

# Hiasynth Microcontroller Reference

Team 1

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## 1 Microcontroller details

## 2 Flashing the efm8

### 2.1 Building the project

During development, the project was built using the Keil c51 toolchain through SiLab's Simplicity Studio. The full compliment of files to enable this will be provided.

The project can be imported in to simplicity studio using the import wizard under File, and built using the hammer icon. If successful, this should produce .hex files under project/Keil 8051 [version] Debug/. You will need this file later, so don't lose it.

### 2.2 Converting

As far as my testing goes, this part of the process, and flashing, only works on Windows.

The next parts of the process require some more tools that Silabs provides. These can be downloaded [here](#).

You need to convert the raw .hex file to a .efm8 before flashing, using the tool hex2boot.exe, located under /AN945SW/Tools/Windows/. Run this using powershell or cmd with a command something like this `.\hex2boot.exe input_file .l`. The full details and documentation of this utility are available in section 6 [here](#).

### 2.3 Flashing

#### 2.3.1 Ingredients:

- Windows computer
- Usb to serial programmer, also known as an FTDI thingy,
- Wires
- .efm8 file
- Hiasynth
- efm8load.exe tool

#### 2.3.2 Method:

1. Connect the FTDI programmer to the laser bee. Currently it's
2. Plug the programmer into the computer, and find out what serial port it is attached to.
3. Set the Hiasynth to bootloader mode. This can be done by grounding the C2D pin (3.7, or the second pin from the left on the header) as the device is reset.
4. Run efm8load.exe with a command something like `./efm8load.exe -p PORT Filename.efm8`
5. Reset the hiasynth and enjoy