Build Manual

Isolated RS485 Adapter for the Raspberry Pi

Note this kit is quite advanced to construct involving the soldering of small surface mount components by hand.

Kit Contents

In this kit you should find the following:-

- PCB Board
- Resistors x 7

QTY	PART-REFS	VALUE
2	R1,R5	120
2	R2,R4	560
1	R3	3.9k
2	R6,R7	10k

- Capacitors x 8

QTY	PART-REFS	VALUE
4	C1,C2,C4,C7	10u
2	C3,C6	10n
2	C5,C8	100n

- Integrated Circuits x 3

QTY	PART-REFS	VALUE
1	U1	ADM2687E
1	U2	555
1	U3	ADP122

- 26 Way Connector x 1
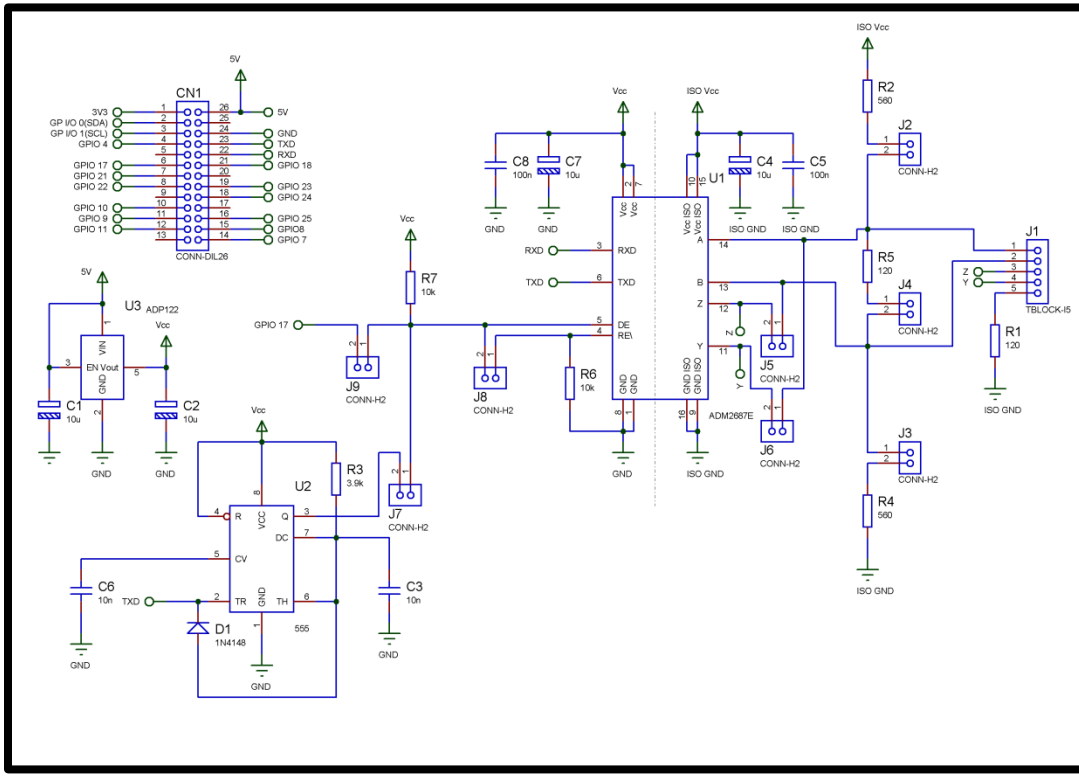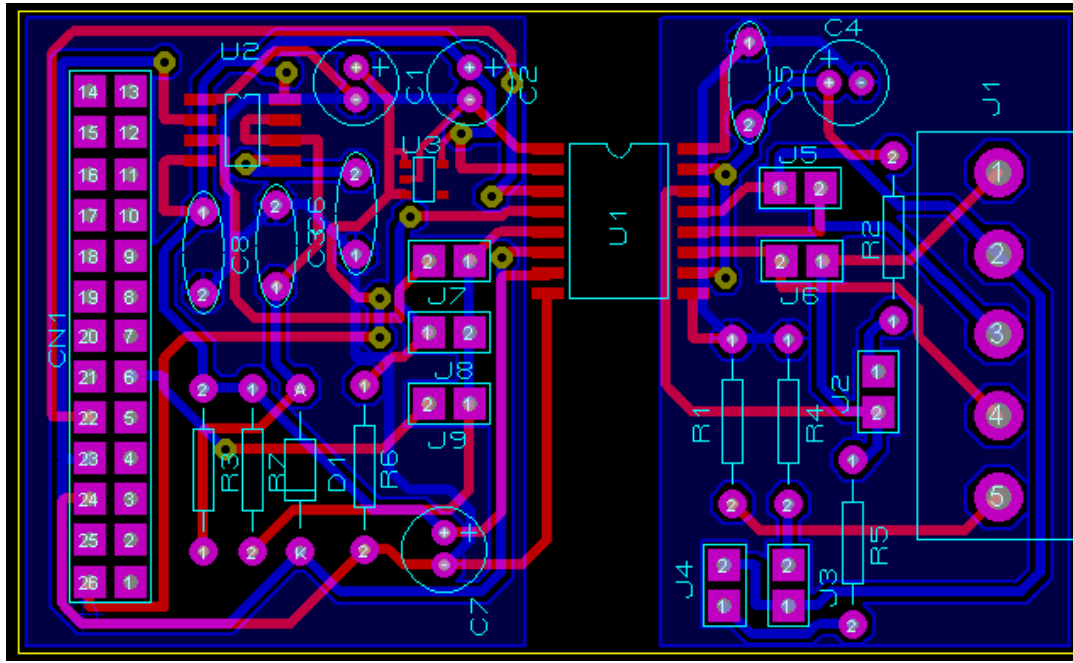- 5 Way Terminal Block x 1
- 2 Pin Headers x 8
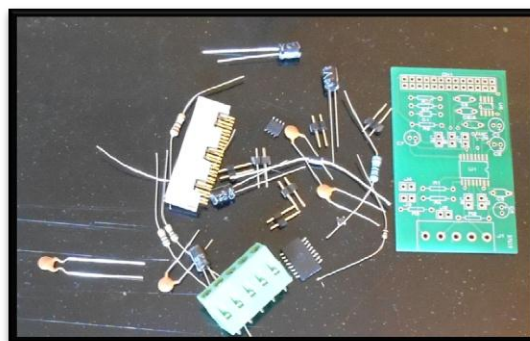
Tools needed

In order to assemble this kit you will need the following tools

- Soldering iron
- Solder
- Tweezers
- Magnifying Lamp
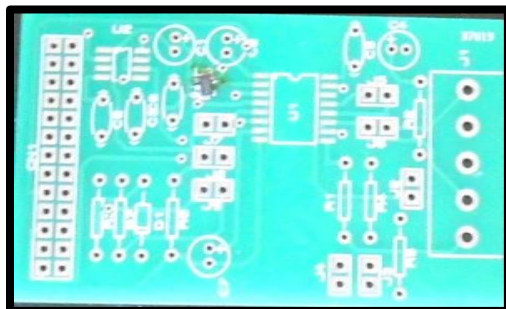- Pliers
- Wire cutters

The Schematic
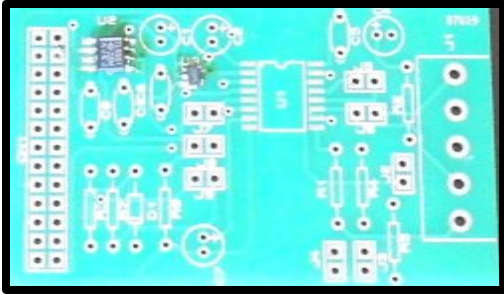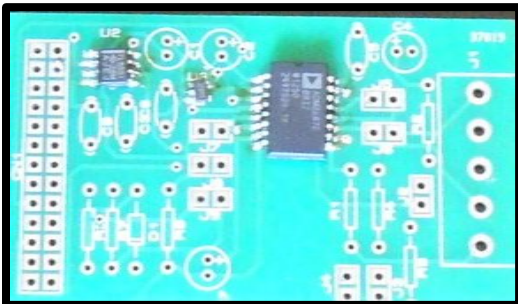
The Layout

The Build

1. Using tweezers and the Magnifying lamp solder the ADP122 linear regulator U3
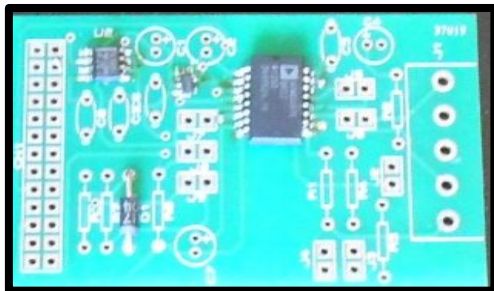
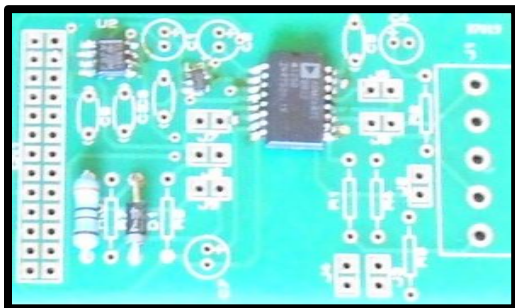2. Solder the 555 Timer in location U2 note the orientation

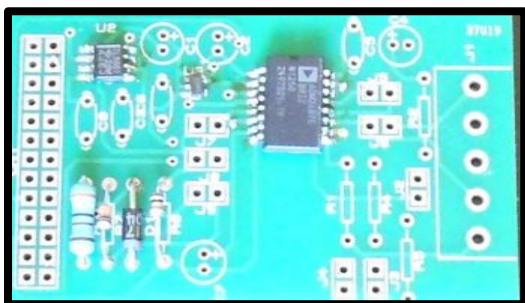3. Solder the ADM2687E to location U3 note the orientation

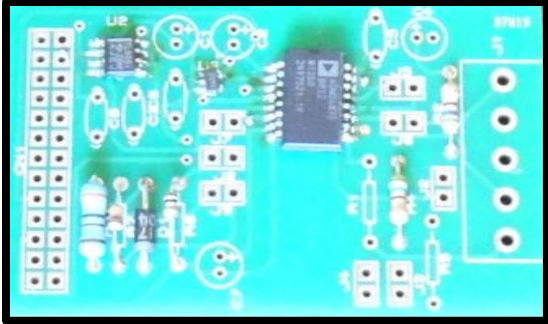4. Insert the diode in location D1 and solder note polarity

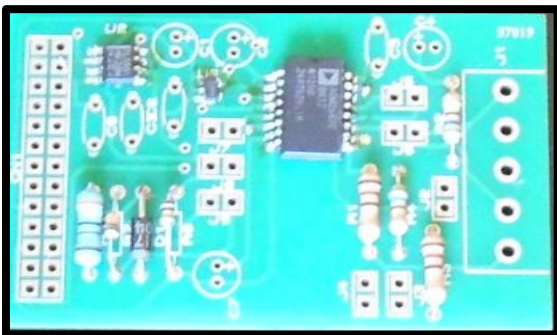5. Insert the 3.9kΩ resistor in location R3 and solder

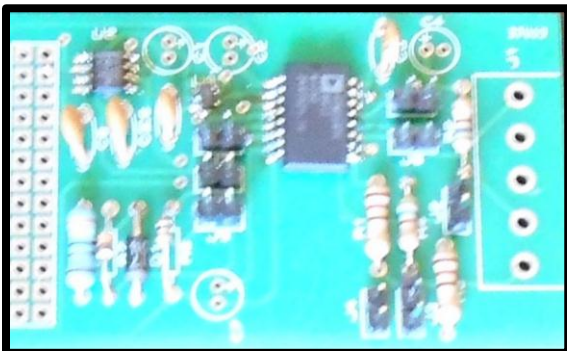6. Insert the two 10 kΩ resistors in locations R6 & R7 and solder

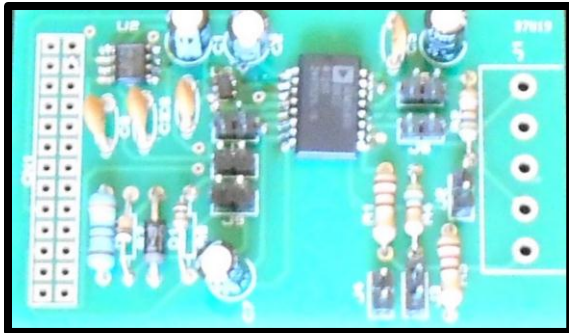7. Insert the two 560Ω resistors in locations R2 & R4 and solder

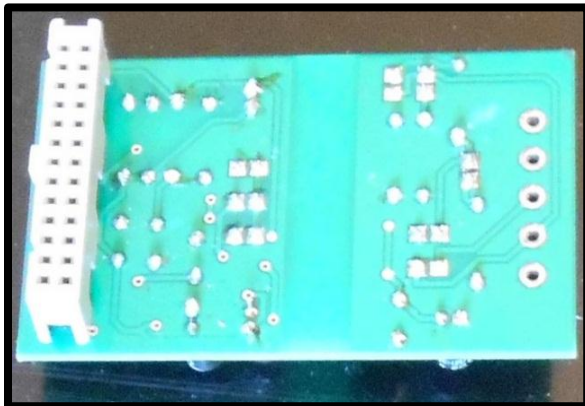8. Insert the two 120Ω resistors in locations R1 & R5 and solder

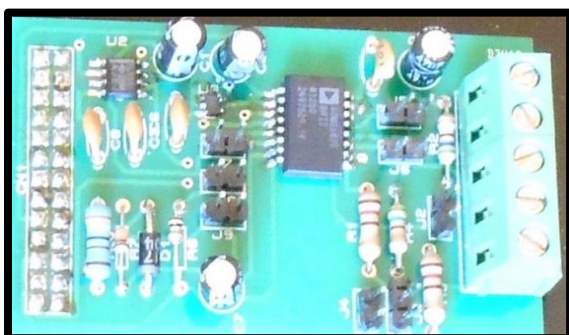9. Insert the Ceramic Capacitors and SIL Connectors and solder

10. Insert Electrolytic capacitors and solder note polarity

11. Insert the 26 way Connector on the underside of the board and older on the topside of the board

12. Insert terminal Block and solder

13. Insert Jumpers as required