GPUTILS & SDCC on Mac OS X

While you probably need a PC to burn the MBHP-Loader into the PIC, you can stick to your beloved Macintosh while coding your C-Applications!

And more than that: you are able to use Apple's powerful Xcode as IDE and don't leave that except for sending the .syx file! You can even debug your MIOS C-Applications - although this is in an early development state, please contribute code! *audiocommander.*

The first step in this process is to install SDCC. If you have already SDCC running and calling “sdcc -v” in terminal should give you the info you're running 2.8.0. The usage of different versions isn't recommended as the MIOS Wrapper is very sensitive to the compiled code!

How to install a library from the terminal

If you've never installed *nix libs or codes, don't worry: Either you can fetch a binary (that's easy if available for your system, just copy it to usr/local/bin) or you have to fetch the source and compile by yourself. In most cases this should be also ok, but if there are missing libraries it can be a bit tricky…

The “normal” way to install and compile packages you loaded (eg from sourceforge) is this:

Open the Terminal and type “cd” (change directory). Now drag the folder containing the unpacked source directory onto the terminal window to save yourself from typing the path. Close this step with pressing enter. You should now be in the right directory (hopefully!)

Now you have to type three commands:

- ./configure
- make
- make install

sometimes you have to call these with “sudo”, esp. “sudo make install”.

If you have problems compiling and installing SDCC 2.8.0, you might lack a library.

Update 2023-11-26: usage of SDCC 2.8.0 still mandatory - confirmed that the tool can also be compiled for Apple Silicon. Link to source code: https://sourceforge.net/projects/sdcc/files/sdcc/2.8.0/

Here is what you should have installed (in this particularly order)

1. Install GPUTILS

Ben has released various precompiled GPUTILS and SDCC installers for Intel and PPC Macs. Thanks for that! Go to his page, download them and run the installers.
(And check out the rest of his site, he has some useful info about Microchip Development on Mac OS X)

Compiling for PIC18F4685?

If you want to compile for the PIC18F4685, you need a later version of GPUTILS than 0.13.4. The usage of 0.13.7 is highly recommended, newer versions may fail with SDCC 2.8.0.

Following the instructions from here we get:

```
cd ~
svn co https://gputils.svn.sourceforge.net/svnroot/gputils gputils
cd gputils/trunk/gputils
./configure
make
sudo make install
cd ~
rm -Rf gputils
```

I've written these instruction to store a temporary copy of the gputils source code in your home directory, then remove this code after the installation.

2. Install SDCC

Precompiled binaries

Download and install from http://sdcc.sourceforge.net/index.php#Download or from Ben's page

If you can't find an existing working version, I've built a binary installer that worked for me (note that this is not the most up-to-date version!):
http://www.audiocommander.de/downloads/midibox/sdcc254-installer-osx.mpkg.tgz **(MAC OS X PPC only)**

via MacPorts and Xcode

If you have Mac Ports and Xcode installed then there is another way of installing sdcc from sources. These are then compiled with Xcode automatically.

- Open the 'Terminal.app'
- There find the actual 'sdcc'-Release from the MacPorts repository:

```
[MyMac:~] > port search sdcc
sdcc @2.8.0 (lang)
    ANSI C compiler targeting Intel 8051, Maxim 80DS390, Zilog Z80
```

- Then download, compile and configure 'sdcc' (you need administrator privileges for this):

```
[MyMac:~] > sudo port install sdcc
Passwd:
```

— *mhomscheidt 2009/01/06 11:14*

Test for correct installation

A test in the terminal with “sdcc -v” should now show the proper version (you need 2.5 or higher):

```
mymac:~ user$ sdcc -v
SDCC : mcs51/gbz80/z80/avr/ds390/pic16/pic14/TININative/xa51/ds400/hc08
2.5.4 #1189 (Dec 30 2005) (UNIX)
```

If you get instead a return “command not found”, you have to add usr/local/bin to your path environment:

```
mymac:~ user$ echo $PATH
```

now you should something like this: “/bin:/sbin:/usr/bin:/usr/sbin”

copy this line (the output from your terminal window, not the one above). now type & paste:

```
mymac:~ user$ PATH=:<paste here>:/usr/local/bin
```

for the example above, the line should look like this:

```
mymac:~ user$ PATH=:/bin:/sbin:/usr/bin:/usr/sbin:/usr/local/bin
```

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3. If there are errors

Please check first if you have the latest working stable versions, fitting to your platform.

If you have trouble installing SDCC on your mac, post your questions/problems here:
http://www.midibox.org/forum/index.php?topic=6527.0

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Last update: **2023/11/26 20:14**