

HemiSSon

Flex External Programmer

K TEAM

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Registered Trade Mark:

MPLAB: Microchip SA.

Please note:

- The contents of this manual may be changed without prior notification.
- Every effort has been made to ensure the accuracy of this manual.
However, if you do find an error, we would be grateful if you would inform K-Team S.A.
- Notwithstanding the above, K-Team S.A. cannot be held liable for any consequences arising from an error in this manual.
- You will find the latest version of this manual at <http://www.hemisson.com/>

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1 Introduction

The use of a programmer requires previous knowledge, and for this reason we recommend that you read carefully the user guide for your programmer before continuing to read this manual.

Microchip PIC processors can be programmed using an external programmer with serial protocol. To do this, relatively few signals are required, just the mass, the power supply, the reset signal (MCLR) and two inputs/outputs (RB6 and RB7). Because the Hemisson processor is directly soldered into the printed circuit, HemFlexExtProg is a tool enabling routing of the required reprogramming signals from one of the Hermisson extension bus connectors to a standard DIL40 connector. In this way it is possible to fully reprogram Hemisson from any PIC16F877 compatible external programmer.

2 Utilisation

2.1 Connecting up Hemisson to the Programmer

Before the reprogramming stage, the physical connection between Hemisson and the case of the external programmer needs to be made. To do this, begin by connecting up the HemFlexExtProg module to the external programmer making sure it is the right way round :



Fig. 2.1 – Connecting the Adapter to the Programmer

Then connect the module to Hemisson as follows :

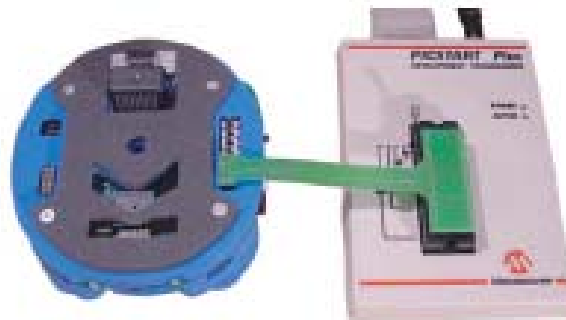


Fig. 2.2 – Connecting to Hemisson

Please note: You must connect the HemFlexExtProg module to the connector that is next to the Hemisson operating mode selector switches. Under no circumstance should you connect it up to one of the other two connectors.

2.2 Configuring Hemisson

The configuration of the Hemisson interrupter switches is not important, but even so, we recommend that for greater ease of operation you should parameterise Hemisson in basic mode (see the Hemisson User Manual) and then switch it on. (Please note: The battery or accumulator must be inserted beforehand)

The steps as described below are by way of example only; the procedure might be quite different depending on the programmer and MPLAB version used. We therefore recommend that you read the user manual that you received with your programmer, and in particular the section on programming using a HEX file.

2.3 Configuring the Programmer

You still need to specify the correct configuration parameters to your programmer. In the case of the PicStart programmer, for instance, used under MPLAB, we get:

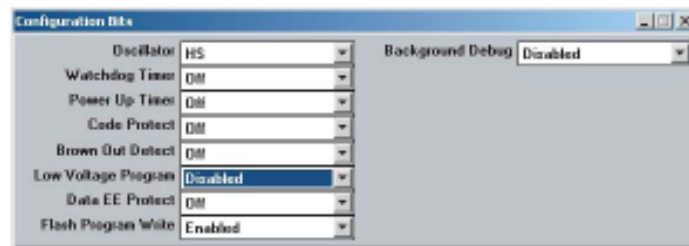


Fig. 2.3 – Configuration Example under MPLAB

In other words:

- Oscillator: HS
- Watchdog Timer: Off
- Power Up Timer: Off
- Code Protect: Off
- Brown Out Detect: Off
- Low Voltage Program: Disabled
- Data EE Protect: Off
- Flash Program Write: Enabled
- Background Debug: Disabled

2.4 Programming

Now follow your external programmer documentation to select the file for loading (in most cases File/Import) and thereby finish reflashing the PIC.

2.5 Start-Up after Reprogramming

Whatever the programmer used, all you need to do is unplug the HemFlexExtProg adapter from the side of Hemisson to get the processor to restart. The reprogramming of Hemisson is finished.

3 Notes

After reprogramming with an external programmer, it is no longer possible to use the serial port loader module with the Hemisson Uploader software. Reprogramming of this kind does in fact overwrite all the contents of the memory.

If, however, you do want to return your robot to its factory settings, then, using the external programmer, load the Bootloader.hex file available from the Help Section of the Hemisson website into the memory.

Once this file is loaded, you will once again be able to use fast serial protocol loading.

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