

Hi

I have put together the following to assist you with the assembly of the interface. Just a few notes first:

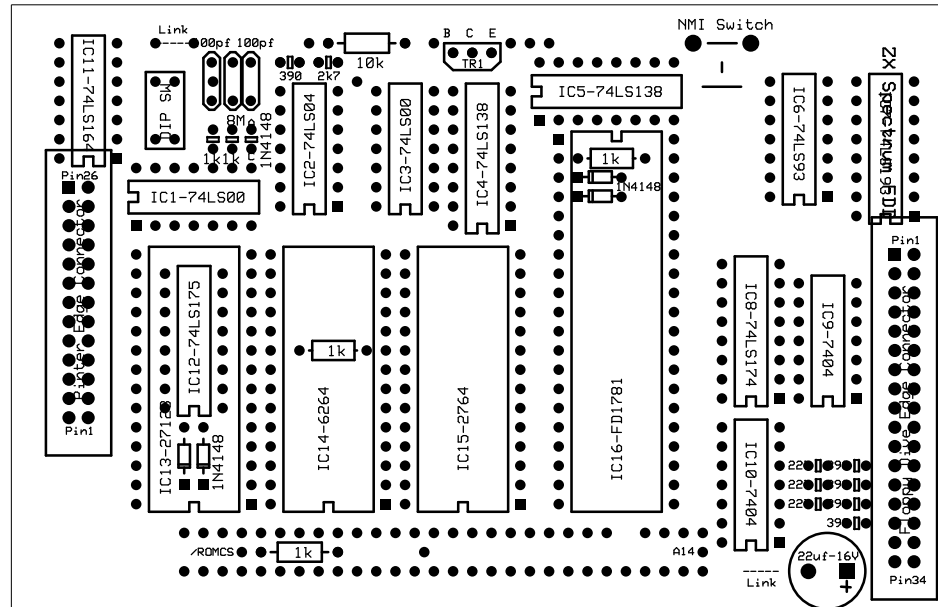
1. The two pdf files is the component layout with and without the pads.
2. Only use TTL 74LSXXX chips and not the CMOS versions, i.e. 74HCXXX. The interface was designed around the TTL voltage and logic levels. I tried the C and HC range myself and it does not work. The same for the EPROMS, use 2764, 27128 and not 27C64 or 27C128.
3. The LED (D7) is in series with the VCC of U11 (74LS164) and acts a supply voltage dropper. When the interface was built in the middle 80's, Rocky found that U11 was switching to fast and was corrupting the data to the printer. To compensate for this, he dropped the supply voltage to the chip with the LED and the problem was solved.
4. The R16/C3 mod between two gates of U10 is there to filter out noise on the data line of the floppy drive. On the original board, Rocky soldered the resistor and cap on top of the IC. I soldered them onto the bottom of the board. See pictures later.
5. Diode D8 (1N4148) is soldered onto the collector of transistor Q1 (BCY65E, I used a 2222A) and the combination is then soldered onto the board. See picture later.
6. Remember the two jumpers as on the Picture.
7. If you would like to add the outgoing edge connector to connect other peripherals on the interface (e.g. joystick interface, etc), then note that A14 and/ROMCS line to the outgoing edge connector does not go straight through as with the other, but must go to the pads in the centre between the outside of the edge connector pads. See picture later.
8. IC12 is soldered under IC13 within the IC socket. Depending of the size of the plastic support of the 28 Pin socket, you may have to cut the support plastic on the pin 14/15 side. The support in the middle must be cut to accommodate IC12. See pictures later.
9. Originally (in the 80's) I used two 360K/5.25 double height floppy drives, which was in an external case with a power supply. With my new construction, I build a 1.44/3.5 drive inside of my case. See picture. It is a Sony model xxx. The ribbon cable is a one to one configuration between the two plugs.
10. Each side of the disk is seen as a separate drive by the interface. The FD1791 can connect to 4 drives, each double sided (Edge connector pin 10,12,14,6) . The interface recognise every side of the disk drive as a separate drive, thus if you connect four physical drive to the interface, you will see 8 drives when the interface initialise (0&4, 1&5, 2&6, 3&8). With the one to one cable configuration (as in my case) on the new drive types, the Drive 1 line of the interface is connected to the drive. This results in a boot message of drives 1&5. If you would like to see 0&4 if you use one drive, then you will have to swap Drive 0 and Drive 1 wires on the cable (12 and 14). Older drives had 4 drive selectors, where the newer ones can only select two. With the original drives, all four drives were on a one to one cable and each drive was selected on-board with either a jumper or DIP switch as drive 1 to 4.
11. The floppy controller chip does not recognise the double density line from the drive, resulting in that you can use 80 tracks per side single density. I formatted it to 82 tracks I think, resulting in 400K per side. It was not necessary for me to mod the drive to disable the single/double detection circuit, but may be a problem with certain manufacturers or drive

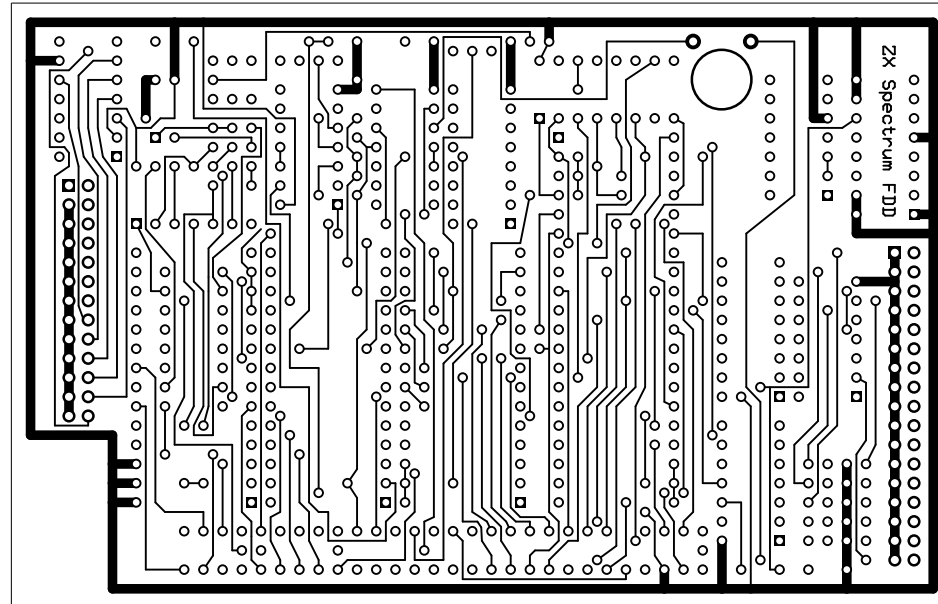
models. This is in most cases a LED and photo transistor at the front of the drive controller board.

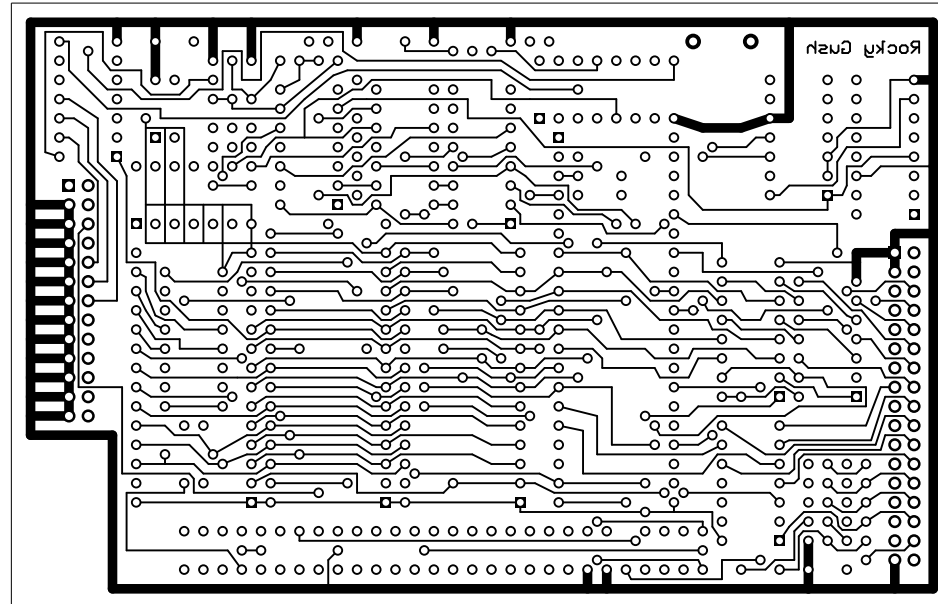
12. The printer interface is designed to work with an Epson Compatible printer. I currently use a LQ-870. The cable is also a one to one between the two plugs.
13. I have mounted my Issue 2/48k board, a small motherboard with two edge connectors, Kempston joystick interface that plugs onto the small motherboard, Rocky Gush interface, Disc Drive and power supply in an old Olivetti terminal case. See picture.

I hope this will assist you and good luck with the construction.

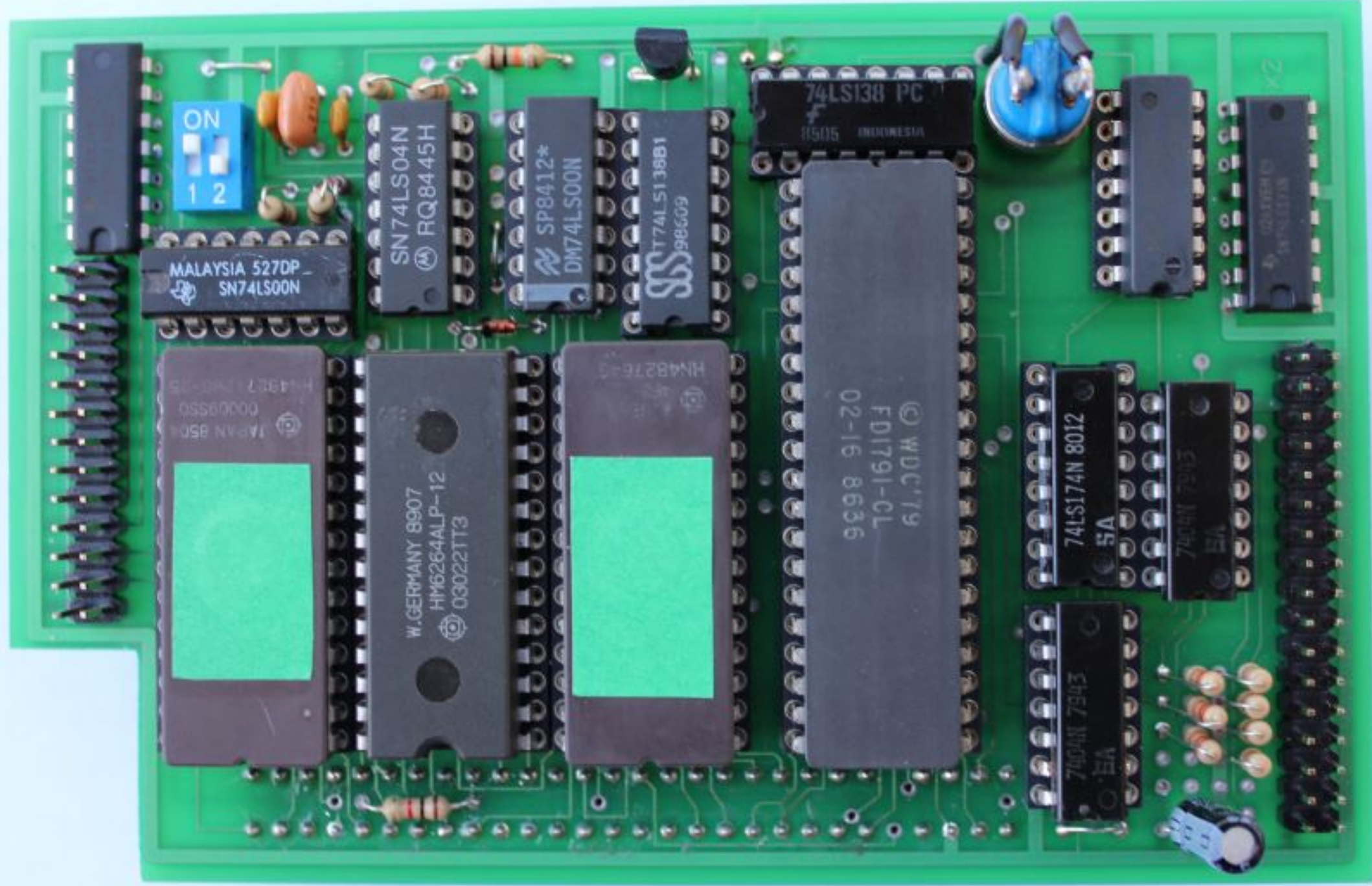


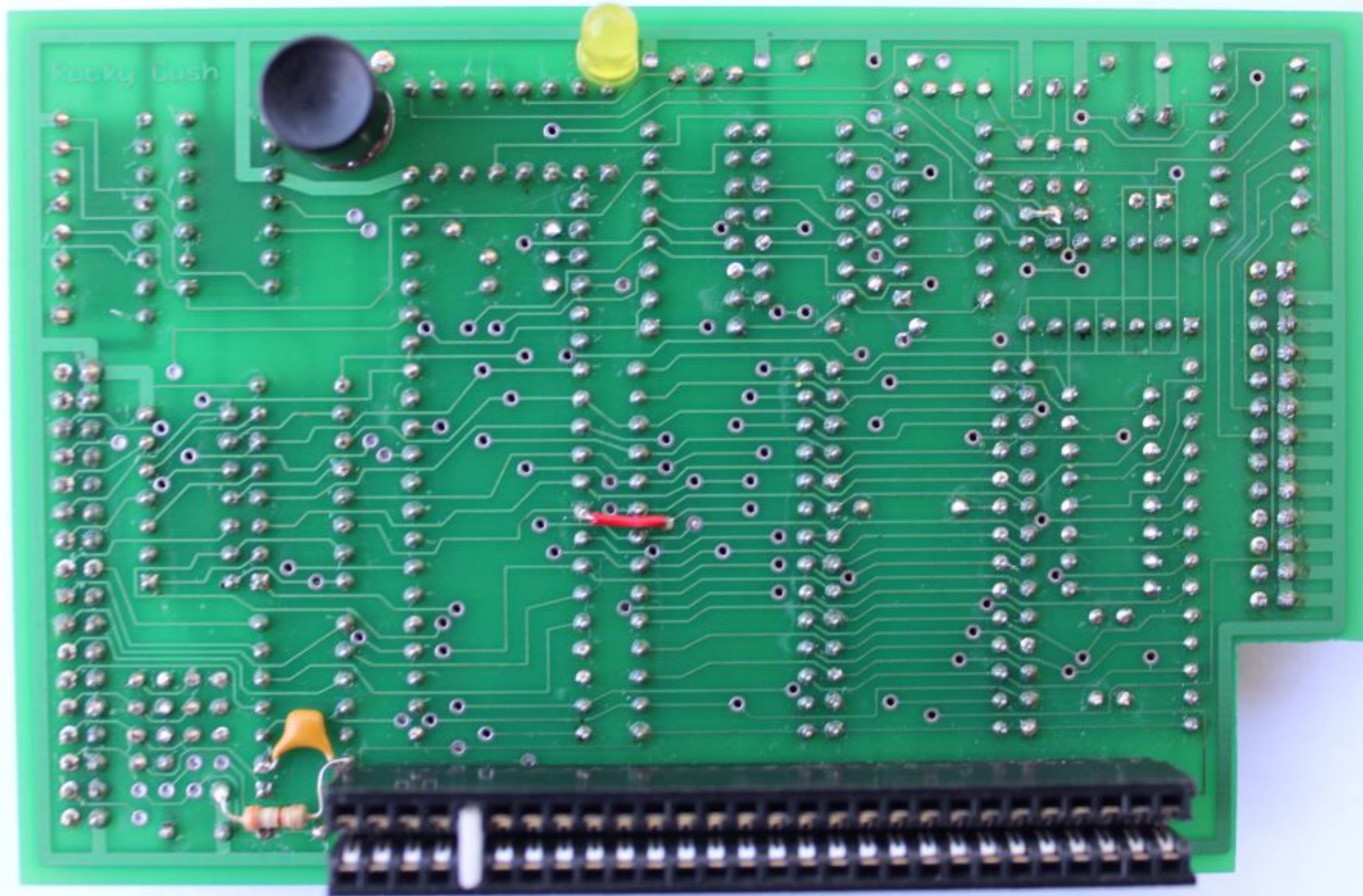






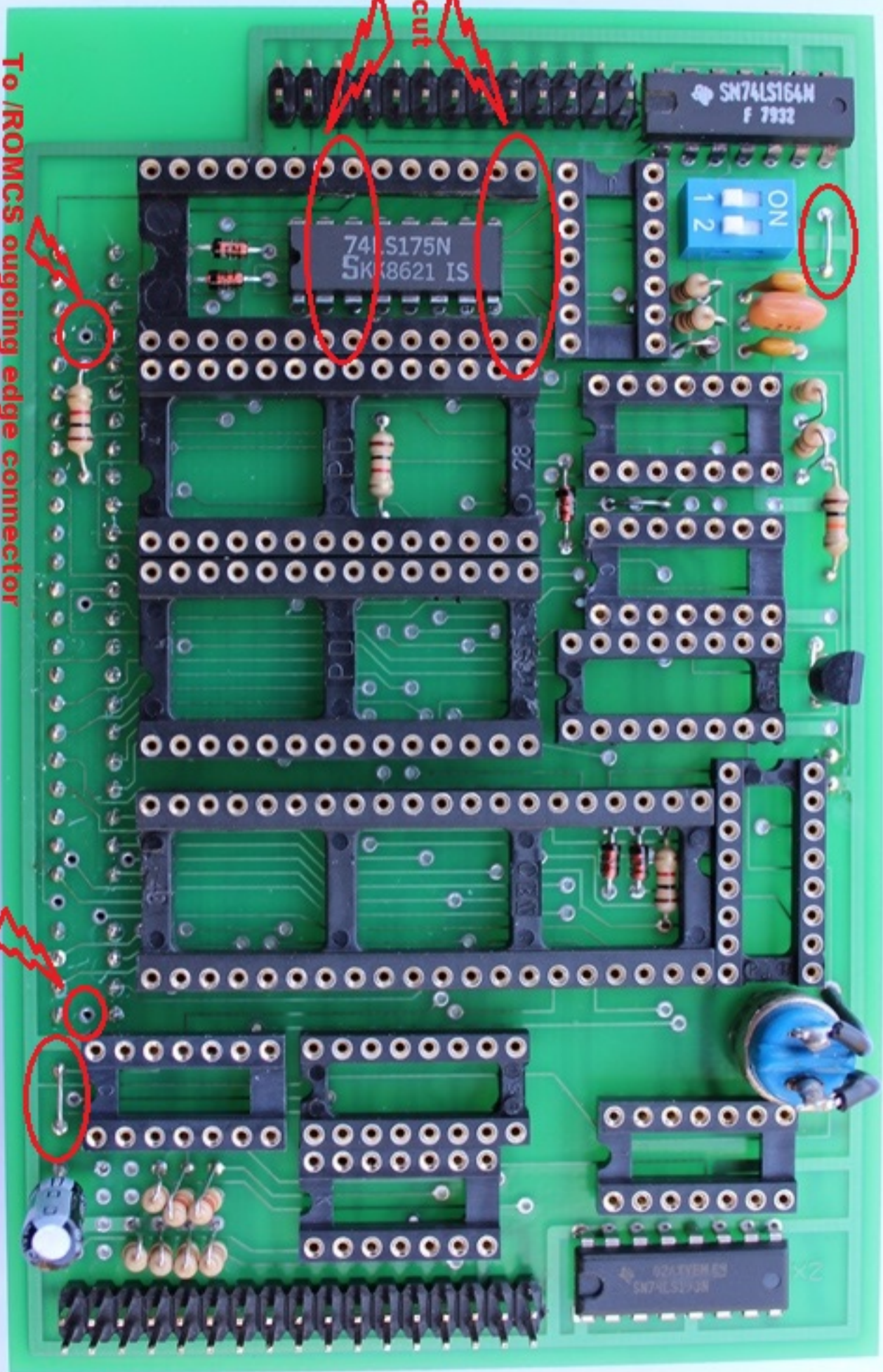
N:\ZX Spectrum\Rocky Gush.pcb (Bottom layer)











Plastic support cut

Jumper

To /ROMCS outgoing edge connector

A14 outgoing edge connector

Jumper

