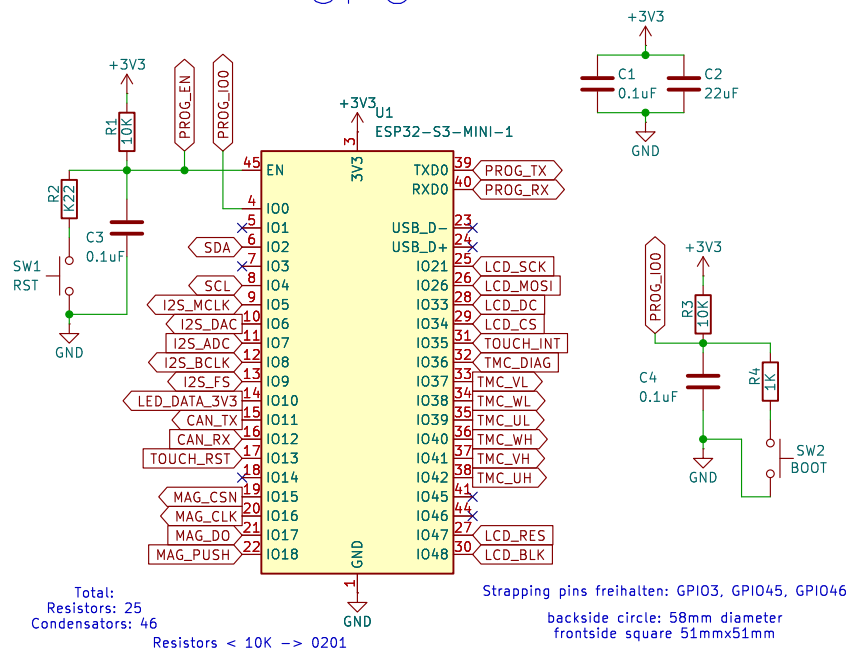
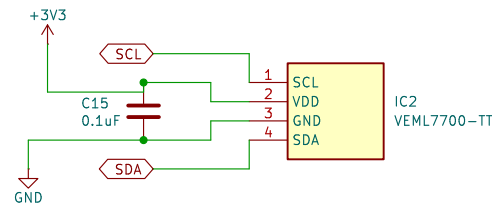


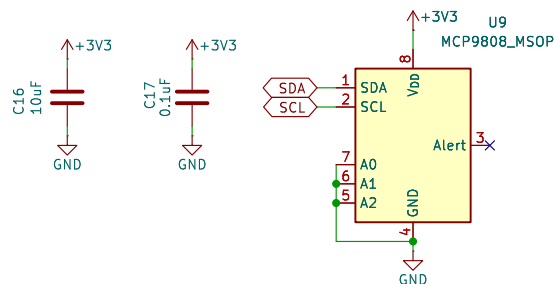
CPU



BRIGHTNESS SENSOR



TEMPERATURE + HUMIDITY



Sub-Sheets

motor

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audioamplifier

File: audioamplifier.kicad_sch

RGB-LEDs

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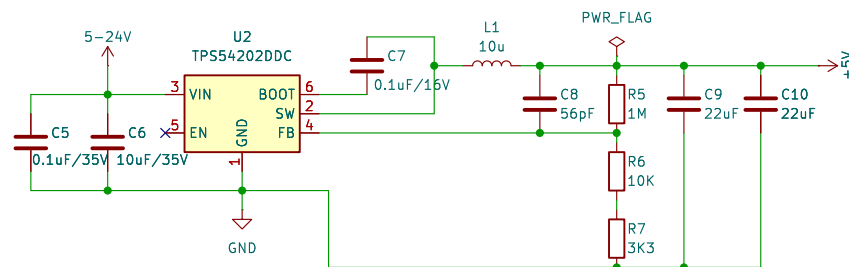
canbus

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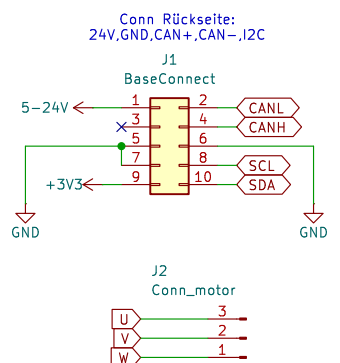
display

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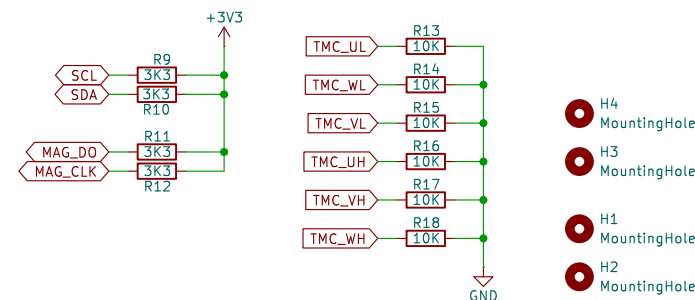
POWER 24V->5V



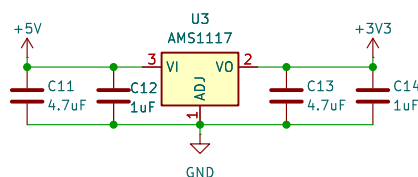
CONN



PULL-UPS/DOWNS



POWER 5V->3V3



Lucas Canete

Sheet: /
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Title: SmartKnob

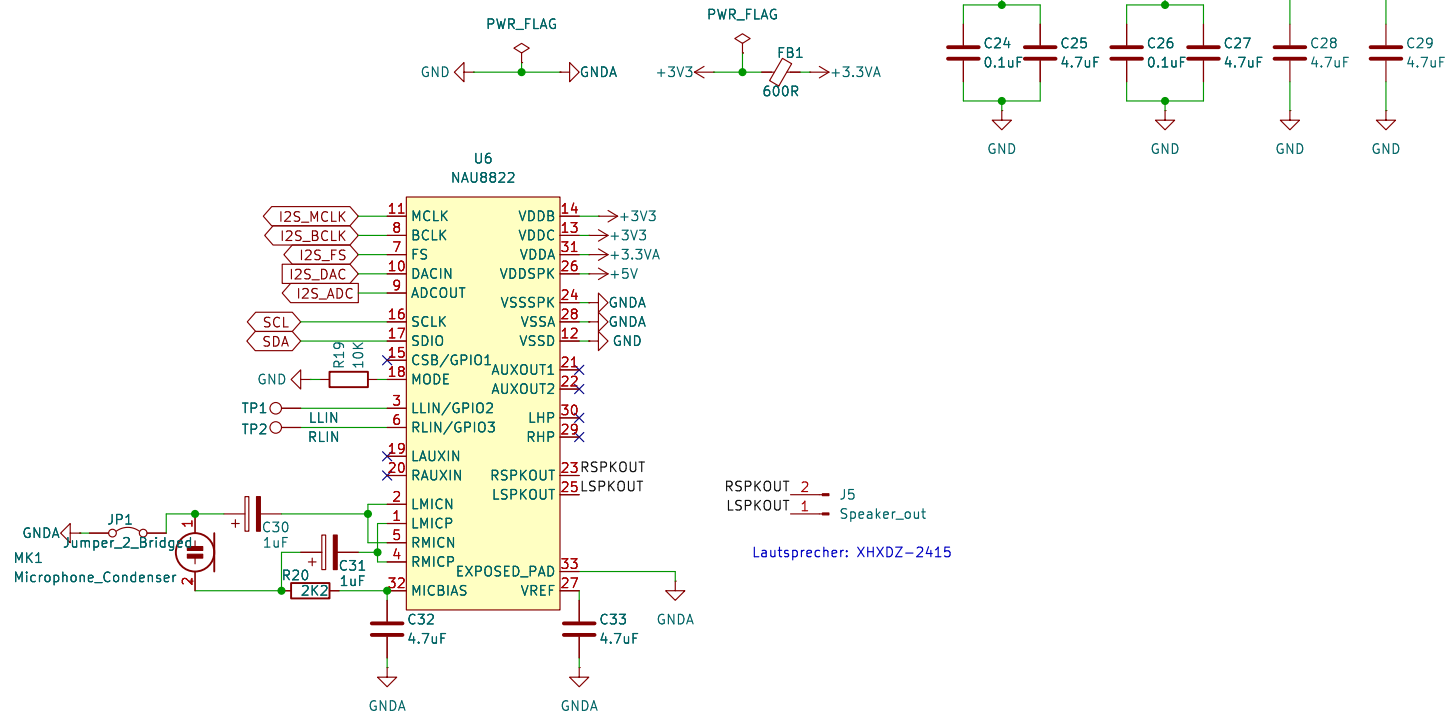
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Rev: V1

Id: 1/6

AUDIOAMPLIFIER



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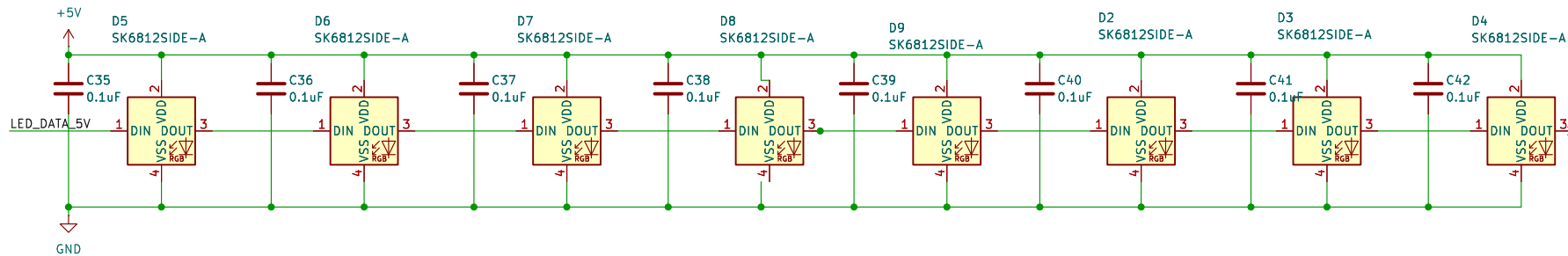
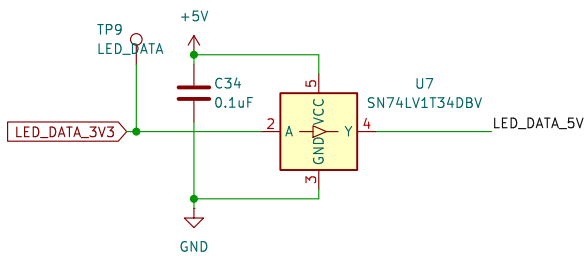
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Rev:
Id: 2/6

RGB-LEDS



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Size: A4

Date:

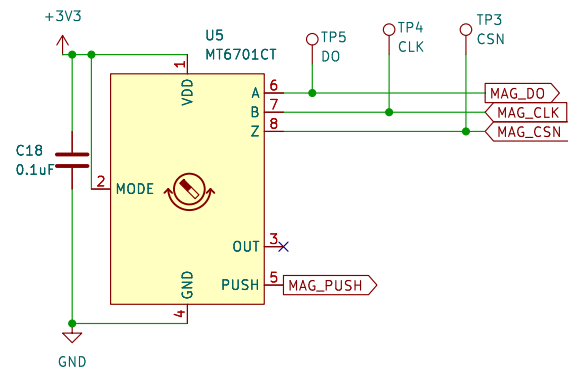
KiCad E.D.A. 9.0.2

Rev:

Id: 3/6

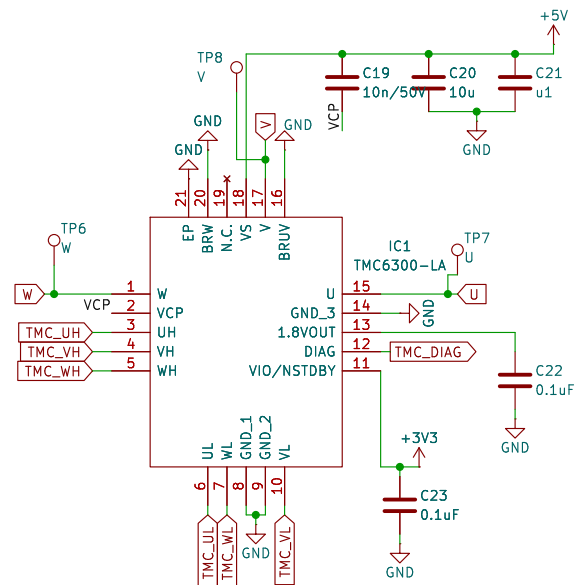
MAGNETIC ENCODER

The diagram shows the electrical connections for a magnetic encoder (U5 MT6701CT). The component is a yellow rectangle with pins numbered 1 through 8. Pin 1 is VDD, connected to +3V3. Pin 2 is MODE, connected to GND through a capacitor C18 (0.1uF). Pin 3 is OUT, marked with a crossed-out 'X'. Pin 4 is GND, connected to the common ground. Pin 5 is PUSH, connected to a button labeled MAG_PUSH. Pin 6 is A, connected to TP5 DO. Pin 7 is B, connected to TP4 CLK. Pin 8 is Z, connected to TP3 CSN. The outputs are shown as red arrows pointing right: MAG_DO (from A), MAG_CLK (from B), MAG_CSN (from Z), and MAG_PUSH (from 5).



MOTOR DRIVER

The diagram illustrates the electrical connections for a TMC6300-LA motor driver. The IC is powered by a +5V supply through a series of capacitors (C19, C20, C21) and a voltage divider (TP8). It is also connected to a +3V3 supply via a capacitor (C23). The driver's outputs (UL, VL, WL) are connected to a motor (W) through a network of capacitors (C22) and a voltage divider (TP7). The driver's inputs (UH, VH, WH) are connected to a motor (W) through a network of capacitors (C22) and a voltage divider (TP7).



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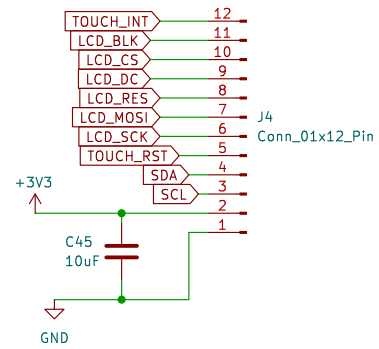
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CAN-BUS

The diagram illustrates a CAN-BUS interface circuit. A +3V3 power supply is connected to the VCC pin (pin 3) of the SN65HVD230 transceiver (U8). A 0.1uF capacitor (C43) is connected between VCC and GND. The transceiver's CANH pin (pin 7) is connected to the CANH signal line, which is also connected to a 120 ohm resistor (R21) and the CANH pin of a CAN controller (labeled CANH). The transceiver's CANL pin (pin 6) is connected to the CANL signal line, which is also connected to a 120 ohm resistor (R21) and the CANL pin of a CAN controller (labeled CANL). A switch (SW3) is connected between the CANH and CANL lines, controlled by a signal labeled SW_SPDT_with_Case. A 10K resistor (R22) is connected between the PWR_FLAG signal and the Vref pin (pin 5) of the transceiver. The transceiver's D pin (pin 1) is connected to the CAN_TX signal, and the R pin (pin 4) is connected to the CAN_RX signal. The transceiver's GND pins (pins 2, 3, and 6) are connected to ground. A diode (D10, NUP2105L) is connected between the CANL line and ground.

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GC9A01 DISPLAY



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