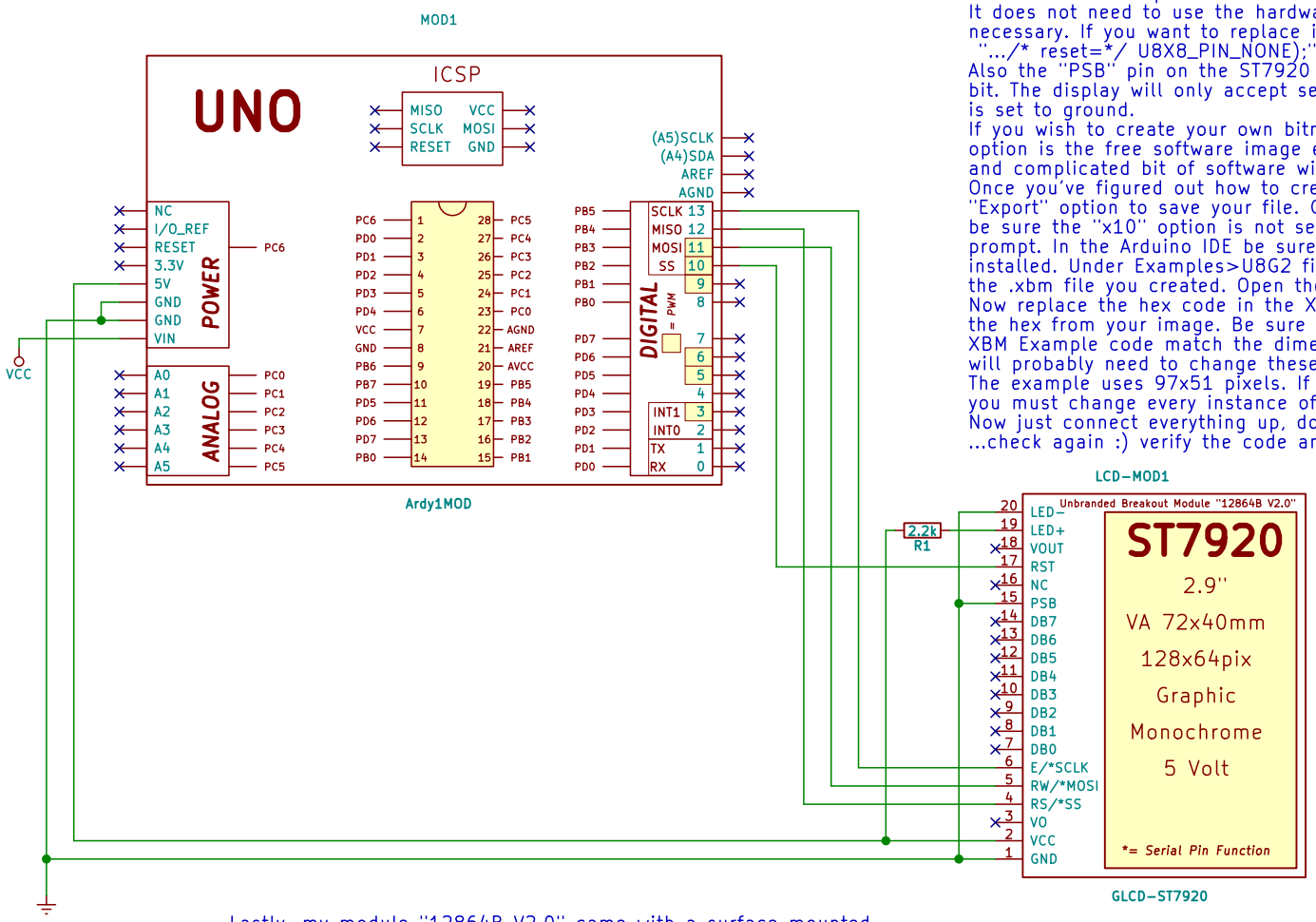
ST7920 + SW Serial + U8G2 Library

This Constructor:

```
U8G2_ST7920_128X64_1_SW_SPI u8g2(U8G2_R0, /* clock=*/ 13 /* A4 */ , /* data=*/ 11 /* A2 */, /* CS=*/ 12 /* A3 */, /* reset=*/ 10);
```

...works with this schematic:



Notes: This is setup as software serial using the U8G2 Library.
It does not need to use the hardware serial pins. Reset is not necessary. If you want to replace it use U8X8_PIN_NONE
".../* reset=*/ U8X8_PIN_NONE);"
Also the "PSB" pin on the ST7920 is the "Parallel or Serial" select bit. The display will only accept serial communication if this pin is set to ground.
If you wish to create your own bitmap graphic images, one option is the free software image editor "Gimp." It is a powerful and complicated bit of software with a moderate learning curve. Once you've figured out how to create your bitmap, use the "Export" option to save your file. Chose the .xbm file type. Then be sure the "x10" option is not selected on the following screen prompt. In the Arduino IDE be sure you have the U8G2 library installed. Under Examples>U8G2 find the XBM example. Go to the .xbm file you created. Open the file with a simple text editor. Now replace the hex code in the XBM Example in the IDE with the hex from your image. Be sure all of the pixel dimensions in the XBM Example code match the dimensions of your image. You will probably need to change these dimensions in several places. The example uses 97x51 pixels. If you created a 128x64 bit map, you must change every instance of "97x51" to "128x64"
Now just connect everything up, double check your connections, ...check again :) verify the code and compile it. DONE.

This example uses this library:

Universal 8bit Graphics Library
https://github.com/olikraus/u8g2/

Lastly, my module "12864B V2.0" came with a surface mounted trimmer potentiometer for the contrast adjust. I had to adjust it to see anything on the screen. This pot is connected between Vcc and GND with the wiper (adjustment pin) connected to the VO pin. If your module does not come with a trimmer pot,..well I just told you how to connect it. The one on my module measures 6k in circuit, and works well with 1k measured between Vcc and VO. Don't forget, ground is connected so I basically have a voltage divider with 1k/5k to ground. any 5k to 20k pot should work in this application.

Upcycle Electronics //youtube.com/upcycleelectronics

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