

A

B

C

D

E

A

B

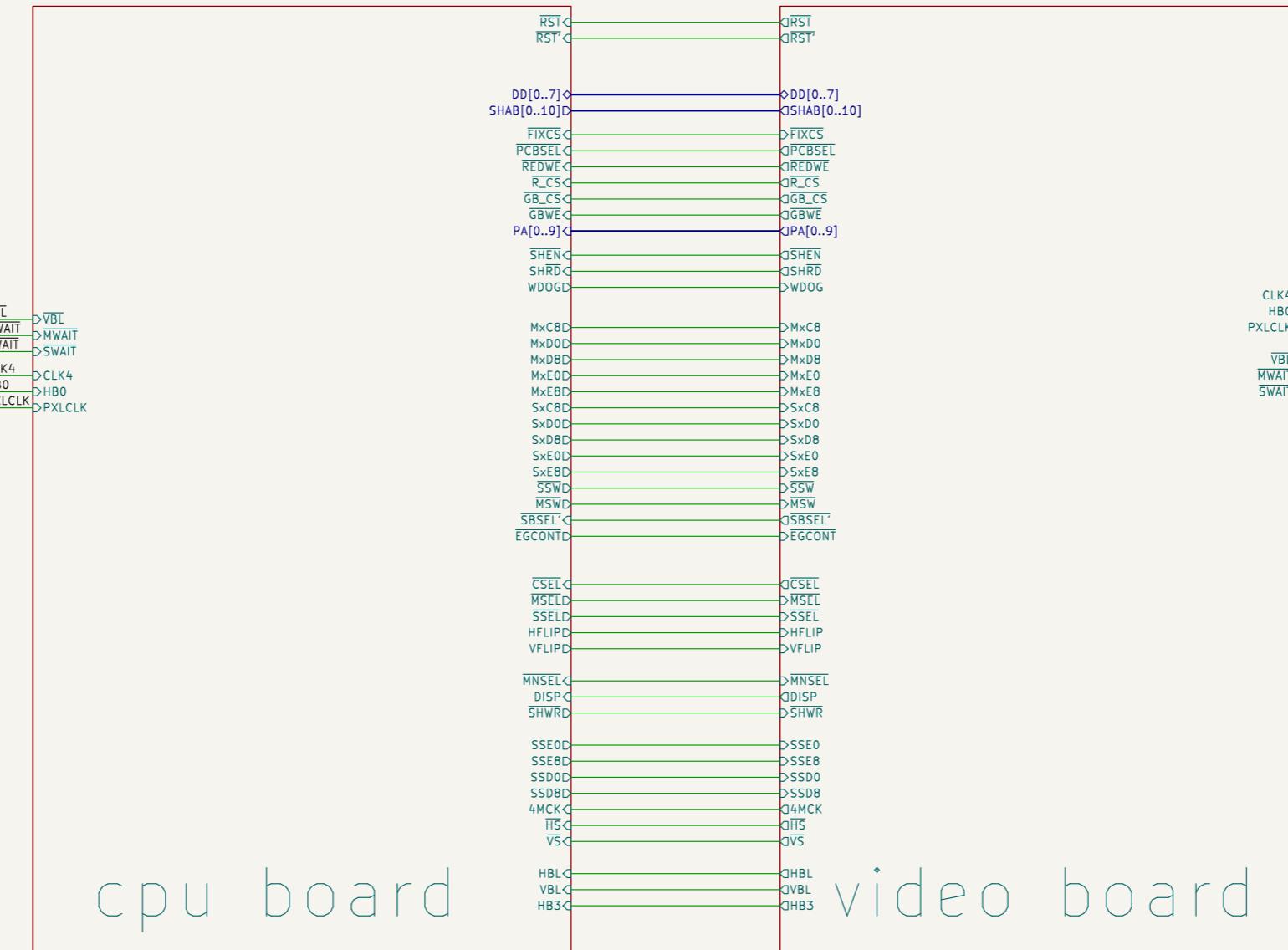
C

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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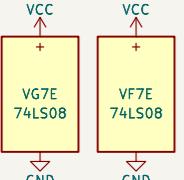
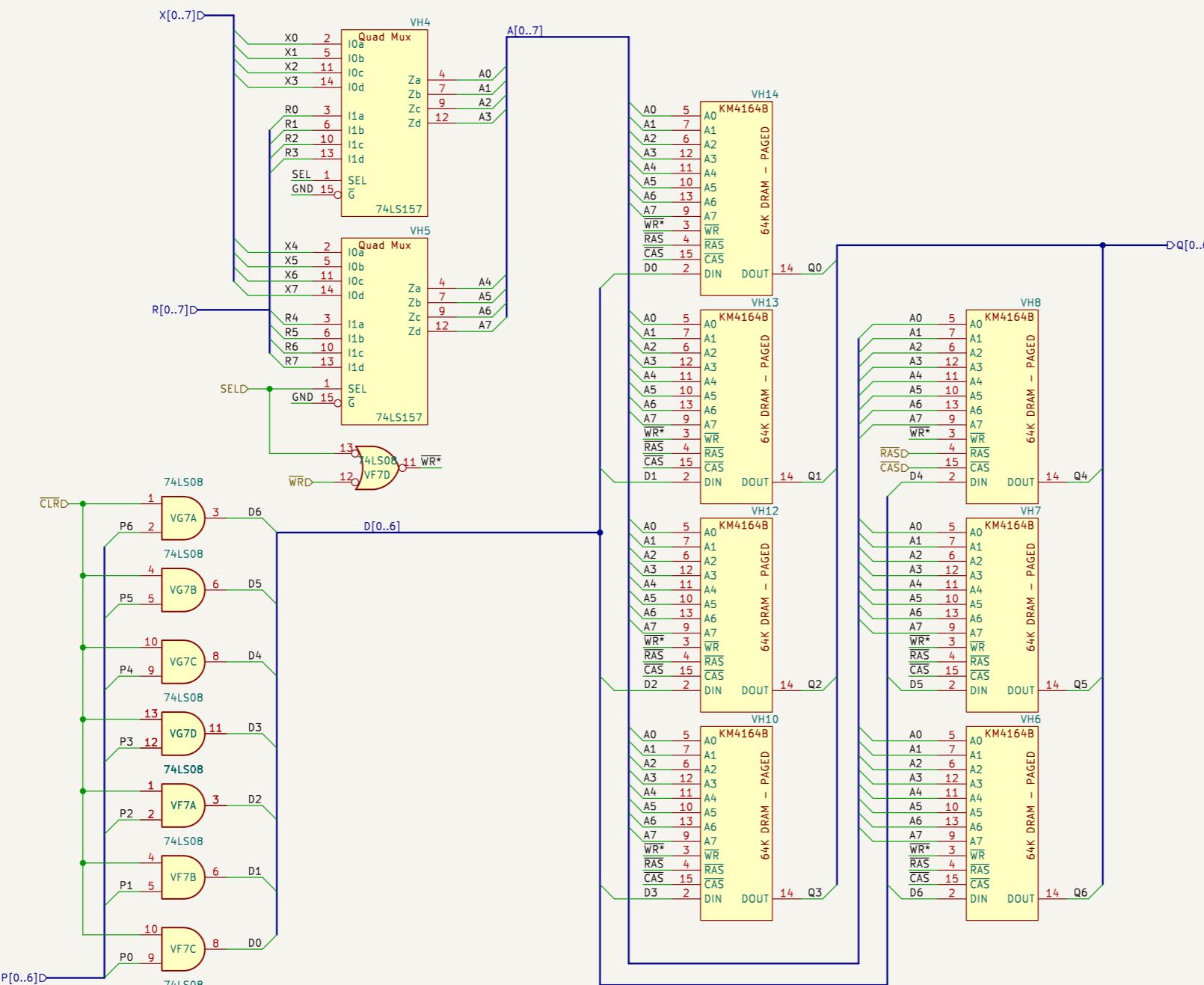
Sheet: /  
File: tehkanwch.kicad\_sch

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

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



Rev:  
Id: 1/26



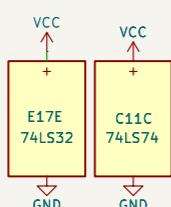
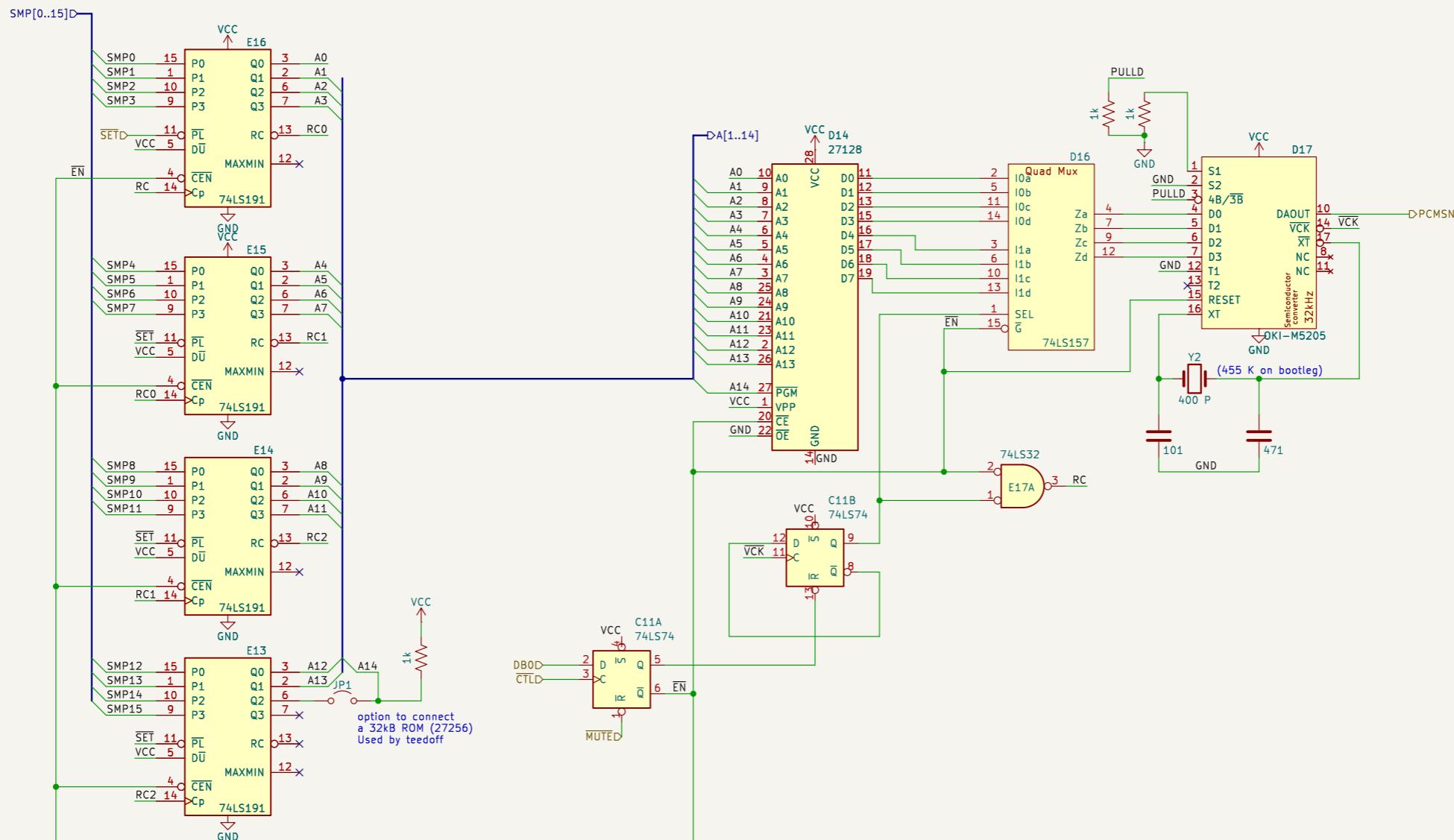
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Sheet: /video board/object/frame buffer B/  
File: buffer.kicad\_sch

**Title: Line Buffer**

Size: A3 | Date: 2024-11-15  
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Rev:  
Id: 2/26



to connect  
ROM (2725)  
y teedoff

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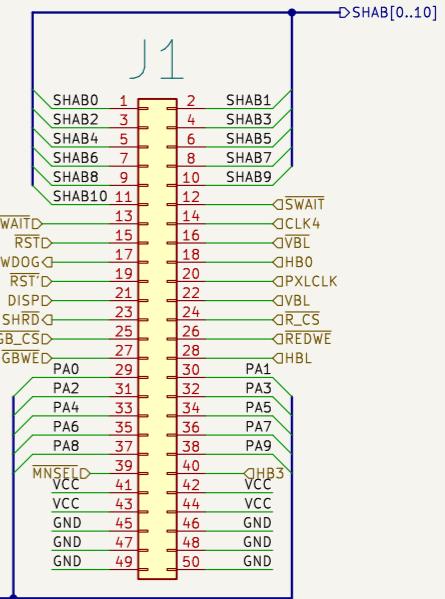
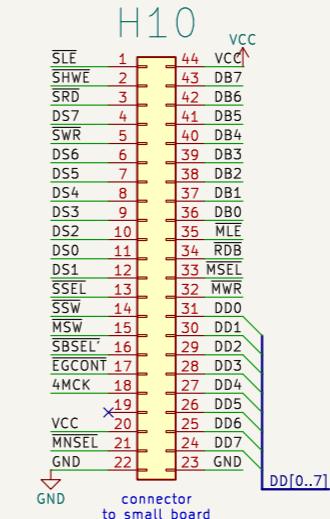
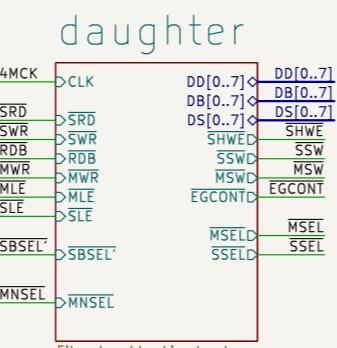
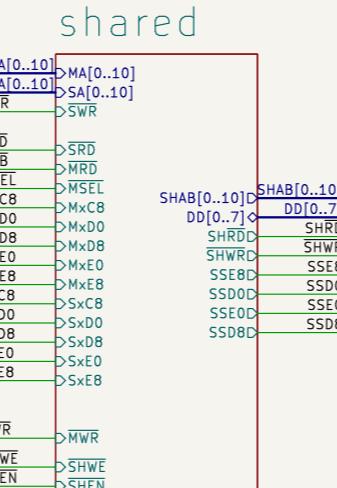
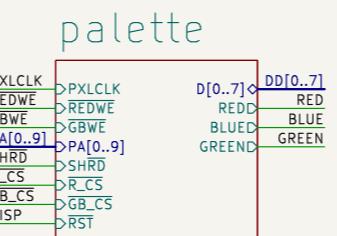
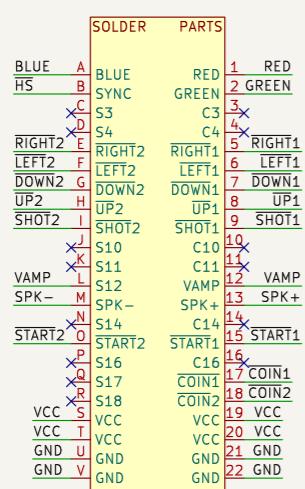
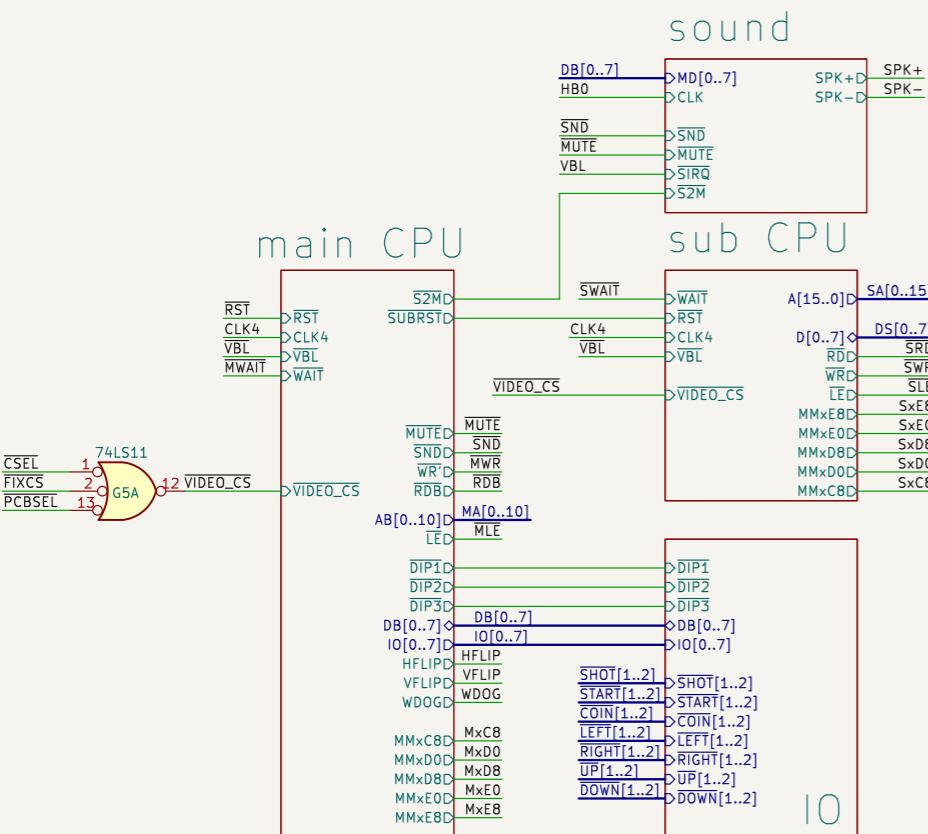
Sheet: /cpu/board/sound/PCM/  
File: pcm.kicad\_sch

## Title: PCM

Size: A3 Date: 2024-11-15

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7



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

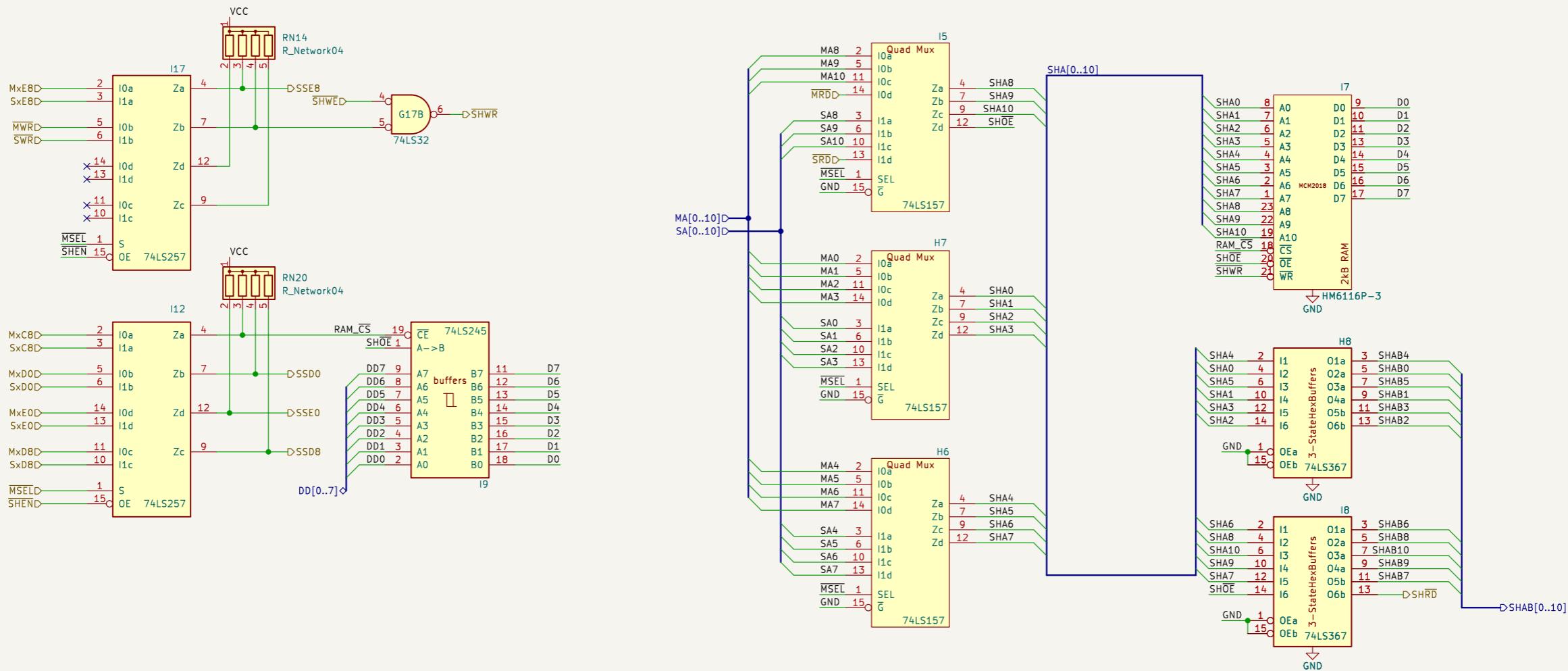
## Title: CPU board (top board)

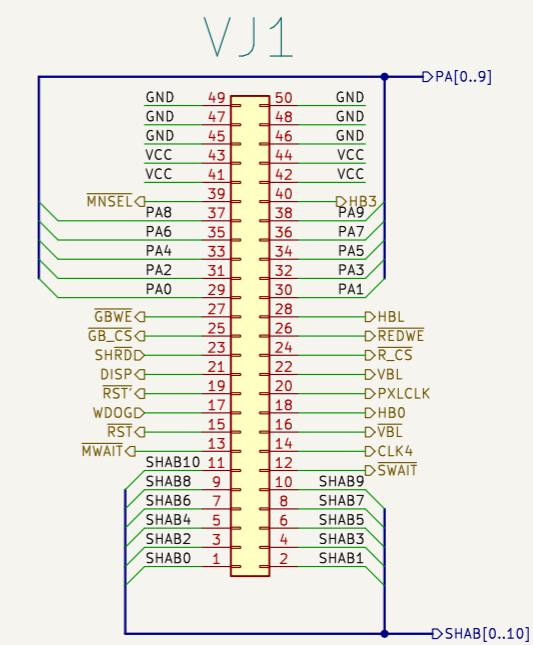
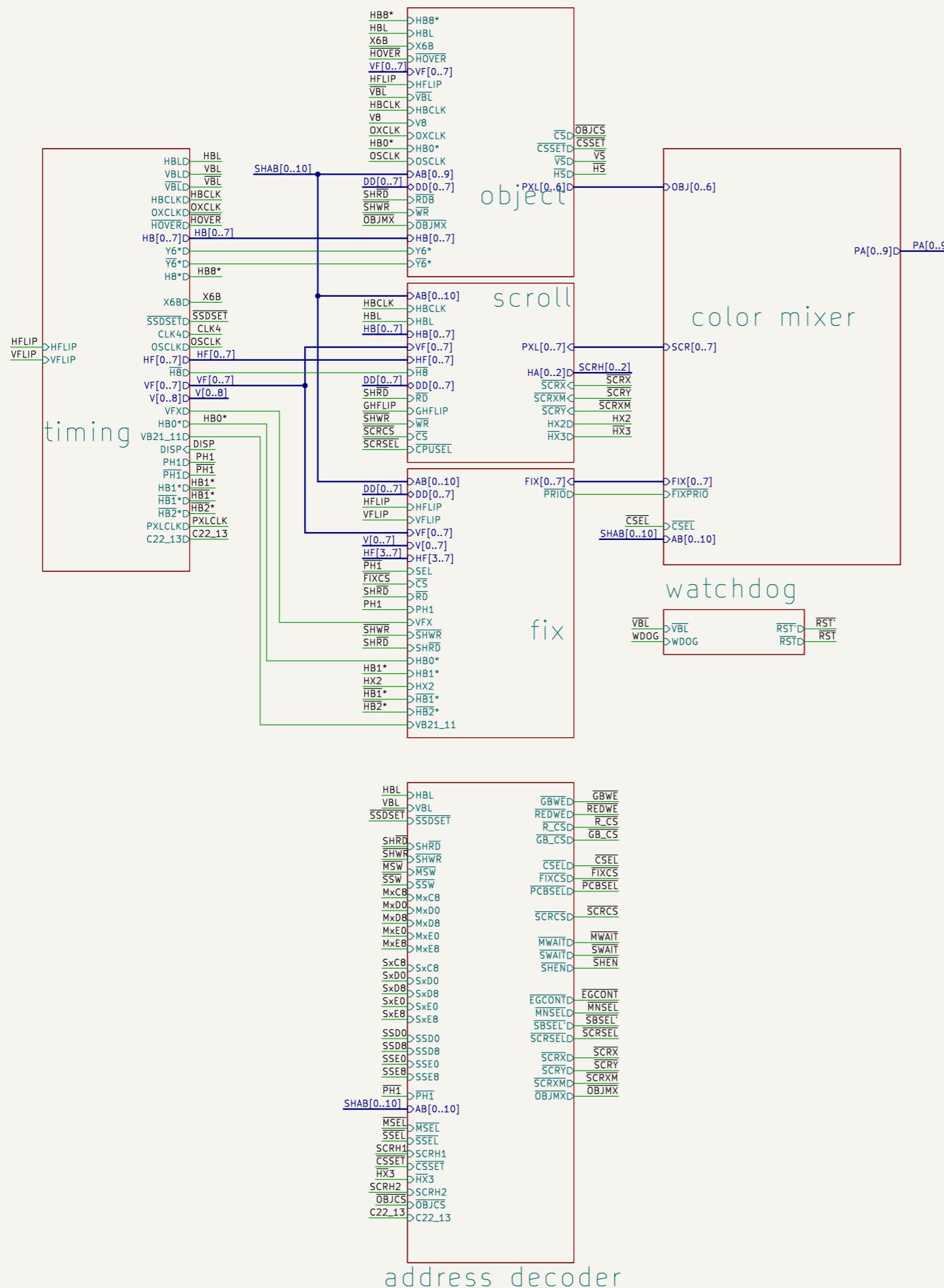
Size: A3 Date: 2024-11-15

KiCad E.D.A. 8.0.6

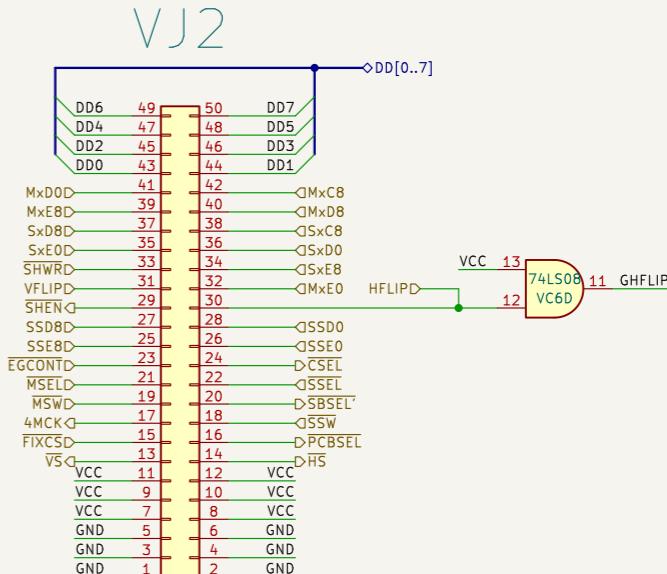
1 / 1

Id: 9/26





connectors to CPU board  
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



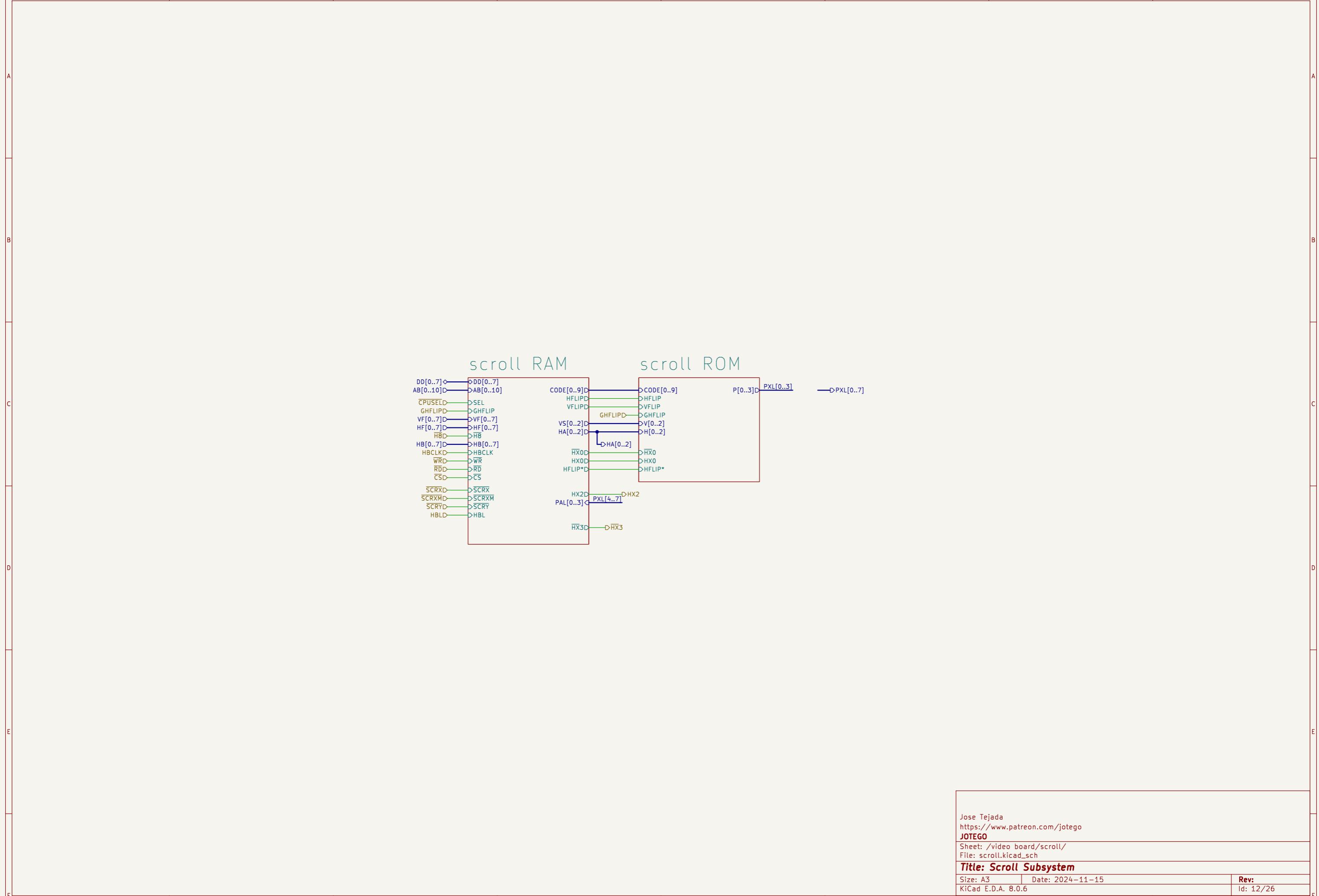
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Sheet: /video board/  
File: video.kicad\_sch

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

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

Rev: Id: 11/26



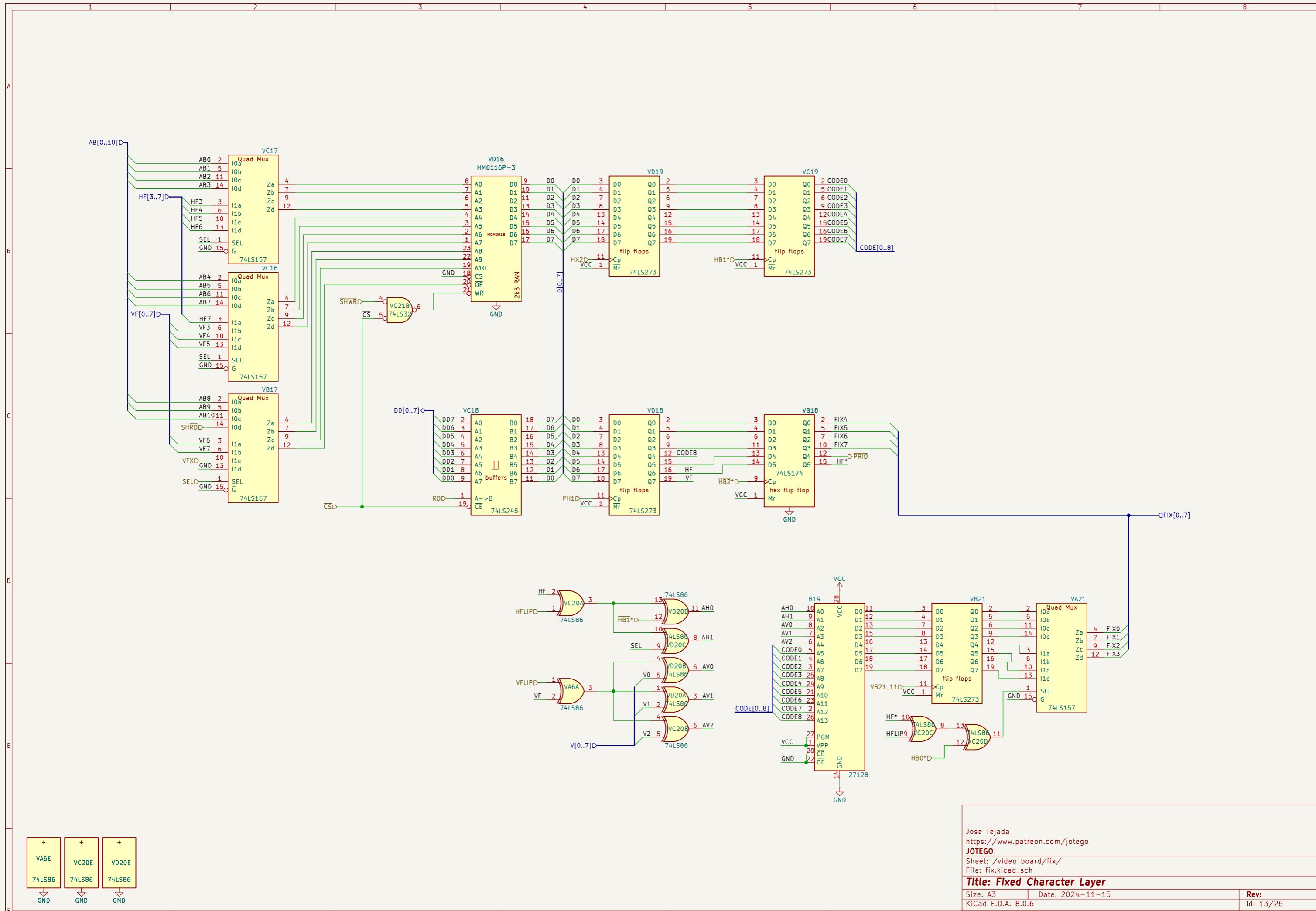
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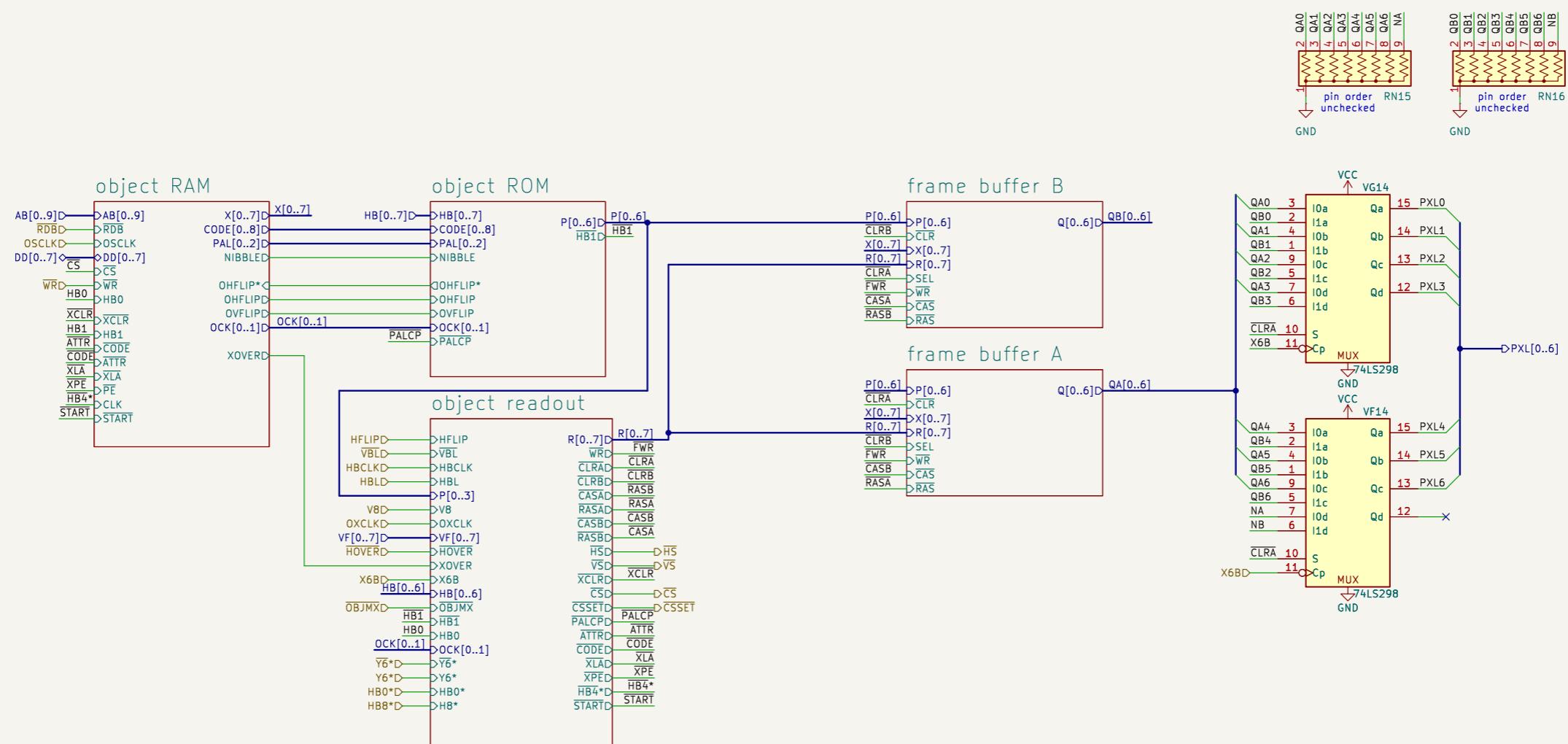
Sheet: /video board/scroll/  
File: scroll.kicad\_sch

**Title: Scroll Subsystem**

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

Rev:  
Id: 12/26





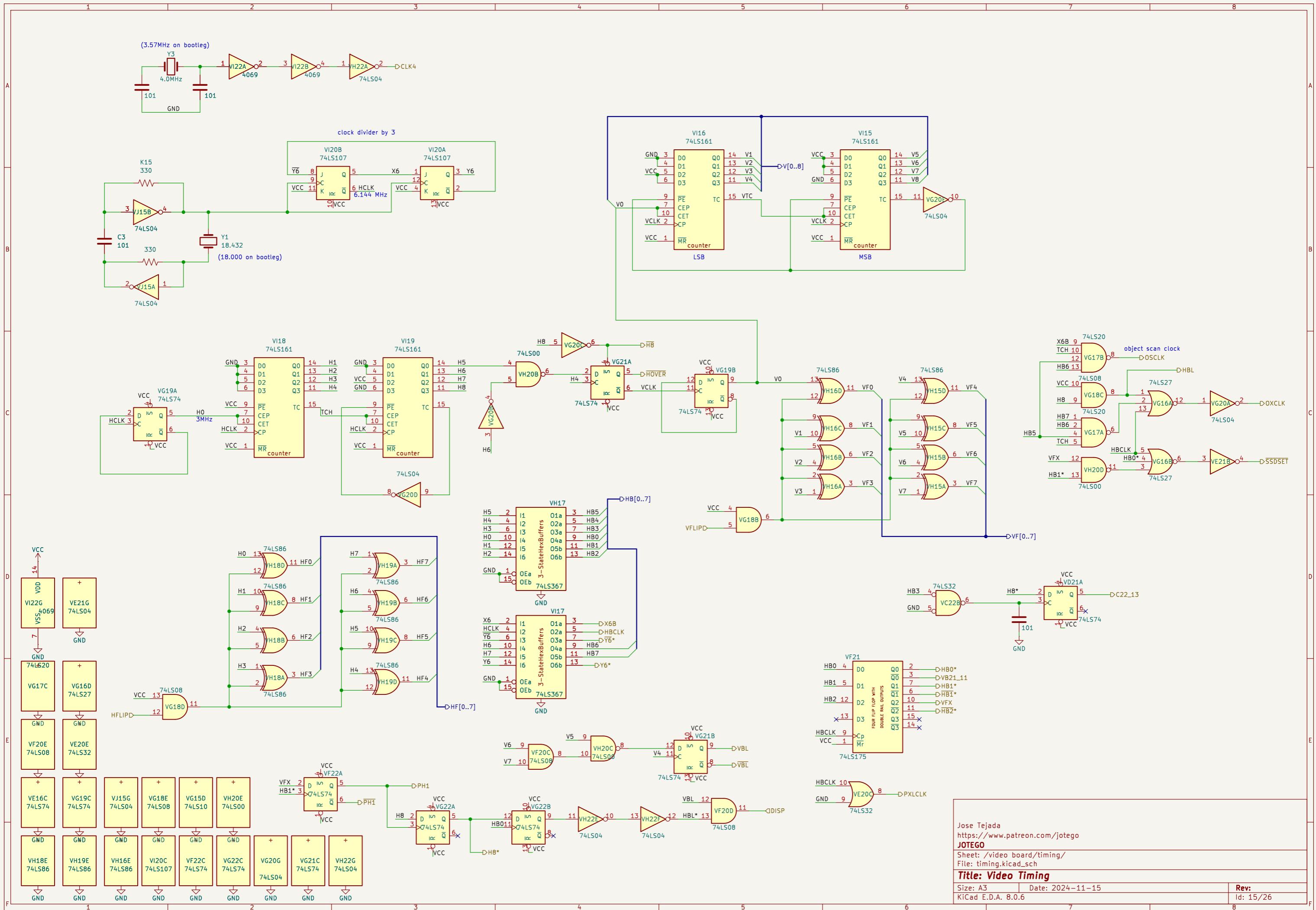
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Sheet: /video board/object/  
File: object.kicad\_sch

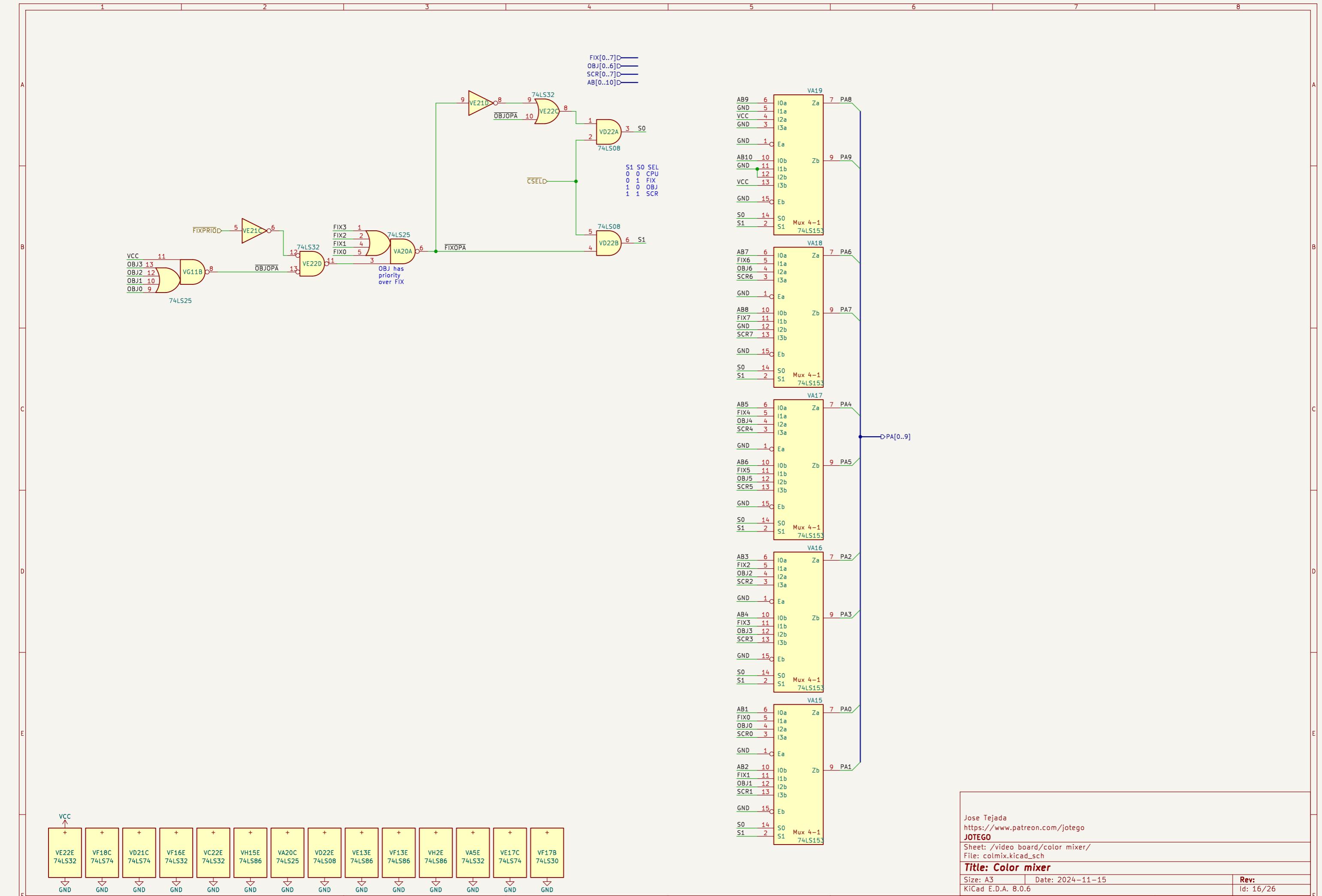
**Title: Object Subsystem**

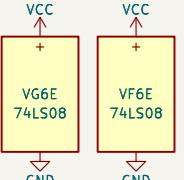
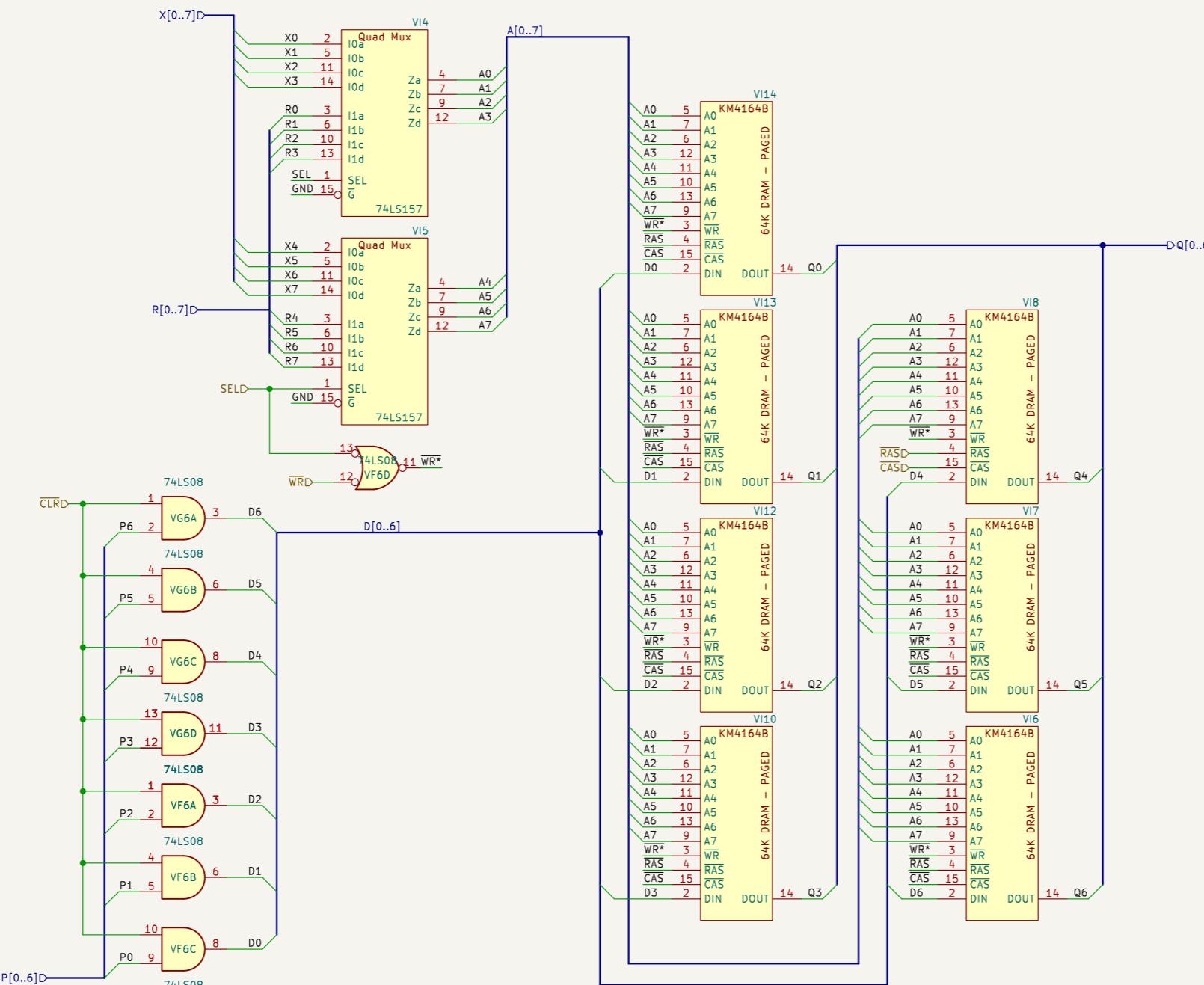
Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: 14/26



1 2 3 4 5 6 7 8





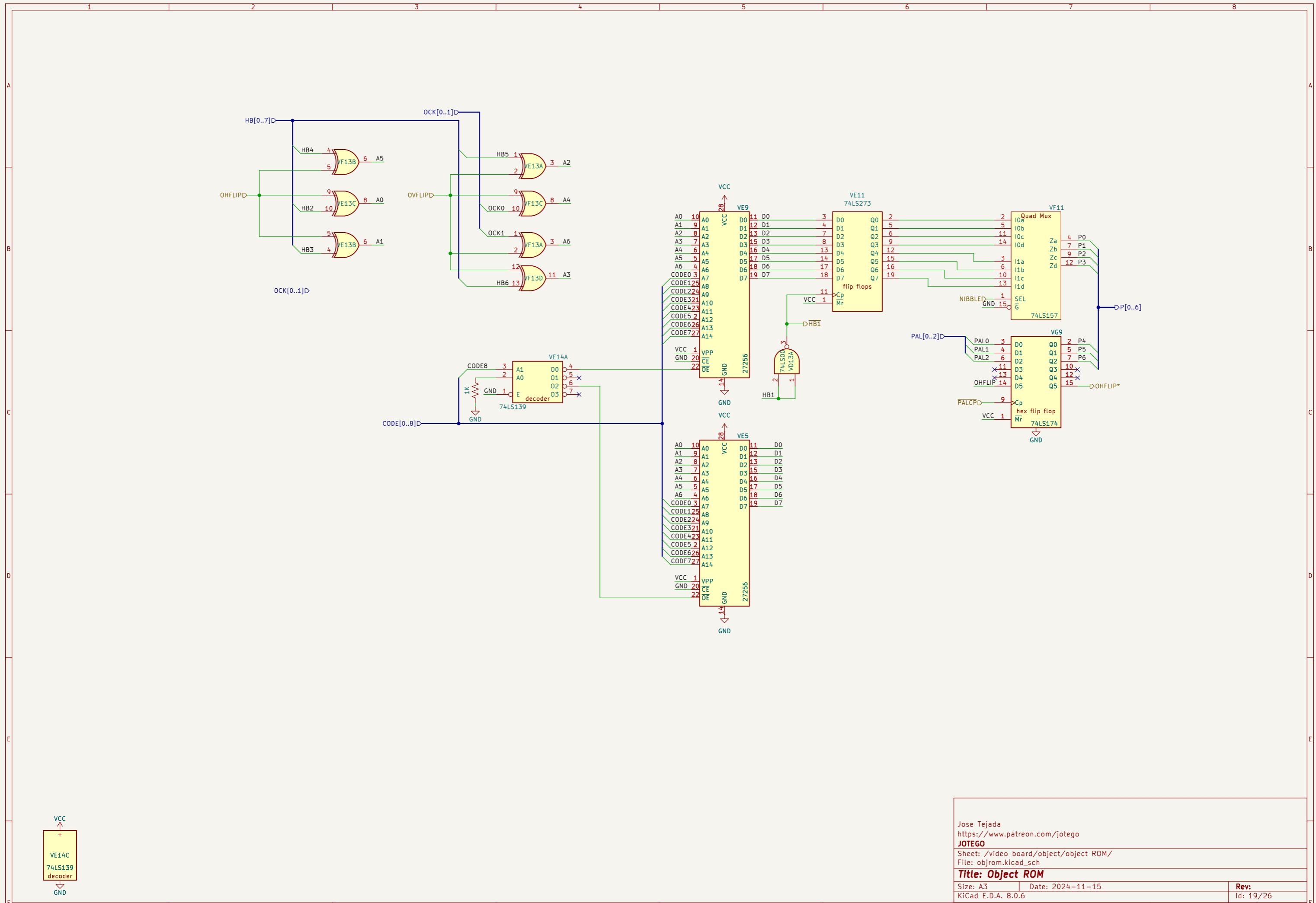
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**JOTEGO**

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

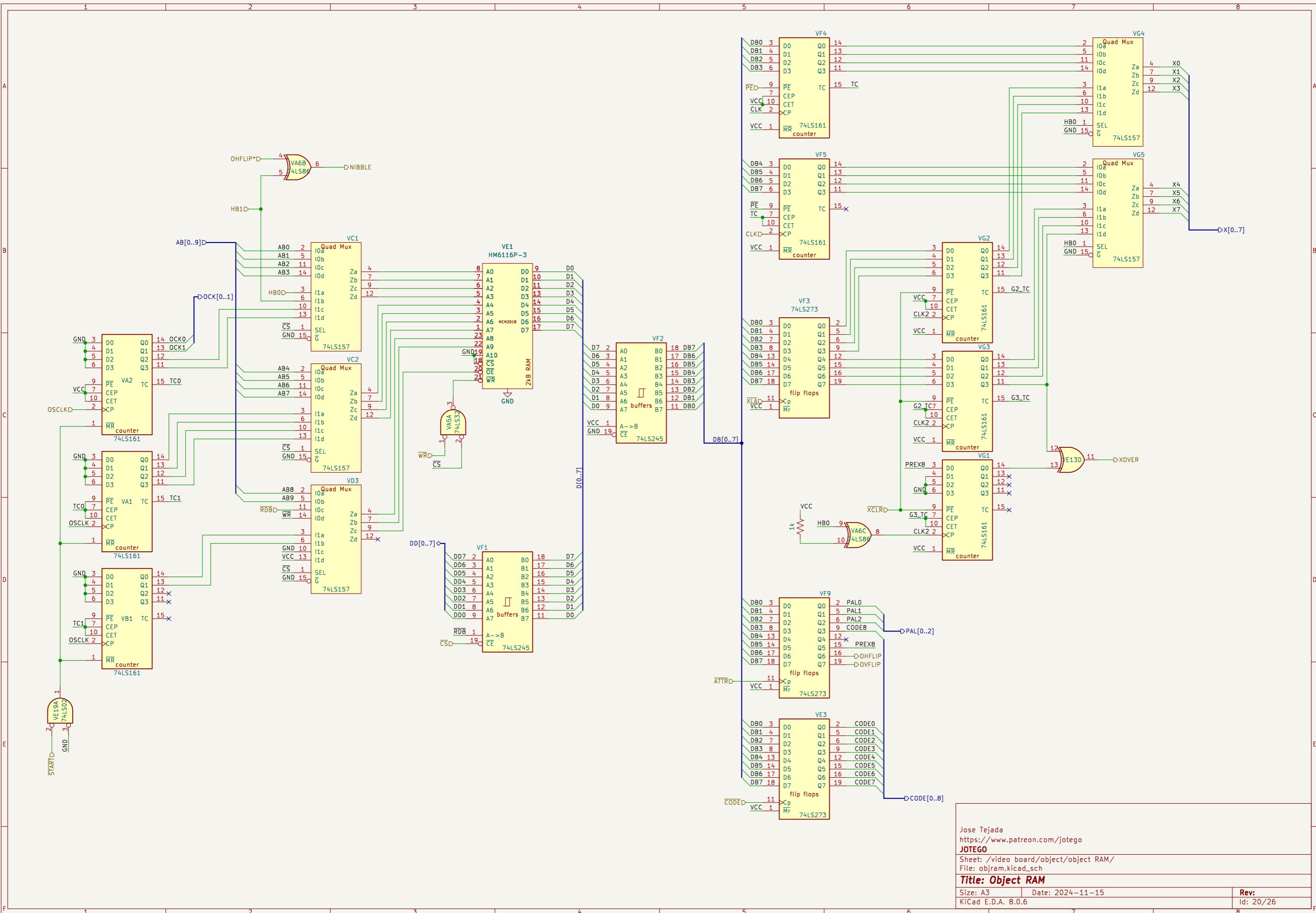
**Title: Line Buffer**

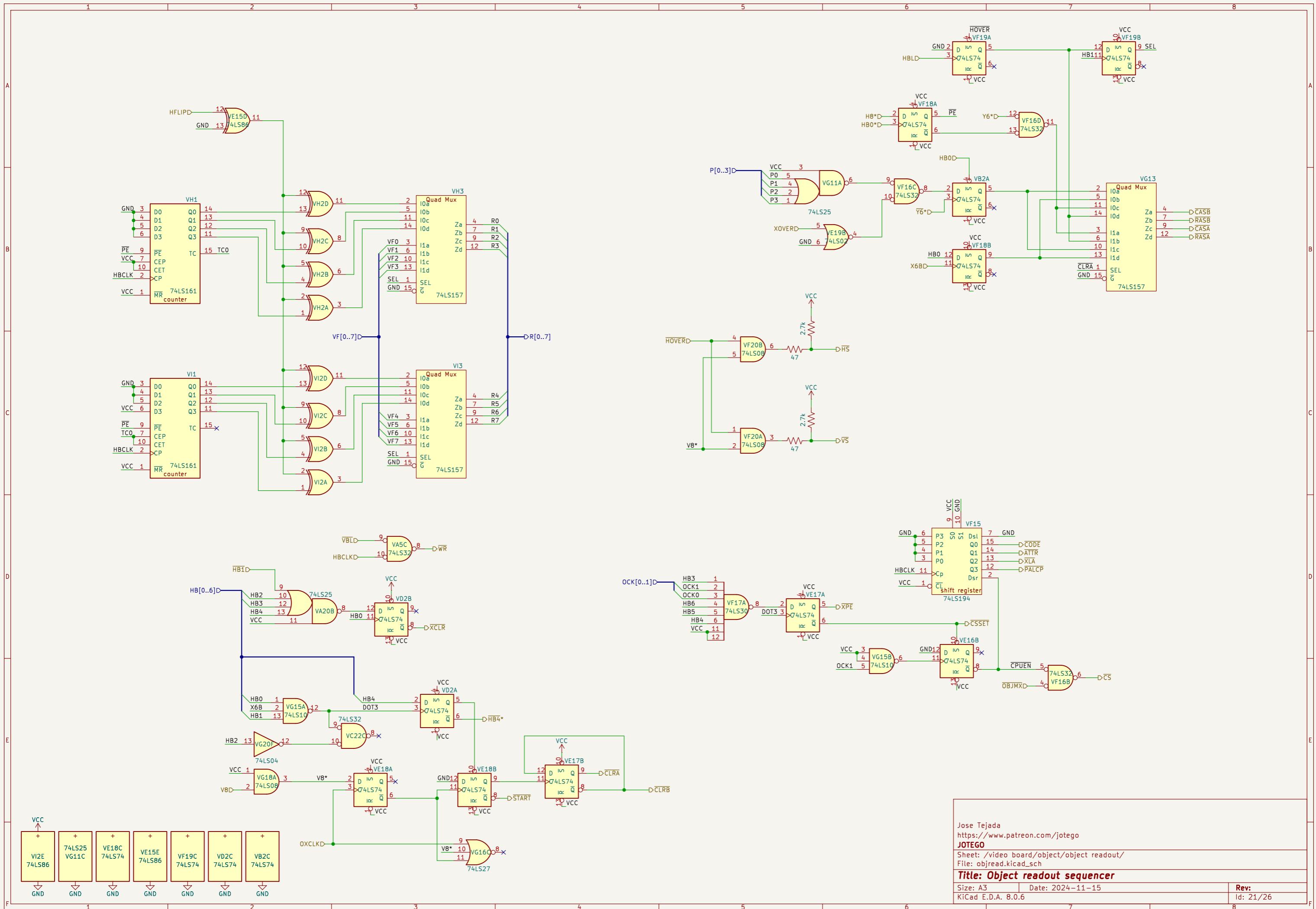
Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

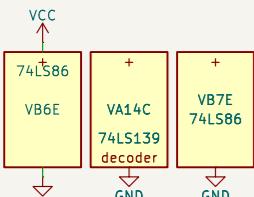
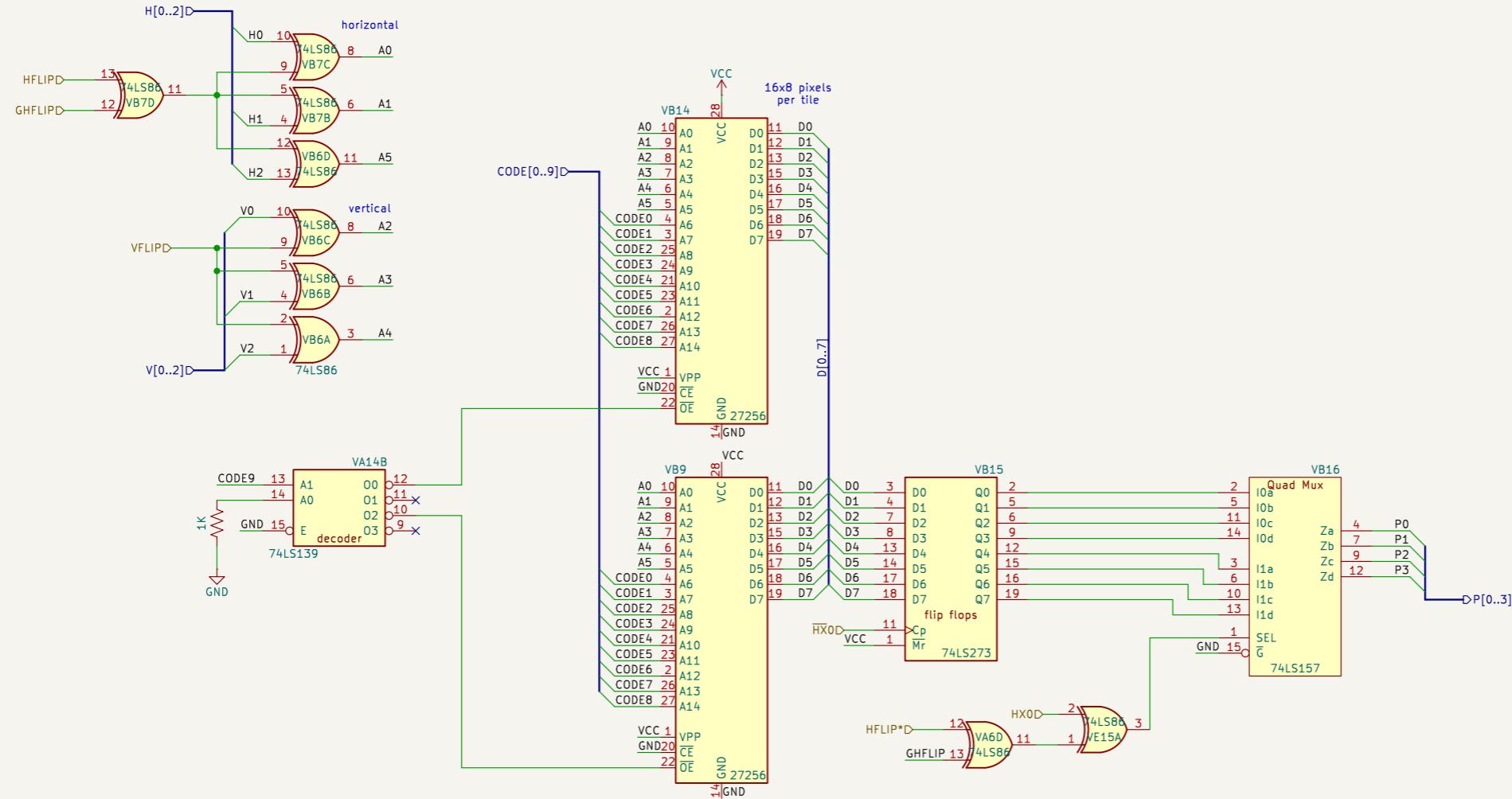
Rev:  
Id: 17/26



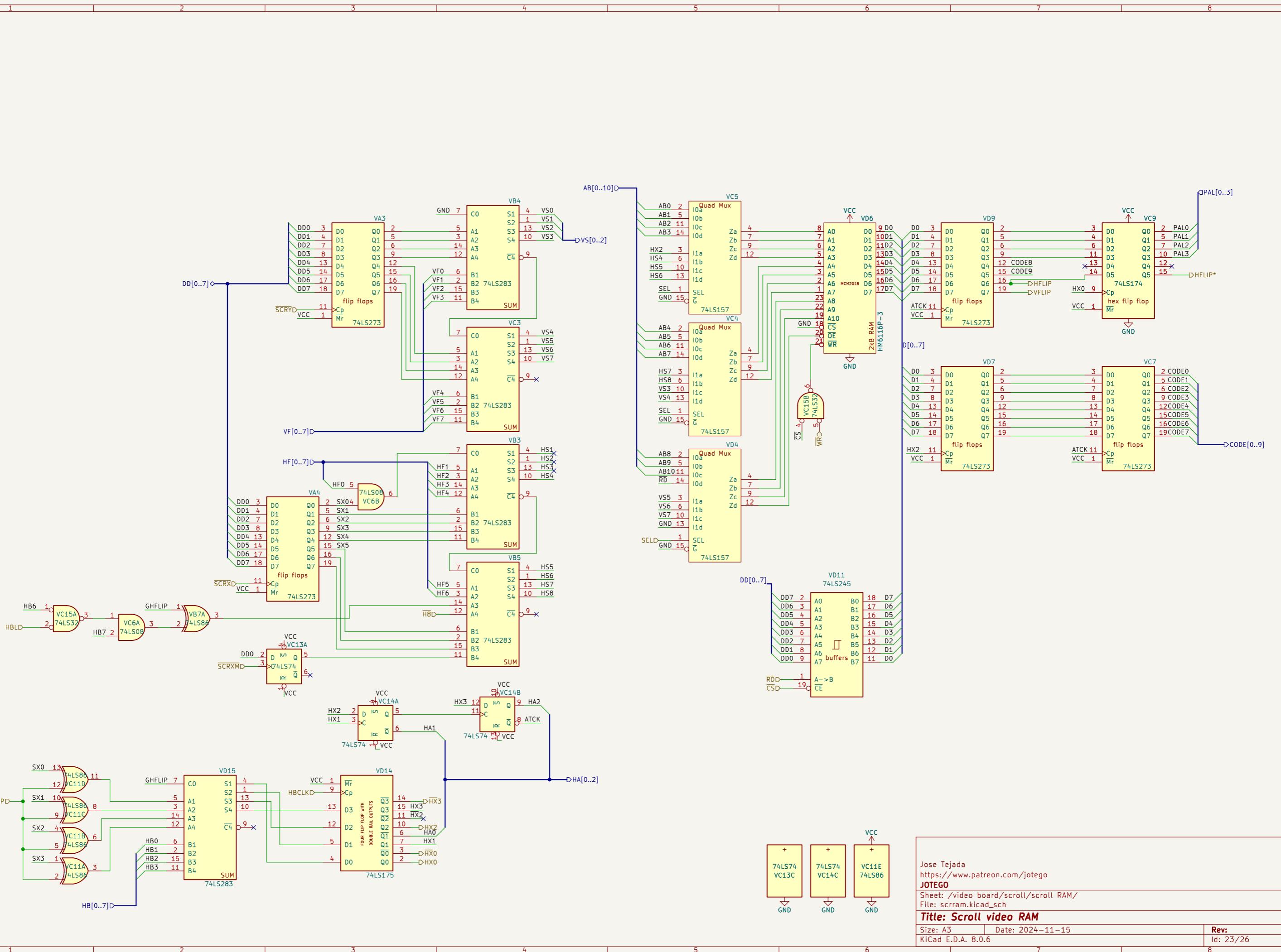
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**JOTEGO**  
 Sheet: /video board/object/object ROM/  
 File: objrom.kicad\_sch  
**Title: Object ROM**  
 Size: A3 | Date: 2024-11-15  
 KiCad E.D.A. 8.0.6 | Rev: 19/26

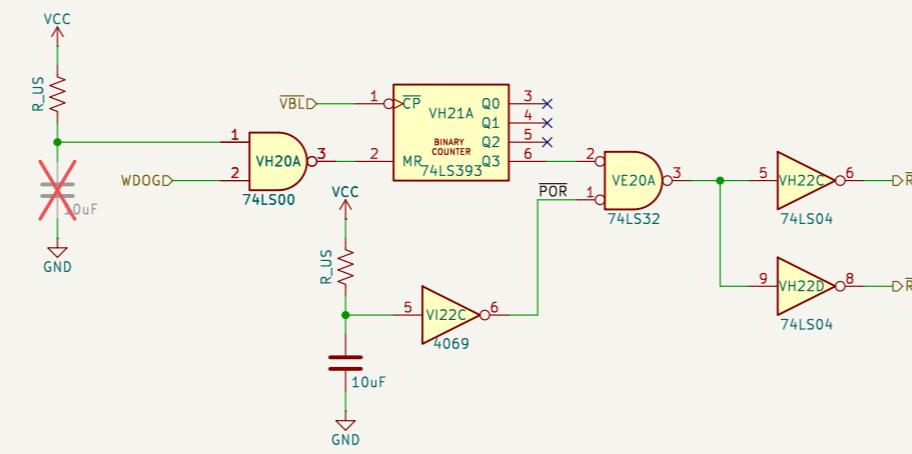






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**JOTEGO**  
 Sheet: /video board/scroll/scroll ROM/  
 File: scrom.kicad\_sch  
**Title: scroll ROM**  
 Size: A3 | Date: 2024-11-15  
 KiCad E.D.A. 8.0.6 | Rev: 22/26





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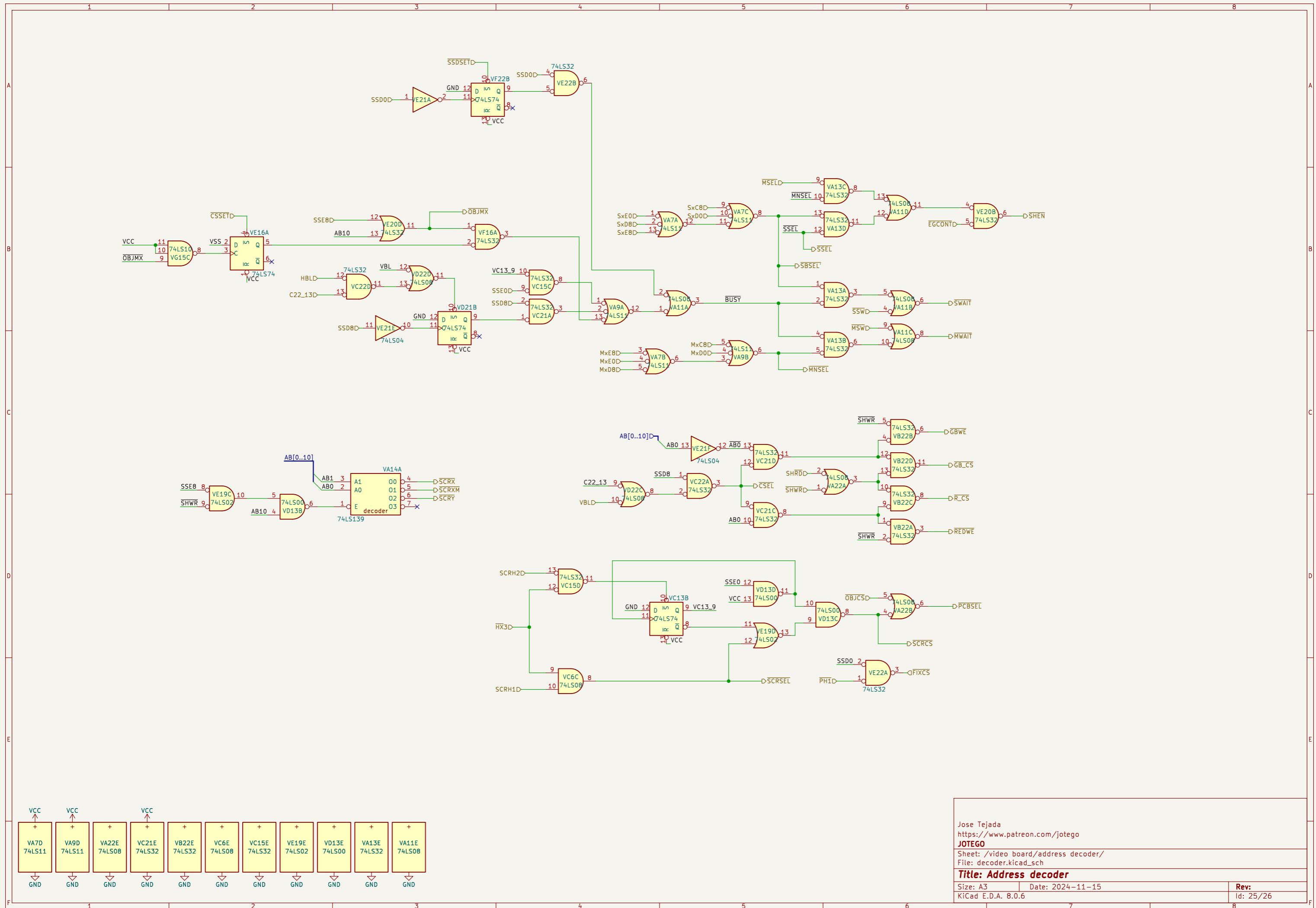
Sheet: /video board/watchdog/  
File: watchdog.kicad\_sch

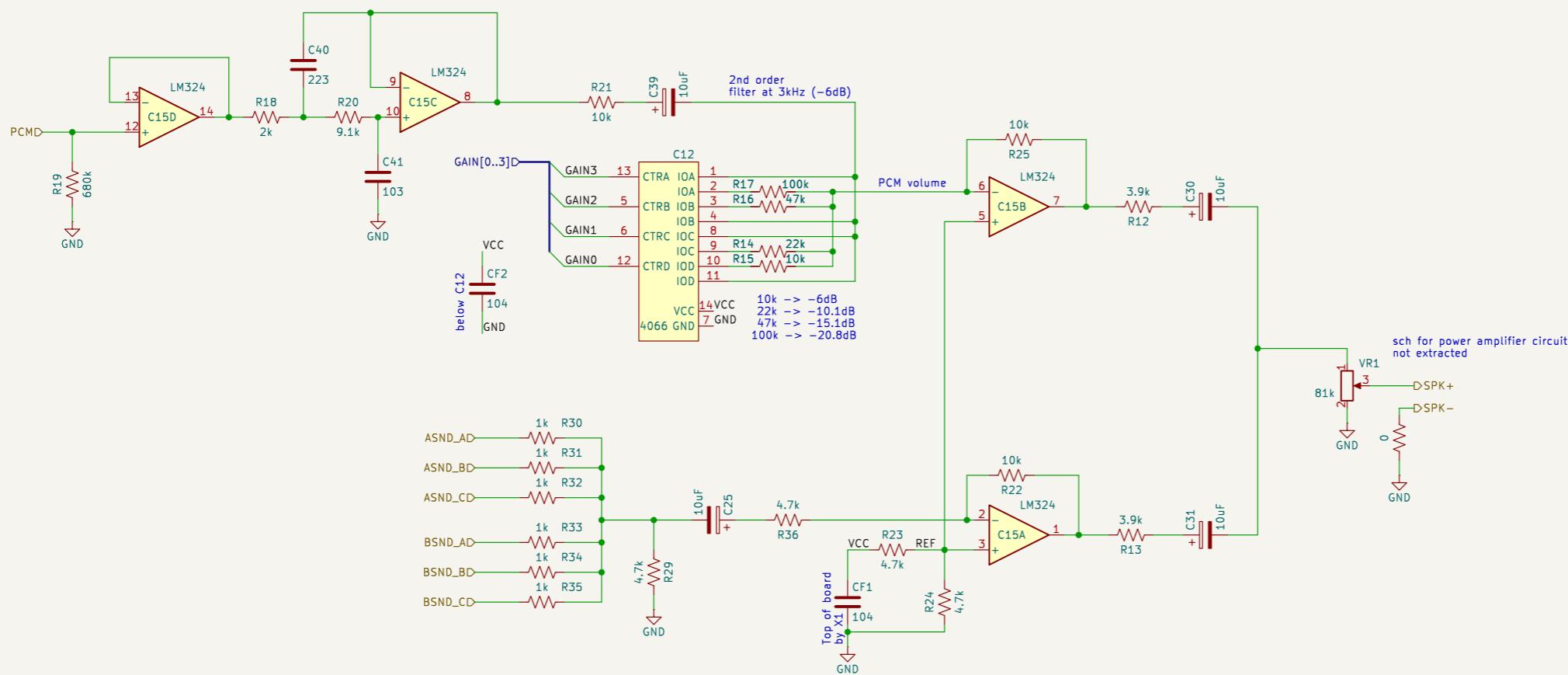
## Title: Watchdog Circuit

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

7

Rev: Id: 24/26





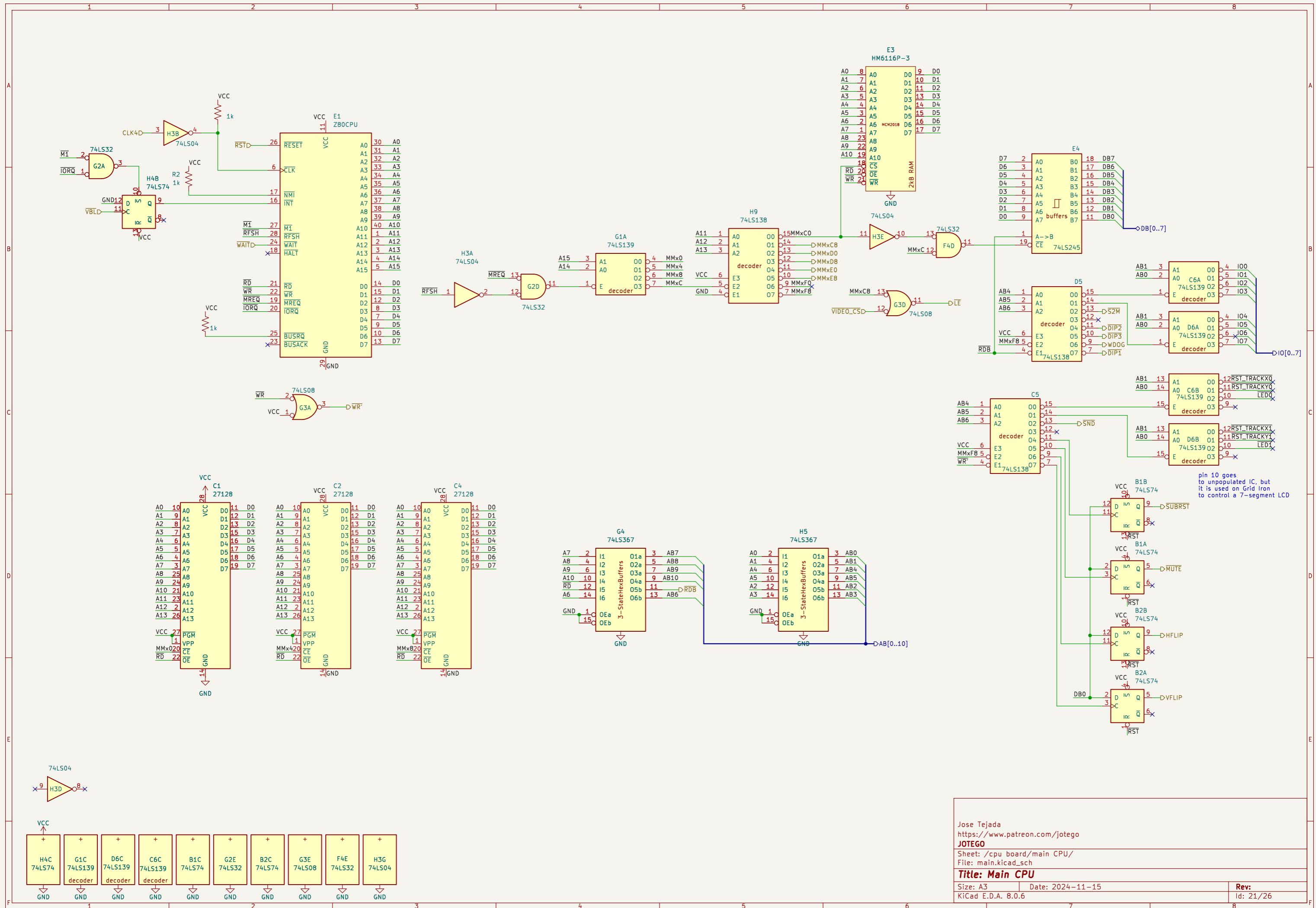
Passive component references when shown, come from original PCB. The bootleg did not have references for passives.

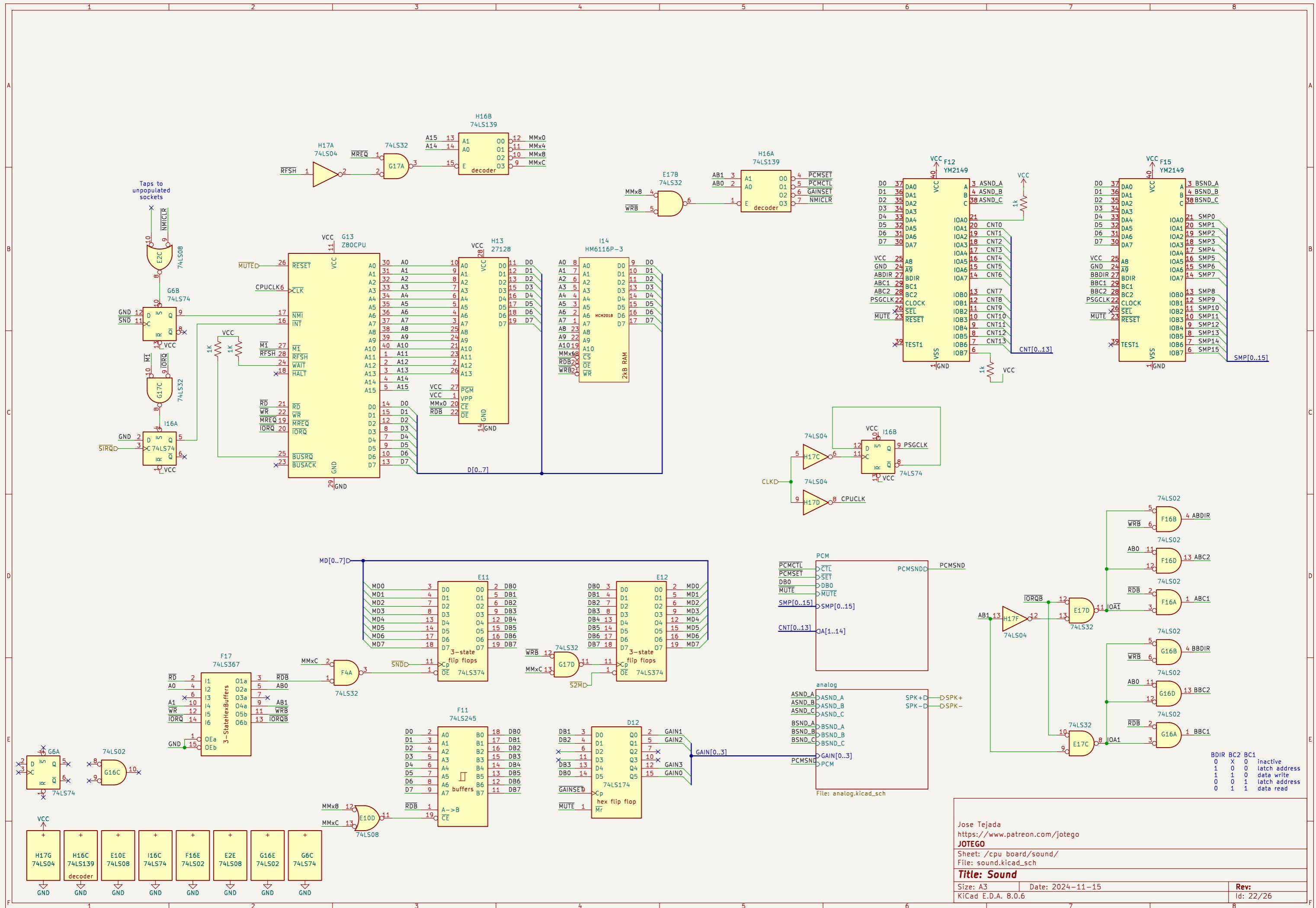
Device components follow bootleg references.  
The bootleg counts letters from left to right and numbers from bottom to top  
The original counts numbers left to right and letters bottom to top.

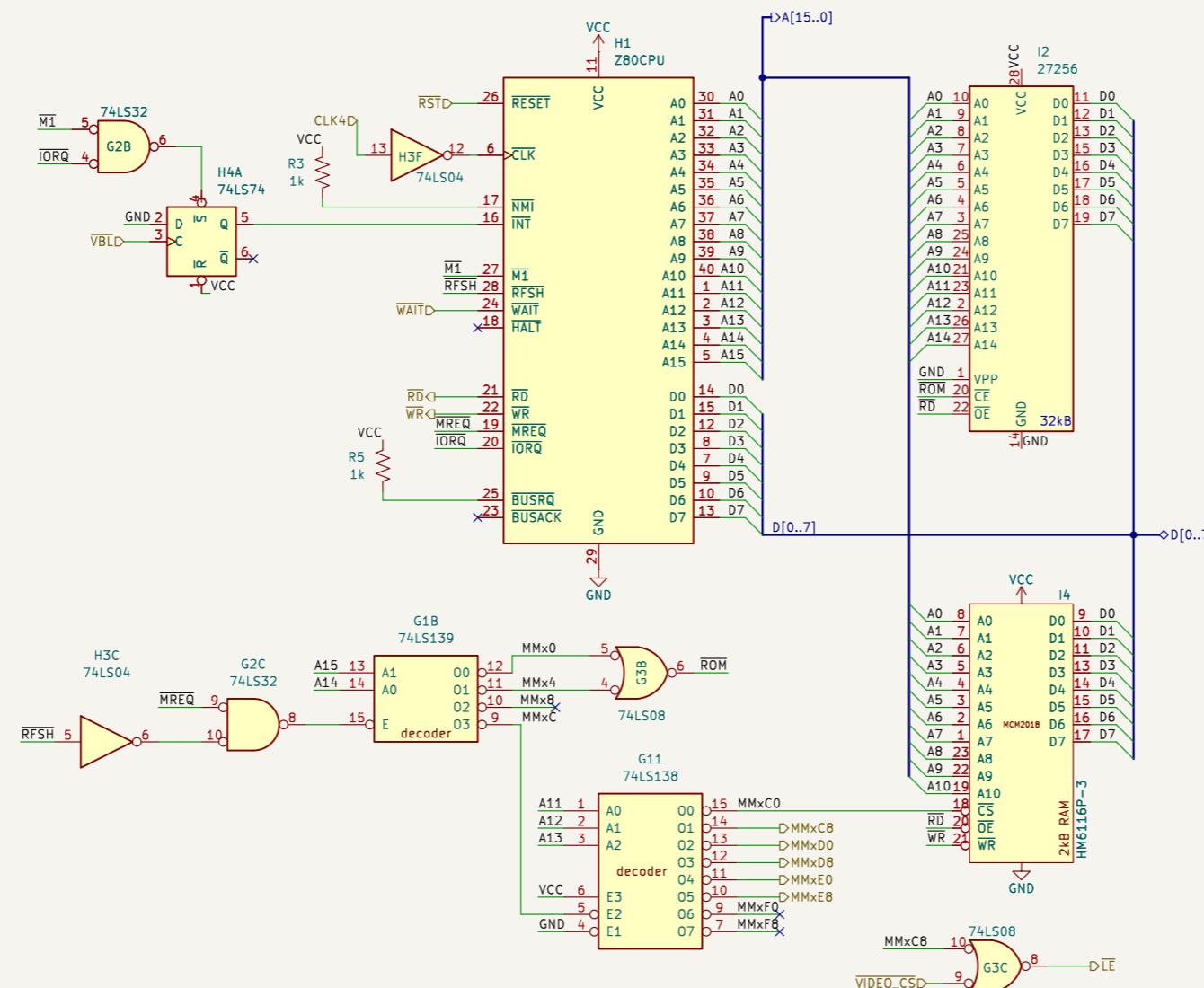
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## Title: Sound amplifiers







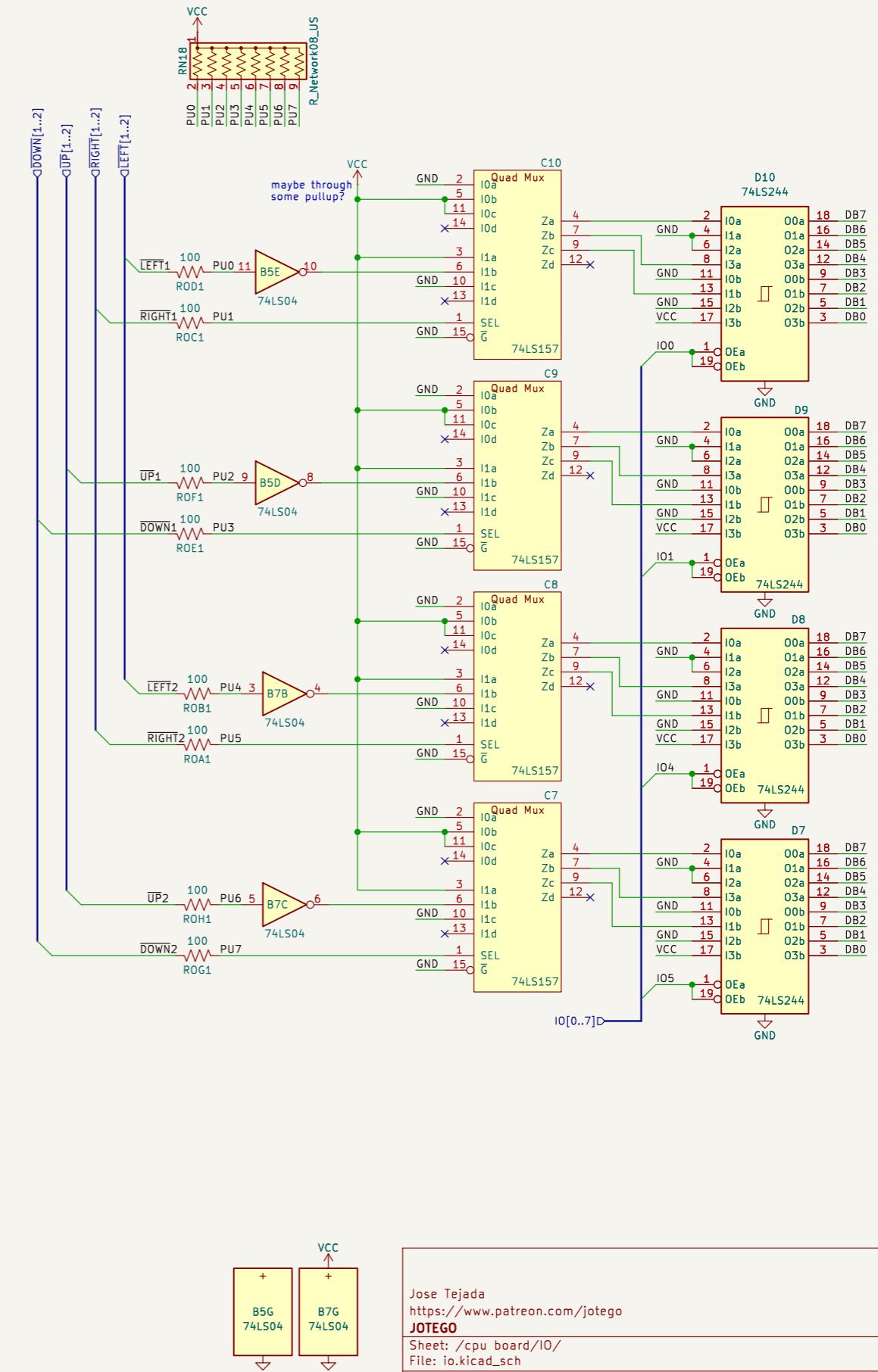
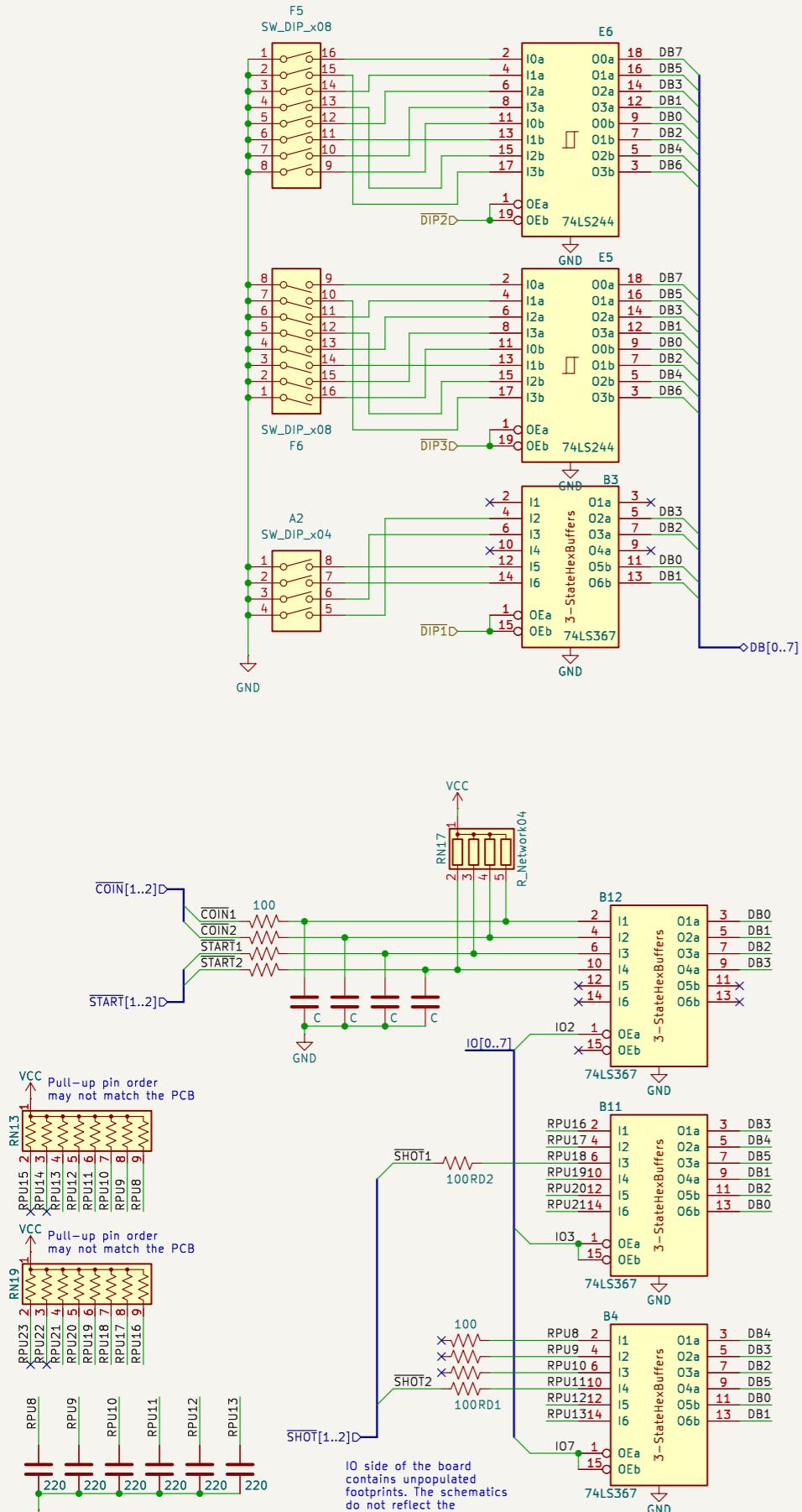
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**JOTEGO**

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

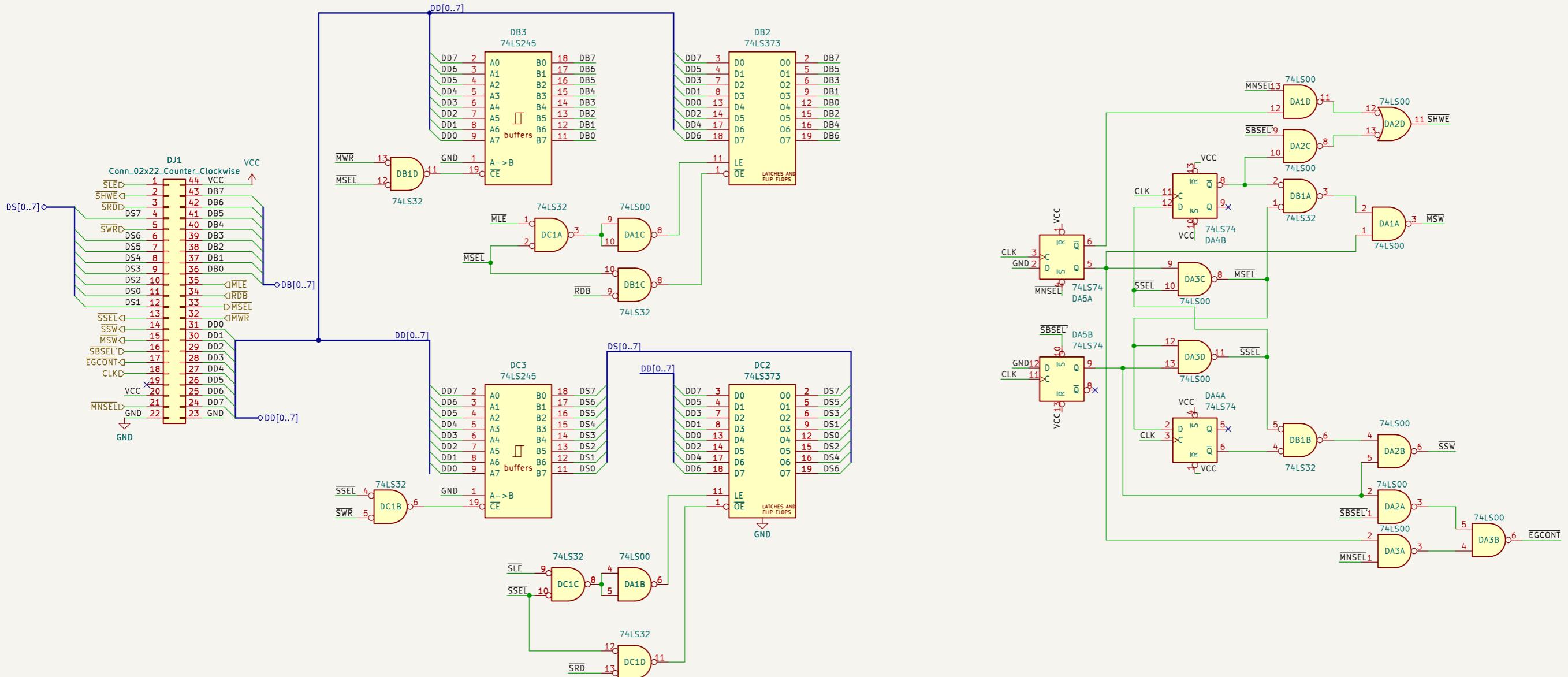
Rev:  
Id: 23/26



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Sheet: /cpu\_board/IO/  
File: io.kicad\_sch  
**Title: Cabinet Input/Output**  
Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev:  
Id: 24/26



This circuit takes three small boards on the original PCB. These boards were manufactured by Mitsubishi and contain the circuits seen on the bootleg

- MA7053 x2, 28 pin each
- MA7054 x1, 15 pins

The layout around the daughter board on the bootleg differs slightly from the original in order to adjust the pinout to a single 44-pin board.

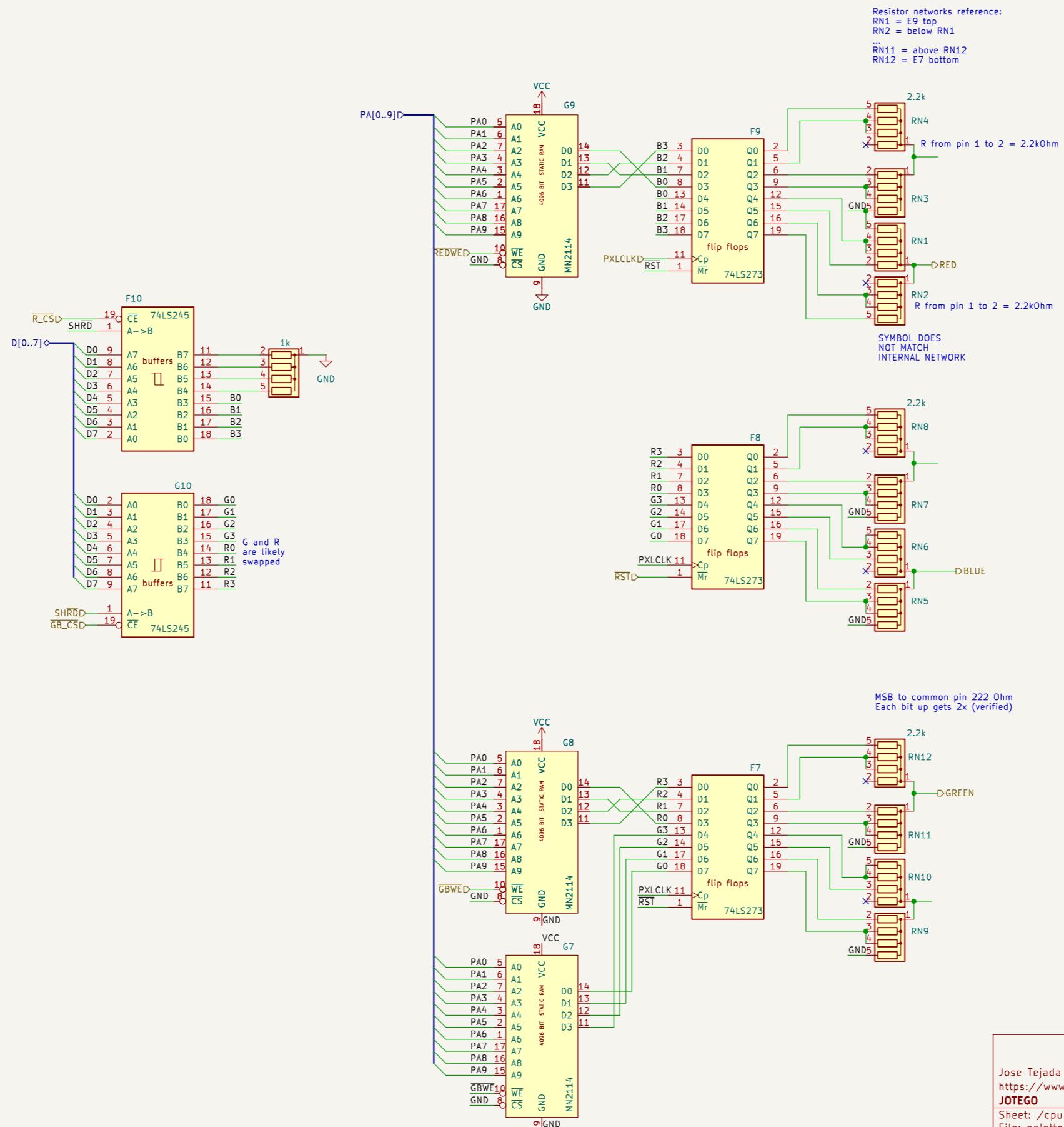
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Title: Small daughter board

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

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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: #/26