

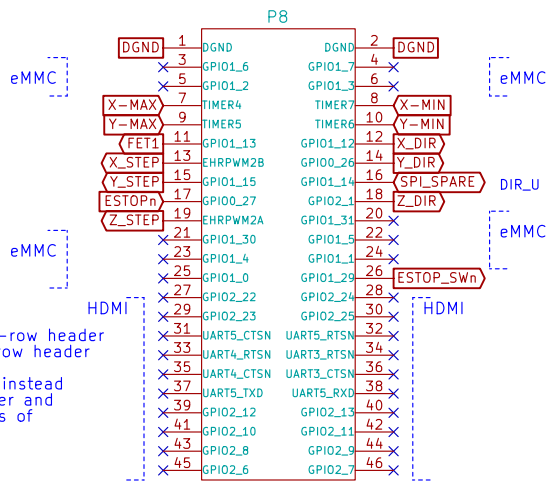
To save money on all the pin headers when buying parts for a few boards you can get large breakaway headers instead of the individual parts. You will need a total of:

- 18 pins of single-row header
- 82 pins of dual-row header

Which you can get using

- Harwin M20-9993645 36-pin single-row header
- Harwin M20-9983645 72-pin dual-row header

If you want to use standard pin headers instead of the latching KK headers for the stepper and ESTOP headers, you need another 32 pins of single-row header



Stepper Drivers



Emergency Stop



Inputs



Mosfet Outputs

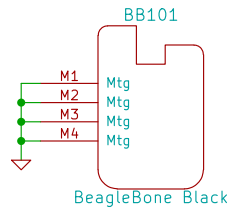


Serial Console

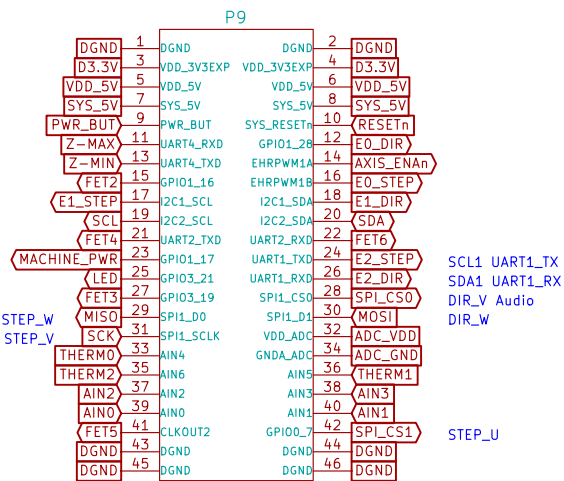


BeagleBone serial console pass-through header

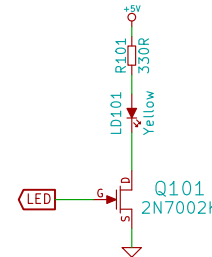
Uses Arduino 6-pin stacking connector for low-cost



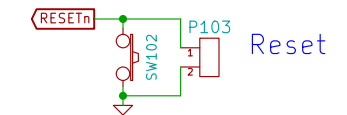
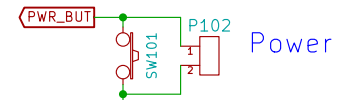
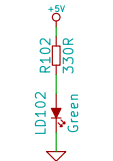
24.576MHz Audio



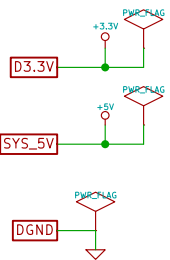
STATUS LED



BB ON LED



BeagleBone Logic supply is always 3.3V



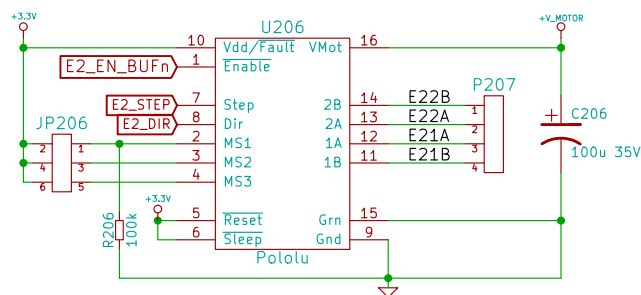
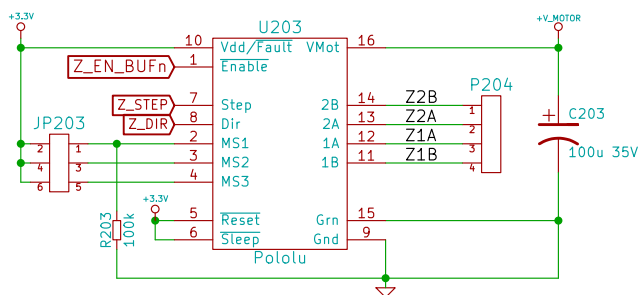
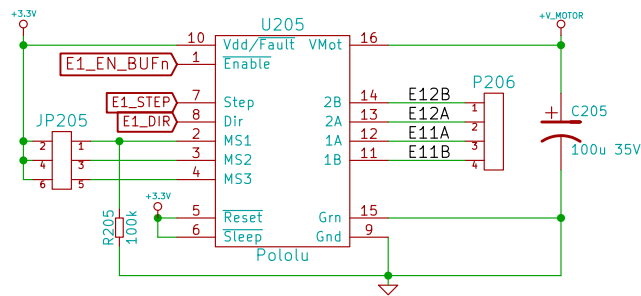
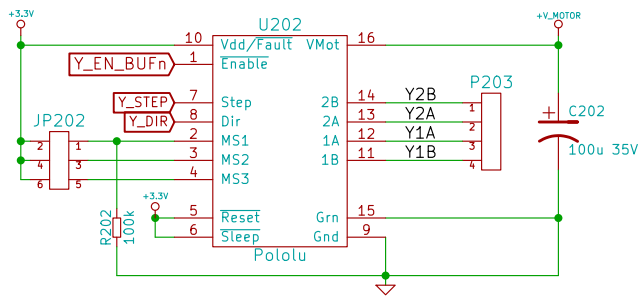
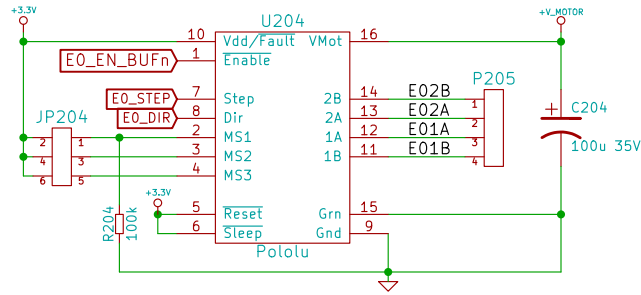
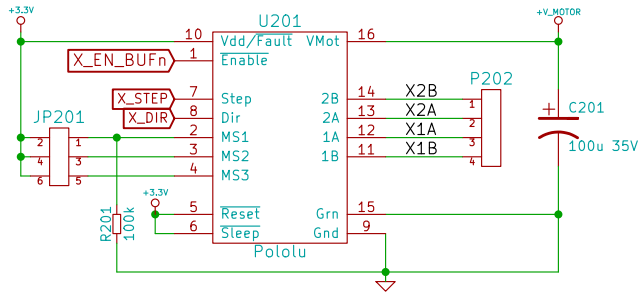
D3.3V: Low-current supply from 500 mA LDO on BeagleBone

SYS_5V: Low-current supply provided by BeagleBone PMIC Active when BeagleBone is running



CRAMPS by Charles Steinkuehler and Murray Lindeblom
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 Derived from RAMPS-FD by Bob Cousins
 Derived from RAMPS 1.4 rewrap.org/wiki/RAMPS1.4

File: CRAMPS.sch		Rev: v2.1	
Sheet: /		Id: 1/5	
Title: CRAMPS (Cape-RAMPS for BeagleBone)			
Size: A	Date: 14 may 2014		
KiCad E.D.A.			



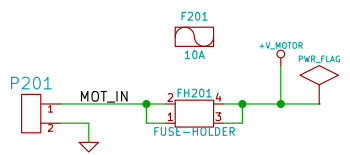
Shunts to set micro-stepping

- S201 SHUNT
- S202 SHUNT
- S203 SHUNT
- S204 SHUNT
- S205 SHUNT
- S206 SHUNT
- S207 SHUNT
- S208 SHUNT
- S209 SHUNT
- S210 SHUNT
- S211 SHUNT
- S212 SHUNT
- S213 SHUNT
- S214 SHUNT
- S215 SHUNT
- S216 SHUNT
- S217 SHUNT
- S218 SHUNT
- S219 SHUNT

24-pin Single-Row sockets for Pololu

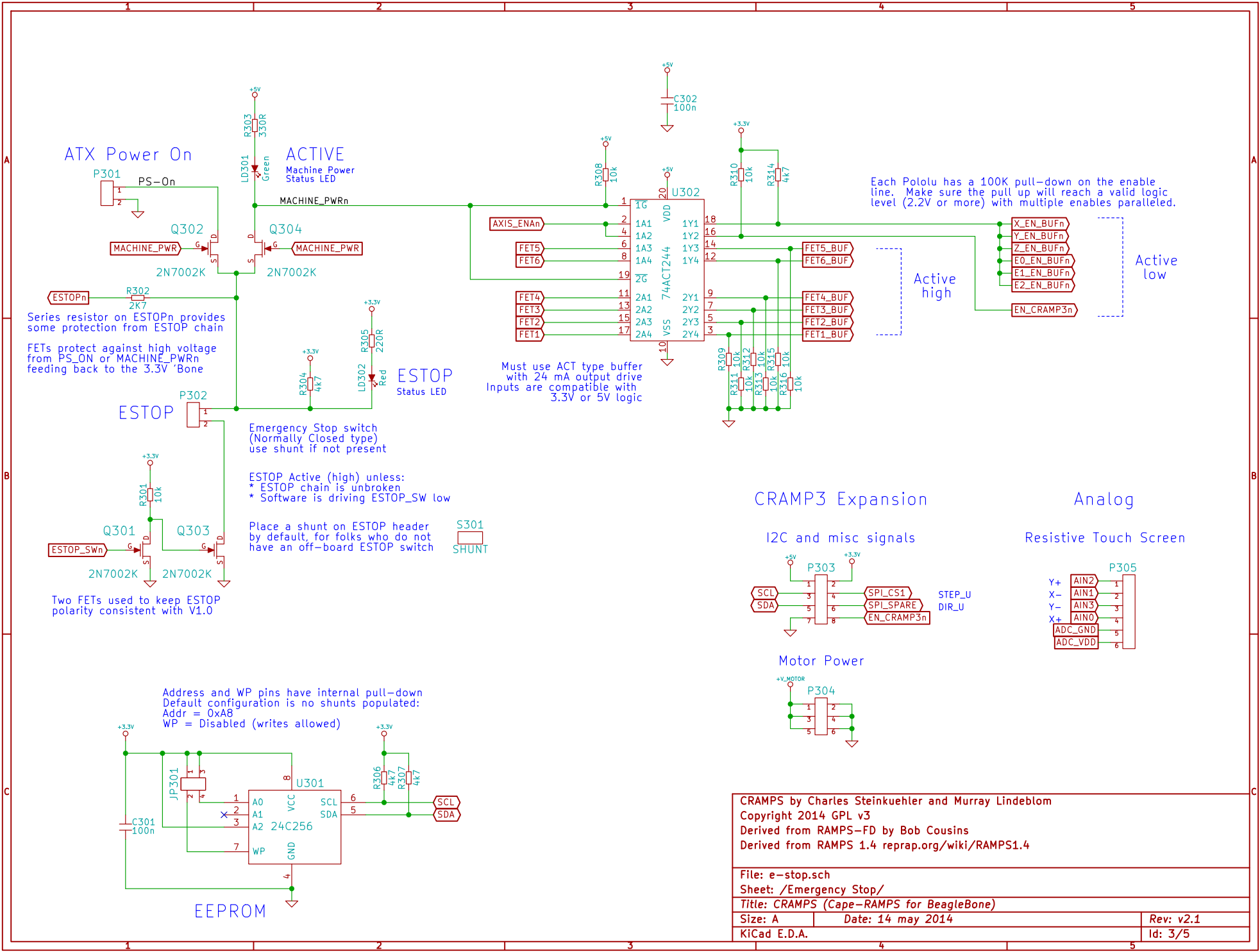
- P208 POLOLU_SOCKET
- P210 POLOLU_SOCKET
- P209 POLOLU_SOCKET
- P211 POLOLU_SOCKET

Motor Power
12-24V, 10A



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File: steppers.sch		Rev: v2.1	
Sheet: /Stepper Drivers/		Date: 14 may 2014	
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Size: A			
KiCad E.D.A.			

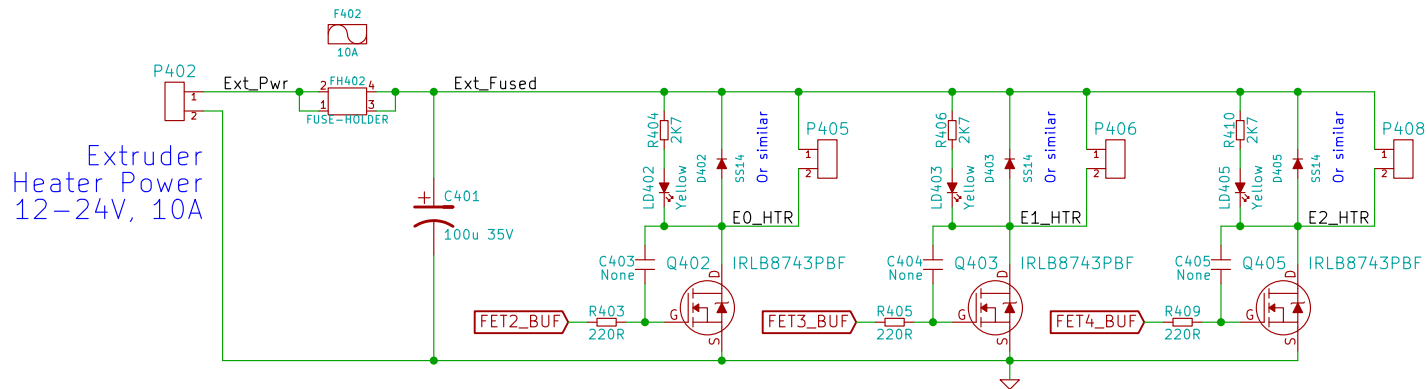
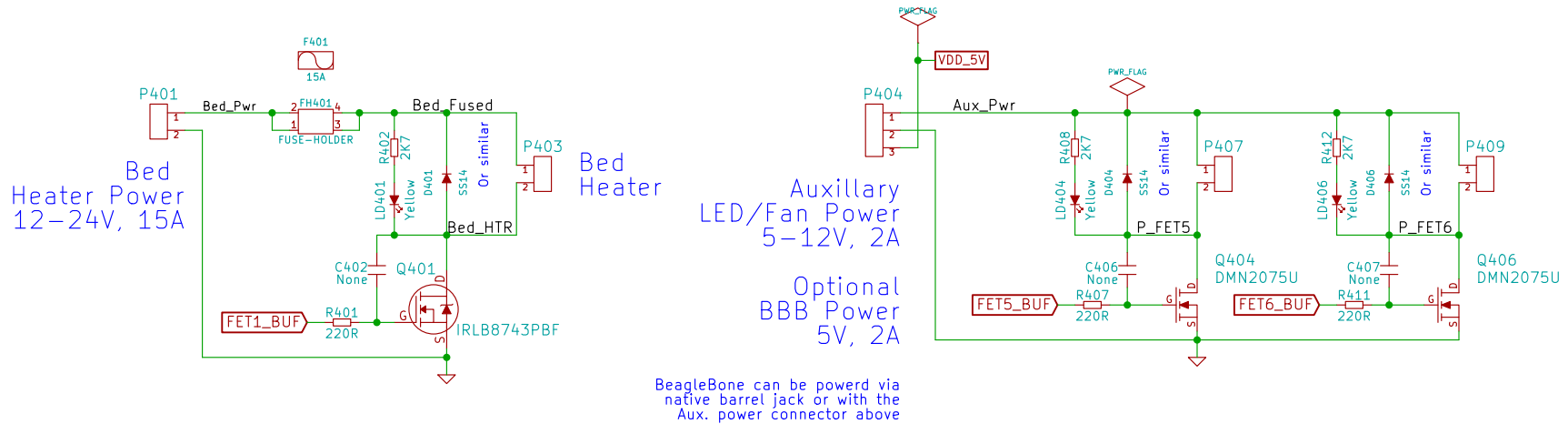


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File: e-stop.sch		Rev: v2.1	
Sheet: /Emergency Stop/		Date: 14 may 2014	
Title: CRAMPS (Cape-RAMPS for BeagleBone)			
Size: A	Date: 14 may 2014		Rev: v2.1
KiCad E.D.A.		Id: 3/5	

MOSFET Outputs

Non-inverting drivers



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File: con_outputs.sch

Sheet: /Mosfet Outputs/

Title: CRAMPS (Cape-RAMPS for BeagleBone)

Size: A Date: 14 may 2014

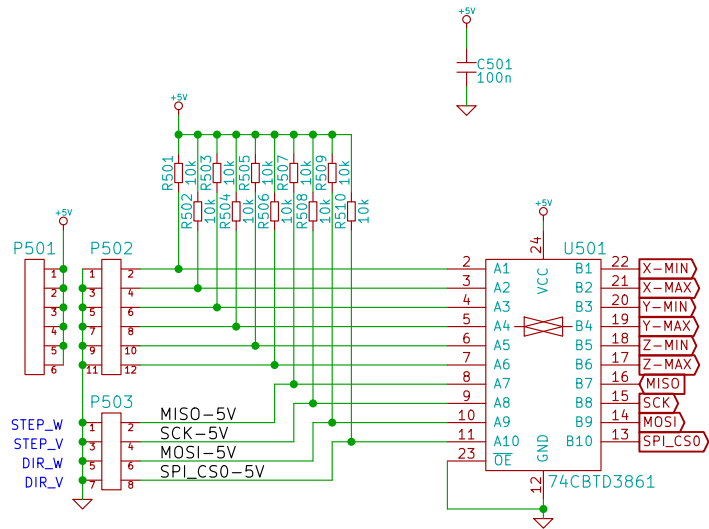
Rev: v2.1

KiCad E.D.A.

Id: 4/5

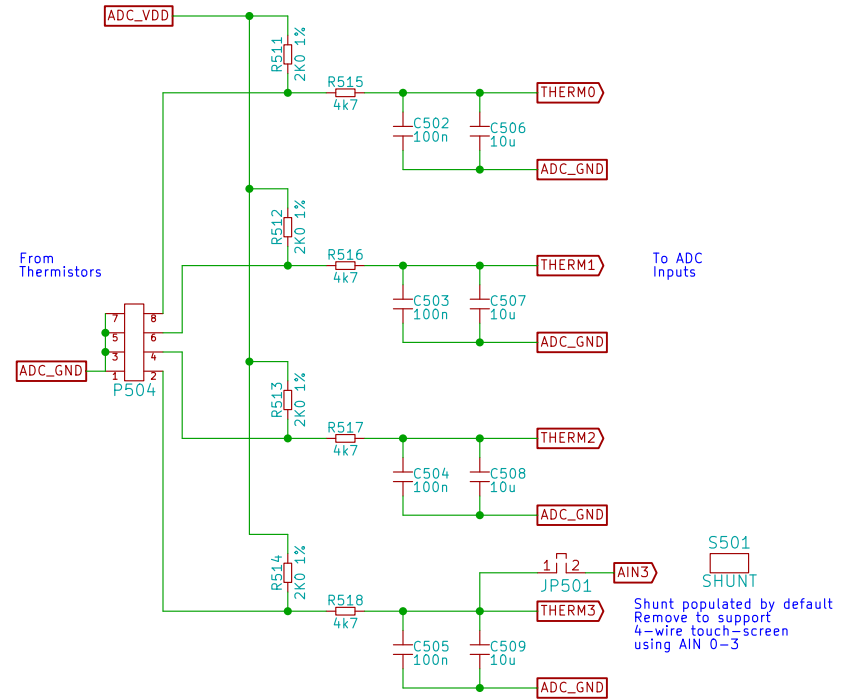
Endstops

Endstop inputs are 5V tolerant and may also be used as 3.3V output signals if desired



P503 may be used for:
 * Additional digital I/O
 * CRAMP3 add-on board
 * SPI expansion

Thermistor Inputs



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File: con_inputs.sch

Sheet: /Inputs/

Title: CRAMPS (Cape-RAMPS for BeagleBone)

Size: A Date: 14 may 2014

Rev: v2.1

KiCad E.D.A.

Id: 5/5