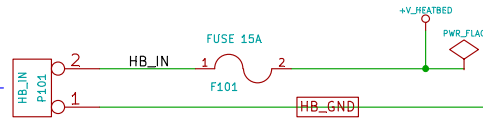


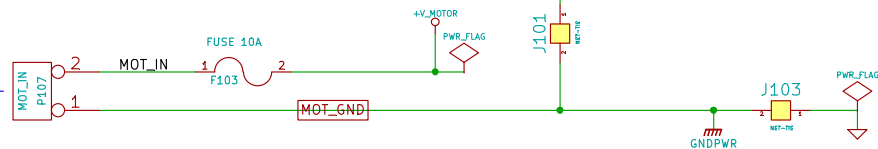
Power

PS-ON P103

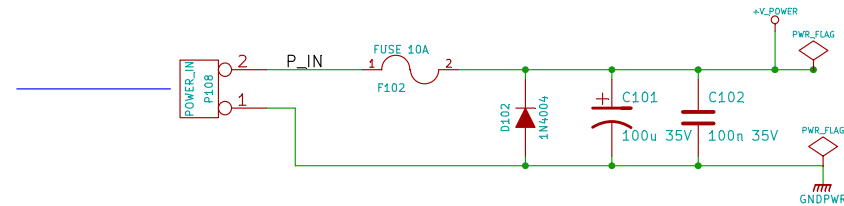
Heatbed Only: 12–24V, 15A



Motors only, 12–24V

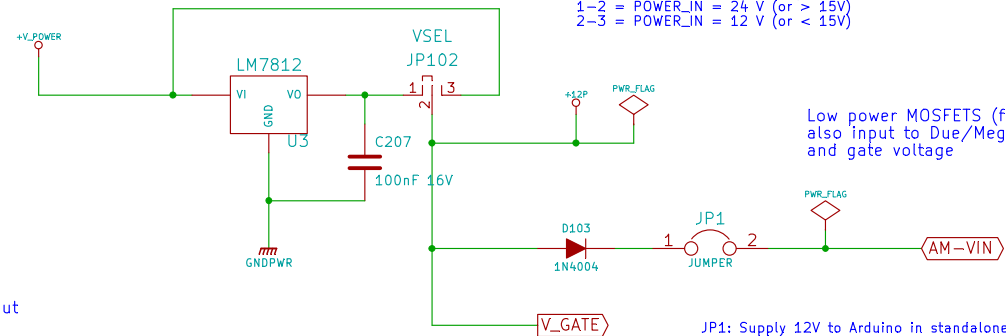


Medium power MOSFETS
(extruder heaters, fans)



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

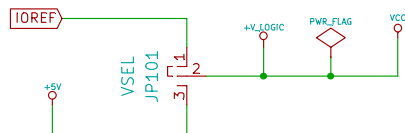


JP1: Supply 12V to Arduino in standalone operation
Remove if Arduino is powered by USB or other supply

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

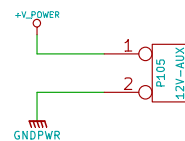
If IOREF is not provided (non-R3) then it
must be a 5V Arduino so set VSEL to 5V.

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/

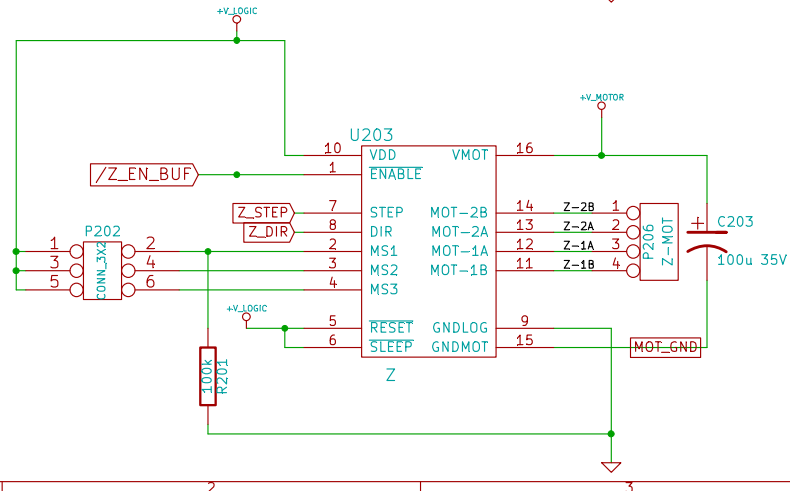
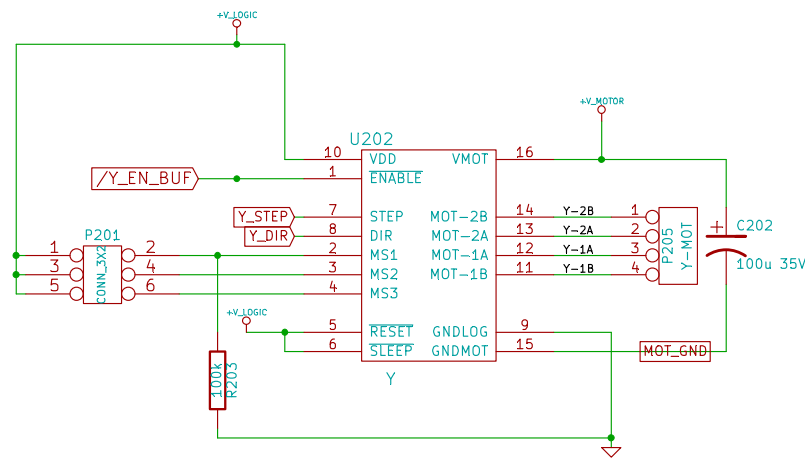
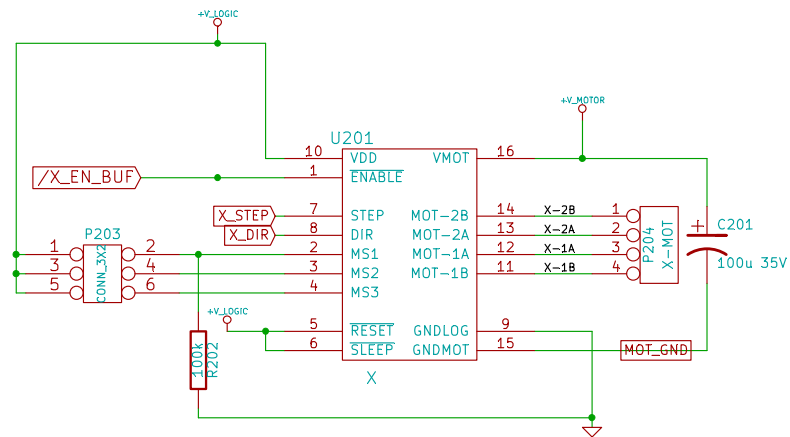
Title:

Size: A4 Date: 23 sep 2013

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Rev:

Id: 2/9



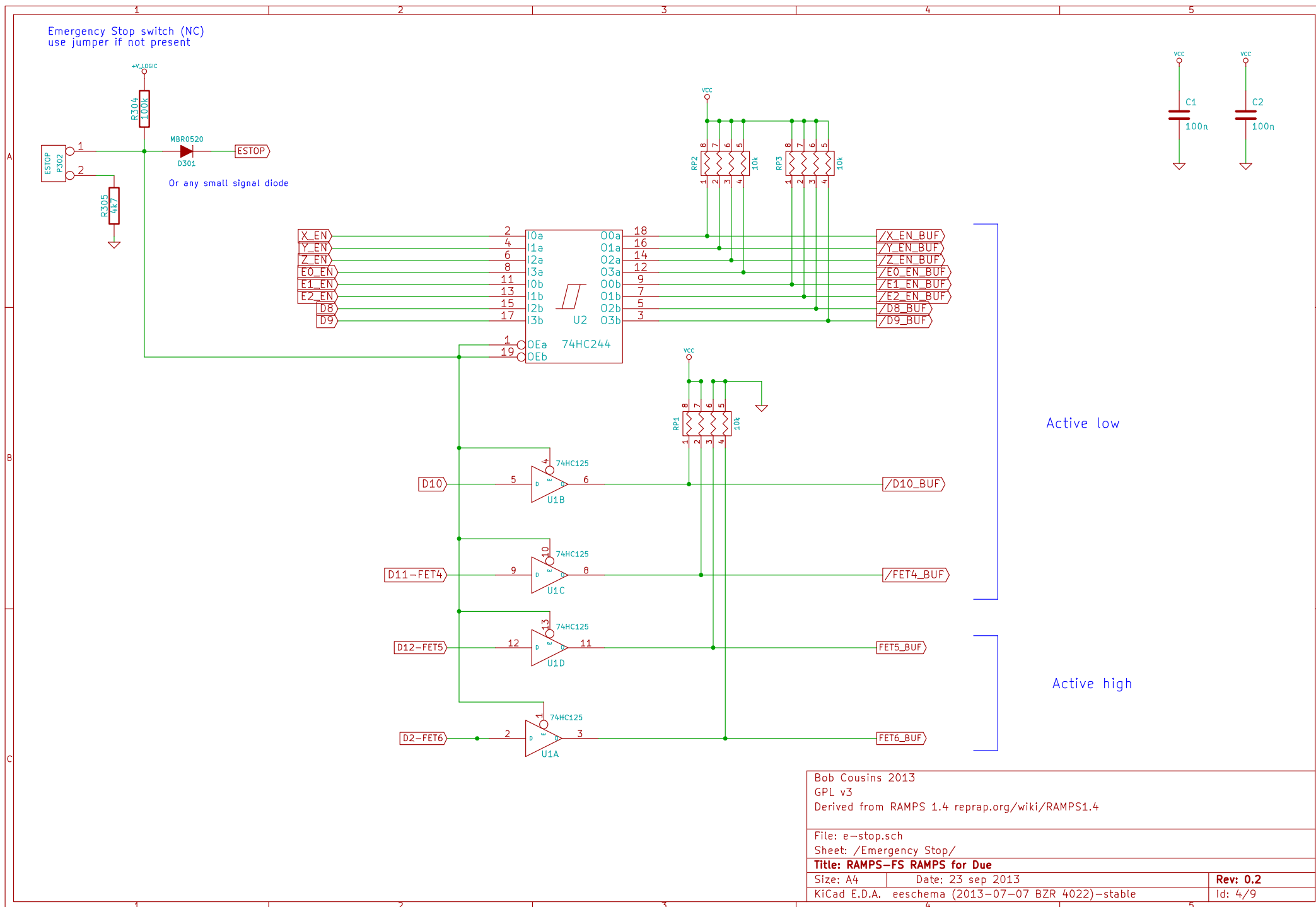
Bob Cousins 2013
 GPL v3
 Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

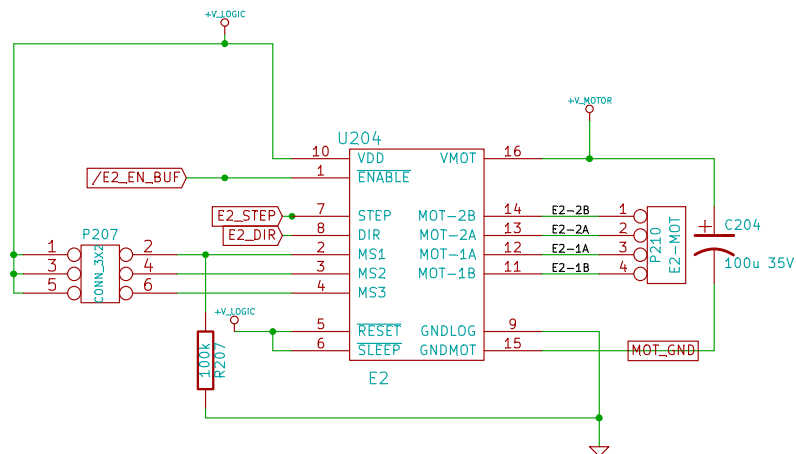
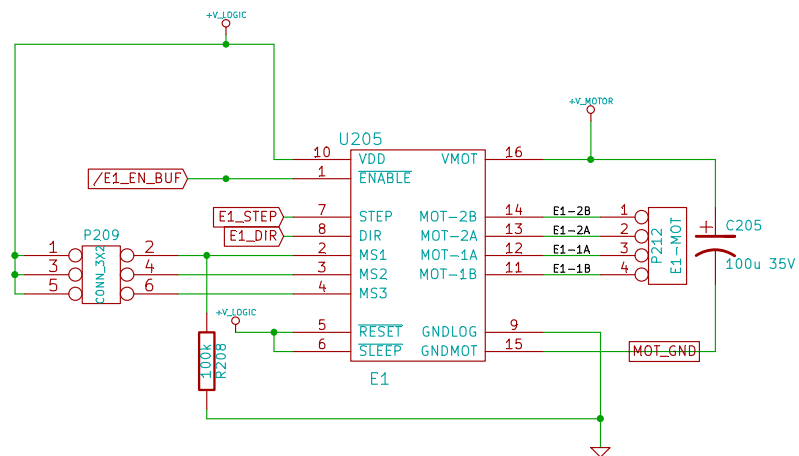
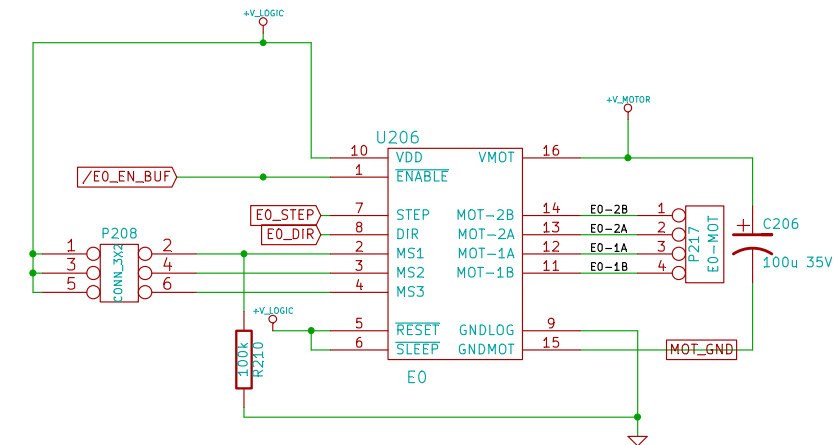
File: steppers.sch
 Sheet: /Stepper Drivers/

Title: RAMPS-FS RAMPS for Due

Size: A4 Date: 23 sep 2013
 KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable

Rev: 0.2
 Id: 3/9





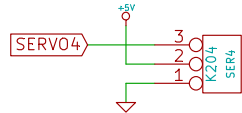
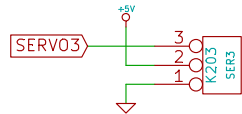
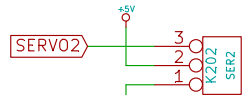
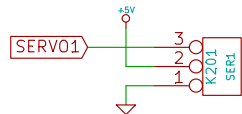
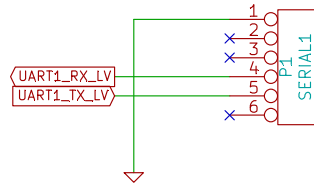
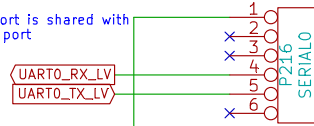
File: steppers2.sch		
Sheet: /Stepper Drivers 2/		
Title:		
Size: A4	Date: 23 sep 2013	Rev: 0.2
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NB: On Arduino Due: IOs on this page are not 5V tolerant. Do not exceed 3.3V.

Serial

Note: this serial port is shared with USB programming port

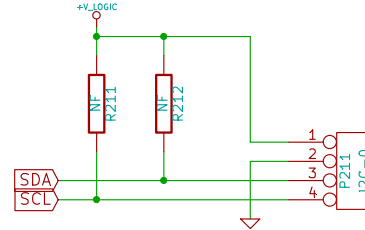
UART-TTL



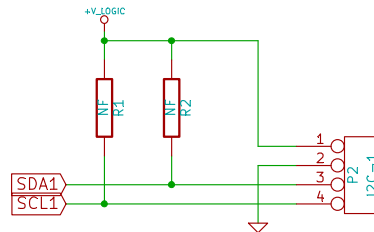
Servos

Need buffered outputs?

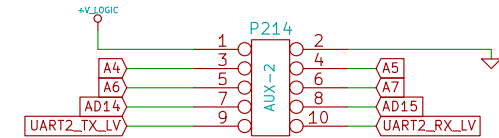
I2C



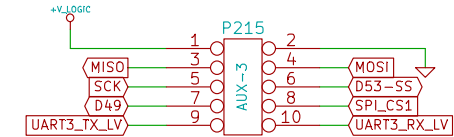
1k5 Pull ups on Due
Must not have external pullups to 5V



Aux connectors

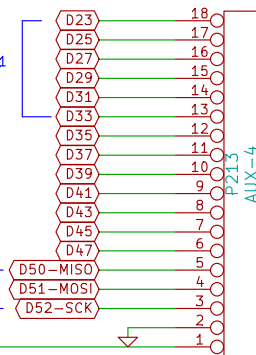


Aux2



Aux3

These are shared with E1
and E2 stepper signals



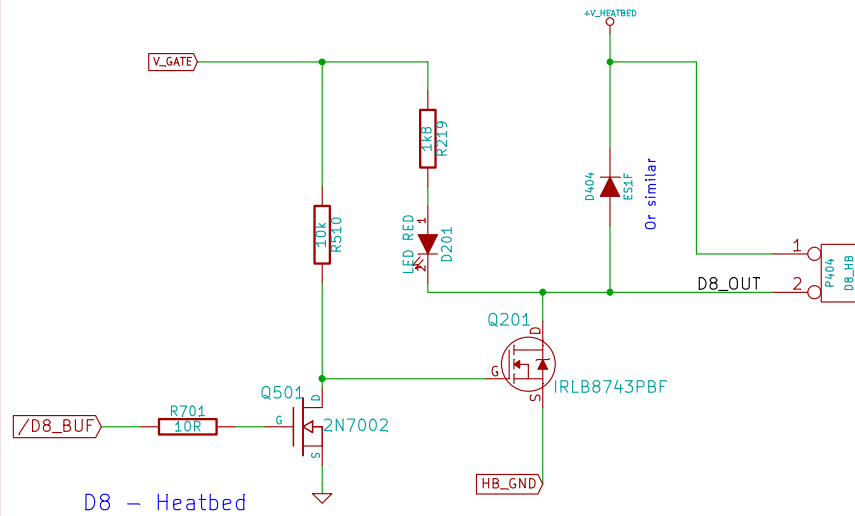
Aux4 - general IO

Mega only: same signals as
MISO, MOSI & SCK on Aux3

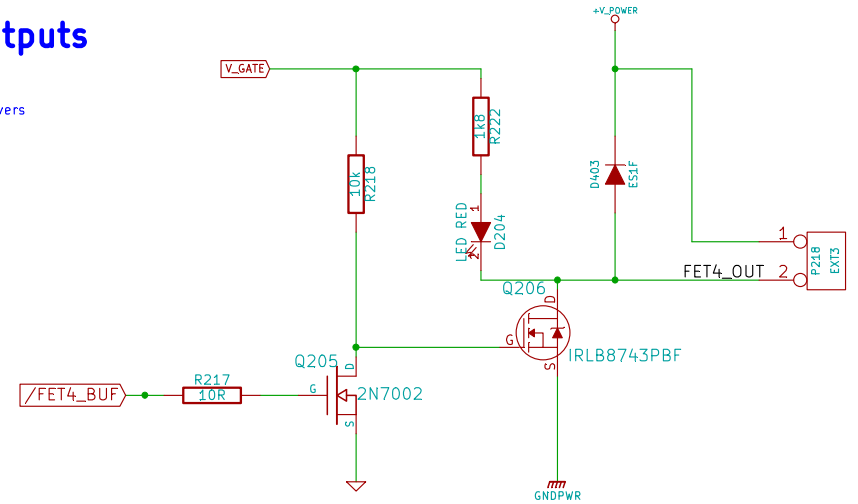
File: con_misc.sch		
Sheet: /Misc Connectors/		
Title:		
Size: A4	Date: 23 sep 2013	Rev: 0.2
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 6/9

MOSFET Outputs

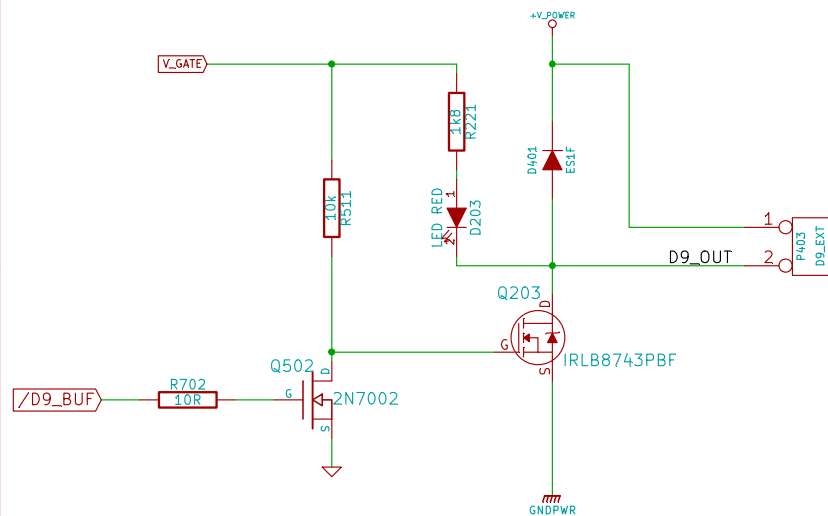
NB: inverting drivers



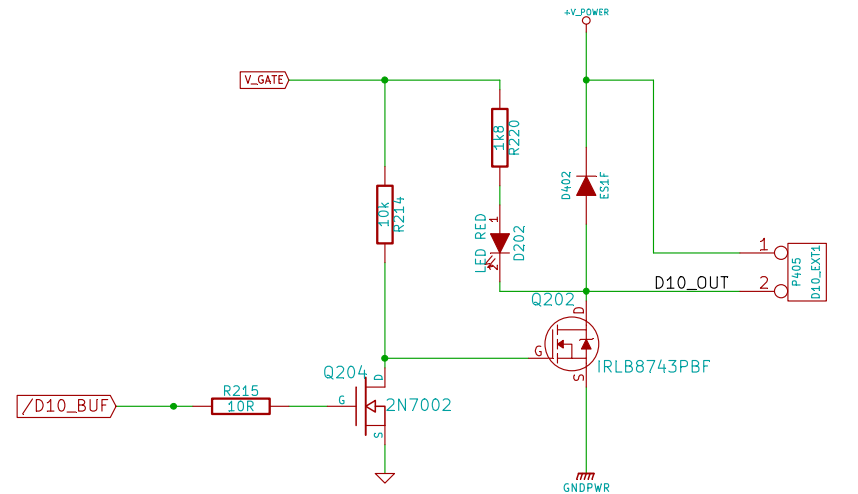
D8 - Heatbed



FET4 - Extruder 3 / Fan

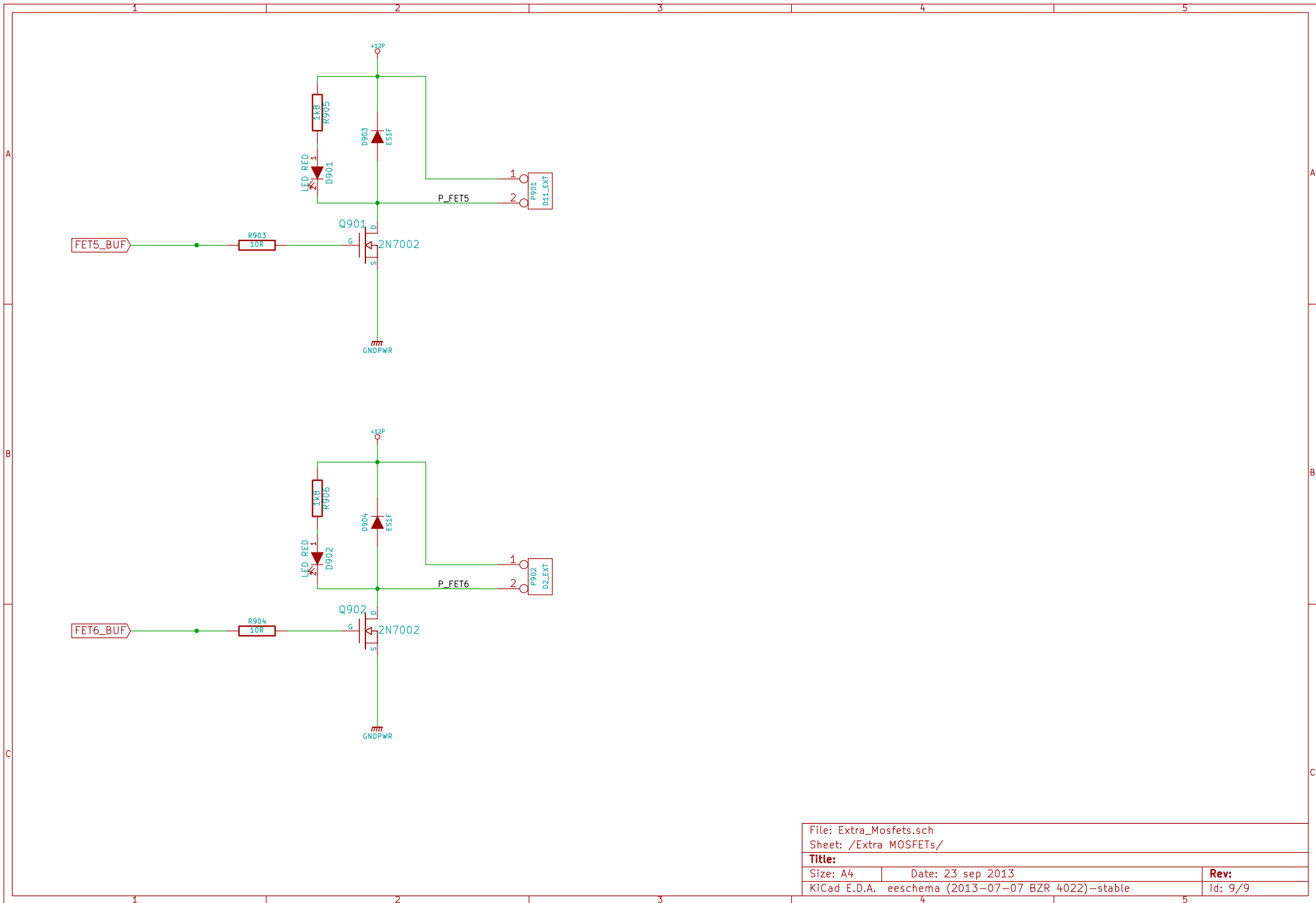


D9 - Extruder 1



D10 - Extruder 2 / Fan

File: con_outputs.sch		
Sheet: /Outputs/		
Title:		
Size: A4	Date: 23 sep 2013	Rev: 0.2
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 7/9



File: Extra_Mosfets.sch		
Sheet: /Extra MOSFETs/		
Title:		
Size: A4	Date: 23 sep 2013	Rev:
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 9/9