

Table of Contents

Introduction	1
Modification on the board.....	1
Power supply modifications.....	1
Amplifier 32x :.....	2
Solder side patches :.....	2
Component side resistors:	3
Check correct assembly amplifier resistors :.....	4
placing the protection diodes	4

Introduction

To bring the SOL_AMPV3 version 1.2 (production autumn 2017) close to version 1.7 that is the candidate for the production.

See the schematics SOL_AMPV3_1_7_sch.pdf that indicates all the changes.

What is not in this modification :

- the bias switch
- the read back of the 5 V status
- The positive clamping above 1.8V
- over voltage protection for the 1.8V input
- all extra test points or modified test points.
- The 0.063A fuse for the bias

versions of this document

- ver 1.2 20170425 last saved 25 April 2017 added information for all other modification added introduction.
- ver 1.0 only the amplifier changes on the solder side where describerd.

Modification on the board

Power supply modifications

1. Place the Schottky diodes MBR140SFT1G (Farnell 1431046) (4x) in fig 1 on the place with the yellow boxes . The yellow line indicate the cathode of the diode (white line on the diode package)
2. Remove R6 (red cross in fig 1)
3. Solder a 1 K ohm resistor (805) to the side of R30 and from the other side solder a (isolated) wire . Solder the other side of the wire to the pad of R6 closed to C21. See orange boxes in fig 1.

Solder a small isolated wire to the other side of the 10 ohm resistor.
Solder the other end of the wire to Dxx:C1 and Dxx:C2 as indicated. (same signal)
If C1 .. C4 is missing place them (lower priority)

For all amplifiers (so 32 times)

Remove Rx:R61 (wrongly placed)

All resistors 402 (~ 60mW)

Place 1K4 at Dx:R45

Place 1.5K at Dx:R35

place 20K at Dx:R38.

See also fig 3 and fig 2

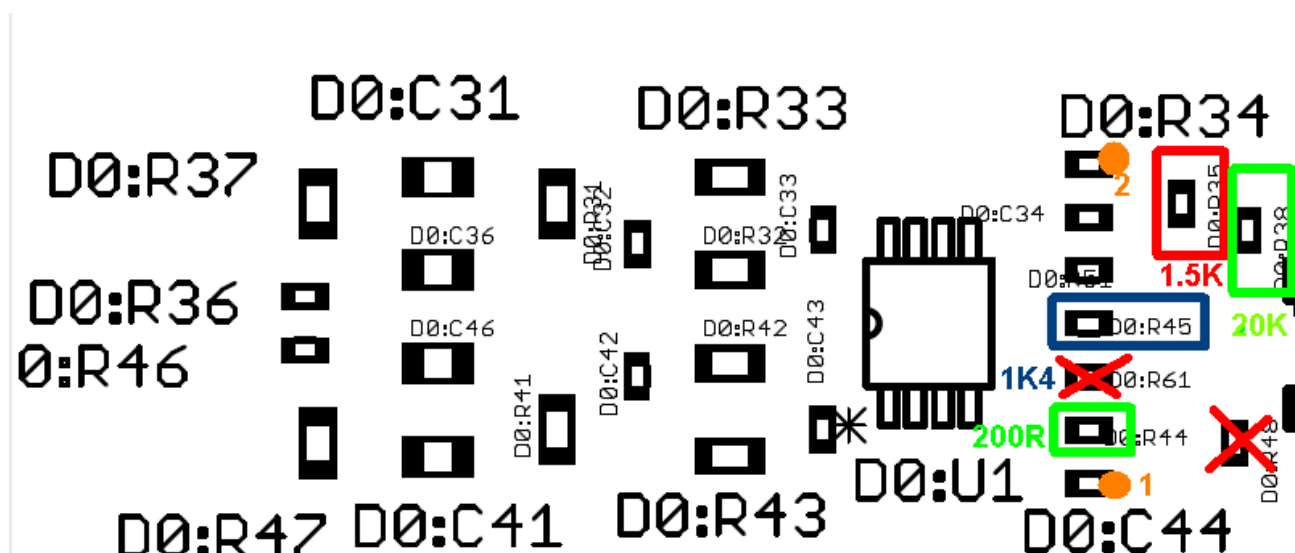


fig 2: Location and values of the resistors to be placed and measurement points

Check correct assembly amplifier resistors :

Power the board and enable the power .

After the resistors are placed check the voltages¹ on the orange spots 1 and 2

Voltage spot 1 : min V max V

Voltage spot 2 : min V max V

One can check on the spot 3 (via) if the voltage is 0.9V. If this differs ($> 0.075V$) subtract the difference from the voltage limits given. (if $V_3 = 0.7$, then subtrack $0.9 - 0.7 = 0.2 V$ from the limits). V_3 should be within 0.7 and 1.1 V.

placing the protection diodes

In fig 3 one can see how the protection diodes (Panasonic DB3S308F0L farnell : 2284977) have to be mounted.

Only the part of the diode that clamp negative voltage is connected. These pins are in fig 3 yellow indicated. The pin that is not connected is orange indicated. (In the final design this diode will clamp to the 1.8V positive going but no reliable mounting possibility has been found) .

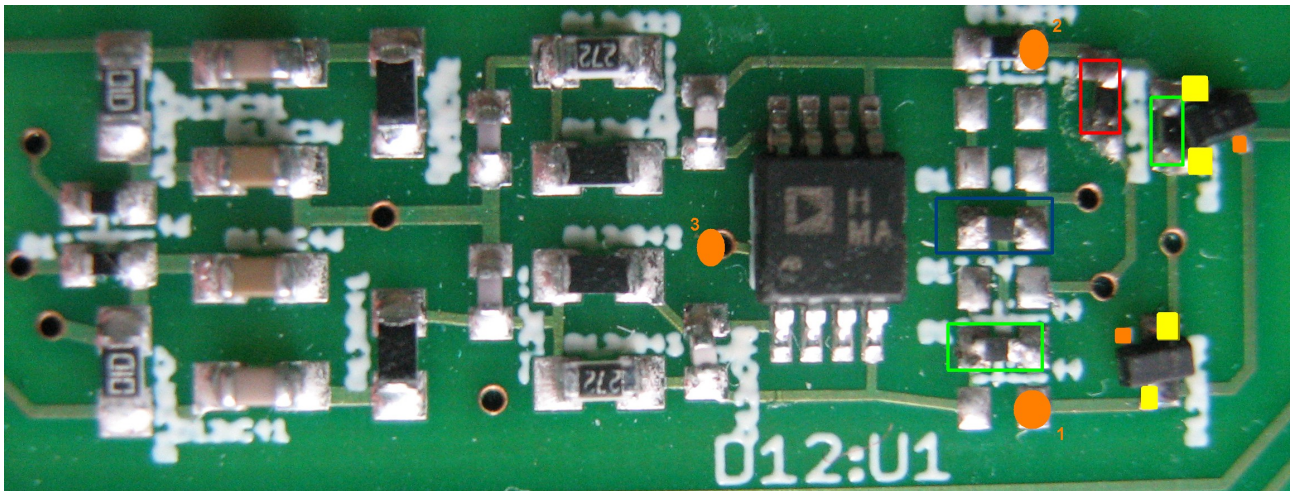


fig 3: locations of the resistors to be (re)placed and protection diodes mounted

¹ for this the 1.8V has to be applied on X3 pin C27 and X4 pin C27 , the enable line X5 A26 at 3V