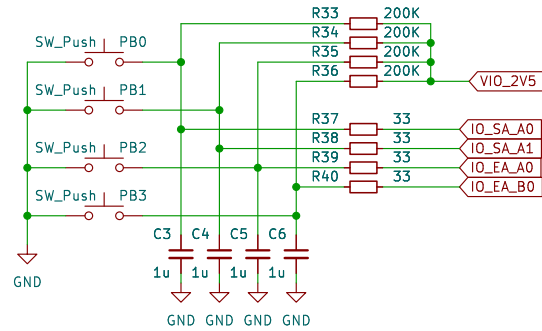


## Push Buttons

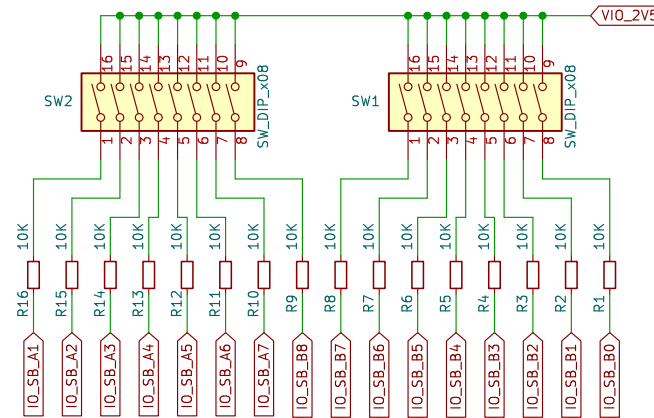
4x push buttons with pull-up. Negative logic: press = 0.



## Slide Switches

16x DIP switches set 2.5V level signals. Requires internal GPIO PULLDOWN setup.

\*IO\_SB\_A8 is skipped because it connects clock 10MHz



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<https://github.com/fm4dd/gm-study-e1.git>

Sheet: /data-in/  
File: data-in.kicad\_sch

**Title: GateMate E1 Study Max – Input Signals**

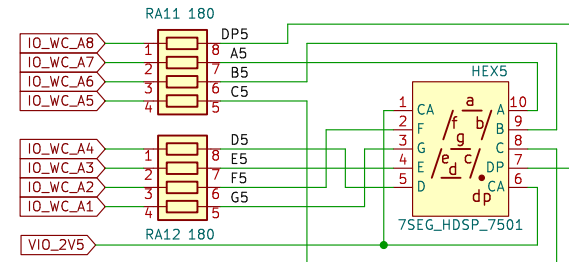
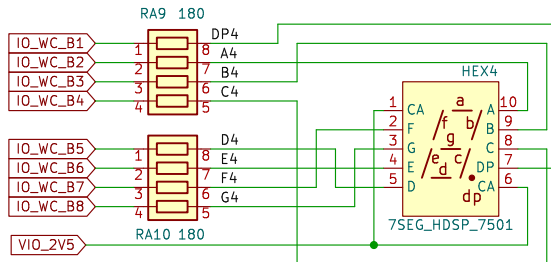
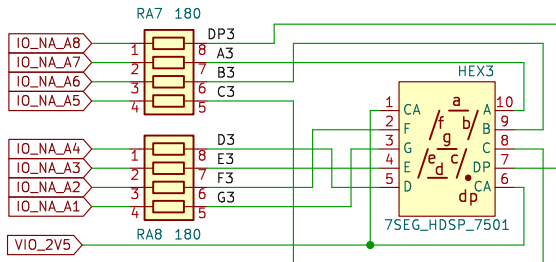
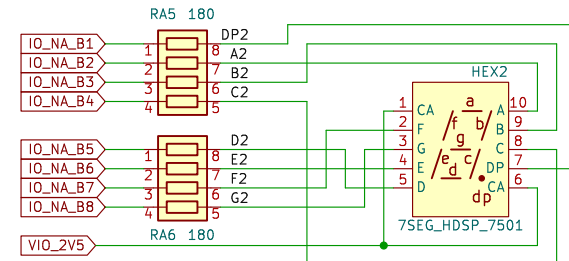
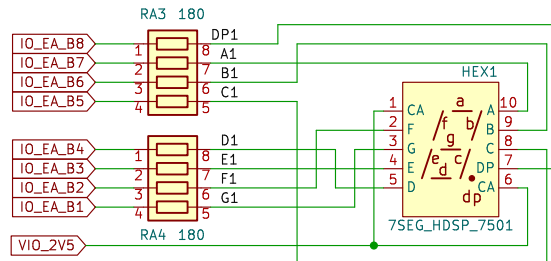
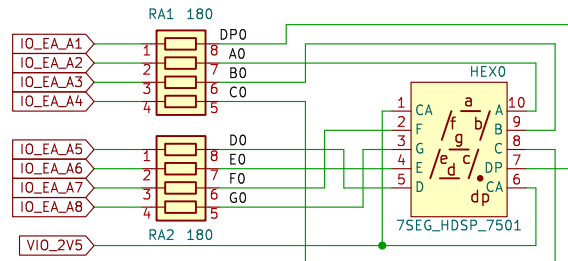
Size: A4 Date: 2022-11-05

KiCad E.D.A. eeschema (7.0.0)

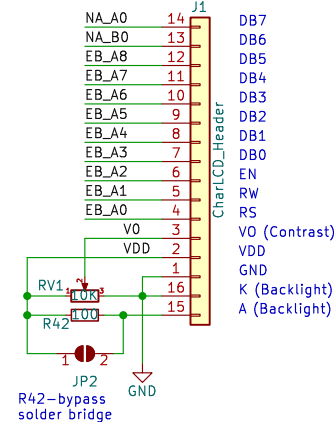
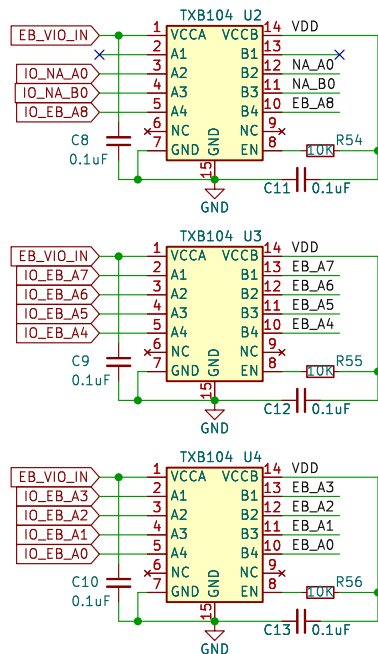
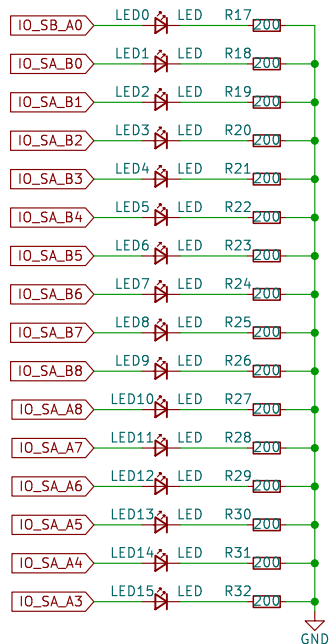
Rev:  
Id: 2/3

## 7-Segment Display

6 Digits, common anode, no multiplexing  
Single-digit THT module 0.3" Broadcom HDSP-7501



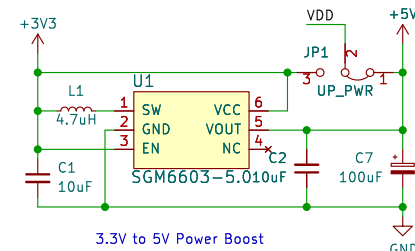
## 16x LED Output



- 16-pin HD44780 charLCD connector pinout
- with signal level shifter to 3.3V or 5V TTL
- adding R42 powers LCD backlight via pin 15
- leave R42 open to disable LCD backlight
- RV1 potentiometer to adjust LCD contrast

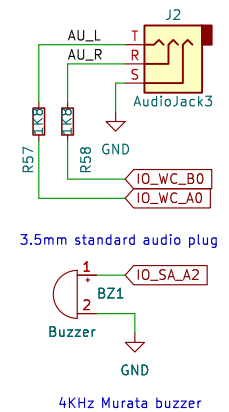
## 2.54mm IO Header

2.5V to 3.3V or 5V TTL signal level translation



FM4DD:Label\_3V3  
FM4DD:Label\_5V

## Audio Output



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<https://github.com/fm4dd/gm-study-e1.git>

Sheet: /data-out/  
File: data-out.kicad\_sch

## Title: GateMate E1 Study Max – Output Signals

Size: A4 Date: 2022-11-05  
KiCad E.D.A. eeschema (7.0.0)

Rev:  
Id: 3/3