AN1483
Application Note

Modifying your ST7MDT20M-EPB, ST7MDT20J-EPB or ST7MDT10-EPB to support STVP7 Release 1.3.1 and onwards

by Microcontroller Cores and Development Tools Division

1 About this application note

A hardware patch must be performed upon the ST7MDT20J-EPB, ST7MDT20M-EPB and ST7MDT10-EPB programming boards in order for them to function reliably with STVP7 Release 1.3.1 and onwards.

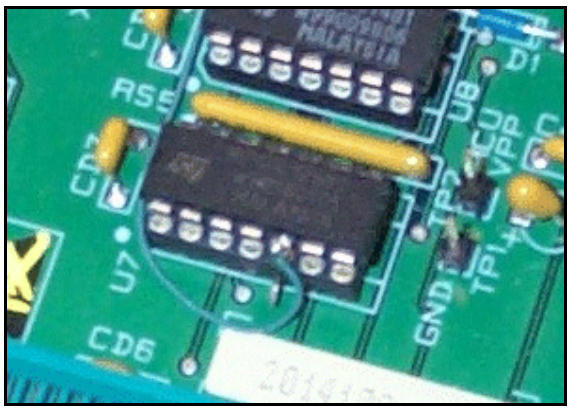
This hardware patch will also improve the performance of these EPBs under STVP7 Release 1.2.0.

This application note tells you how to modify the hardware of your ST7MDT20J-EPB, ST7MDT20M-EPB or ST7MDT10-EPB programming board.

2 ST7MDT20J-EPB hardware modifications

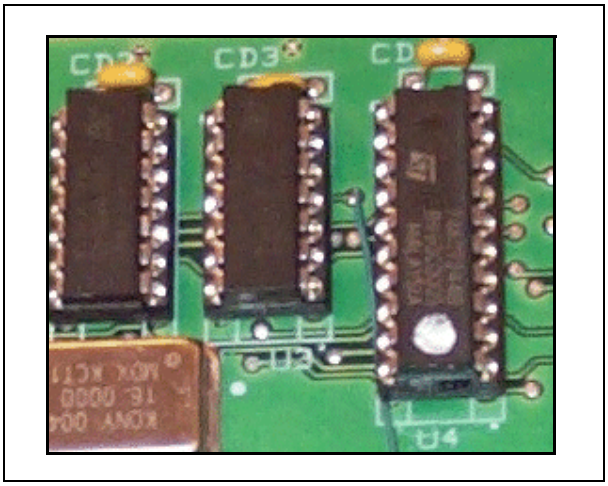
1. A 74HC125 device is plugged at the U7 socket (*Figure 1*). Remove this device from the socket and bend pin 5 outwards.
2. Replace the 74HC125 device into the U7 socket, taking care to keep pin 5 bent outwards so that it does not make electrical contact with the socket.
3. Solder one end of a wire to the bent-out pin 5 (*Figure 1*).

Figure 1: Modifications to pin 5 of the 74HC125 device at U7



4 Connect the other end of the wire soldered to pin 5 of the 74HC125 at U7 to pin 12 of the 74HC74 device at U3, as shown in *Figure 2*. There is a solder point adjacent and connecting to pin 12 that is convenient to solder to.

Figure 2: Modifications to pin 12 of the 74HC74 at U3



5 Short circuit the resistor at R2. (R2 is situated between U8 and U9.)

6 Remove the capacitor on W1 (ICP connector). The capacitor is located on the underside of the board.

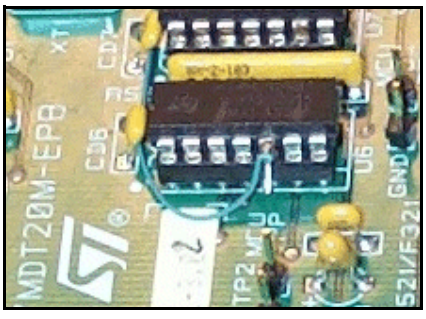
7 Connect a 1 µF capacitor in parallel with the resistor at R11. This is easiest if you solder the capacitor to the underside of the board. **ATTENTION!** The polarity of the capacitor is important—ensure that the ground end of the capacitor is soldered to the solder point at R11 closest to the red MCU POWER LED.

3 ST7MDT20M-EPB hardware modifications

1 A 74HC125 device is plugged at the U6 socket (*Figure 3*). Remove this device from the socket and bend pin 5 outwards.

2 Replace the 74HC125 device into the U6 socket, taking care to keep pin 5 bent outwards so that it does not make electrical contact with the socket.

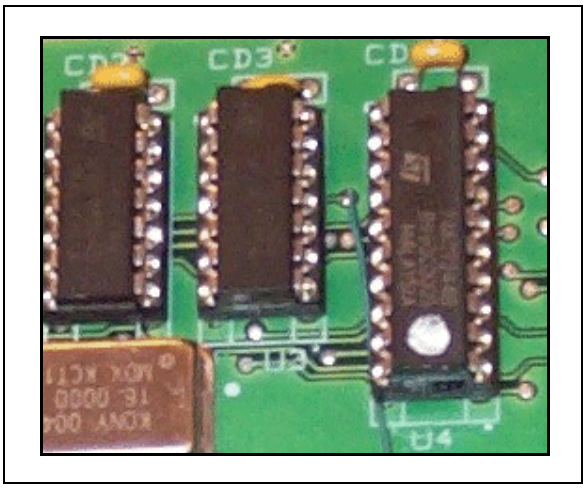
Figure 3: Modifications to pin 5 of the 74HC125 device at U6



3 Solder one end of a wire to the bent-out pin 5 (see *Figure 3*).

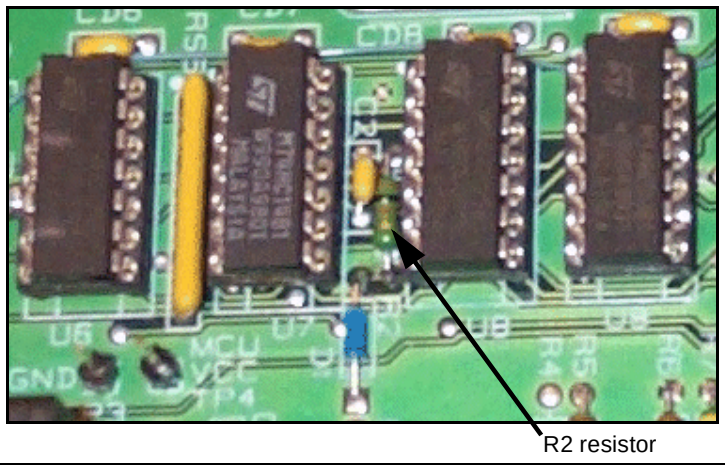
4 Connect the other end of the wire soldered to pin 5 of the 74HC125 at U6 to pin 12 of the 74HC74 device at U3, as shown in *Figure 4*. There is a solder point adjacent and connecting to pin 12 that is convenient to solder to.

Figure 4: Modifications to pin 12 of the 74HC74 at U3



5 Short circuit the resistor at R2. (R2 is situated between U7 and U8, as shown in *Figure 5*.)

Figure 5: Location of R2 resistor



6 Remove the capacitor on W1 (ICP connector). The capacitor is located on the underside of the board.

7 Connect a 1 µF capacitor in parallel with the resistor at R11. This is easiest if you solder the capacitor to the underside of the board. **ATTENTION!** The polarity of the capacitor is important—ensure that the ground end of the capacitor is soldered to the solder point at R11 closest to the red MCU POWER LED.

4 ST7MDT10-EPB hardware modifications

1. Remove the 47 pF capacitor at C3. (C3 is located next to the U13 ZIF socket for the ST7LITE-DIP16 package.)
2. Connect a 1 µF capacitor in parallel with the resistor at R9. This is easiest if you solder the capacitor to the underside of the board. **ATTENTION!** The polarity of the capacitor is important—ensure that the ground end of the capacitor is soldered to the solder point at R9 closest to the two LEDs (BOARD POWER and MCU POWER).

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