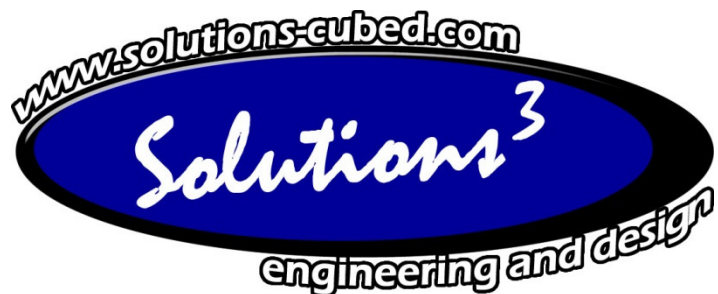


# AN2004: Synaptron Micro Programming Scripts



**Solutions Cubed, LLC**

**designservices@solutions-cubed.com**

**phone – 530.891.8045**

**256 East First Street**

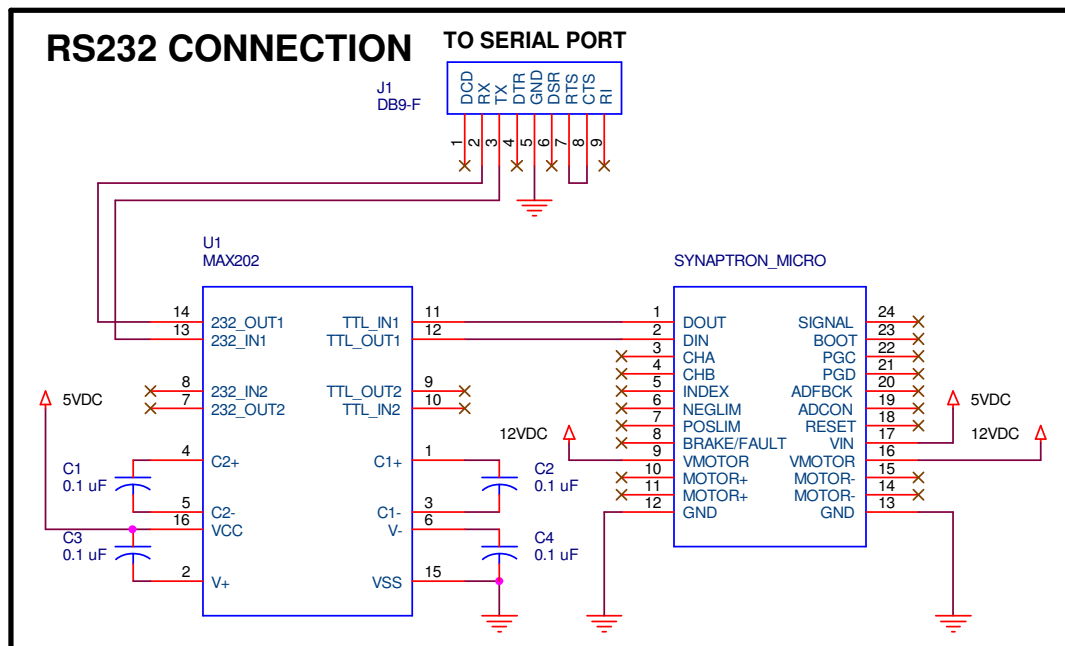
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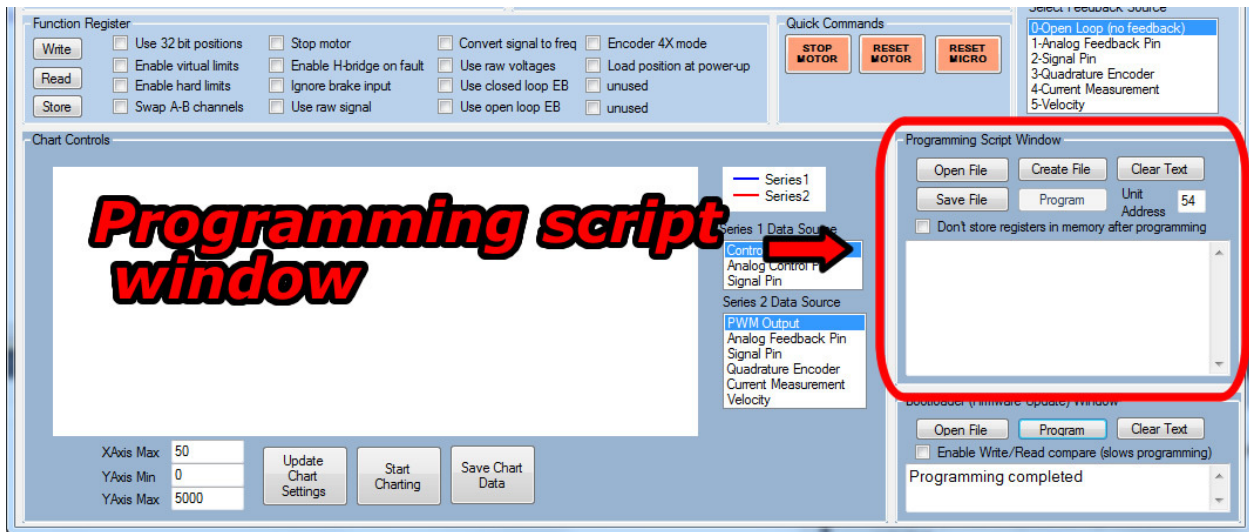
**Overview-** Solutions Cubed test software for the Synaptron module has functionality built into it to allow the user to write and save programming scripts. A programming script allows the user to quickly program all of the internal registers of the module, thus streamlining the process of placing multiple devices into the field.

**Hardware-** Programming scripts use the ASCII communication mode to program a devices registers. You'll need to connect the Synaptron serial pins to a computer via a RS232 serial interface. You may use a USB-RS232 converter between the RS232 IC and a PC USB port. A sample connection is shown below.



**Software-** You must successfully install and launch the Synaptron test software in order create and use programming scripts. The software is located at [www.solutions-cubed.com](http://www.solutions-cubed.com). Once installed use the following instructions.

**Note: The software interface may change over time. Screen captures are for reference and may differ from what you see.**



**Step 1:** To create a programming script, press the "Create File" button. If you already have a programming script file you should press the "Open File" button and navigate to the location of the file to open it. In either case the programming script text file will be loaded into the text box below the buttons. Creating a file loads the default values for the controller into the text box. Once a file is opened or created the "Program" button will become active.

**Step 2:** Use the right-hand scroll bar to display different registers and their values. Modify the values for the registers you need to adjust. You should only change the value after the "=" sign for each register, and do not leave any white spaces after the text of the register value.

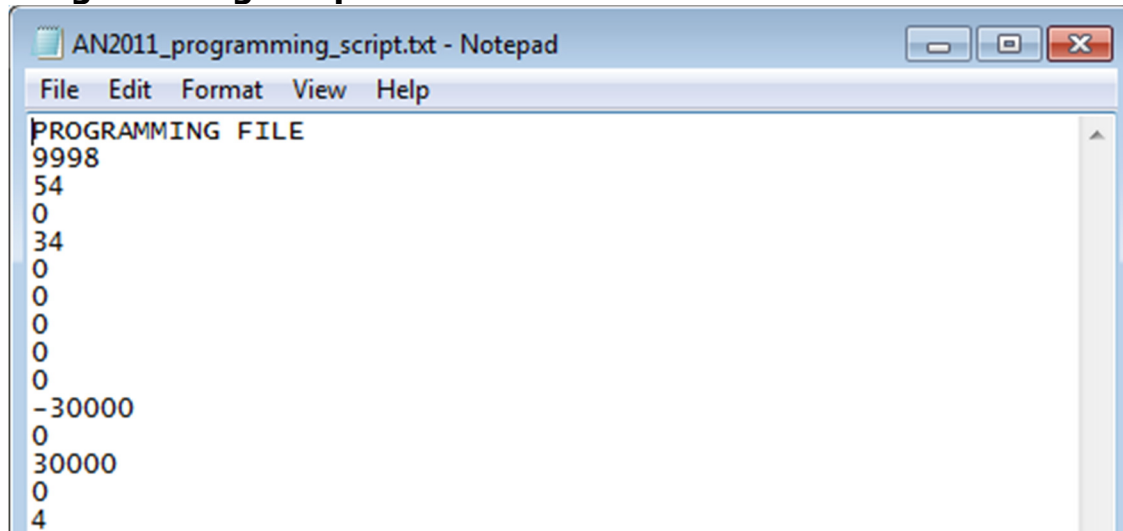
**Step 3:** If desired, select the "Save File" button to save the programming script to a known location.

**Step 4:** Pressing the "Program" button will program all of the register values and store the new settings in Flash memory. This will make the values in the programming script the new power-on values. If you do not want the new values stored in memory select the check box below the "Save File" button.



**The controller has a limited number of program memory write cycles. The number allowed is stored in the *FlashCycles* register. When programming a script *FlashCycles* register will be set to whatever value is in the script. If necessary track the number of cycles remaining elsewhere.**

## Programming Script Format:



A screenshot of a Notepad window titled "AN2011\_programming\_script.txt - Notepad". The window contains the following text:

```
PROGRAMMING FILE
9998
54
0
34
0
0
0
0
0
-30000
0
30000
0
4
```

The programming script is a simple text file that lists the contents of each register on a separate line of the file (see below). There must be a value for each register, and no other information beyond the "PROGRAMMING FILE" header.

A programming script may be opened or created within the Synaptron test software. The software will automatically prepend the register number and name to the register's value in the software window. You should only modify values to the right of the "=" in the programming script text box. Pasting contents into the text box should be avoided.

