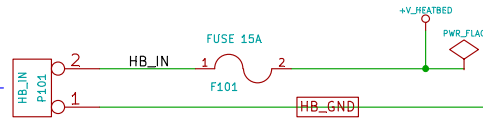


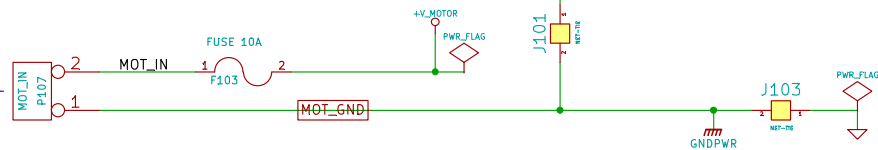
Power

PS-ON P103

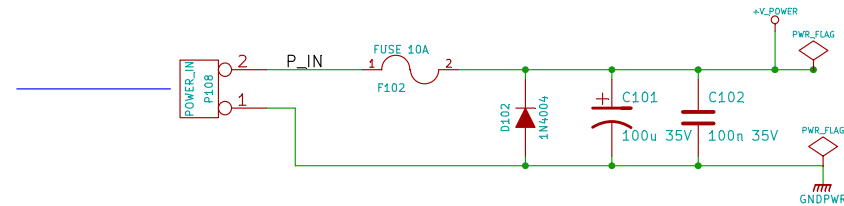
Heatbed Only: 12–24V, 15A



Motors only, 12–24V

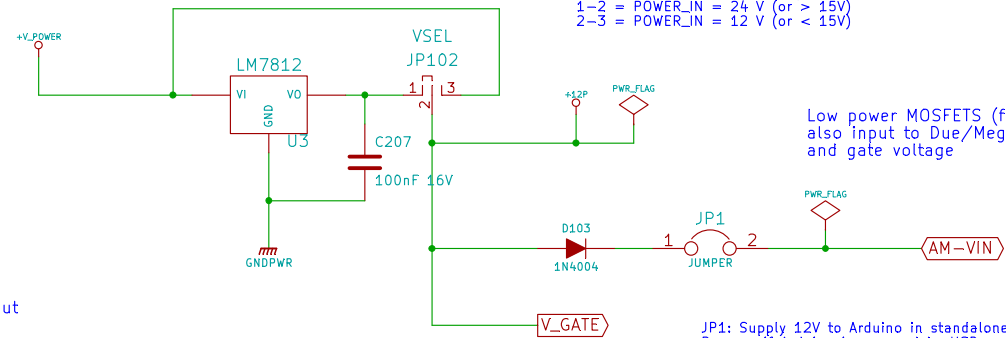


Medium power MOSFETS
(extruder heaters, fans)



JP102 – VSEL – Select voltage
1–2 = POWER_IN = 24 V (or > 15V)
2–3 = POWER_IN = 12 V (or < 15V)

Low power MOSFETS (fans etc)
also input to Due/Mega
and gate voltage

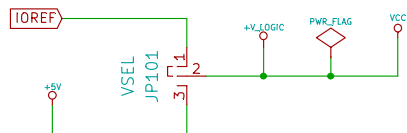


JP1: Supply 12V to Arduino in standalone operation
Remove if Arduino is powered by USB or other supply

Note: On R3 compatible Arduinos, IOREF
will supply 3.3V (Due), or 5V (Mega).

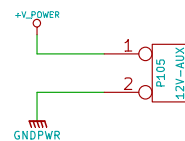
If IOREF is not provided (non-R3) then it
must be a 5V Arduino so set VSEL to 5V.

If not 5V then need to get 3.3V from somewhere ...



VSEL – Select logic voltage
1–2 = Autoselect by IOREF
2–3 = 5V

Power output



File: Power.sch

Sheet: /Power/

Title:

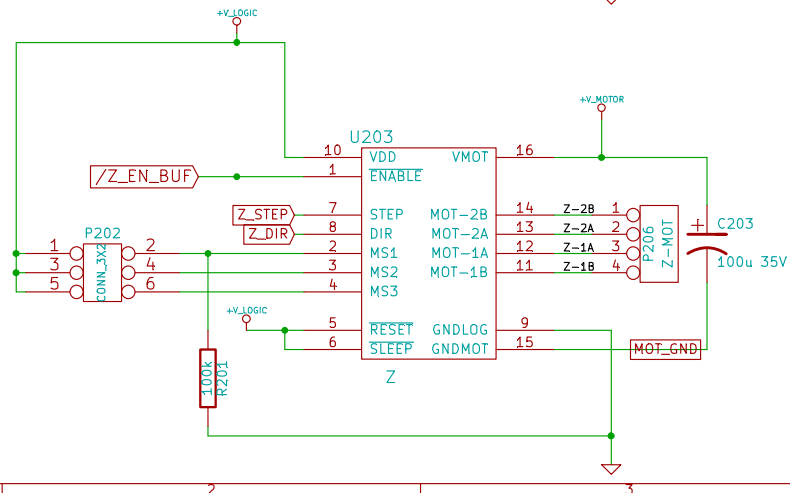
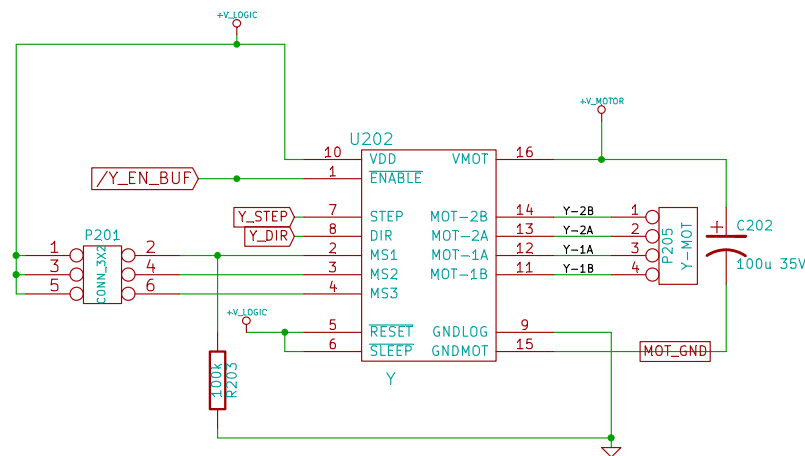
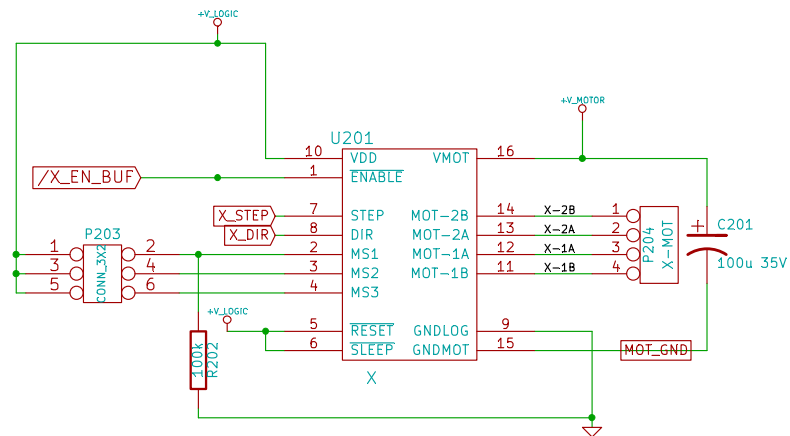
Size: A4

Date: 26 sep 2013

Rev:

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Id: 2/9



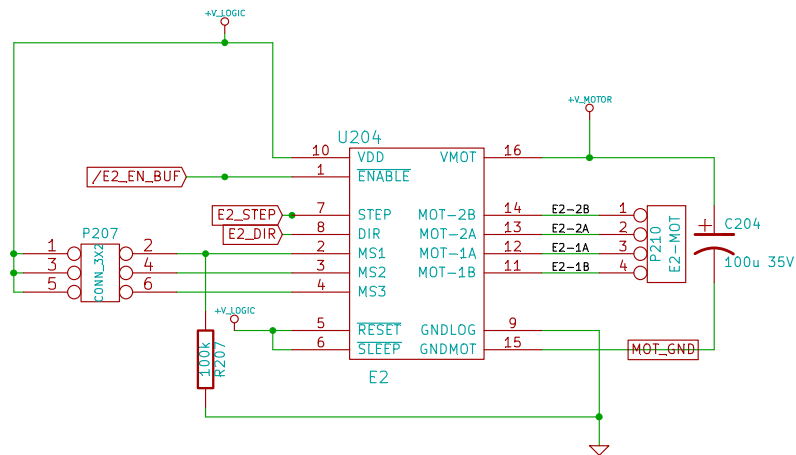
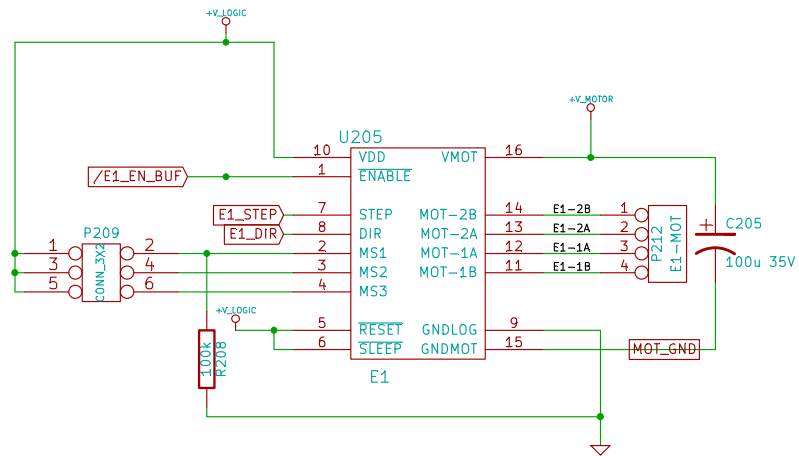
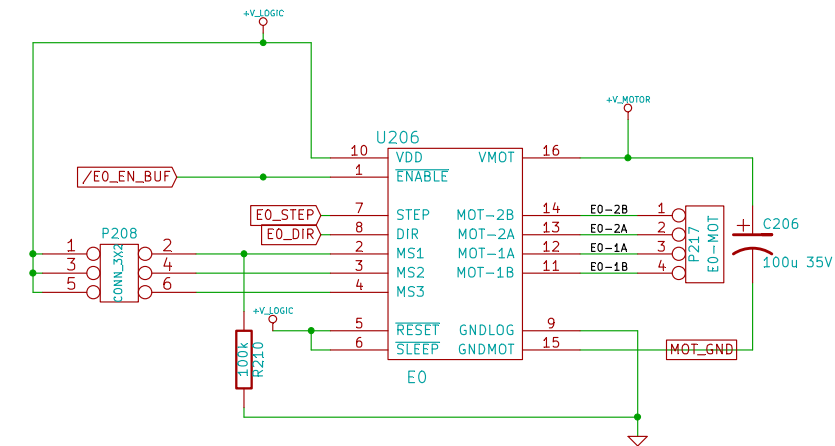
Bob Cousins 2013
 GPL v3
 Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

File: steppers.sch
 Sheet: /Stepper Drivers/

Title: RAMPS-FS RAMPS for Due

Size: A4 Date: 26 sep 2013
 KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable

Rev: 0.2
 Id: 3/9



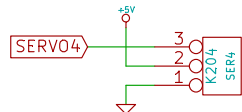
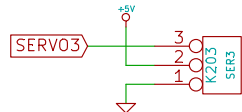
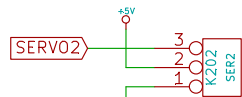
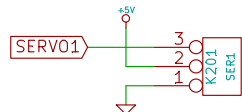
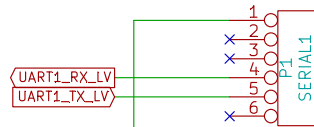
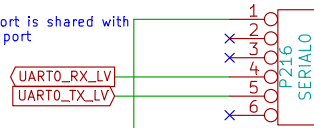
File: steppers2.sch		
Sheet: /Stepper Drivers 2/		
Title:		
Size: A4	Date: 26 sep 2013	Rev: 0.2
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 5/9

NB: On Arduino Due: IOs on this page are not 5V tolerant. Do not exceed 3.3V.

Serial

Note: this serial port is shared with USB programming port

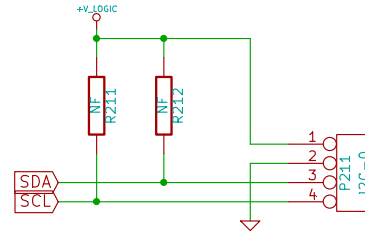
UART-TTL



Servos

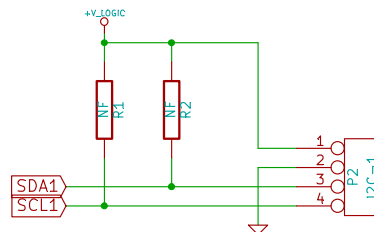
Need buffered outputs?

I2C



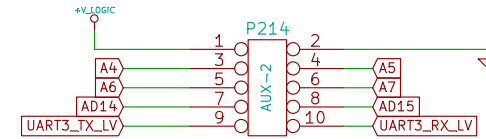
1k5 Pull ups on Due

Must not have external pullups to 5V if IOREF = 3.3V



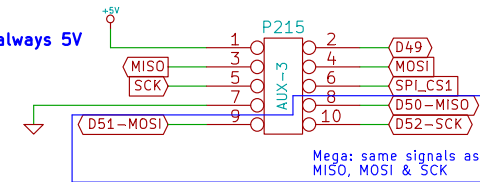
Aux connectors

Aux2



Aux3 - SPI

NB This pin is always 5V

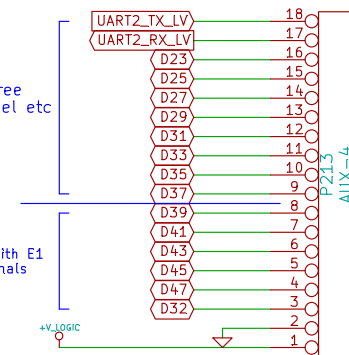


Mega: same signals as MISO, MOSI & SCK

Aux4 - general IO

These are free for LCD panel etc

These are shared with E1 and E2 stepper signals



File: con_misc.sch

Sheet: /Misc Connectors/

Title:

Size: A4 Date: 26 sep 2013

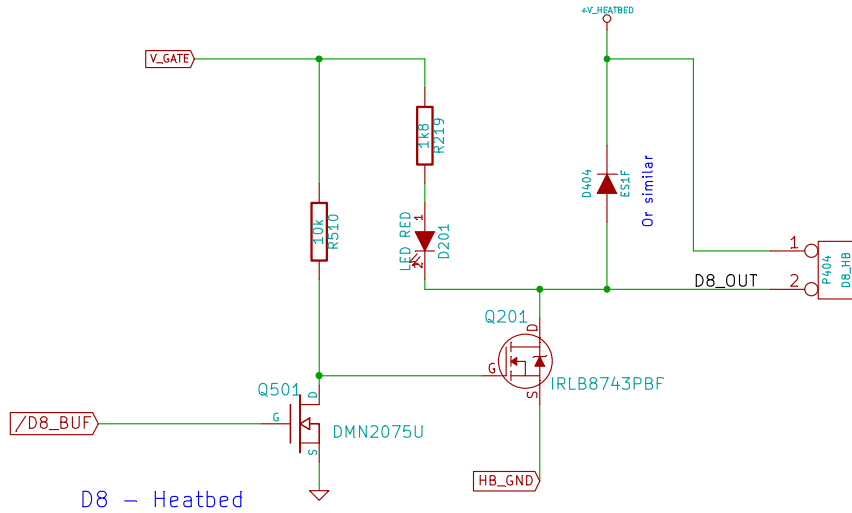
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable

Rev: 0.2

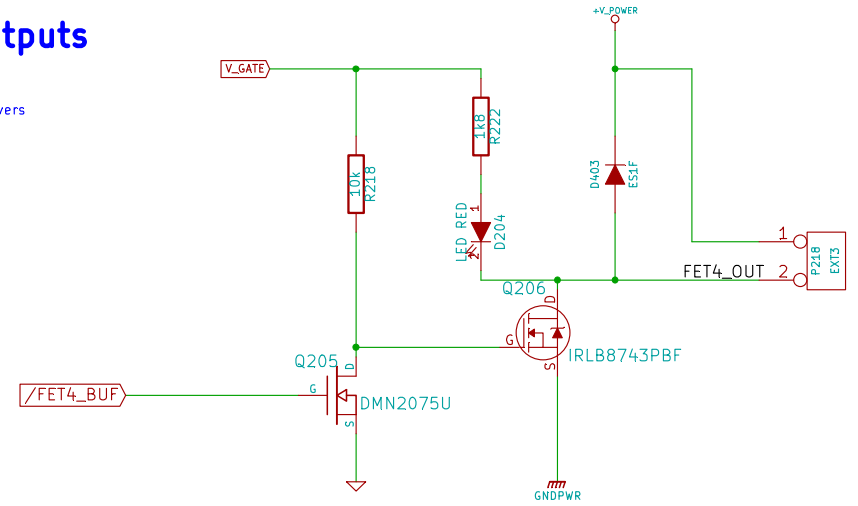
Id: 6/9

MOSFET Outputs

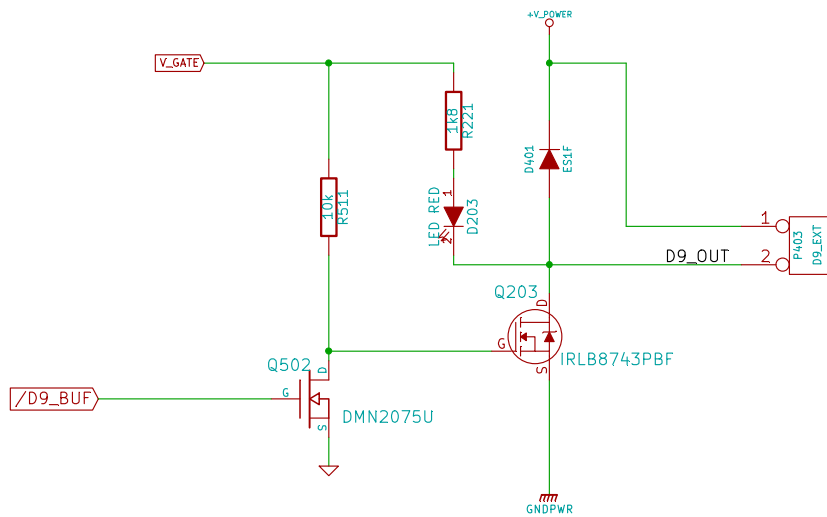
NB: Inverting drivers



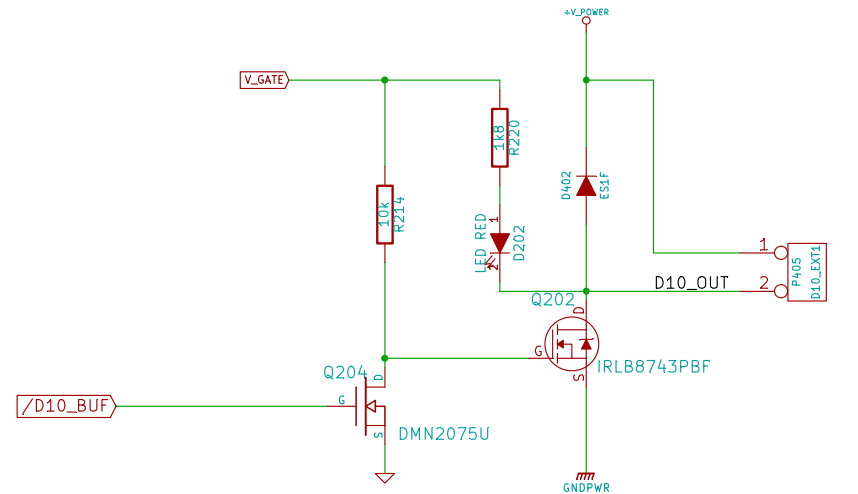
D8 - Heatbed



FET4 - Extruder 3 / Fan

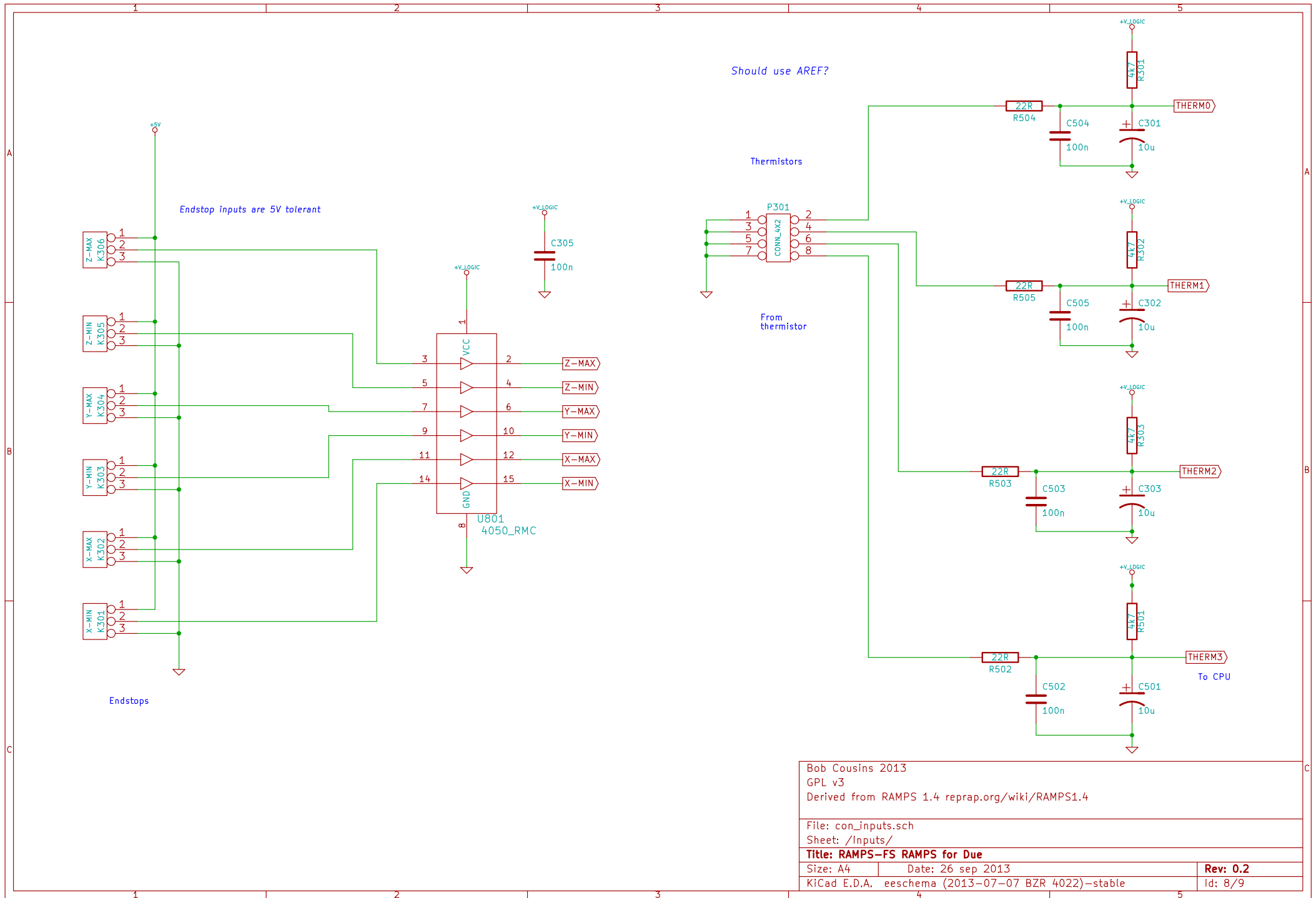


D9 - Extruder 1



D10 - Extruder 2 / Fan

File: con_outputs.sch		
Sheet: /Outputs/		
Title:		
Size: A4	Date: 26 sep 2013	Rev: 0.2
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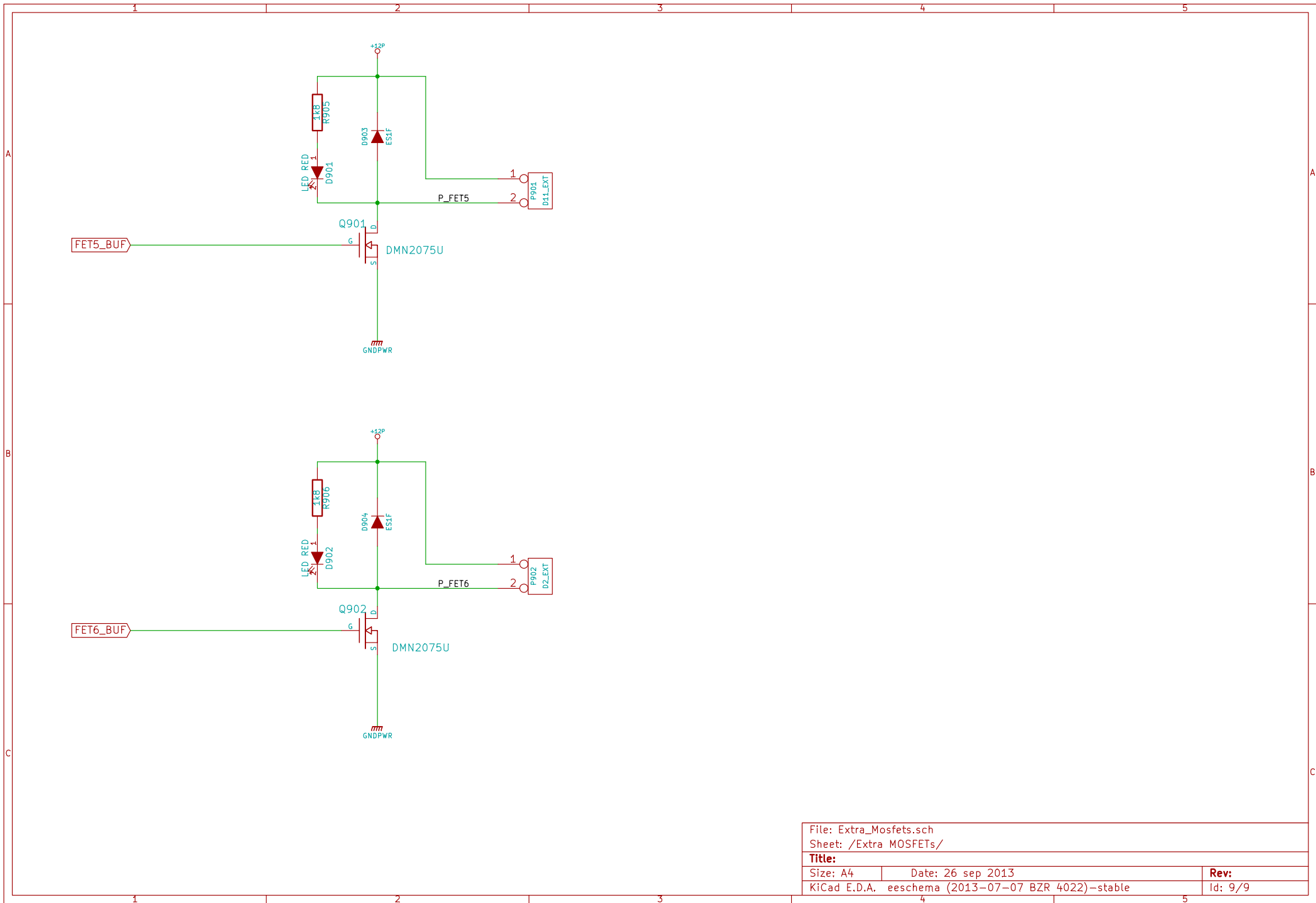


Bob Cousins 2013
 GPL v3
 Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

File: con_inputs.sch
 Sheet: /Inputs/

Title: RAMPS-FS RAMPS for Due

Size: A4	Date: 26 sep 2013	Rev: 0.2
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 8/9



File: Extra_Mosfets.sch		
Sheet: /Extra MOSFETs/		
Title:		
Size: A4	Date: 26 sep 2013	Rev:
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 9/9