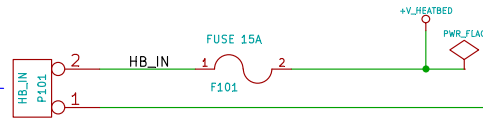
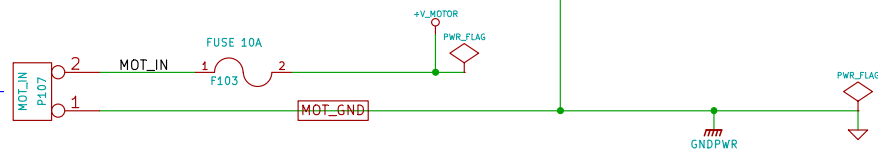


Power

Heatbed Only: 12–24V, 15A

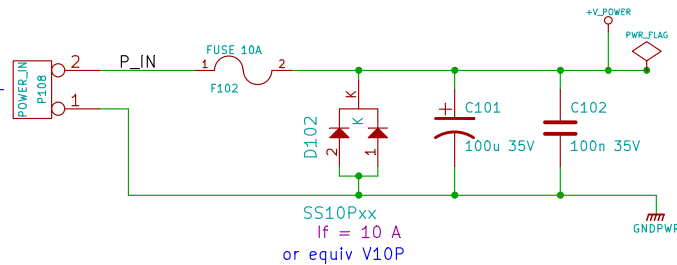


Motors only, 12–24V



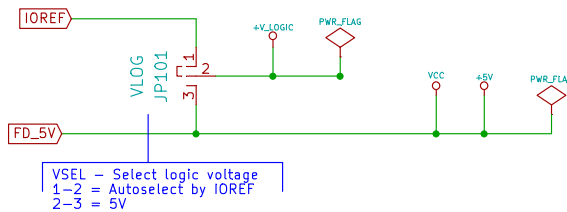
Medium power MOSFETS
(extruder heaters, fans)

12V or 24V input
(ensure to set JP102 correctly!)

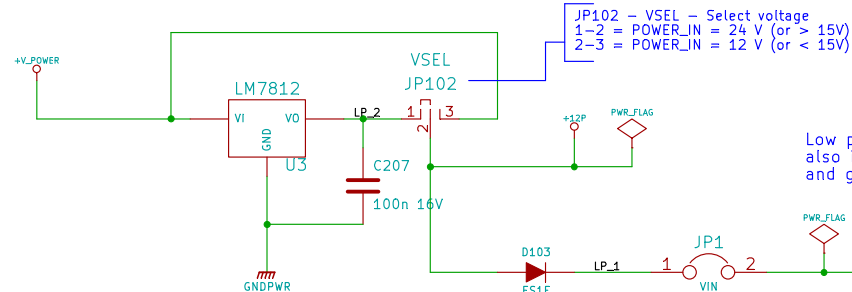


Note: On R3 compatible Arduinos, IOREF will supply 3.3V (Due), or 5V (Mega).

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

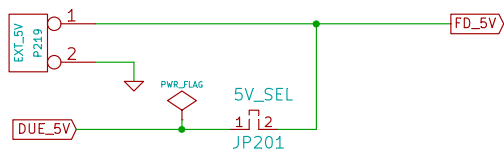


VSEL – Select logic voltage
1–2 = Autoselect by IOREF
2–3 = 5V

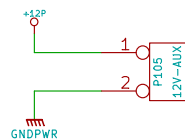


Low power MOSFETS (fans etc)
also input to Due/Mega
and gate voltage

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



Aux Power output



ATX Power On



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

File: Power.sch

Sheet: /Power/

Title: RAMPS-FD (RAMPS for Arduino Due)

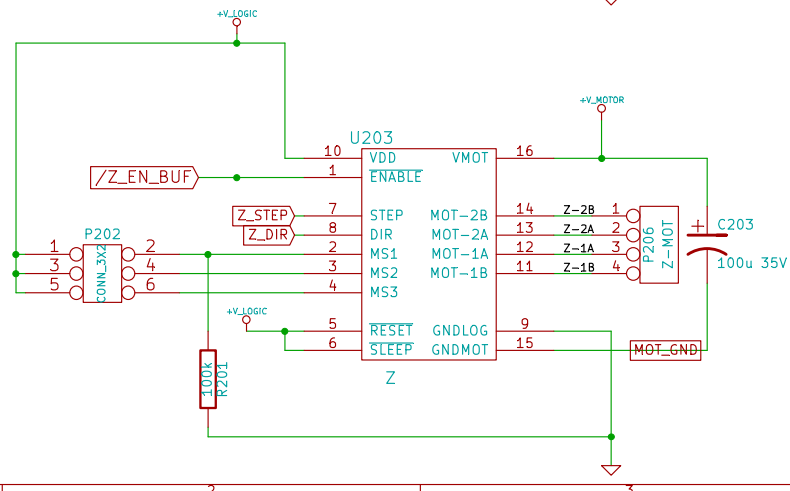
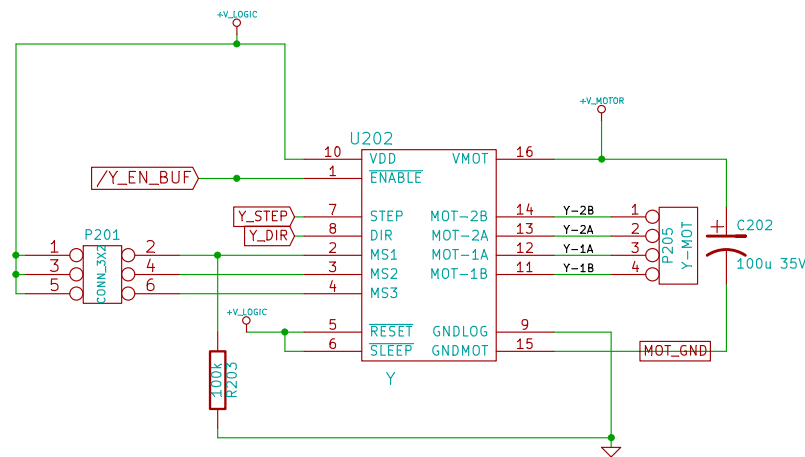
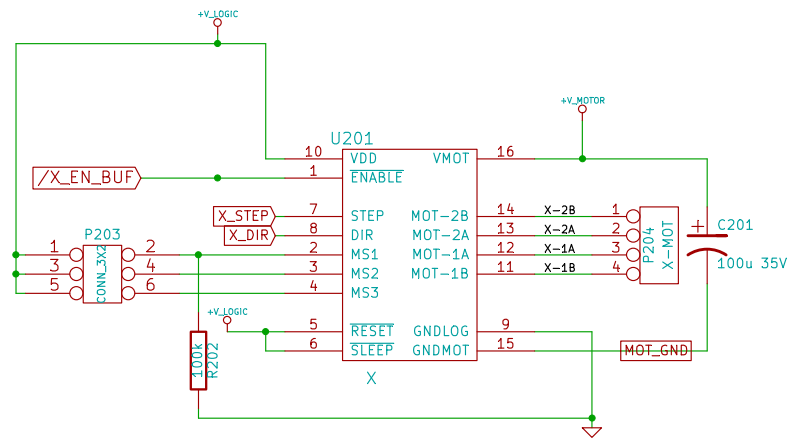
Size: A4

Date: 10 jan 2014

Rev: v1 Issue B

KiCad E.D.A. eschema (2013–07–07 BZR 4022)–stable

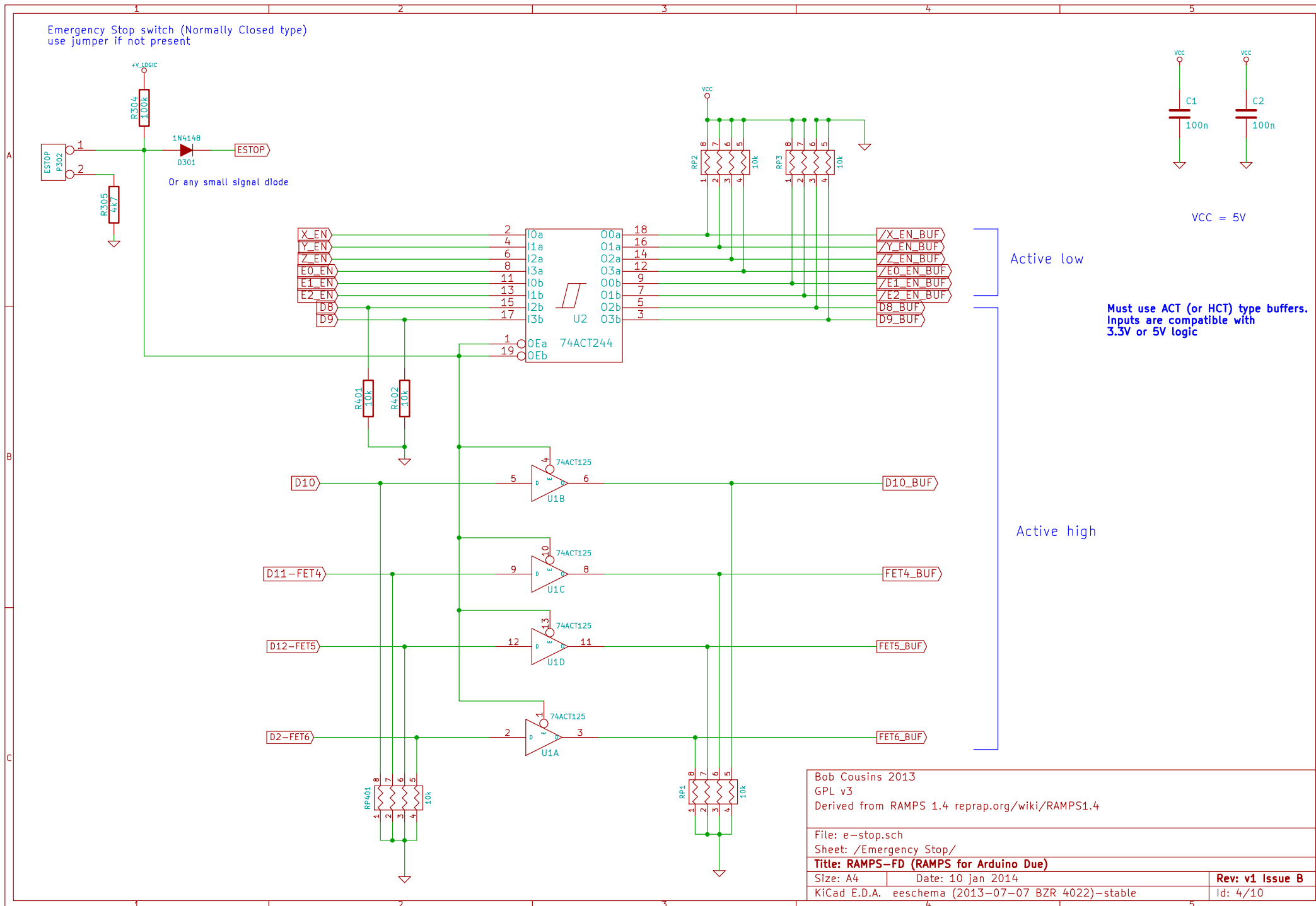
Id: 2/10

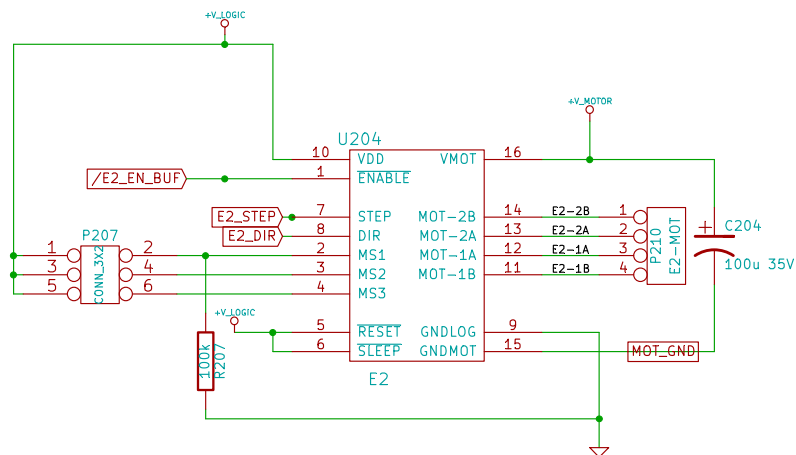
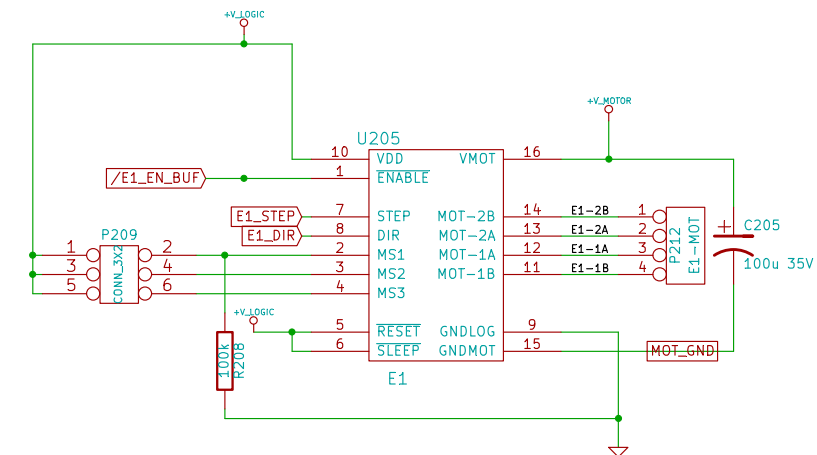
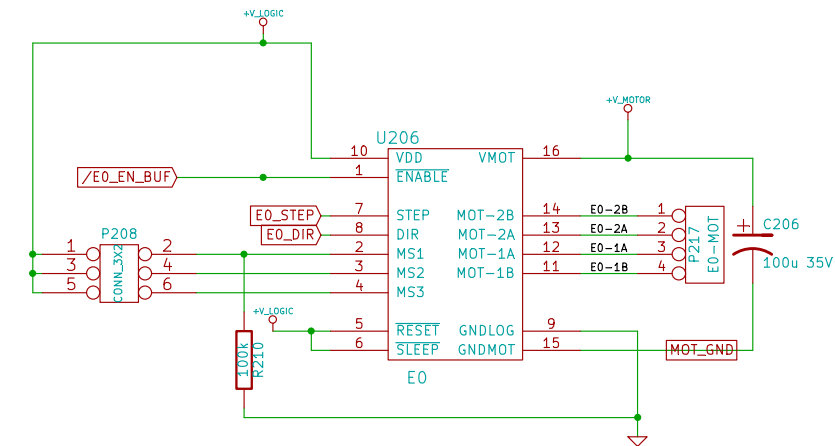


Bob Cousins 2013
 GPL v3
 Derived from RAMPS 1.4 reprap.org/wiki/RAMPS1.4

File: steppers.sch
 Sheet: /Stepper Drivers/
Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4	Date: 10 jan 2014	Rev: v1 Issue B
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 3/10





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

File: steppers2.sch
 Sheet: /Stepper Drivers 2/
Title: RAMPS-FD (RAMPS for Arduino Due)

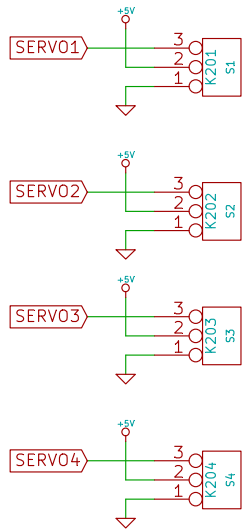
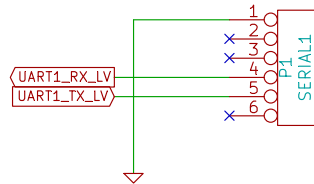
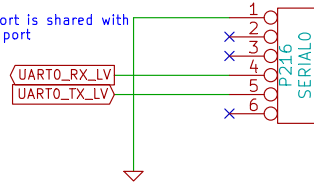
Size: A4	Date: 10 jan 2014	Rev: v1 Issue B
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 5/10

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

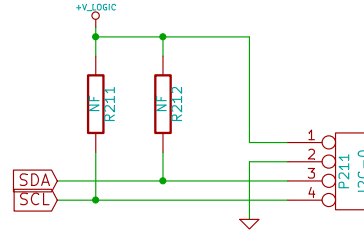
UART-TTL



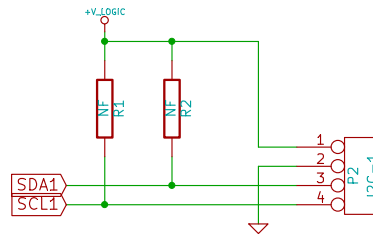
Servos

Need buffered outputs?

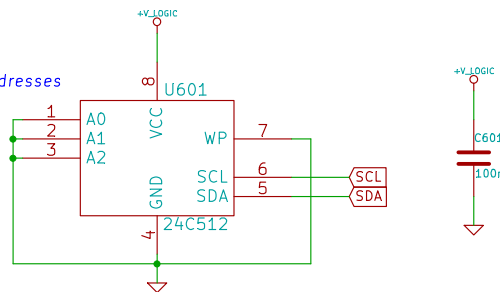
I2C



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



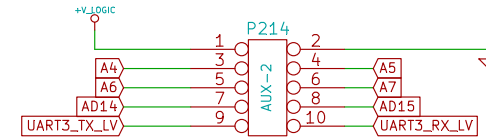
Might want to allow other addresses



EEPROM

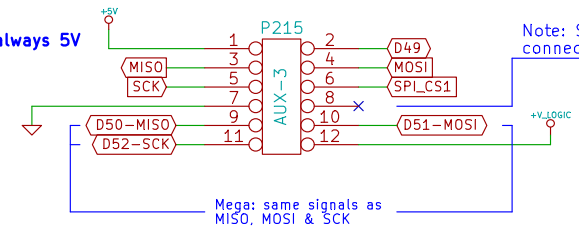
Aux connectors

Aux2



Aux3 - SPI

NB This pin is always 5V

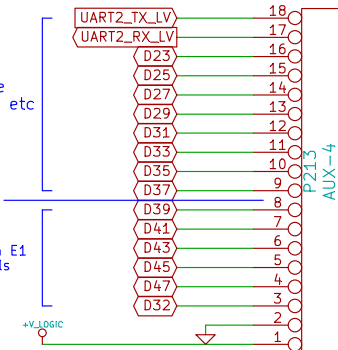


Mega: same signals as MISO, MOSI & SCK

Aux4 - general IO

These are free for LCD panel etc

These are shared with E1 and E2 stepper signals



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

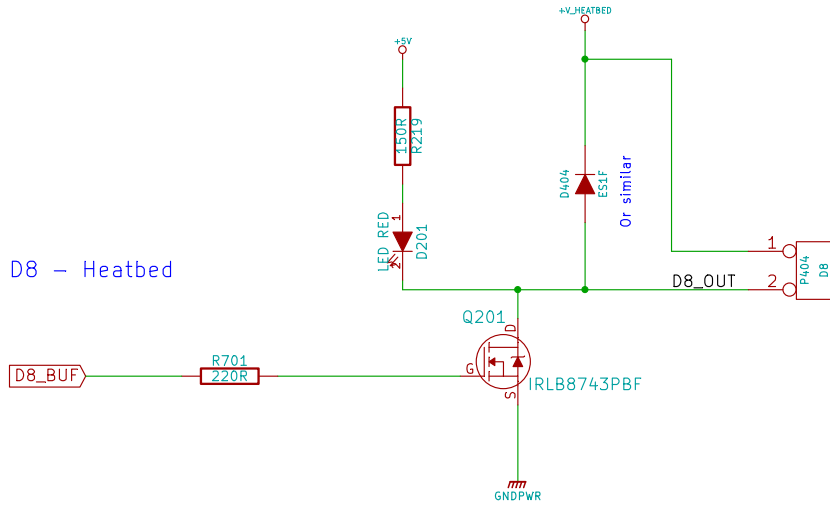
File: con_misc.sch
Sheet: /Misc Connectors/
Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4	Date: 10 jan 2014	Rev: v1 Issue B
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 6/10

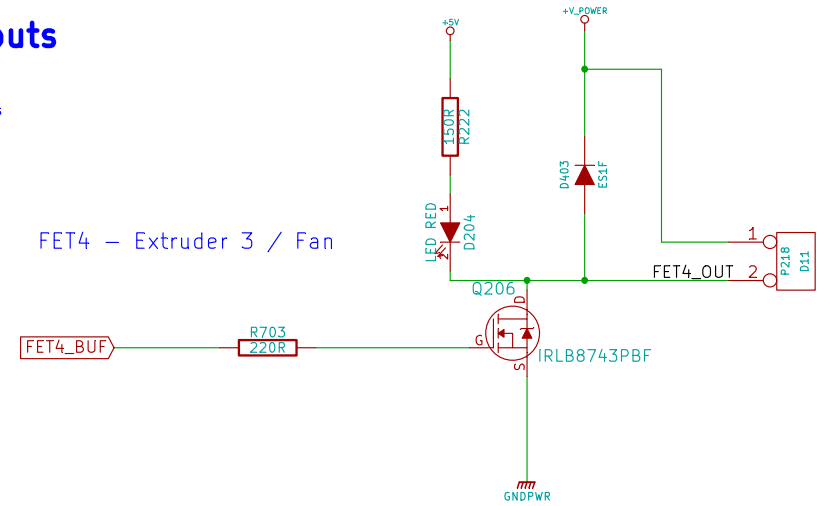
MOSFET Outputs

Non-inverting drivers

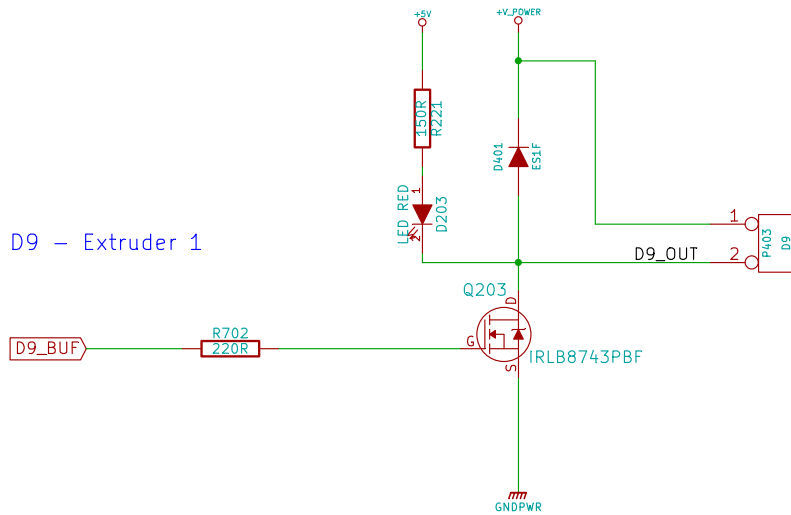
D8 – Heatbed



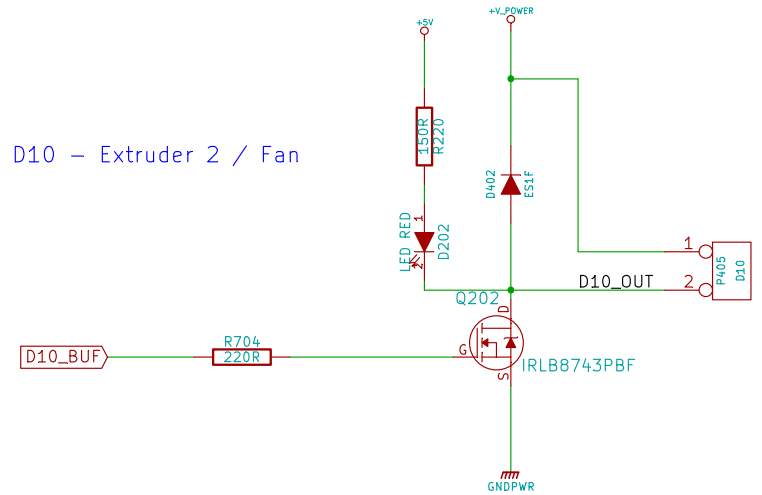
FET4 – Extruder 3 / Fan



D9 – Extruder 1



D10 – Extruder 2 / Fan



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

File: con_outputs.sch
Sheet: /Mosfet Outputs/
Title: RAMPS-FD (RAMPS for Arduino Due)

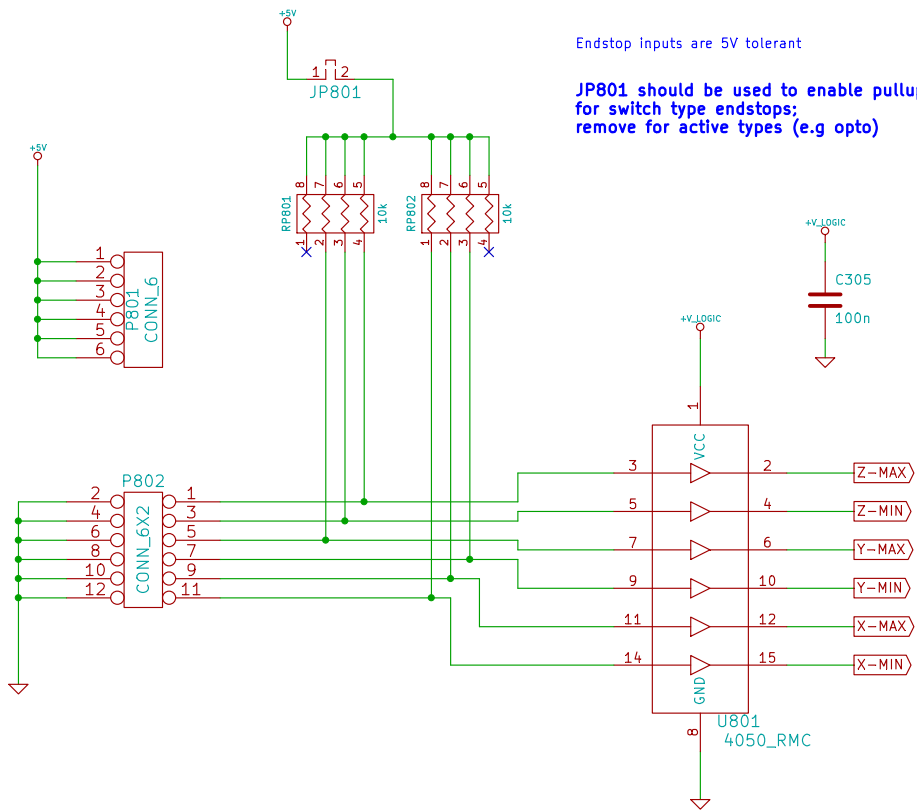
Size: A4 Date: 10 jan 2014
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable

Rev: v1 Issue B
Id: 7/10

Endstops

Endstop Inputs are 5V tolerant

JP801 should be used to enable pullups
for switch type endstops;
remove for active types (e.g. opto)



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

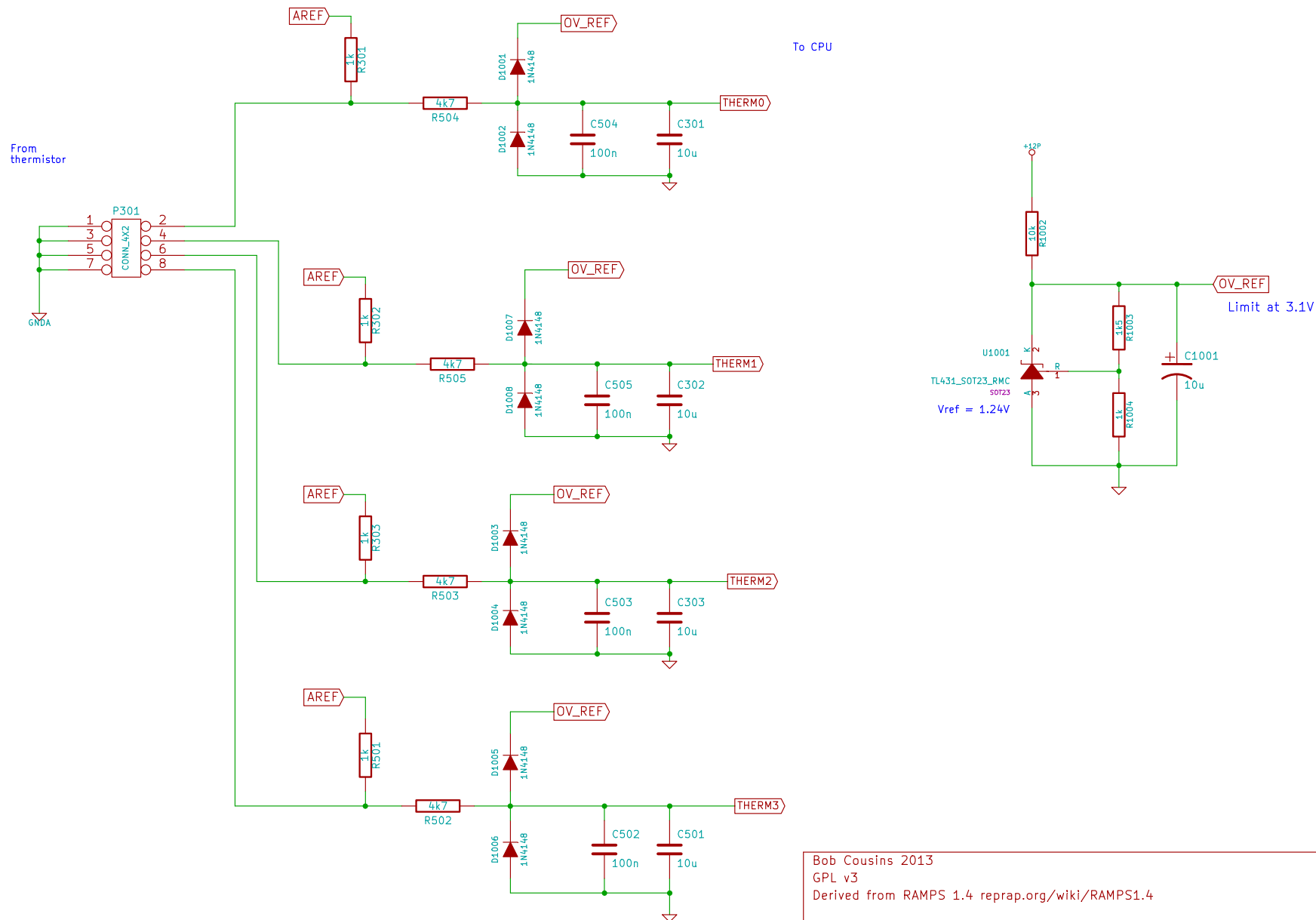
File: con_inputs.sch
Sheet: /Endstop Inputs/

Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4 Date: 10 jan 2014
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable

Rev: v1 Issue B
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Thermistor Inputs



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

File: thermistor_inputs.sch
 Sheet: /Thermistor inputs/
Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4	Date: 10 jan 2014	Rev: v1 Issue B
KiCad E.D.A. eeschema (2013-07-07 BZR 4022)-stable		Id: 10/10