**Darwin Board Setup Instructions**

1. Compiling C programs
   1. Install WinARM
      1. Save it to the root on your hard-drive (i.e. C:\)
   2. Set PATH in cmd
      1. ‘set PATH=%PATH%;C:\WinARM\bin’ and ‘set PATH=%PATH%;C:\WinARM\utils\bin’ to add WinARM for your current session in cmd
      2. ‘setx PATH=%PATH%;C:\WinARM\bin’ and ‘setx PATH=%PATH%;C:\WinARM\utils\bin’ permanently add the above to your path. BE CAREFUL and make sure you haven’t spelt anything wrong if you do this.
      3. ‘echo %PATH%’ can be used to check whether the above are present in your path.
   3. Navigate to directory using cd command
      1. Use ‘cd..’ to move up the directory
      2. Use ‘cd FolderName’ to move down into folders of interest
      3. End up with (for example) C:\MK\_DB220219 - TESTING\DarwinBoard>
   4. ‘make exeter’
      1. Note, the file must be saved as exeter.c (a C file) in the
      2. The command ‘make exeter’ then begins the compilation
   5. Compilation errors
      1. Usually errors are flagged in the ‘Compilation’ section. The lines at which there’s an issue are indicated to you. If there are errors (fixing warnings is advisable but not strictly necessary, fixing errors is essential) then you have to go into the exeter.c file and make the changes.
      2. Occasionally there are errors during ‘Linking’. This usually means that the .hex file can’t be accessed (The .hex file is the hexadecimal representation of your code and is the output of the compilation), for instance if you have it open in an editor.
2. Programming the Darwin Boards
   1. USB-RS232 cable
      1. COM ports – Use Device Manager to check that you have COM ports (in ports). Ideally, you’ll find USB Serial Port (COM3). You may have to use ‘Show hidden devices’ from the View tab.
      2. Drivers – If you plug the cable in and you get a message saying the device isn’t recognized, then go back into Device Manager and update drivers.
      3. If that fails, download USB-rs232 drivers from: <https://www.serialio.com/downloads/drivers>
      4. Once the folder is unzipped, run the SETUP.exe file, then go back to Device Manager and look for USB Serial Port in Ports (COM & LPT). Make note of the number of the COM port e.g. COM3, as it will be needed for Flash Magic
   2. Flash Magic
      1. Load Settings file
      2. Ensure that you’ve selected the path to the right .hex file before you start programming.

Links:

Setting the PATH in cmd:

<https://stackoverflow.com/questions/9546324/adding-directory-to-path-environment-variable-in-windows>

General use of Flash Magic:

https://www.olimex.com/Products/ARM/NXP/LPC-P2106/resources/How-to-use-LPC-P2106-with-FlashMagic.pdf