

## I ran across a few things

M. Simon



I have started a number of new projects. One of them is designing a simple Forth for the ARM processor. To do that I needed a simple guide to the ARM Assembly language. I like [this one](#) [1] written by Peter Knaggs and Stephen Welsh. Peter is quite active in the Forth community, but that was just a coincidence (I'm a big Forth fan in case you didn't know). I did a search and the tutorial was the top item. It teaches the ARM basics with lots of examples.

For those of you with no experience in assembly language this short [ARM tutorial](#) [2] is an excellent start. Once you get up to speed this [reference card](#) [3] will be all that you need for most of your work.

You will need an assembler and simulator to test and debug your code. Despite my recent difficult experience with Atmel I love the interface and tools provided by their [Studio 6](#) [4] development tool. You can use it to develop the main body of your code and then finish off the details in what ever tool set best suits the processor you are using. The Atmel tools do not provide a plain vanilla assembly language compiler for the ARM. You have to do the assembly under C. I'm looking into a few plain assemblers that might be suitable and will have a report in a while.

I'm getting a few PCBs made and previously I used the [Dorkbot service](#) [5]. The service has moved and the automation has been greatly improved. The interface is excellent and I breezed through it. The new location is [OSH Park](#) [6]. Here are the [design submission guidelines](#) [7]. I used the [FreePCB Version 1359](#) [8] design software and the files went right through without requiring any modifications. Not even name changes. A real pleasure. You can see an example of the quality of the OSH Park boards at [A Beauty](#) [9]. The boards cost \$1.67 a square inch in lots of three. Or in simpler terms: multiply your square inches by \$5 and you get three boards for the price.

M. Simon's e-mail can be found on the sidebar at [Space-Time Productions](#) [10].

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Published on Electronic Component News (<http://www.ecnmag.com>)

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### Links:

[1]

[http://www.eng.auburn.edu/%7Enelson/courses/elec5260\\_6260/ARM\\_AssyLang.pdf](http://www.eng.auburn.edu/%7Enelson/courses/elec5260_6260/ARM_AssyLang.pdf)

[2] <https://www.scss.tcd.ie/%7Ewaldroj/3d1/03-ARMAsemblyLanguage.pdf>

[3] <http://ozark.hendrix.edu/%7Eburch/cs/230/arm-ref.pdf>

[4] [http://www.atmel.com/Microsite/atmel\\_studio6/](http://www.atmel.com/Microsite/atmel_studio6/)

[5] [http://dorkbotpdx.org/wiki/pcb\\_order](http://dorkbotpdx.org/wiki/pcb_order)

[6] <http://oshpark.com/>

[7] <http://oshpark.com/guidelines>

[8] <http://freepcb.com/>

[9] <http://www.ecnmag.com/blogs/2012/04/beauty>

[10] <http://spacetimepro.blogspot.com/>