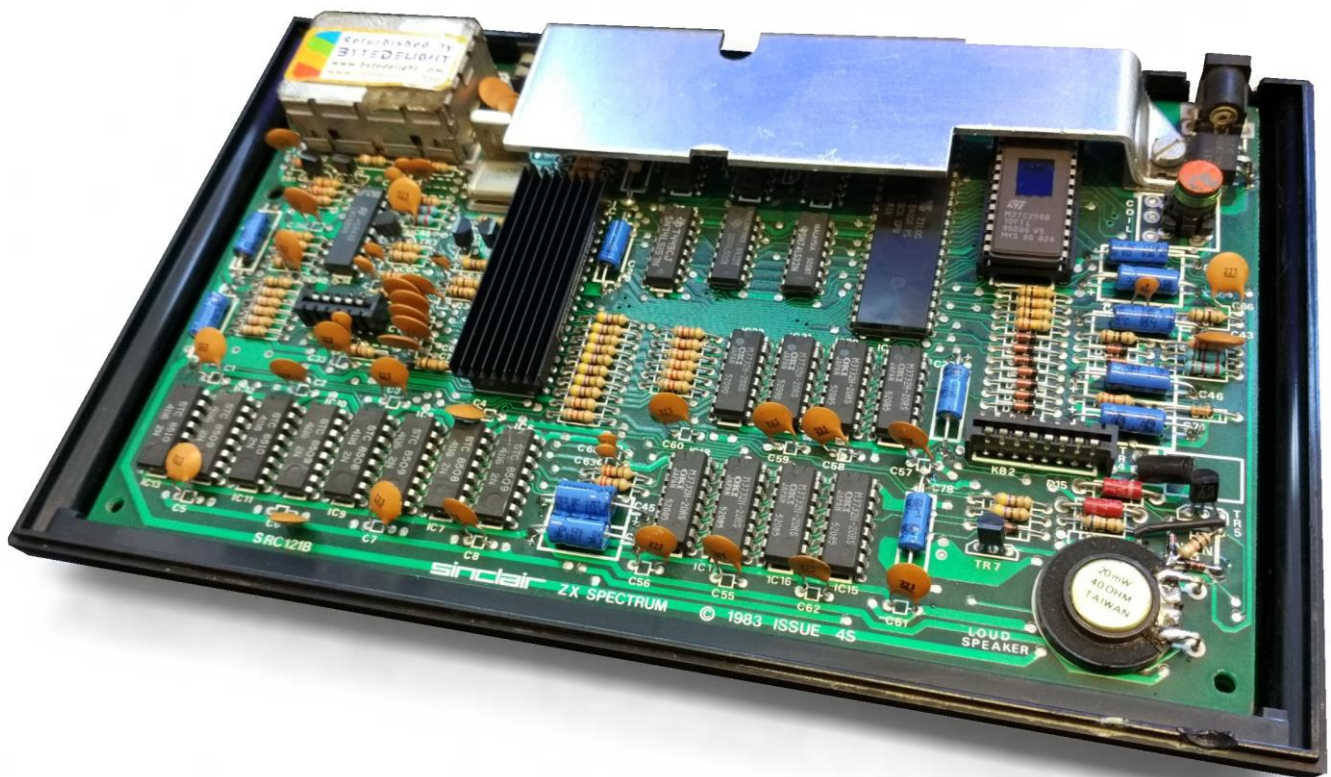


# ZX Spectrum 16/48K

Board issues 3-6A

# Recapping Kit

## Manual



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By Ben Versteeg

**BYTEDELIGHT**

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This is an early version of this manual.

If you find anything wrong or unclear, or if you think something could be added to this manual, please let us know at: [productdevelopment@bytedelight.com](mailto:productdevelopment@bytedelight.com).

### **PERFORMING THESE ACTIONS IS AT YOUR OWN RISK!**

Some soldering skills are required.

The tracks on the circuit board or the computer itself can be damaged if not done properly.

## Requirements

- Basic soldering skills
- Soldering iron (for small electronics)
- Solder wire (for small electronics)
- De-soldering pump
- (Needle) pliers



## Assembly steps

**Step 1 - Carefully check which capacitors you need by comparing your board with the picture on the right side.**

Hints:

- Circle the capacitors on the picture that are present on your board.
- Take notice of which capacitor values you need, depending on the board issue (see picture)
- Some boards do NOT have a capacitor at C47 (close to the speaker), but have a space for it: leave that space empty (do NOT solder a capacitor there).
- Most often **YOU DON'T NEED ALL CAPACITORS!** This is a generic kit for several board issues.

**Step 2 - Remove the old capacitors.**

Hints:

- Reflow the soldering joints of all capacitors on the bottom of the circuit board first with fresh solder wire, which makes de-soldering a lot easier!
- Use the soldering iron and de-soldering pump to remove most of the solder from the capacitor connections
- Use a pliers to remove the capacitor leg by leg, while heating the soldering connection if needed

**Step 3- Solder in the new capacitors**

Hints:

- Capacitors are pre-bent so will fit on most locations – bend the legs to correct size where needed
- **MAKE SURE TO CHECK THE POLARITY** of the capacitors before soldering: the board picture at the right uses a '+' to indicate the positive side of the capacitor, which correspond to the capacitors like this (note the arrows on the capacitor itself):

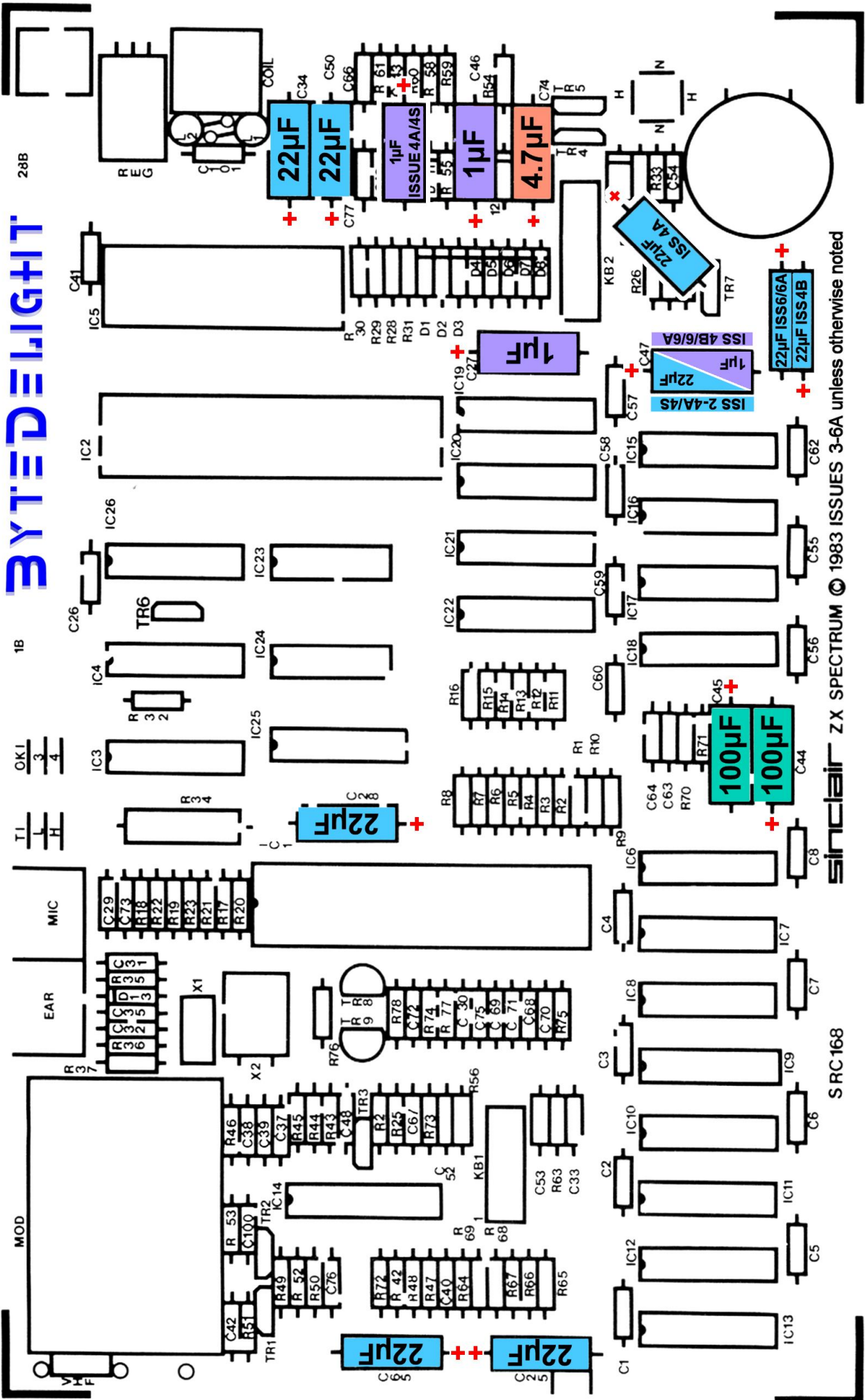


- Cut the legs of the capacitor that stick out at the bottom of the board

(continued on last page..)

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28B



SINCLAIR ZX SPECTRUM © 1983 ISSUES 3-6A unless otherwise noted

S RC168

**NOTE: When there is a note with a capacitor stating a board issue ('ISS..'), the capacitor value is only meant for that board**

## Step 4 – Check for short circuits and check polarity again

Hints:

- Carefully take a look at each soldering joint if it not shorts to another track on the board.
- If you're not sure, you could use a multimeter to measure if there is any unwanted continuity between parts / tracks
- Check for correct polarity again (as described in the previous step)!

## Step 4 – Power on

Hints:

- Do not connect additional hardware like interfaces with the first power on
- Use composite video / RGB or RF (antenna) for this test as it will show a picture almost immediately
- If no picture, or is the ZX Spectrum does not boot correctly, power off immediately and check for shorts or other faults again

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