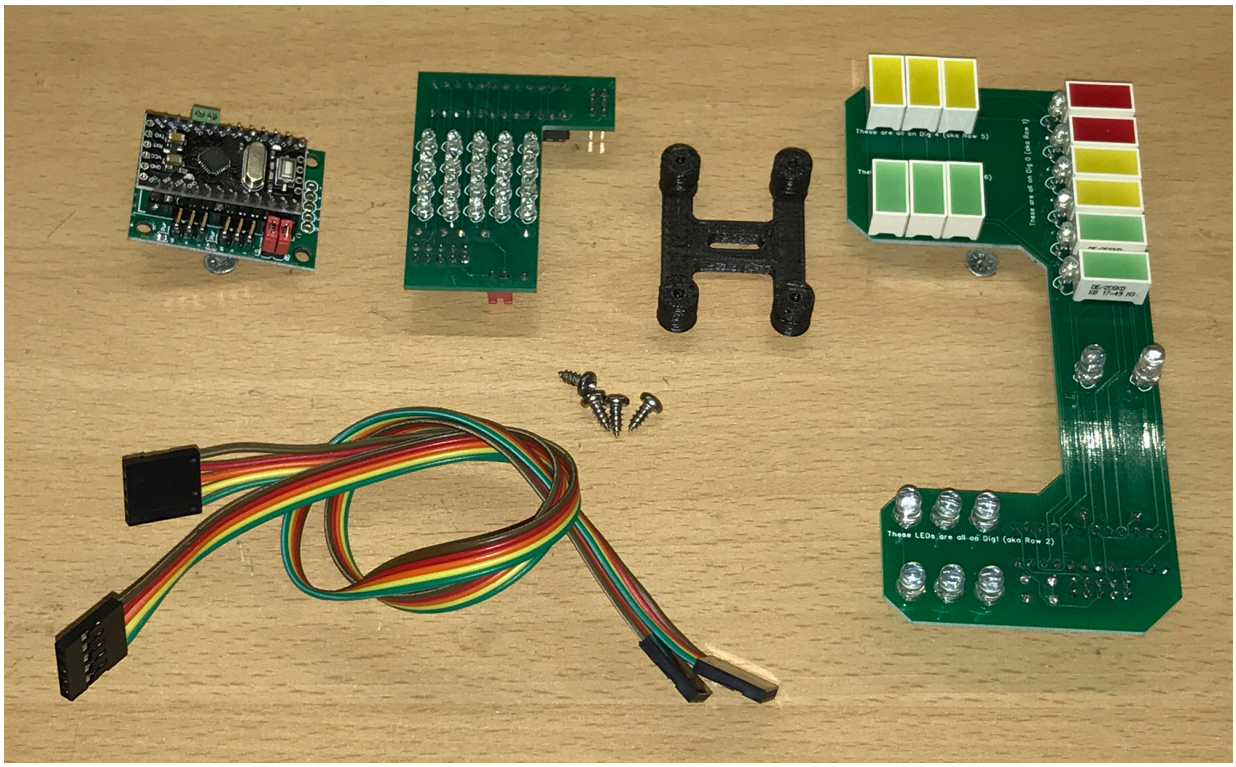
CBI and Dataport connections

Version 2 – using the Mowee arduino system.

The CBI and Dataport boards are now even simpler than ever to setup.

If you order the CBI and DPL together, you will receive all the wires and boards necessary to get everything working in your droid, as below.
The software for the arduino is pre installed for the CBI and Dataport. If you are going to use a Dataport only, you will need the board to have different code loaded, which I will do before shipping.



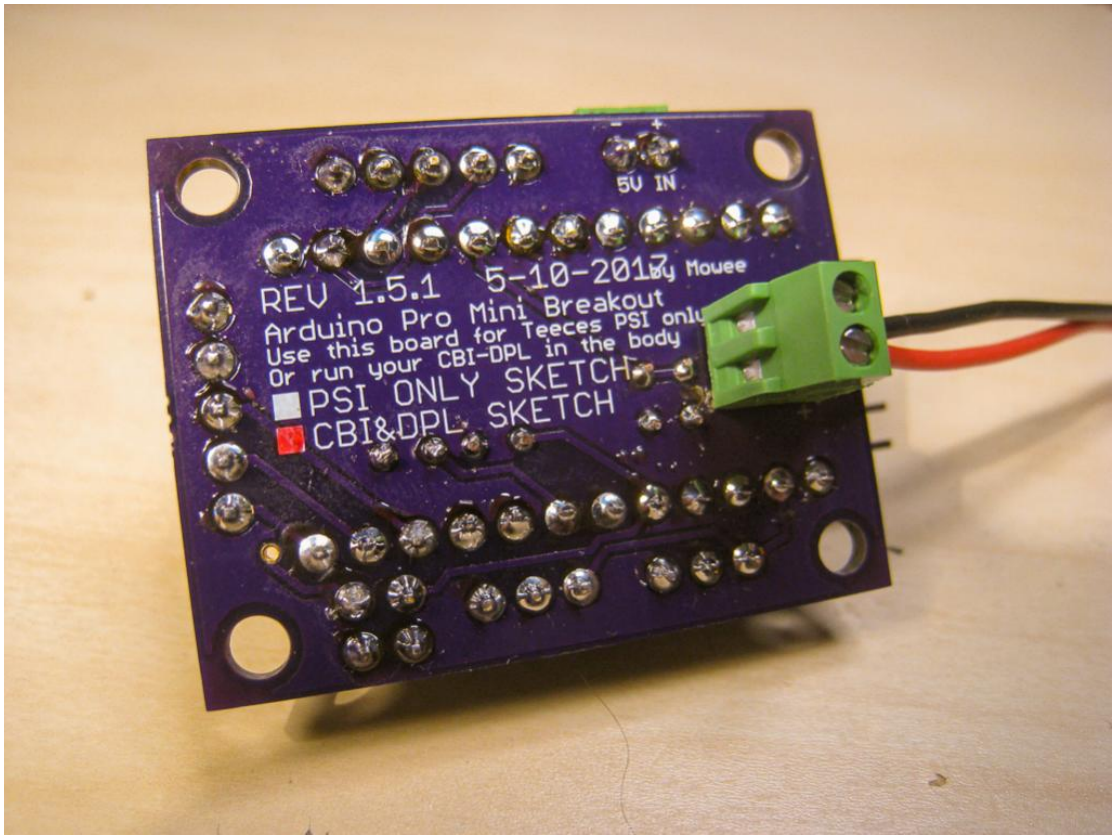
Powering up.
These boards **only** take 5v. On the TOP of the board is a green screw in terminal. This is labeled 5V IN + and – so you know which wire to connect to what.

If you don't have a 5v power supply, then I can highly recommend a Pololu regulator as on this link. https://www.pololu.com/product/2865
These will step down any voltage up to 38v, down to a nice clean 5v, with 6amps of current.. plenty to power this system, and probably a lot of other 5v systems in your droid. If you are going to run lots of 5v items (servos) then have a look on Pololus site, as they have many other step down boards that will also provide a clean 5v but with more (or less) current capabilities so suit you.

Connecting the voltage divider.

If you are going to use the 3 extra Red Yellow and Green LED's for displaying your battery level **The default is 12v.**
You will need to have told me when purchasing if you are using an 18v or 24v system..

The voltage divider circuit that has previously been achieved using resisters soldered together and heatshrinked is now incorporated on the board, on the underside, as below.



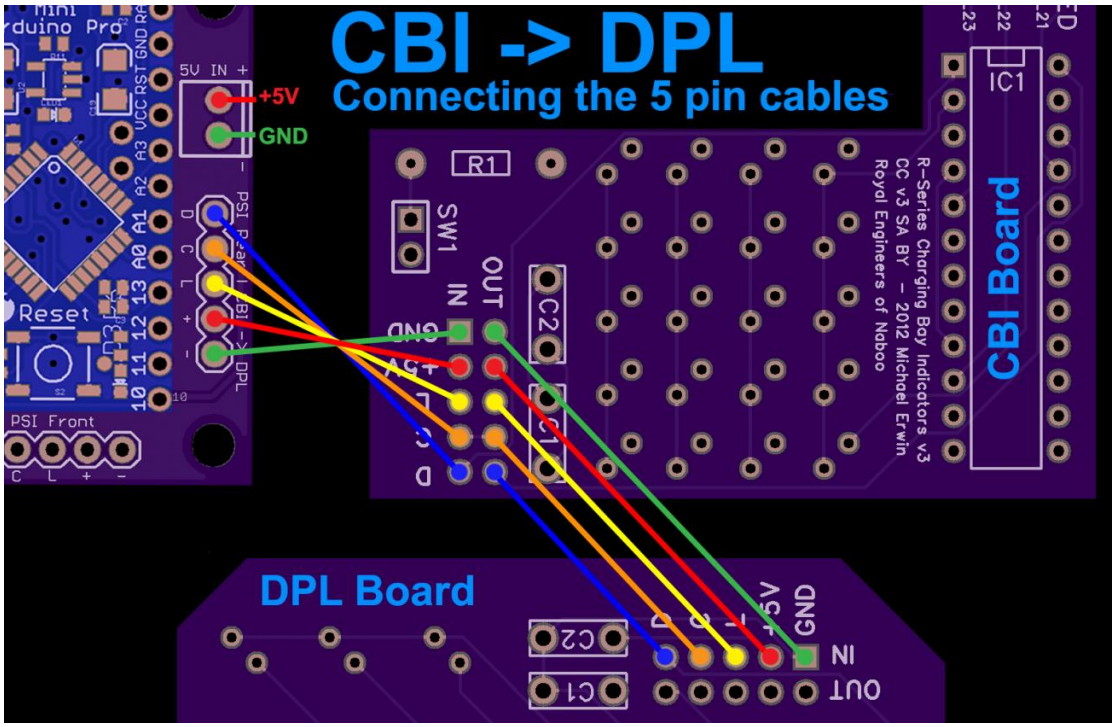
You connect a pair of wires into the screw in terminals directly from your battery.
This needs to be done before any voltage regulators, or you will only read their consistent output, not the raw output from your battery. Please note, you should fuse this connection. A 1 amp fuse is plenty as it doesn't draw any actual current to read the voltage.
As stated before, you **must** have informed me at the point or order if you are **not** using a standard 12v system. Connecting 18v or 24v to this connection without the correct onboard resistors will fry the board.

Connecting the CBI and DPL

If you order the Chargebay and Dataport together, you will receive all the wires required to connect them together.

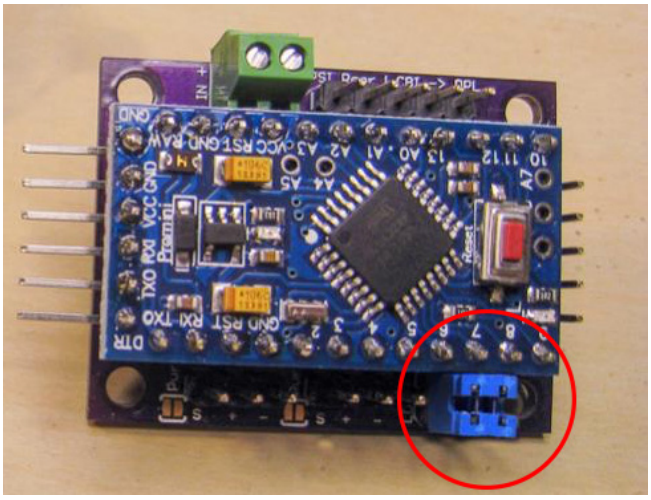
The Chargebay is the first in line to be connected. The 5 pin wire connects to the 5 pins on the arduino board, and then to the 5 pins labeled IN on the Chargebay.
You then connect the secord 5pin wire to the OUT of the Chargebay board, and then to the IN of the Dataport board. That's really it.
You must make note of the colors of the wires and which pins go to where, as on the following picture.

The colors on the wires I send do vary due to the manufacturer, but as long as you follow the principles below you'll be fine. Basically, make sure the GND is connected to the same GND pin on each board.



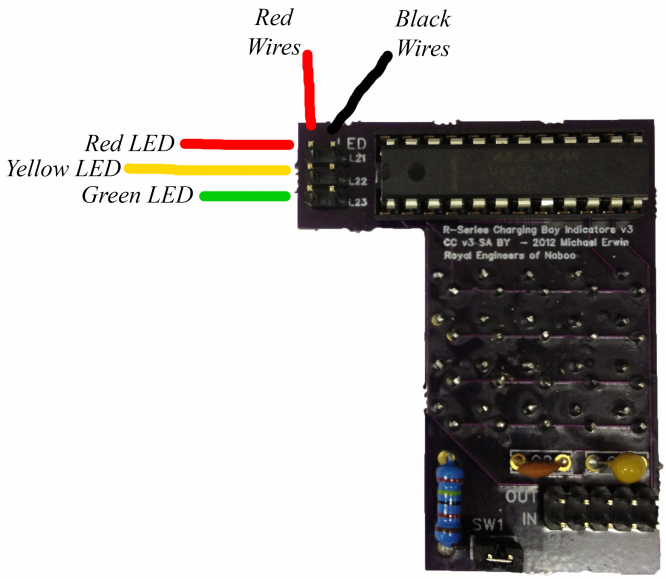
Door switches

The new board incorporates door switch control so if you fit microswitches to your Chargebay or Dataport door, you can connect those to the arduino. This will then power down each of the boards until the door is opened, like a fridge.
By default, jumpers are installed to keep the circuits closed and the boards on all the time. Remove these jumpers and connect your switches as necessary.



Voltage level LED's

The three extra LED's supplied show the rough voltage state of the battery. This can vary from battery to battery as there are many different types in use, but you should still get the LED's giving you some indication of charge.
Connect these three LED's directly to the Chargebay board, as detailed below.
It's important to get the black wire on the pin closest to the main chip, otherwise they will not function correctly and blow within a short space of time.



Problems?

Email me! My email address is astromech@droidbuilder.co.uk
I'll be happy to help. Or if it's something you think could benefit the group as a whole, then please post to the forum and I'll answer you there.