

Re: ZX Spectrum – can't get it repaired – help!

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- *From:* "Ron(UK)" <ron@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 03 Aug 2006 14:02:27 +0100
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GdB wrote:

Hi,

I know I can buy a used one for EUR 5 or so, but that's not the fun ;-)

Problem is that I can't get the ZX to boot... black and white big vertical bars, in some horizontal lines all kinds of coloured flickering blocks and some thin (often red) vertical lines...

I have a ZX Spectrum issue 4A. I have now swapped almost all components with a working computer, that way I know (or at least I think I know, correct me if I'm wrong) that the following components are ok:

- o Swapped Z80A – correct;
- o Swapped ROM (not 100% sure if that one works, but it came from another ZX Spectrum) – both seemed non–Hitachi, so the links could remain in the N–position, not the H–position, Rom says something like AMI bla bla and somewhere 128, so it should be alright. The original was a Nec ROM;
- o TR4, 5 and 6 were changed, although the 5V, 12V and –5V seemed ok (–5V seemed a bit lower). That should mean that the coil, the transistors, PSU, 5.1V zener diode, etc. are fine;
- o All 4116 RAM's are 100% ok; all connections were checked, upperside and bottom side are connected, pins 2 and 14 are connected and all other pins are in the "chain" (so pin5 of IC6 connects to pin5 of IC7, etc.);
- o 7805 is 100% ok;
- o ULA works (6C001E–7 – works great in a 3B issue);
- o Even changed the 74157 that is used for the basic 16K computer;
- o Two of the electronic capacitors were changed that play a role in the power part (9V, 12V, 5V, –5V);

Problem is that I forgot what caused this, it was years ago. Must have been a peripheral taken off while the power was on, but that usually damages the TR4/TR5 parts...

What else can I check / change? Can the 32K (the eight 4532's + five

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74xxx) "extension" do any harm, do I need to take it out (all other IC's are in IC holders now and that was A LOT of work, so that would be 13 more chips times 16 pins!!).

If the "upper memory" does not need to be taken out, I would say it doesn't need to, what else can I check. The PCB looks, with an eyeglass, quite ok and replacing resistors doesn't make much sense. I can't imagine the 1N4148's are damaged either... Capacitors?

It CAN still be something in the power circuit, as the sounds of the coil is not 100% normal... Normally when you switch it on, it makes sound A and after a second or so, it makes sound B and it keeps sound B. In my case, it seems like the computer knows it can not boot and keeps on trying, although that's a wild guess, nothing spectacular changes on the screen, flickering blocks keep on being flickering blocks, no change after that first second either...

Well, that was a long story, please share your thoughts ;-)

Cheers,

G

It's been a long time, but I used to repair Spectrums regularly, and what you describe is symptomatic of one of the memory ic`s being faulty, have you tried it with the 32k extension removed? are you absolutely sure that all the memory chips are ok? I might still have a load of old speccy bits laying around somewhere.

Ron(UK)

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