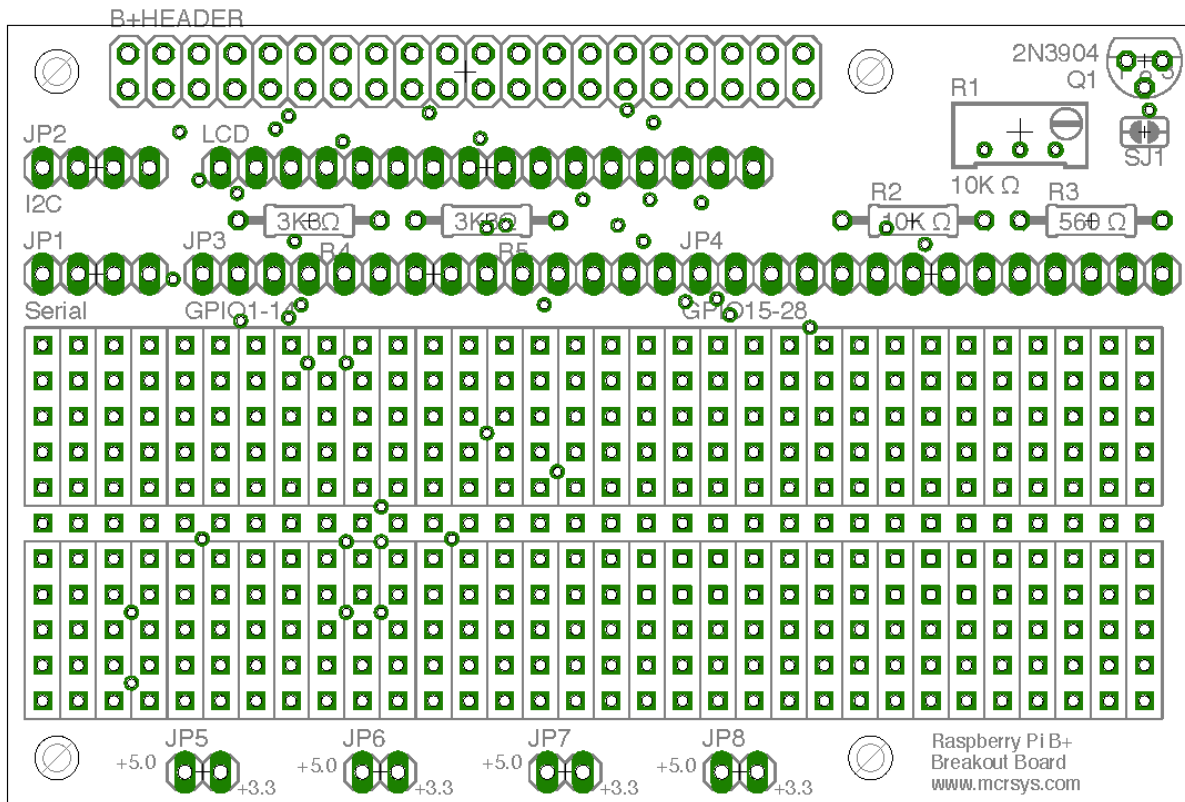


Congratulations on your new Raspberry Pi B+ Breakout Board.



- Pin 1 for every connector is the first pin on the left.
- JP1 is the “Serial” connector. It’s pins are: +5, TX(GPIO14), RX(GPIO15), GND. You can use any number of 5v serial to RS-232/USB adaptors. The default Linux configuration runs a serial console on this port. If it doesn’t work for you the first time, try swapping the RX/TX connections.
- JP2 is the I2C serial bus. It’s pins are: +3.3v, Data(GPIO02), Clock(GPIO03), GND. R4 & R5 are 3K3Ω pull-ups for this interface.
- JP3&4 are the 28 GPIO pins, in order, 14 each. Note that there is no GPIO01 nor GPIO28 on the Raspberry B+, so the first and last pins are not connected or used.
- The LCD connector is a standard 16 pin Hitachi HD44780 controller interface.
- The LCD backlight circuit is to the top right of the Prototyping board. The variable resistor, for contrast, may be at one end of it’s range or the other - adjust it initially so that you can see the block characters in the display. Once you have the display up and running, adjust the contrast to taste.
- The LCD interface uses GPIO07 for RS, GPIO08 for C/D, GPIO25, 24, 23, 18 for Data4-7, GPIO17 for backlight enable. Note that R/W is grounded for “write-only”, and that the display is run in “4-bit” mode, so that Data0-3 are not used.
- R2 & Q1 may be omitted, with the solder jumper SJ1 shorted, for the backlight to be always on. This will also free up GPIO17. Any small signal, NPN type, EBC pinout transistor can be used for Q1, such as a 2N2222.
- R3 is the backlight resistor, nominally 560Ω. Lower will be brighter, higher will have longer battery life.
- The IC2, Serial & LCD solutions do not share GPIO ports, and thus do not conflict with each other. You may use all of them at the same time.
- An initial, quick electrical test, for shorts, may be performed by insuring no pins on JP3&4 connect to each other, nor to +5 (pin 1 of JP5-8), +3.3 (pin 2 of JP5-8), or ground (the center strip of the proto area).
- The circuit was originally designed for the Model B, and will work with only the 26 Pin Header attached, although the mounting holes won’t line up to anything.