

twitch.tv/baldengineer

Sheet: /

File: /mega\_6502.kicad\_sch

**Mega-6502 Rev 3 PCB**

Date: 2022-06-27

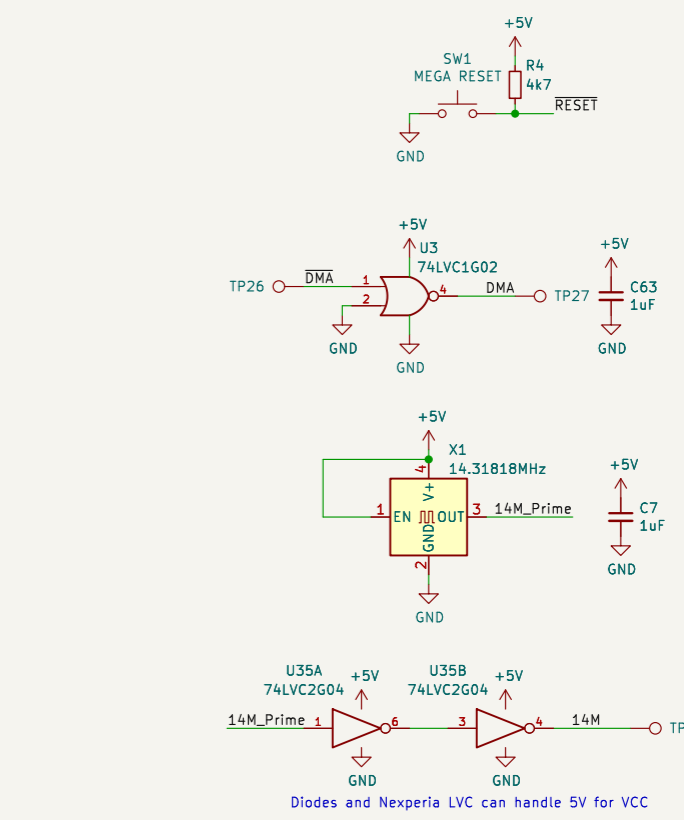
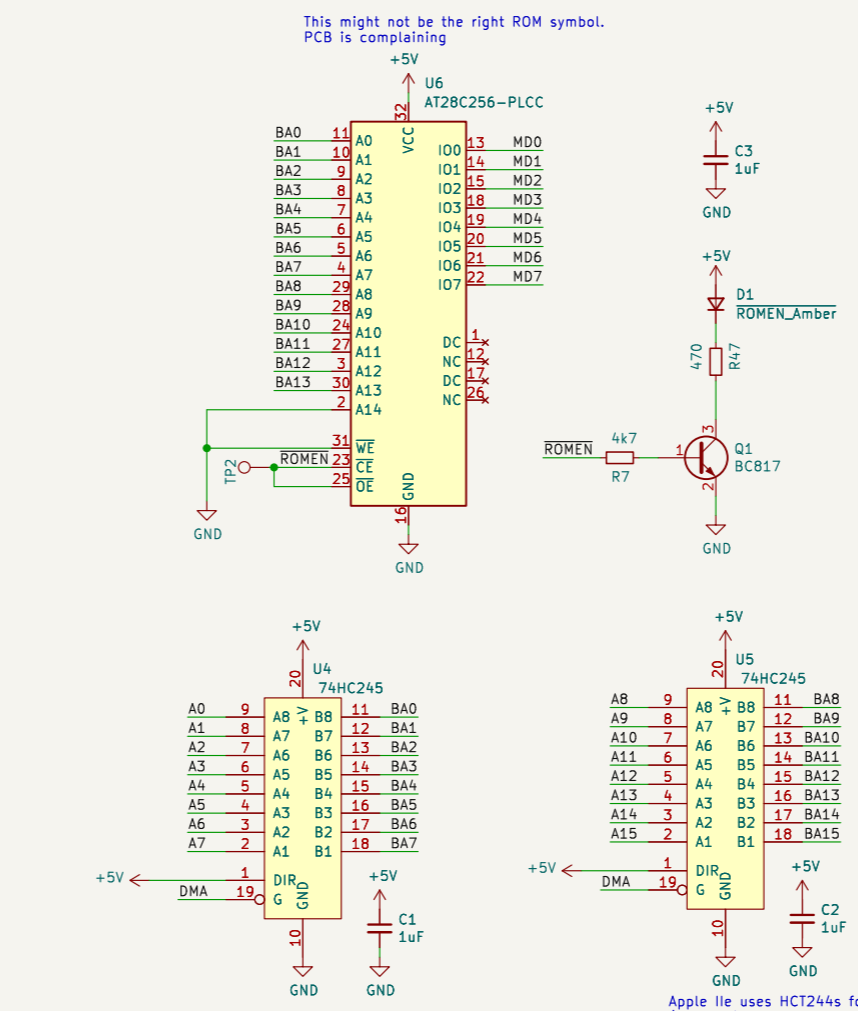
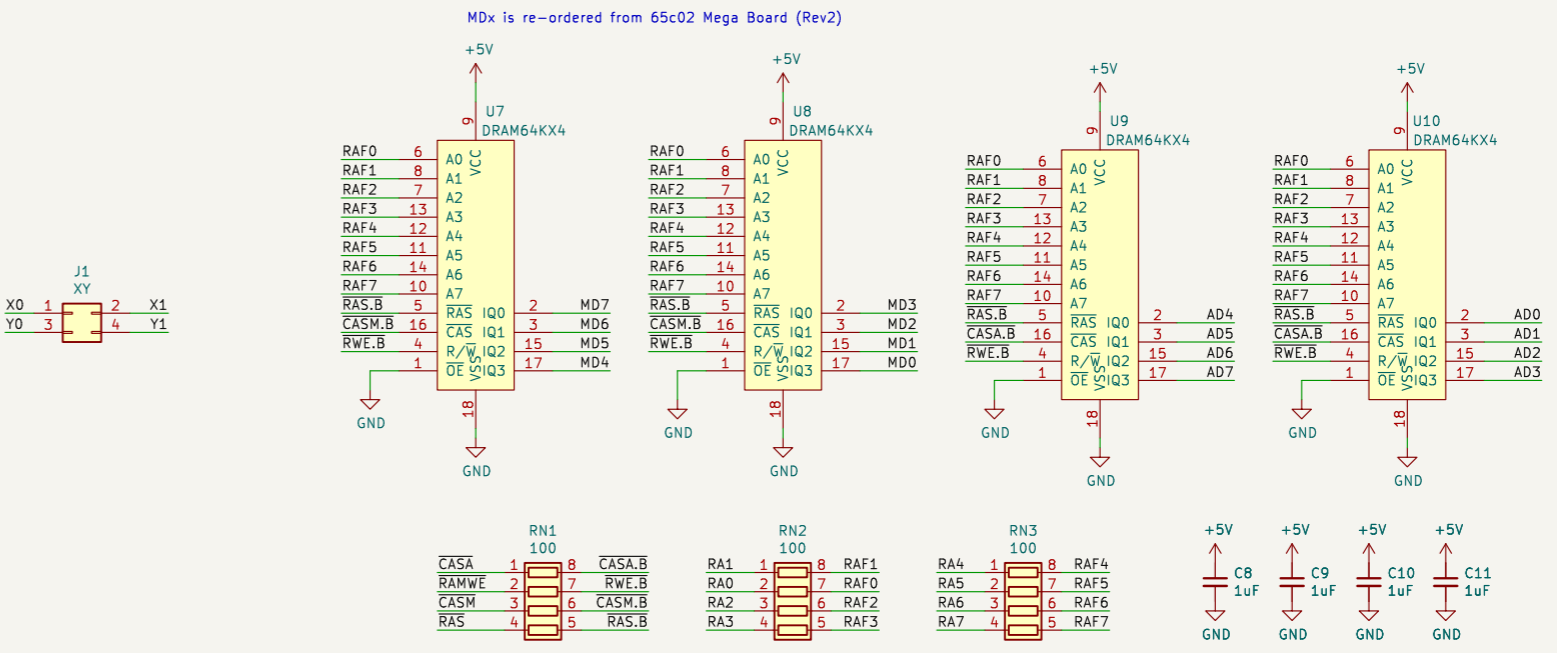
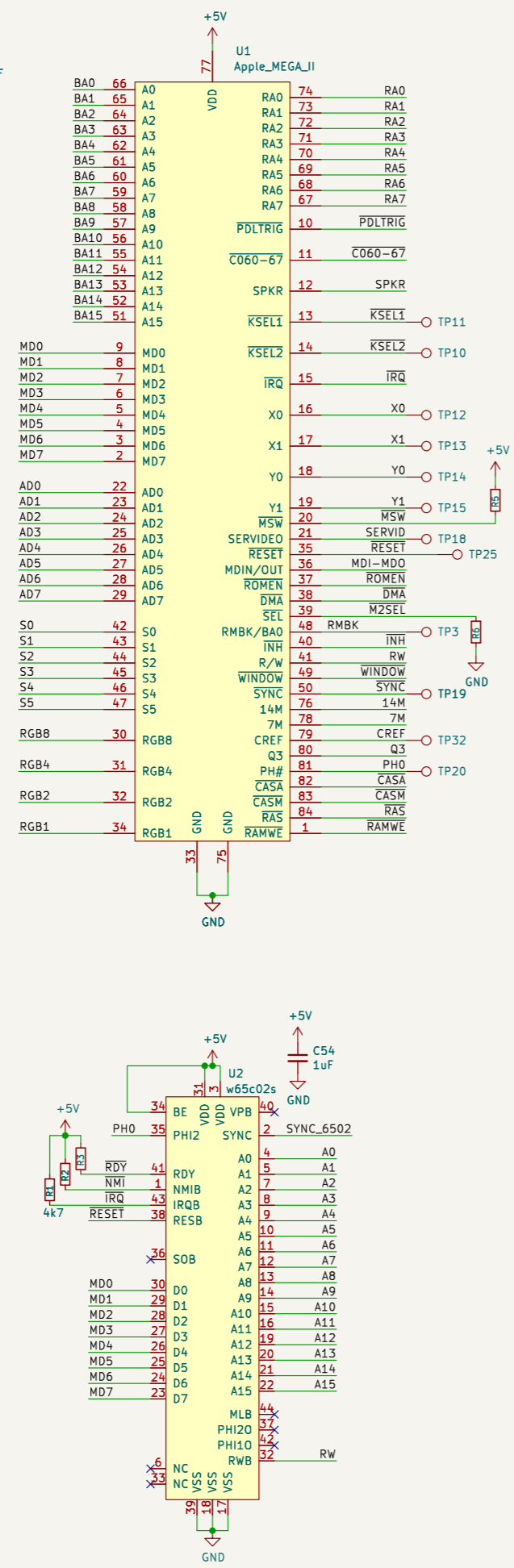
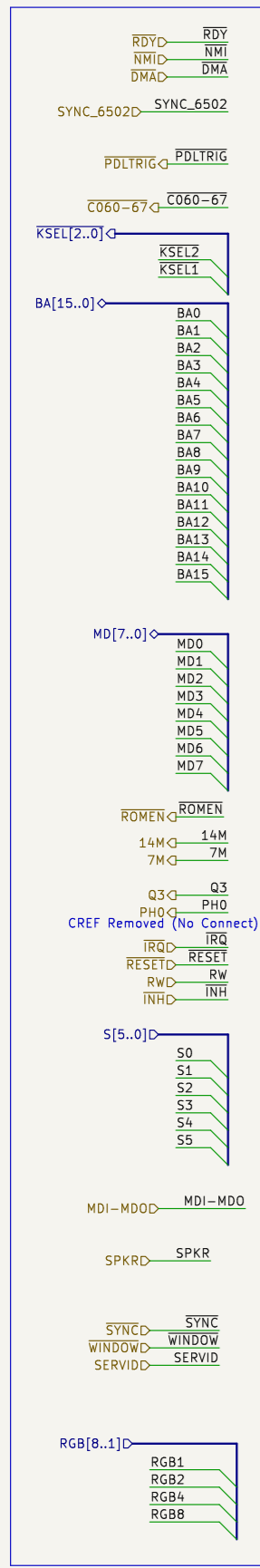
KiCad E.D.A. 9.0.0

Rev: 3b

Id: 1/10

decoder  
 >ROMEN  
 >BA[15..0]

File: decoder.kicad\_sch



Diodes and Nexperia LVC can handle 5V for VCC

H1  
H2  
H3  
H4  
H5  
H6  
H7

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Sheet: /mega-6502/  
File: mega-6502.kicad\_sch

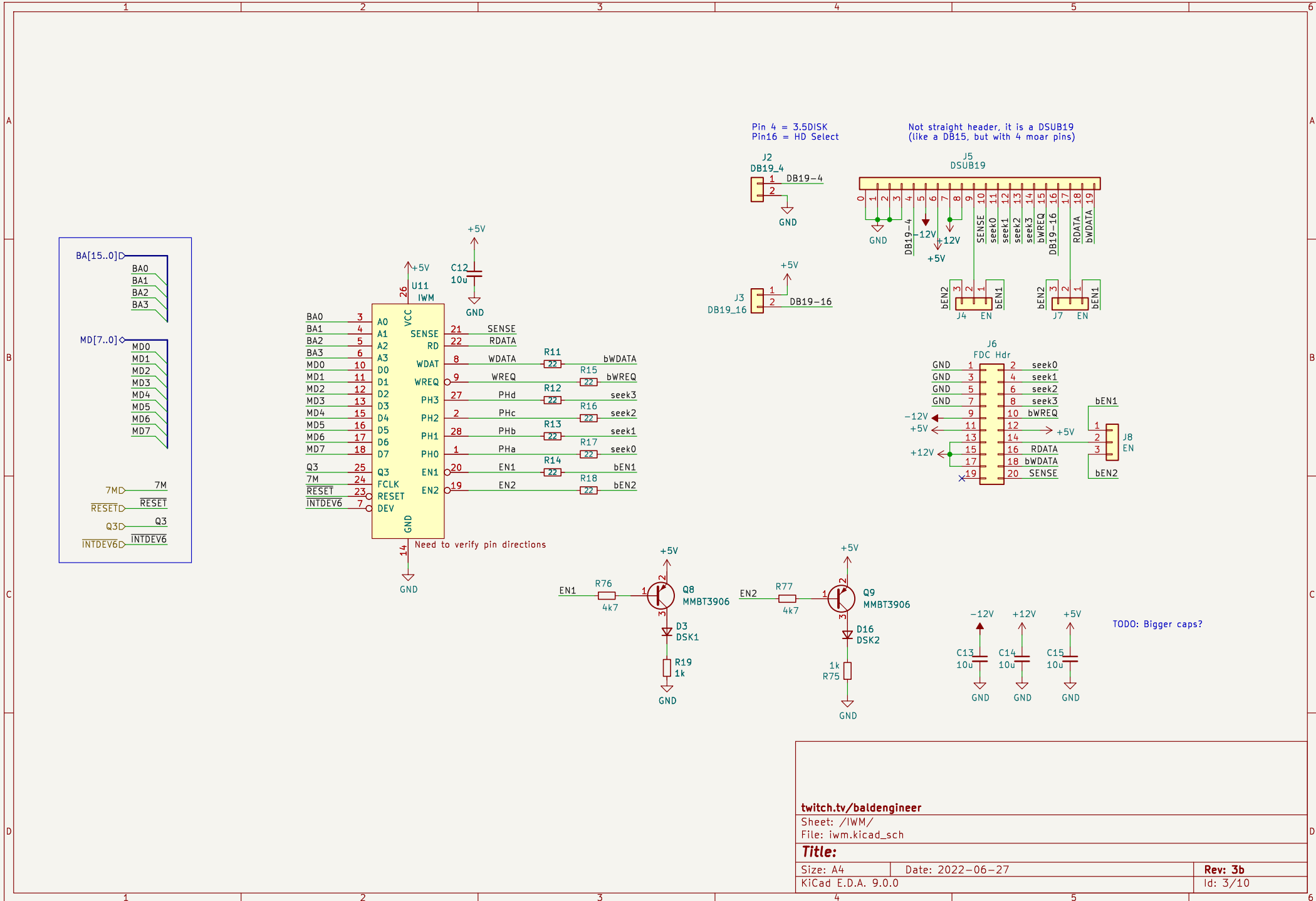
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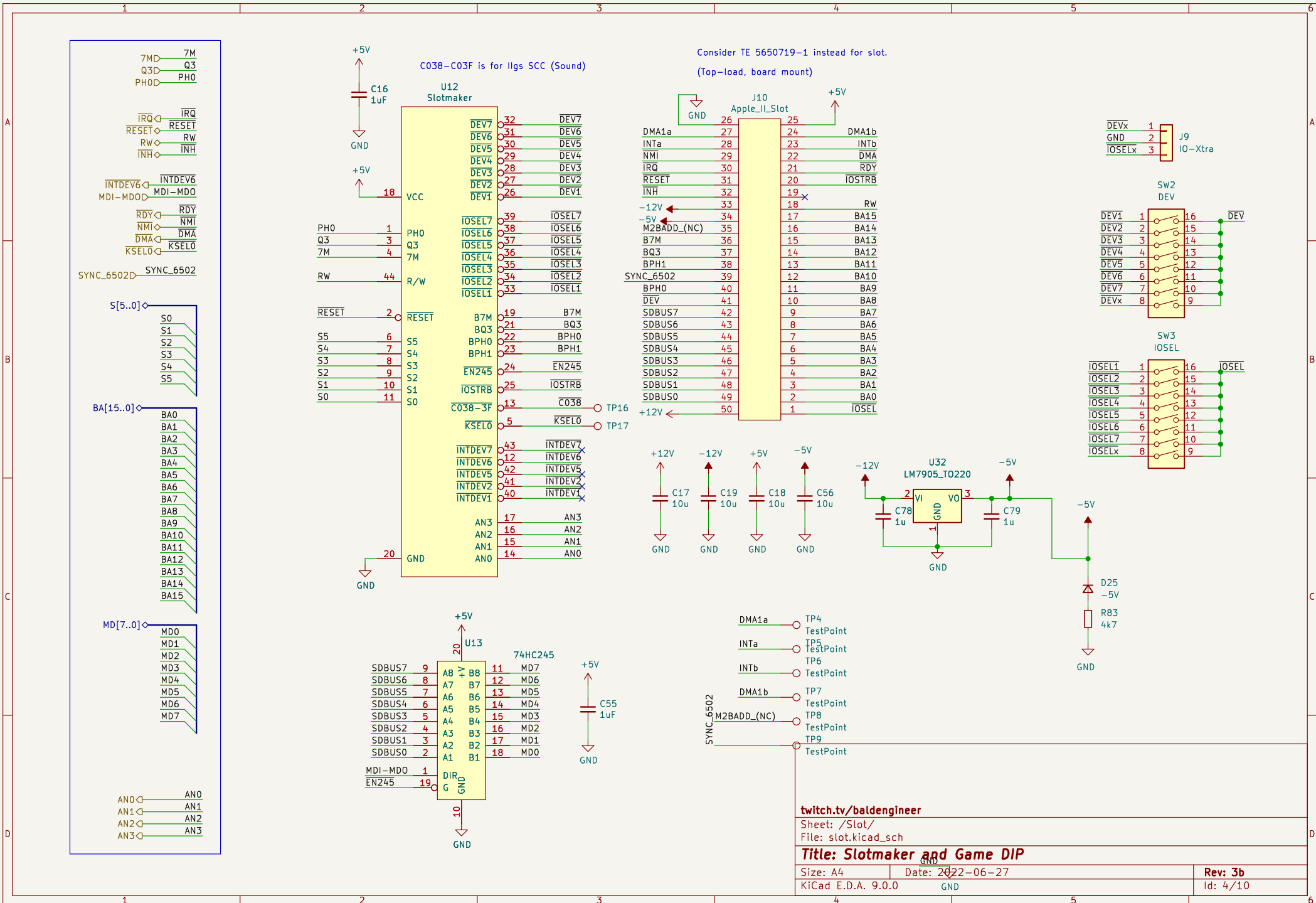
Size: A3 Date: 2022-06-27 Rev: 3b  
KiCad E.D.A. 9.0.0 Id: 2/10

MDx is re-ordered from 65c02 Mega Board (Rev2)

This might not be the right ROM symbol.  
PCB is complaining

Apple IIe uses HCT244s for these buffers.  
(Using 245s because we have them already)





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Sheet: /Slot/  
File: slot.kicad\_sch

**Title: Slotmaker and Game DIP**

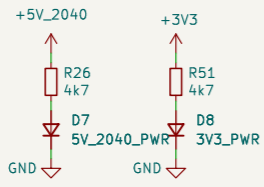
Size: A4 Date: 2022-06-27

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GND

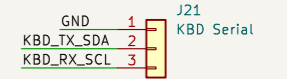
Rev: 3b

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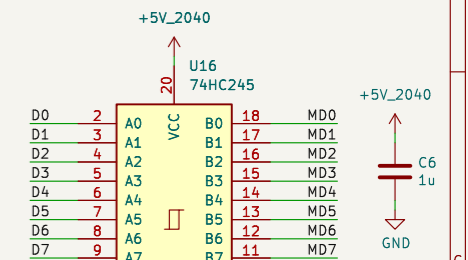
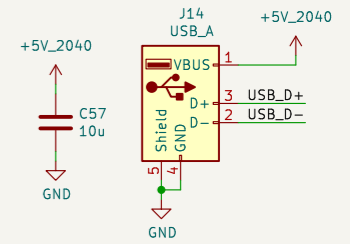


Change to 3 pin for console cable?

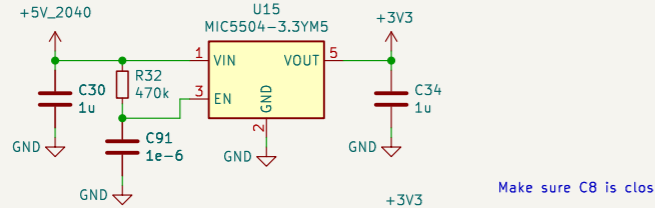
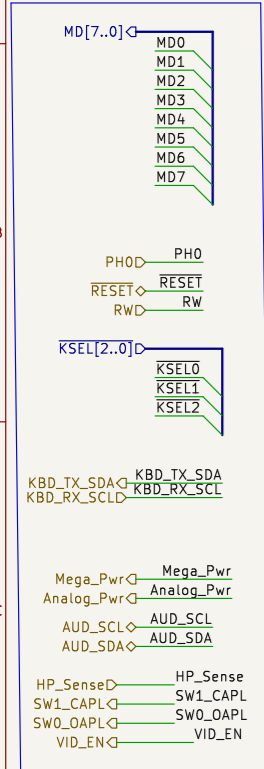
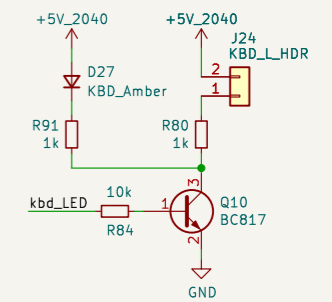
IOs



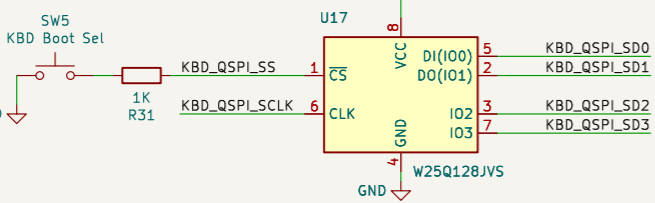
KBD USB IN



Is KBD2040 rev3 driving the enable signal?

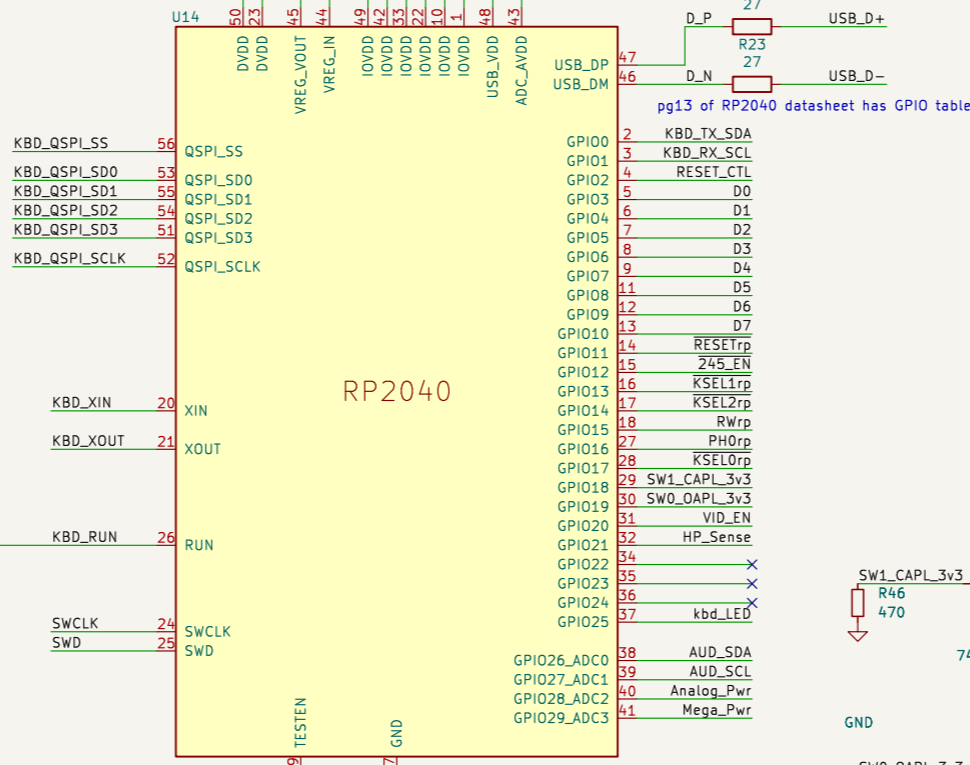
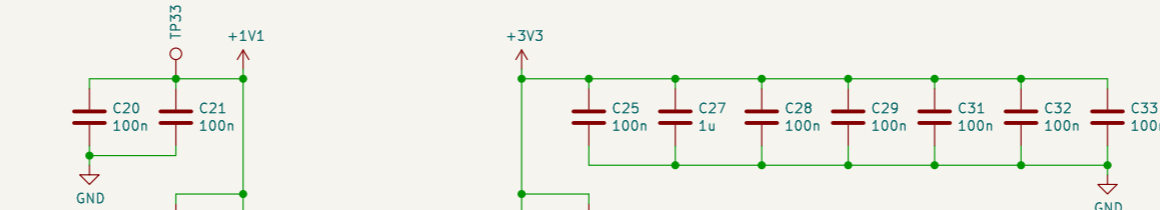


Flash



Consider smaller package (and on VGA2040)

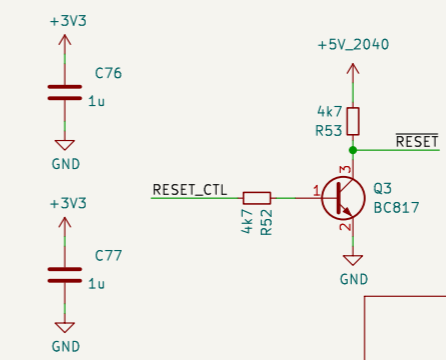
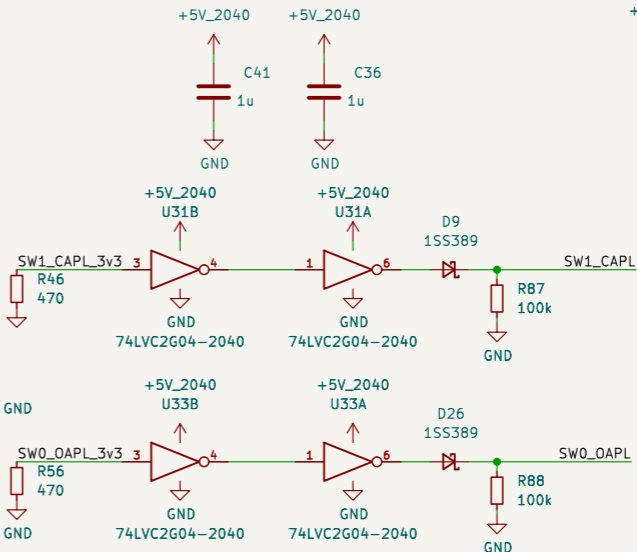
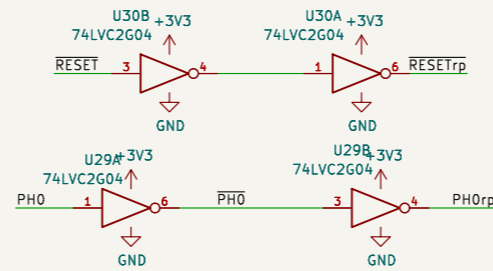
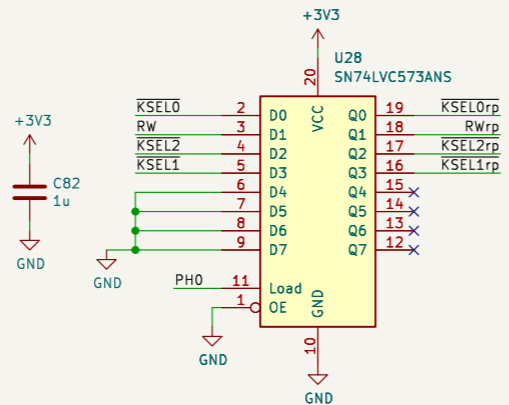
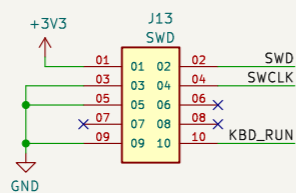
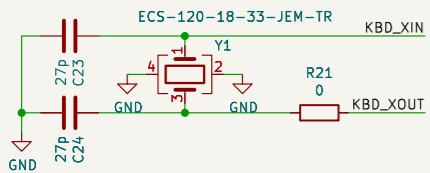
Make sure C8 is close to pin 45 of RP2040



pg13 of RP2040 datasheet has GPIO table

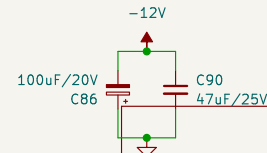
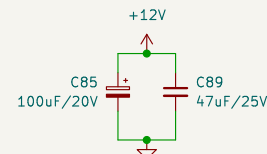
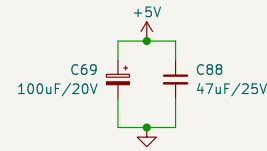
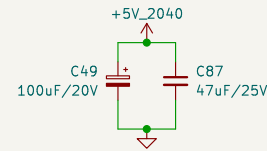
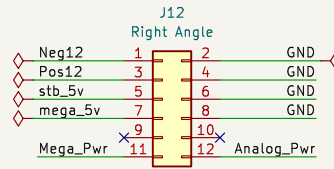
GPIO0	2	KBD_TX_SDA
GPIO1	3	KBD_RX_SCL
GPIO2	4	RESET_CTL
GPIO3	5	D0
GPIO4	6	D1
GPIO5	7	D2
GPIO6	8	D3
GPIO7	9	D4
GPIO8	11	D5
GPIO9	12	D6
GPIO10	13	D7
GPIO11	14	RESETrp
GPIO12	15	245_EN
GPIO13	16	KSEL1rp
GPIO14	17	KSEL2rp
GPIO15	18	RWRp
GPIO16	27	PH0rp
GPIO17	28	KSEL0rp
GPIO18	29	SW1_CAPL_3v3
GPIO19	30	SW0_OAPL_3v3
GPIO20	31	VID_EN
GPIO21	32	HP_Sense
GPIO22	34	X
GPIO23	35	X
GPIO24	56	X
GPIO25	57	kbd_LED
GPIO26_ADC0	38	AUD_SDA
GPIO27_ADC1	39	AUD_SCL
GPIO28_ADC2	40	Analog_Pwr
GPIO29_ADC3	41	Mega_Pwr

Crystal

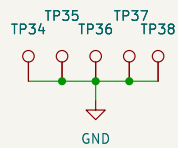
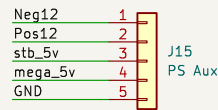
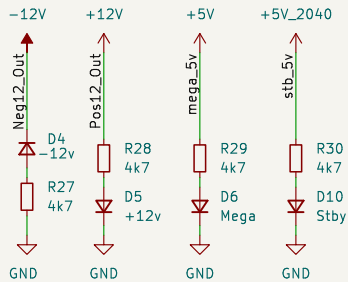
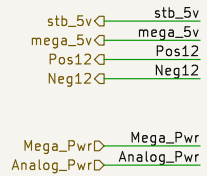


Change to SMD Package (if you can buy it)

TODD: Add filtering and some lytics.



Change PWR Control Signals to Match  
Mega\_EN  
Analog\_EN



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Sheet: /power/  
File: power.kicad\_sch

Title:

Size: A4 Date: 2022-06-27

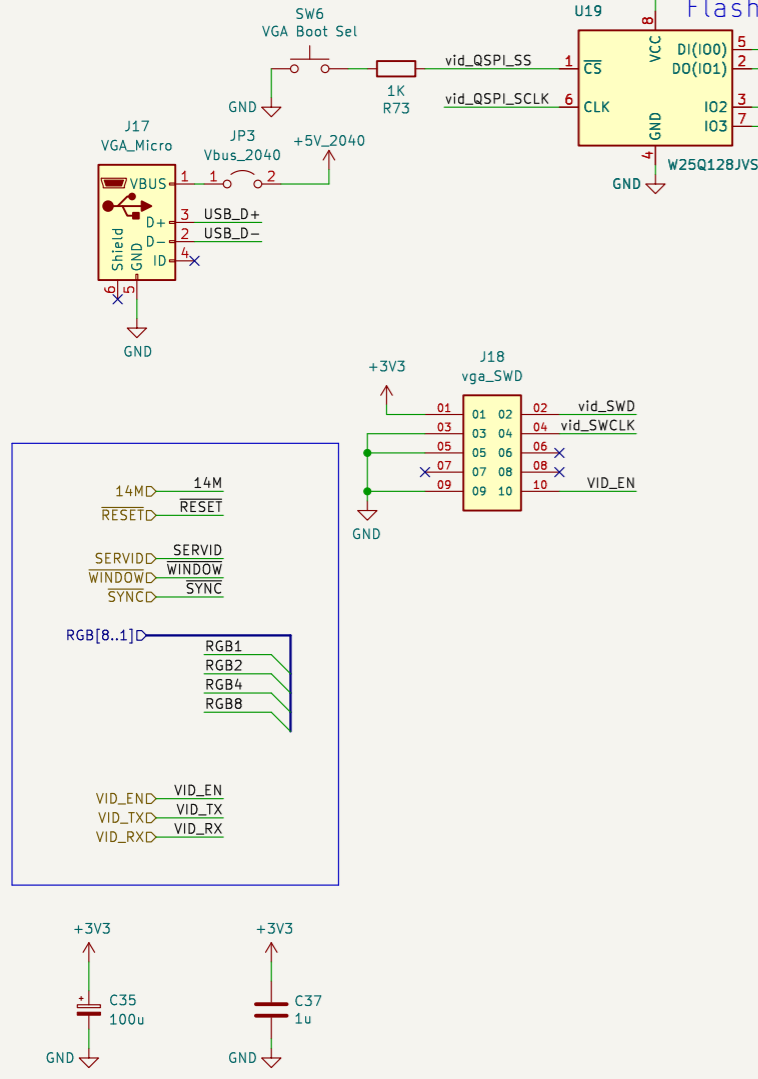
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Rev: 3b

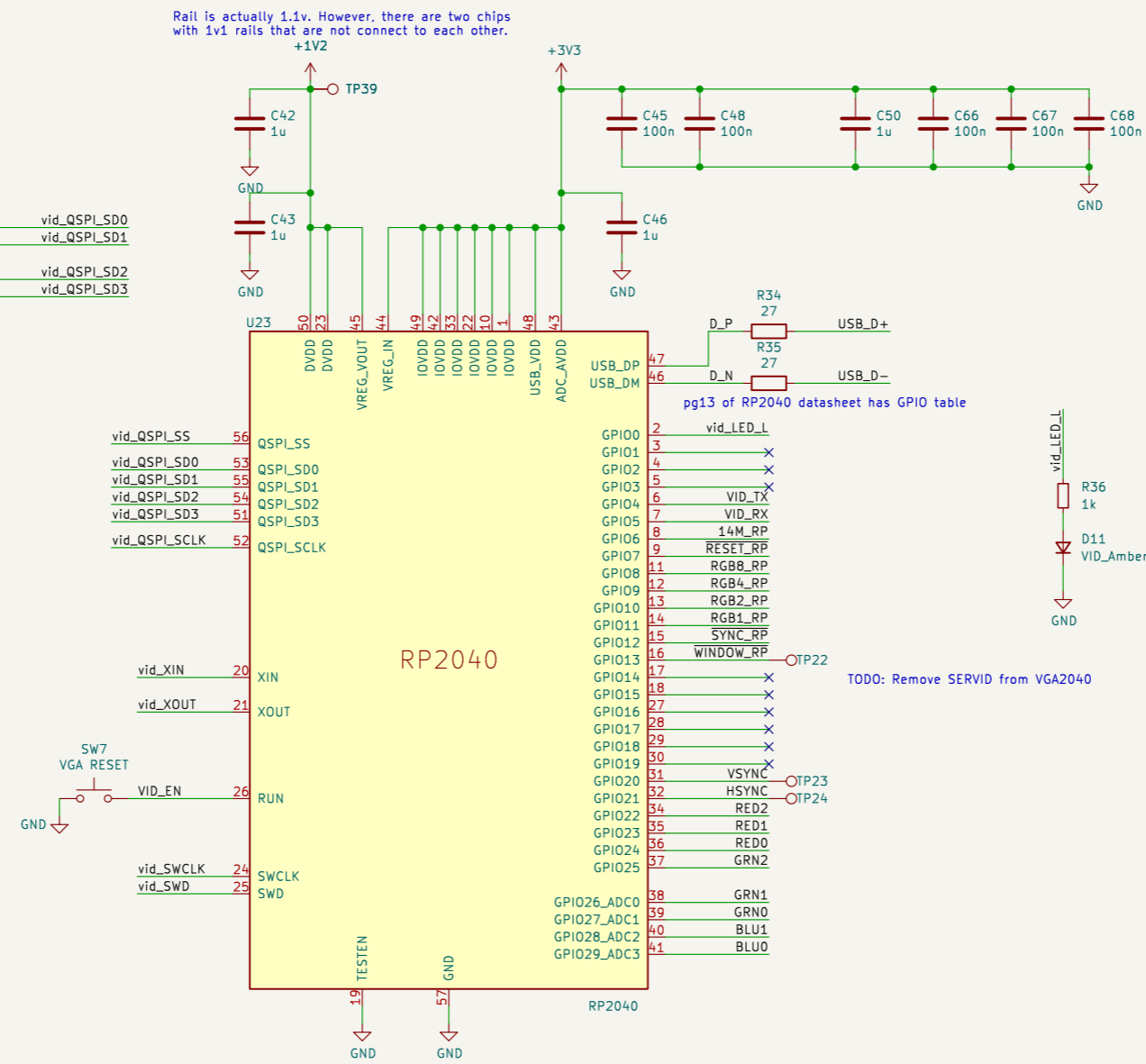
Id: 6/10

VGA concept from this project:  
[http://www.breatharian.eu/hw/picovga/index\\_en.html](http://www.breatharian.eu/hw/picovga/index_en.html)

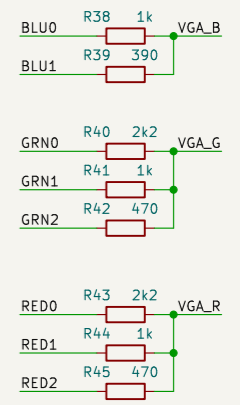
### USB Micro Out



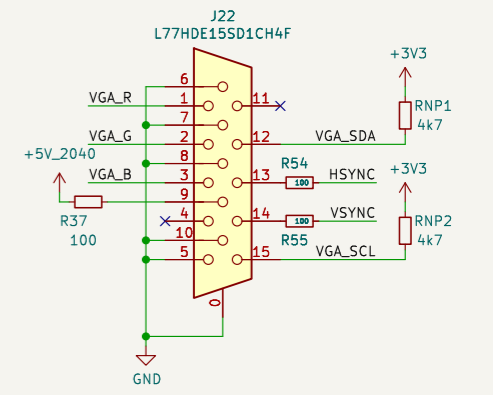
### Flash



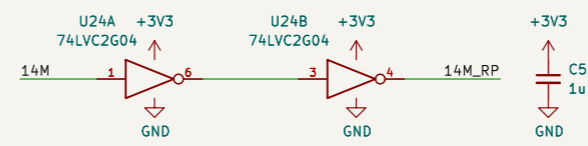
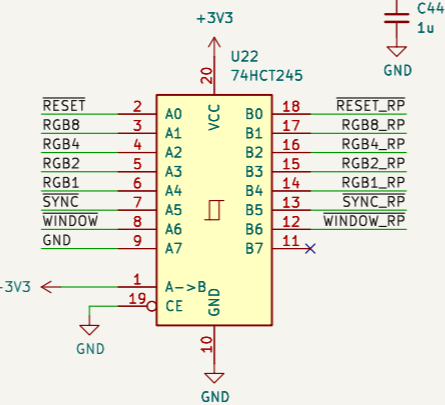
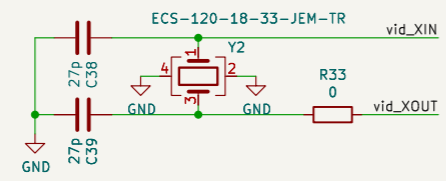
### VGA 'DAC'

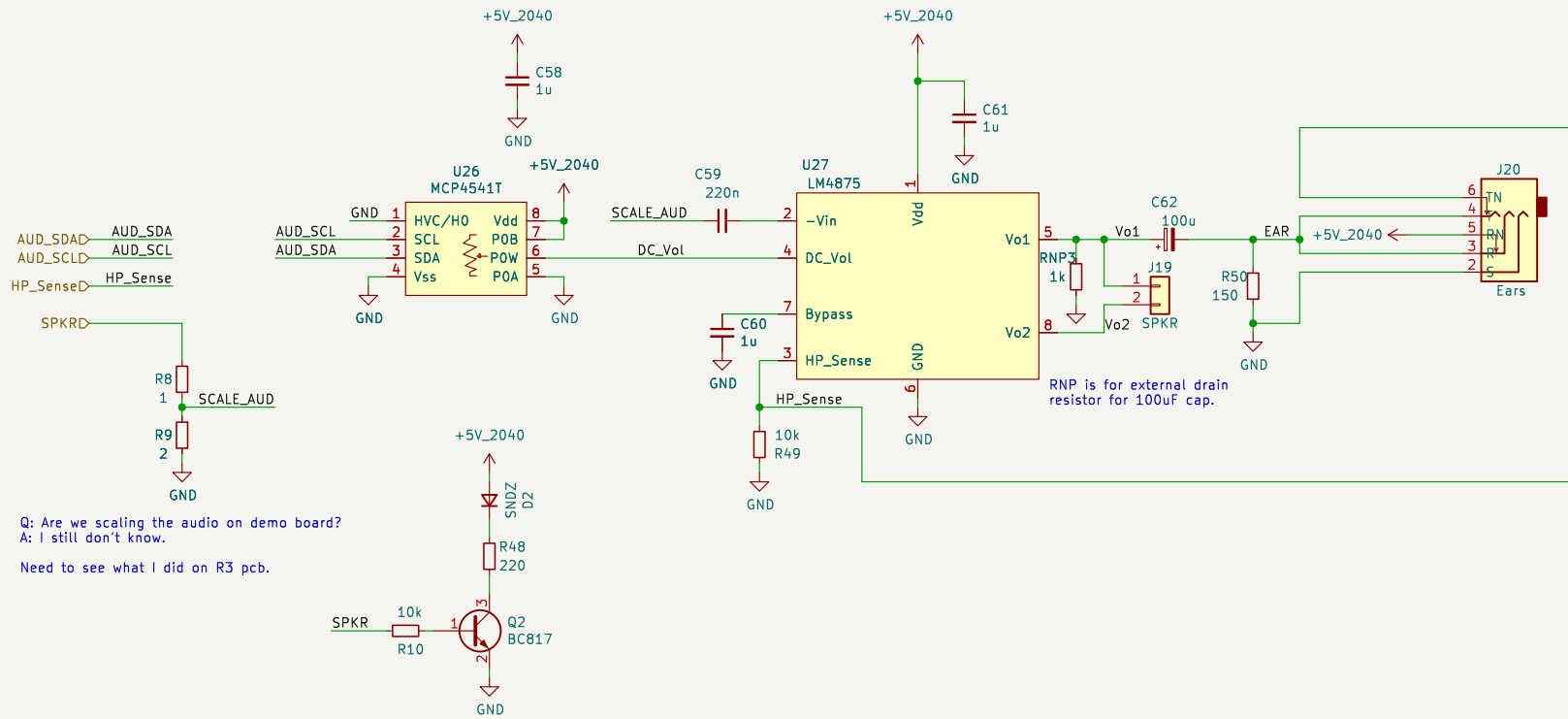


### VGA



### Crystal



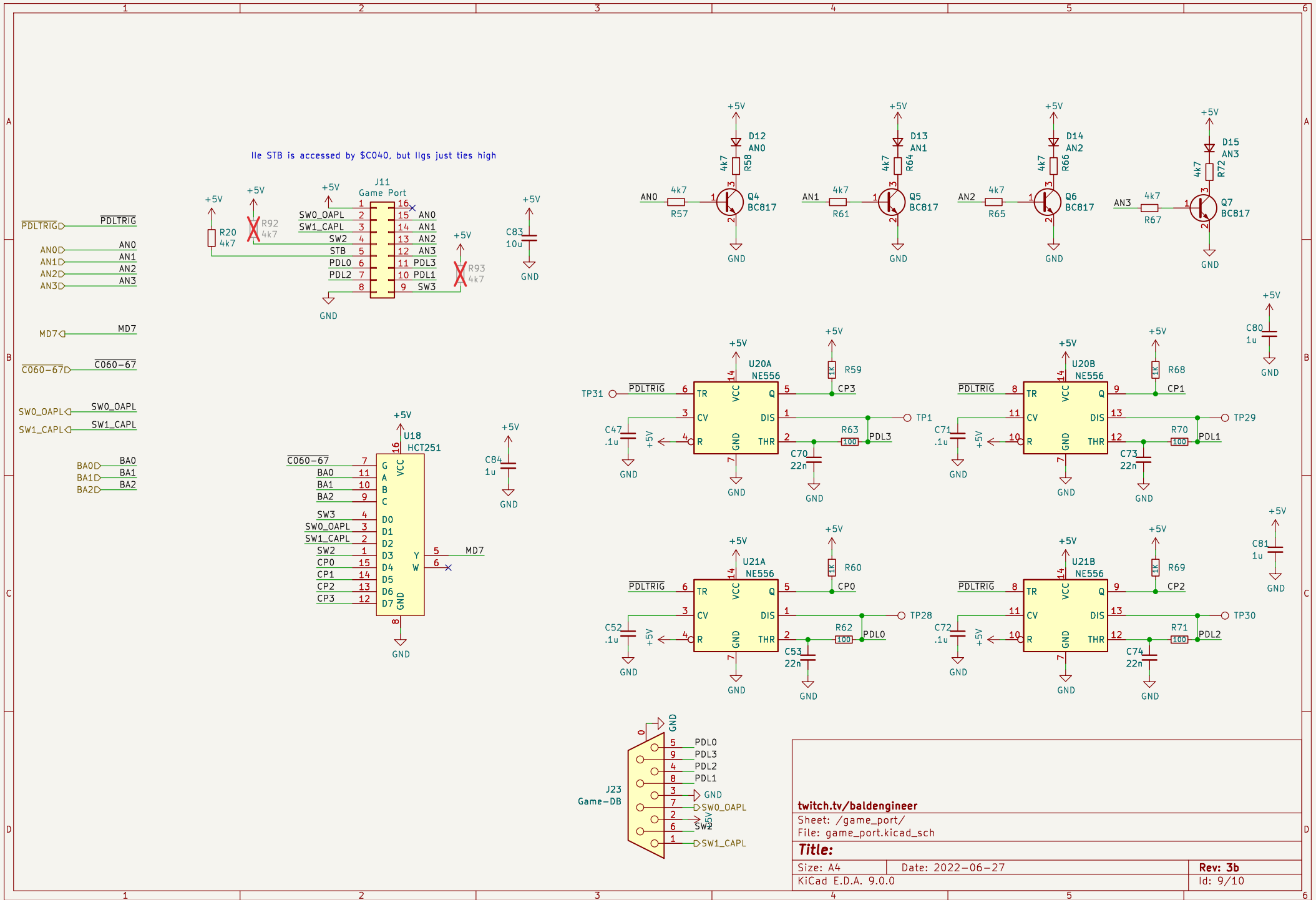


54-00177 and 54-00178 seem to have similar functionality. Originally I ordered the '8 but seemingly designed to '7's pinout.  
Is the '7 the same as the "default" symbol in Kicad?

Q: Are we scaling the audio on demo board?  
A: I still don't know.  
Need to see what I did on R3 pcb.

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Sheet: /Audio/  
File: Audio.kicad\_sch

<b>Title: Audio</b>	
Size: A4	Date: 2022-06-27
KiCad E.D.A. 9.0.0	Rev: 3b Id: 8/10



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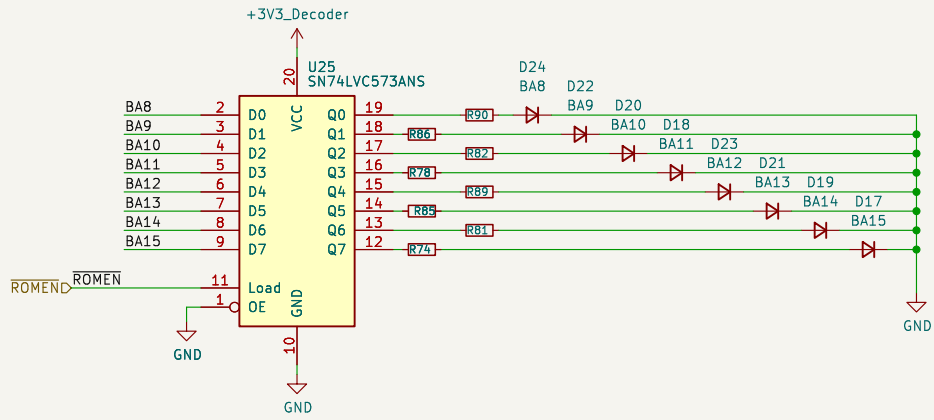
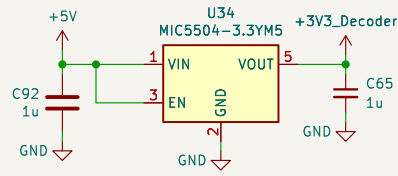
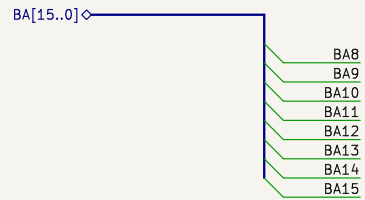
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Size: A4 Date: 2022-06-27

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**Rev: 3b**

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<b>twitch.tv/baldengineer</b>	
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<b>Title:</b>	
Size: A4	Date: 2022-06-27
KiCad E.D.A. 9.0.0	<b>Rev: 3b</b> Id: 10/10