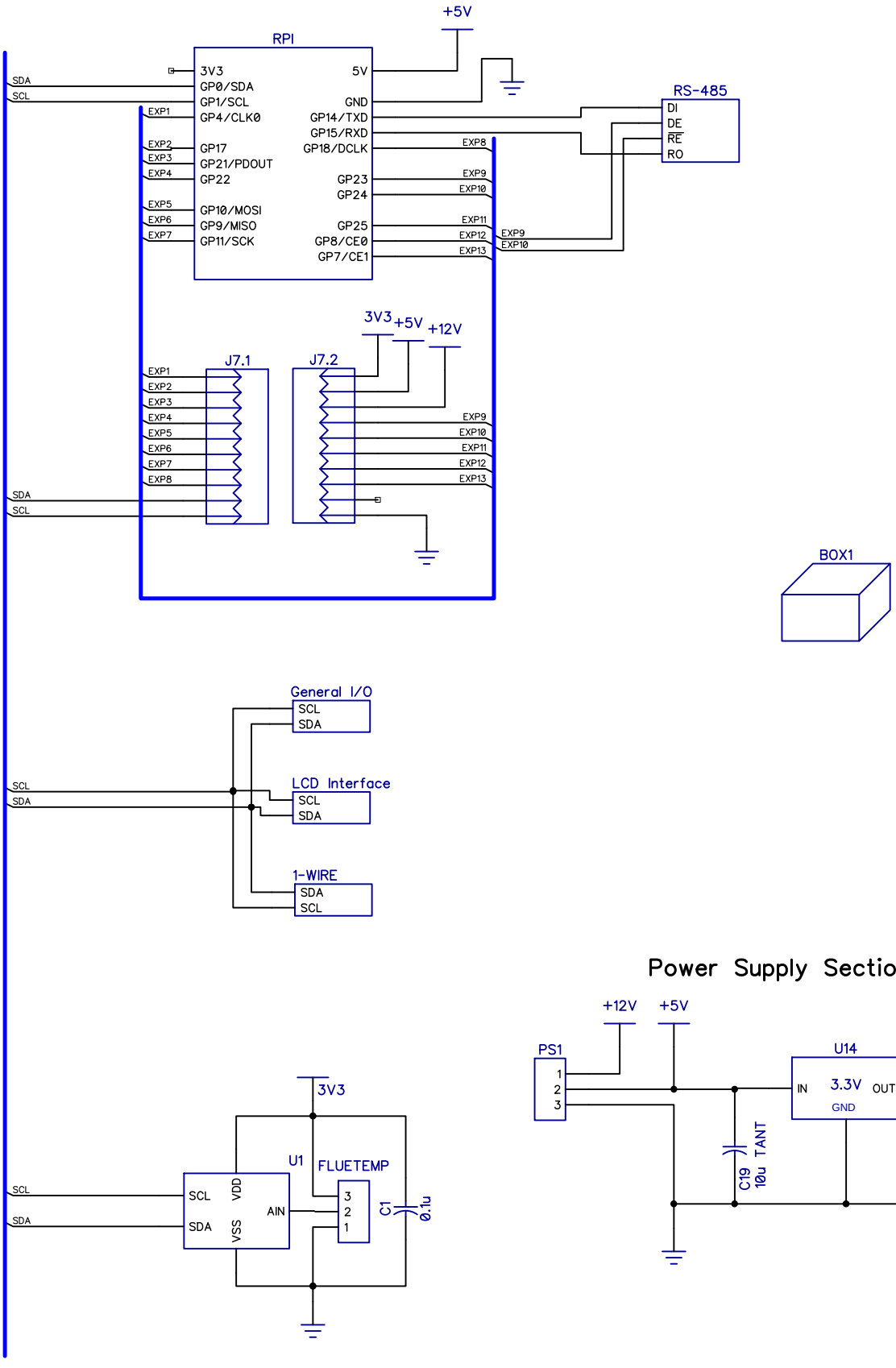
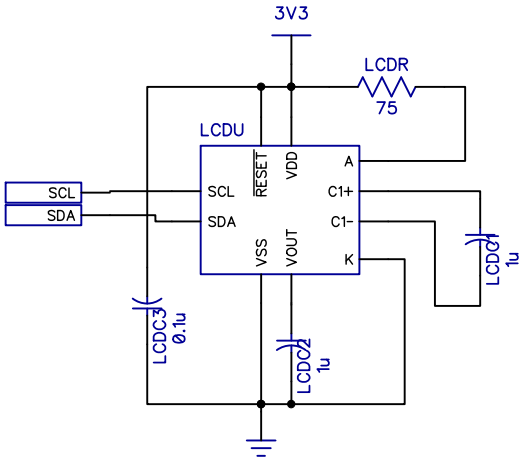
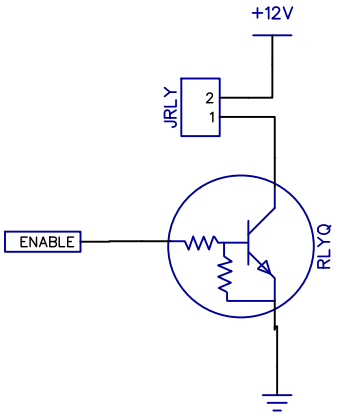
HotPi Raspberry Pi
Main Interface



LCD Interface



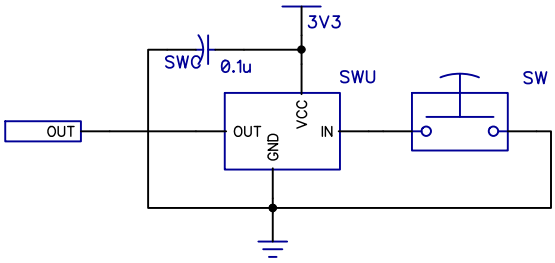
3.3V to 12V Relay Driver



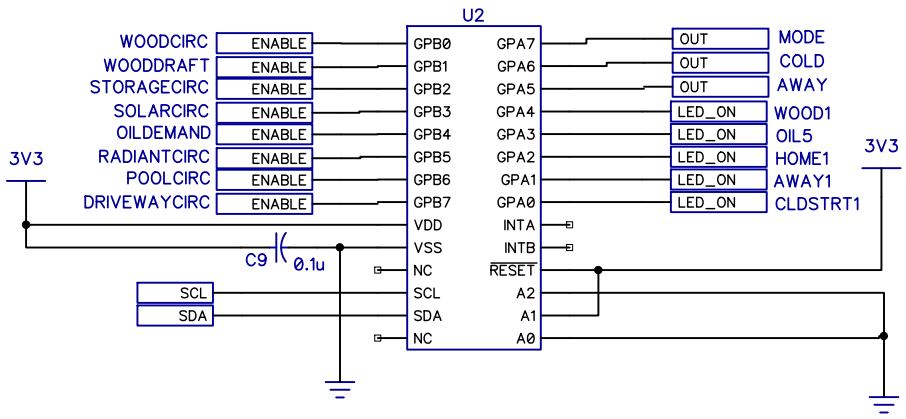
Q1 is a pre-biased NPN to keep parts count low. Status LED was eliminated to minimize power usage. Status is indicated at remote device.

Switch Debounce

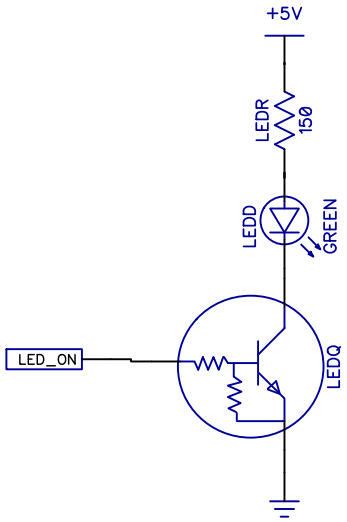
We would normally do this in software, but this chip provides some other advantages in case we ever want to remote-mount the switches, or use them as additional digital I/O input channels.



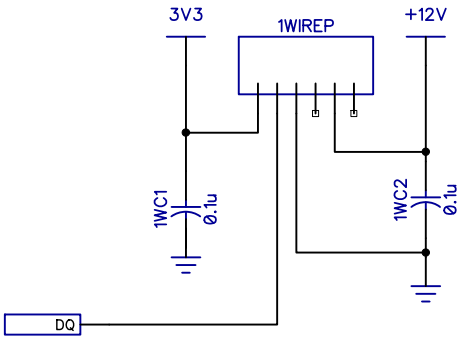
General I/O Module



LED Driver

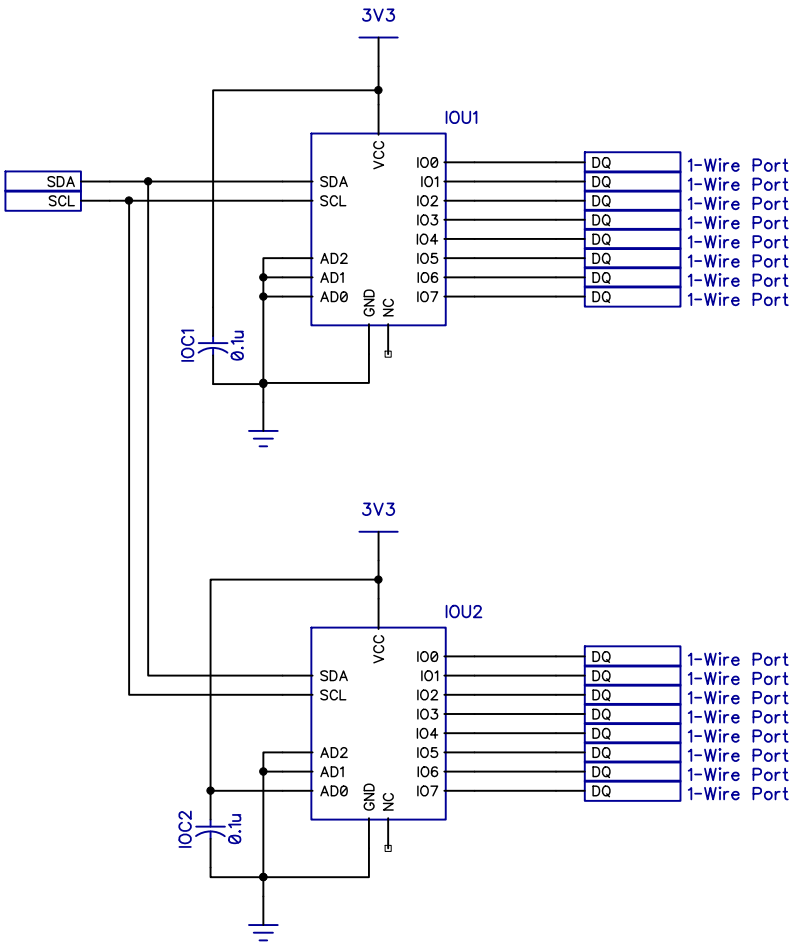


Individual 1-Wire Port



1-Wire Sensor I/O
Input Section

Recommend DS18B20 and other 1-Wire sensors. It is acceptable to daisy-chain from one device to the next with splices. Limit each branch to 100m if possible.



RS-485 I/O Section