumper JP1, JP2, and JP3. There is no polarity of the thin film capacitors, so it can place in any directions.
2. Apply power supply to the board according to the following photo. It requires one 200V AC (100mA) and one 6.3V AC (1A).
3. Measure the DC voltage at JP1, JP2, and JP3. The voltage is ~250V for JP1 and JP3, and 0V for JP2.



4. If the measured voltages are correct, then turn off the power supply, and wait until all the capacitors discharged, ~10 minutes.
5. Short the jumpers JP1, JP2 and JP3 by flying wires
6. Power on and the tubes are light up.
7. Enjoy it.

### CHECKLIST

1. The polarity of the high voltage capacitors C2, C3, C6 and C10.
2. The supply voltages at connectors (J2 and J3)
3. Flying wires JP1, JP2, and JP3.
4. Enjoy it and good luck.

If you have any problem in assembly, please contact us by email to [tech@analogmetric.com](mailto:tech@analogmetric.com)