Instructions for re-program the e-puck bootloader

The following instructions explain how to restore the original Bluetooth bootloader of the e-puck robot. It is useful if you cannot upload new HEX program through Bluetooth to your e-puck robot any more. This may happen because the bootloader was corrupted due to a failed upload, a buggy program or a wrong manipulation.

Bluetooth bootloader re-programming

For this manipulation, you need the following items:
- A PC computer running Windows.
- A MPLAB ICD 2 microchip programmer (you can purchase it from www.microchip.com, part number: DV164005)
- a special programming cable from the ICD 2 to the e-puck

Then follow the procedure:
1. Connect the programming cable of the ICD 2 (which is connected by USB to the PC) and switch on the e-puck robot.
2. Start the environment MPLAB IDE; select device dsPIC30F6014A (Configure->"Select Device…"); import BTconf_bootloader.hex file (File->Import); select ICD2 as programmer (Programmer->"Select Programmer"->"MPLAB ICD 2") and connect it (Programmer->Connect)
3. Then program the e-puck (Programmer->Program). The result window should be like Fig.1
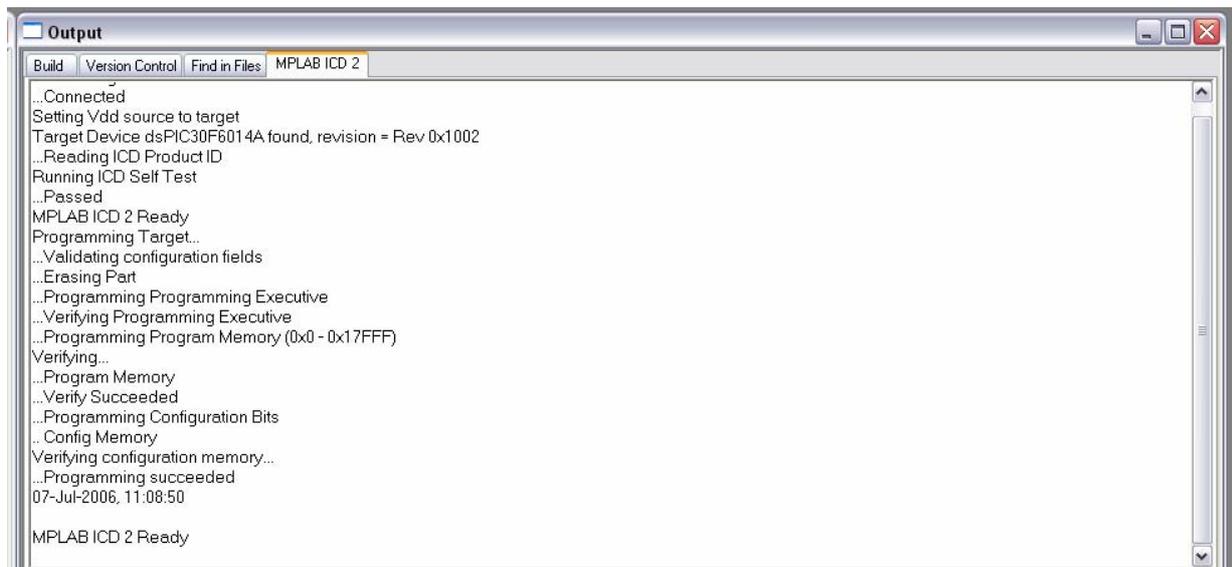4. When ok (it might take up to 2 minutes) unplug the programming cable and all is over.

Figure 1: normal result when programming successfully.

Testing

- First establish the Bluetooth pairing between the e-puck and the computer.
- Then, use Webots or Tiny Bootloader to upload a hex file like Webots "*firmwarex.y.z.hex*" or your compiled program over the Bluetooth connection.
- You should now be able to establish a remote control Bluetooth connection between PC and the e-puck robot. For example with Webots you can monitor the sensors values.