

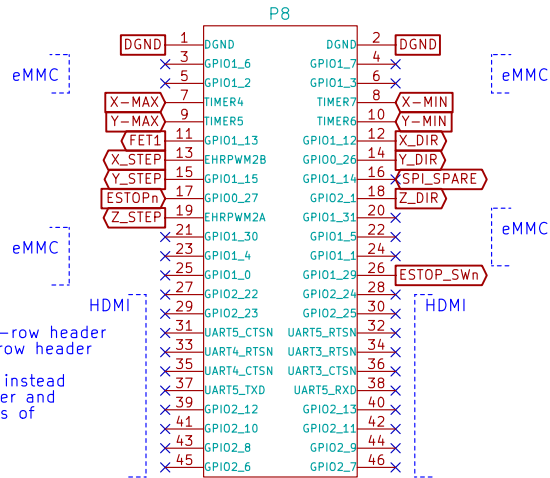
To save money on all the pin headers when buying parts for a few boards you can get large breakaway headers instead of the individual parts. You will need a total of:

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

Which you can get using

- (1) Harwin M20-9993645 36-pin single-row header
- (2) 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

steppers.sch

Emergency Stop

e-stop.sch

Inputs

con_inputs.sch

Mosfet Outputs

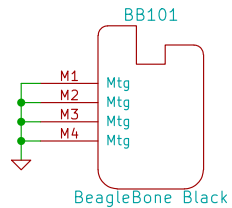
con_outputs.sch

Serial Console



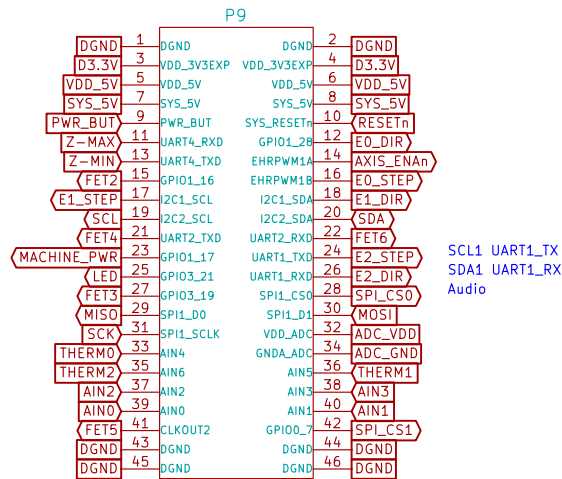
BeagleBone serial console pass-through header

Uses Arduino 6-pin stacking connector for low-cost



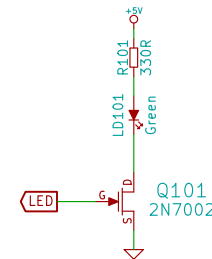
24.576MHz Audio

Audio

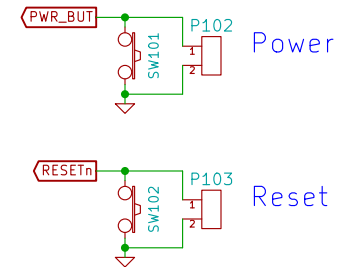
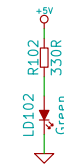


SCL1 UART1_TX
SDA1 UART1_RX
Audio

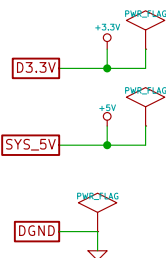
Status LED



BB Turned On

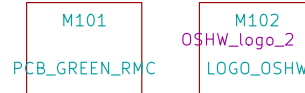


BeagleBone Logic supply is always 3.3V



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
Copyright 2014 GPL v3
Derived from RAMPS-FD by Bob Cousins
Derived from RAMPS 1.4 rewrap.org/wiki/RAMPS1.4

File: CRAMPS.sch

Sheet: /

Title: CRAMPS (Cape-RAMPS for BeagleBone)

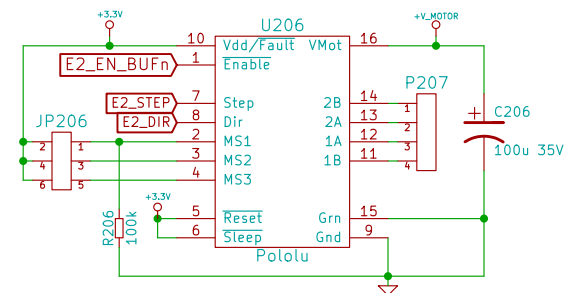
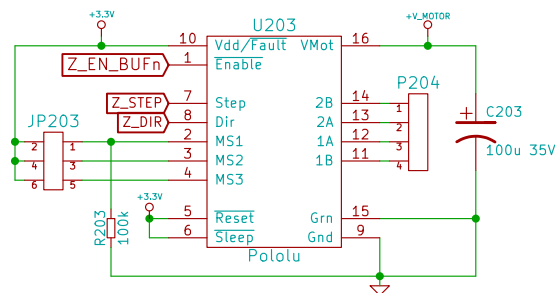
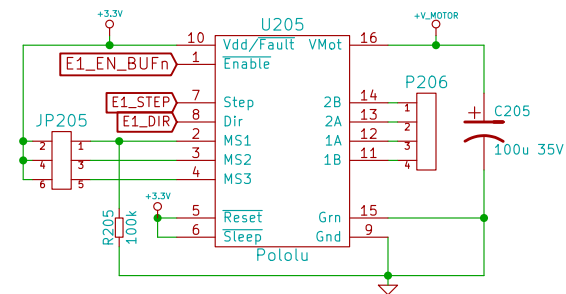
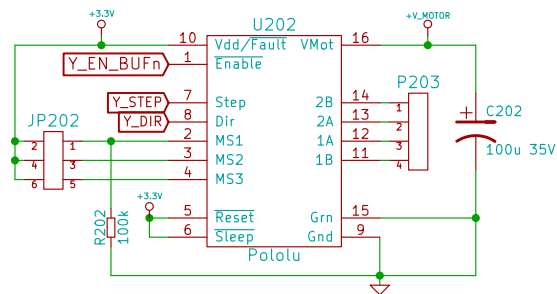
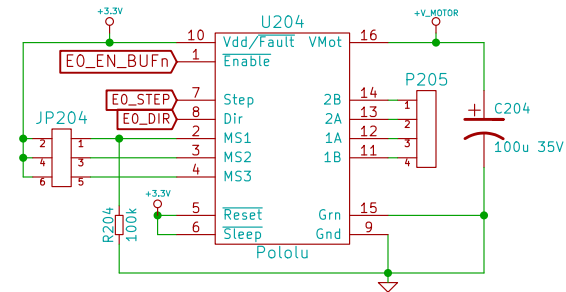
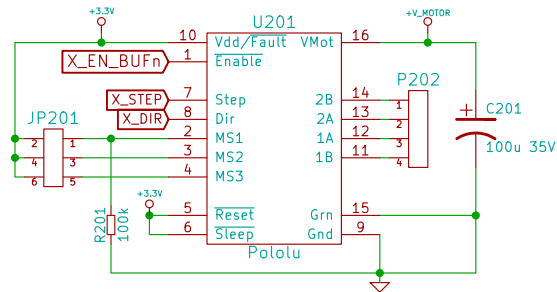
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Date: 2 may 2014

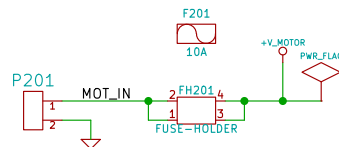
Rev: v1.0

KiCad E.D.A.

Id: 1/5



Motor Power
12-24V, 10A



Shunts to set
micro-stepping

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

24-pin Single-Row
sockets for Pololu

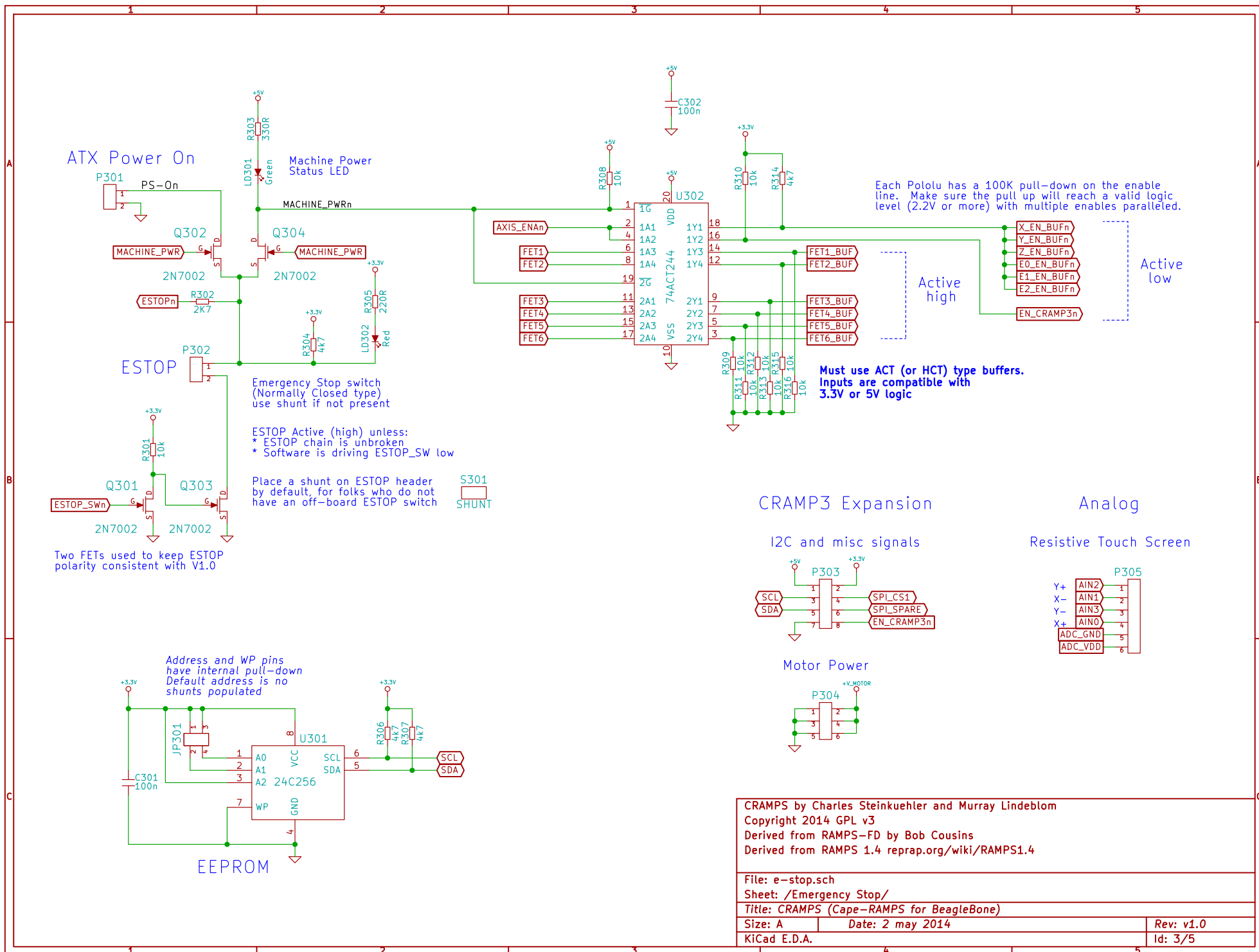
P208	P210
POLOLU_SOCKET	POLOLU_SOCKET
P209	P211
POLOLU_SOCKET	POLOLU_SOCKET

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File: steppers.sch
Sheet: /Stepper Drivers/
Title: CRAMPS (Cape-RAMPS for BeagleBone)

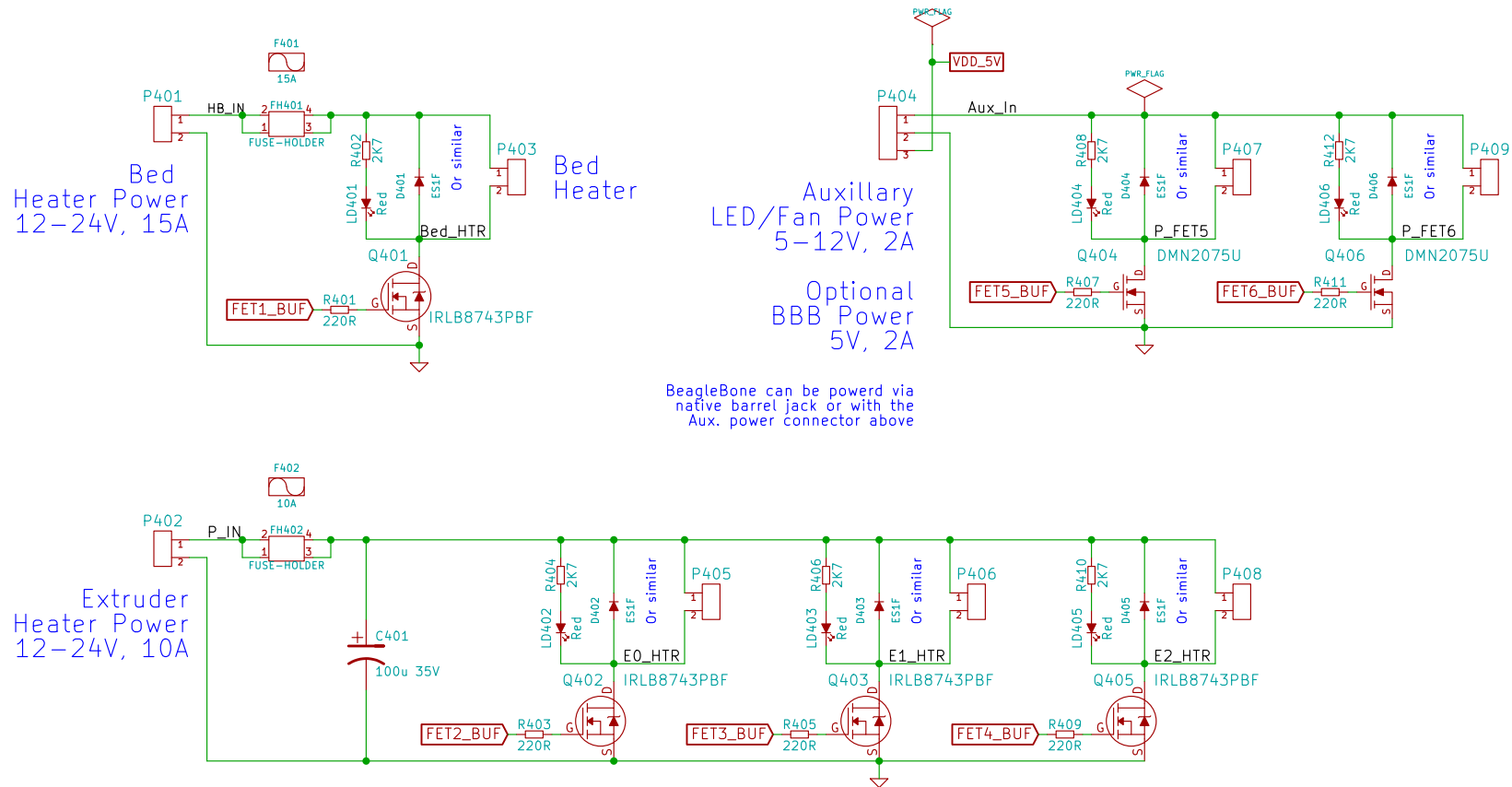
Size: A Date: 2 may 2014
KiCad E.D.A.

Rev: v1.0
Id: 2/5



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: 2 may 2014

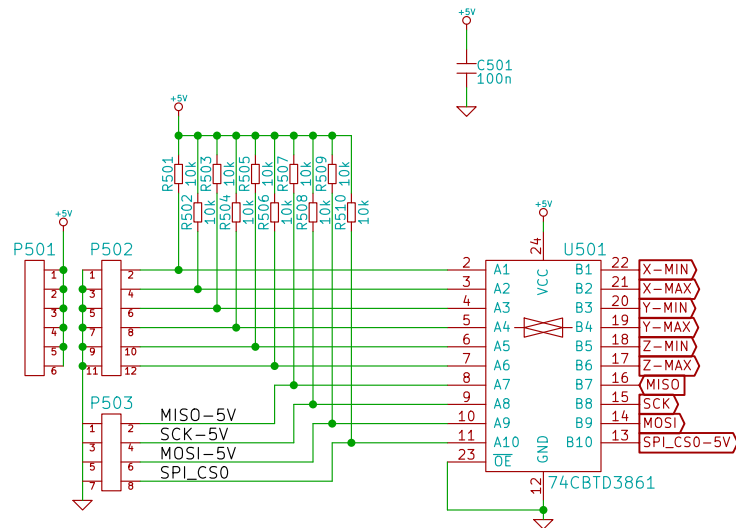
KiCad E.D.A.

Rev: v1.0

Id: 4/5

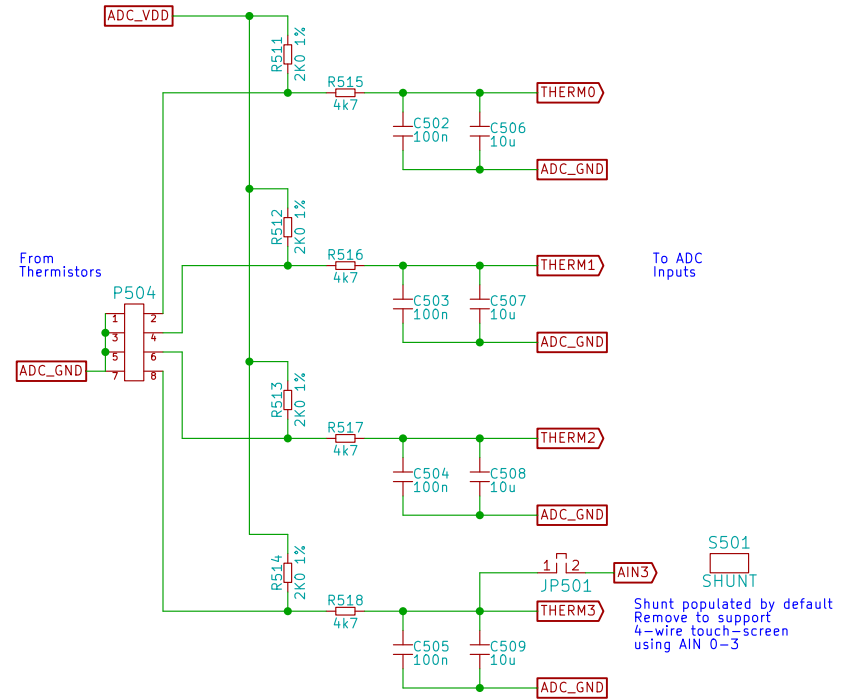
Endstops

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



Shunt populated by default
 Remove to support
 4-wire touch-screen
 using AIN 0-3

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 Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

File: con_inputs.sch

Sheet: /Inputs/

Title: CRAMPS (Cape-RAMPS for BeagleBone)

Size: A Date: 2 may 2014

KiCad E.D.A.

Rev: v1.0

Id: 5/5