

A

B

C

D

E

A

B

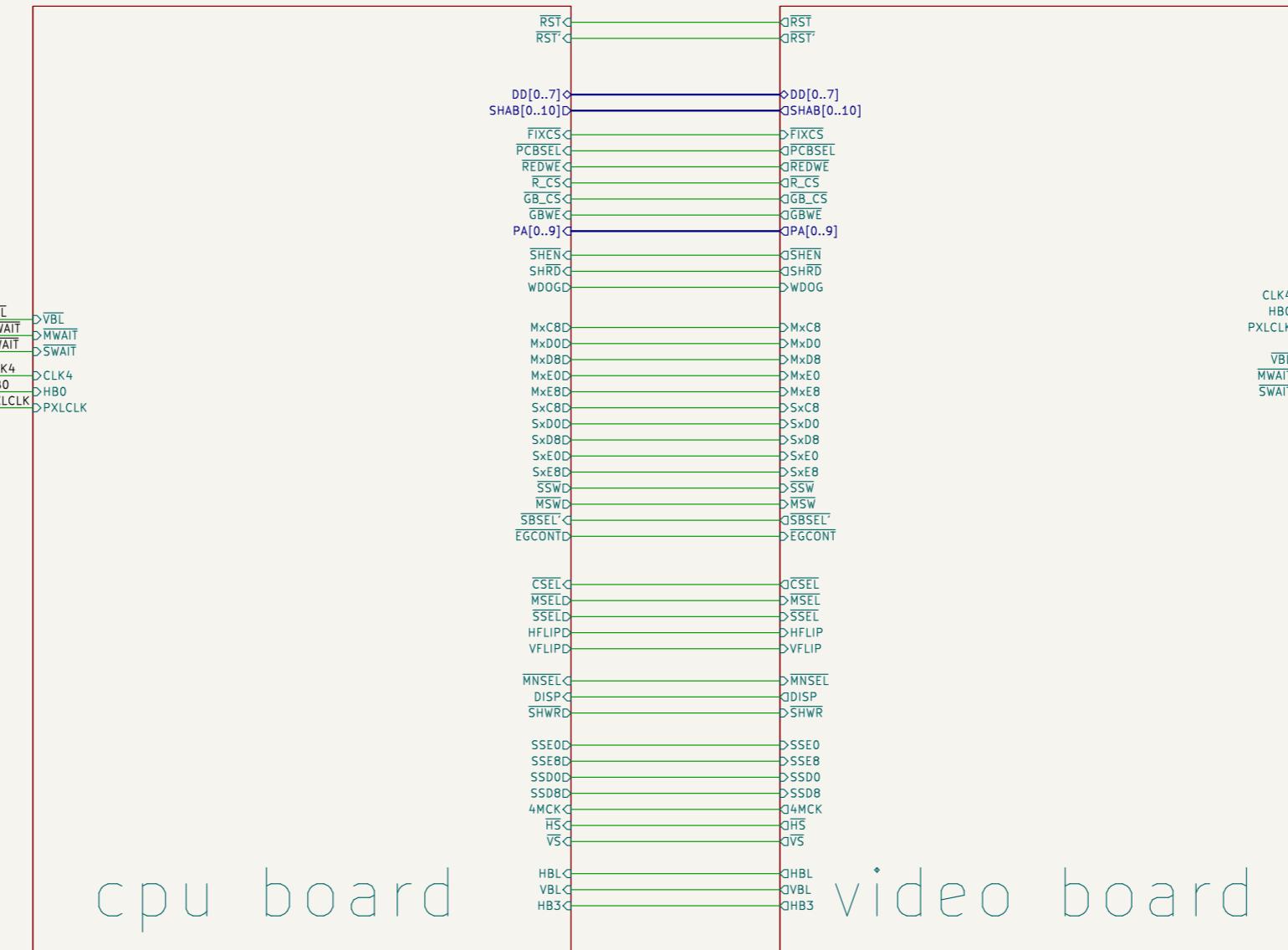
C

D

E

# tehkanwch bootleg board

- original PCB has through-hole vias whereas the bootleg has filled vias
- original uses three custom packages from Mitsubishi with logic inside.  
These were replaced by a small daughter board on the bootleg, serving the same functionality
- different edge connectors
- debug edge connector on video board not present on bootleg
- cabinet input logic partly missing and rewired on the bootleg to replace the trackball interface for a joystick one
- different power amplifier for sound without heat sink on the bootleg
- slightly different frequencies for crystal oscillators (cost reduction?)
- device reference markers (silkscreen) on bootleg have reversed order on bootleg



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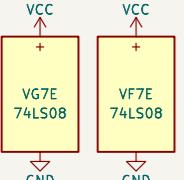
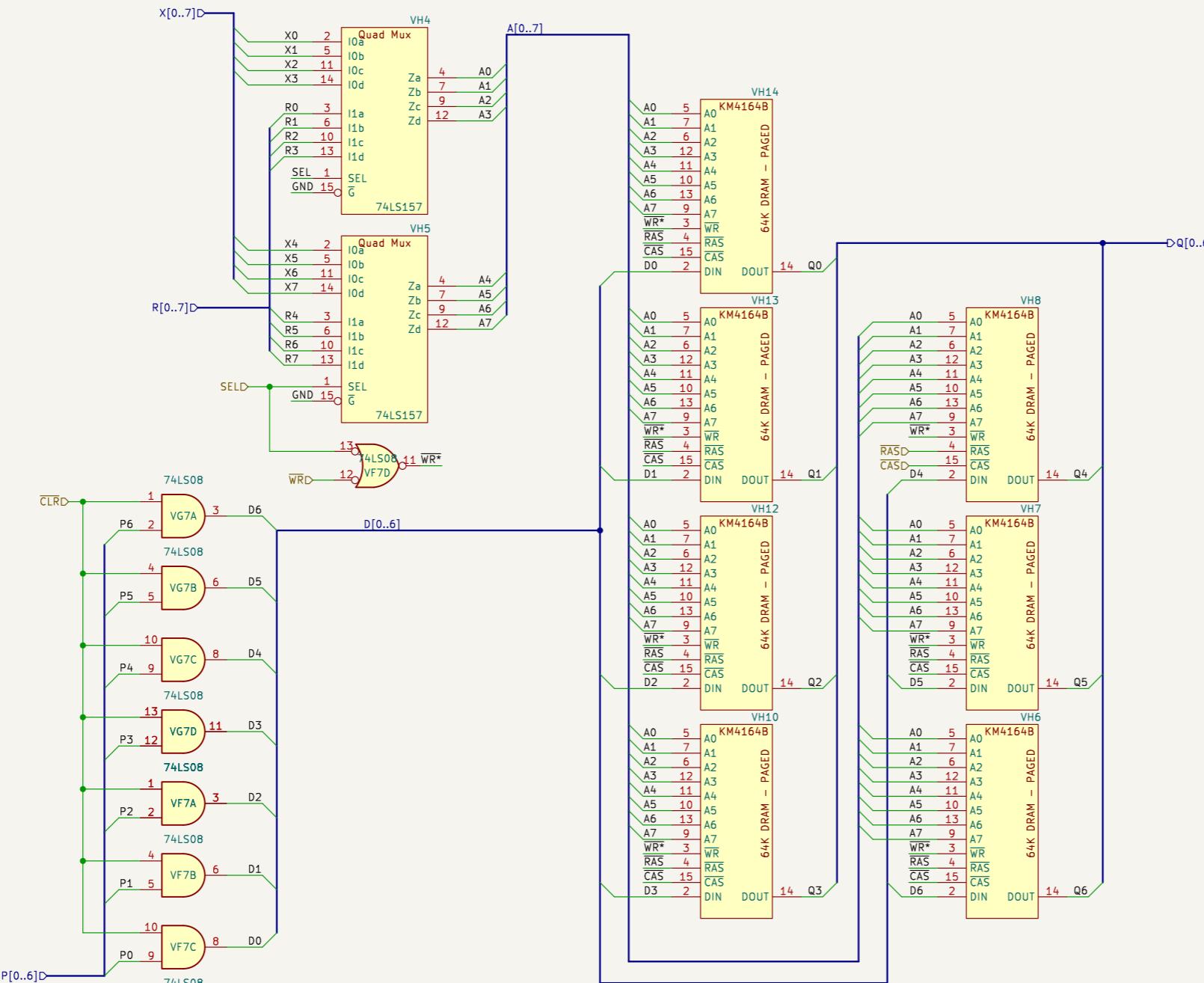


Sheet: / File: tehkanwch.kicad\_sch

**Title: TEHKAN WORLD CUP (tehkanwch bootleg)**

Size: A3 Date: 2024-11-15  
 KiCad E.D.A. 8.0.9

Rev: Id: 1/26



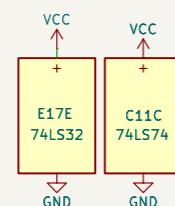
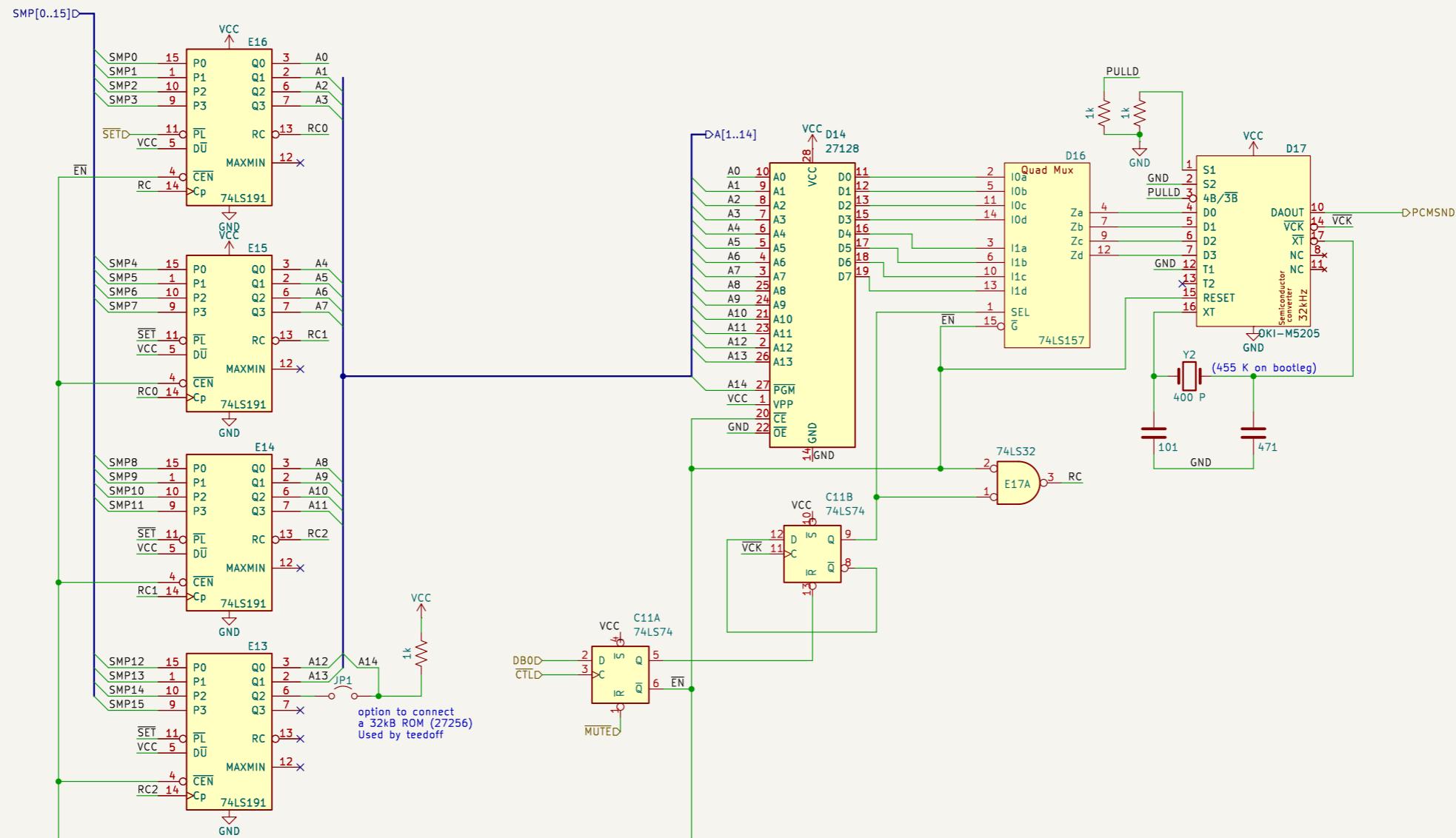
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Sheet: /video board/object/frame buffer B/  
File: buffer.kicad\_sch

**Title: Line Buffer**

Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev: Id: 2/26



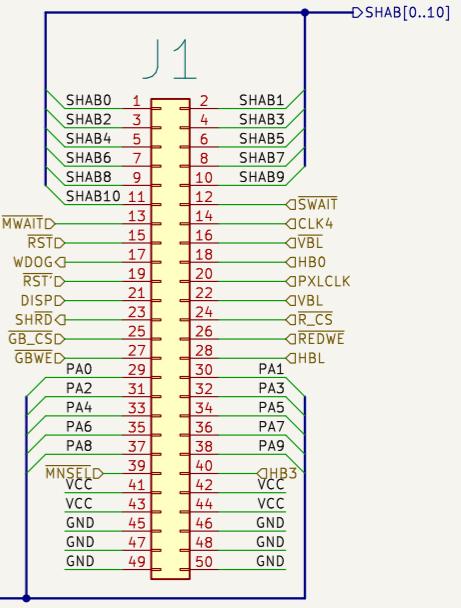
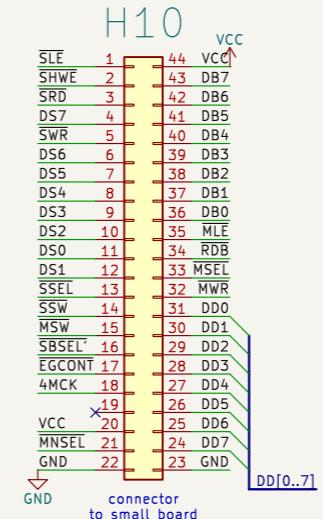
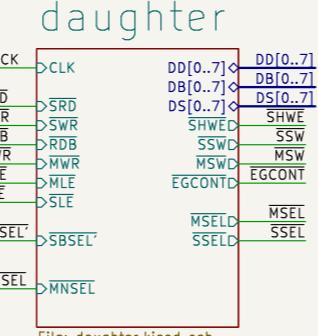
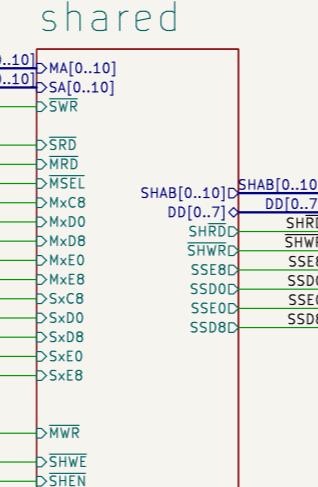
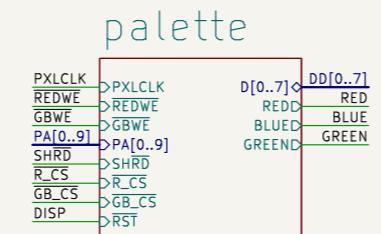
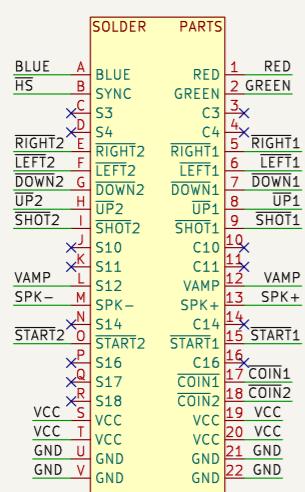
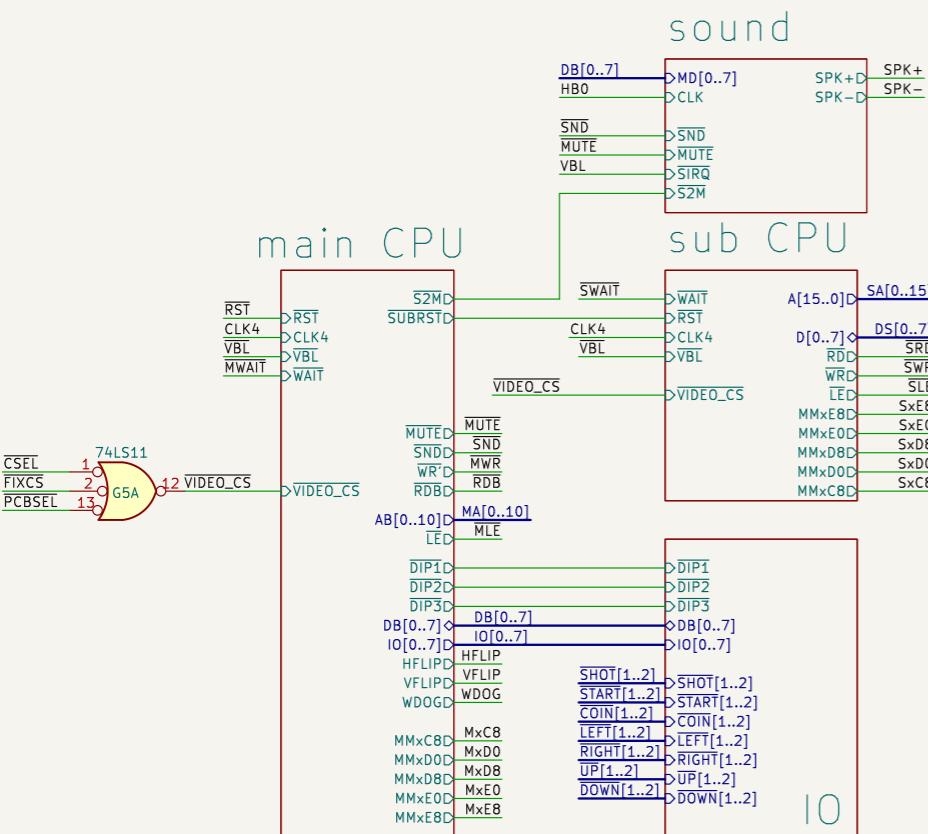
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Sheet: /cpu\_board/sound/PCM/  
File: pcm.kicad\_sch

**Title: PCM**

Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev: Id: 5/26



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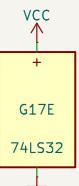
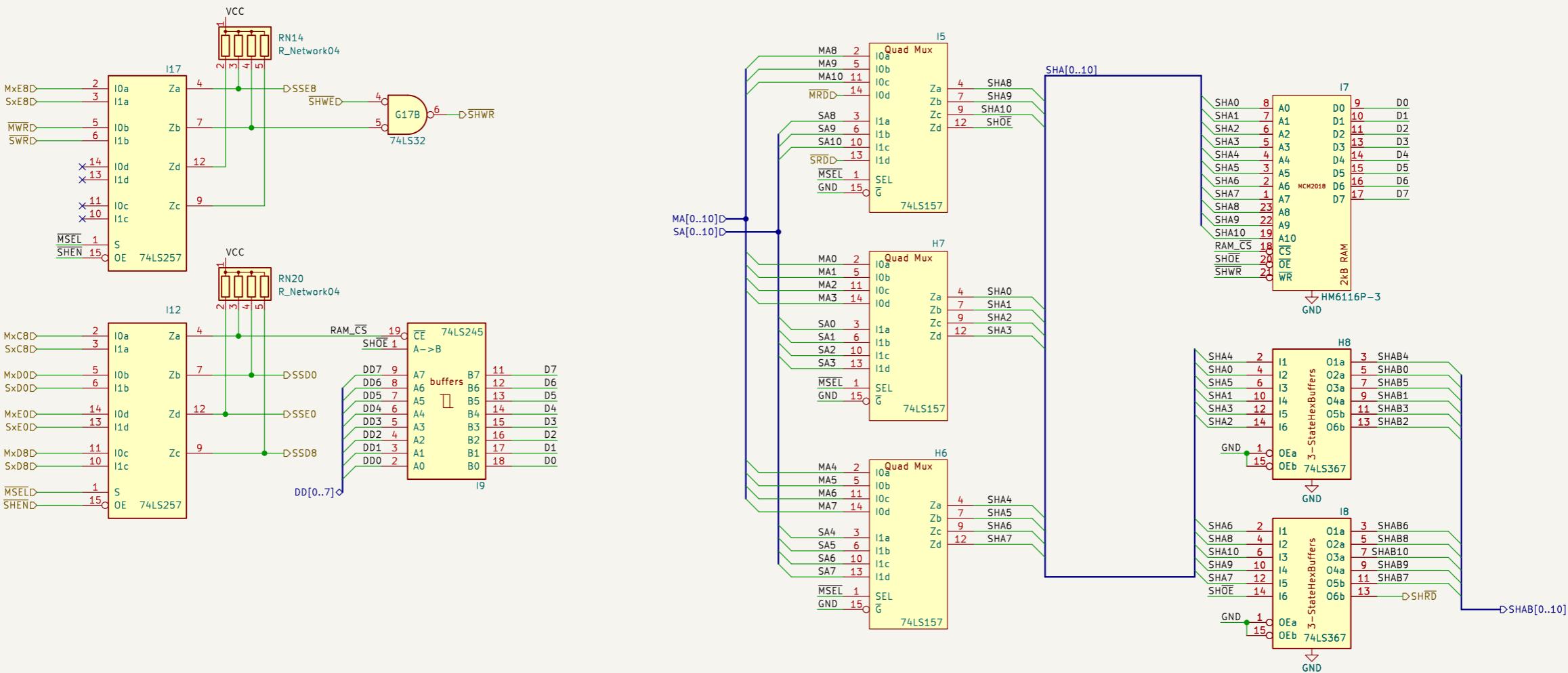
Sheet: /cpu board/  
File: cpu.kicad\_sch

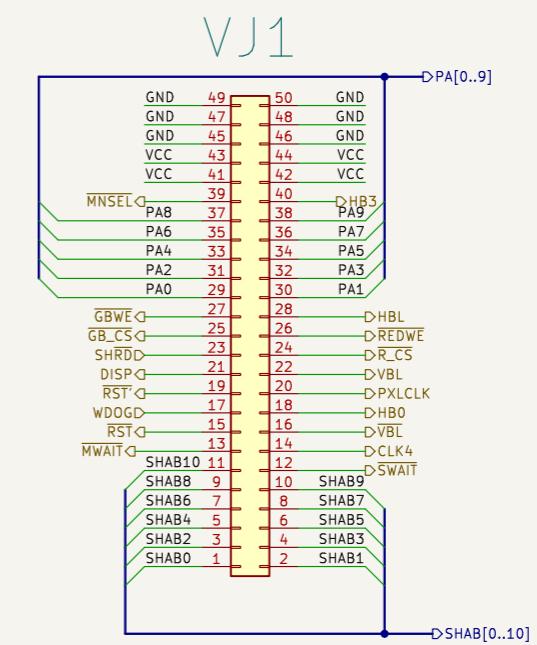
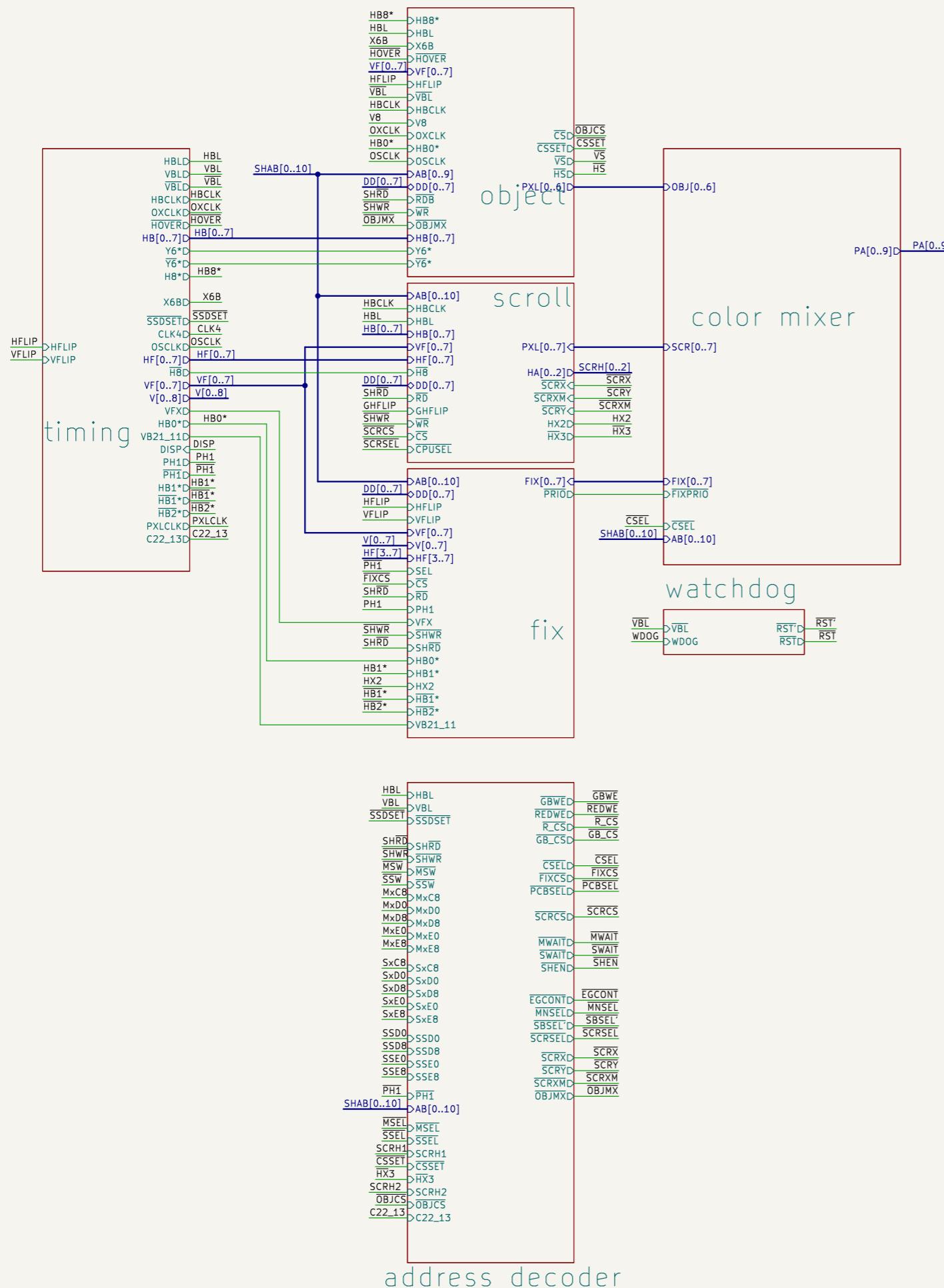
## Title: CPU board (top board)

Size: A3 Date: 2024-11-15  
KiCad\_EDA\_8.0.9

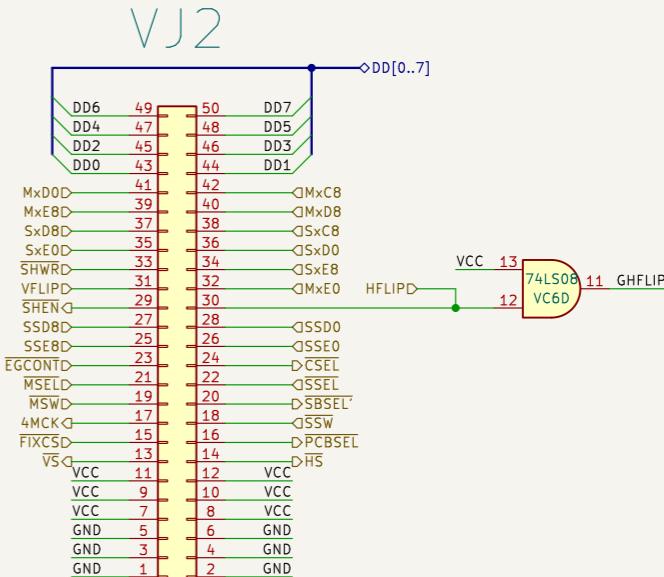
KiCad E.D.A. 8.0.9

Rev:  
Id: 9/26





VJ1 at PCB's top right  
VJ2 at PCB's bottom right  
pins counted from board bottom up,  
pins at the top row of the connector  
counted as even



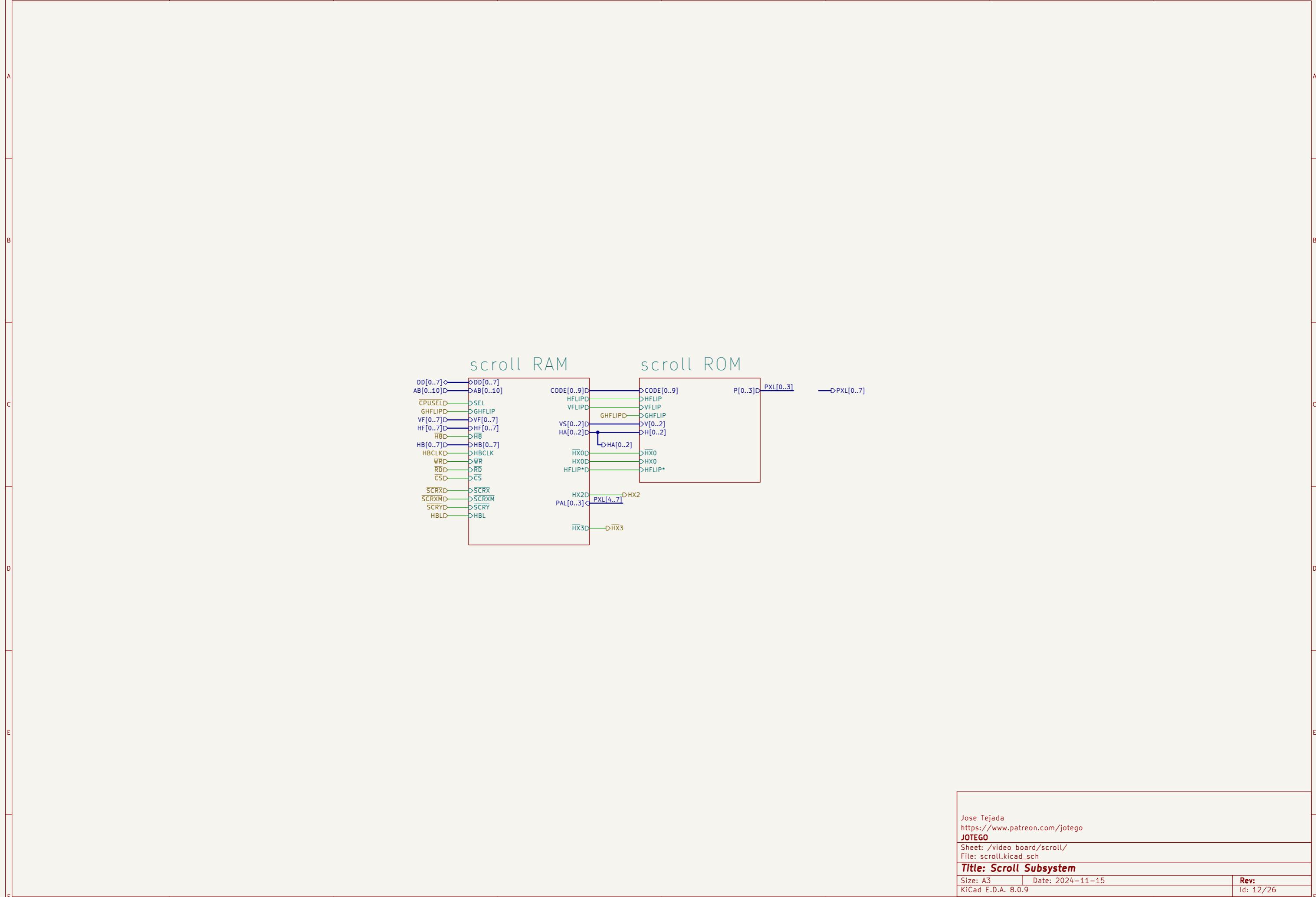
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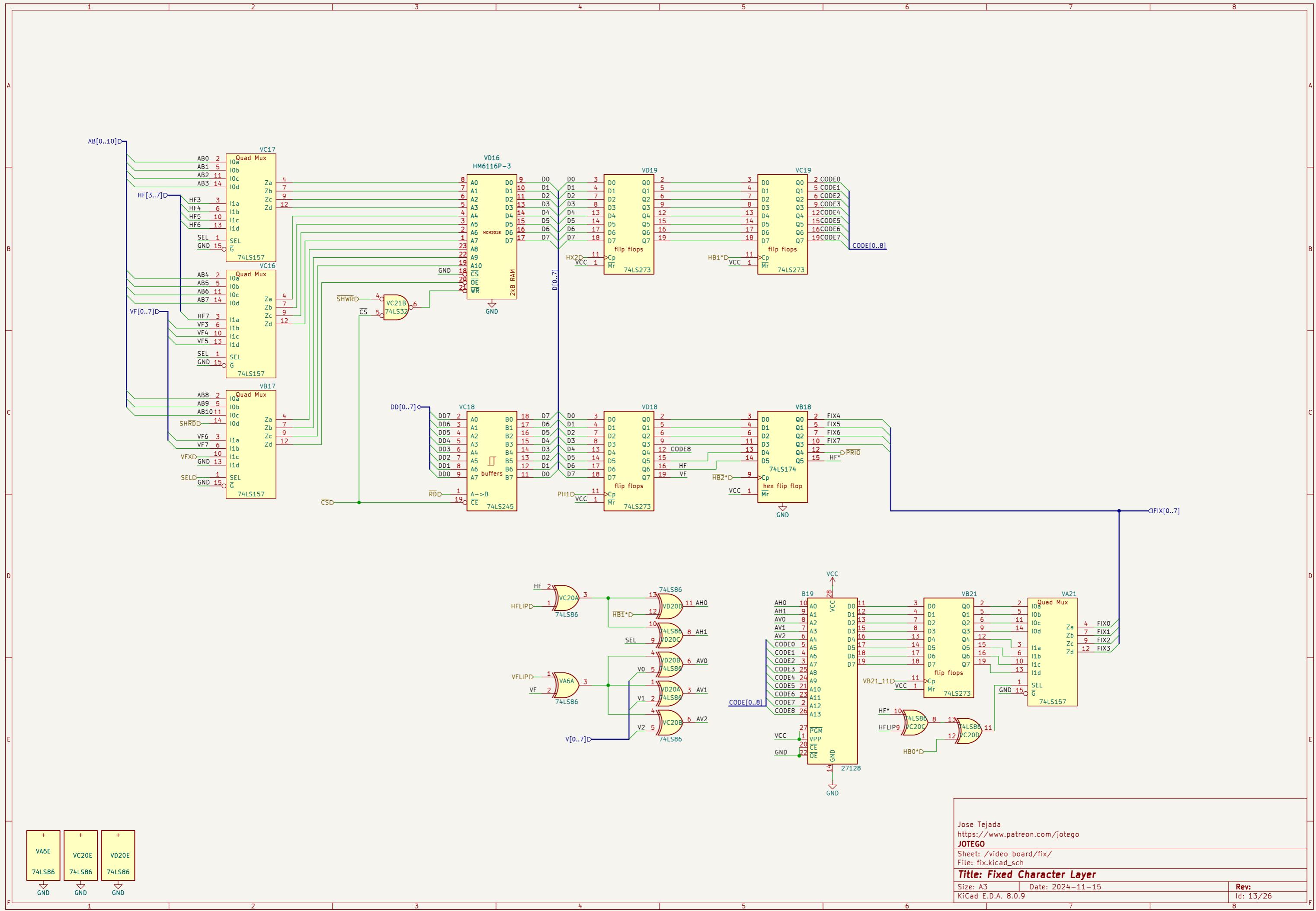
Sheet: /video board/  
File: video.kicad\_sch

Title: Video board (bottom board)

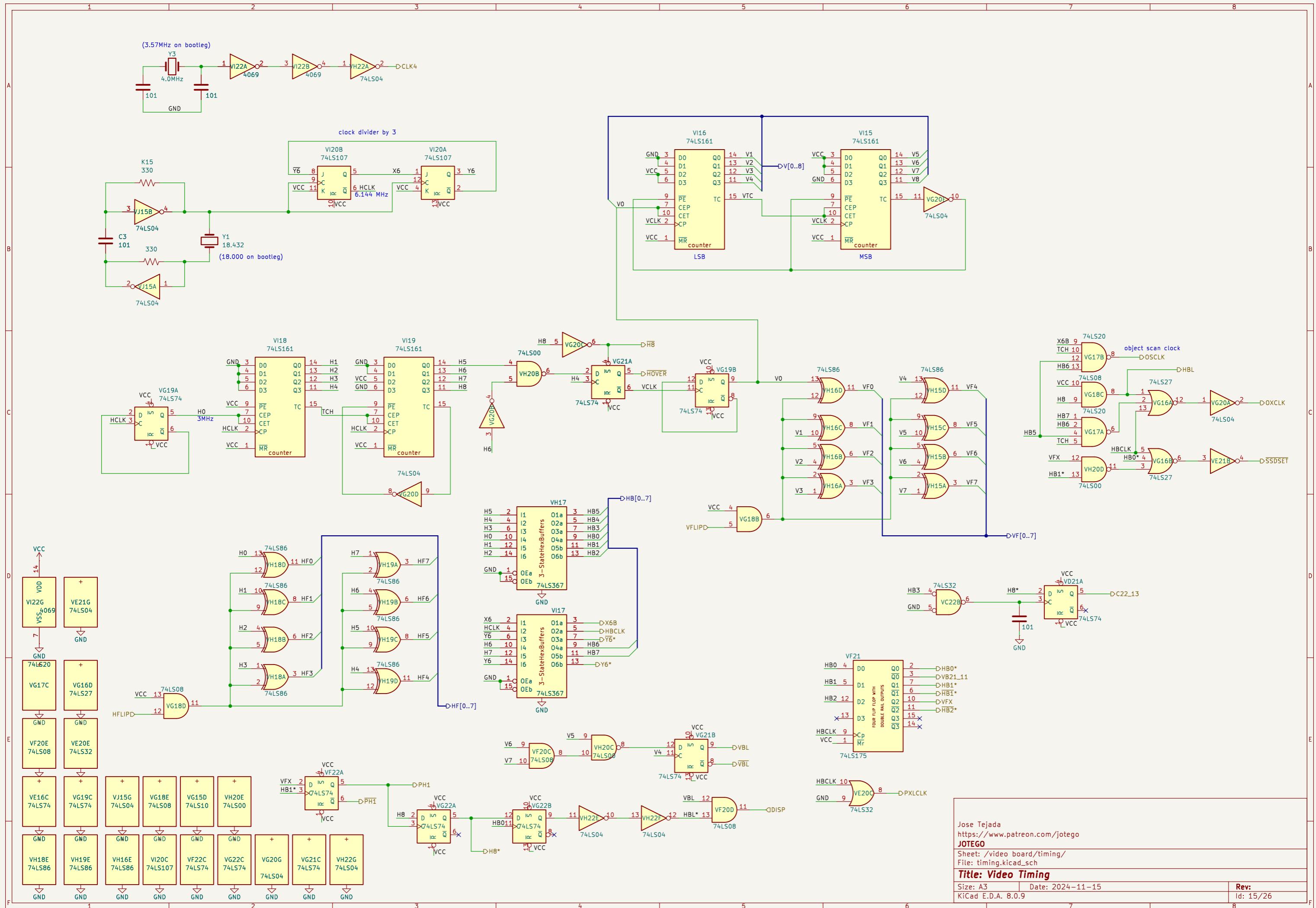
Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev: Id: 11/26

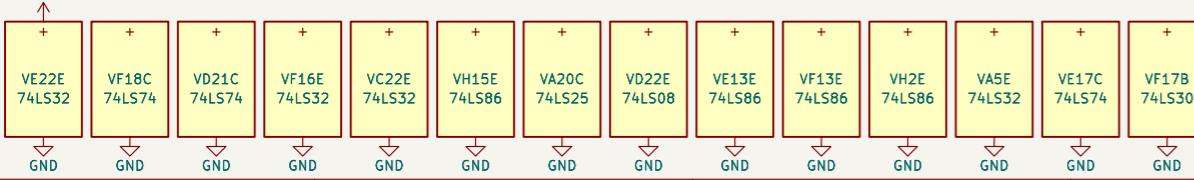
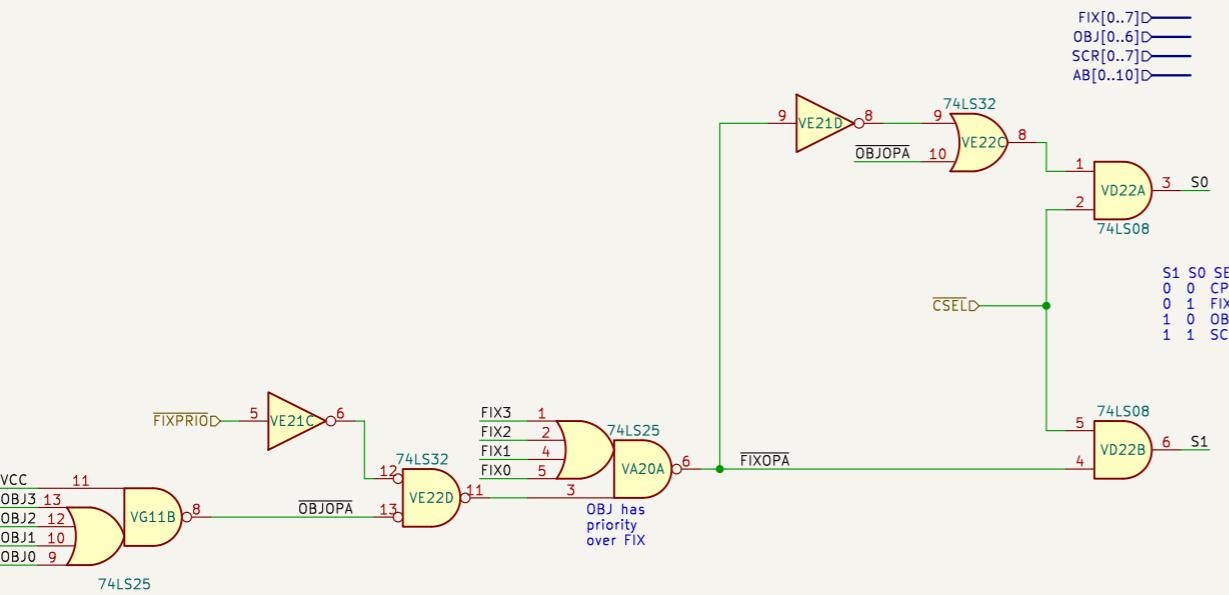








1 2 3 4 5 6 7 8



1

2

3

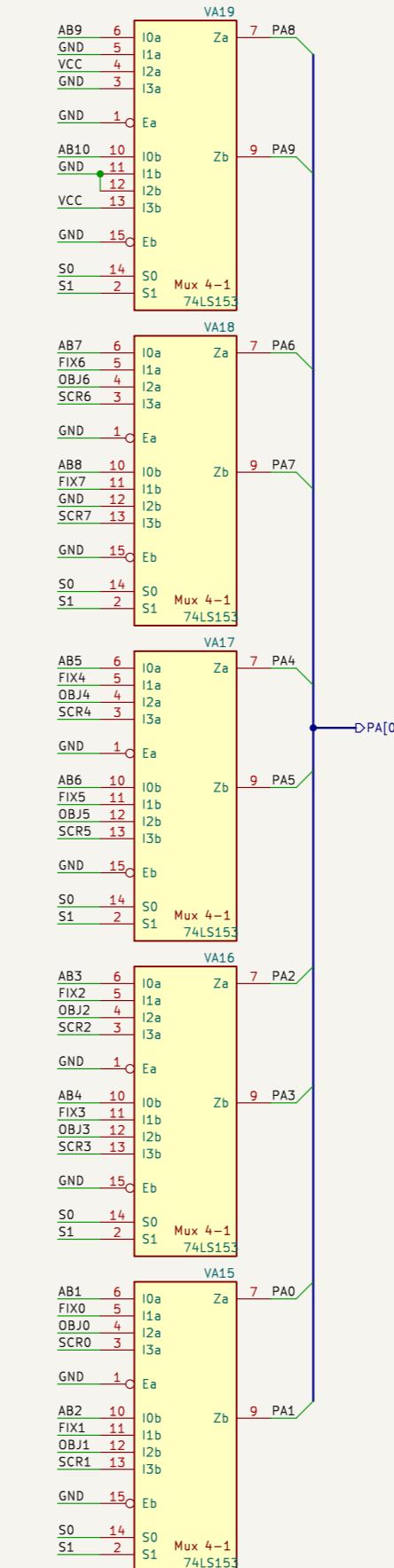
4

5

6

7

8



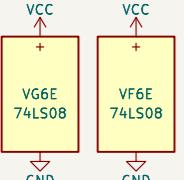
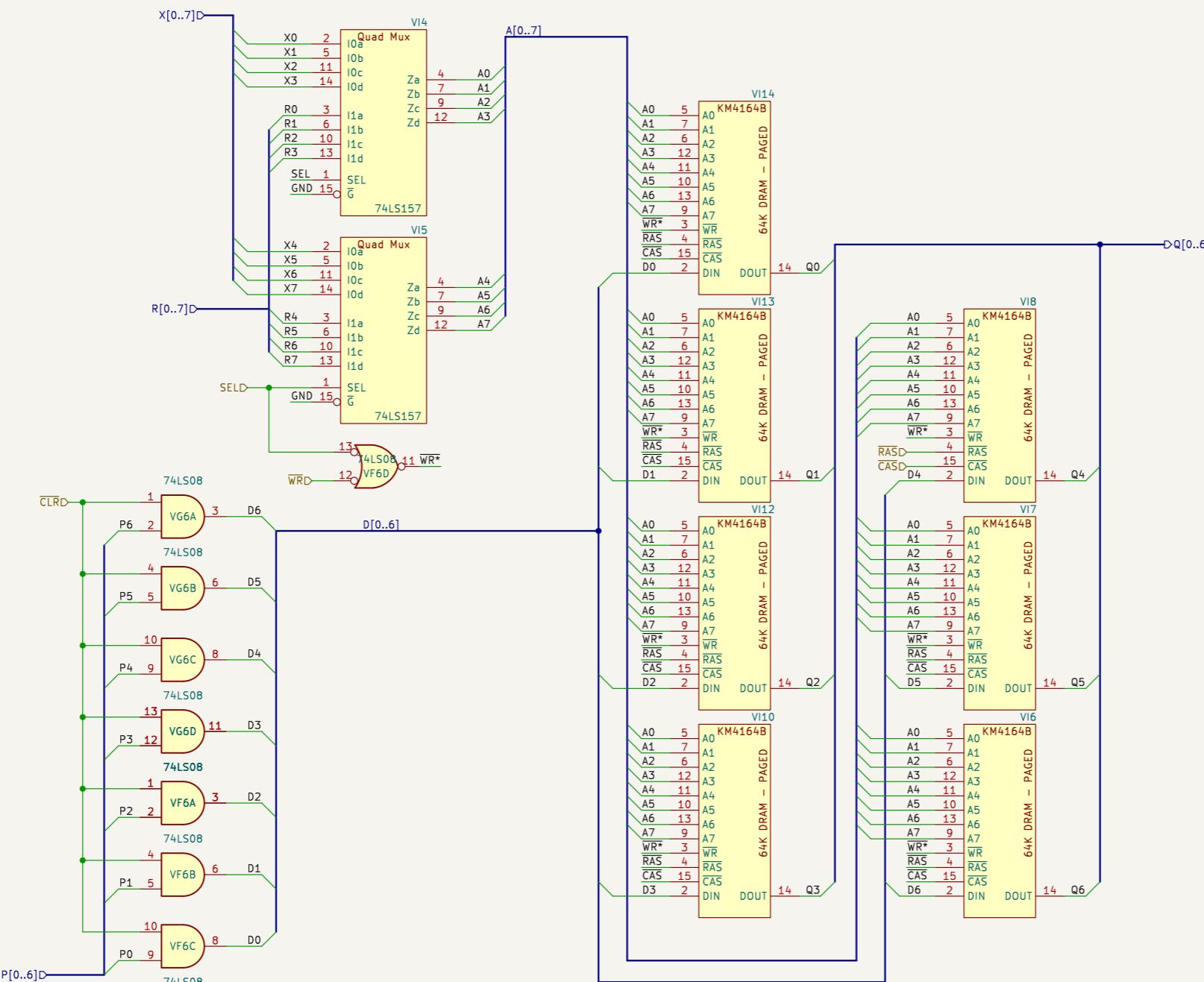
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**JOTEGO**

Sheet: /video board/color mixer/  
File: colmix.kicad\_sch

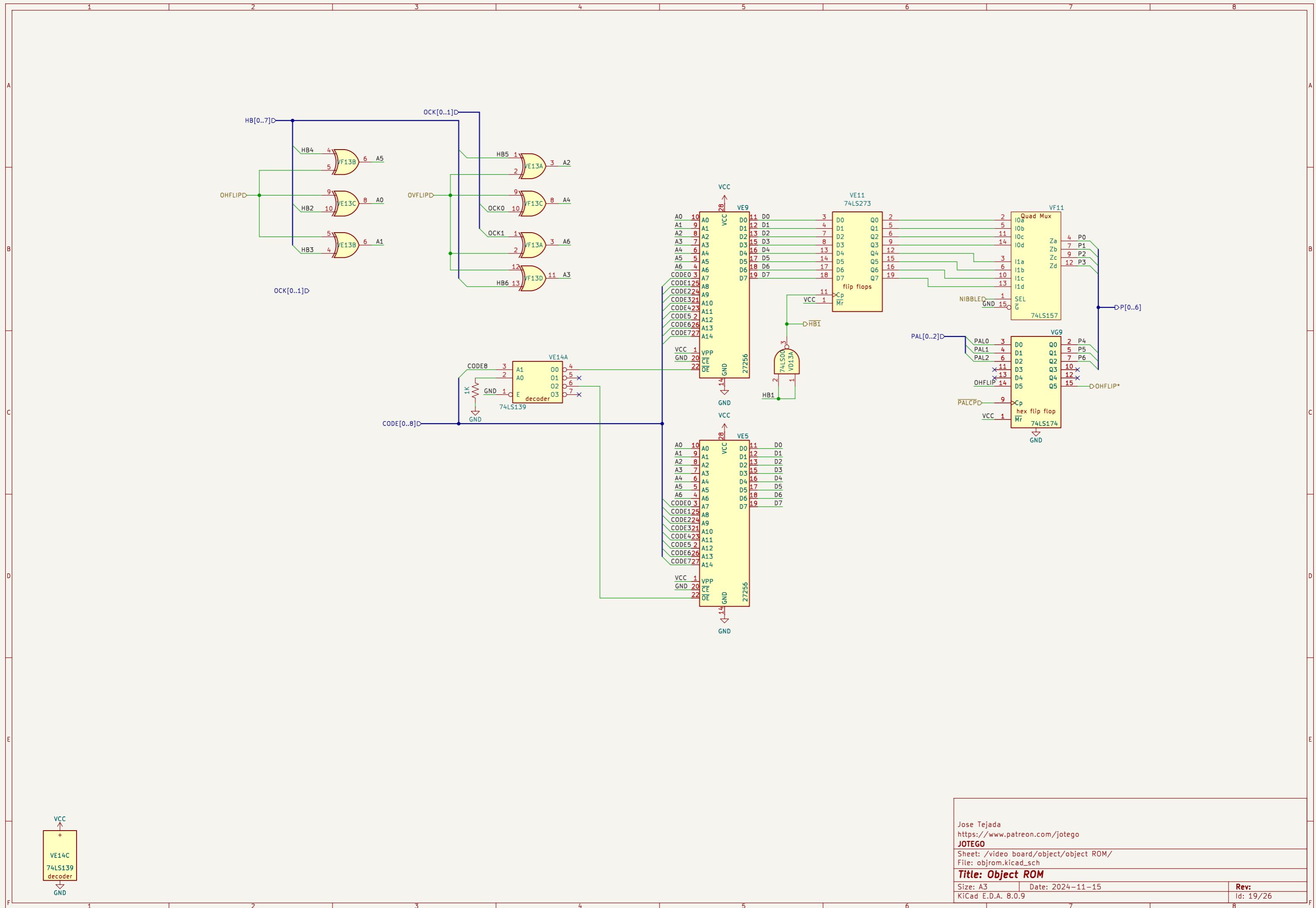
**Title: Color mixer**

Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev:  
Id: 16/26



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**JOTEGO**  
 Sheet: /video board/object/frame buffer A/  
 File: buffer.kicad\_sch  
**Title: Line Buffer**  
 Size: A3 | Date: 2024-11-15  
 KiCad E.D.A. 8.0.9 | Rev:  
 Id: 17/26



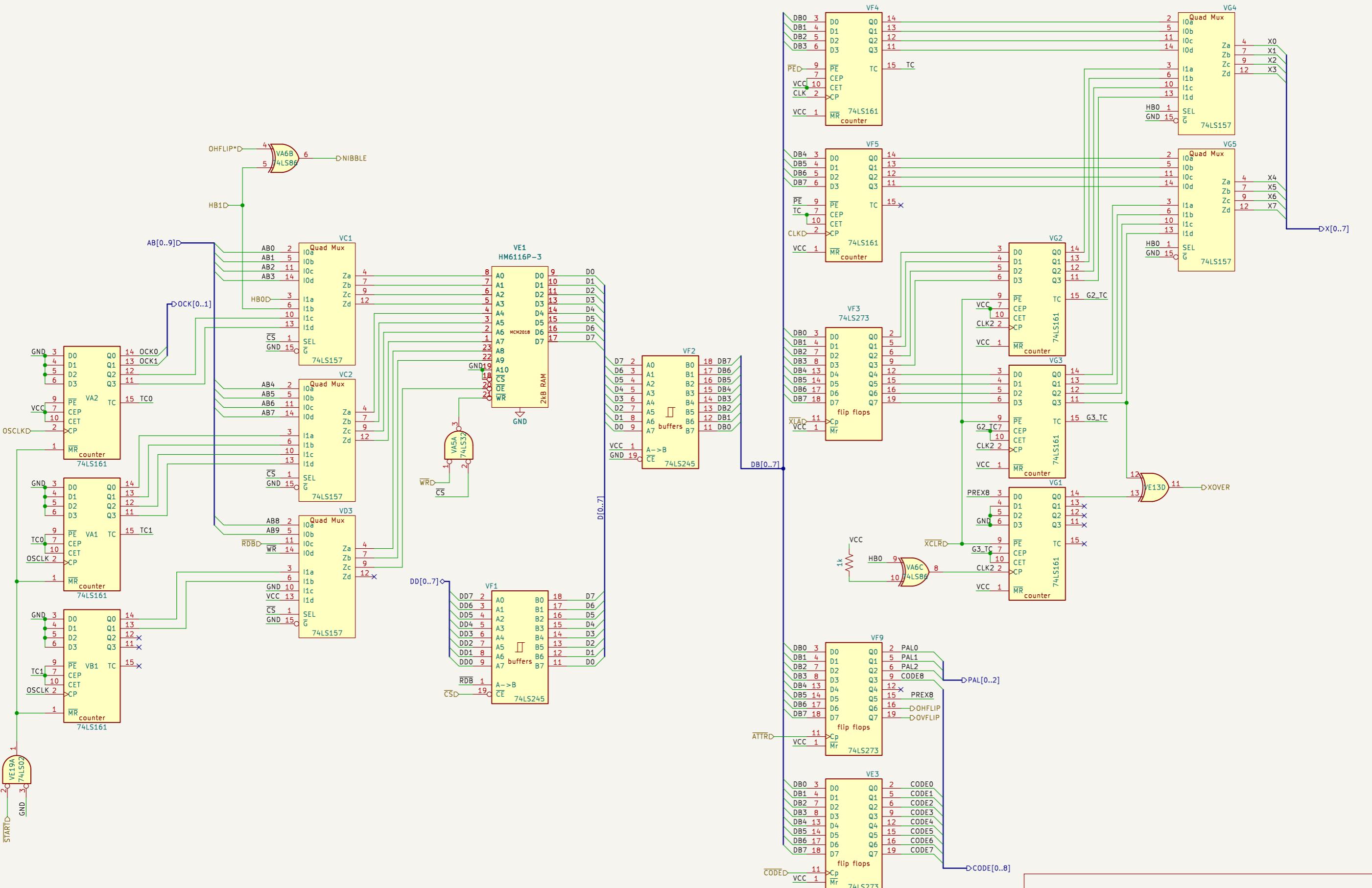
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**JOTEGO**

Sheet: /video board/object/object ROM/  
File: objrom.kicad\_sch

**Title: Object ROM**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev: Id: 19/26



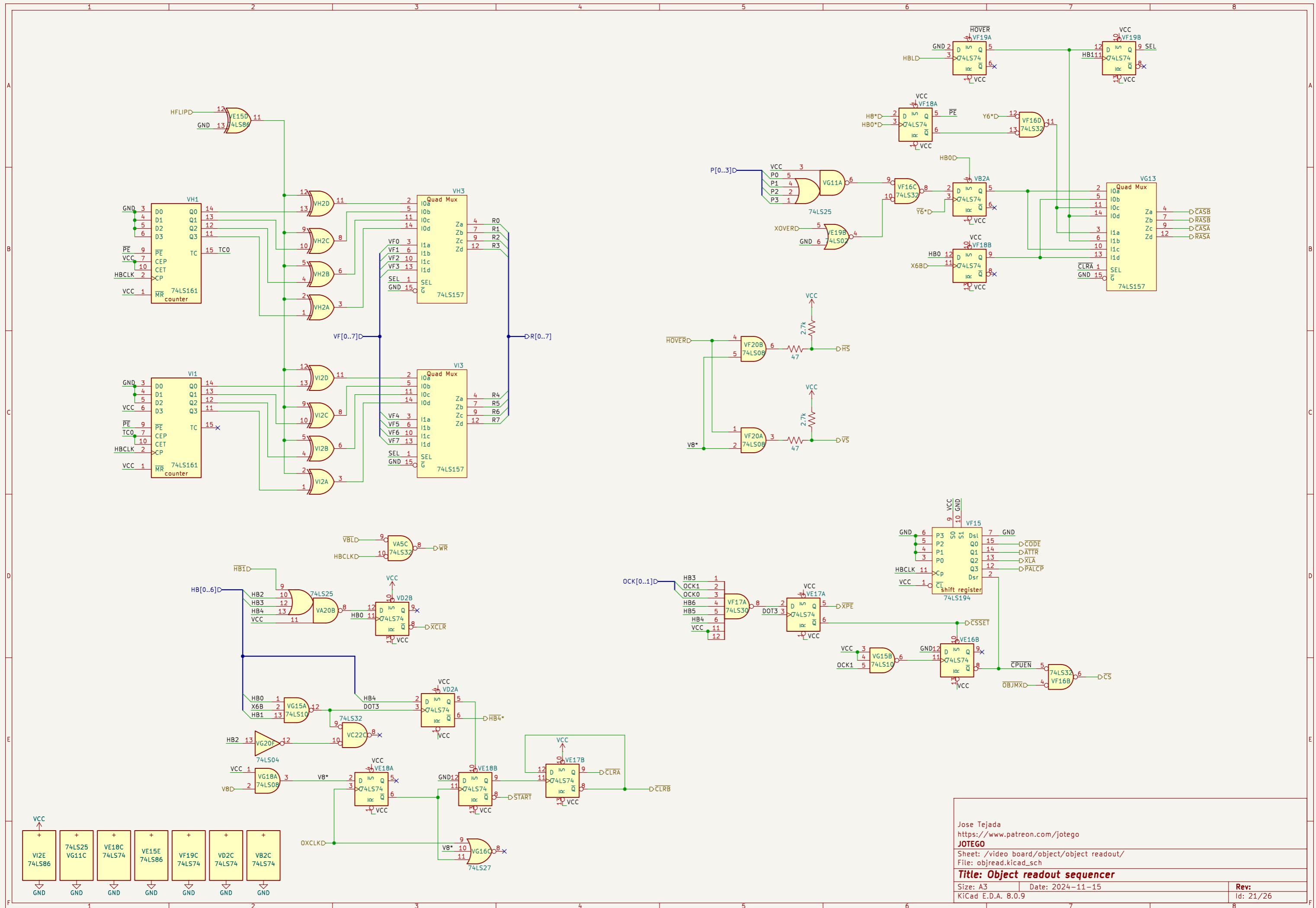
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**JOTEGO**

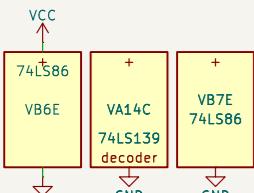
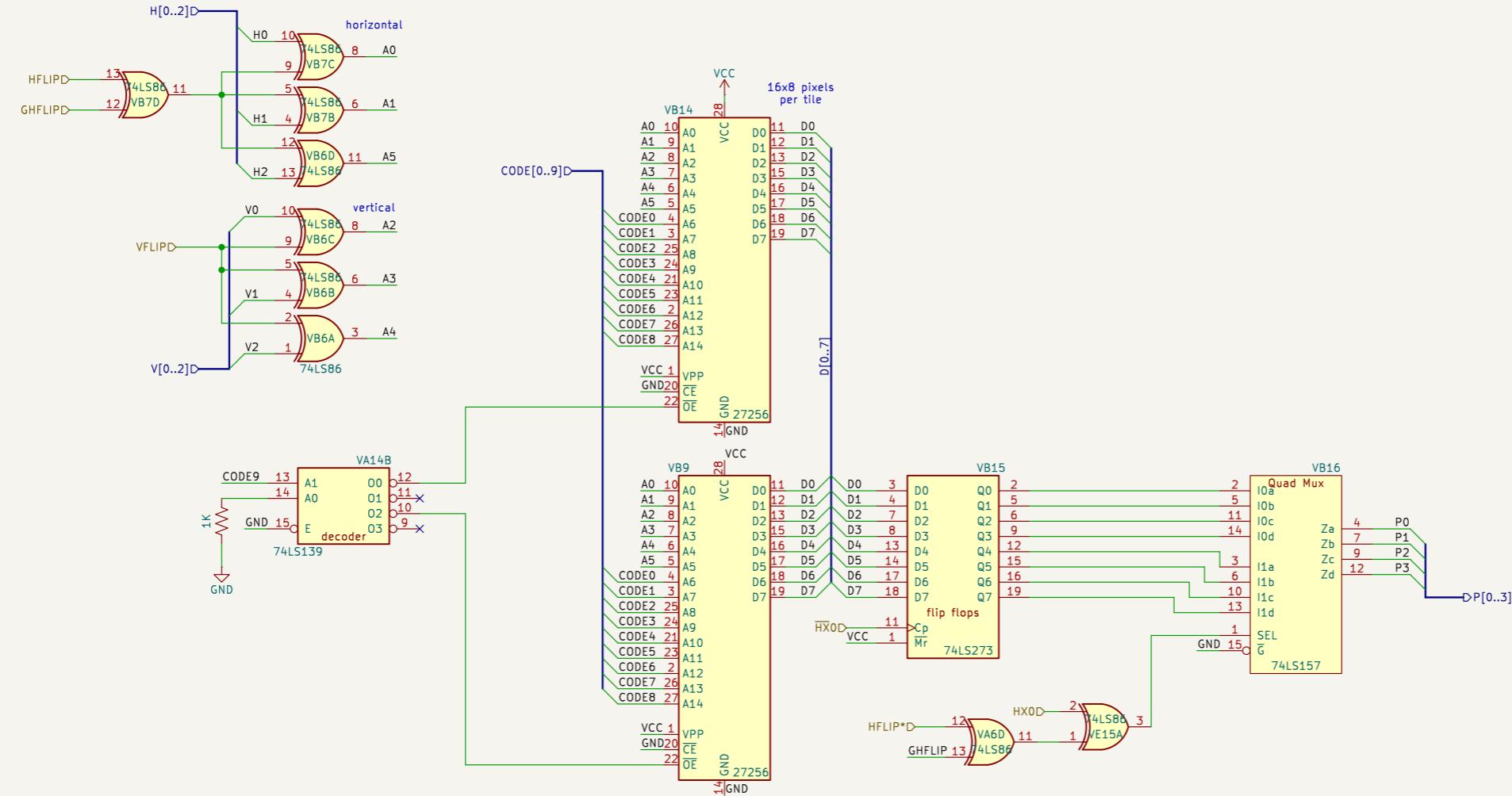
Sheet: /video board/object/object RAM/  
File: objram.kicad\_sch

**Title: Object RAM**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev:  
Id: 20/26





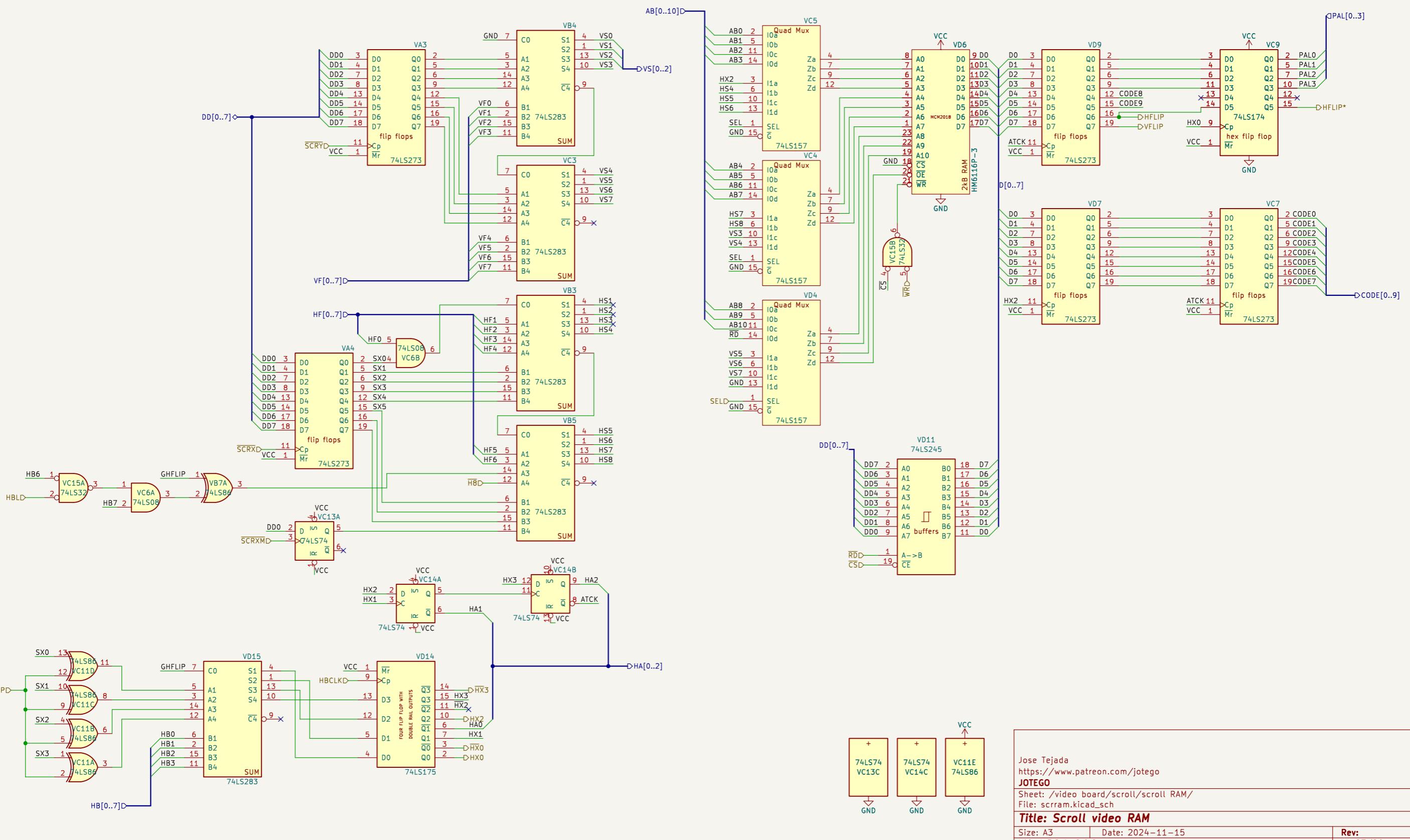
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Sheet: /video board/scroll/scroll ROM/  
File: scrom.kicad\_sch

**Title: scroll ROM**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev:  
Id: 22/26



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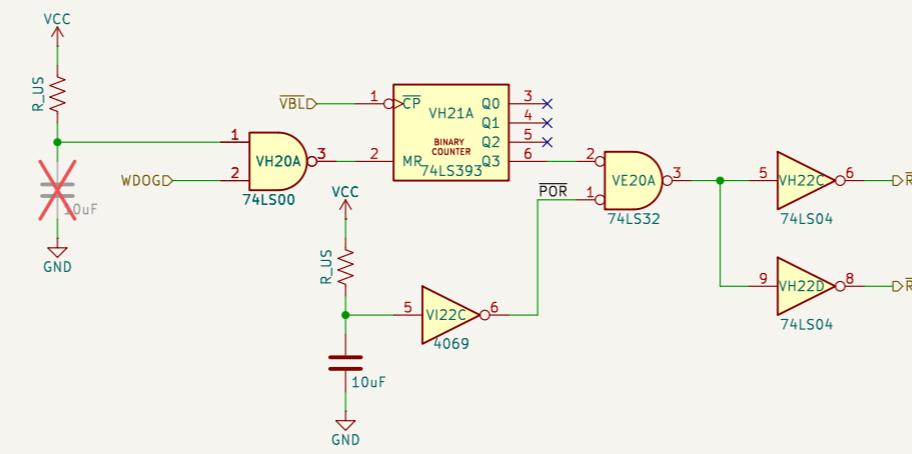
**JOTEGO**  
Sheet: /video board/scroll/scroll RAM/  
File: scroll.kicad.sch

Title: Scroll video RAM

Size: A3 Date: 2024/ 11

KiCad EDA 8.0.9

7



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**JOTEGO**

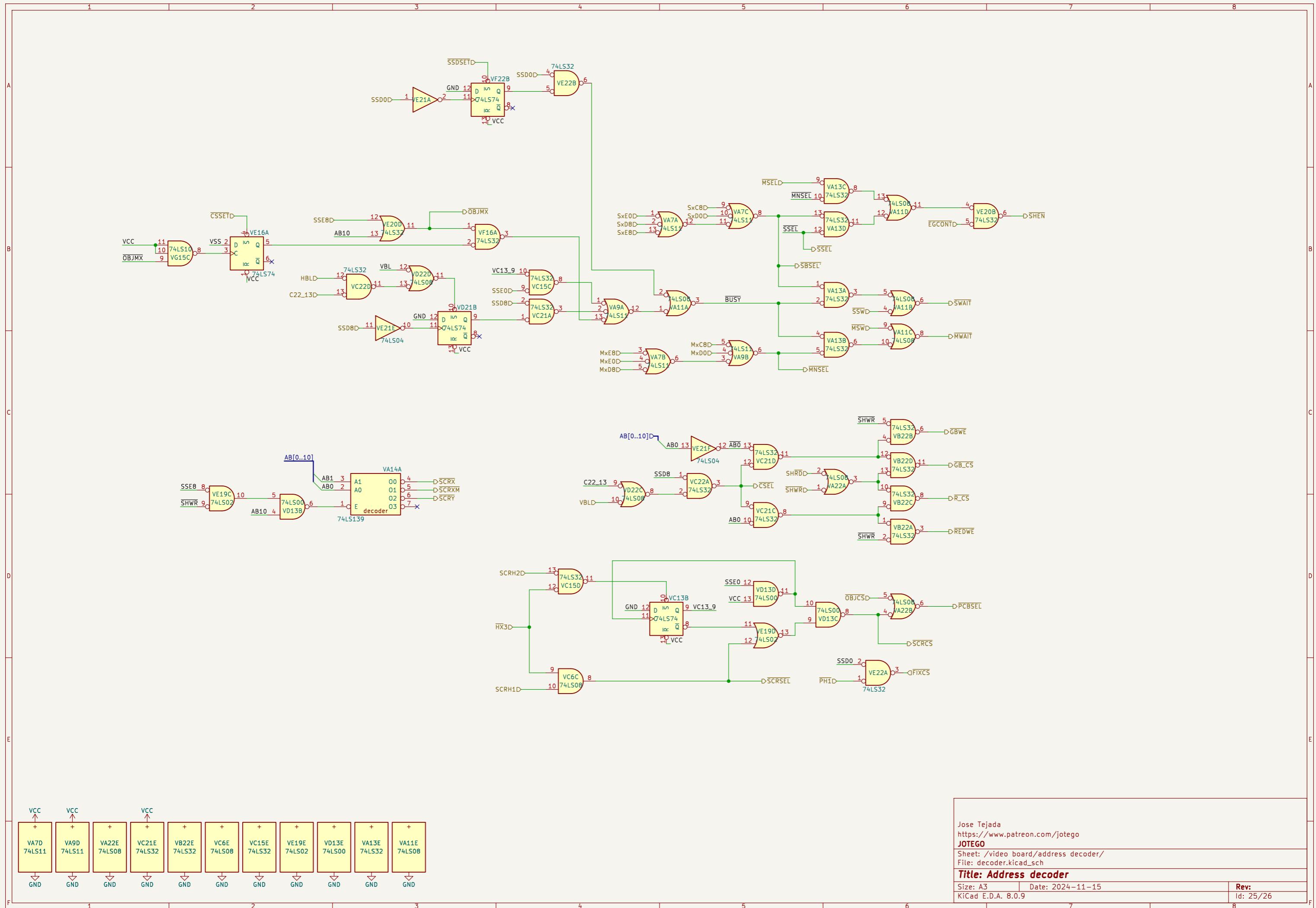
Sheet: /video\_board/watchdog/  
File: watchdog.kicad\_sch

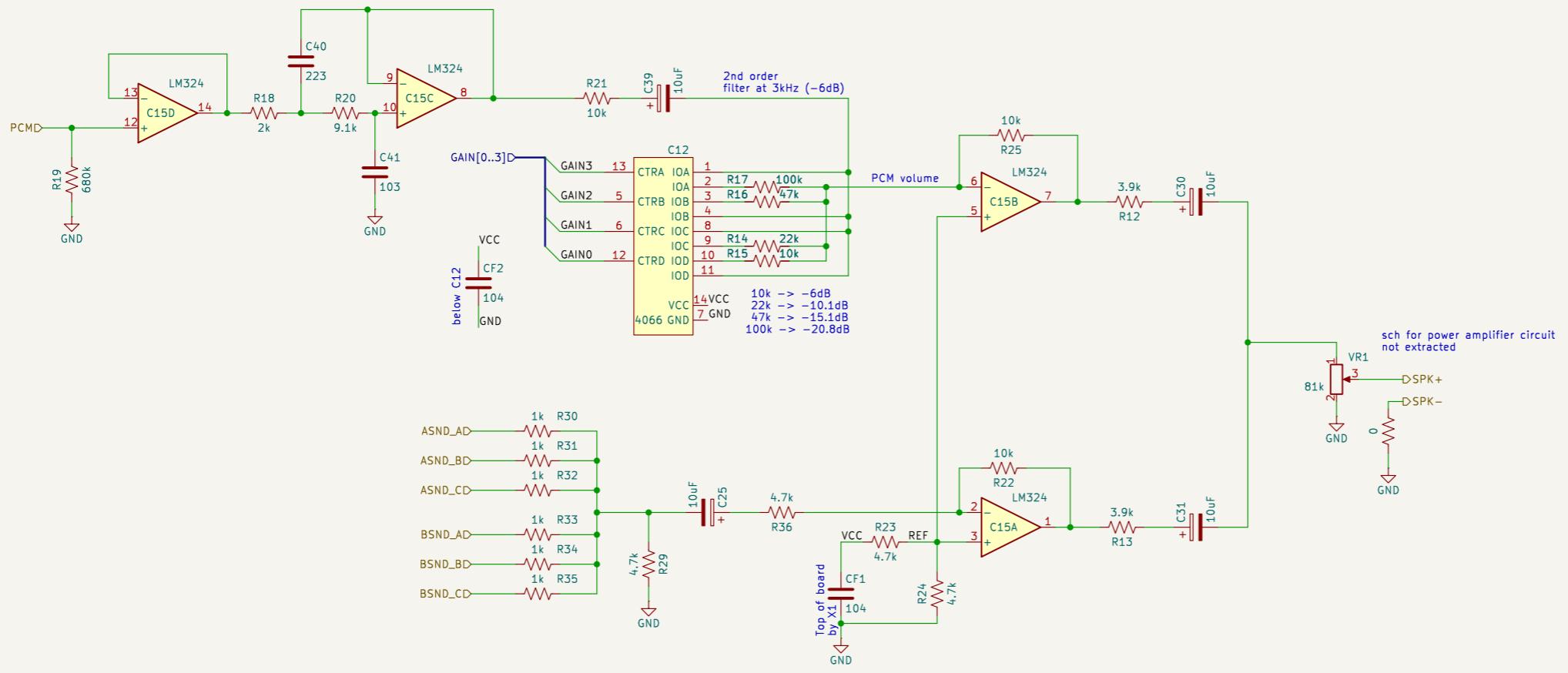
## Title: Watchdog Circuit

Size: A3 Date: 2024-11-15  
KiCad EDA 8.0.8

KiCad E.D.A. 8.0.9

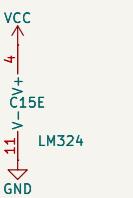
Rev: 1d: 24/12





Passive component references  
when shown, come from original PCB.  
The bootleg did not have  
references for passives.

Device components follow bootleg references.  
The bootleg counts letters from left to right and numbers from bottom to top.  
The original counts numbers left to right and letters bottom to top.



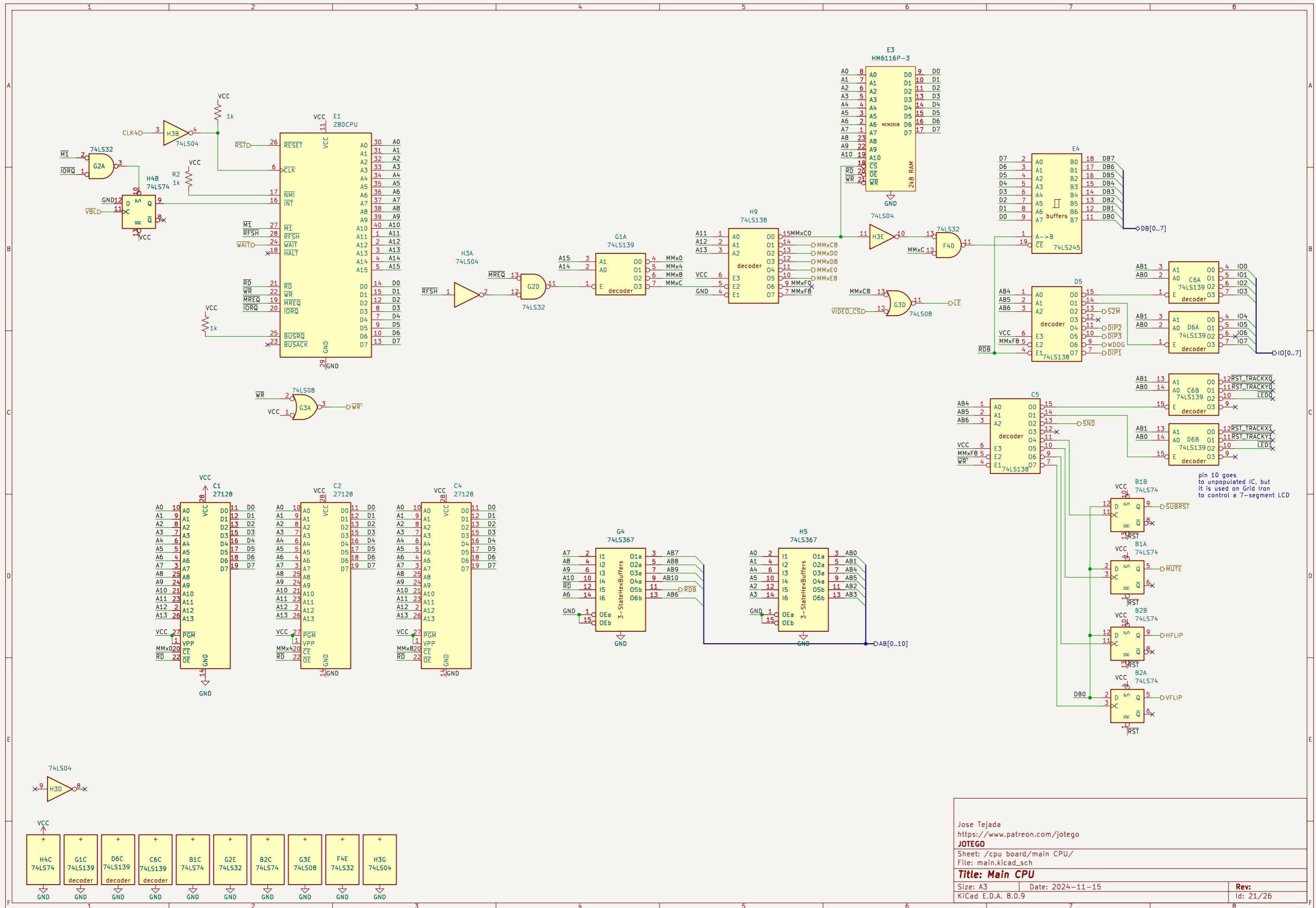
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**JOTEGO**

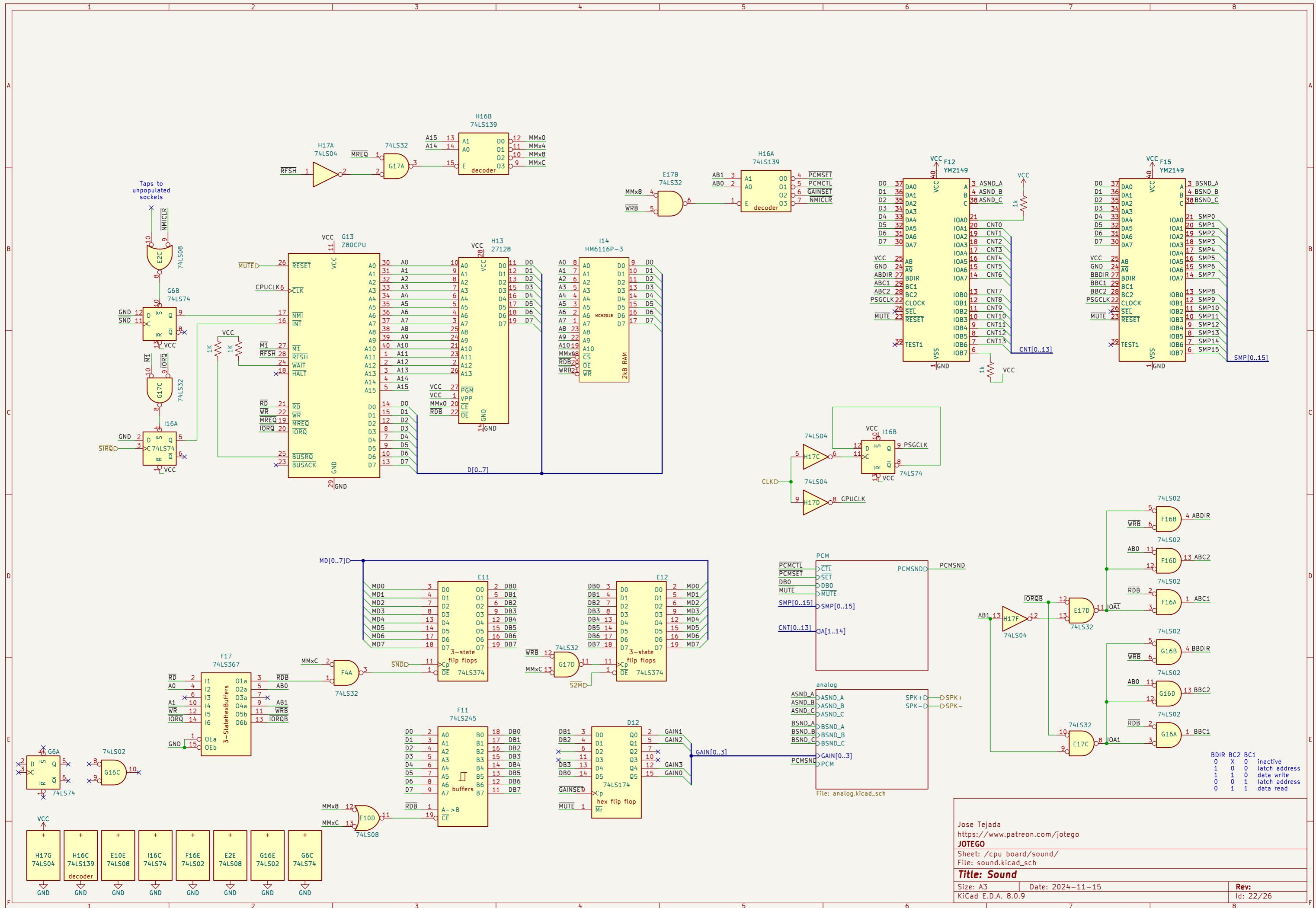
Sheet: /cpu board/sound/analog/  
File: analog.kicad\_sch

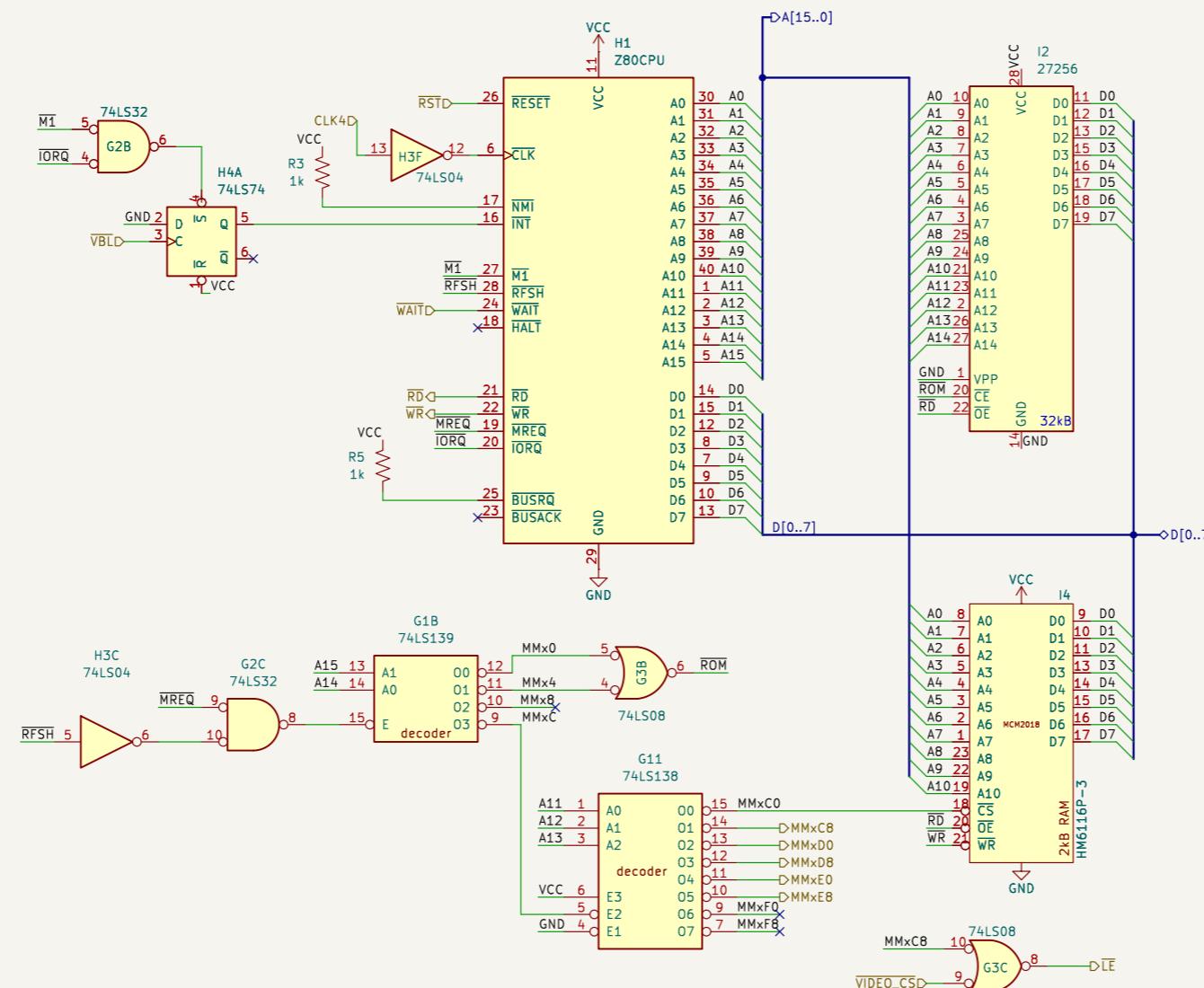
**Title: Sound amplifiers**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.9

Rev:  
Id: 26/26







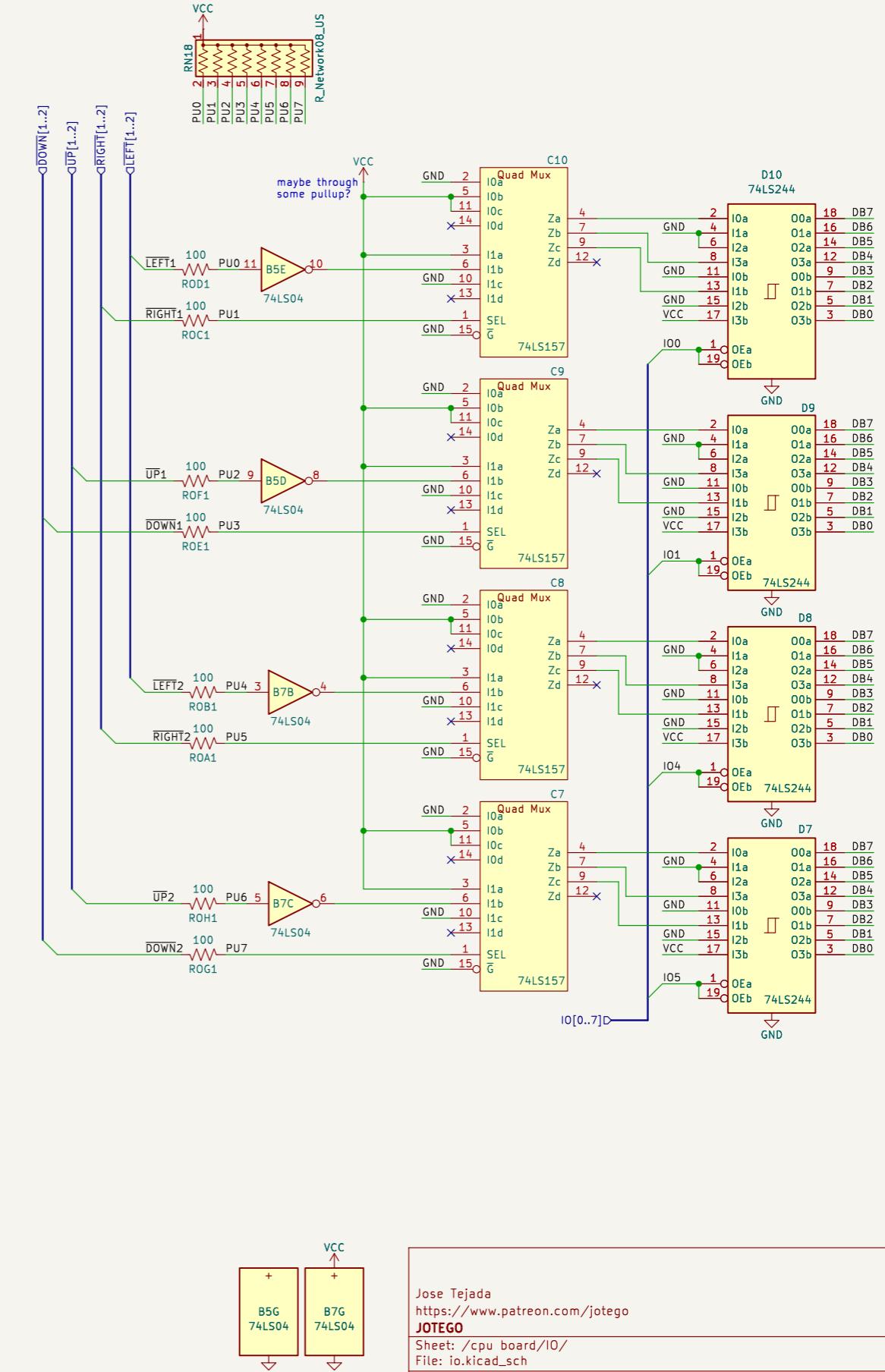
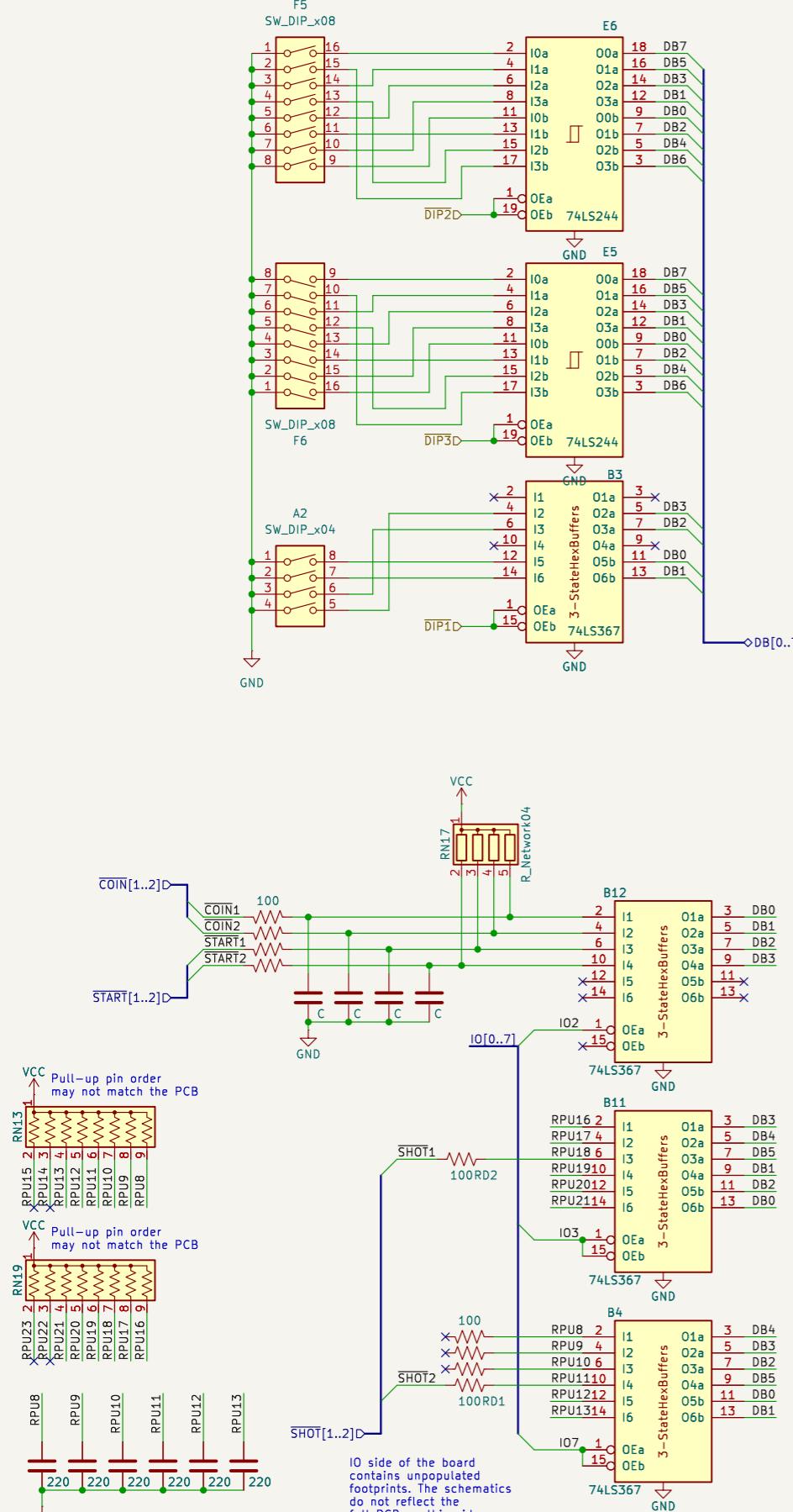
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Sheet: /cpu board/sub CPU/  
File: subcpu.kicad\_sch

**Title: Subordinate CPU**

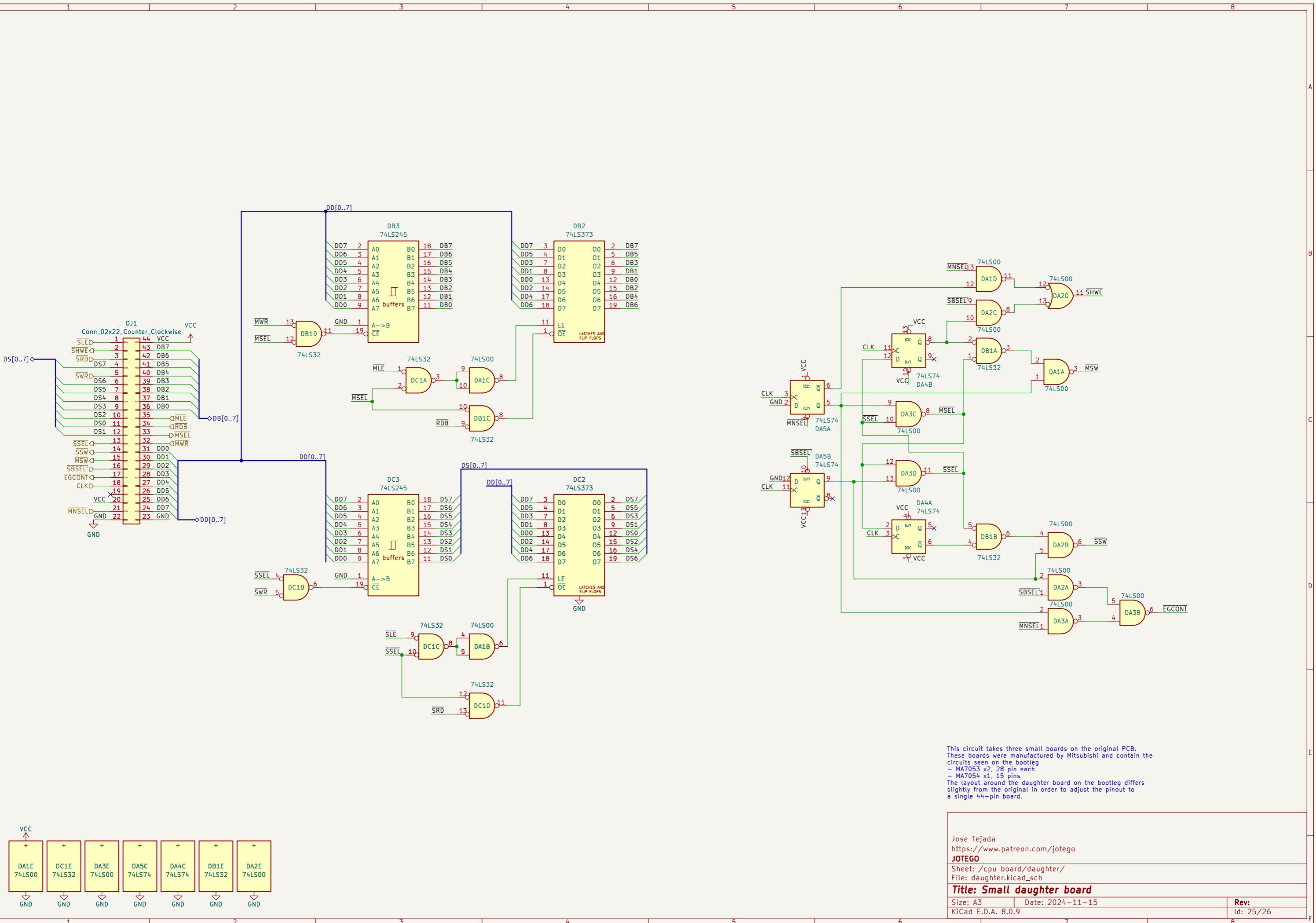
Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.9

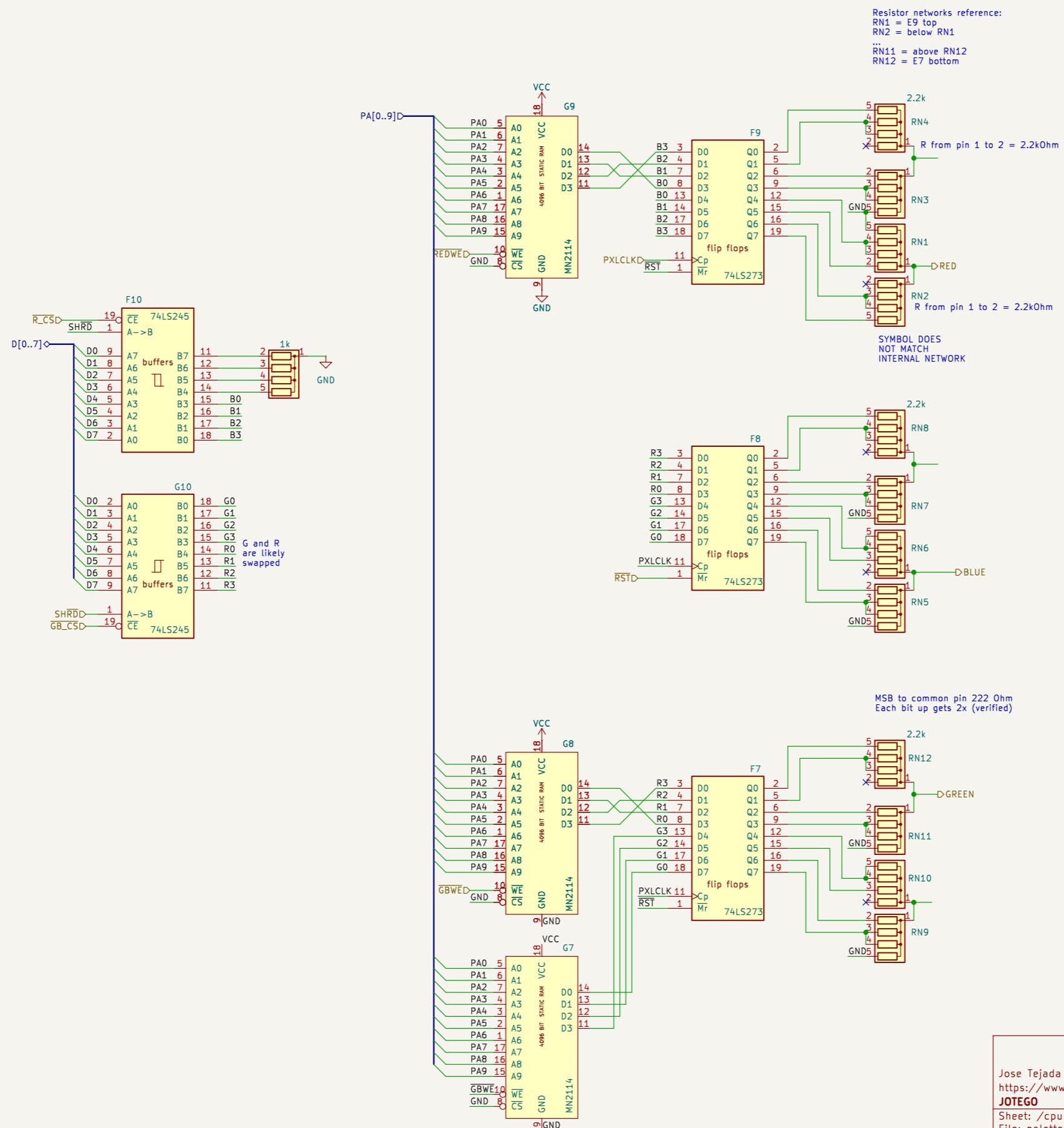
Rev:  
Id: 23/26



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Sheet: /cpu\_board/10/  
File: io.kicad\_sch





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Sheet: /cpu\_board/palette/  
File: palette.kicad\_sch

**Title: Color Palette**

Size: A3	Date: 2024-11-15
KiCad E.D.A. 8.0.9	Rev: #/26