

Sierra Radio Systems

HamStack  
Quick Start Guide  
For Swordfish Basic

Version 3.0

# 1. Install all the proper software

If you are like most of us, you won't sit down and read all the documentation before you begin working on a new project. With that in mind, this Quick Start guide is intended to help you get up to speed with the HamStack quickly. For more details, go to the HamStack support web page where you can find lots of reference material.

This Quick Start guide assumes you will be using the Swordfish Basic compiler with the HamStack CPU board using the PIC 18F4620 CPU chip.

1. Installing the free version of the compiler.

Download the latest version of the compiler and run the installer.

<http://www.sfcompiler.co.uk/downloads/SwordfishSE.exe>

2. Get the Swordfish Basic Language reference manual.

[http://www.hamstack.com/supportfiles/hamstack/swordfish\\_basic\\_manual.pdf](http://www.hamstack.com/supportfiles/hamstack/swordfish_basic_manual.pdf)

3. Get the Swordfish Basic Library Reference manual.

[http://www.hamstack.com/supportfiles/hamstack/swordfish\\_basic\\_library\\_reference.pdf](http://www.hamstack.com/supportfiles/hamstack/swordfish_basic_library_reference.pdf)

4. Download and install the Microchip PicKit2 programmer software.

<http://ww1.microchip.com/downloads/en/DeviceDoc/PICkit%20%20v2.61.00%20Setup%20A.zip>

If the link does not work, there may be a newer version. You can go to the Microchip page at

[http://www.microchip.com/stellent/idcplg?IdcService=SS\\_GET\\_PAGE&nodeId=1406&dDocName=en023805](http://www.microchip.com/stellent/idcplg?IdcService=SS_GET_PAGE&nodeId=1406&dDocName=en023805)

5. Download the latest device files for the PicKit2 programmer

<http://ww1.microchip.com/downloads/en/DeviceDoc/PK2DFUpdate-1-62-14.zip>

If the link does not work, there may be a newer version. You can go to the Microchip page at

[http://www.microchip.com/stellent/idcplg?IdcService=SS\\_GET\\_PAGE&nodeId=1406&dDocName=en023805](http://www.microchip.com/stellent/idcplg?IdcService=SS_GET_PAGE&nodeId=1406&dDocName=en023805)

6. Installing the device files

This is really easy. After you install the Microchip PicKit2 programmer software, you can find the device files in the install directory. Typically found in

<C:\Program Files\Microchip\PICkit 2 v2>

You will see a file called PK2DeviceFile.dat

Rename that file to "old\_PK2DeviceFile.dat"

After you un-zip the device file you downloaded in step 5, copy that version of PK2DeviceFile.dat into the C:\Program Files\Microchip\PICkit 2 v2\ folder.

7. Installing the HamStack libraries

Download the latest HamStack Swordfish Basic libraries at

[http://www.hamstack.com/supportfiles/hamstack/hs\\_swordfish\\_lib.zip](http://www.hamstack.com/supportfiles/hamstack/hs_swordfish_lib.zip)

Un-zip the file and copy all the contents to the folder

C:\ProgramData\Mechanique\SwordfishSE\UserLibrary

8. Read over the Swordfish Basic Tips page to get a good head start with the HamStack and Swordfish Basic at

[http://www.hamstack.com/swordfish\\_basic\\_tips.html](http://www.hamstack.com/swordfish_basic_tips.html)

## 2. Configure Swordfish Basic

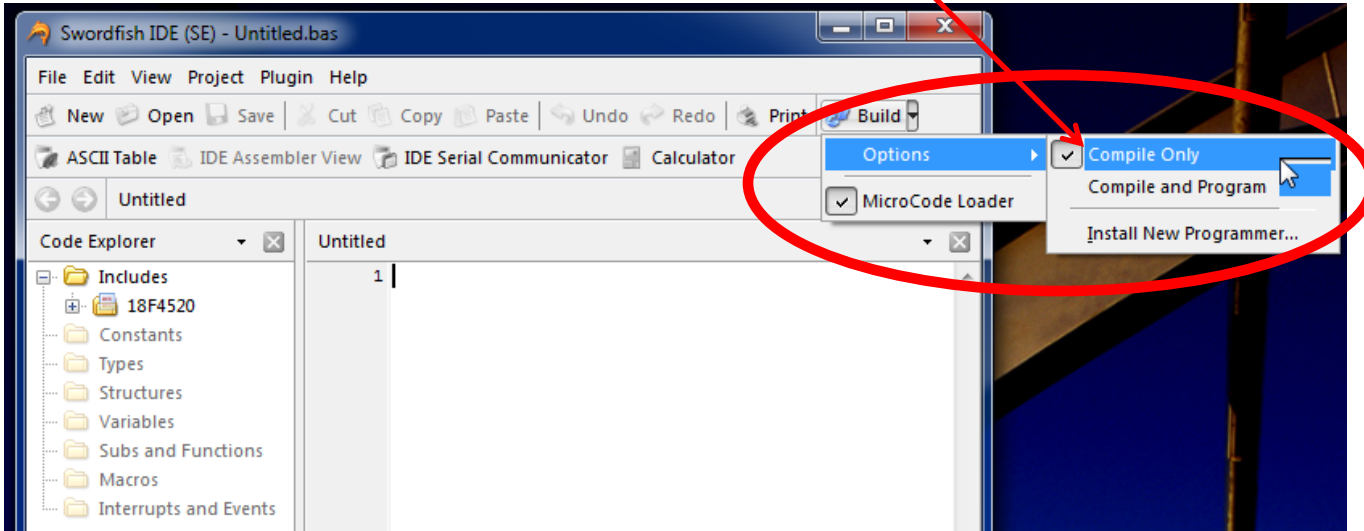
### 2.1 Setting the Build mode.

Launch the Swordfish Compiler IDE.

The first thing you will want to configure is the Build mode.

You want to click on the little downward pointing triangle on the Build button and select the option to "Compiler Only"

This will cause the compiler to only compile the design not try to auto download it to your target system.

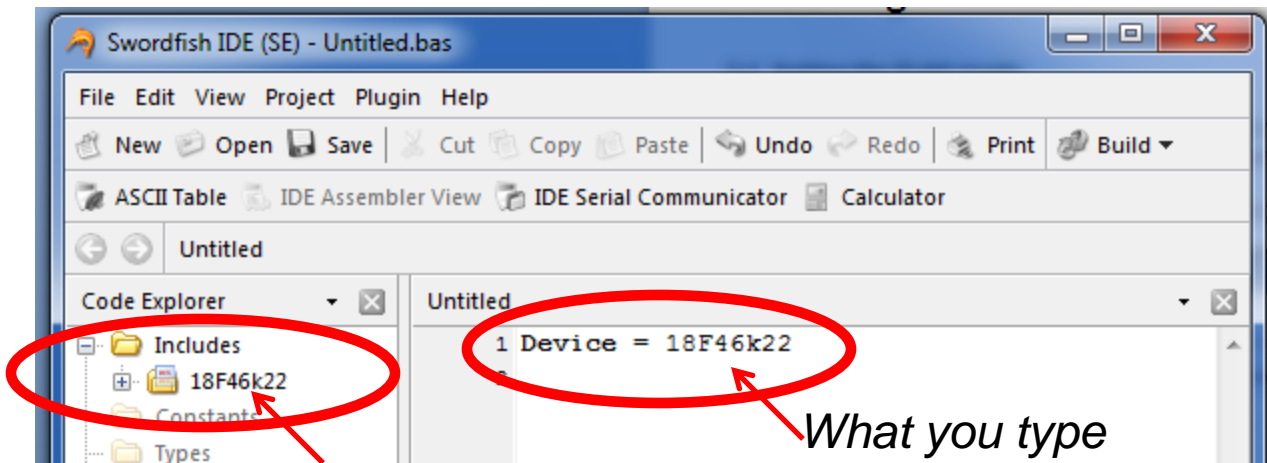


### 2.2 Make sure the device files have been installed

A quick way to make sure you have the proper device files installed is to create a new program and only enter the following line of code

**Device = 18f46k22**

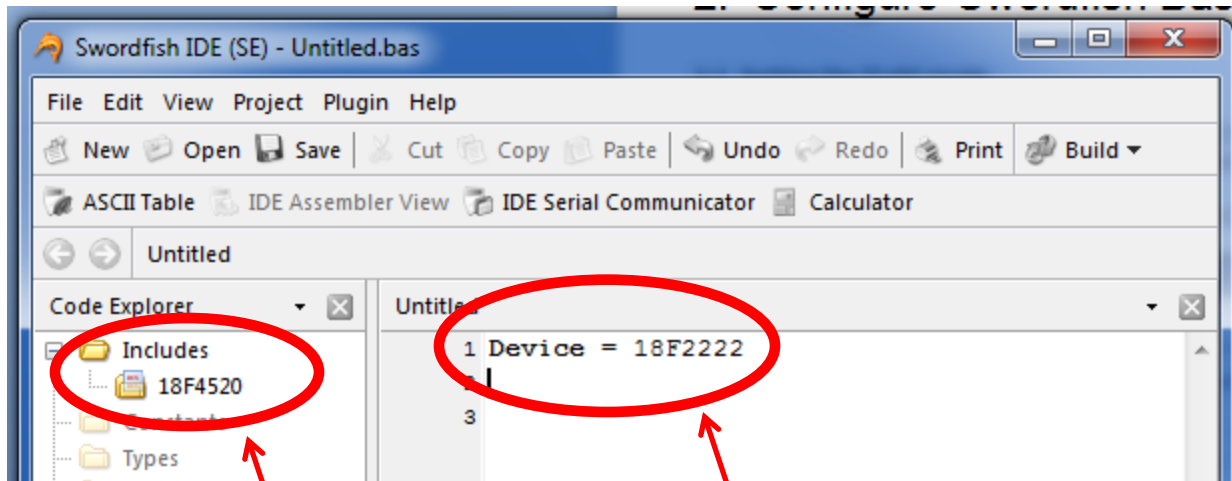
If the screen looks like this one below, the libraries are installed property. The CPU name 18F46k22 will automatically appear as soon as you type the device assignment in the editor.



*Automatically populated*

## 2. Configure Swordfish Basic

If the device files for the CPU you enter in the editor is not installed, the Code Explorer window will show the default include files for the 18F4520. This means you need to install the latest version of the Swordfish Compiler which should come with the device files necessary.



*Default value 18F4520 should never be seen unless you use this chip which we don't normally do with our HamStack boards.*

*You requested the compiler to use this chip, the mythical 18F2222 but the compiler does not find the device files because the Code Explorer window on the left still shows the default 18F4520.*

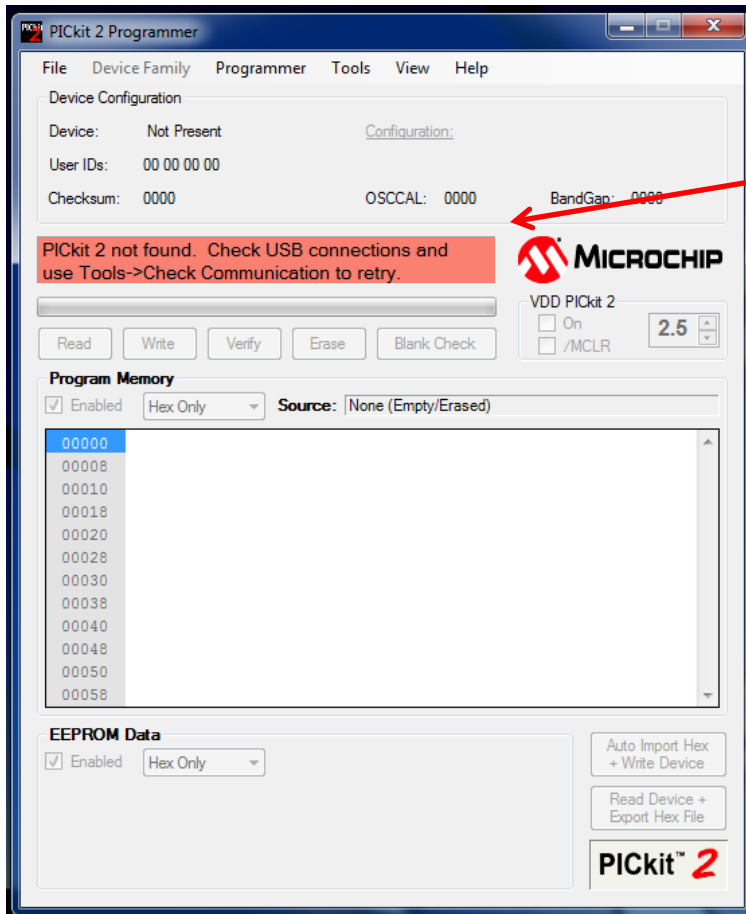
### 3. Configuring PicKit2 Programming Software

The PicKit programming software is very simple to use. After you install the software, make sure you install the latest device files. See step 1.6 in this guide.

If you launch the PicKit2 programming software and you get this error message...

PICkit 2 not found. Check USB connections and use Tools->Check Communication to retry.

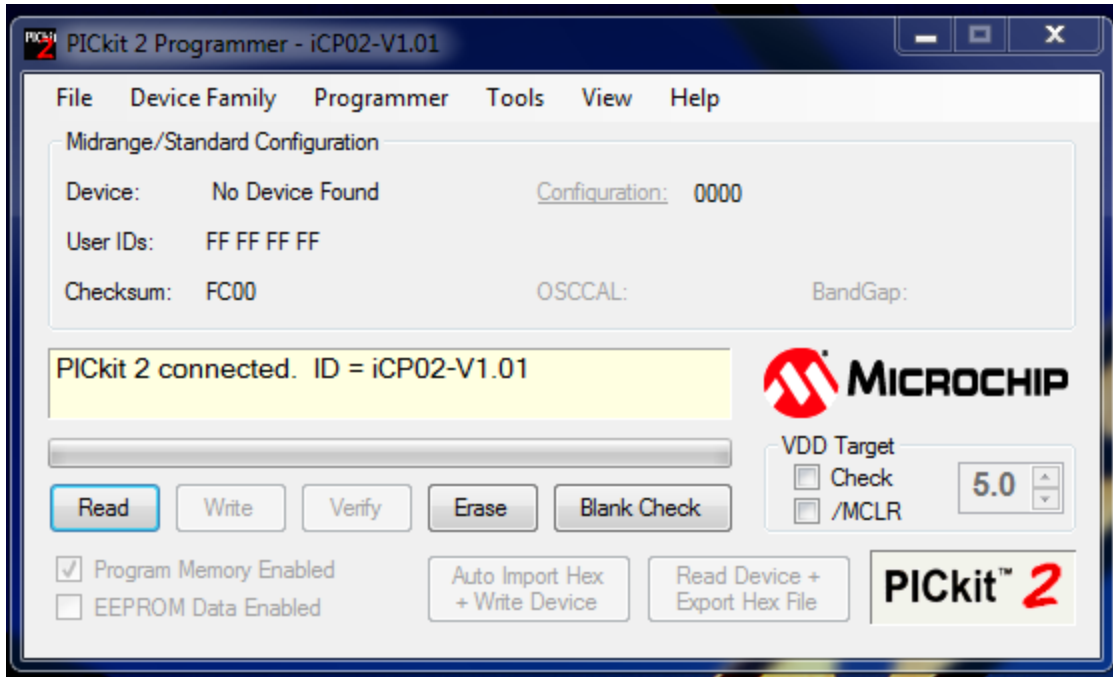
It means the software does not see the in-circuit programmer. Make sure the programmer is plugged in and the operating system recognizes it as a new hardware device.



*If you see this, plug in your programmer.*

If you launch the program, then plug in the programmer, sometimes the program will not recognize the programmer. In this case, quit the program and restart it. The program should recognize the programmer.

The PicKit programmer screen should look like this...



Notice that the message says that a pickit 2 programmer was detected and the device type is iCP02-V1.01

If the programmer is plugged into a HamStack CPU board, you should also see the name of the device appear on the screen as something like Device: PIC 18F46K22. This tells you the programming software is connected to the CPU chip and automatically recognized the device type. If this happens, then everything is looking great.

If the programming software sees the programmer but not the device, make sure that the CPU is powered up. If you are powering the CPU chip from an external power source, you can use the 5 pin configuration of the programming connector, if you are using the power from the USB in-circuit programmer to power the HamStack CPU board, then make sure you have the 6 pin version on the programming connector. This is all explained in detail in the "Getting Started Guide".

## 4. Other Useful Software and Data Files

There are lots of handy software programs and data files you may want to download and install. This page provides links to our favorites.

Tera Term – Dumb terminal program with both serial port and SSH support

<http://www.hamstack.com/supportfiles/other/teraterm.zip>

Edit Pad Lite - Text file editor

<http://download.jgsoft.com/editpad/SetupEditPadLite.exe>

Configuration program for Xbee wireless data radio modules

X-CTU from Digi-International

[http://ftp1.digi.com/support/utilities/40003002\\_B.exe](http://ftp1.digi.com/support/utilities/40003002_B.exe)

ASCII Character Chart

<http://www.asciitable.com/index/asciifull.gif>