



CHIPS Newsletter Vol 17

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From: "chips@elproducts.net" <chips@elproducts.net>

To: "Chuck Hellebuyck" <chuck@elproducts.com>

CHIPS newsletter

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Official Newsletter of *Chuck Hellebuyck's Electronic Products* <http://www.elproducts.com/>

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News

Another dual month newsletter due to lots of reasons. My hard drive crashed on my 5 year old iMac and what a pain re-setting everything up. I didn't backup my data enough and should have listened to my son and invested in setting up a network hard drive with time machine backup. Live and learn. I also was traveling for work while also finishing my latest book "Getting Started with chipKIT" and getting the final things together for MakerFaire Detroit that happened at the end of July. What a month July was and it carried over to August. I finally had time to sit down and write this out.

chipKIT Book

This was a project that tested my abilities to write a book quickly. I was asked back in May 2011 about writing a book on the new chipKIT

module. I decided to take on the challenge of getting it completed by MakerFaire Detroit in July. I actually did it. I released this latest book at MakerFaire and got a great response. The book is written for someone just getting started with chipKIT or even Arduino since the two are code compatible. The book is titled "Getting Started with chipKIT". The book covers some very common tasks such as driving digital outputs, reading digital inputs, driving analog outputs (PWM) and reading analog inputs(ADC). The book has 10 projects that go from flashing LEDs to reading switches to making sound and finally RS232 style serial communication through the USB cable. The book is 125 pages in a 6x9 size. I hope this book is a help to those just getting started with chipKIT and now that I've proved I can write a book in two months, I hope to follow this up with many more volumes.

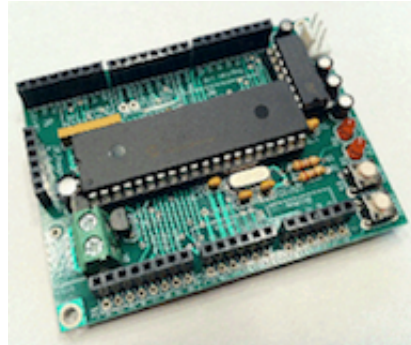


Arduino/chipKIT style modules

I asked in the previous newsletter for any Arduino/chipKIT style modules and I received a few I wanted to mention but I have to admit its getting very confusing to figure out what is compatible and what isn't.

Hamstack

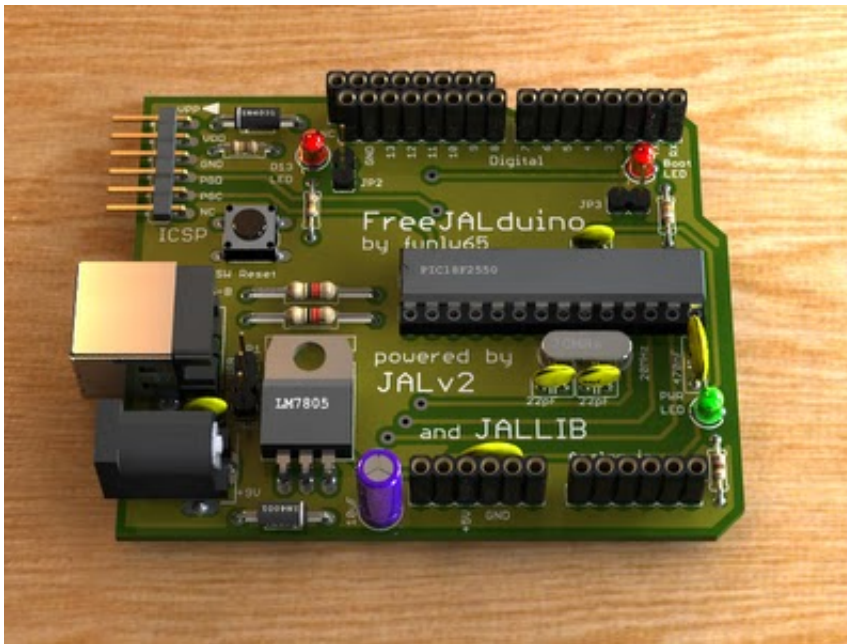
The hamstack module (hamstack.com) is kind of an Arduino Mega or chipKIT Max style of module that uses a 40 pin Microchip PIC. The headers are placed to accept shields so this can be used with many existing shields for chipKIT or Arduino. Check it out at hamstack.com.



Jalduino

I also received an introduction to the JAL Arduino by Guta-Ciucur Vasile. JAL is a simple ASCII form of programming that I frankly don't know much about. The Jal Arduino can also be programmed by the Pinguino software. This has been around from the early days of Arduino. Get more info at this site:

<https://sites.google.com/site/funlw65/electronics/jalduino-pinguino-28-pins-starting-bo/freejalduino>



Pinguino

This is another Arduino-like board based on a PIC microcontroller that is actually one of the earliest Arduino PIC projects I was aware of. The project includes an integrated IDE that looks similar to Arduino's but built with Python. The real difference is it translates specific Arduino

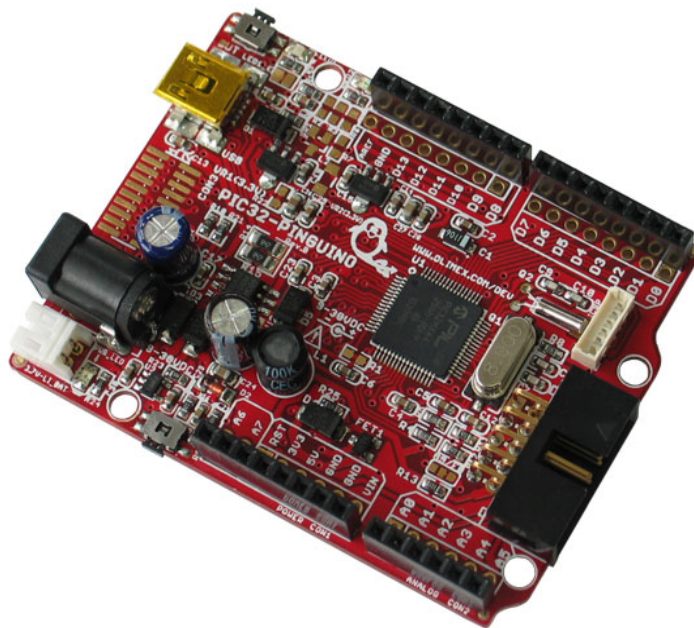
instructions directly into C using the SDCC compiler (Small Device C Compiler for PICs). This reduces the code length and improves the execution speed. Pinguino hardware was originally based on a 18F2550 with integrated native USB module and an UART for serial link but has since been ported over to other PICs. Get more info at:

http://www.hackinlab.org/pinguino/index_pinguino.html

Olimex

This company has been developing PIC based development modules for some time. In fact they were part of the original products sold by Sparkfun.com. I've used their boards long before Sparkfun started selling them but I haven't been back to their site in a while. Recently I was informed they had an Arduino style module as well and is compatible with Pinguino and based on PIC32. You can see it below and at

olimex.com.



For all you Maximite fans, I have heard some strong rumors that a Maximite compatible Olimex Arduino style board is being developed. Not sure when or if this will be a reality but it should be interesting if it does get released.

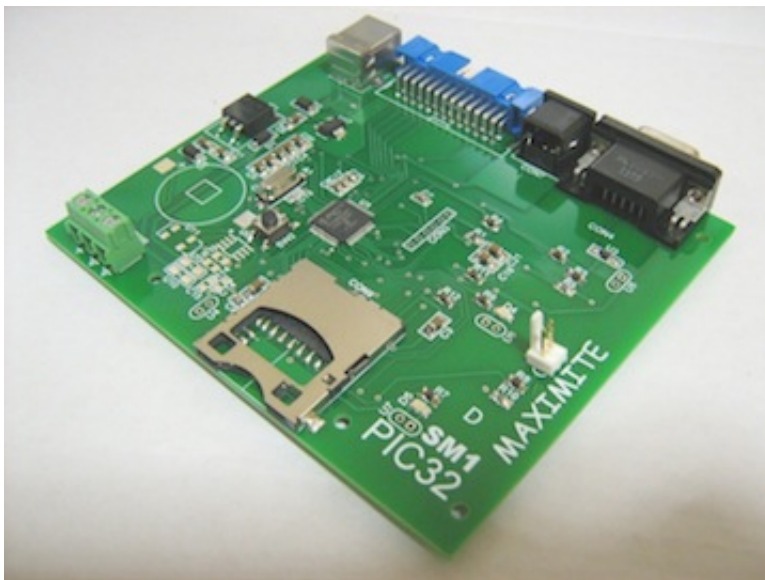
Maximite Update

The Maximite module I talked about in a previous newsletter continues to gain a lot of interest. The best place to read about it is at the backshed forum: http://www.thebackshed.com/forum/forum_topics.asp?FID=16

If you want the story behind the Maximite visit the Geoff Graham's website at: <http://geoffg.net/maximite.html>

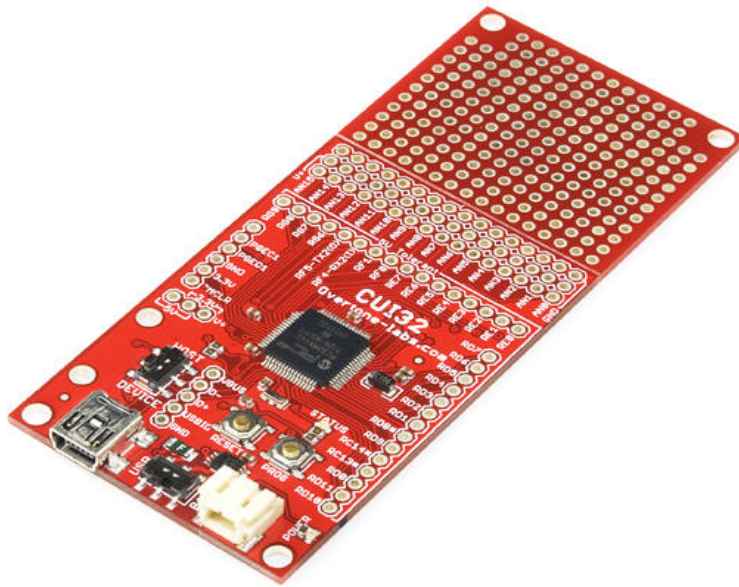
I had a Maximite board by dontronics.com setup at the MakerFaire in Detroit and the response was interesting. Younger people (under 25) didn't really know much about the TRS80 or Commodore computers the Maximite emulates but many older people recognized the code quickly and found the Maximite very interesting. A few people asked if there was an Arduino style version of the module which is something I've been looking for myself (and may have one soon if the Olimex rumor is true). For now I recommend you check out Dontronics.com in Australia. Don has also launched some Maximite expansion boards that allow you to add Arduino shields to the Maximite expansion header with his donduino cross adapter board.

You can find out more about Don's Maximite offerings at his website: <http://www.themaximitecomputer.com/>

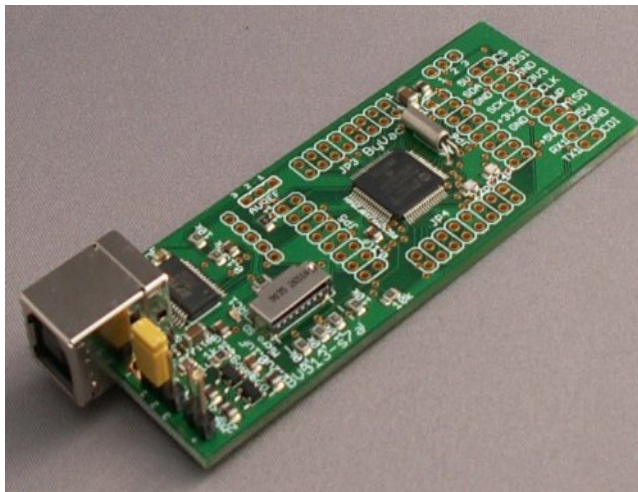


PIC32 BASIC

Beyond the Maximite, I've also seen a few more BASIC language PIC32 based module options. There is the cui32 module that runs the StickOS software which is a BASIC language operating system that was released before Maximite.



Another I saw was the BV513 module that also runs a form of BASIC.



I'm sure there are more as the PIC32 seems to have the horsepower and features a lot of people are looking for to build this type of module.

MakerFaire Detroit

I setup at MakerFaire Detroit for the second year in a row. This time I was outside and near the entrance so I saw a lot more traffic. The first day was really hot and I forgot to bring a fan. Despite the heat it was a great weekend and I met many of my fans and had some great conversations about programming chipKIT and Microchip PICs. I shared the booth with my wife and daughter who make things for the Harry Potter fans. I used my programming skills to build some gadgets for their display. My favorite was the monster book of monsters prop that surprised people by driving out from under a table, looked around and then returned to under the table just like in the movie Prisoner of

Askaban. It would repeat this about every 3 minutes. Some thought is was radio controlled which was a great way to explain how programming can make something automatic or autonomous.

Day two was less crowded and cooler but still a lot of fun. I actually got to escape the booth for a few hours to walk around MakerFaire myself. I finally saw the life size mouse trap game in action. Next year I'll probably be back inside in the air conditioning.



Nuts & Volts Magazine Combos

One thing I've been asked often is where someone could buy my books plus all the hardware in one package. Nuts & Volts Magazine now is that place. They have added several combos to their online store based on my Beginner's Guide to Embedded C book series. They offer several options including a complete combo that covers all three books and all the hardware. They also have just a Volume 3 combo and just the

parts for Volume 3 and a couple more. Check out the various combos at store.nutsvolts.com. They will be in the combo section.



Conclusion

I covered a lot which is what happens when you have to cover two months worth of news. I'm really anxious to see how well the chipKIT is received as I think it's a great option for those that want a little more horsepower than Arduino but still want the simplicity of the coding style. My Embedded C books teach the fundamentals of C and I feel compliments what the chipKIT can do so this all fits well with my plan to help my readers get started programming microcontrollers.

The Maximite is still very interesting to me and I've even begun looking at a book on programming in Maximite BASIC but based on the reaction at MakerFaire I'm going to focus first on more chipKIT books so readers have a library of references. I also like having the ability to use off the shelf shields which makes writing a book easier and also makes it easier for the reader to recreate the projects.

If you have ideas for future books or topics email me any feedback, good or bad to chuck@elproducts.com.

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