

**Goldline Phono
Tube PreAmplifier
User Manual
Analog Metric**

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INTRODUCTION

The circuit design is referenced to Matisse Reference tube preamplifier. It supports MM input with RIAA compensation. It uses one 12AX7 and 12AT7 vacuum tube in common-cathode configurations to provide sufficient voltage gain for weak phono input signal. The signal path of this PCB layout is designed in symmetry for both channels. Dedicated power rails, ground, and signal paths, altogether are taken into considerations so that all are to minimize the parasitic, cross interference, and influence of RFI.

FEATURES

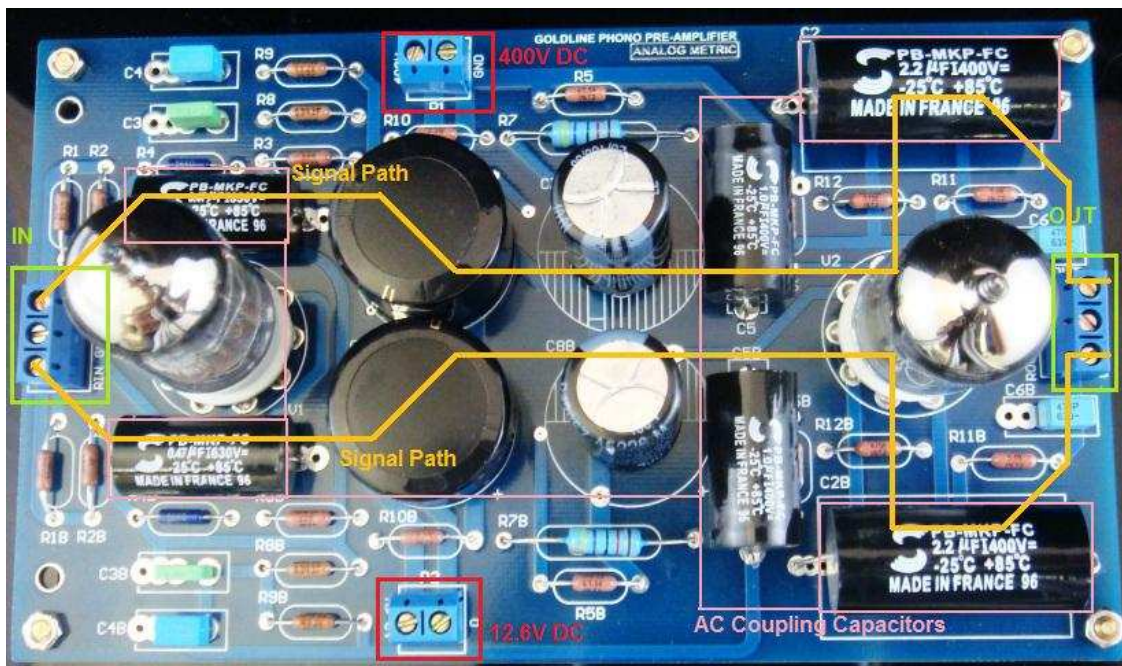
- One 12AX7 and one 12AT7 vacuum tubes.
- Support MM input.
- RIAA compensation.
- Two single-ended inputs and two single-ended outputs.
- Symmetric layout design and signal paths with minimum parasitic.
- Dedicated ground and power rails layout design.
- Two large reservoir decoupling capacitors for power rails.
- Power requirements: one 400V (20mA) DC and one 12.6V (0.5A) DC.
- PCB dimension: 169mm (W) x 99.4mm (L)
- PCB thickness: 2.4mm, double layer, 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 to measure the voltage by multi-meter with hand after power up. The probes of the multi-meter 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. Hook up all the components according to the schematic, part list, and photos. Notice to the polarity of the high voltage electrolytic capacitors (C7, C7B, C8, C8B). There are no polarities of the thin film capacitors.
2. Apply 400V DC to connector "P1" and 12.6V DC to connector "P2". If everything works fine, the tubes will be led up gradually. Then, apply signals to connectors J1 and obtain corresponding output signal at J2.
3. Enjoy it.



CHECKLIST

1. The polarity of the high voltage capacitors C7, C7B, C8, C8B.
2. The supply voltages at connectors (P1 and P2). Check the connectors whether connected to power supply by a multi-meter.

If you have any problem in assembly, please contact us by email to tech@analogmetric.com