

A

B

C

D

E

A

B

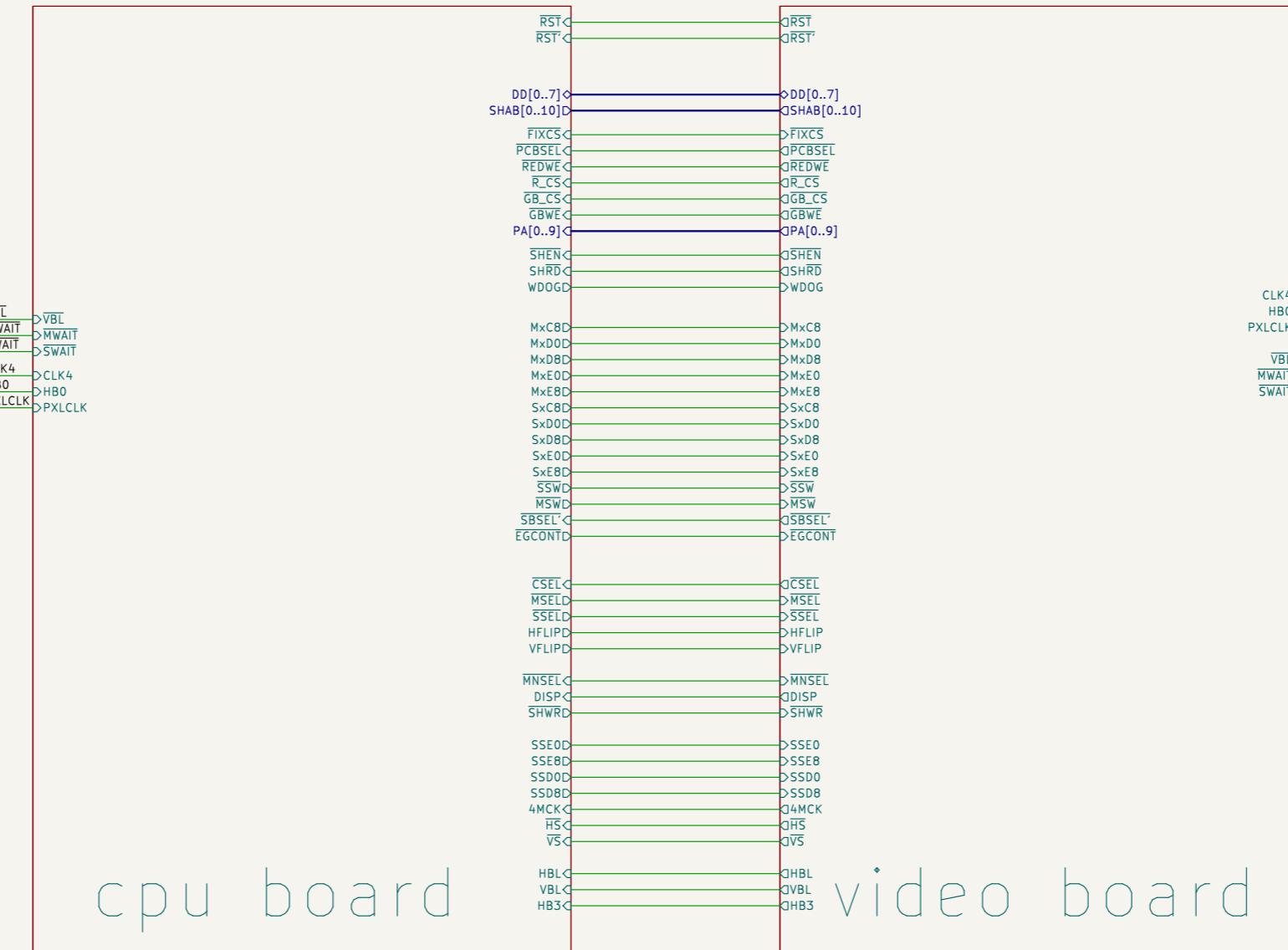
C

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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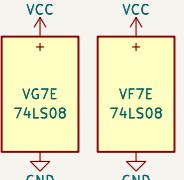
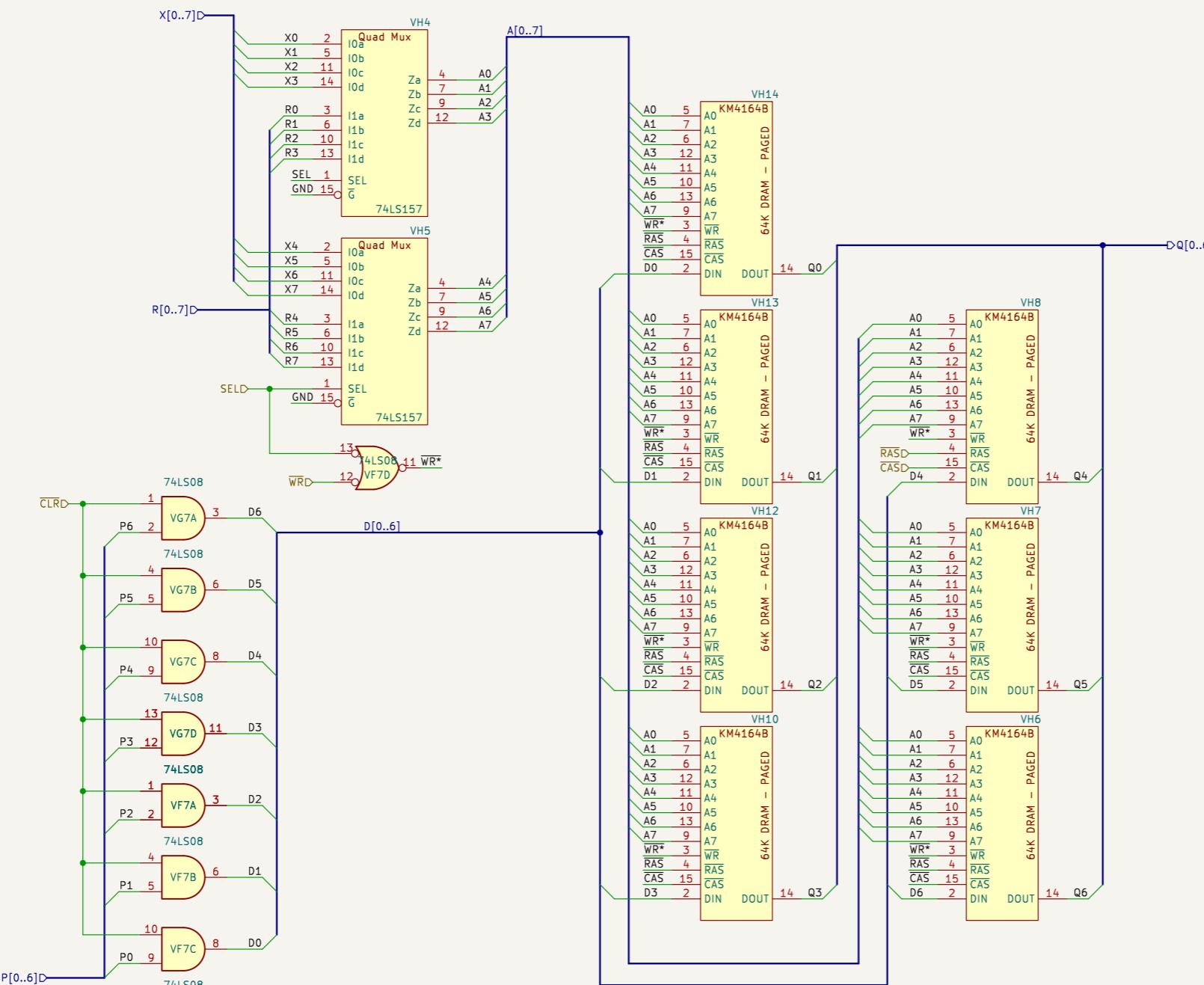
Sheet: /  
File: tehkanwch.kicad\_sch

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

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6



Rev:  
Id: 1/26



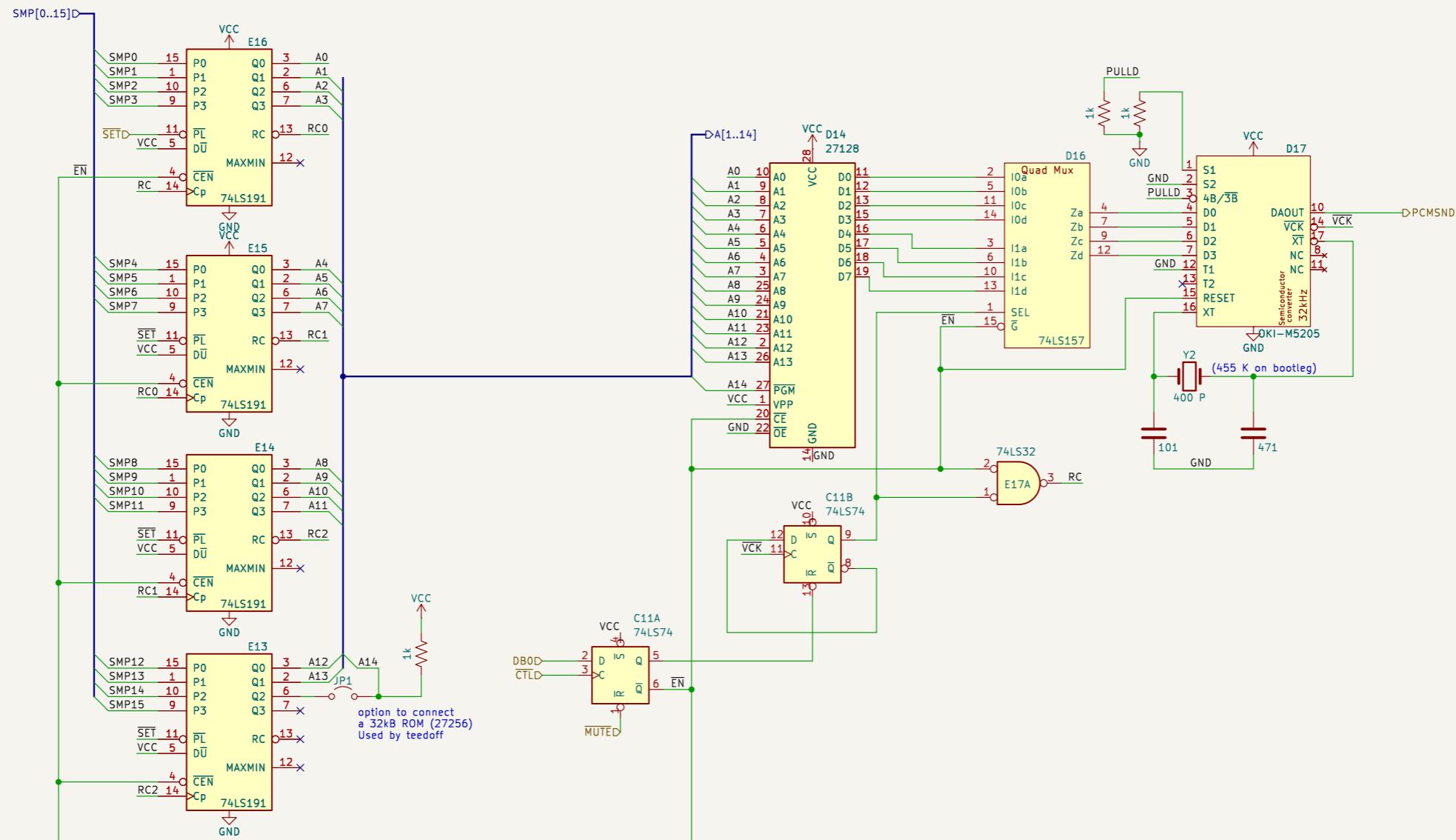
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Sheet: /video board/object/frame buffer B/  
File: buffer.kicad\_sch

**Title: Line Buffer**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev:  
Id: 2/26



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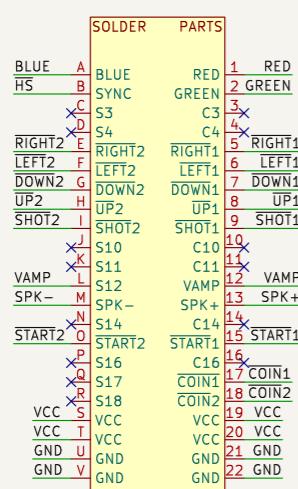
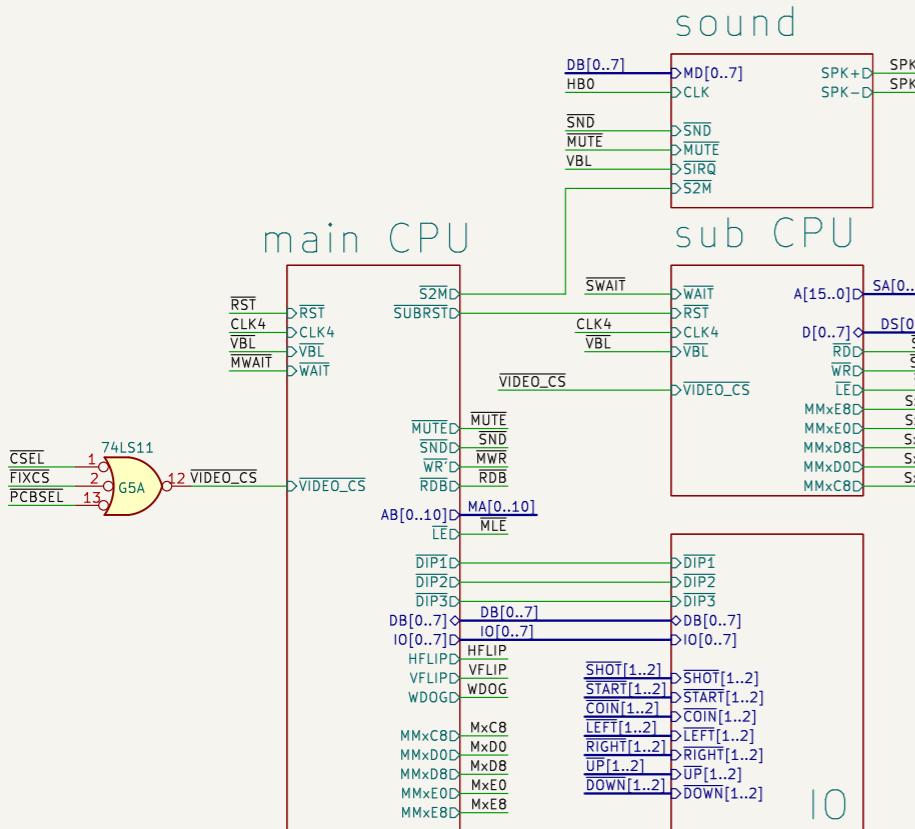
Sheet: /cpu\_board/sound/PCM/  
File: pcm.kicad\_sch

**Title: PCM**

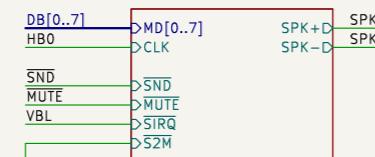
Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: Id: 5/26

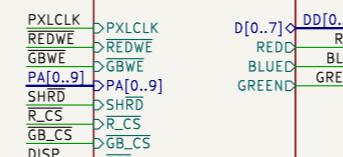
A



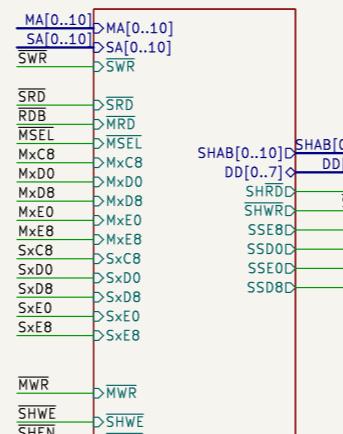
sound



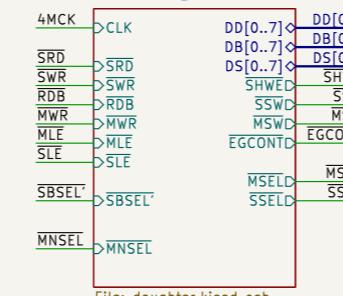
palette



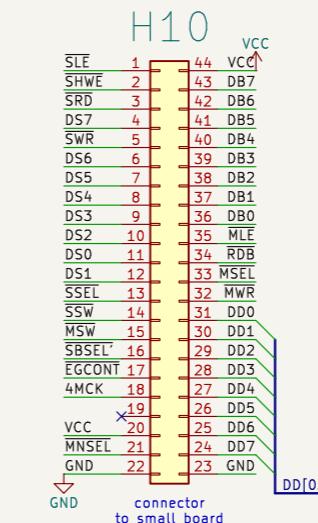
shared



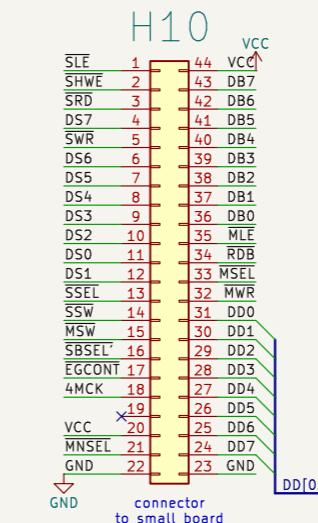
daughter



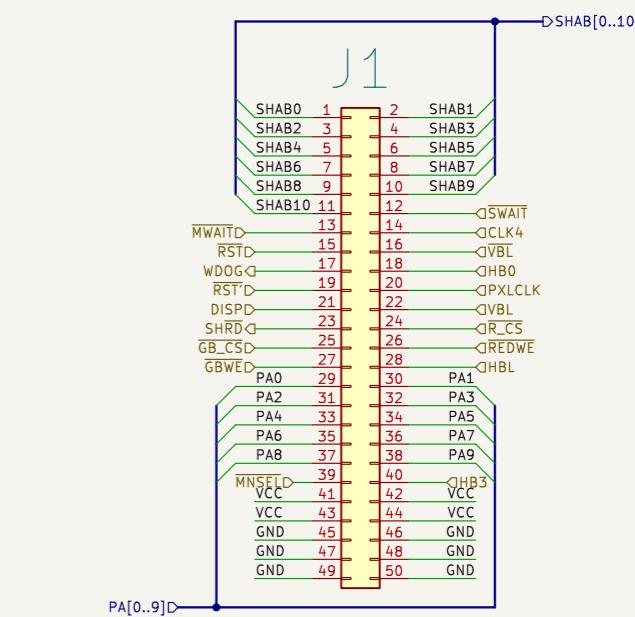
File: daughter.kicad\_sch



GND connector to small board



VS goes to a half routed path, not making it to the edge connector  
J1 at PCB's bottom right  
J2 at PCB's top right  
pins counted from board top down, pins at the top row of the connector counted as odd



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

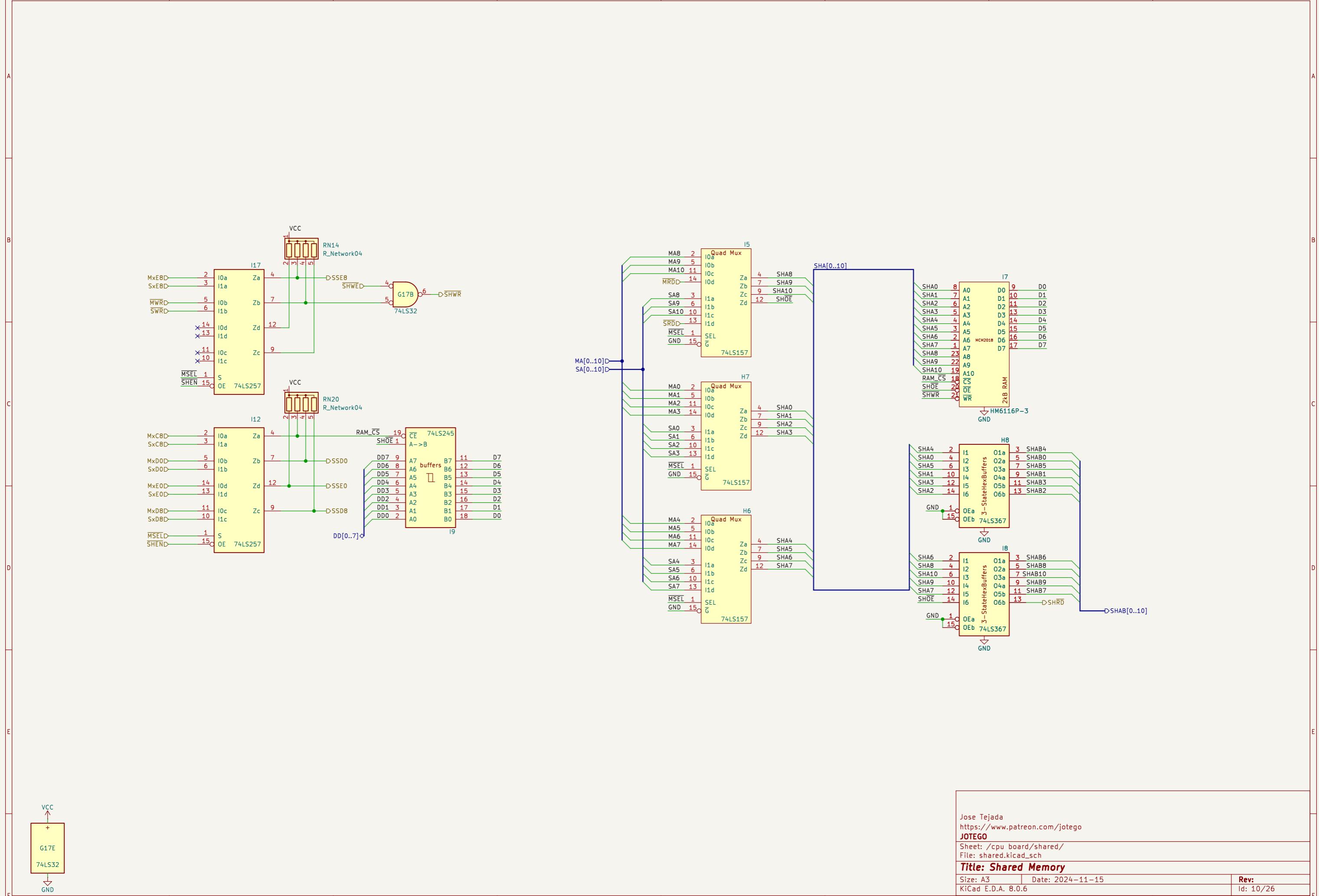
**Title: CPU board (top board)**

Size: A3 Date: 2024-11-15

KiCad E.D.A. 8.0.6

Rev:

Id: 9/26



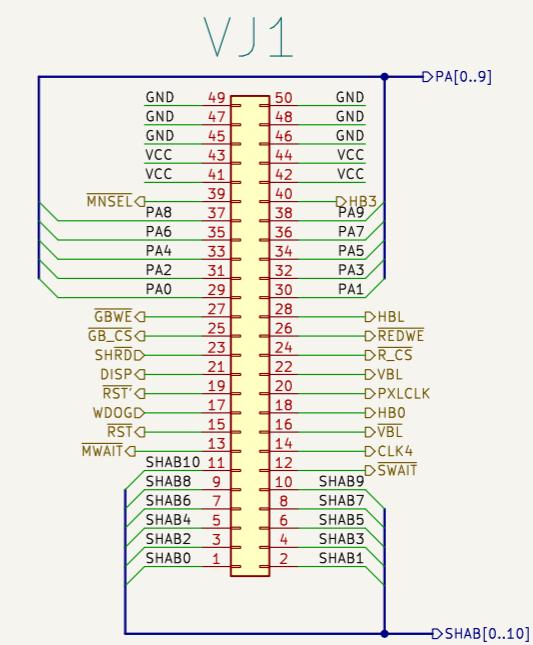
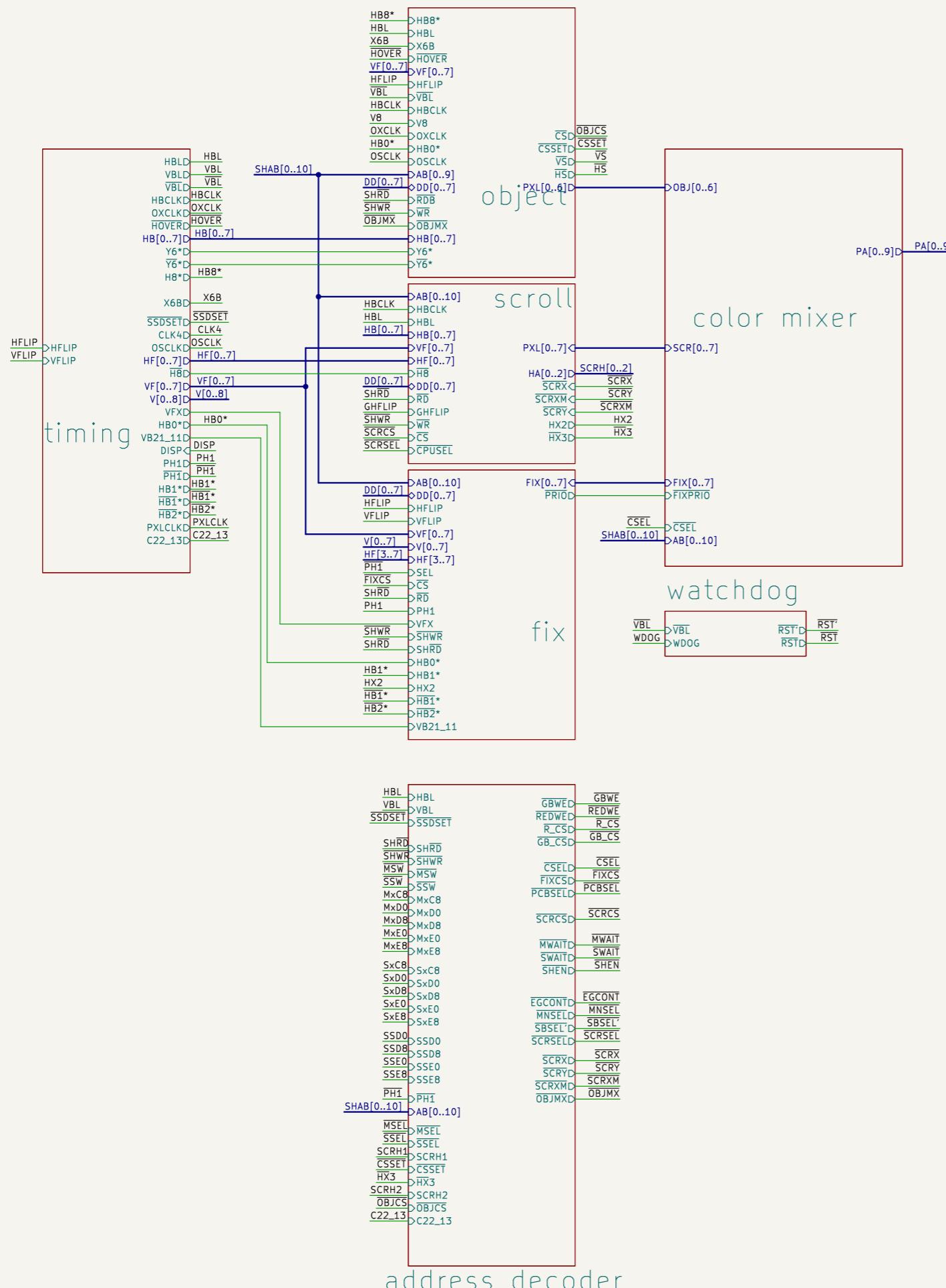
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Sheet: /cpu\_board/shared/  
File: shared.kicad\_sch

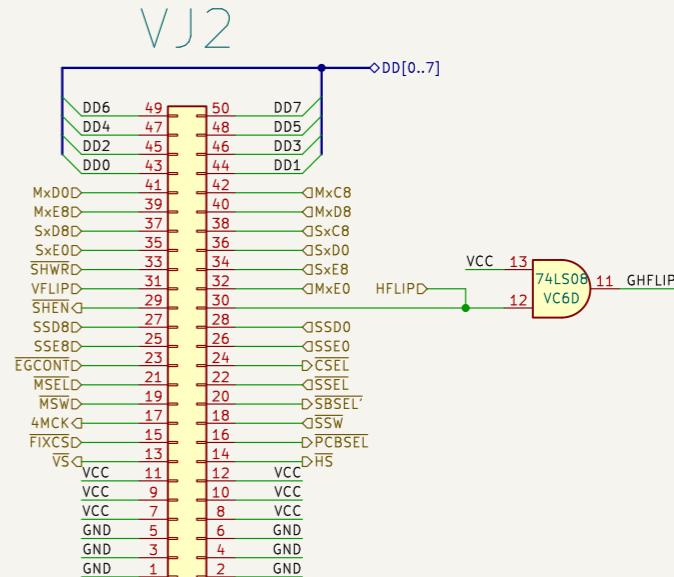
**Title: Shared Memory**

Size: A3 | Date: 2024-11-15  
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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



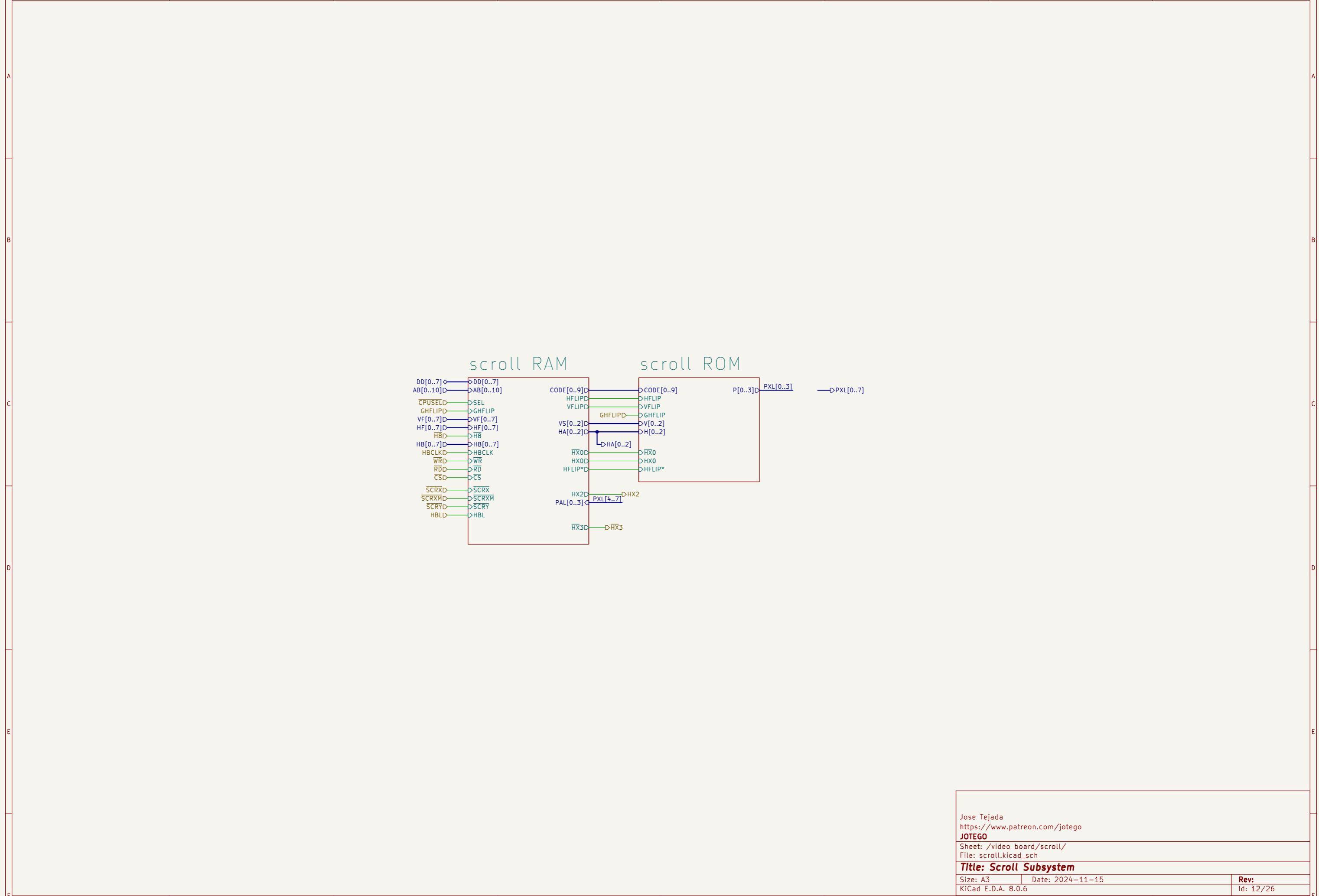
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Sheet: /video board/  
File: video.kicad\_sch

**Title: Video board (bottom board)**

Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: Id: 11/26

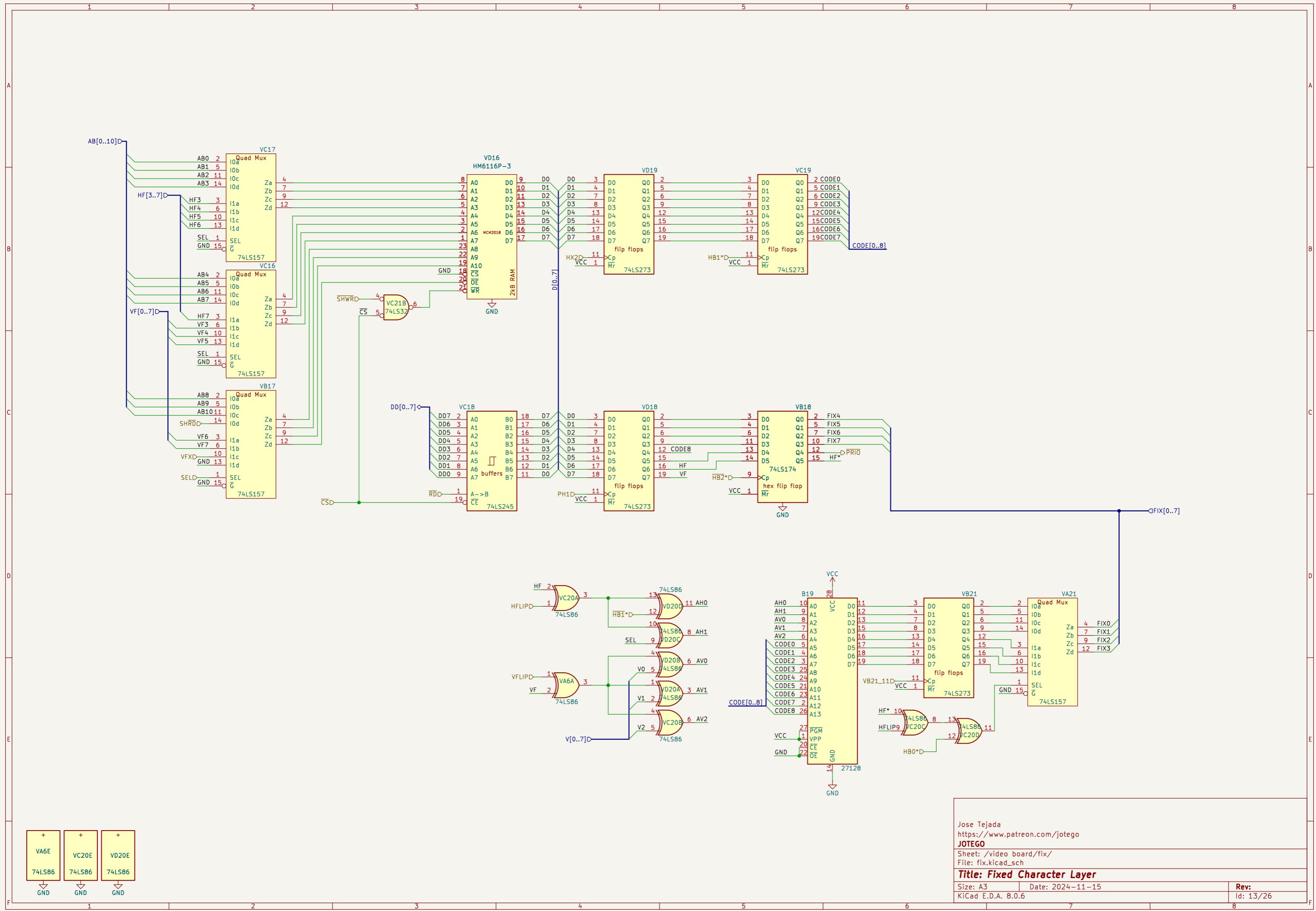


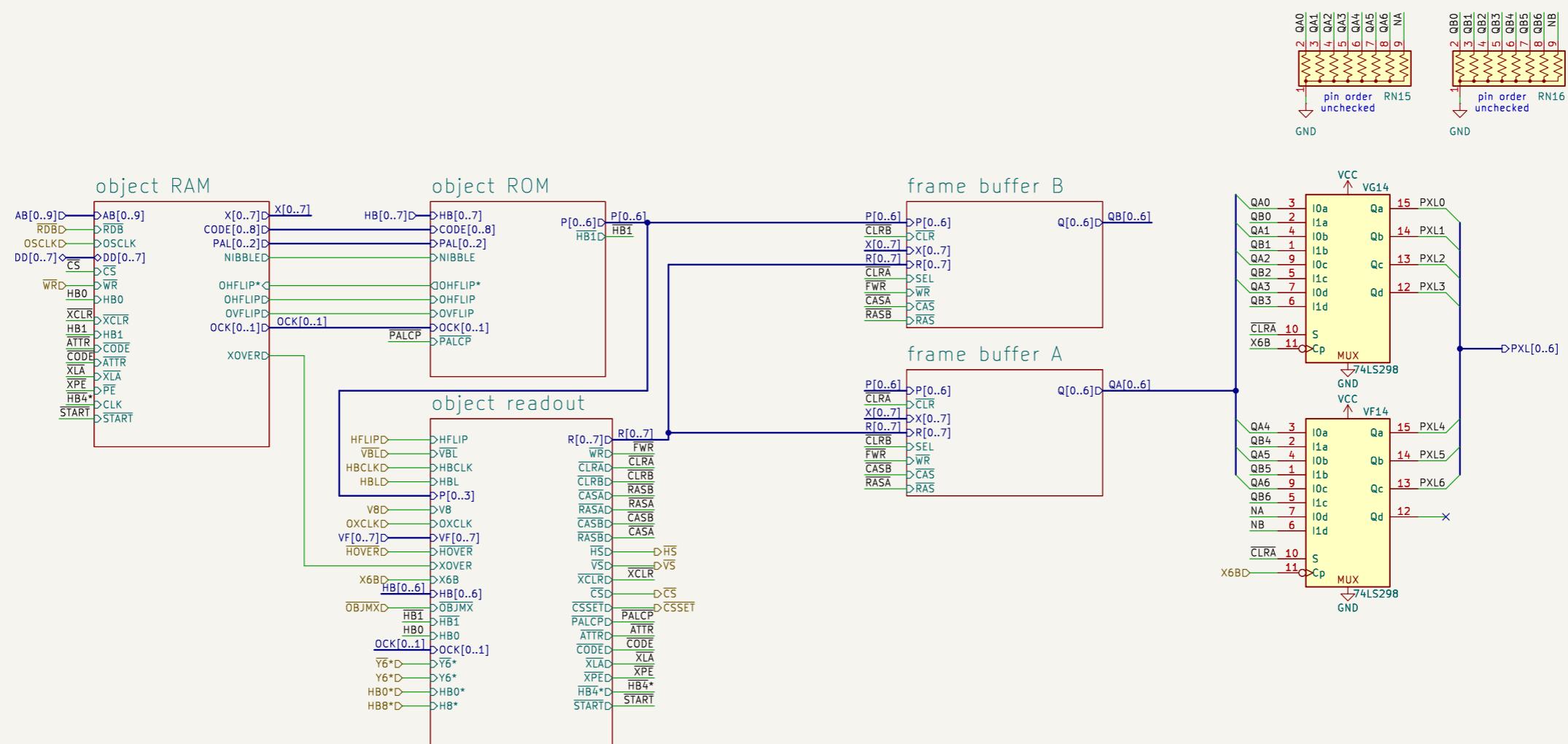
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**JOTEGO**

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

**Title: Scroll Subsystem**

Size: A3	Date: 2024-11-15
KiCad E.D.A. 8.0.6	Rev: 12/26





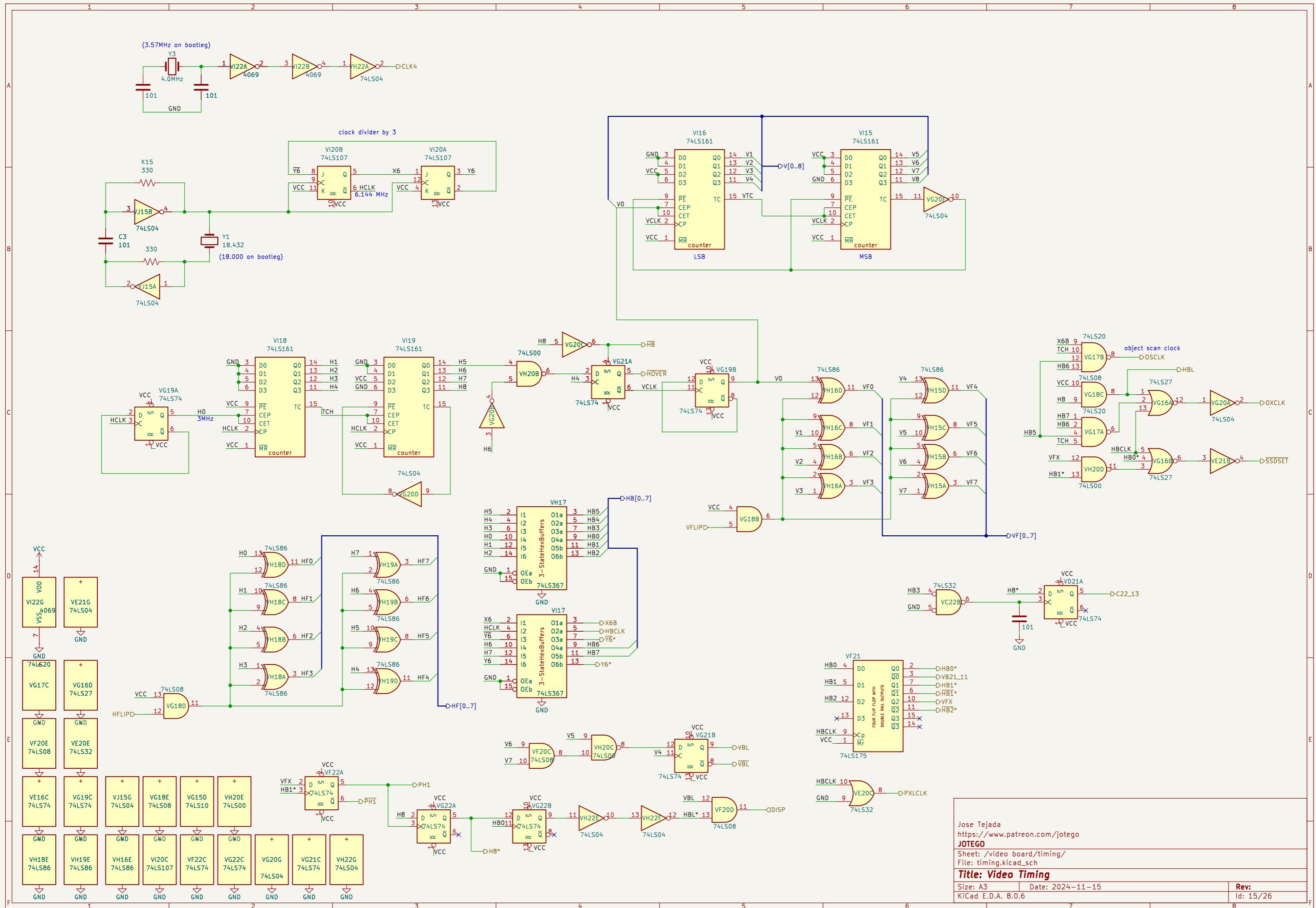
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**JOTEGO**

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

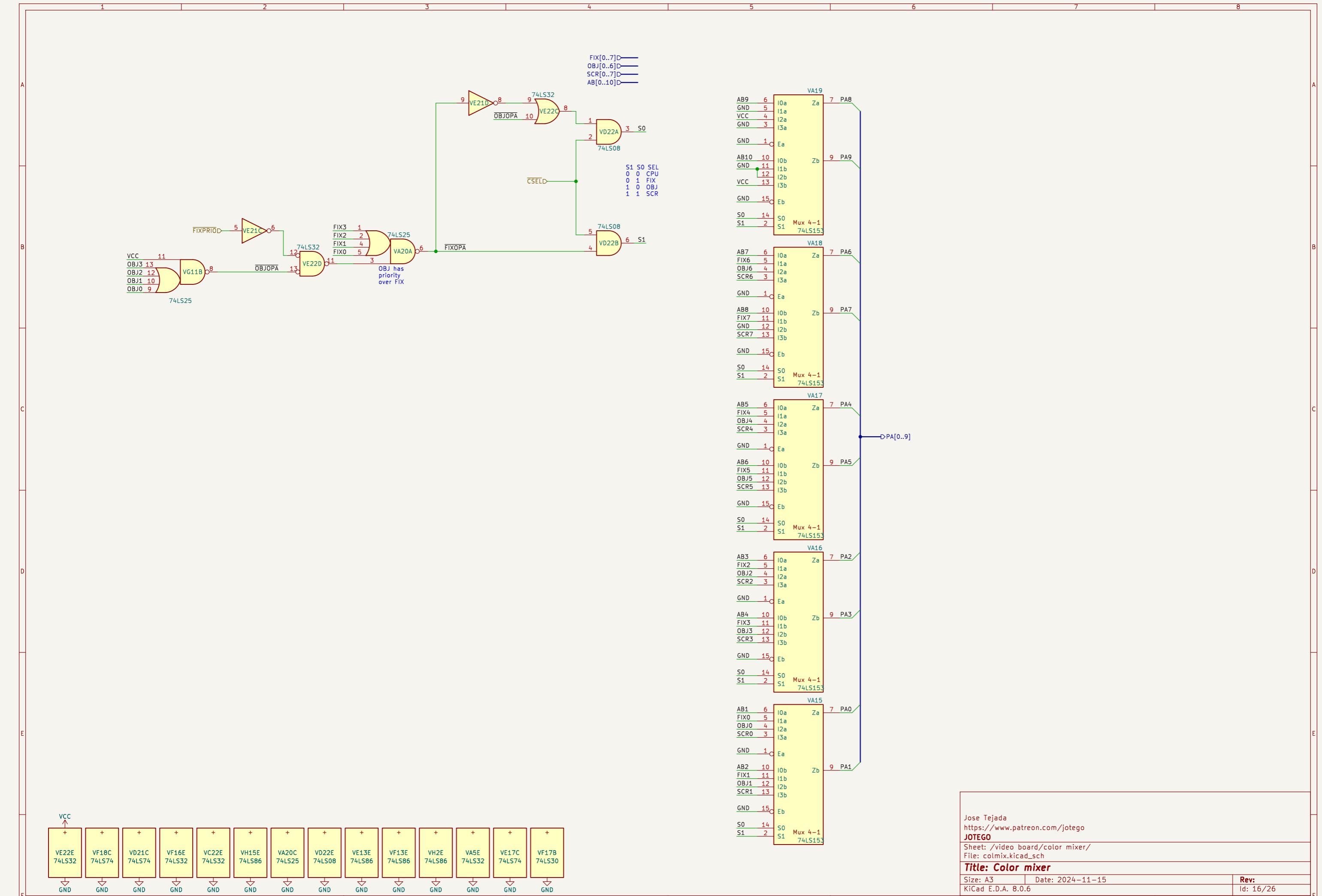
**Title: Object Subsystem**

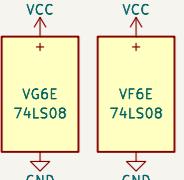
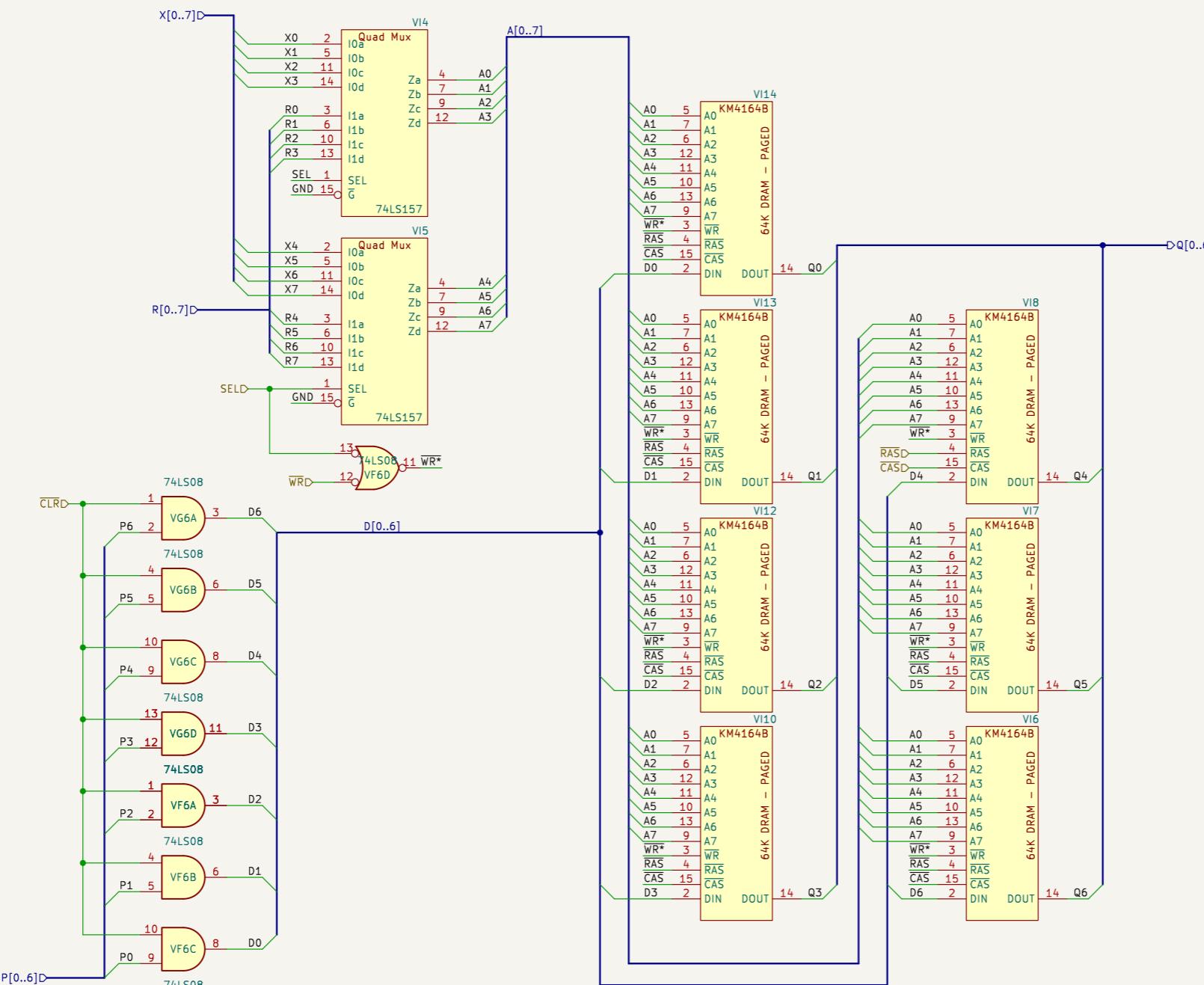
Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: 14/26



1 2 3 4 5 6 7 8





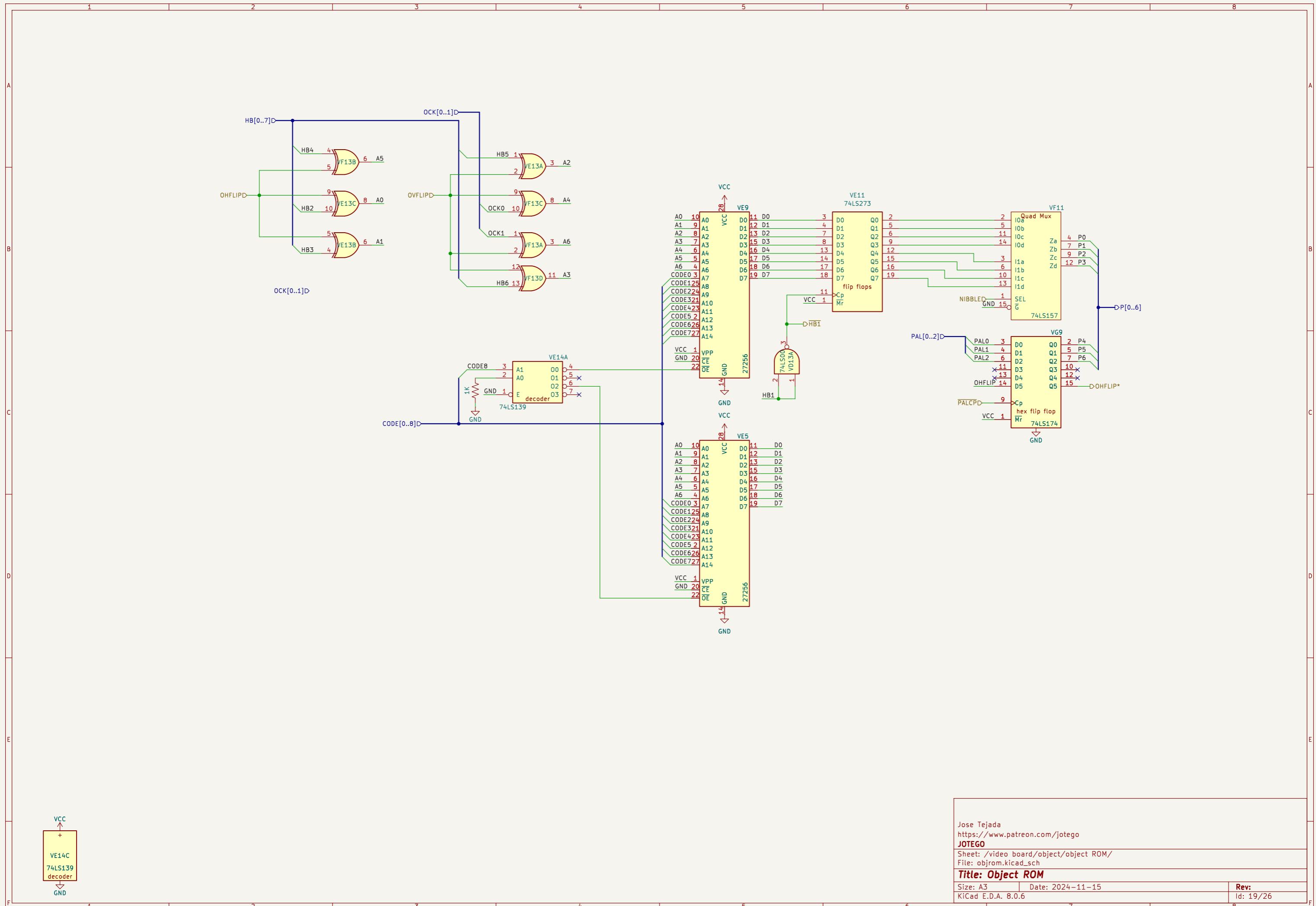
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**JOTEGO**

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

**Title: Line Buffer**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev:  
Id: 17/26



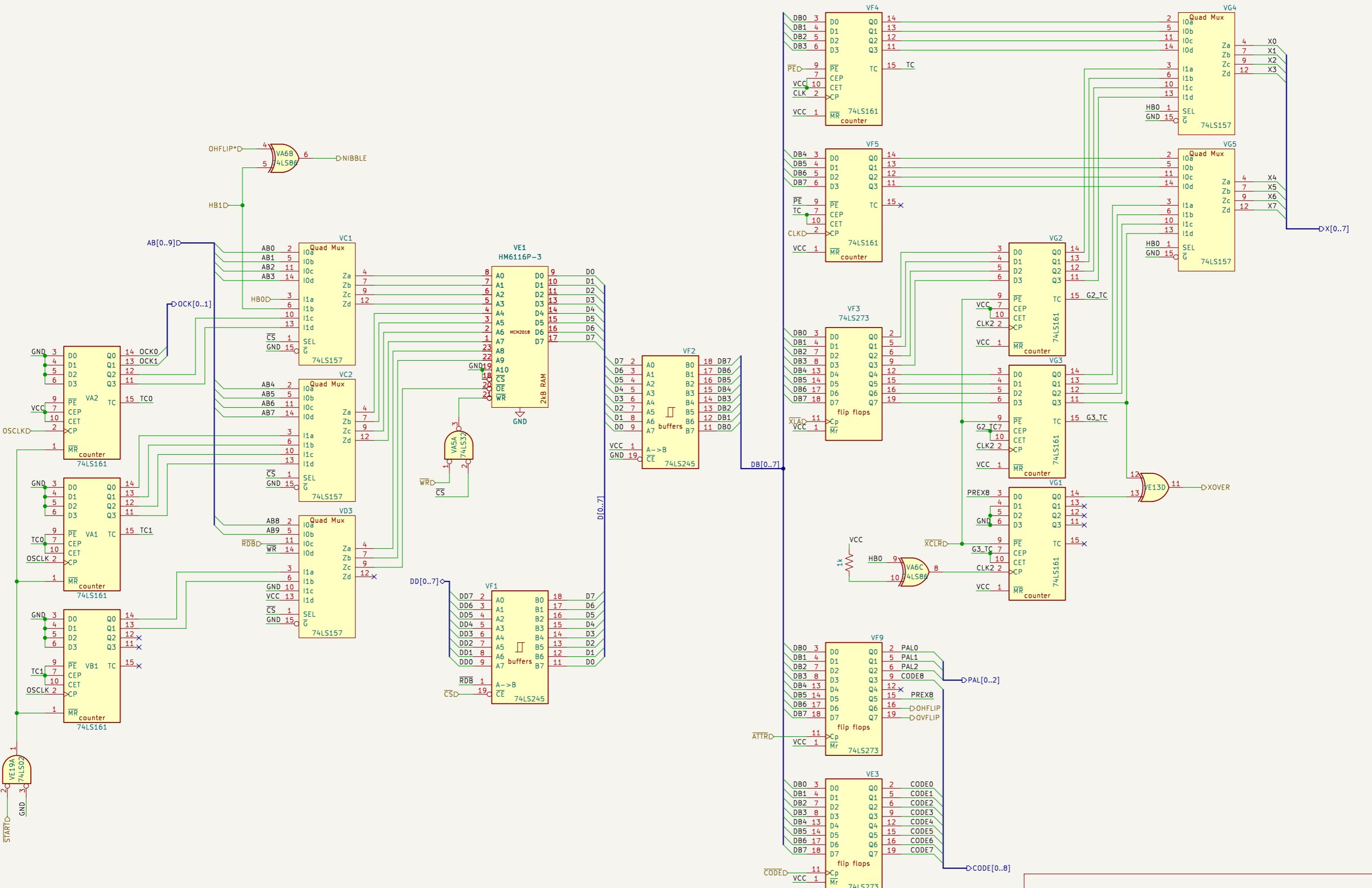
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**JOTEGO**

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

**Title: Object ROM**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: | Id: 19/26



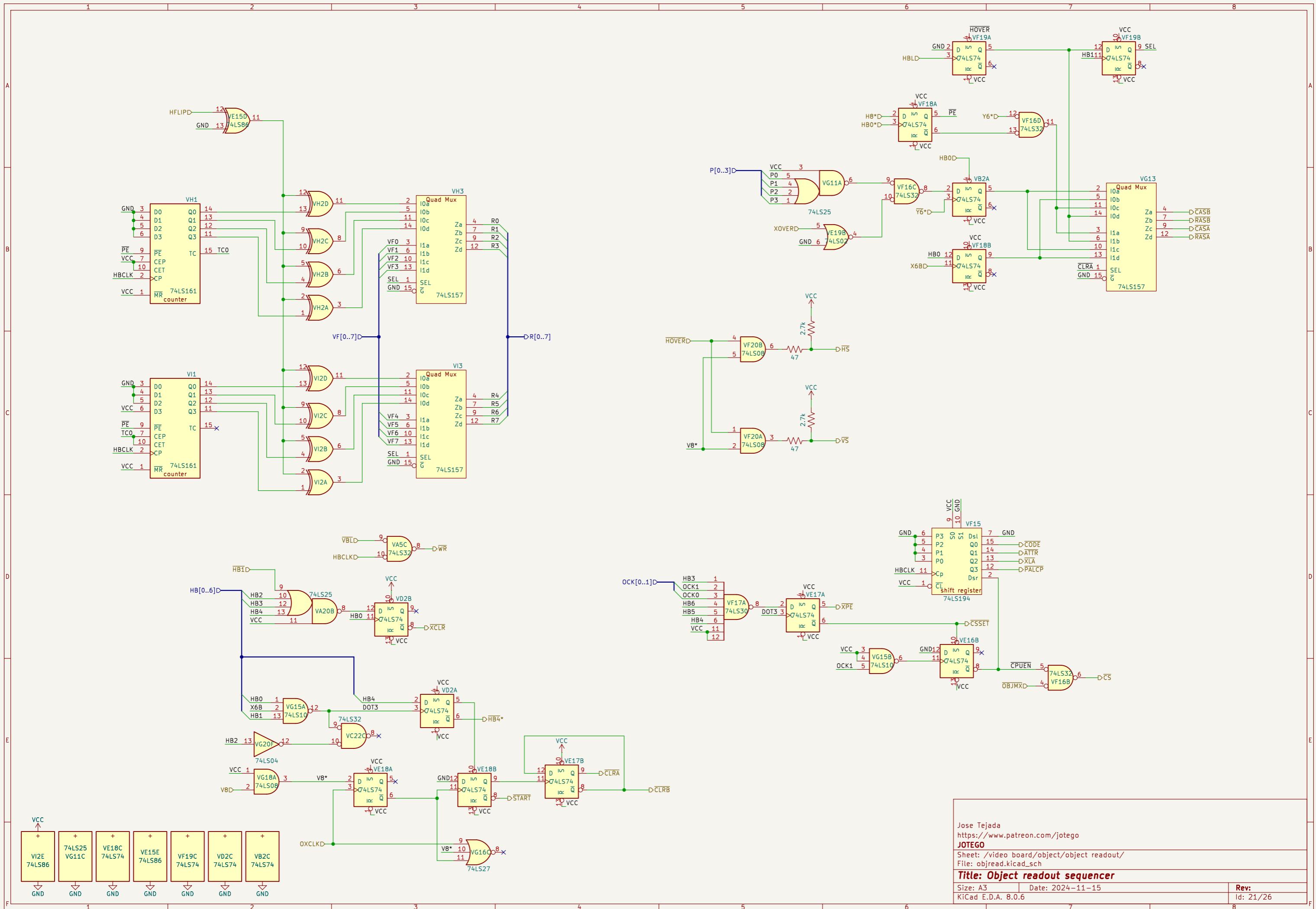
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**JOTEGO**

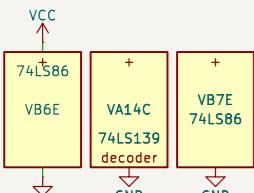
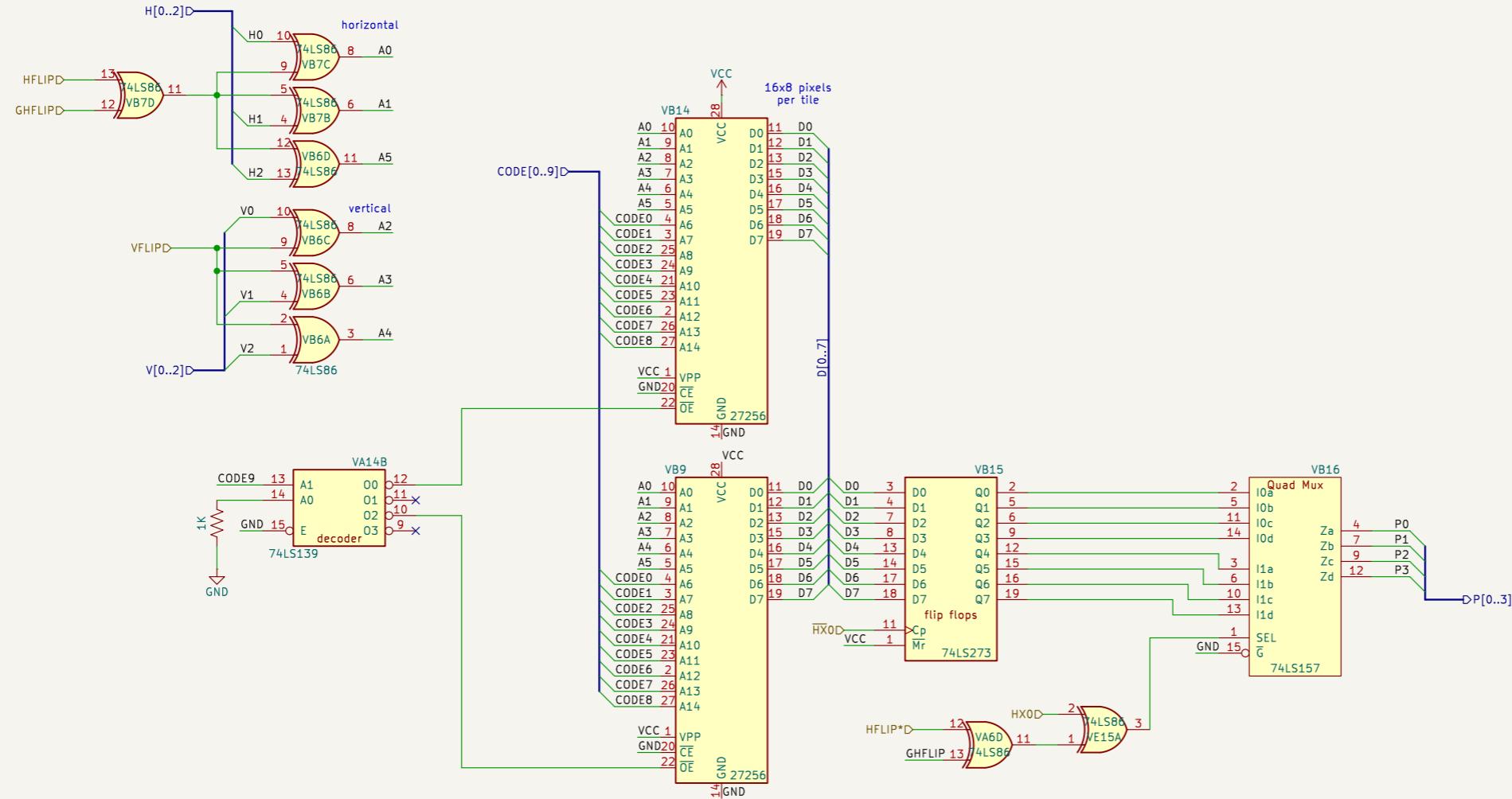
Sheet: /video board/object/object RAM/  
File: objram.kicad\_sch

**Title: Object RAM**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: 20/26





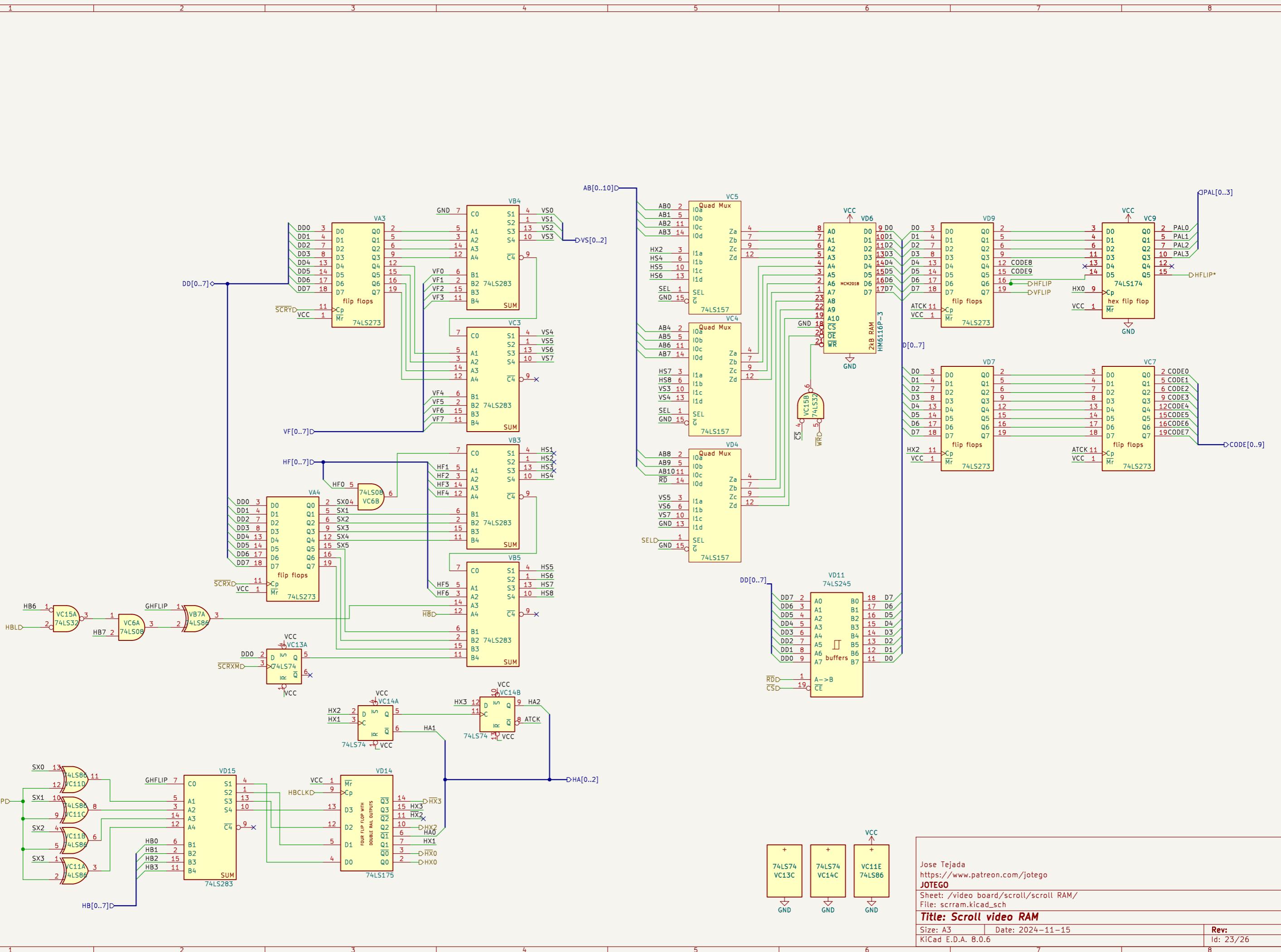
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**JOTEGO**

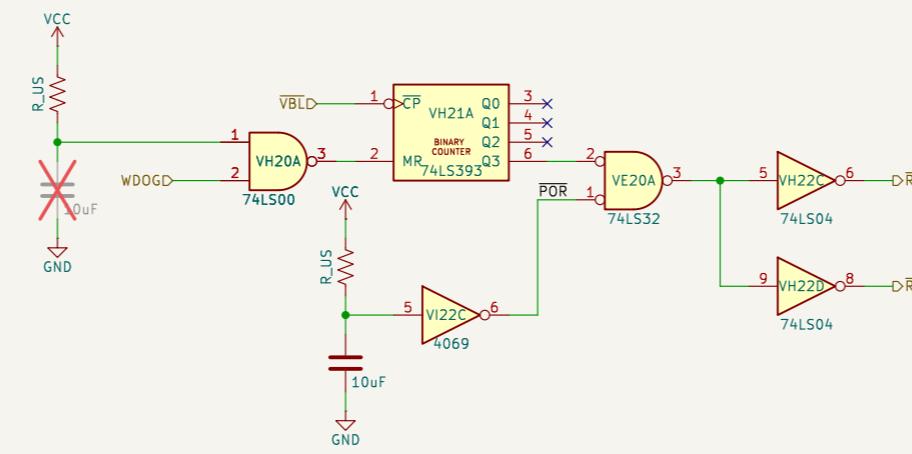
Sheet: /video board/scroll/scroll ROM/  
File: scrom.kicad\_sch

**Title: scroll ROM**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: 22/26





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**JOTEGO**

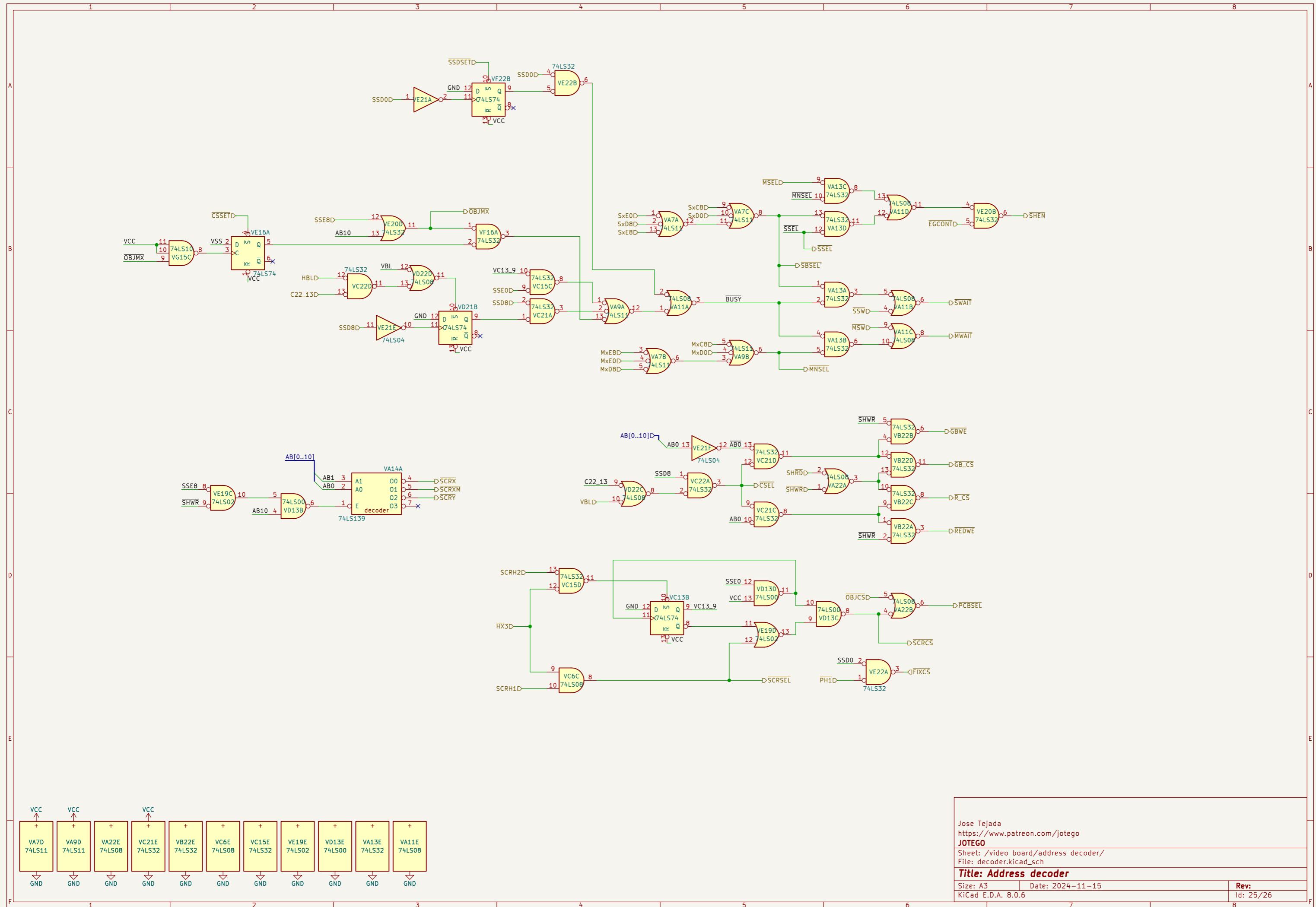
Sheet: /video board/watchdog/  
File: watchdog.kicad\_sch

## Title: Watchdog Circuit

Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.6

7

Rev: Id: 24/26



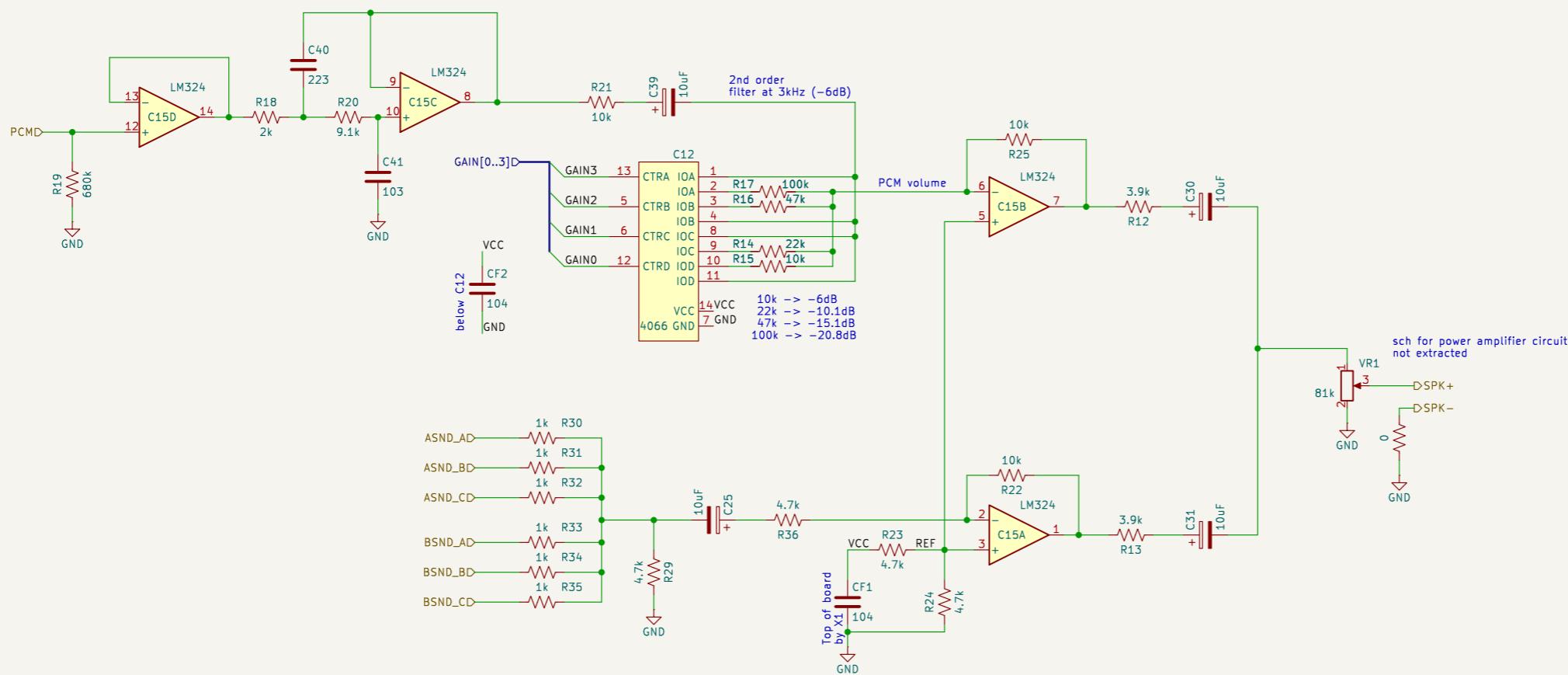
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Sheet: /video board/address decoder/  
File: decoder.kicad\_sch

**Title: Address decoder**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

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

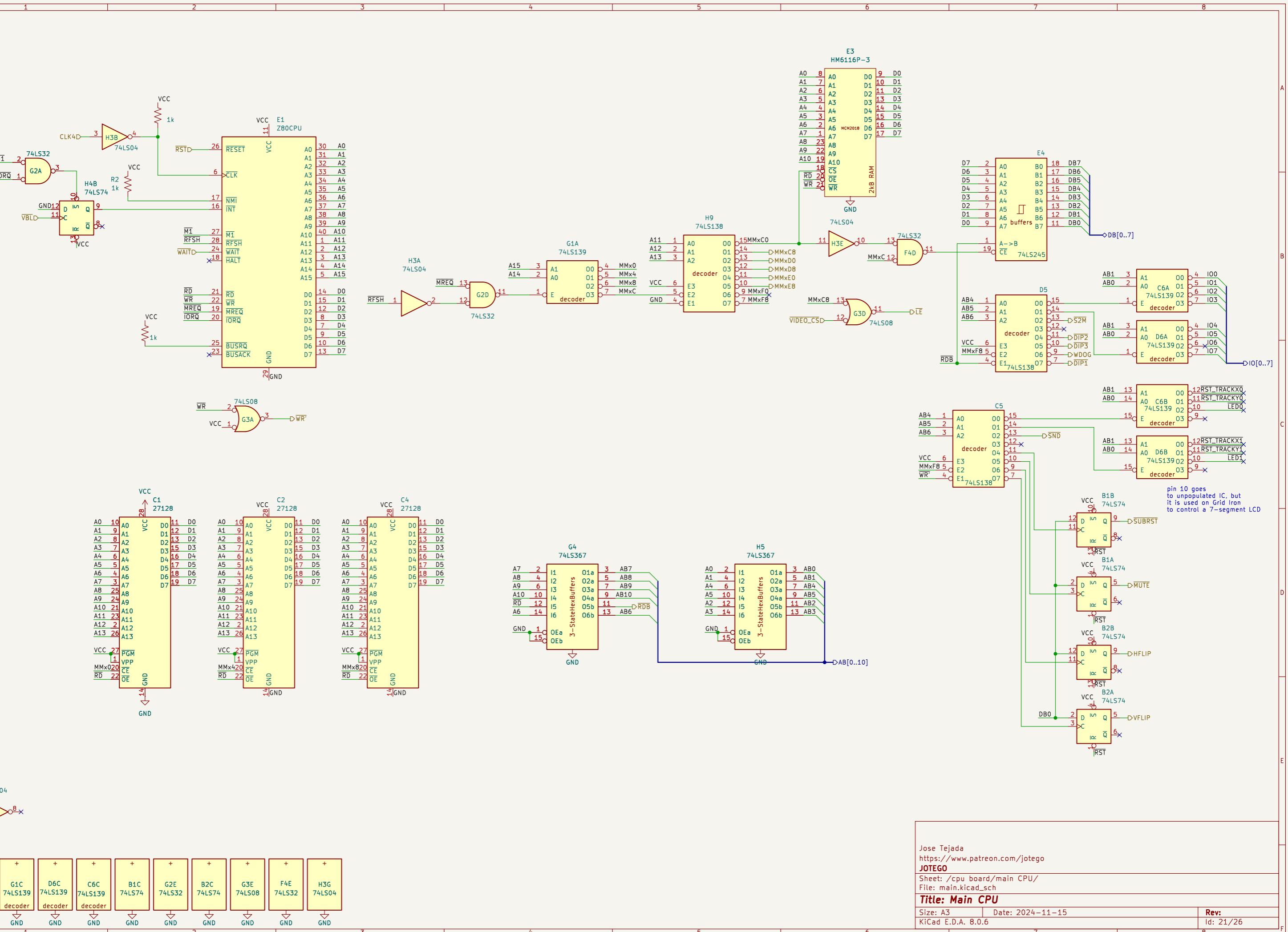
Device components follow bootleg references.  
The bootleg counts letters from left to right and numbers from bottom to top  
The original counts numbers left to right and letters bottom to top.

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## JOTEGO

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Title: Sound amplifiers



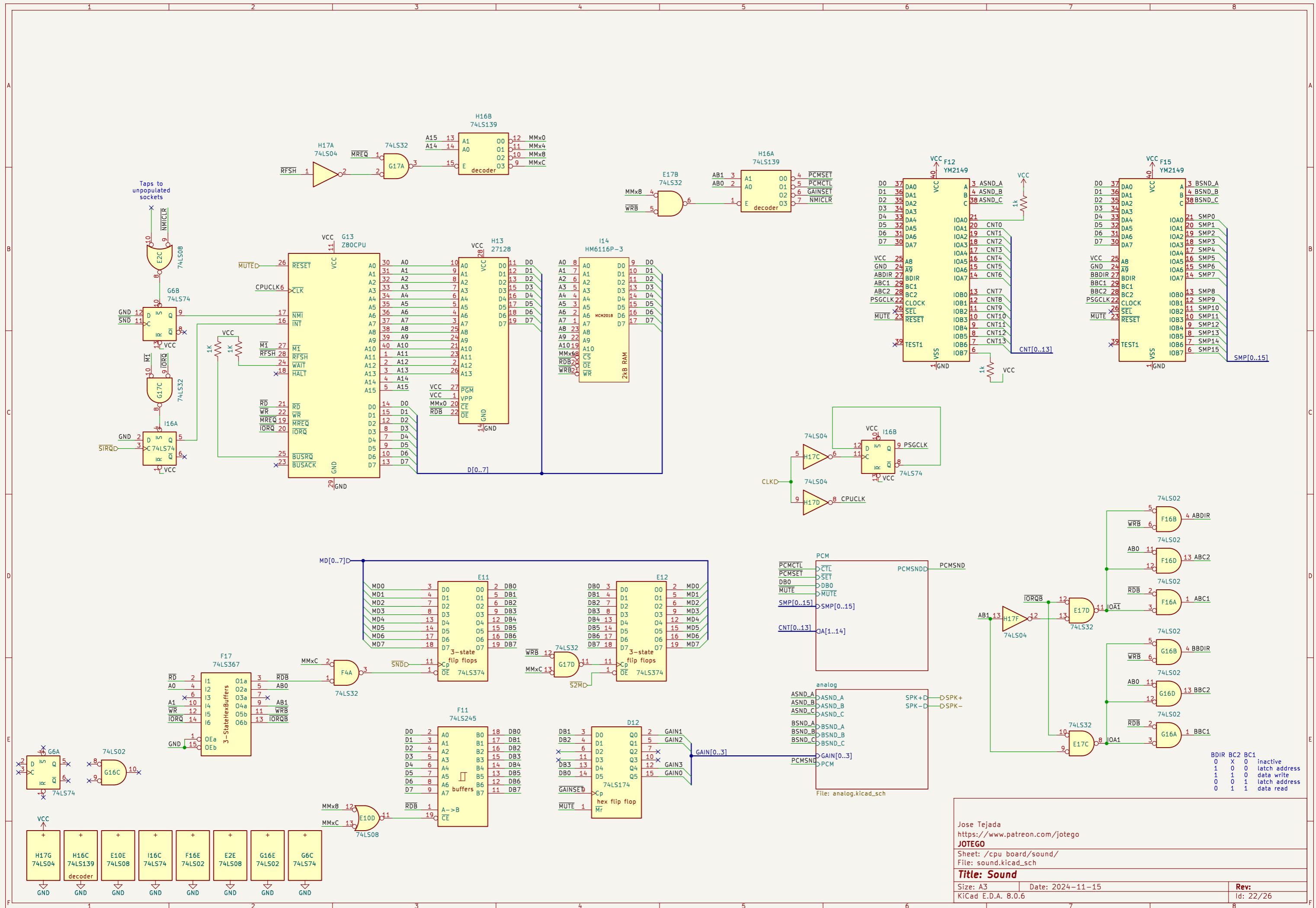
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**JOTEGO**

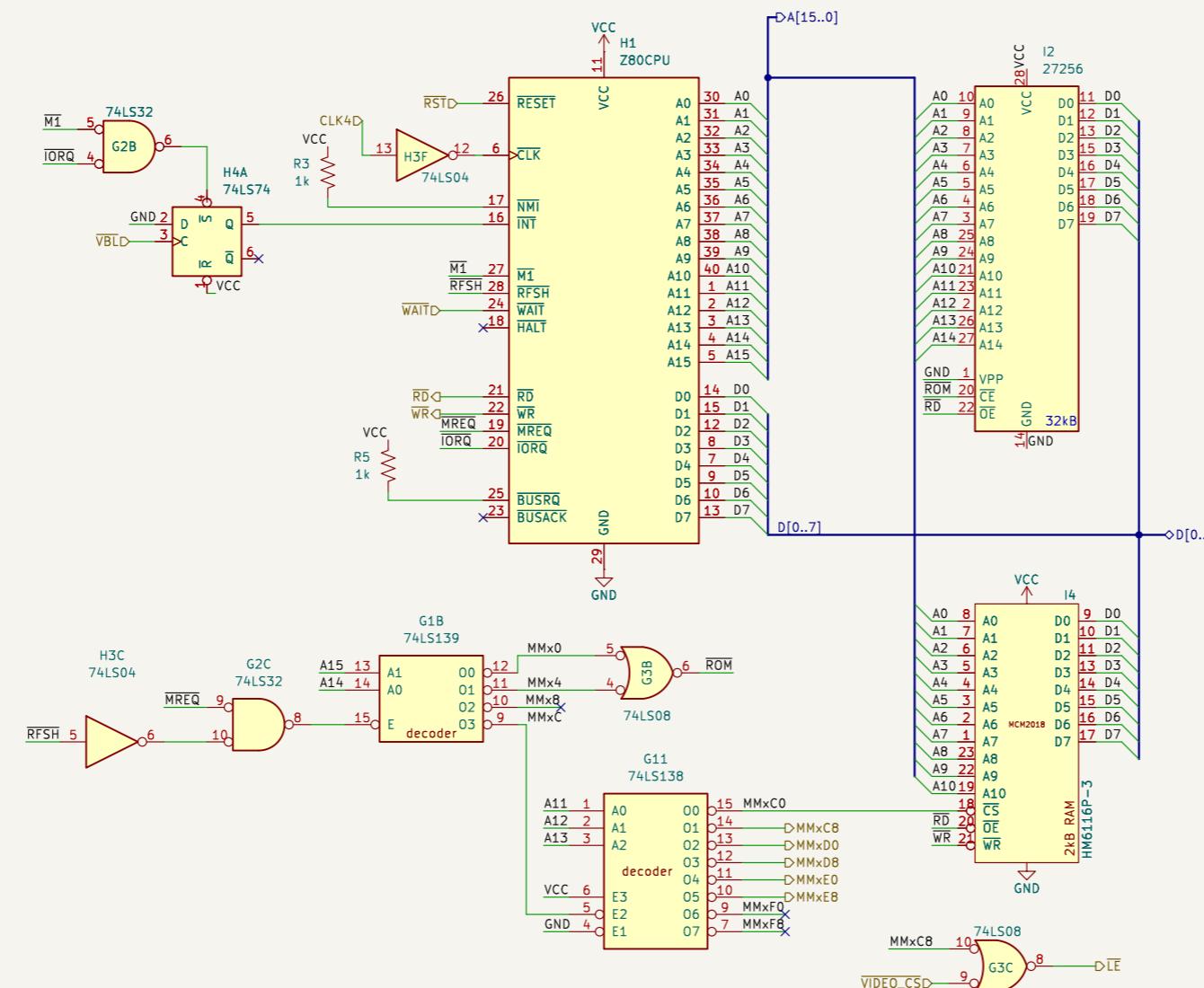
Sheet: /cpu\_board/main\_CPU/  
File: main.kicad\_sch

**Title: Main CPU**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: | Id: 21/26





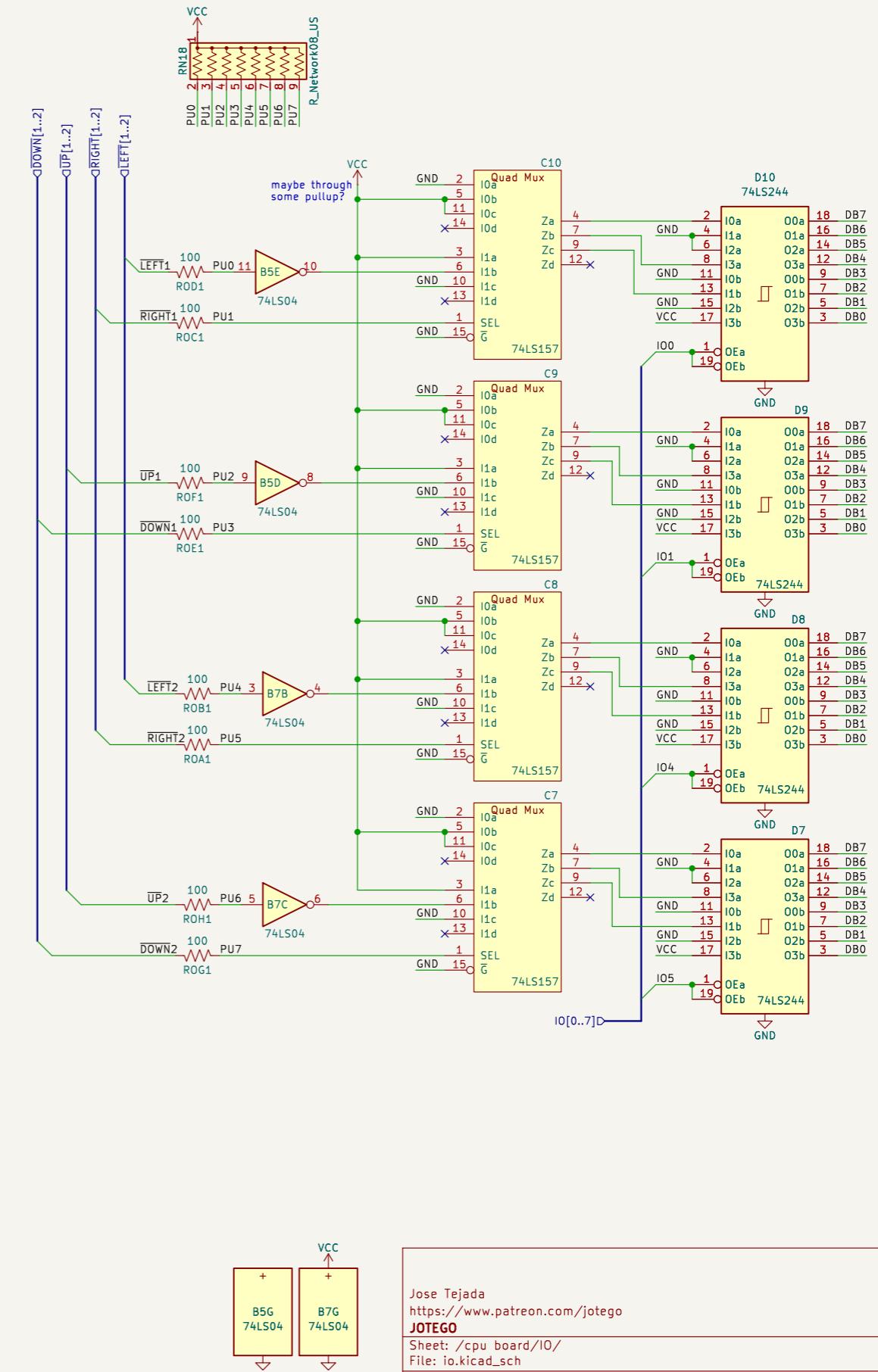
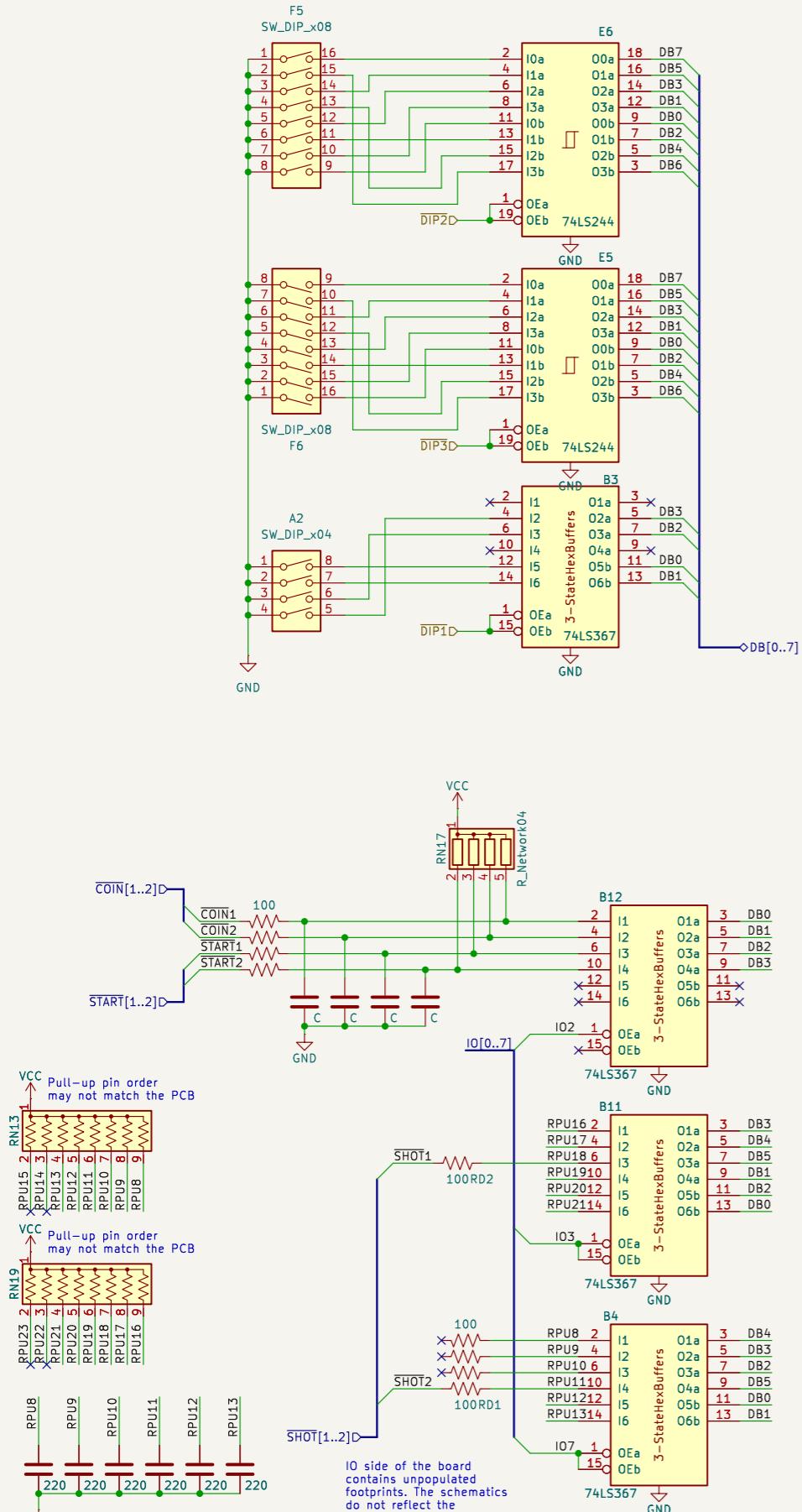
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**JOTEGO**

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

**Title: Subordinate CPU**

Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

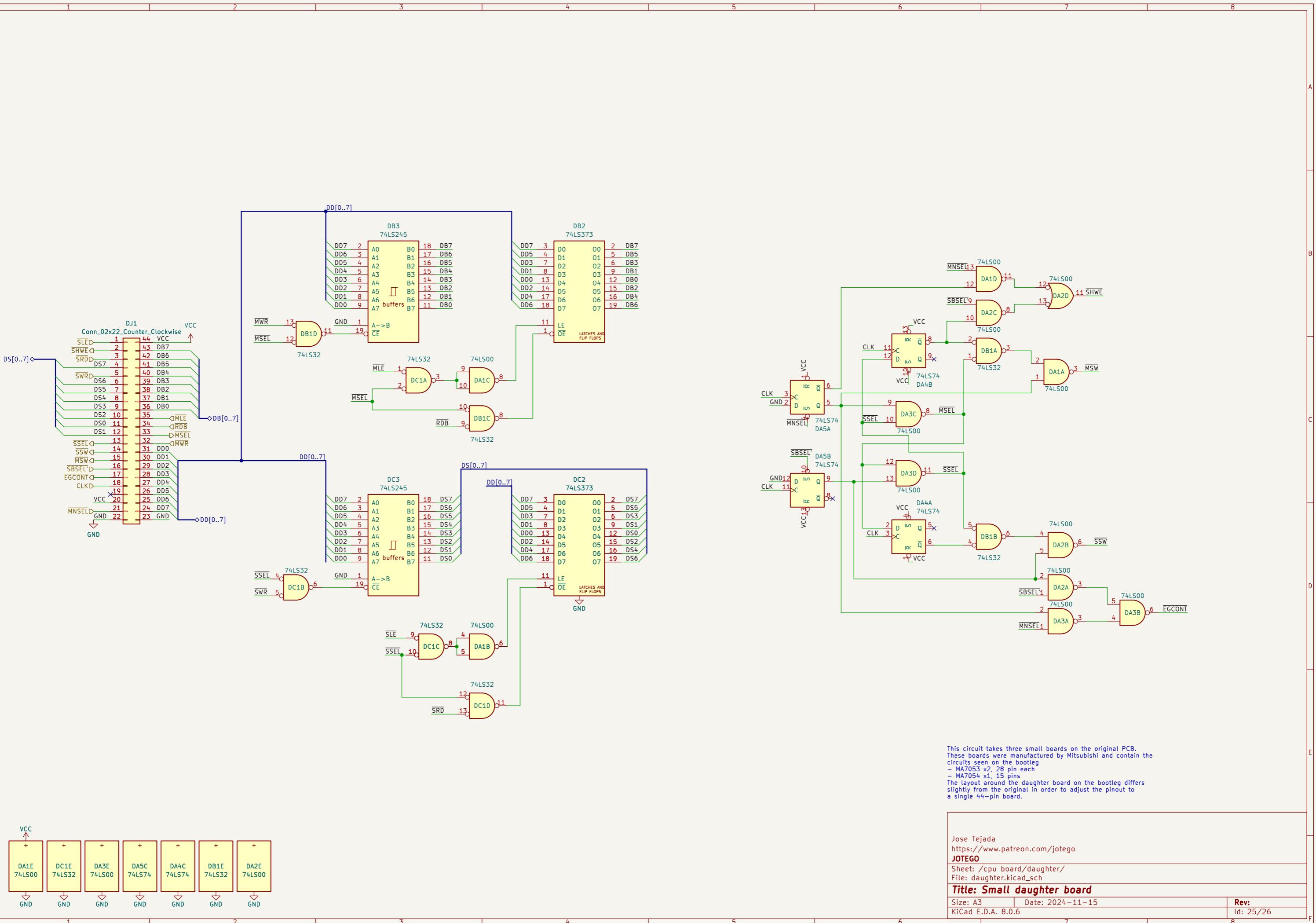
Rev:  
Id: 23/26

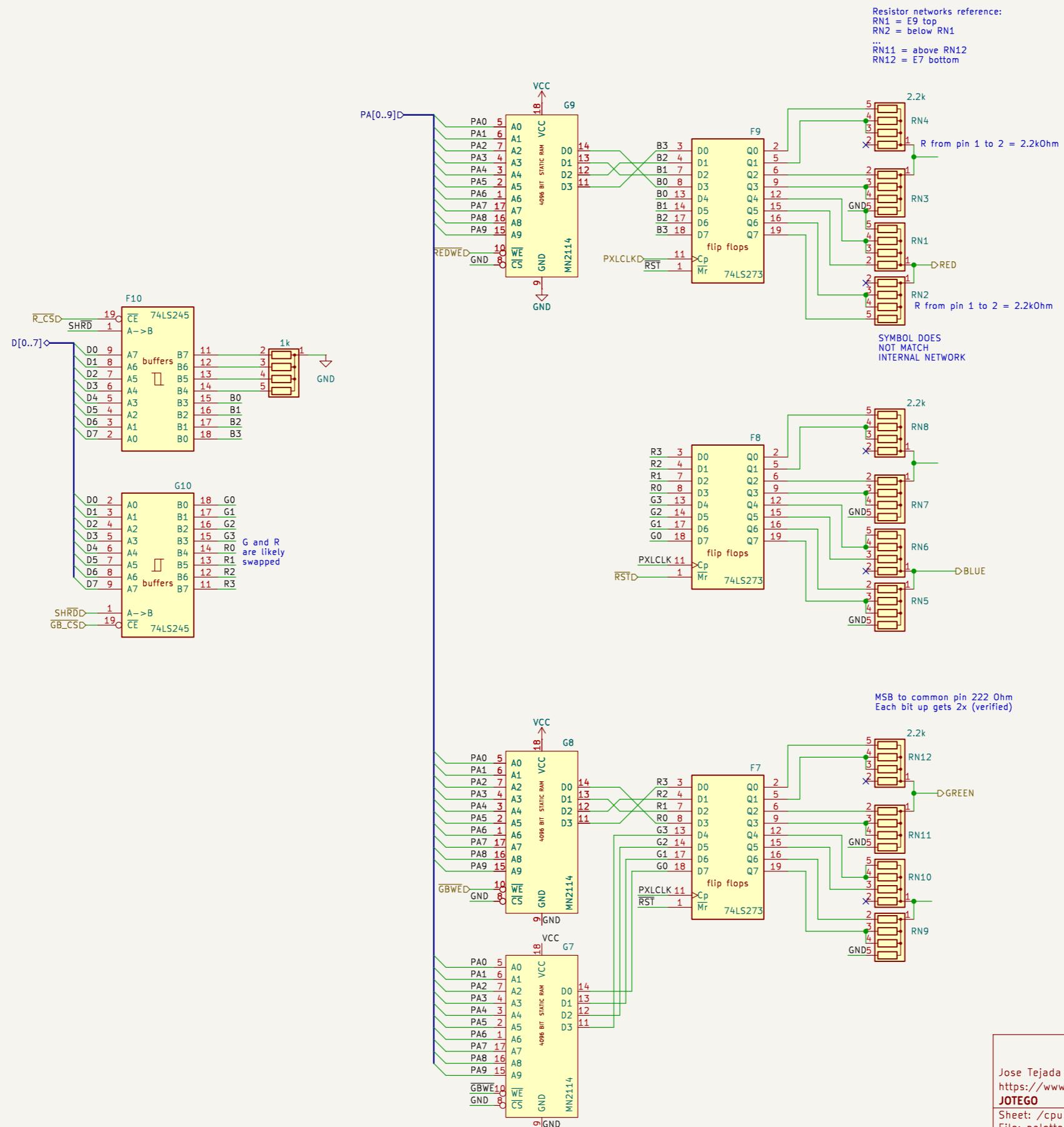


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Sheet: /cpu\_board/IO/  
File: io.kicad\_sch  
**Title: Cabinet Input/Output**  
Size: A3 | Date: 2024-11-15  
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Rev:  
Id: 24/26





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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. 8.0.6

Rev:  
Id: #/26