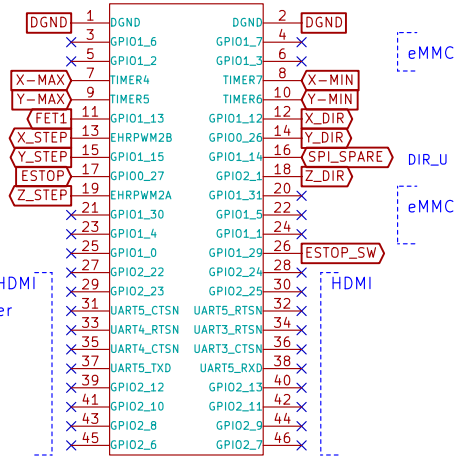
To save money on all the pin headers
when buying parts for a few boards,
you can get large breakaway headers
instead of the individual parts. You
will need a total of:

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

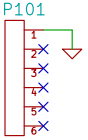
If you want to use standard pin headers instead
of the latching KK headers for the stepper and
ESTOP headers, you need another 32 pins of
single-row header

P8



Serial Console

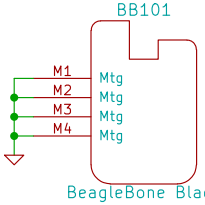
P101



BeagleBone serial console pass-through header

Uses Arduino 6-pin stacking connector for low-cost

BB101

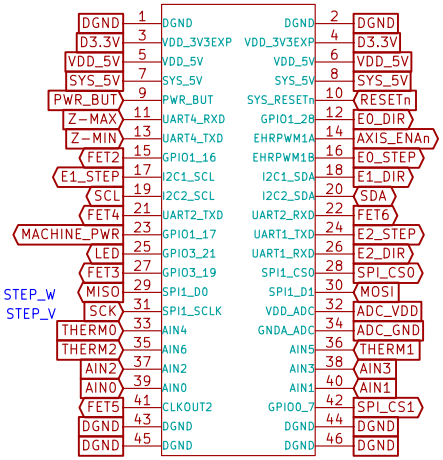


BeagleBone Black

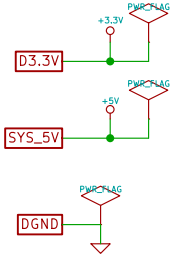
24.576MHz Audio

Audio STEP_W
Audio STEP_V

P9



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

M101
PCB_GREEN_RMC

M102
LOGO_OSHW

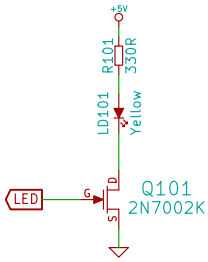
Stepper Drivers
steppers.sch

Emergency Stop
e-stop.sch

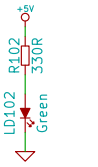
Inputs
con_inputs.sch

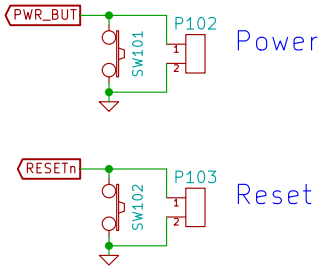
Mosfet Outputs
con_outputs.sch

STATUS LED



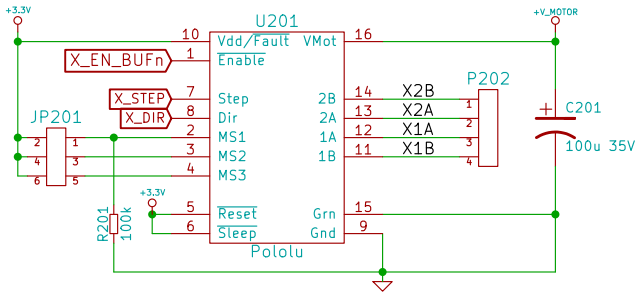
BB ON LED

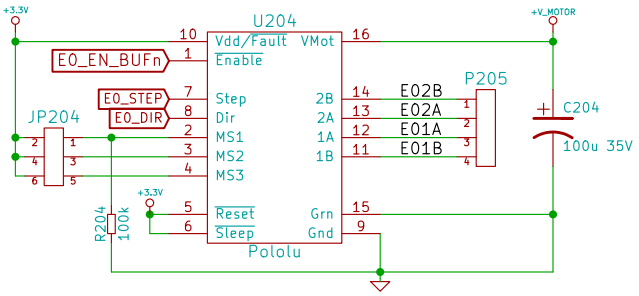


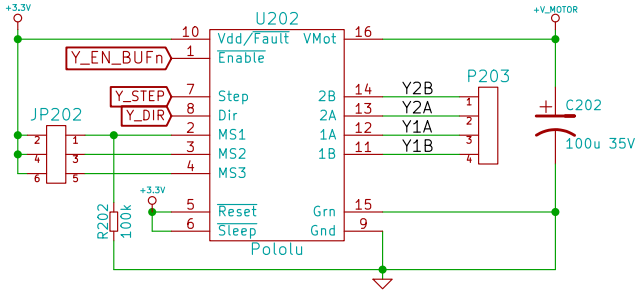


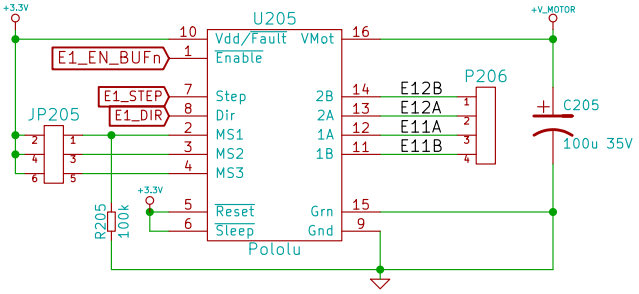
CRAMPS by Charles Steinkuehler and Murray Lindeblom
Copyright 2014 GPL v3
Derived from RAMPS-FD by Bob Cousins
Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

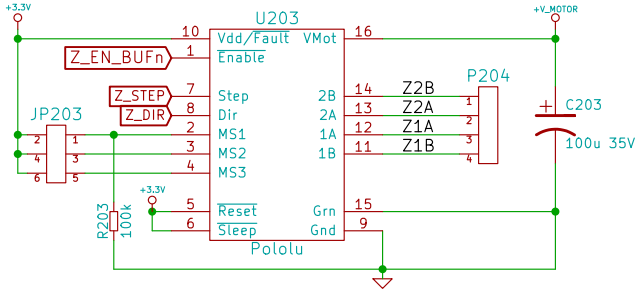
File: CRAMPS.sch		
Sheet: /		
Title: CRAMPS (Cape-RAMPS for BeagleBone)		
Size: A	Date: 25 may 2014	Rev: v2.2
KiCad E.D.A.		Id: 1/5

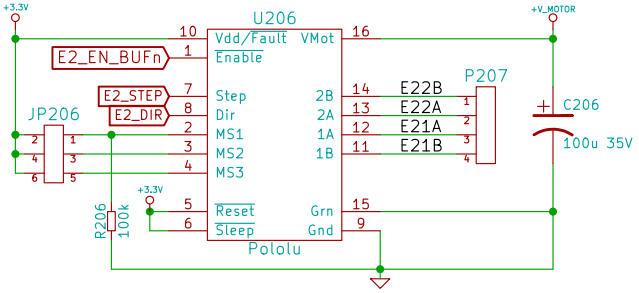












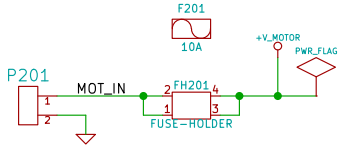
Shunts to set micro-stepping

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

24-pin Single-Row sockets for Pololus

P208 POLOLU_SOCKET
P210 POLOLU_SOCKET
P209 POLOLU_SOCKET
P211 POLOLU_SOCKET

Motor Power 12-24V, 10A



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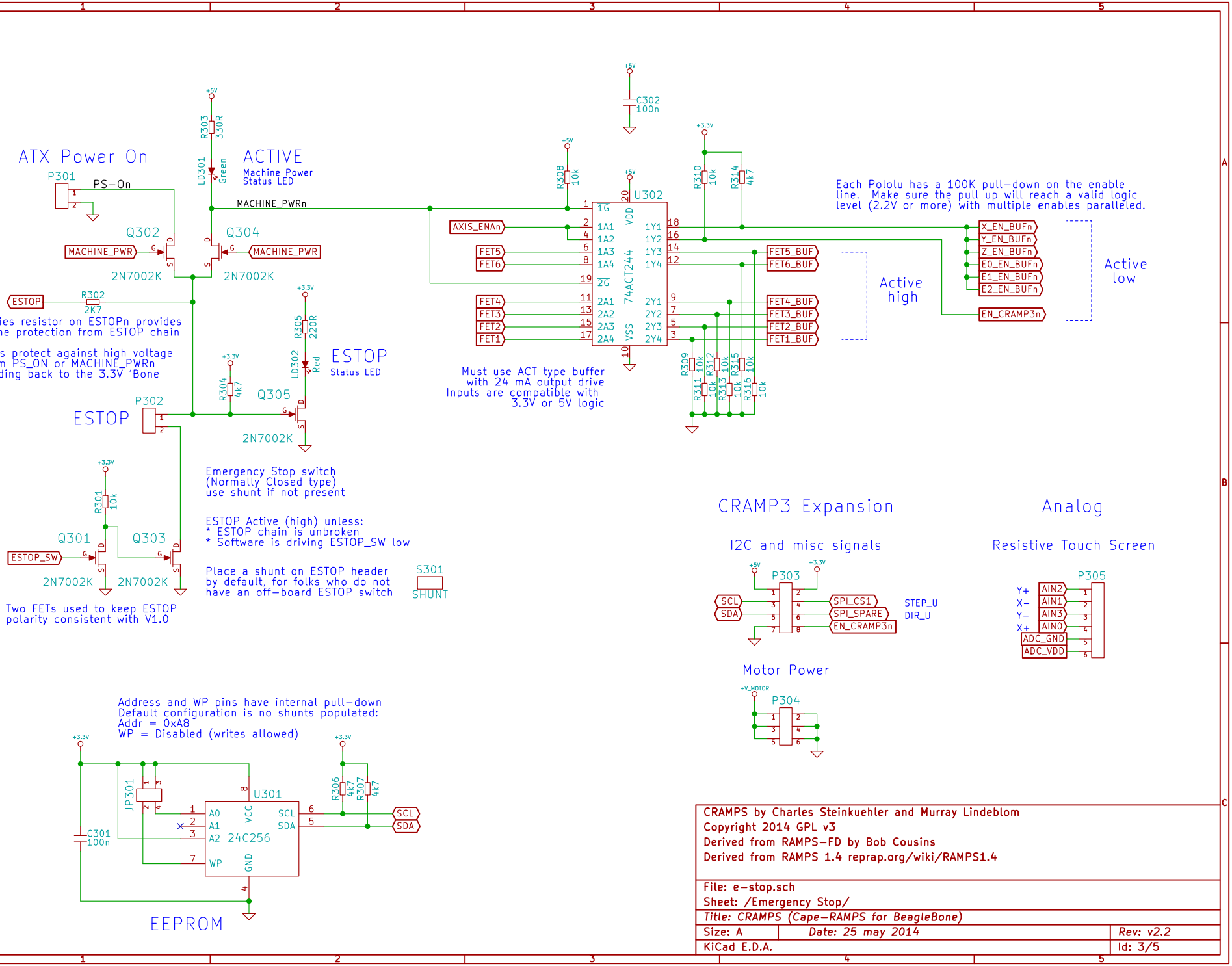
Size: A	Date: 25 may 2014	Rev: v2.2
KiCad E.D.A.		Id: 2/5



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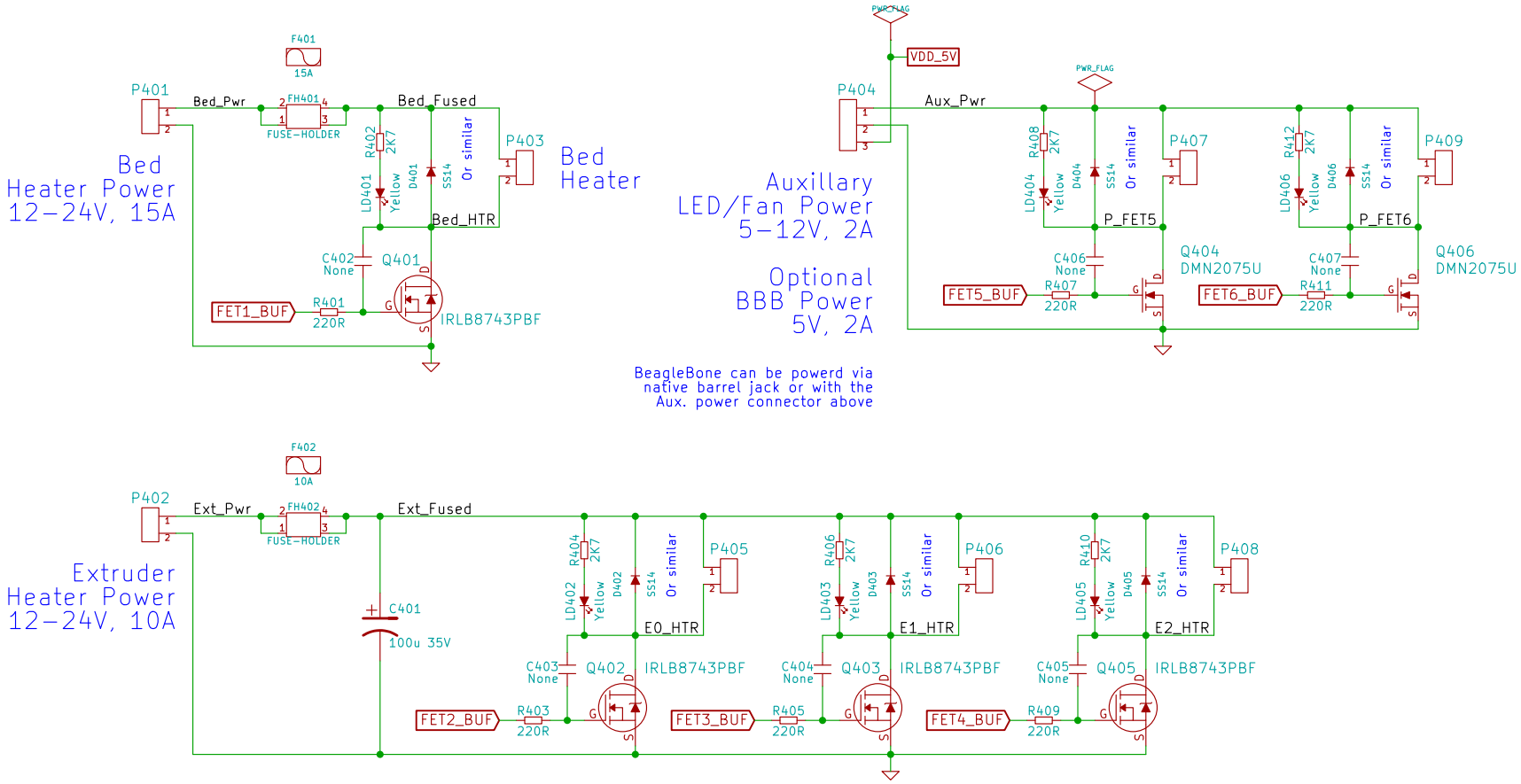
File: e-stop.sch		
Sheet: /Emergency Stop/		
Title: CRAMPS (Cape-RAMPS for BeagleBone)		
Size: A	*Date: 25 may 2014*	*Rev: v2.2*
KiCad E.D.A.		Id: 3/5

MOSFET Outputs

Non-inverting drivers



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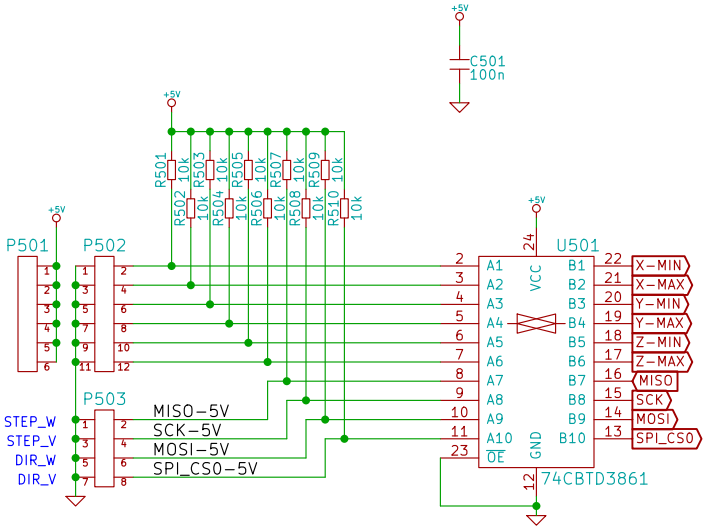
File: con_outputs.sch		
Sheet: /Mosfet Outputs/		
Title: CRAMPS (Cape-RAMPS for BeagleBone)		
Size: A	*Date: 25 may 2014*	*Rev: v2.2*
KiCad E.D.A.		Id: 4/5

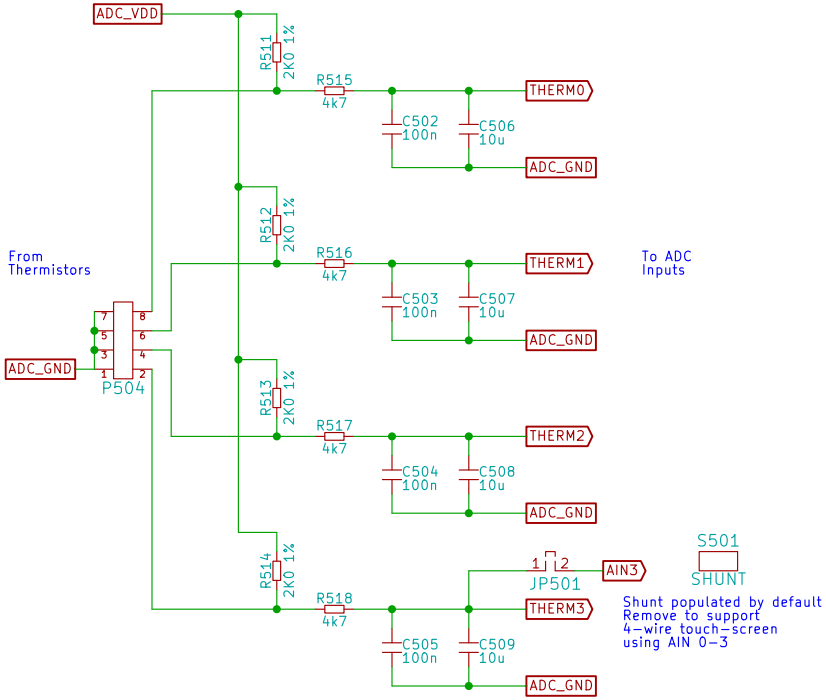
Endstops

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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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: 25 may 2014*	*Rev: v2.2*
KiCad E.D.A.		Id: 5/5