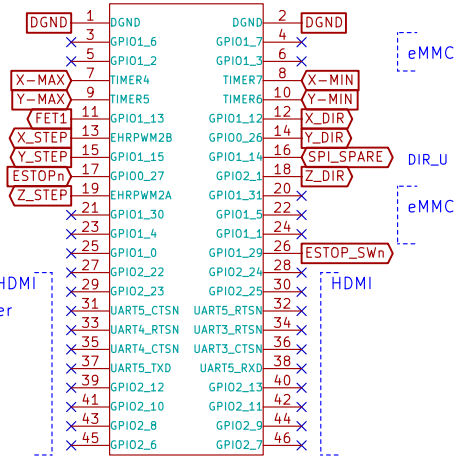
To save money on all the pin headers
when buying parts for a few boards,
you can get large breakaway headers
instead of the individual parts. You
will need a total of:

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

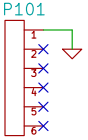
If you want to use standard pin headers instead
of the latching KK headers for the stepper and
ESTOP headers, you need another 32 pins of
single-row header

P8



Serial Console

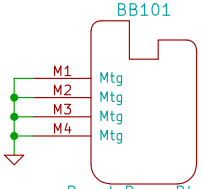
P101



BeagleBone serial console pass-through header

Uses Arduino 6-pin stacking connector for low-cost

BB101

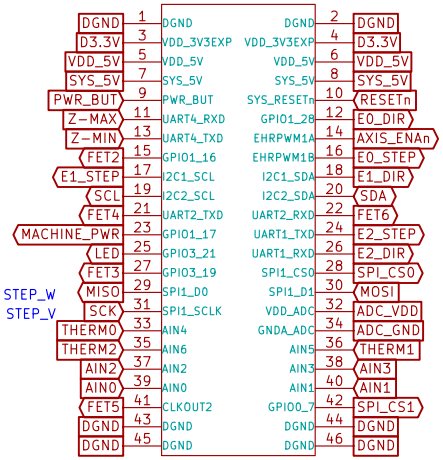


BeagleBone Black

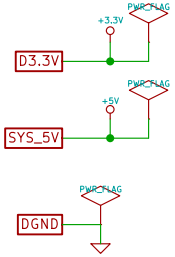
24.576MHz Audio

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

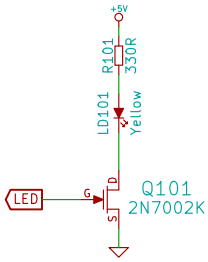
Stepper Drivers
steppers.sch

Emergency Stop
e-stop.sch

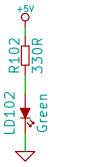
Inputs
con_inputs.sch

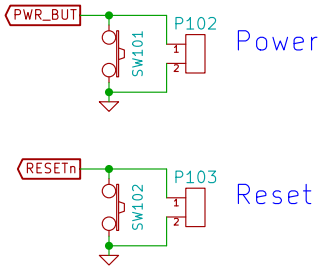
Mosfet Outputs
con_outputs.sch

STATUS LED



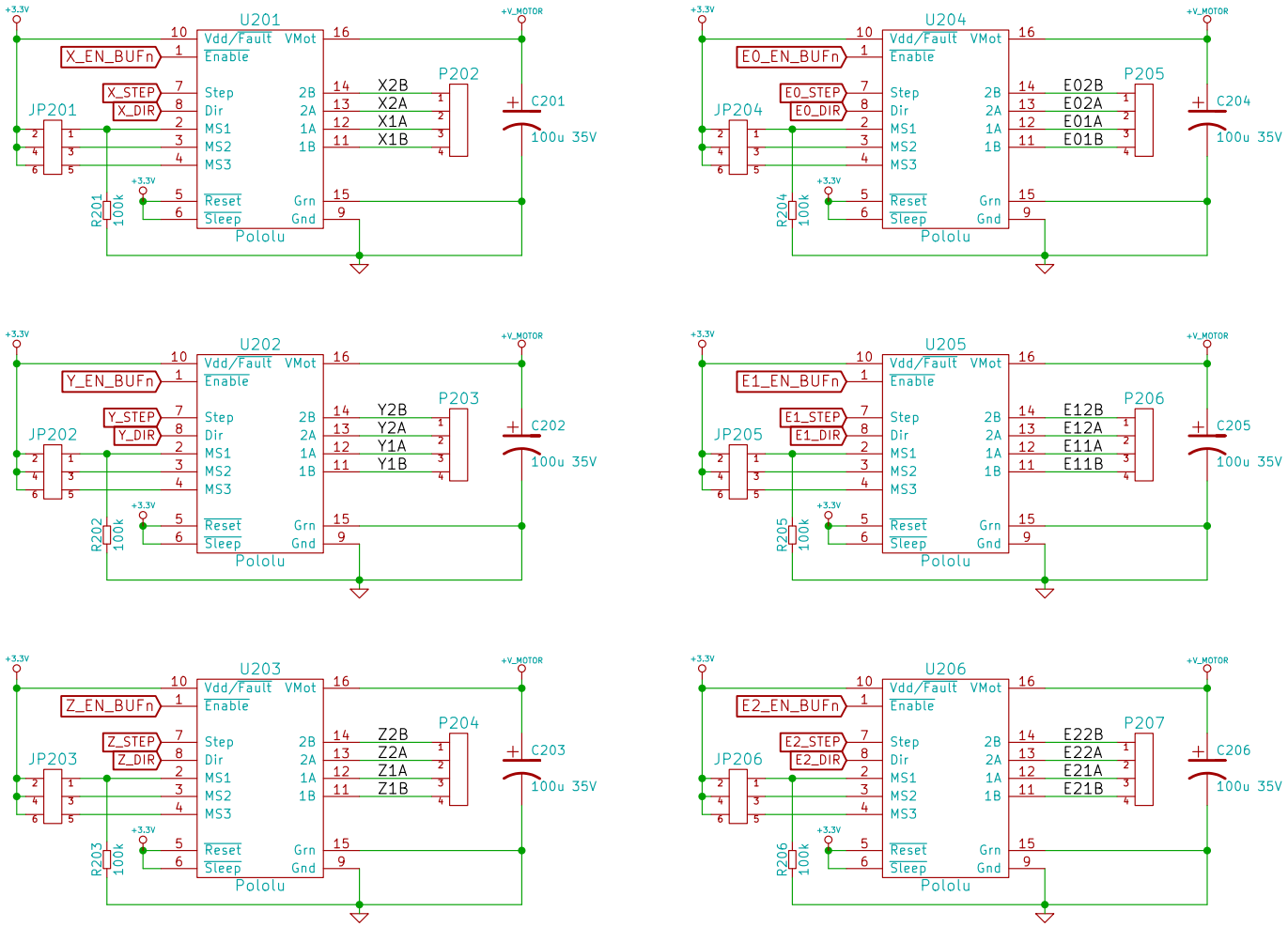
BB ON LED





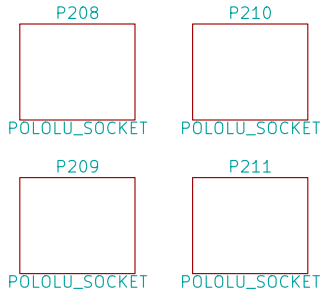
CRAMPS by Charles Steinkuehler and Murray Lindeblom
Copyright 2014 GPL v3
Derived from RAMPS-FD by Bob Cousins
Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

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

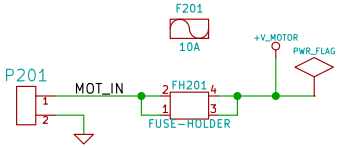


Shunts to set micro-stepping

24-pin Single-Row sockets for Pololus



Motor Power 12-24V, 10A



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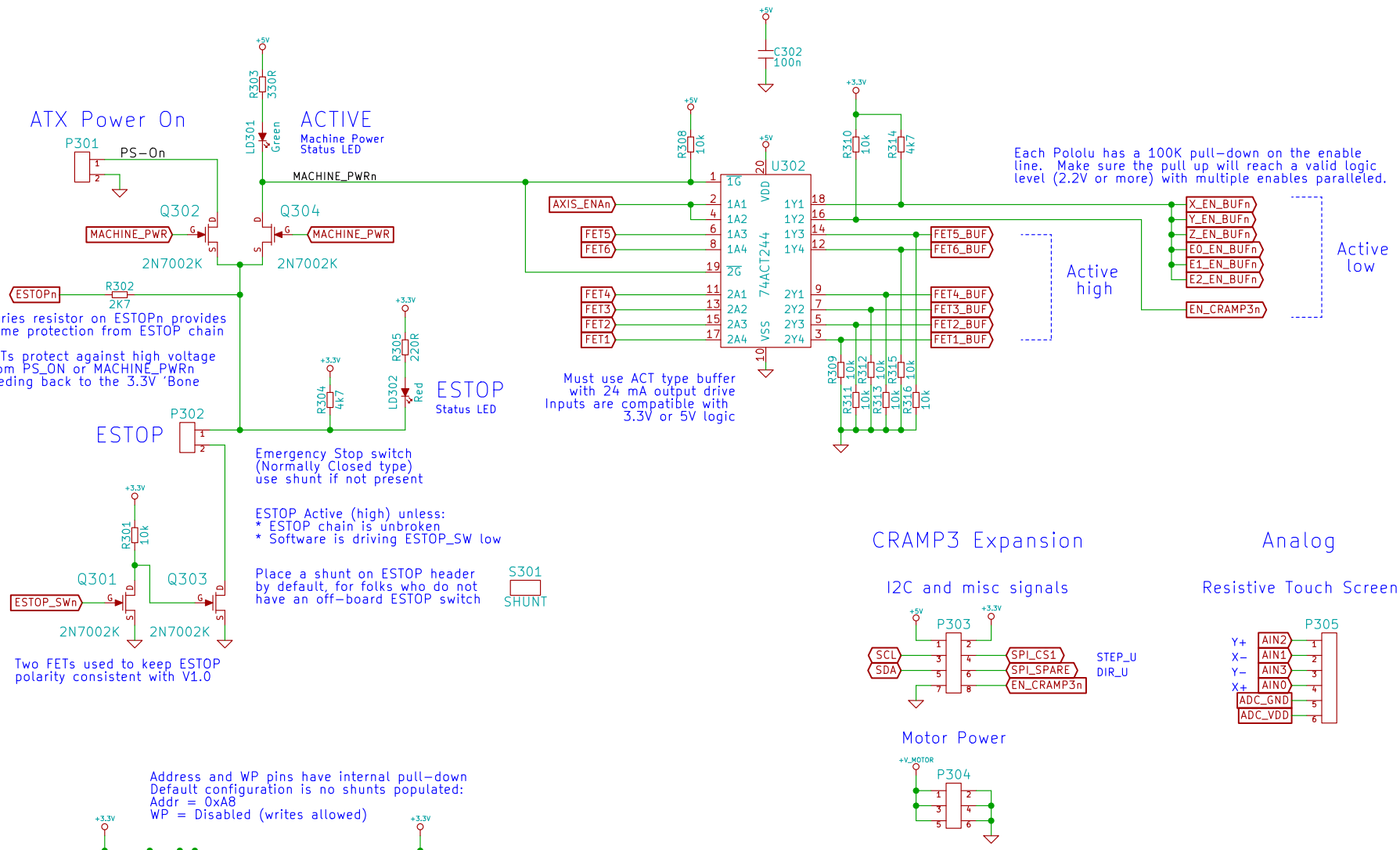
Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

File: steppers.sch		
Sheet: /Stepper Drivers/		
Title: CRAMPS (Cape-RAMPS for BeagleBone)		
Size: A	*Date: 14 may 2014*	*Rev: v2.1*
KiCad E.D.A.		Id: 2/5



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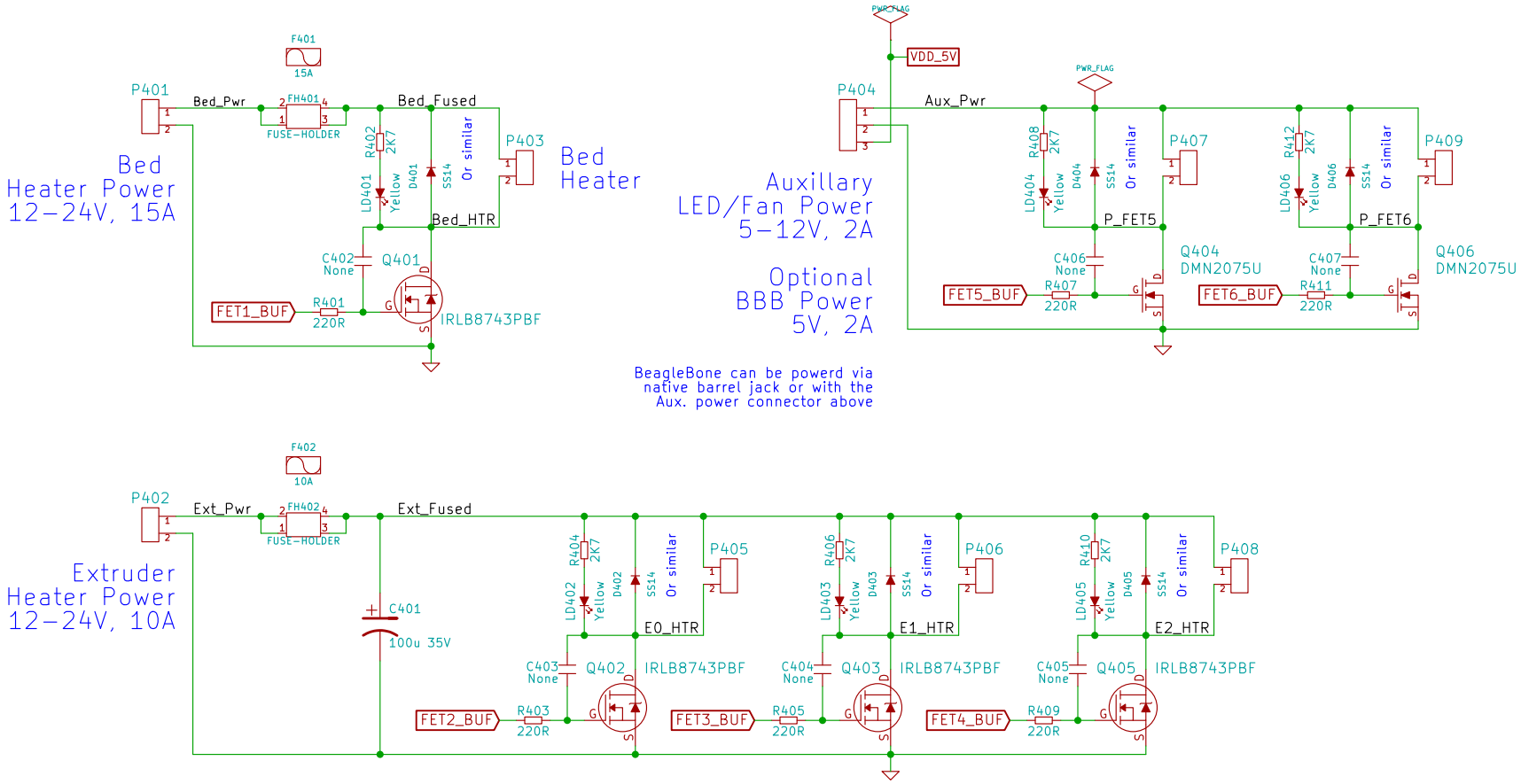
Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

File: e-stop.sch		
Sheet: /Emergency Stop/		
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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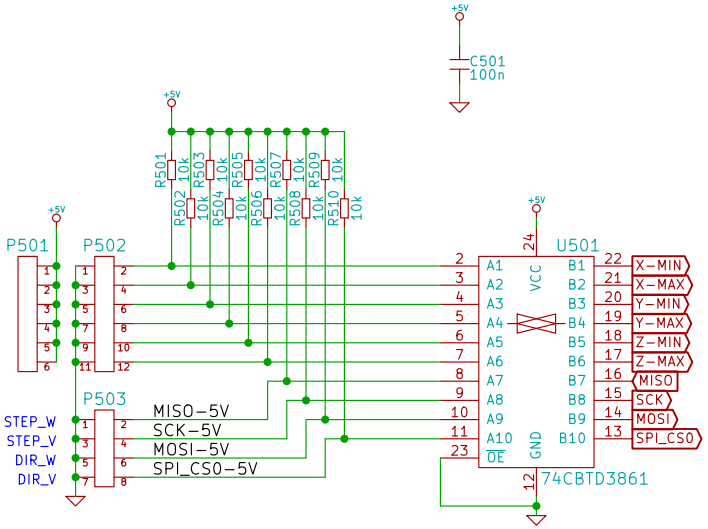
Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

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

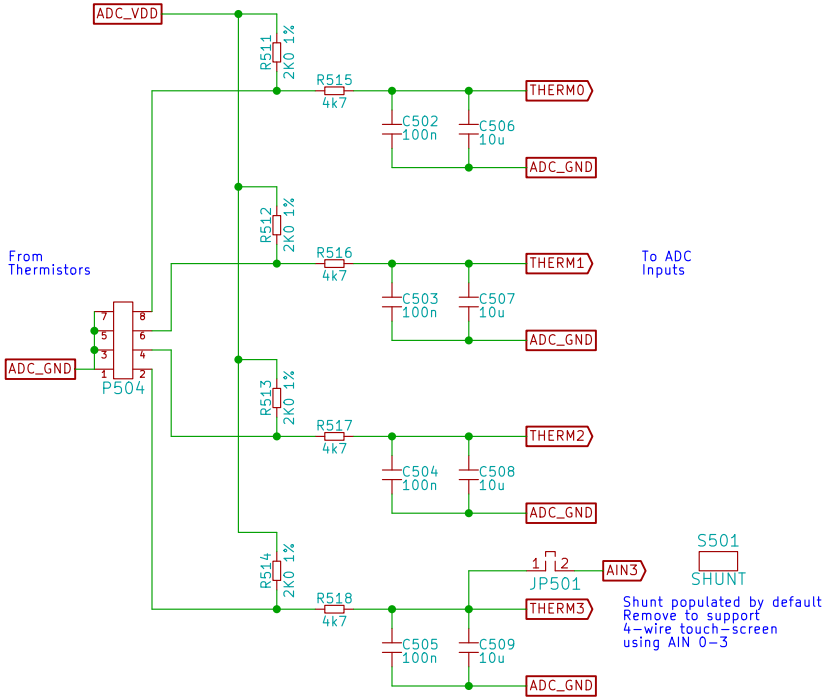
Endstops

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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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: 14 may 2014*	*Rev: v2.1*
KiCad E.D.A.		Id: 5/5