AVR070: Modifying AT90ICEPRO to Support Emulation of AT90S8535

For the AT90ICEPRO emulator to be able to emulate AVR® AT90S8535, three straps must be inserted.

People with some solder experience may install these three straps themselves. This document shows how to mount these straps in a safe way.

Contact your local Atmel representative if you prefer to have your emulator updated by Atmel.

Required Parts

- Three insulated wires, approx. 10 cm long, 5 mm of the insulation removed on each end.
  Exact length as shown in the pictures: ○ 85 mm, □ 95 mm, ☆ 100 mm, all with 5 mm of the insulation removed on each end.
  Recommended wire: solid wire, 0.4 to 0.8 mm diameter (AWG26 to AWG20). Maximum thickness is 1.0 mm (AWG18), the hole diameter on the board. As the wires will not conduct power, there is no minimum thickness. Stranded wire may cause short circuits.

Required Tools

- ESD-safe workstation
- A good soldering iron
- Solder
- Desolder wick
- Pliers
- Cutter
- Pozidriv No.1 screwdriver

Work Description

1. This work must only take place on an ESD-safe workstation. The AT90ICEPRO contains ESD sensitive components that may be damaged if not handled correctly.
2. Remove the top lid of the AT90ICEPRO emulator by removing the two uppermost screws on each side.
3. Locate the area where the straps will be installed. It is in the corner near the pod connector. In Figure 1, the pod connector is at the top.
4. Identify the pads where the straps are to be installed. The ends of the three straps are identified by ○, □ and ☆. See Figure 2, Figure 3, Figure 4 and Figure 5 for details.
5. All the pads are 1.0 mm holes. They may have been filled with solder during production. If necessary, use a desolder wick to remove excessive solder before mounting the straps, or just melt the solder and put the wire end in the hole.
6. Mount all three straps as shown in the pictures. Make sure not to overheat the pads. The tracks on the PCB are thin and they are easily broken.
7. Verify that all three wires have been mounted between the correct pads.
8. Check that all wire ends are soldered correctly and that there are no short circuits between the wire ends and the adjacent pads. If necessary, remove the bottom lid of the emulator and inspect the bottom side of the board.
9. Mount the top and bottom lid on the emulator.

AT90ICEPRO Emulation of AT90S8535

Application Note

Rev. 1213A–11/98

Figure 1. Overview

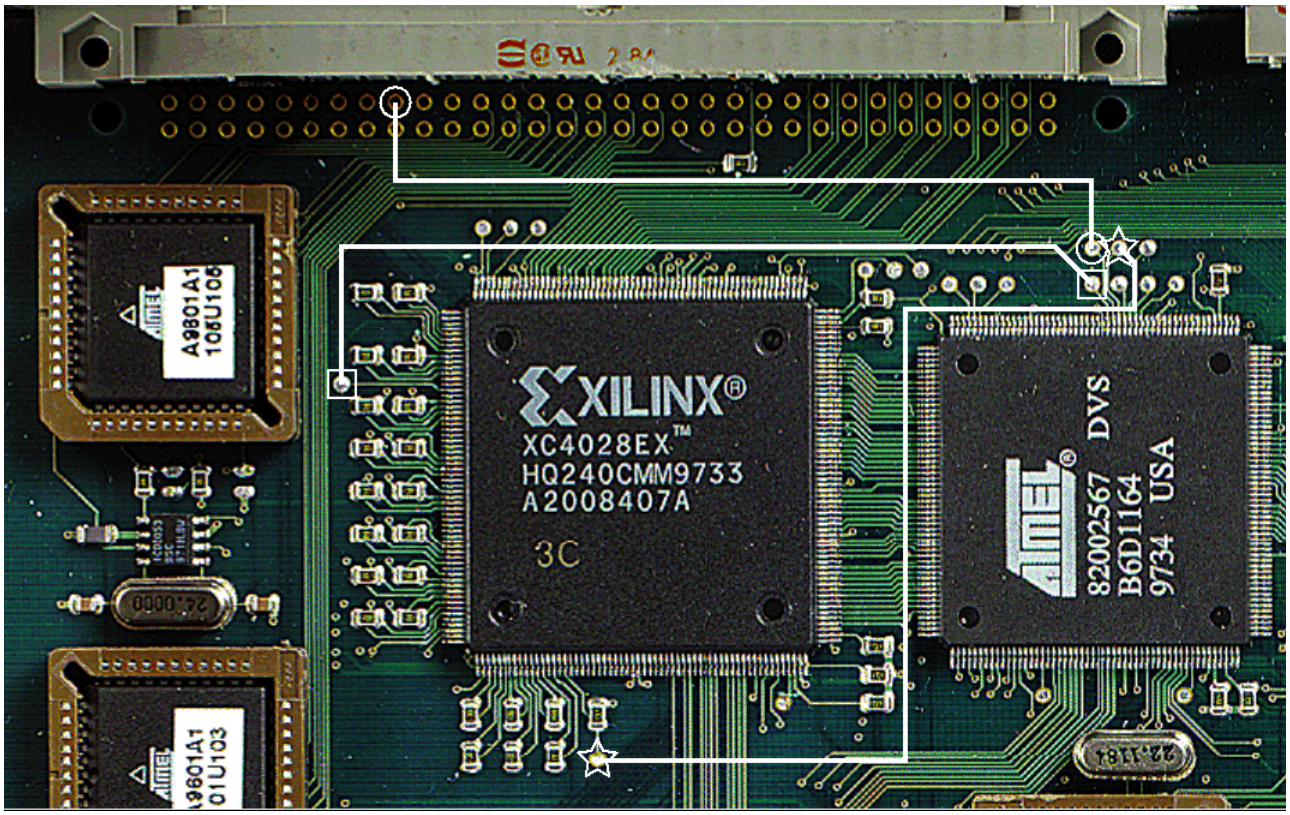

Figure 2. Detail showing right end of all three straps.

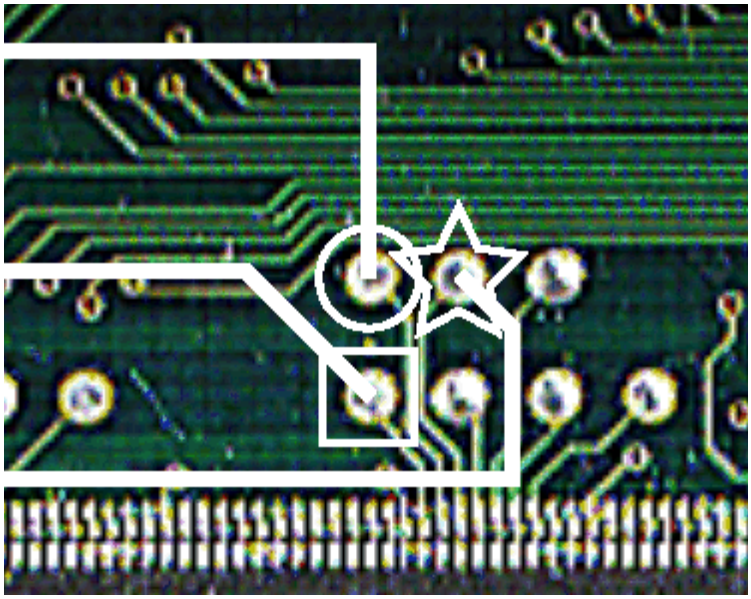

Figure 3. Detail showing left end of ○ .

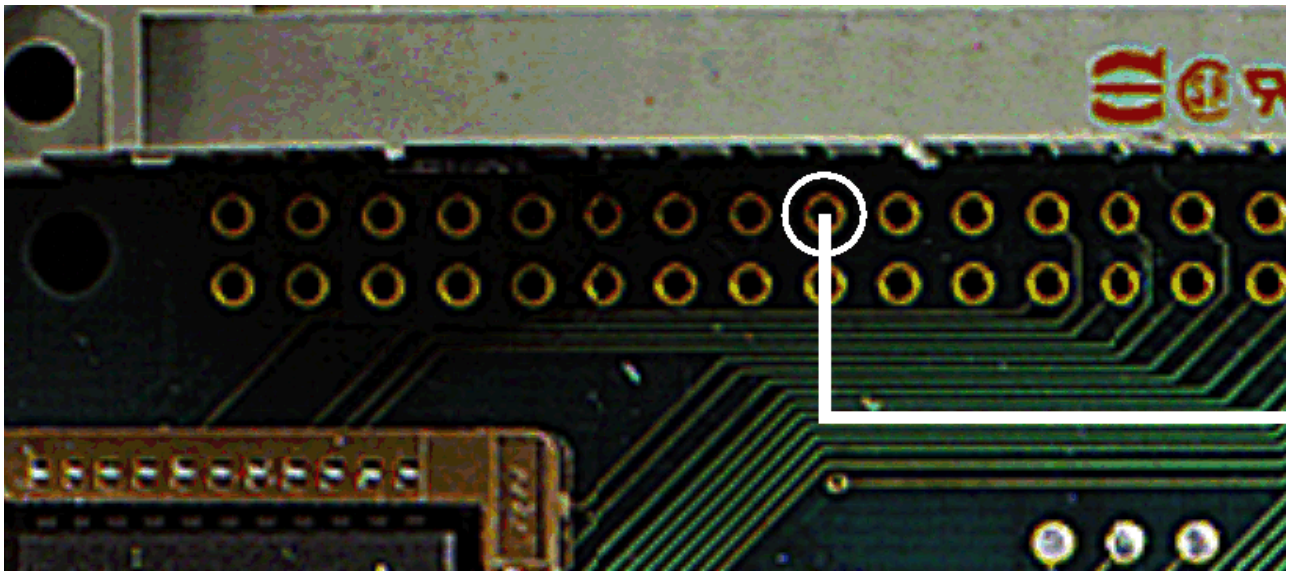

Figure 4. Detail showing left end of □ .

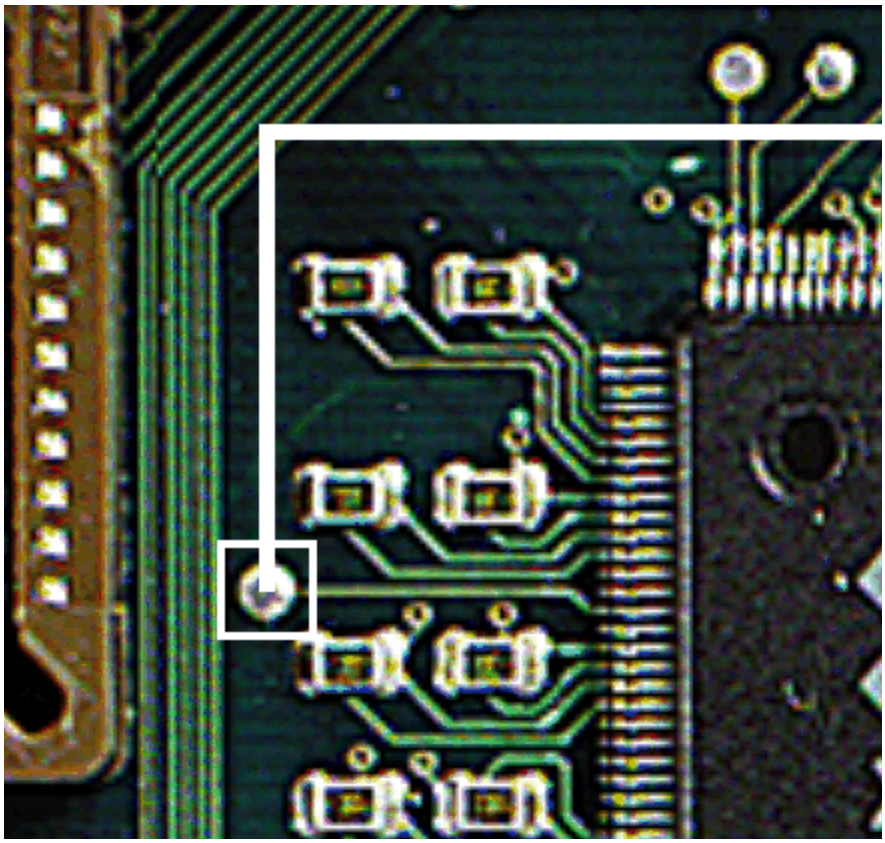
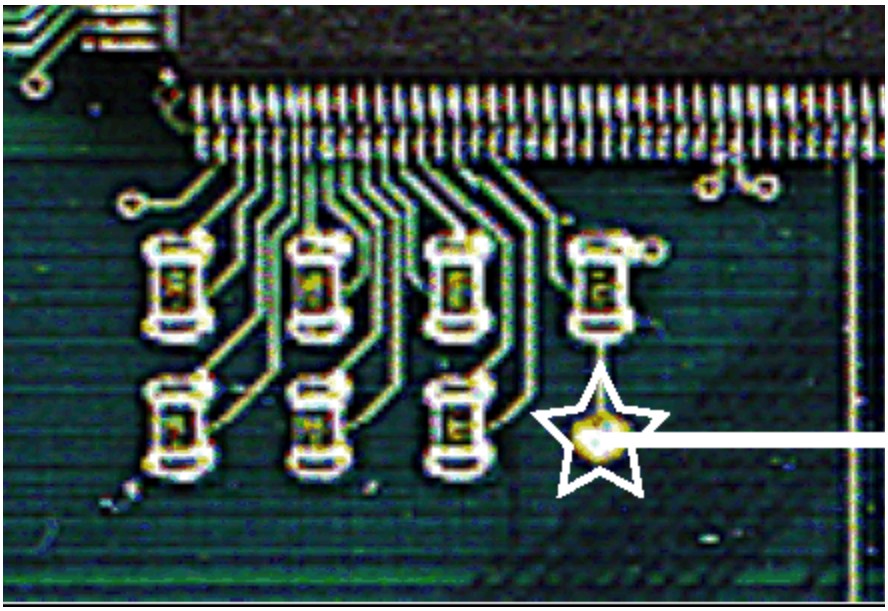
Figure 5. Detail showing left end of ☆ .