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## CONTENTS

1.	Schematic of the amplifier PCB	
2.	Layout of the amplifier PCB	р.3
3.	Assembly of the amplifier PCB	р.4
4.	AMP1000 Stereo assembly	р.6
5.	AMP1000 Mono assembly	р.8
6.	Bias setting	р.9
7.	Known issues	p.10
		р.11



AMP1000 SCHEMATIC

3



## Part list :

Capacitor 150pF	(x3)
R SETA 0.56W	(x16)
R SETA 10W	(x2)

Trimmer 1k	(x1)
R YBA 110	(x7)
R YBA 500	(x1)
R YBA 1k2	(x5)
R YBA 1k8	(x1)
R YBA 2k2	(x2)
R YBA 3k3	(x3)
R YBA 4k7	(x2)
R YBA 10k	(x4)
R YBA 47k	(x2)
Transistor 2N5551	(x2)
Transistor 2N5401	(x2)
Transistor 2N5416	(x1)
Transistor 2N3440	(x1)
Transistor MJE15030	(x3)
Transistor MJE15031	(x2)
Transistor MJ15024	(x8)
Transistor MJ15025	(x8)
Capacitor 10µF 100V	(x3)
Capacitor 0.1µF	(x1)
Capacitor 0.33µF	(x7)
Capacitor 100µF 100V	(x5)
Capacitor 470µF 63V	(x2)

## Notes :

- Output transistors should be matched in gain before replacement. Good matching makes bias and offset setting easier.

- When one or more output transistor is broken, it is recommended to change the whole set of power devices.

- Components are soldered on top side of the PCB
- T9 (MJE15030) must be soldered once PCB is installed on its metal socket

- Power transistors must be soldered after PCB is installed on its metal socket



- 1. place moons (blue isolation sockets) on the brass plate
- 2. add some thermal grease as shown in the previous image
- 3. join both aluminium and brass plates
- 4. insert transistor isolation plates on each sides
- 5. fix the amplifier PCB on the upper side using the 4 screw holes
- 6. insert and isolate power transistors and fix them using M3\*16 screws
- 7. solder B and E pins of power transistors



Details of connections :

- connect 2 red wires from V+ pad to the positive side of the supply board
- connect 2 blue wires from V- pad to the negative side of the supply board
- connect 2 white wires from IN\_GND pad to the GND side of the supply board (middle point of the transformer)
- connect 4 red wires from Speaker output pads to the output inductance (preceding speaker terminal)
- connect inputs IN+ and IN\_GND pads to their respective input connectors using wires as short as possible (not exceeding 15 cm)







Blue for left, red for right channel



The Passion 1000 amplifier is not protected against output shorts and irremediable damage will be caused if speakers outputs are shorted (through speaker cable from example).

Do not connect the Passion 1000 amplifier to a preamplifier that outputs some significant DC component. Be sure to always power on your Passion 1000 amplifier after having powered up your preamplifier. To switch off your system, please proceed in the opposite order.

a. Burnt output devices :

While amplifier turned off, please measure with a Multimeter in diode mode the value at the speaker output, between the RED terminal and the ground (black terminal). The measured value should be stable and comprised between approx 500 and 900.

If the value is not stable, then one or more output transistor need to be changed.

To determine which transistor need to be changed, you need to :

- 1. remove T7, T9 and T10
- 2. test T7, T9 and T10 (no short between C and E pins)
- 3. for each power transistor,
  - a. disconnect it's associated 0.56R emitter resistor
  - b. remove it's mounting collector screw
  - c. test the continuity between its 3 electrodes, none should be in short circuit
  - d. if there is a short circuit, replace the transistor
  - e. reconnect the resistor and remount the screws of the transistor
- 4. if T7 and/or T9, and/or T10 are damaged, please replace them
- 5. you may also need to change R11 = 110R
- 6. with a multimeter in diode position, test again the value between the speaker output and the ground. Now it should be stable.
- 7. Peform a new bias setting. Correct value is around 10mV measured between a pair of 0.56R resistor.