Passion 120 200W Power Amplifier Mono Block

User Manual

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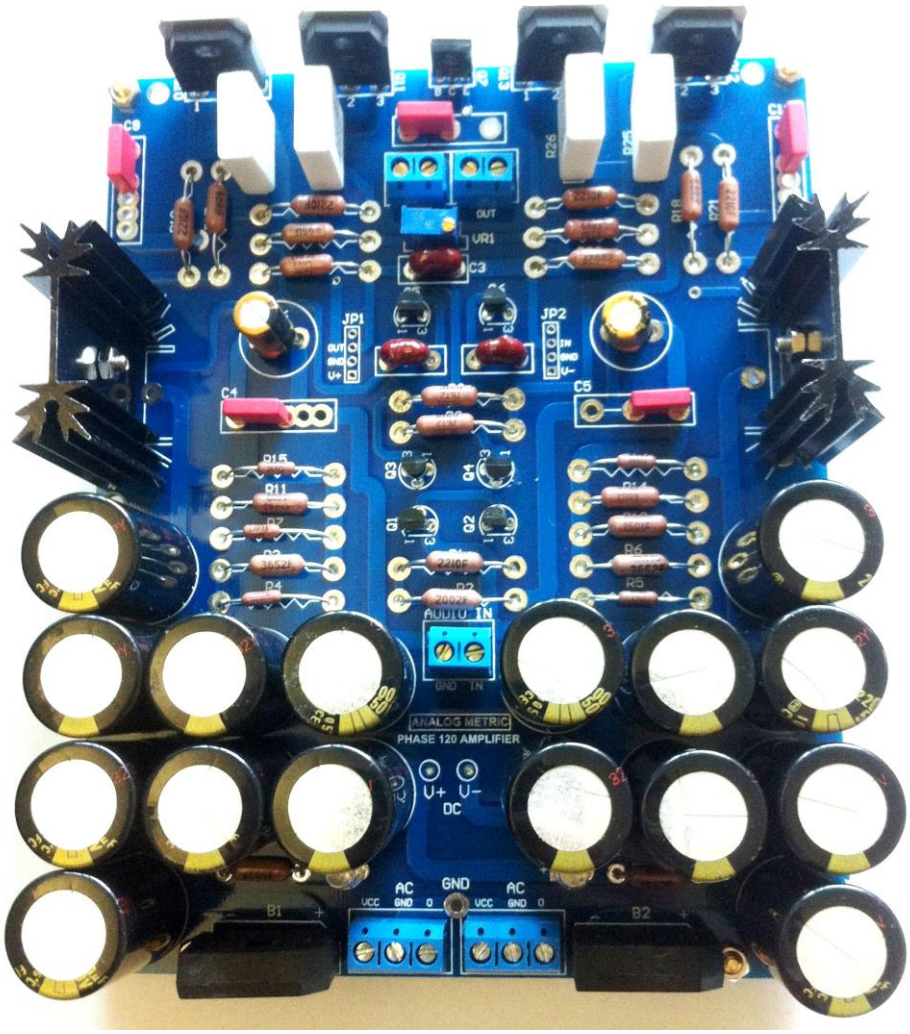


FEATURES

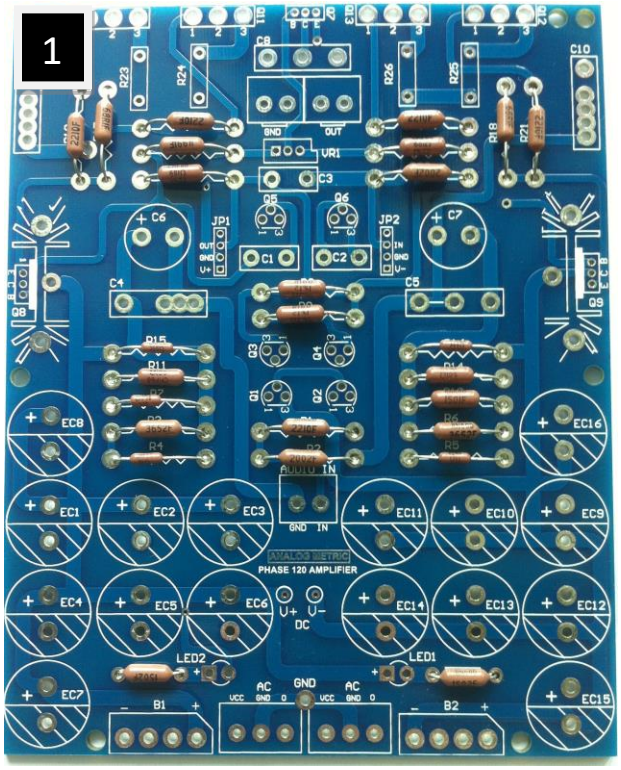
1. Phase 120 power amplifier is designed and modified based on Accuphase and the component values are optimized.
2. Employing two 2SK1529 and two 2SJ200 MOSFET power transistors in the output stage.
3. Adopting channel isolation and dedicate power supply in the design of two mono channels
4. Class AB amplification realizing push-pull output driving with negative current feedback.
5. Maximum output power reaches 120W each channel
6. Required power supply: +24 to +33V AC and -24 to -33V AC, 5A, 300VA

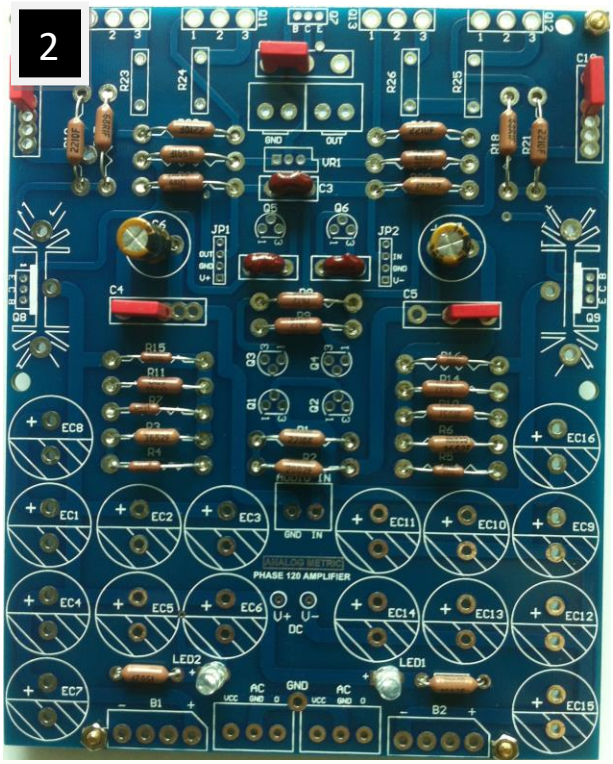
PRECAUTIONS

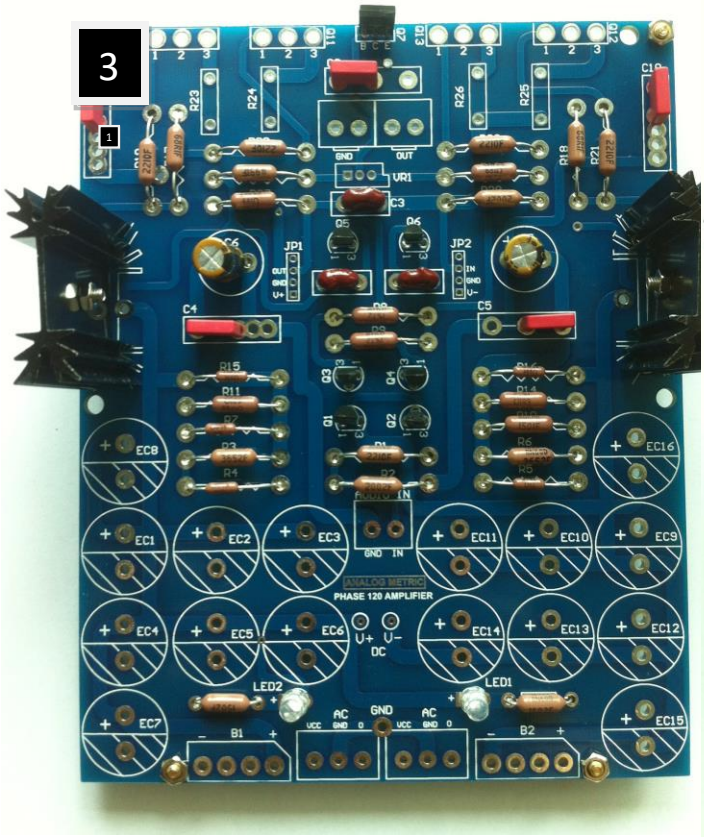
- Use a power transformer with fuse (6A) socket to limit the supply current in case of short circuit or incorrect assembly.
- Double check the assembled components with the schematics.
- Turn off the power supply if you observe any smokes or hear strange sound coming out from the transformer or board. If there is short circuit, the transformer will be getting very hot shortly.

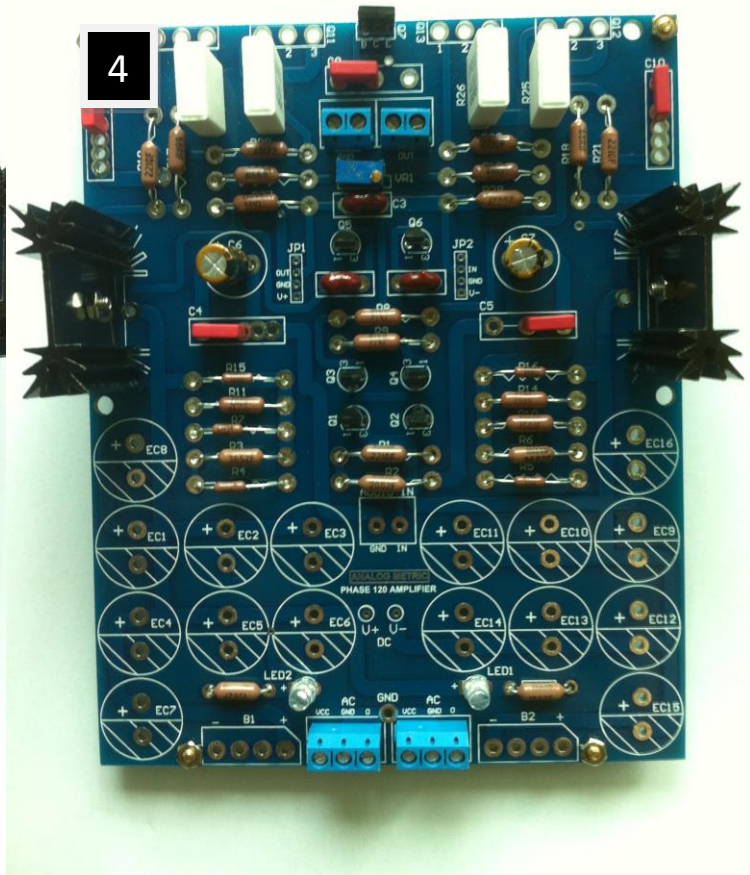
PROCEDURES

- Assembly all the components according to the part list. Notice the polarity of the electrolytic capacitors. There are no polarities of the thin film capacitors.

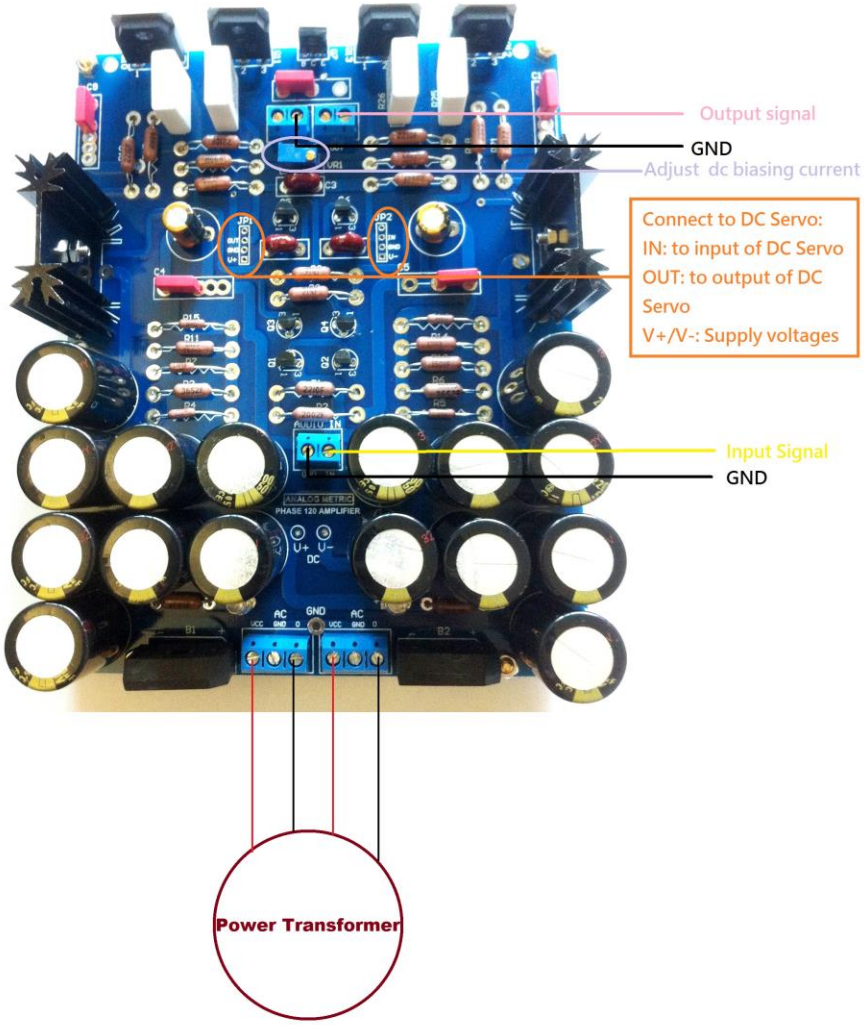








- After completed soldering, connect a DC servo module as shown in below photo (the orange circles). Apply power supply with current limit. e.g. 200mA or fuse. For AC power supply, apply two 20-33V AC to the "AC 0" connectors, where GND is the signal ground that is not connected to the transformer.

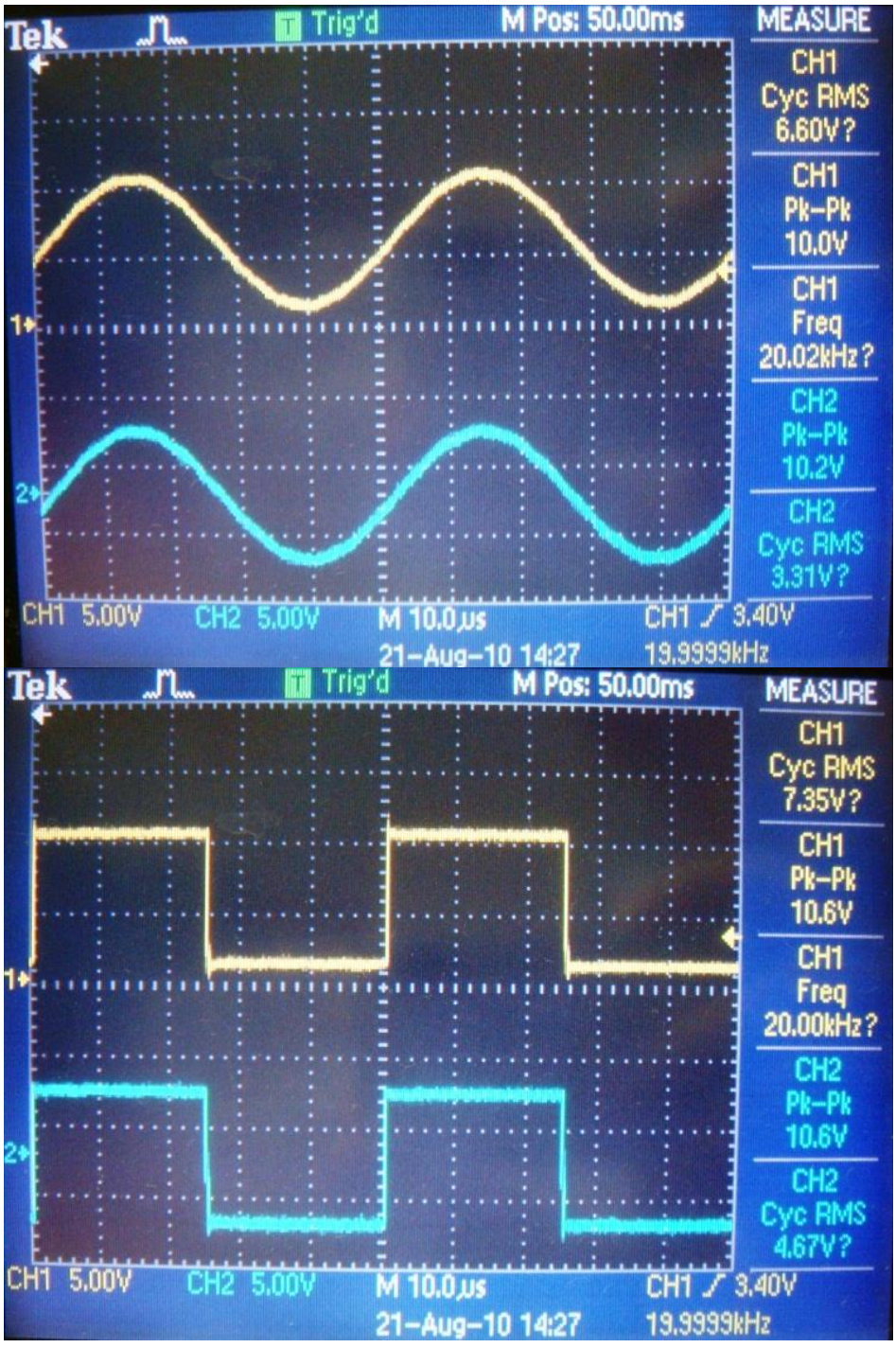


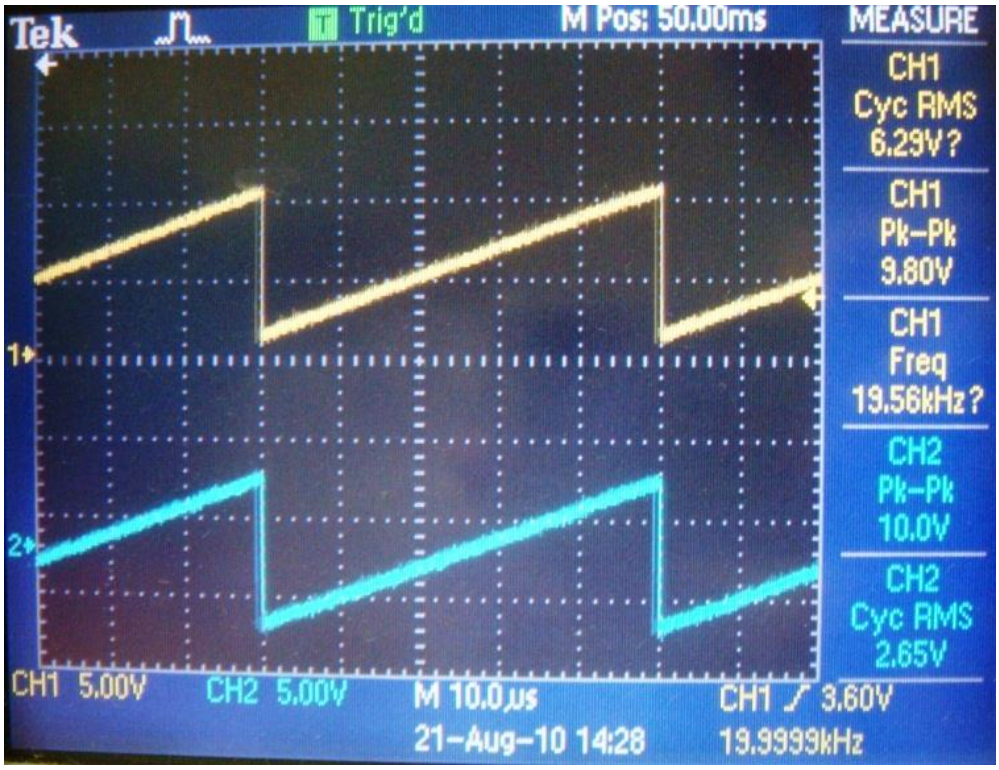
- After power up, adjust the biasing current by resistor trimmers VR1, so that the current reach 100-150mA (In reality, the required current is more than 100mA to get rid of the class B stage). The biasing current can be calculated either by Ibias = V/R24 or Ibias = V/26.

- To protect the loudspeaker, a speaker protection module should be connected to the output of the amplifier to eliminate the undesirable output DC voltage.

- Mount the heat sinks to the power transistors 2SK1529 and 2SJ200, e.g. mount onto the heat sink of a chassis. The transistors will be overheated or damaged if without mounting on a heat sink. The maximum temperature is 150 degree Celsius.

TEST WAVEFORMS





If you have any questions on assembly, please contact us by email tech@analogmetric.com