

Power

Heatbed Only: 12–24V, 15A

Motors only, 12–24V

Medium power MOSFETS
(extruder heaters, fans)

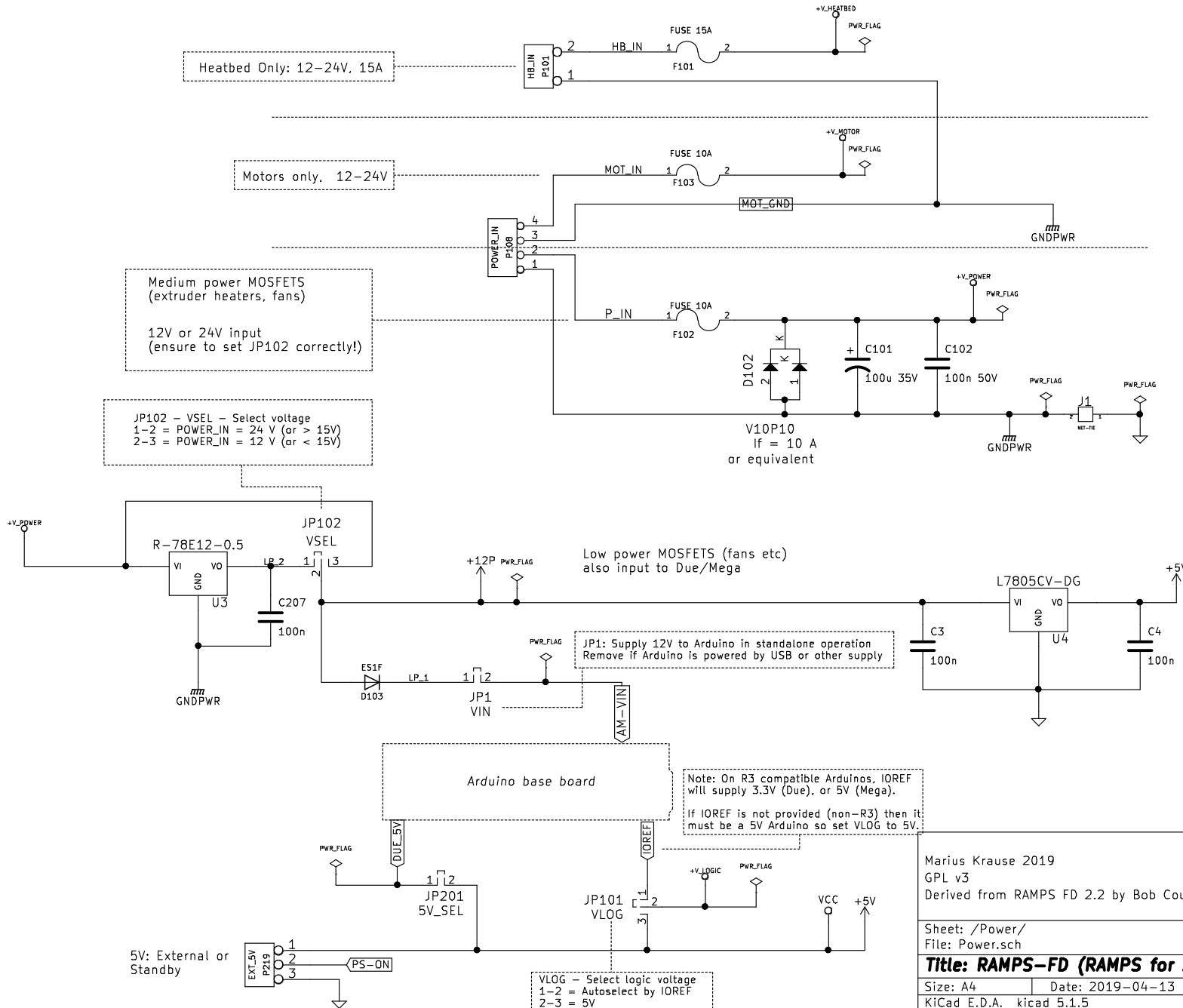
12V or 24V input
(ensure to set JP102 correctly!)

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

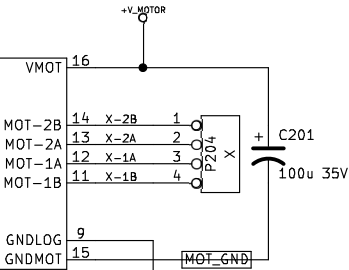
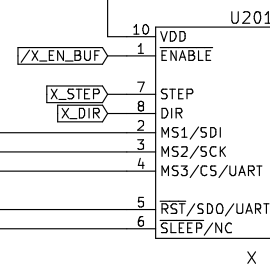
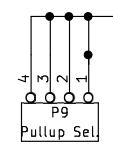
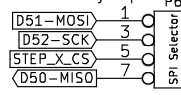
Note: use thick traces for all
high power connections

Capacitors rated to at least 25V
unless otherwise stated

Aux Power output

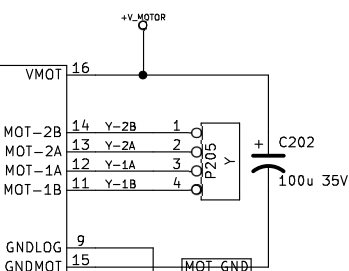
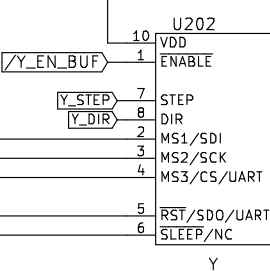
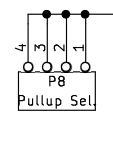
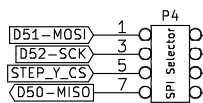


Add jumpers_{sp} for TMC2130 SPI

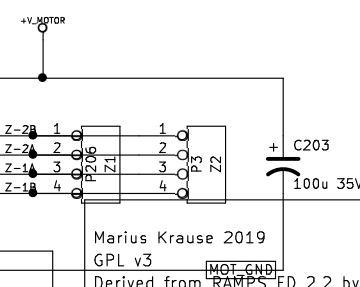
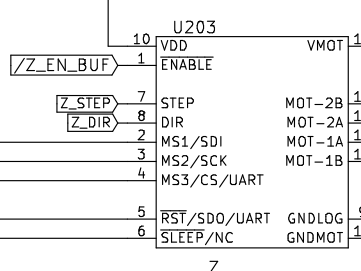
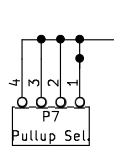
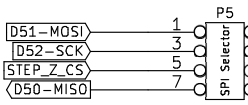


Use Jumpers to Connect the SPI Bus to your Stepperdrivers, for example for TMC 2130, or to select the microstepping for your Pololu by connecting the middle pin row to +V_Logic

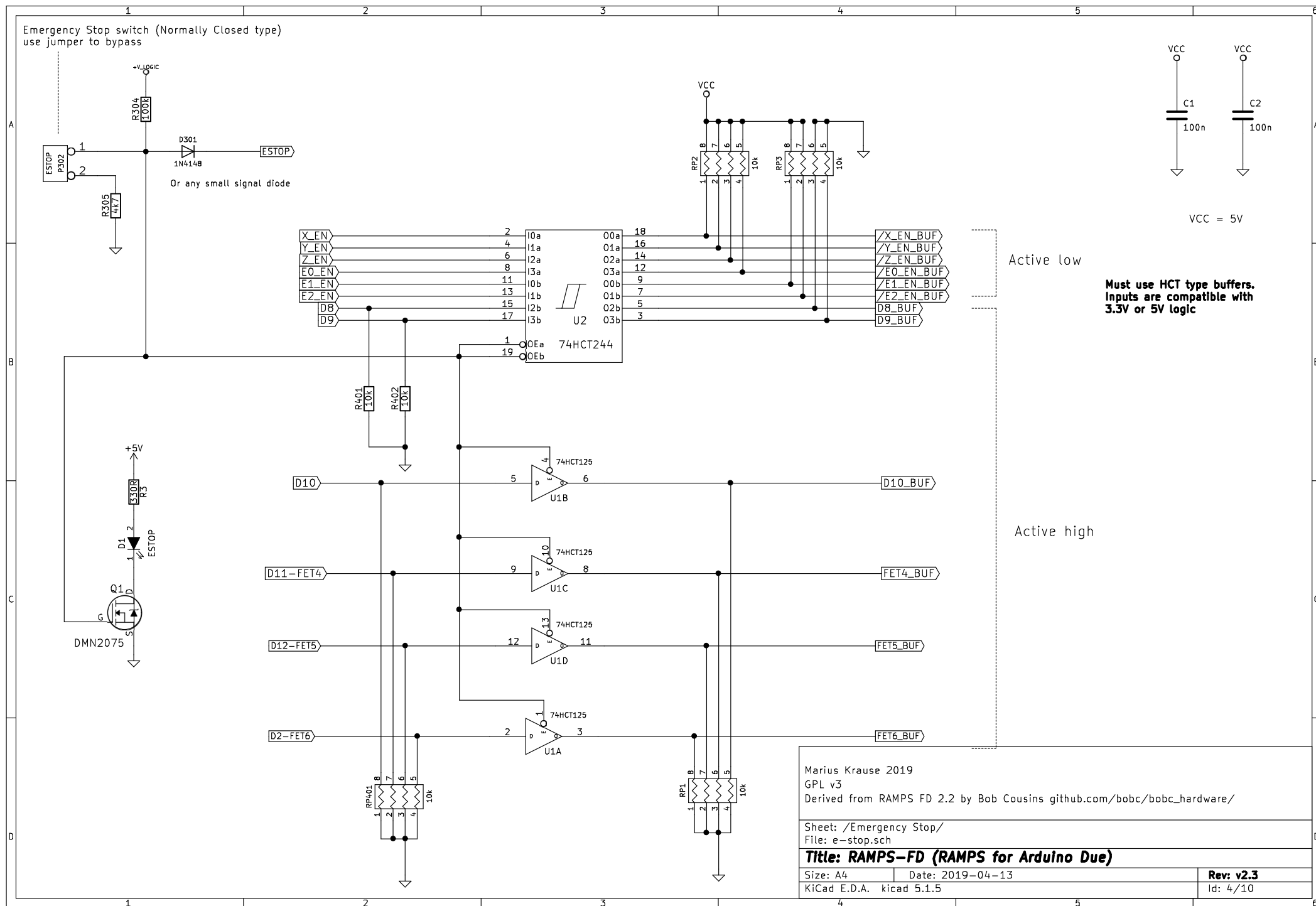
Add jumpers for TMC2130 SPI



Add jumpers for TMC2130 SPI



Marius Krause 2019
GPL v3
Derived from RAMPS-FD 2.2 by Bob Cousins github.com/bobc/bobc_hardware/

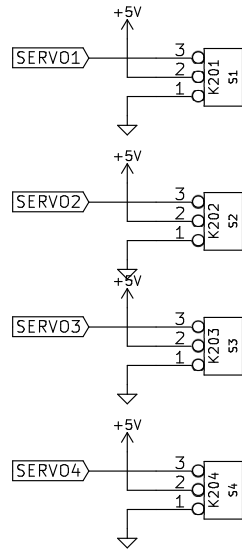
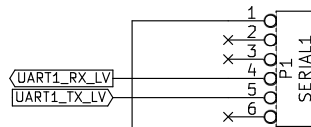
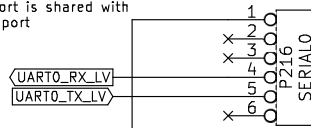


NB: On Arduino Due: IOs on this page are not 5V tolerant. Do not exceed 3.3V.

Serial

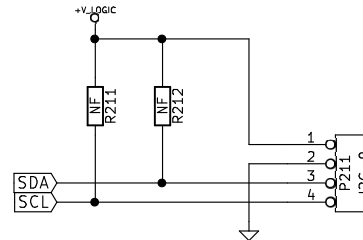
Note: this serial port is shared with USB programming port

UART-TTL

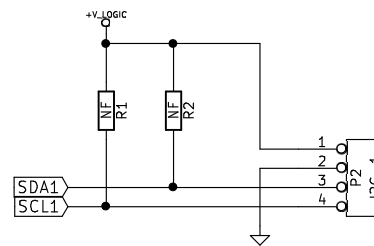


Servos
Need buffered outputs?

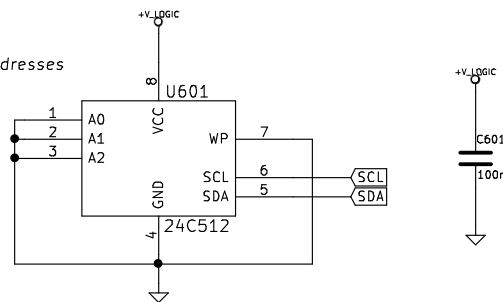
I2C



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



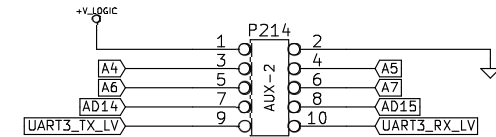
Might want to allow other addresses



EEPROM

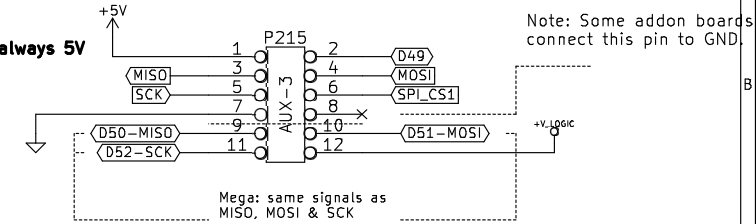
Aux connectors

Aux2



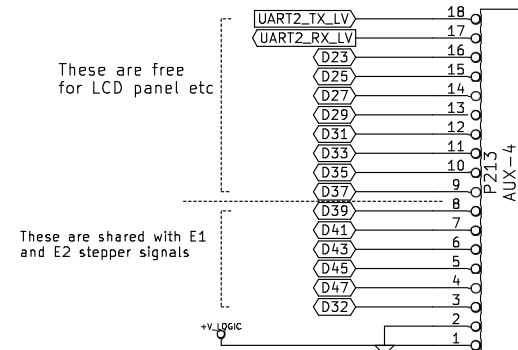
Aux3 - SPI

NB This pin is always 5V



Mega: same signals as MISO, MOSI & SCK

Aux4 - general IO



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Derived from RAMPS FD 2.2 by Bob Cousins github.com/bobc/bobc_hardware/

Sheet: /Misc Connectors/
File: con_misc.sch

Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4 Date: 2019-04-13

KiCad E.D.A. kicad 5.1.5

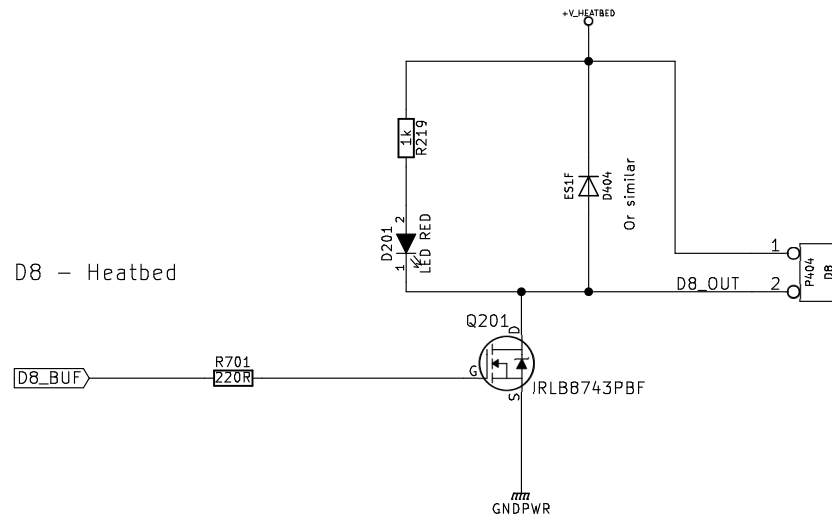
Rev: v2.3

Id: 6/10

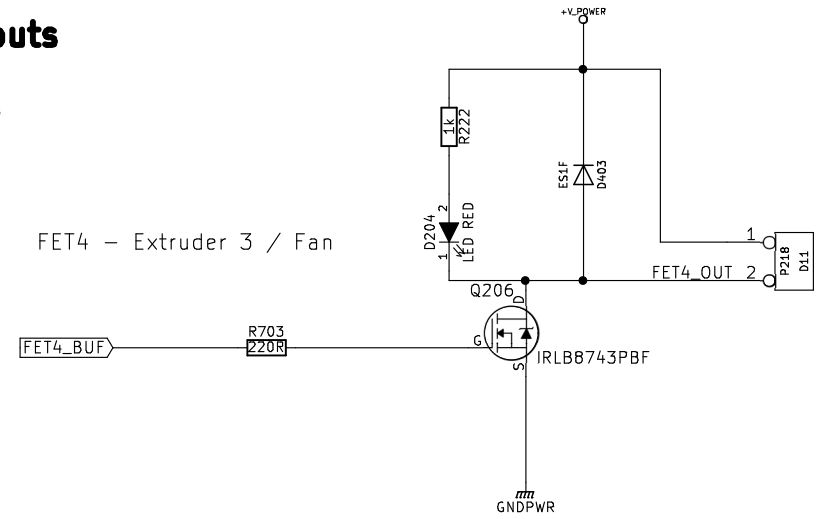
MOSFET Outputs

Non-inverting drivers

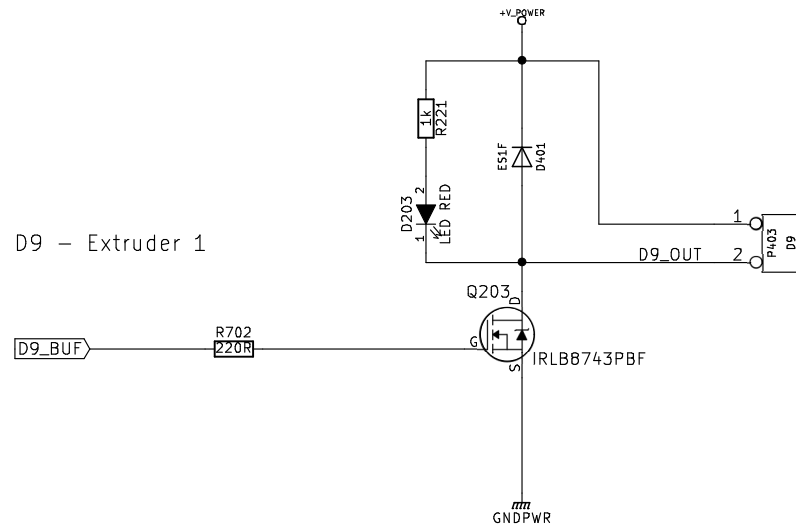
D8 - Heatbed



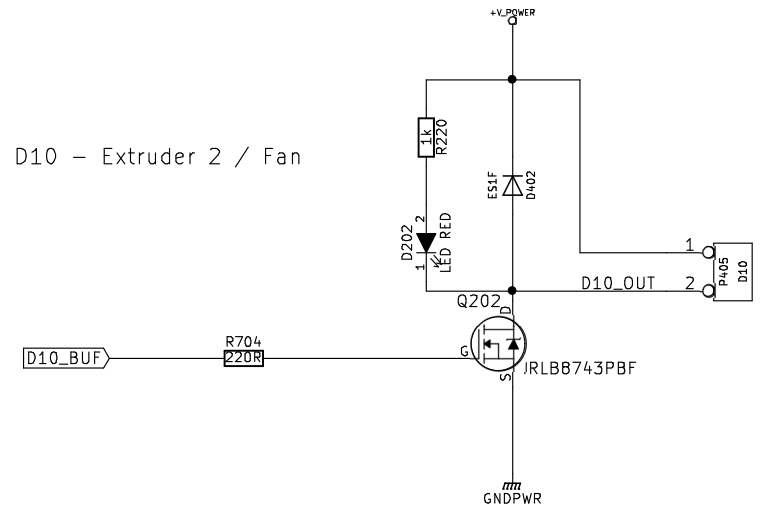
FET4 - Extruder 3 / Fan



D9 - Extruder 1



D10 - Extruder 2 / Fan



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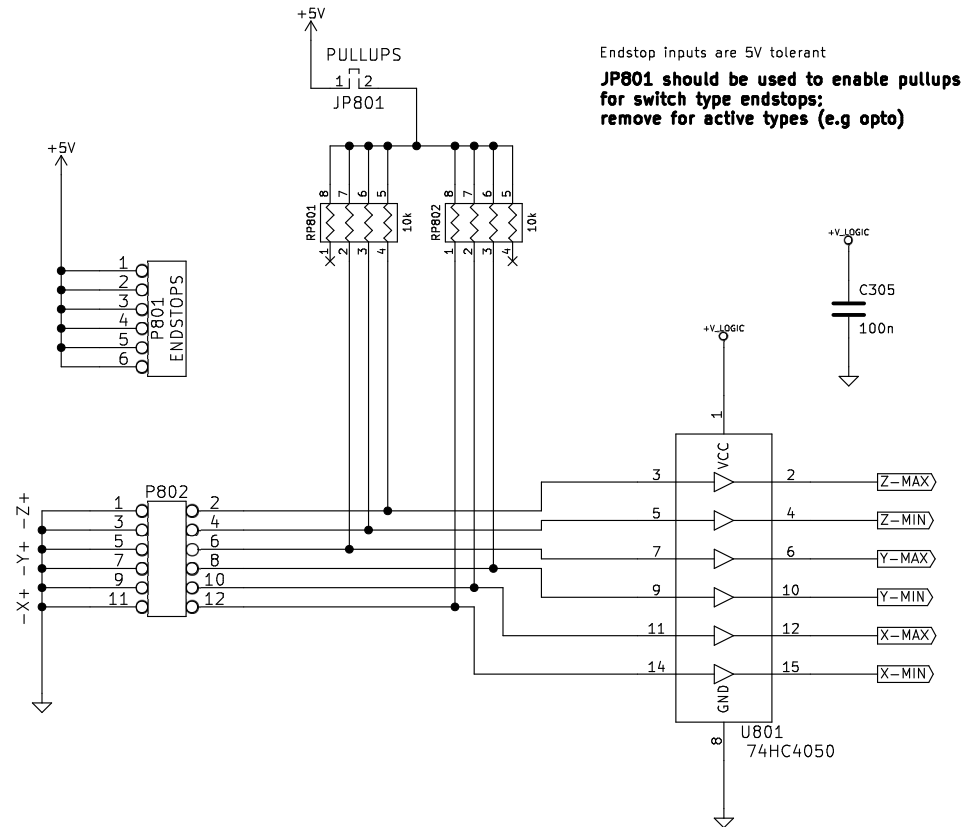
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File: con_outputs.sch

Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4 Date: 2019-04-13
KiCad E.D.A. kicad 5.1.5

Rev: v2.3
Id: 7/10

Endstops



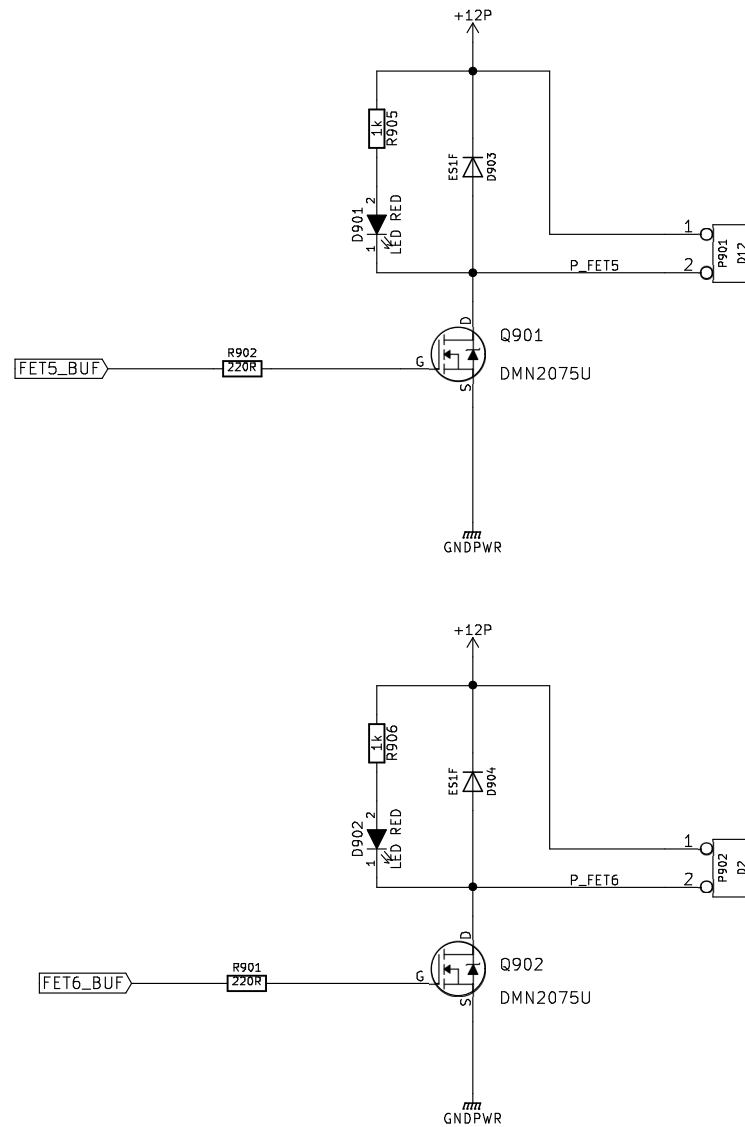
Marius Krause 2019
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 Derived from RAMPS FD 2.2 by Bob Cousins github.com/bobc/bobc-hardware/

Sheet: /Endstop Inputs/
 File: con_inputs.sch

Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4 Date: 2019-04-13
 KiCad E.D.A. kicad 5.1.5

Rev: v2.3
 Id: 8/10



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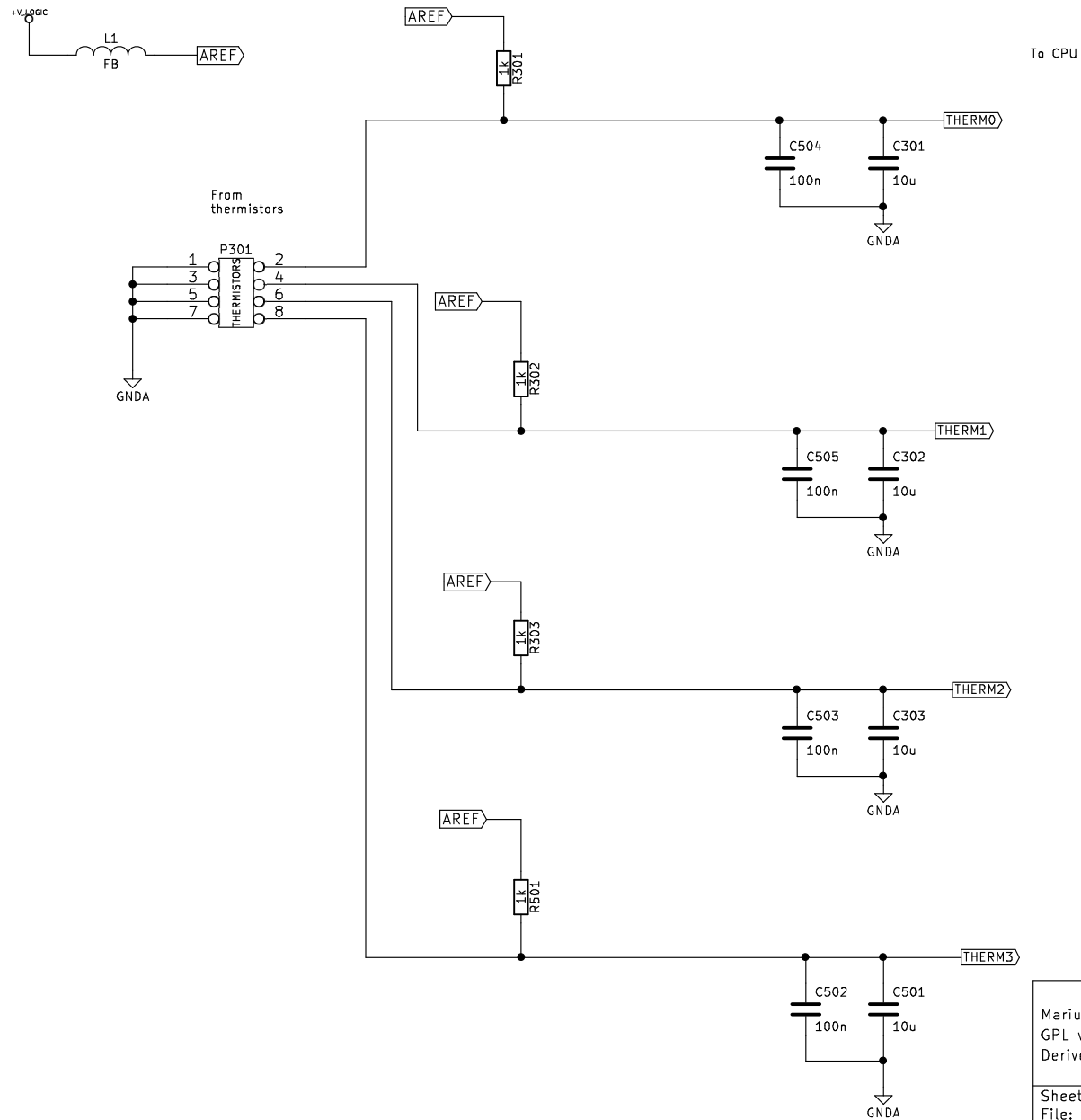
Sheet: /Extra MOSFETs/
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Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4
 KiCad E.D.A. kicad 5.1.5

Date: 2019-04-13
 Rev: v2.3
 Id: 9/10

Thermistor Inputs



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Sheet: /Thermistor inputs/
 File: thermistor_inputs.sch

Title: RAMPS-FD (RAMPS for Arduino Due)

Size: A4 Date: 2019-04-13

KiCad E.D.A. kicad 5.1.5

Rev: v2.3

Id: 10/10