

I2C LCDs with Rebel Alliance Mod and fmalpartida Liquid Crystal_I2C Library

I do not know if this will help anyone but thought I would share my findings in playing around with a couple of 20X4 I2C LCDs with different backpacks and the wonderful RebelAllianceMod v1.1. Both LCDs are China sourced but use very different pin addressing from the backpack to the LCD. One has no markings on the backpack and is marked 204ZFA on the LCD board. The other is marked GY-IICLCD on the backpack. The 204ZFA worked fine with the I2C Library recommended in the RA Mod documentation but requires pull up resistors and has an incredibly touchy contrast setting pot at least on my LCD. Based on info found at <http://arduino-info.wikispaces.com/LCD-Blue-I2C>, I determined that this was what they call an I2C LCD Display Version 1.

The second of my LCDs (GY-IICLCD) would not work with the recommended Library. The GY-IICLCD proved to be what the wiki calls I2C LCD Display Version 2. I tested them both using the fmalpartida LiquidCrystal_I2C Library recommended on the wiki with the wiki sketches and found that the GY-IICLCD did not require pull up resistors with the ChipKit Uno32 board.

So I replaced the LiquidCrystal and LiquidCrystal_I2C libraries used for the Rebel Alliance Mod with the fmalpartida LiquidCrystal_I2C Library. I then replaced 'LiquidCrystal_I2C lcd(0x27,20,4);' at line 279 in the Alliance Mod Sketch (for my 2004 display) with the appropriate command 'LiquidCrystal_I2C lcd(0x20, 4, 5, 6, 0, 1, 2, 3, 7, NEGATIVE);' from the wiki sketch for my GY-IICLCD. The change location would obviously be different for a 1602 display. The pin addressing is based on (addr, en,rw,rs,d4,d5,d6,d7,bl,blpol). I removed 'lcd.init();' at line 489 (for my 2004 display). The changes to the RA Mod compiled, loaded and allowed the GY-IICLCD to work fine without pull-up resistors. I then changed line 279 in the RA Mod sketch to 'LiquidCrystal_I2C lcd(0x27, 2, 1, 0, 4, 5, 6, 7, 3, POSITIVE);' and tested the Rebel using the 204ZFA. This also worked when used with the pull-up resistors.

From what I have read a number of the available I2C LCD's have an address of 3F and at least the SainSmart ones apparently would work with 'LiquidCrystal_I2C lcd(0x3F, 2, 1, 0, 4, 5, 6, 7, 3, POSITIVE);' but these might also work fine with the RA Mod LiquidCrystal_I2C Library if line 279 was changed to 0x3F,20,4 since the pin addresses are the same as my 204ZFA LCD. I do not have one to test.

The I2C Scanner sketch at <http://arduino.cc/playground/Main/I2cScanner> can be used to find the address of any connected I2C device but finding the pin assignments used by the backpack might take some research if the ones shown here do not work.

I do not have the band switch mod enabled and did not check if this would impact that in any way.