Installation RBC LCD Kit

Check List

- (1) Full Graphic 12864 LCD Display Controller
- (1) Rigidbot LCD Adapter
- (1) Ramps LCD Adapter
- (2) 20cm 10 pin IDC Cable
- (1) 10cm 20 pin IDC cable

SOFTWARE

Now that is all the parts squared away, let's get right into updating your firmware on your RB controller board so that your LCD will work. First you will need to install Arduino software so you can update your firmware. If you don't already have the Arduino software install, please see link below.

http://www.arduino.cc/en/Main/Software

Now that you have the Arduino software installed you will need to now download and updated with the RBC LCD KIT firmware. Go to http://www.marvinstuart.com/rigidbot/lcdkit there you will see a zip file called RBCKIT.zip download this file.

Once downloaded unzip the file and you will see two zip files one called RigidBotCommunityLCD.zip and u8glib_arduino_v1.16.zip the u8glib file needs to be imported into the Arduino library . To do this all you need to do is open your ardunio software and at the top of the software you will see the word SKETCH click on it then import library then add library located the u8glib_arduino_v1.16.zip and click ok.
http://arduino.cc/en/Guide/Libraries

Now for the RigidBotCommunityLCD.zip file all you need to do is unzip this file and you will see a folder called RigidBotCommunity

RELAX you are doing good you might want to breathe a little

NOW Turn ON RB controller board and make sure it's connected

Before you compile and update the new firmware you need to get some settings from present firmware. This can be accomplished through the Ardunio software, so open up your software and you will see the word TOOL at the top click on then on click on Serial Monitor and box will popup also make sure at the bottom right you choose baud rate 115200.

You will should something like below

Compiled: Nov 3 2014

echo: Free Memory: 3146 PlannerBufferBytes: 1232
echo:Hardcoded Default Settings Loaded
echo:Steps per unit:
echo: M92 X44.3090 Y22.1545 Z1600, E53.5
echo:Maximum feedrates (mm/s):
echo: M203 X500.00 Y500.00 Z4.00 E25.00
echo:Maximum Acceleration (mm/s2):
echo: M201 X800 Y600 Z100 E10000
echo:Acceleration: S=acceleration, T=retract acceleration
echo: M204 S600.00 T1000.00
echo:Advanced variables: S=Min feedrate (mm/s), T=Min travel feedrate (mm/s), B=minimum segment time (ms), X=maximum XY jerk (mm/s), Z=maximum Z jerk (mm/s), E=maximum E jerk (mm/s)
echo: M205 S0.00 T0.00 B20000 X20.00 Z0.40 E5.00
echo:Home offset (mm):
echo: M206 X0.00 Y0.00 Z0.00
echo:PID settings:
echo: M301 P10.72 I0.37 D78.61

The most important thing you need to record is lines below in **BOLD**. Your numbers might not match as these are my personally settings as yours will be different

echo: M92 X44.3090 Y22.1545 Z1600, E53.5
echo: M301 P10.72 I0.37 D78.61

Once you have recorded these setting s you can now proceed. Inside your Arduino software go to FILE then OPEN goto the RigidBotCommunity folder you previously unzipped and inside this folder click on RigidBotCommunity .ino , once done go to configuration.h tab here is where you are going to make ALL you changes

1- If you are regular size rigidbot then change it to 1 if you are Big then leave it at 2
#define RIGIDBOT_SIZE 2

2- You will need to update your PID settings for your extruder you recorded previously
// RigidBot redesigned hot end
#define DEFAULT_Kp 10.72
#define DEFAULT_Ki 0.37
#define DEFAULT_Kd 78.61

2- You will need also need to update your AXIS STEPS settings you recorded from above
#define DEFAULT_AXIS_STEPS_PER_UNIT {44.3090,22.1545,1600,53.5}

Guess what that's it all the configuration needed to be DONE. Now all you need to do is within the Arduino software click on FILE then UPLOAD. At the bottom you will notice a message saying **compiling sketch** once completed it will say done uploading. Now it time for the hardware.

HARDWARE

NOW Turn OFF RB controller board

Find your RBC adapter (purple) and use the three cables provided and plug them into EXT1 , EXT2, LCD. Then plug the EXT 1 and EXT 2 cables into the LCD making sure you plug it into the right place. (The LCD has EXT1 EXT2 labeled on the backed)

IMPORTANT – if you look at the back of your LCD you will see that you have a white and green plate mated together. If you look carefully if you press down enough the both of them will touch and short each other. This is not good so to keep them from touching just put something between them like blue tape, electronic tape and sponge. Anything that is not conductive. Finally at the back of the LCD just below to the right label EXT1 you will see a blue jumper on a 3 pins. Move the blue jumper over to the left 2 pins. (Presently it's on the right 2 pins)

Once done plug the LCD cable from your purple adapter into the LCD slot on the RB controller board

Turn ON RB controller board

Everything should light up

Enjoy