YAHOO! MAIL Classic

CHIPS Newsletter Vol 3	Friday, January 8, 2010 9:10 AM

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CHIPs newsletter

Vol 3 / January 8, 2010

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

Newsletter #3 Topics:
PICkit 2 UART Tool
> PICBASIC PRO Sample
> New Mini-Book
> Atom Classic vs Atom Nano
> Conclusion

PICkit 2 UART Tool
One of my favorite features of the PICkit 2 programmer is the UART tool built into the standalone GUI software for the PICkit 2 Programmer. The UART tool is simply a terminal program built into the PICkit 2 software that is designed to work with the PICkit 2 hardware. This gives you an RS232 to USB converter with a terminal program for communication. For the smaller PIC parts without the debug silicon, sending data serially can be a great debug option. I showed how to use this in the November 2007 "Getting Started with PICs" article in Nuts & Volts Magazine. I also include it in my latest book "Getting Started with PICs Volume 2". The PICkit 2 manual also describes the UART feature, which you can download for free from www.microchip.com/pickit2. The connections are shown in the picture below and the UART window is also shown with references to the different features. I highly suggest you get to know this tool if you have a PICkit 2. You will find it very useful. Many of the PICkit 2 clone programmers also work with the UART tool so that is a bonus many probably don't realize they have.
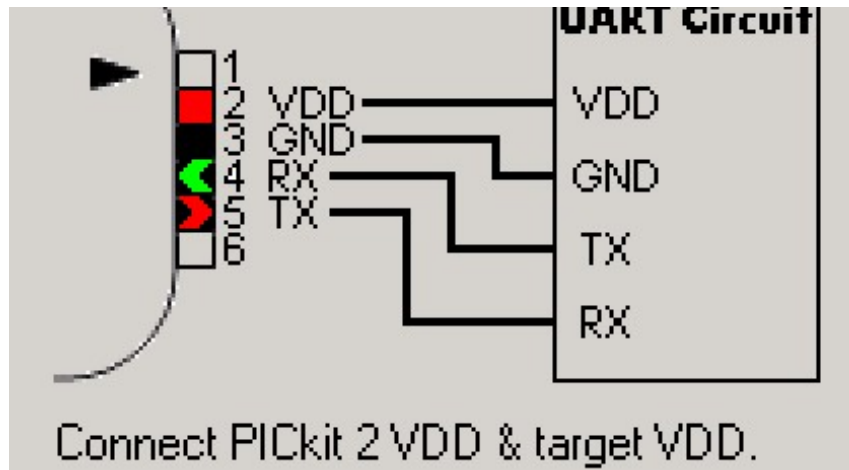
Target

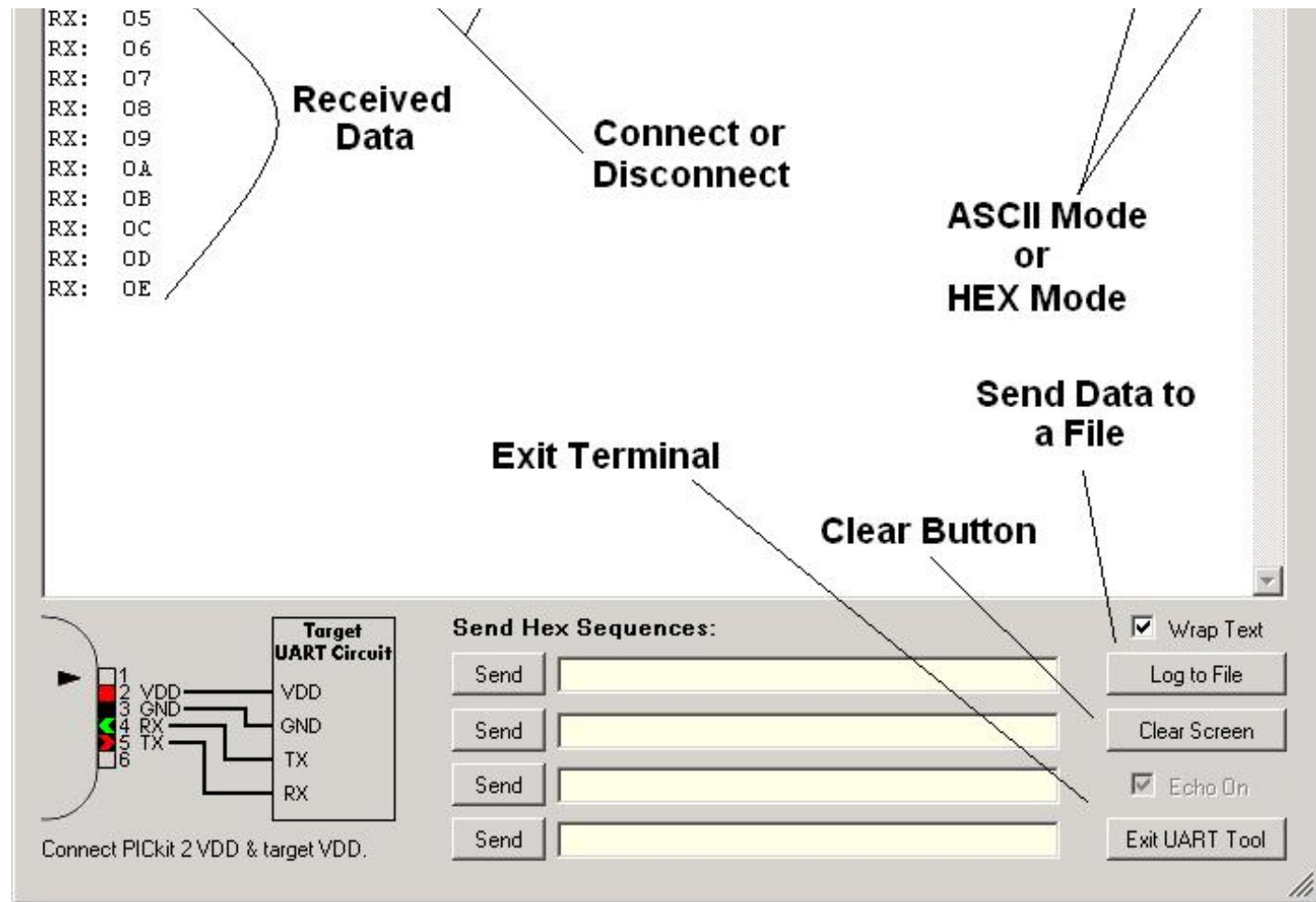Figure 1 - PICkit 2 UART Tool Interface

Figure 2 - UART Tool Window

PICBASIC PRO Sample Version
Some people clearly think that the 31 command line limited sample version of PICBASIC PRO
Compiler is not worth downloading but I disagree. I have written many useful programs in less
than 31 commands because the BASIC commands do so much. For example, I can read a
temperature sensor with a single ADCIN command, display the result on an LCD module with a
single LCDOUT command, store that value in internal EEPROM with a WRITE command, send
the data, with a single SEROUT command, to a PC terminal and with that data stream create an
Excel file of data to plot. That's only four commands so I still have a lot of room for manipulating
the data or driving an output to turn a relay on or off that controls a heater.

The sample version is available for free from http://melabs.com/pbpdemo.htm. This is also a nice
lead into the next topic.

New Mini-Book
I will soon release my first (of hopefully many) mini-book titled "Programming PICs in BASIC"
subtitle "8-pin Projects - Volume 1". The book was written to use the CHIPAXE.com Breadboard
Starter kit, which uses an 8-pin PIC12F683, PICkit 2 Clone Programmer and PICBASIC PRO
sample version. In the book I show seven simple projects for the beginner including reading
sensors, driving digital outputs and reading digital inputs. The series is planned to dive deeper into

more difficult projects but still within the 31 command limit.

The series was inspired by a series of books from my childhood days written by Forrest M. Mims III many years ago for Radio Shack. His books covered projects using transistors and opamps where mine cover the microcontroller, which is the transistor or opamp of today's electronics world. I'm expecting the first proof copy to arrive any day now so I can do a final edit and then hopefully launch it. It's written for the beginner crowd so it also includes a chapter describing what a microcontroller is and how it works. The book is priced low as well for the entry-level crowd. Each mini book will contain about 100-130 pages and will list for a selling price of $14.95. I should have more details soon so stay tuned to the website.

Atom Classic vs Atom Nano

BasicMicro.com created one of the best Basic development platforms when they created the original Basic Atom. It was based on a PIC16F876A and PIC16F877A with a custom bootloader. They gave away the programming software for free, which included a BASIC compiler similar to BASIC Stamp. I used it a lot and eventually wrote my book "Programming the Basic Atom Microcontroller". Along the way though BasicMicro kept tweaking the thing and even created an Atom Pro version that was based on a Hitachi micro. That added some confusion but it became popular with some robot builders. They charged a lot for the interpreter chips, which were just the PIC16F876A or 877A with the bootloader code inside. These and the pre-built modules were how they made their money from Basic Atom.

I convinced them to create a lower cost, lower speed Nano version based on the lower cost 16F886 and 16F887 with the hope it would generate more interest with a lower cost interpreter but it didn't seem to work out. They decided to simplify the whole programming environment into one IDE for Atom, Nano and Atom Pro, which they are still working on today. In the process they've also changed or "improved" many commands. This left my book somewhat outdated. You can still get the original software (version 2.2.1.1) and the original Atom chips ($20) that I use in my book so I'm now going to refer to my book and these early parts as Atom Classic. I'm working with the guys at BeginnerElectronics.com to create a low cost "classic" starter kit for these classic devices with my book as the manual. We may even open source the parts and book for educational groups (except the Basic Micro stuff). Stay tuned for more on this. I don't plan to write any more Atom books so this will be my last hurrah for Atom.

Conclusion

I'm always interested in your feedback so send me an email to chuck@elproducts.com if you have a topic you'd like discussed or a project you'd like to see. The first few newsletters have been slow but the New Year will see more released and faster. Thanks for signing up. The subscriber list is growing fast. We have over 100 people now part of this newsletter group in a very short time so it proves there is definitely interest in these topics.

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