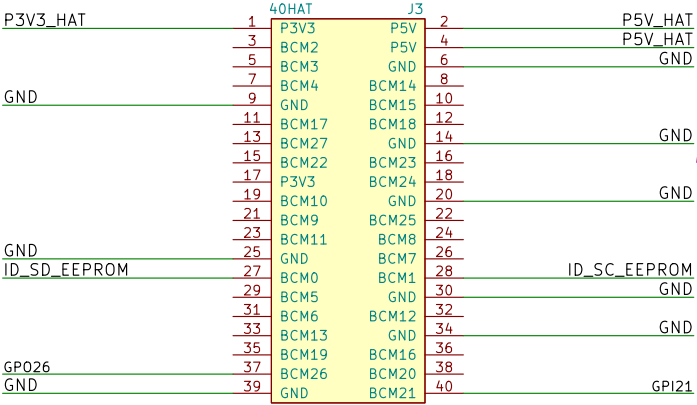


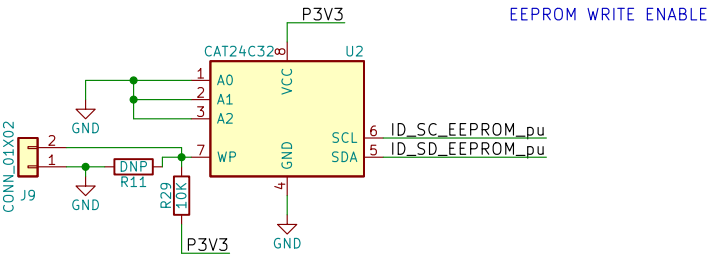
This is based on the official Raspberry Pi spec to be able to call an extension board a HAT.  
<https://github.com/raspberrypi/hats/blob/master/designguide.md>

40–Pin HAT Connector



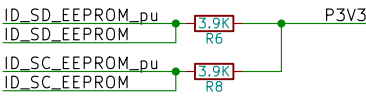
HAT EEPROM

The HAT spec requires this EEPROM with system information to be in place in order to be called a HAT. It should be set up as write protected (WP pin held high), so it may be desirable to either put a jumper as shown to enable writing, or to hook up a spare IO pin to do so.



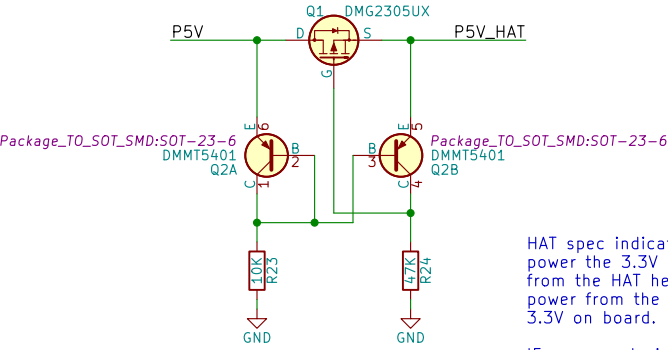
Pullup Resistors

These are just pullup resistors for the I2C bus on the EEPROM. The resistor values are per the HAT spec.



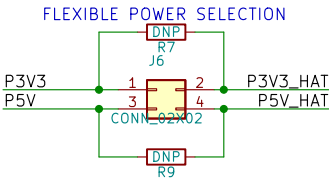
5V Powered HAT Protection

This is the recommended 5V rail protection for a HAT with power going to the Pi.  
See <https://github.com/raspberrypi/hats/blob/master/designguide.md#back-powering-the-pi-via-the-j8-gpio-header>

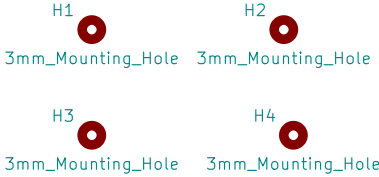


HAT spec indicates to NEVER power the 3.3V pins on the Raspberry Pi from the HAT header. Only connect the 3.3V power from the Pi if the HAT does not have 3.3V on board.

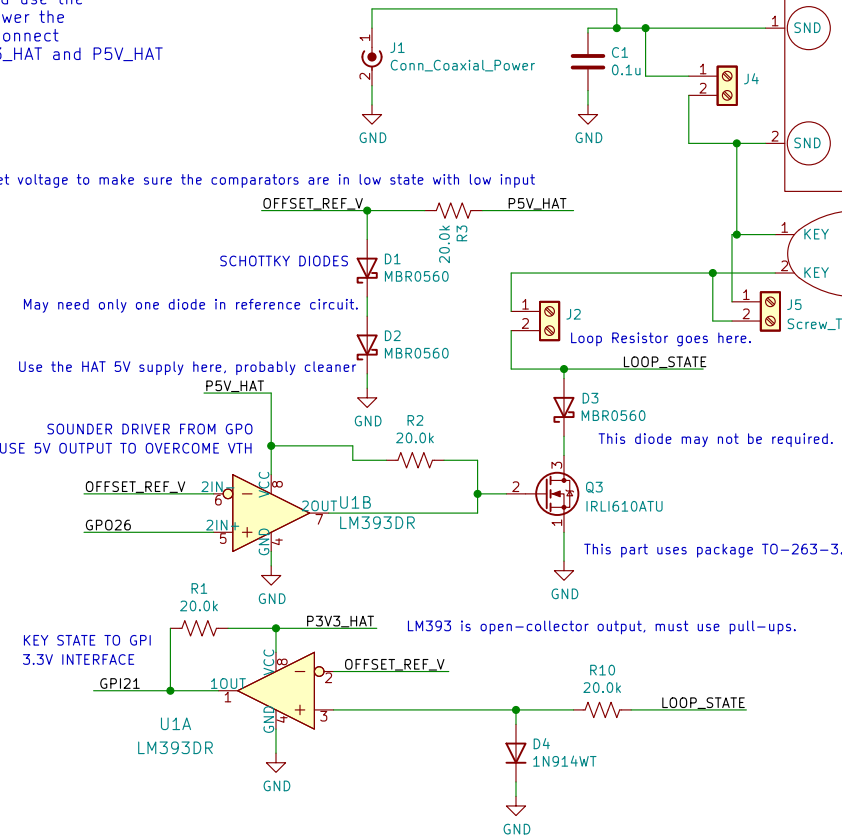
If you are designing a board that could either be powered by the Pi or from the HAT the jumpers here can be used.



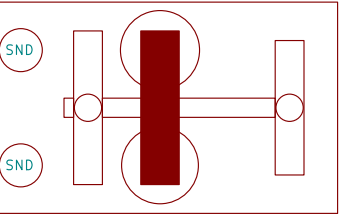
Mounting Holes



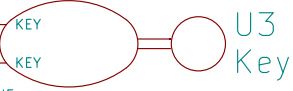
Loop voltage supply plugs in here.



4–150 OHM SOUNDER



U4 Sounder



U3 Key

Sounder connects to J4.  
Key connects to J5.  
KOB connects to J4–1 and J5–2.