

X/Y/Z pins are on single port for both Mega and Due

Also used by Programming USB port

Sheet: Stepper Drivers

File: steppers.sch

Sheet: Stepper Drivers 2

File: steppers2.sch

Sheet: Inputs

File: con\_inputs.sch

Sheet: Emergency Stop

File: e-stop.sch

Sheet: Outputs

File: con\_outputs.sch

Sheet: Power

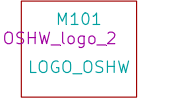
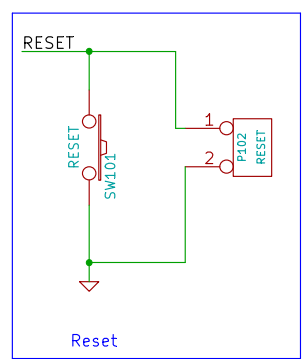
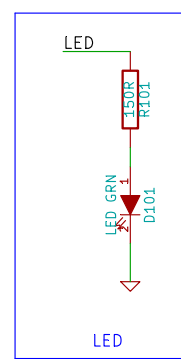
File: Power.sch

Sheet: Misc Connectors

File: con\_misc.sch

Sheet: Extra MOSFETs

File: Extra\_Mosfets.sch



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 GPL v3  
 Derived from RAMPS 1.4 rebrap.org/wiki/RAMPS1.4

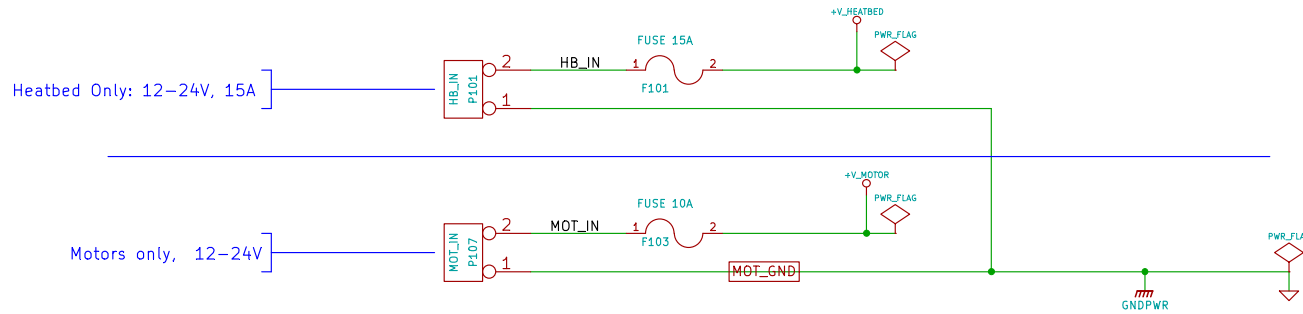
File: RAMPS-FD.sch  
 Sheet: /

**Title: RAMPS-FD (RAMPS for Arduino Due)**

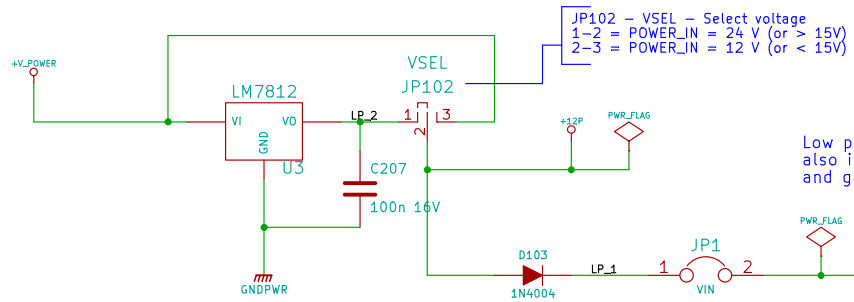
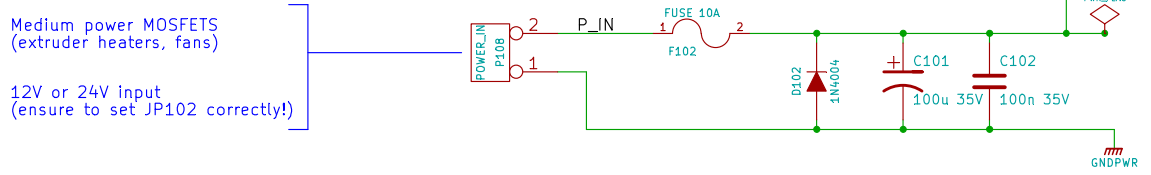
Size: A4	Date: 18 dec 2013	Rev: 0.2
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# Power

PS-ON P103

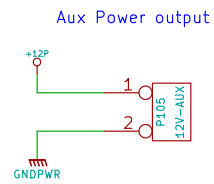
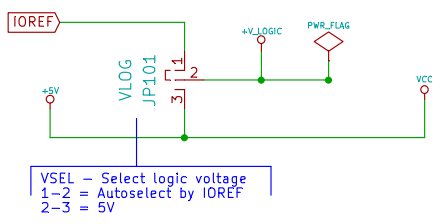


Note: use thick traces for all high power connections



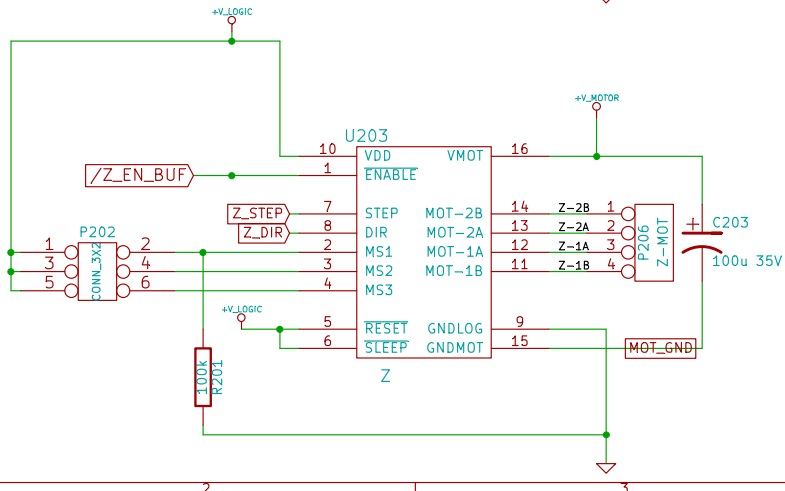
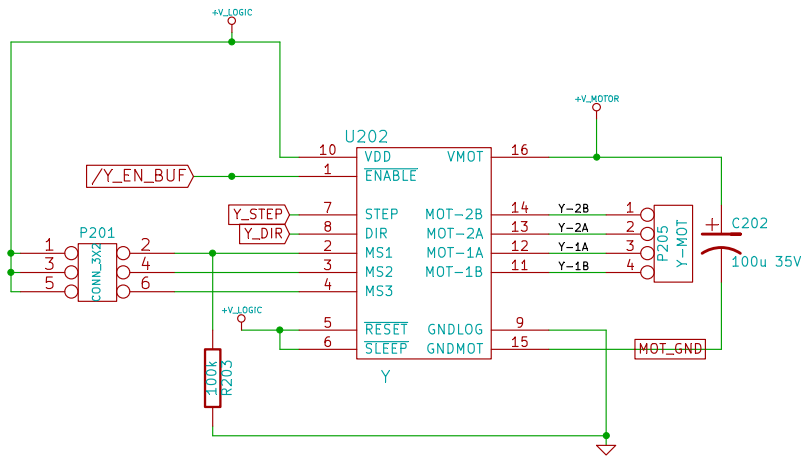
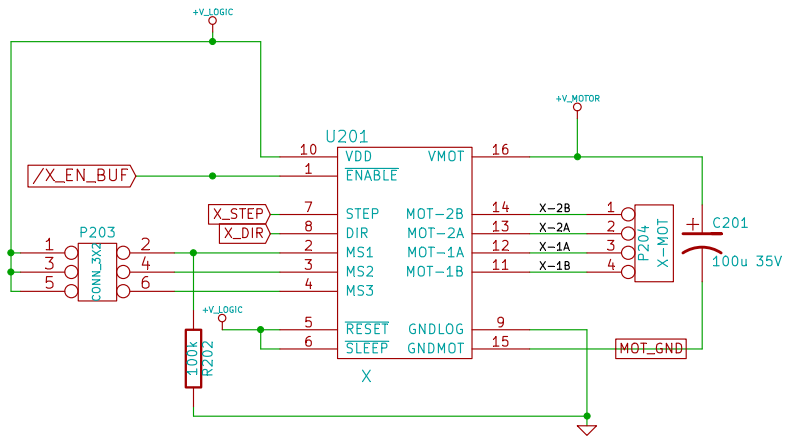
Low power MOSFETS (fans etc) also input to Due/Mega and gate voltage

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.



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

File: Power.sch		Sheet: /Power/	
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 GPL v3  
 Derived from RAMPS 1.4 [reprap.org/wiki/RAMPS1.4](http://reprap.org/wiki/RAMPS1.4)

File: steppers.sch  
 Sheet: /Stepper Drivers/

**Title: RAMPS-FS RAMPS for Due**

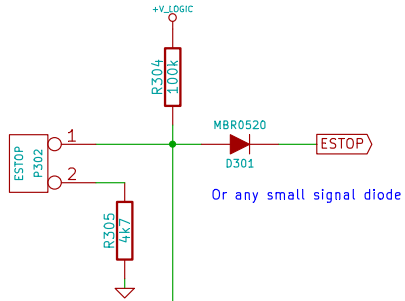
Size: A4 Date: 18 dec 2013

**Rev: 0.2**

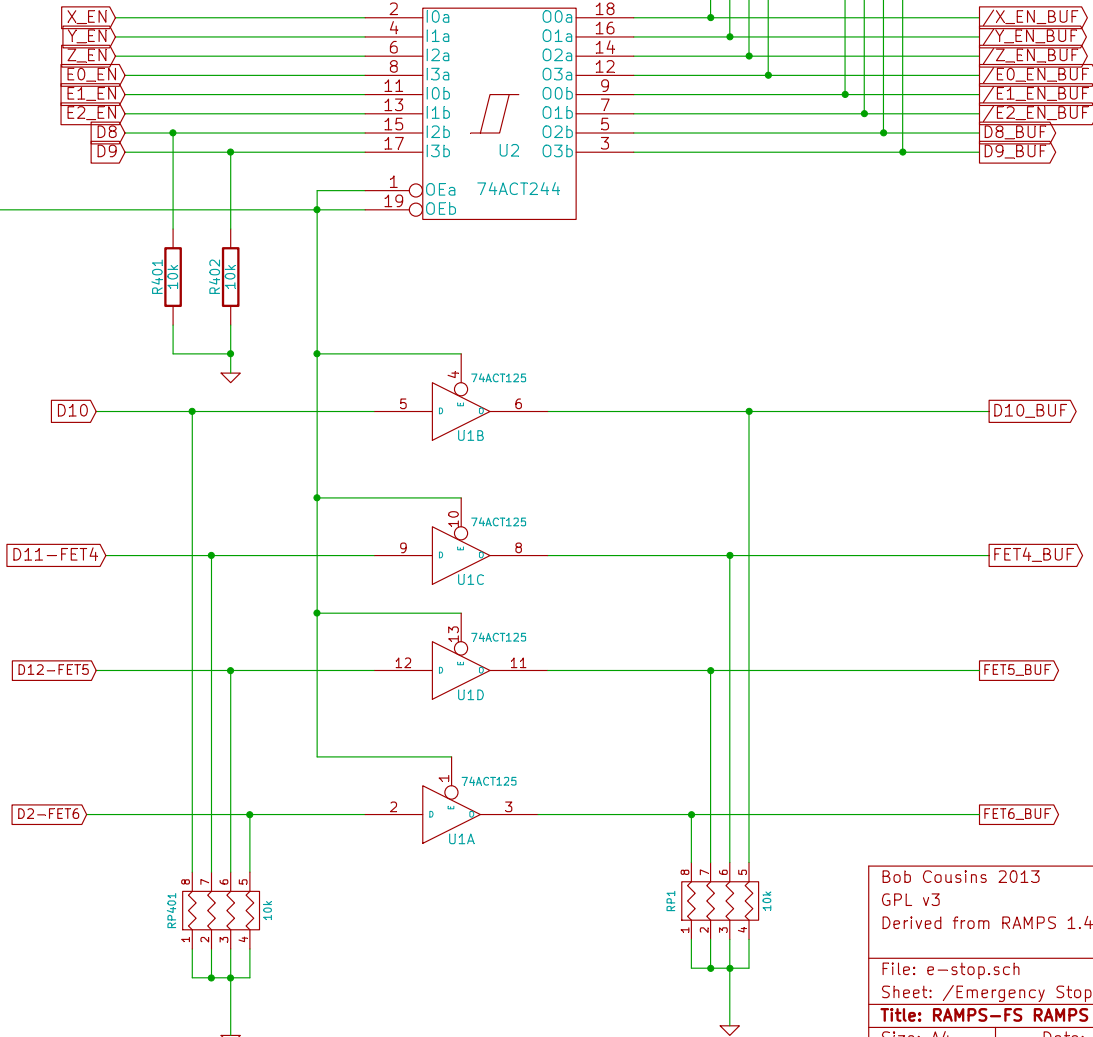
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Emergency Stop switch (Normally Closed type)  
use jumper if not present



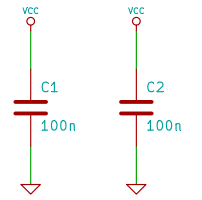
Or any small signal diode



Active low

Active high

Must use ACT (or HCT) type buffers.  
Inputs are compatible with  
3.3V or 5V logic



VCC = 5V

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File: e-stop.sch  
Sheet: /Emergency Stop/

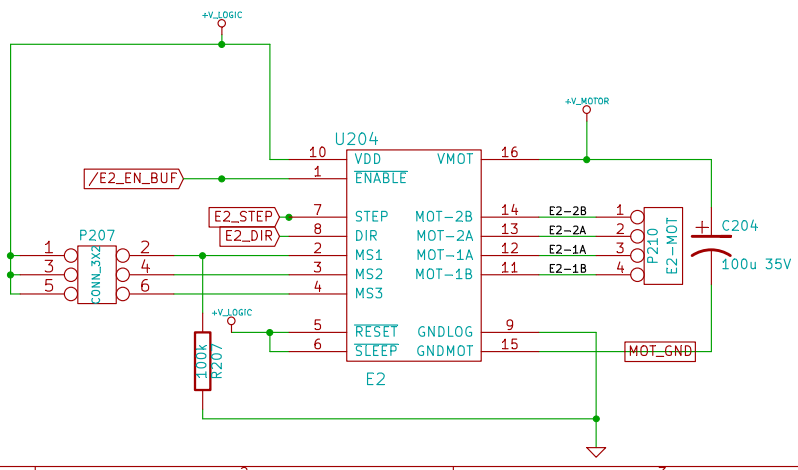
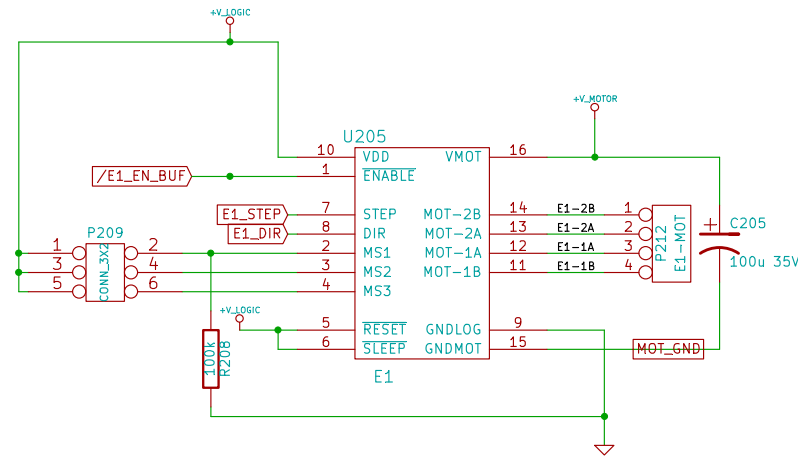
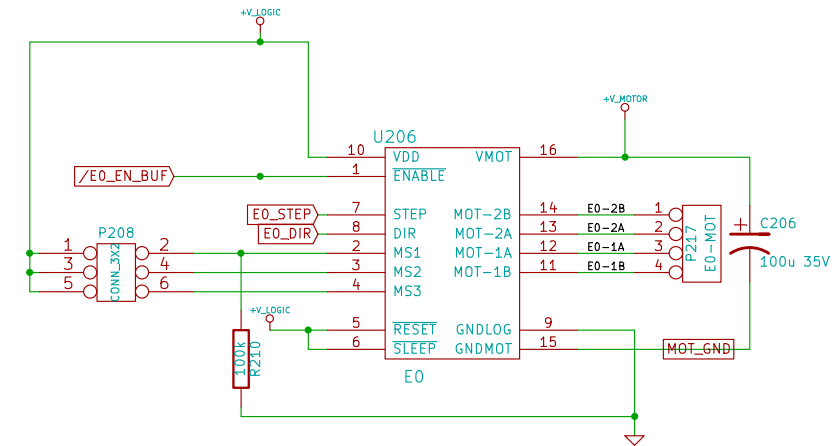
**Title: RAMPS-FS RAMPS for Due**

Size: A4 Date: 18 dec 2013

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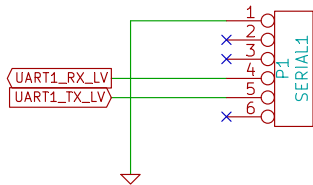
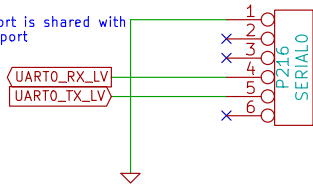
File: steppers2.sch		
Sheet: /Stepper Drivers 2/		
<b>Title:</b>		
Size: A4	Date: 18 dec 2013	Rev: 0.2
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**NB: On Arduino Due: IOs on this page are not 5V tolerant. Do not exceed 3.3V.**

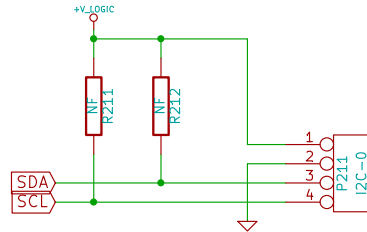
Serial

Note: this serial port is shared with USB programming port

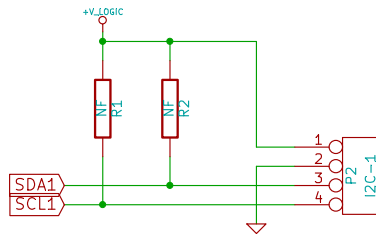
UART-TTL



I2C

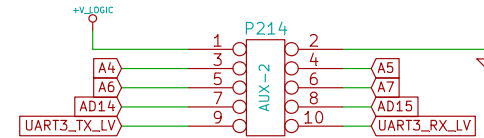


1k5 Pull ups on Due  
Must not have external pullups to 5V if IOREF = 3.3V



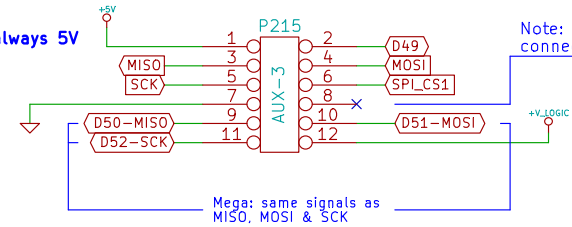
Aux connectors

Aux2



Aux3 - SPI

NB This pin is always 5V



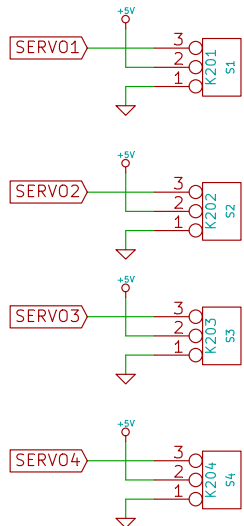
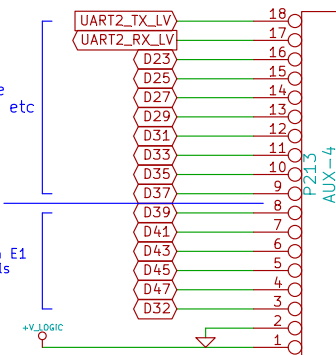
Note: Some add-on boards connect this pin to GND.

Mega: same signals as MISO, MOSI & SCK

Aux4 - general IO

These are free for LCD panel etc

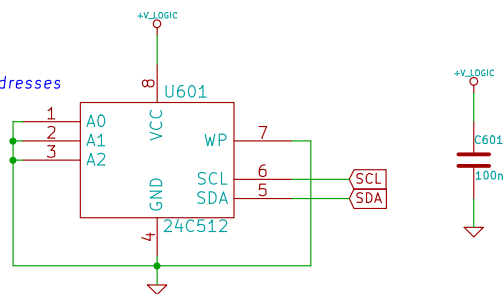
These are shared with E1 and E2 stepper signals



Servos  
Need buffered outputs?

EEPROM

Might want to allow other addresses



File: con\_misc.sch

Sheet: /Misc Connectors/

Title:

Size: A4 Date: 18 dec 2013

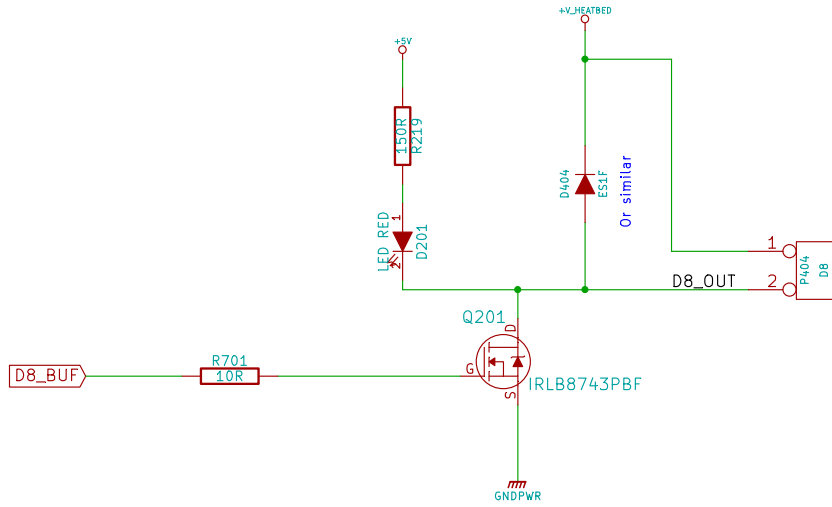
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Rev: 0.2

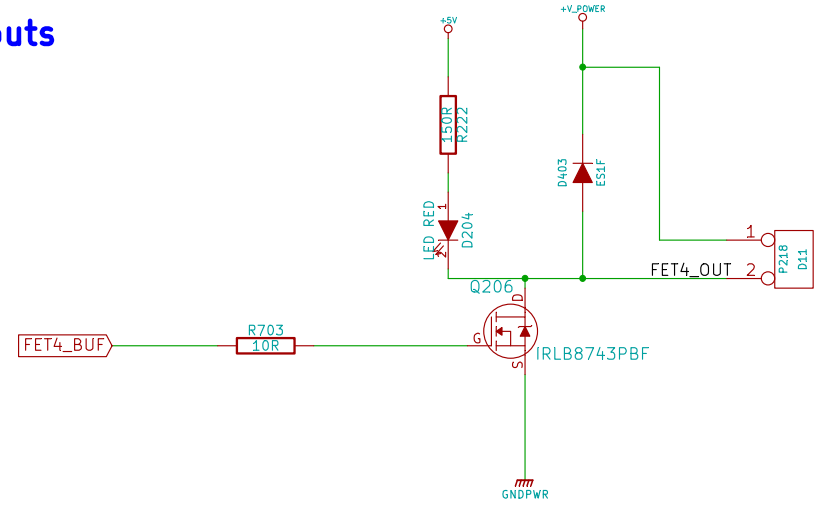
Id: 6/9

# MOSFET Outputs

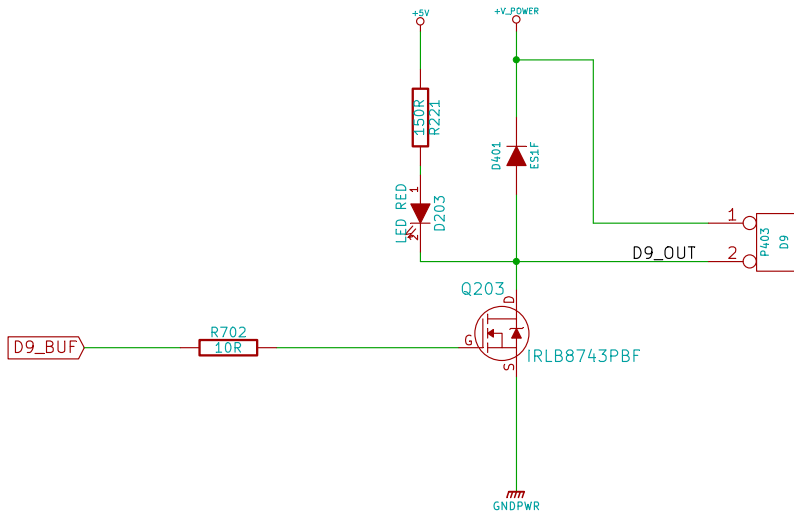
NB: inverting drivers



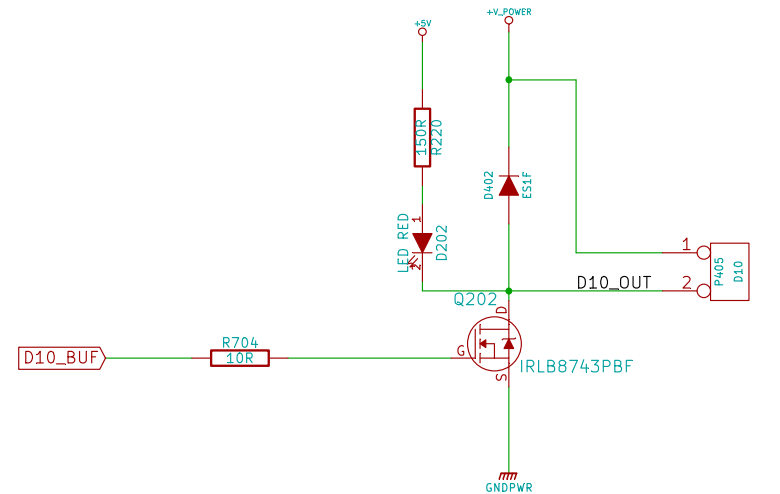
D8 - Heatbed



FET4 - Extruder 3 / Fan



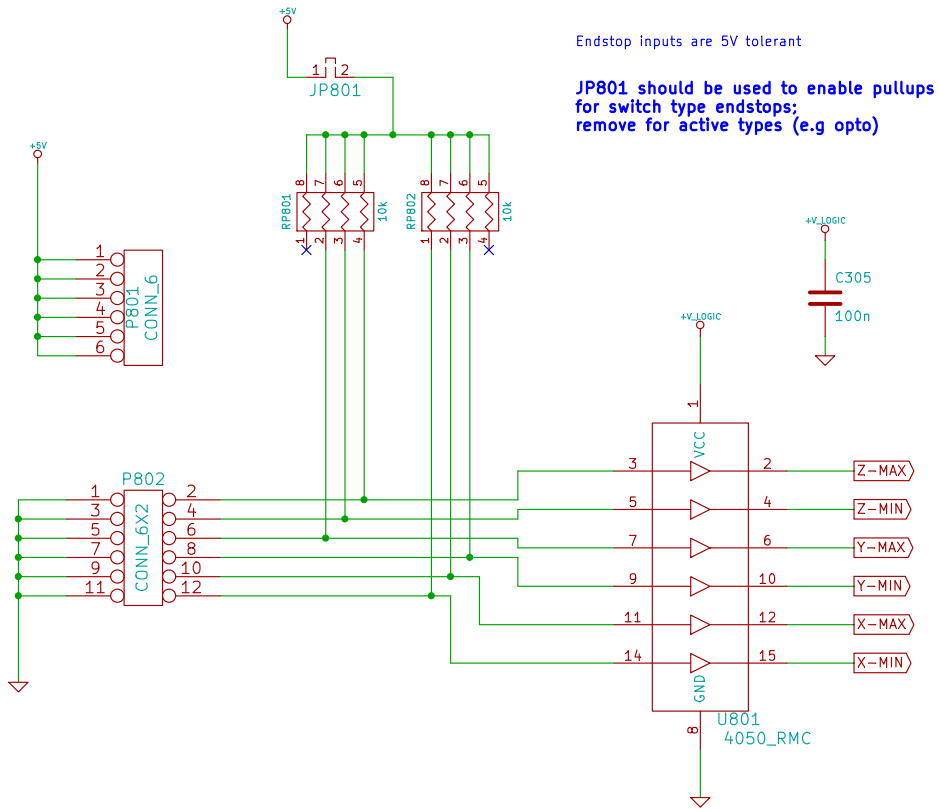
D9 - Extruder 1



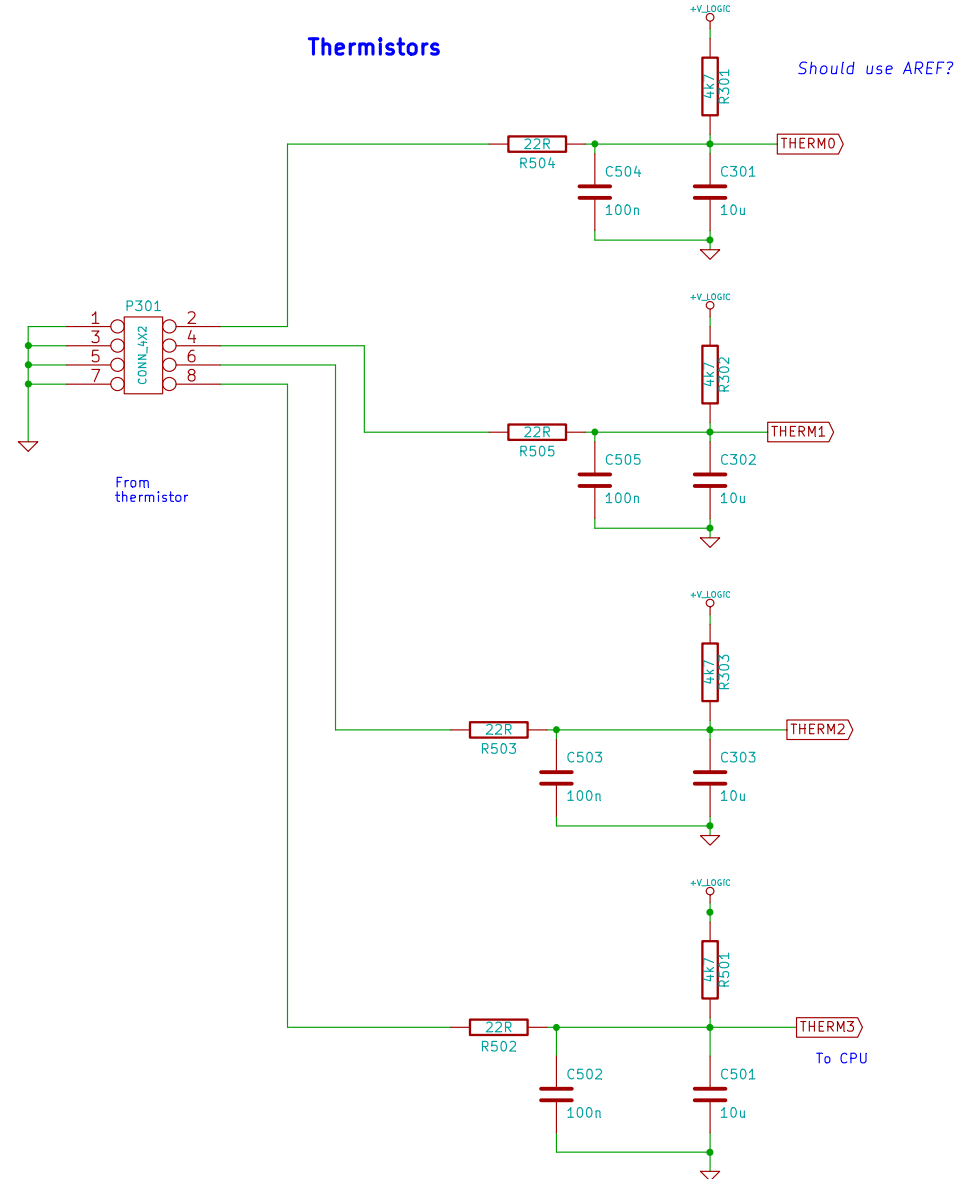
D10 - Extruder 2 / Fan

File: con_outputs.sch	
Sheet: /Outputs/	
<b>Title:</b>	
Size: A4	Date: 18 dec 2013
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## Endstops



## Thermistors



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 Sheet: /Inputs/

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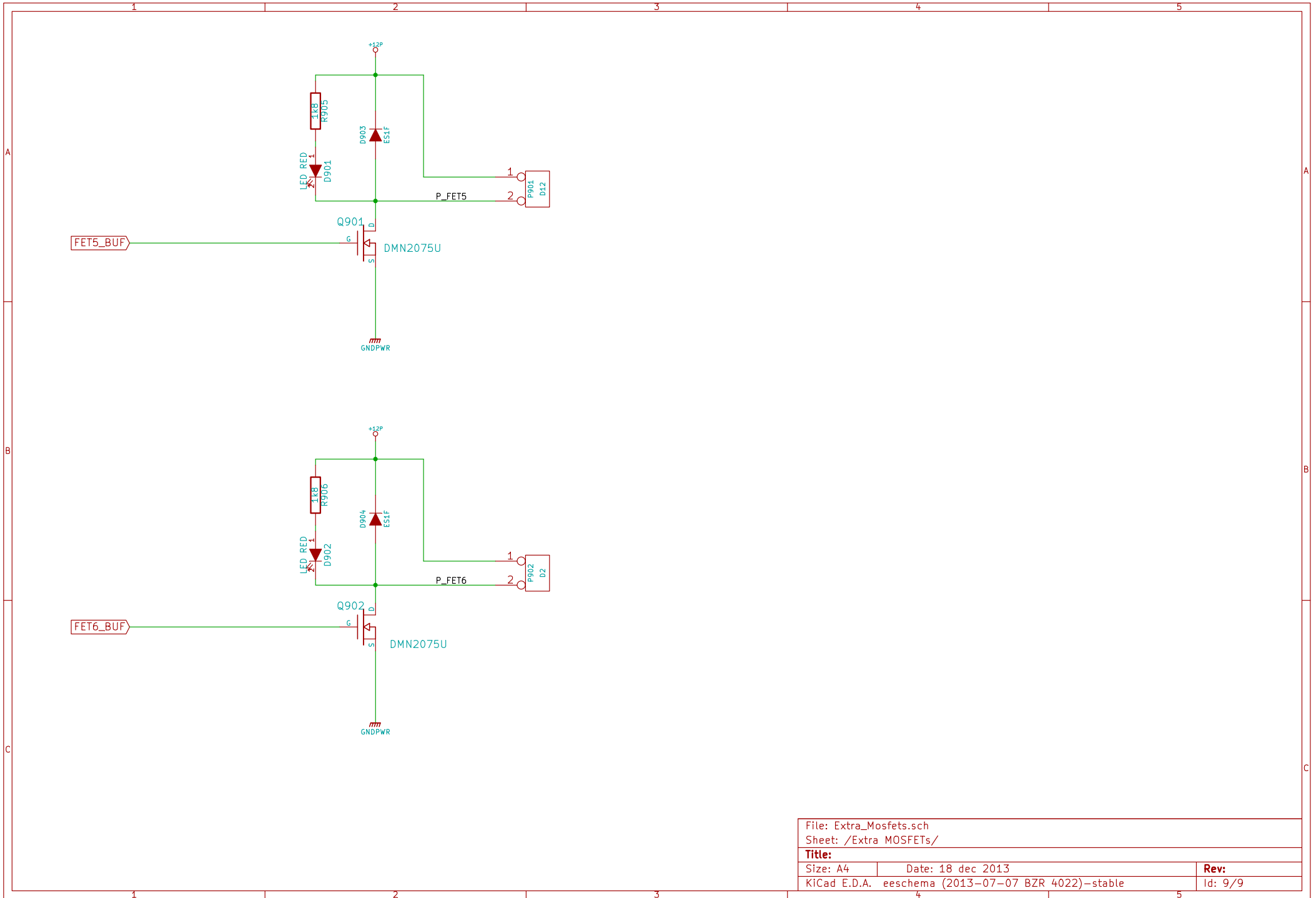
Size: A4 Date: 18 dec 2013

Rev: 0.2

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File: Extra_Mosfets.sch		
Sheet: /Extra MOSFETs/		
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