

A

B

C

D

E

A

B

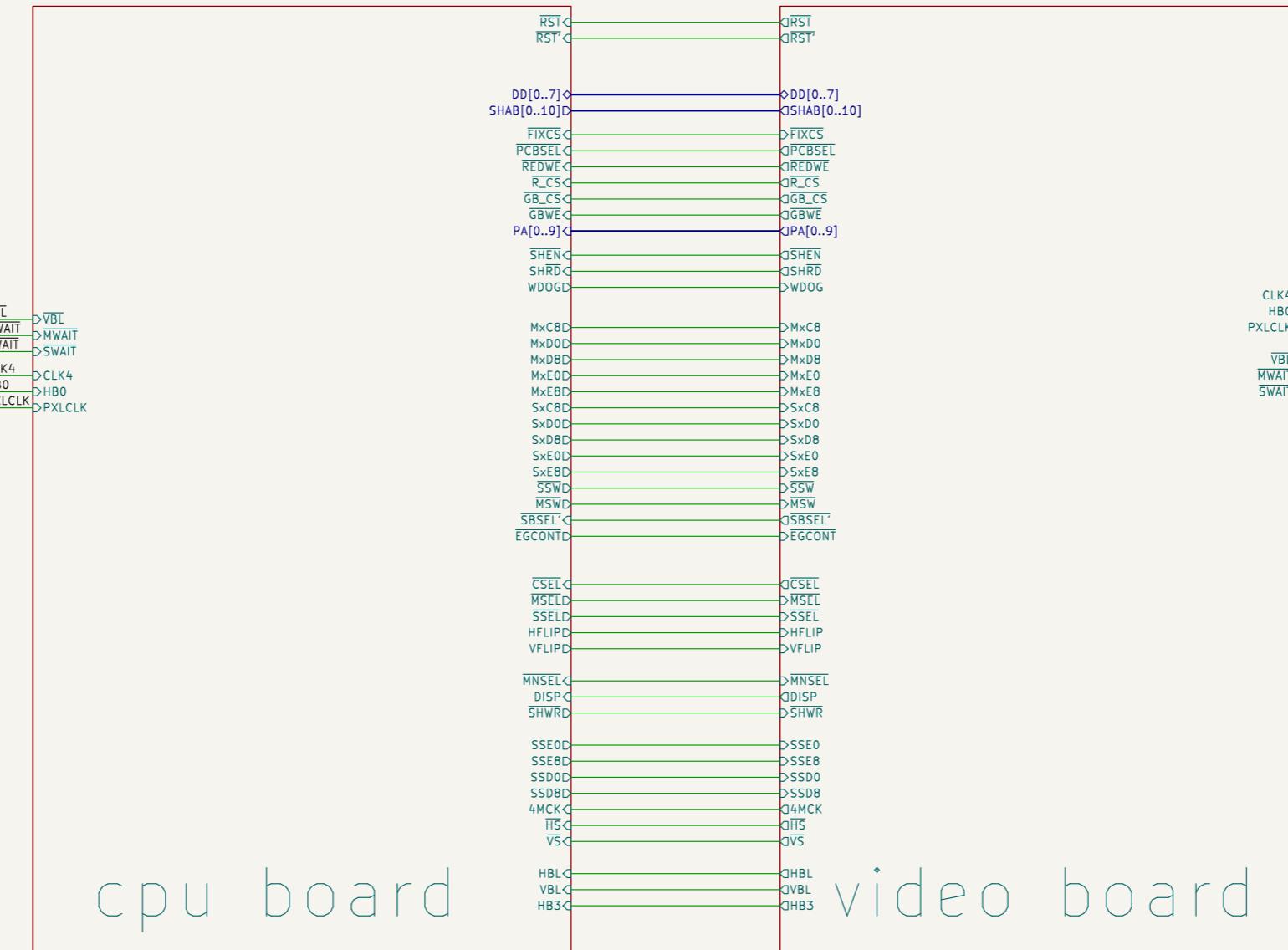
C

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



Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

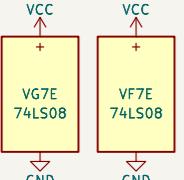
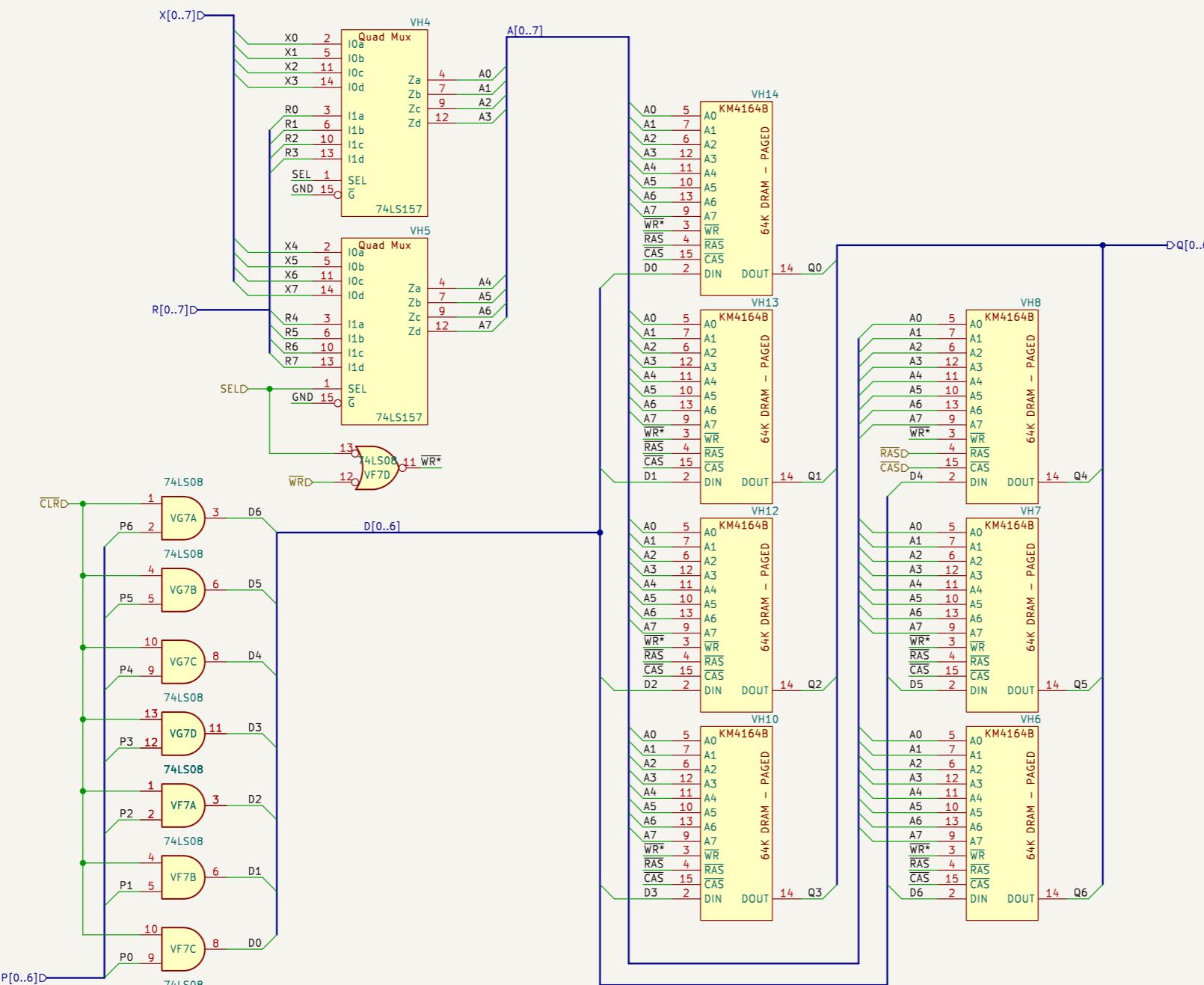
Sheet: /  
File: tehkanwch.kicad\_sch

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

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



Rev:  
Id: 1/26



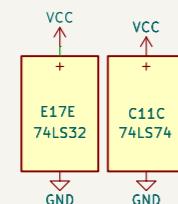
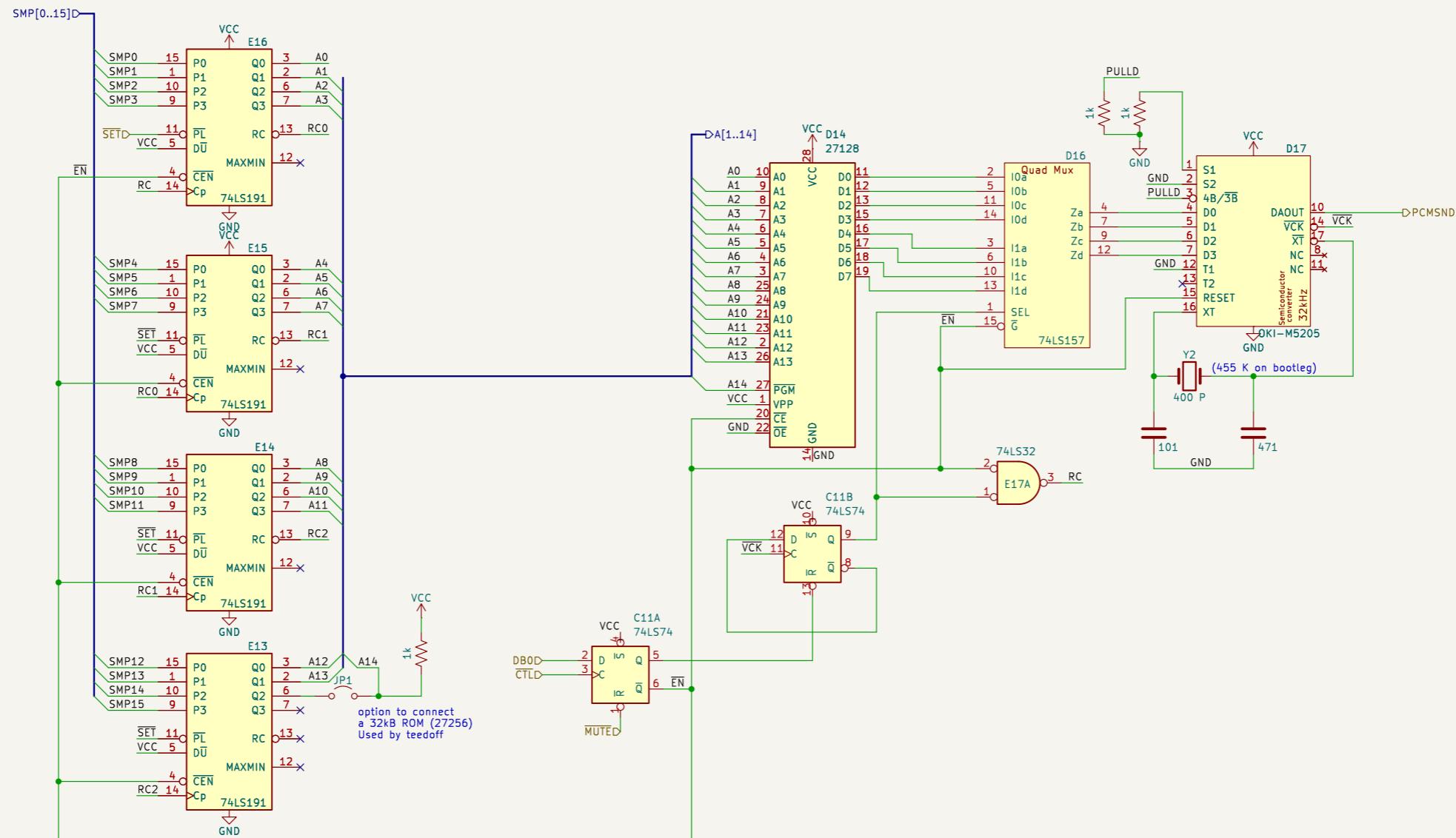
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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: 2/26



Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

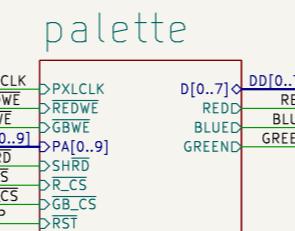
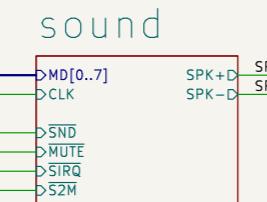
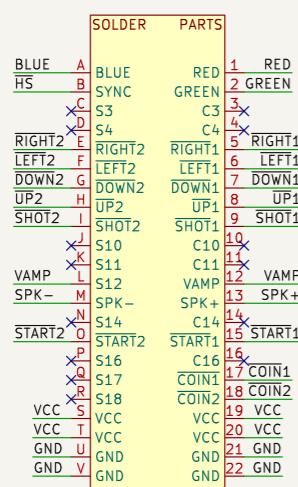
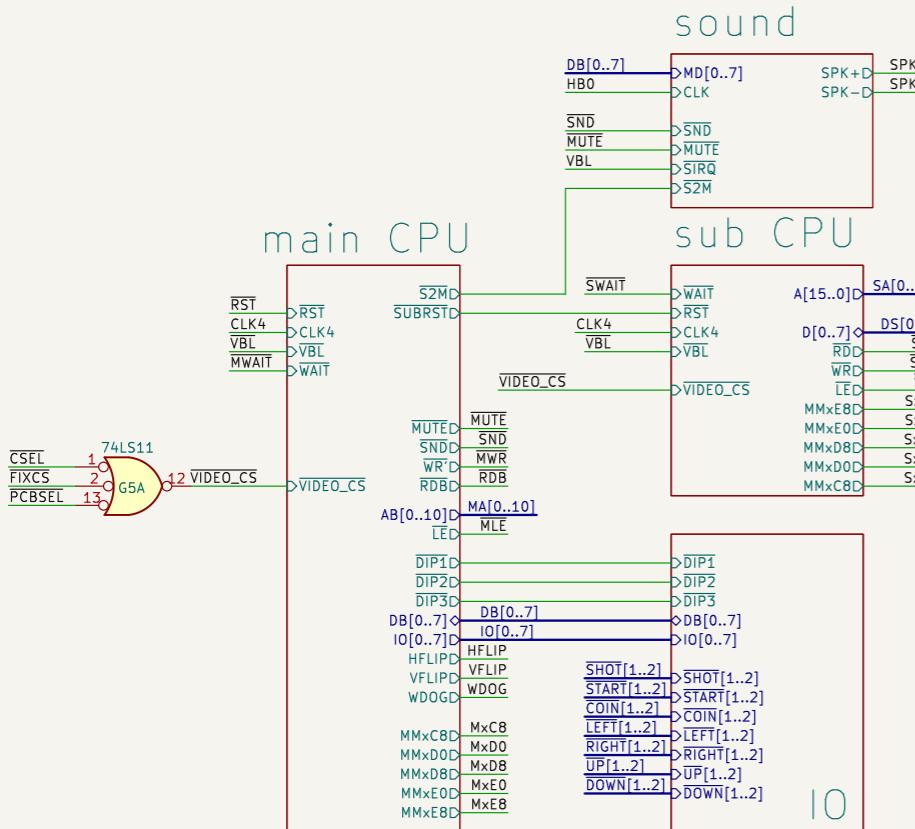
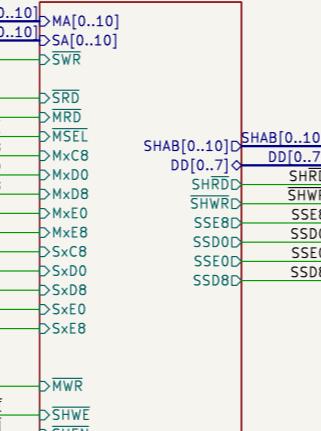
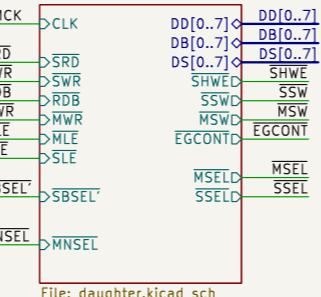
Sheet: /cpu\_board/sound/PCM/  
File: pcm.kicad\_sch

**Title: PCM**

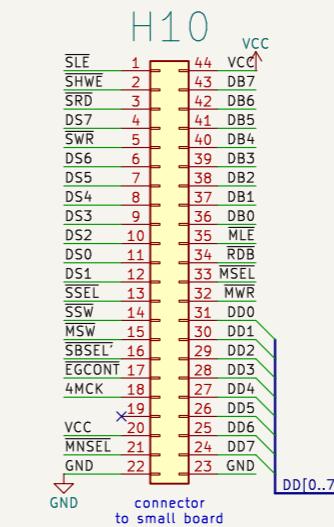
Size: A3 Date: 2024-11-15  
KiCad E.D.A. 8.0.6

Rev: Id: 5/26

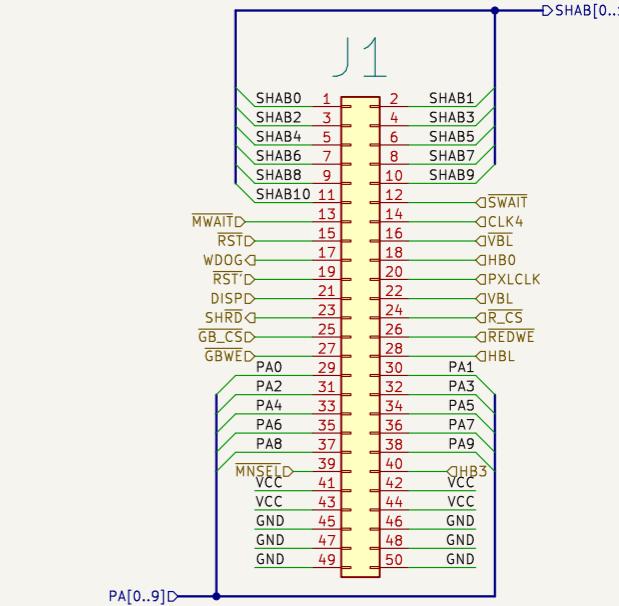
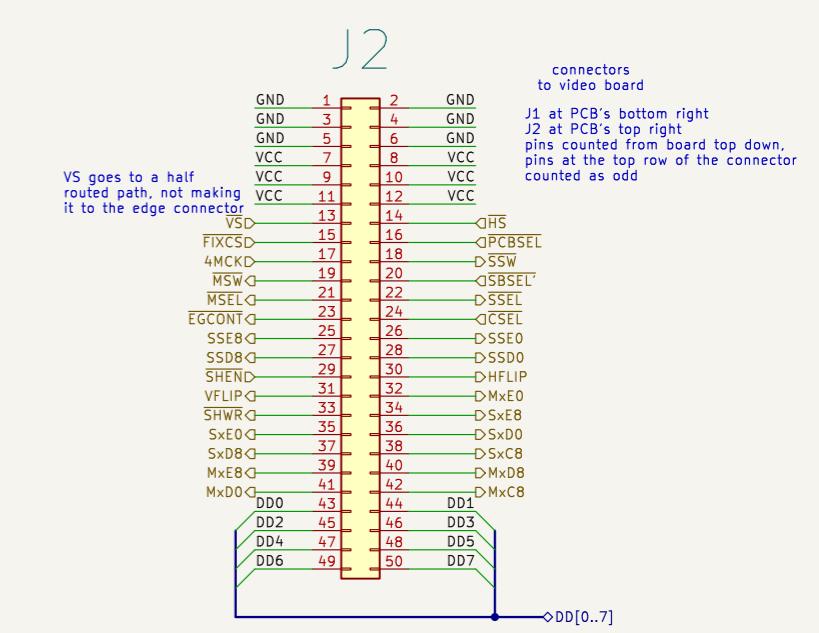
A

**shared****daughter**

File: daughter.kicad\_sch



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



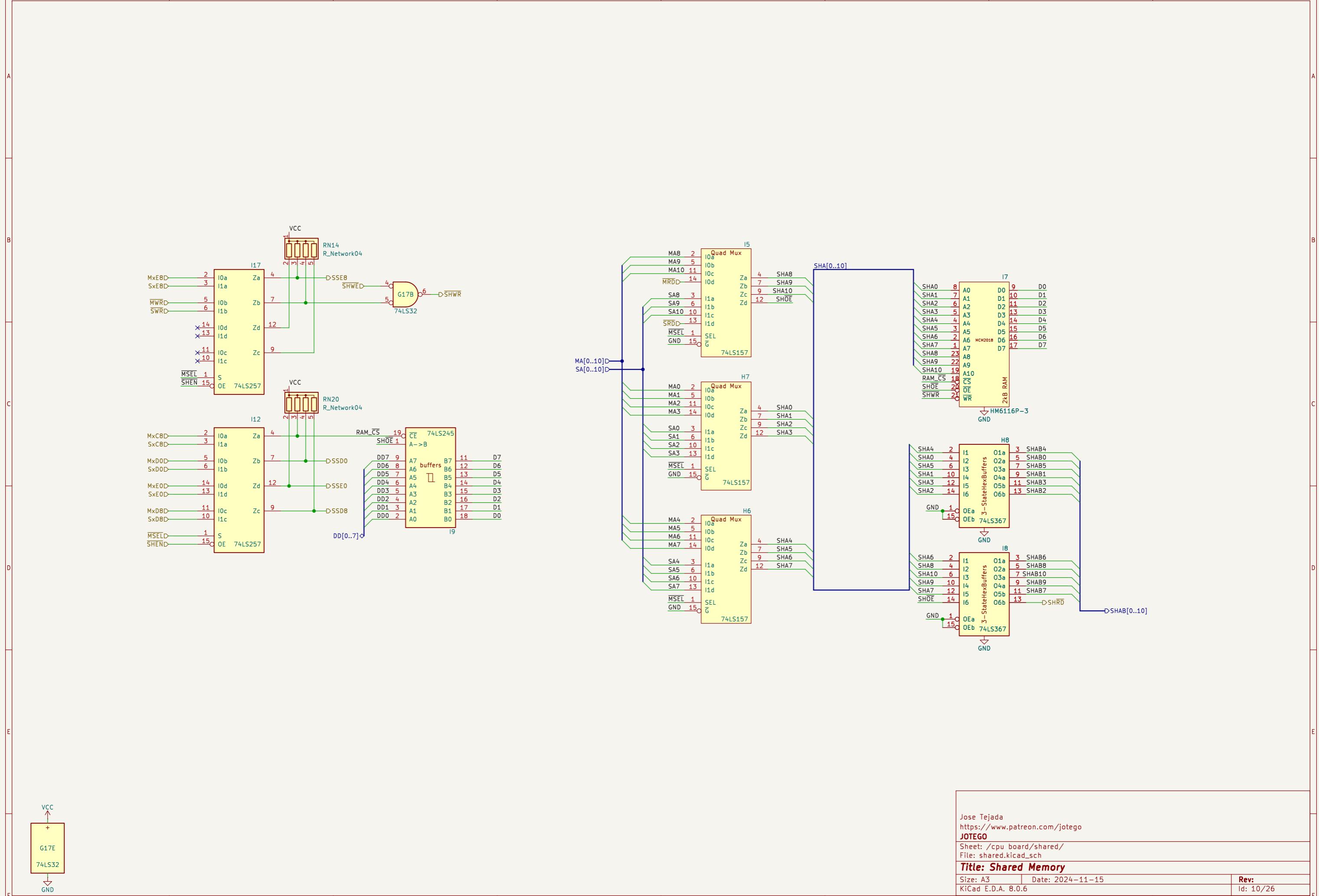
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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



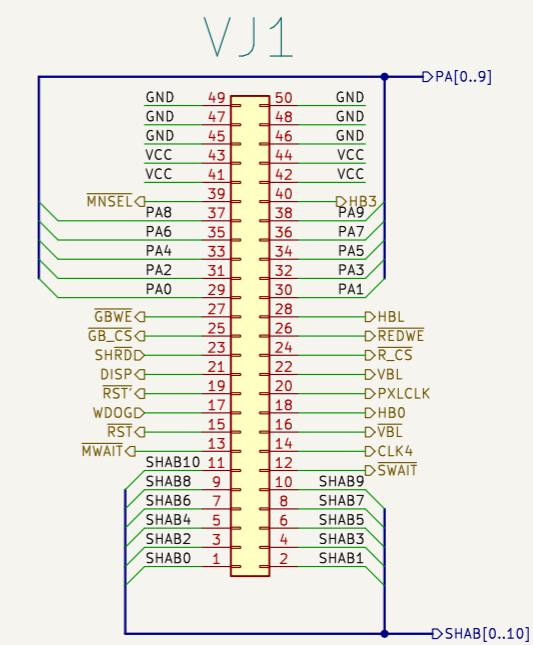
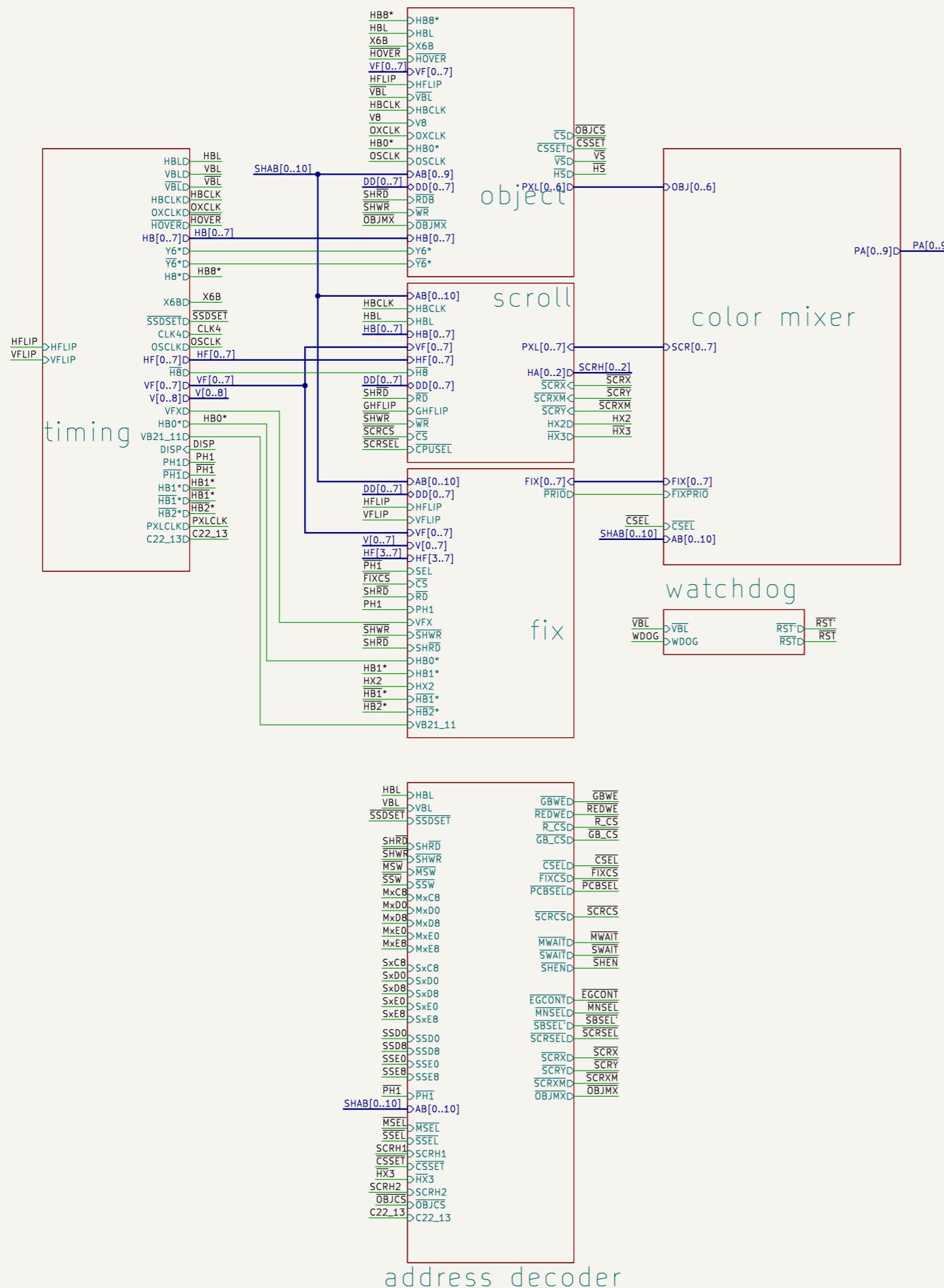
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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

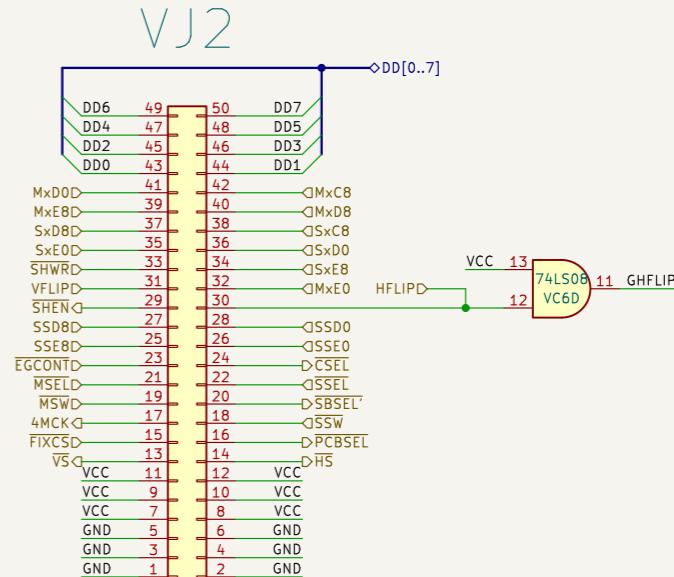
**Title: Shared Memory**

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

Rev: 10/26



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



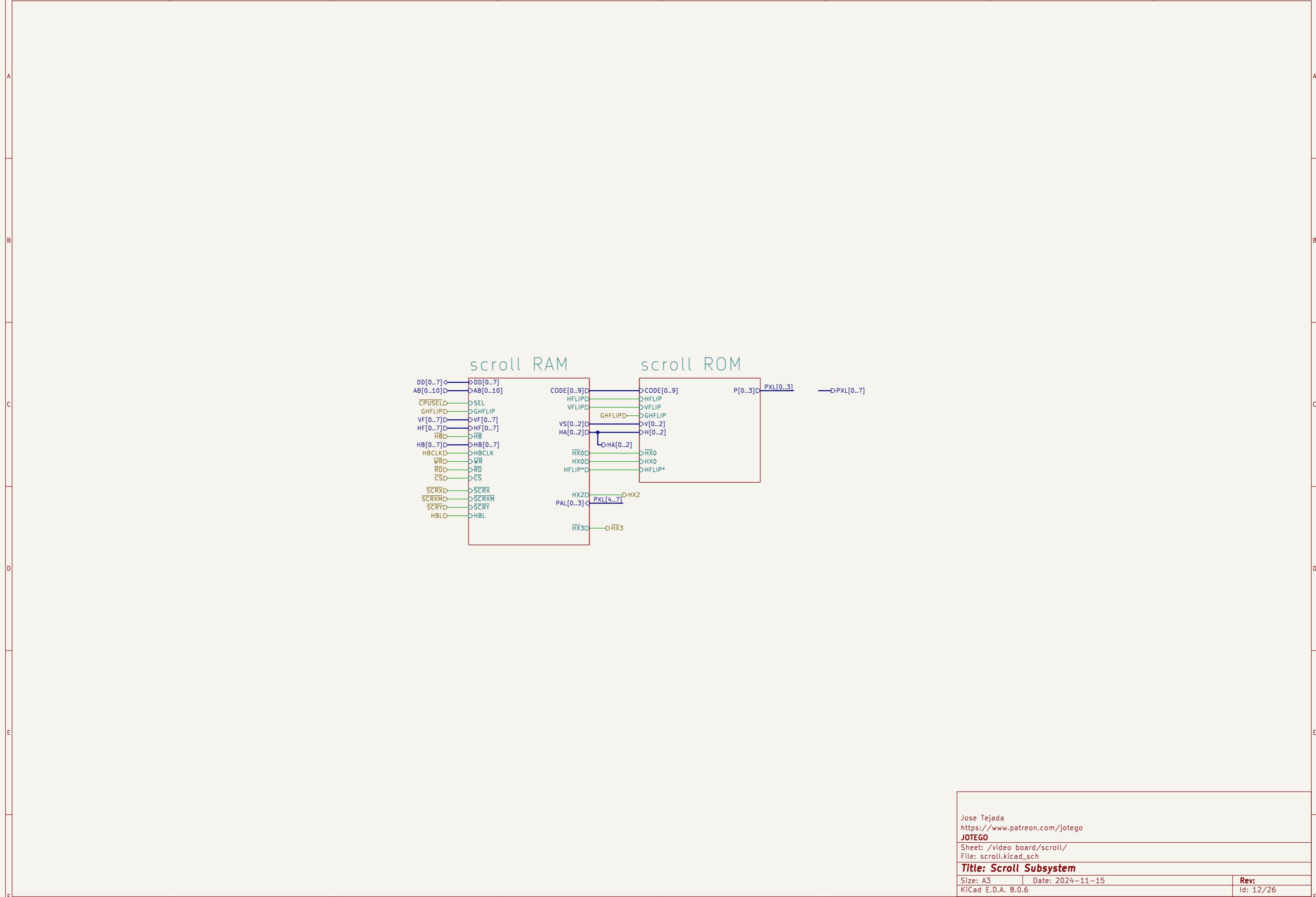
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

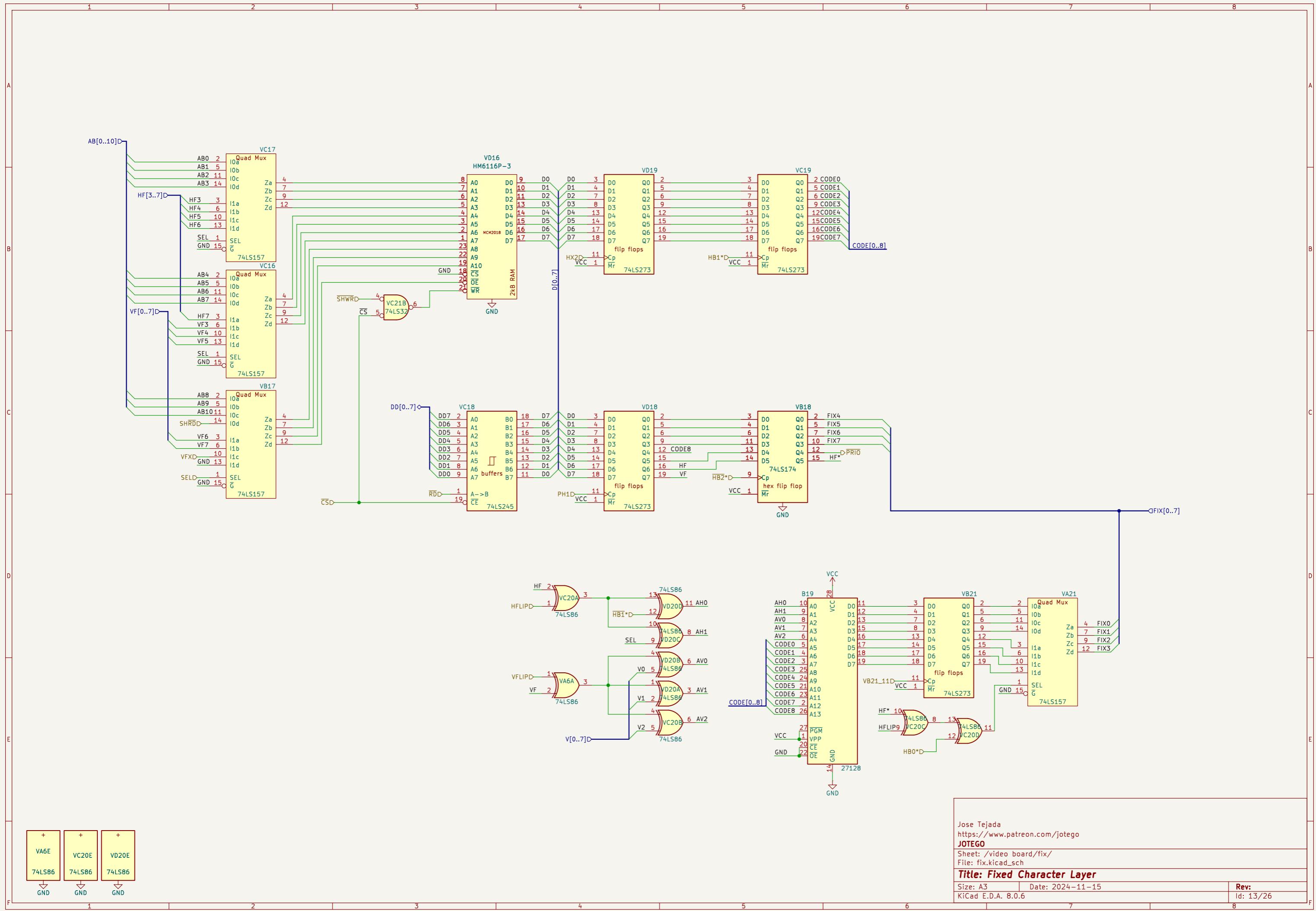
Sheet: /video board/  
File: video.kicad\_sch

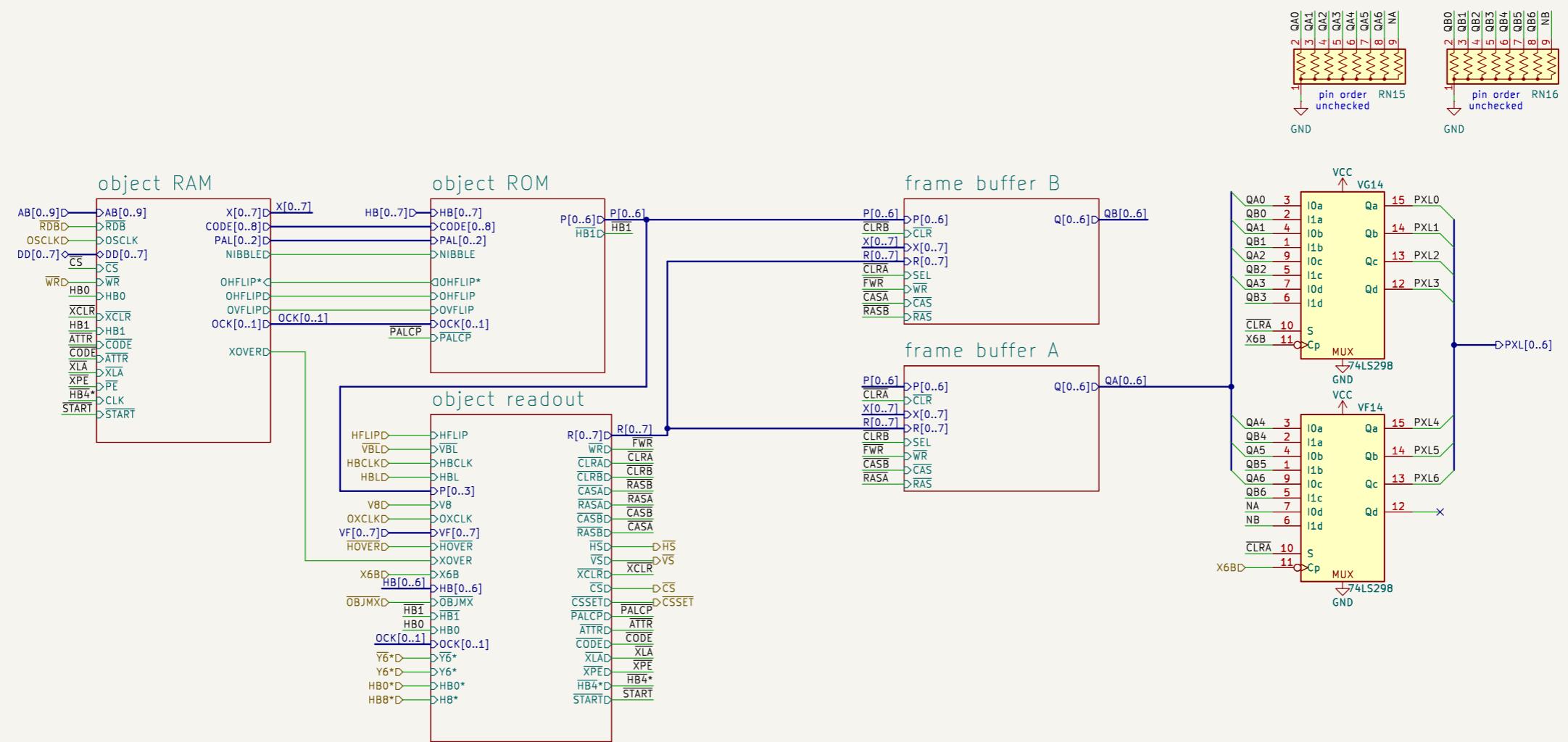
**Title: Video board (bottom board)**

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

Rev: Id: 11/26







Jose Tejada  
<https://www.patreon.com/jotego>  
JOTEGO

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

## Title: Object Subsystem

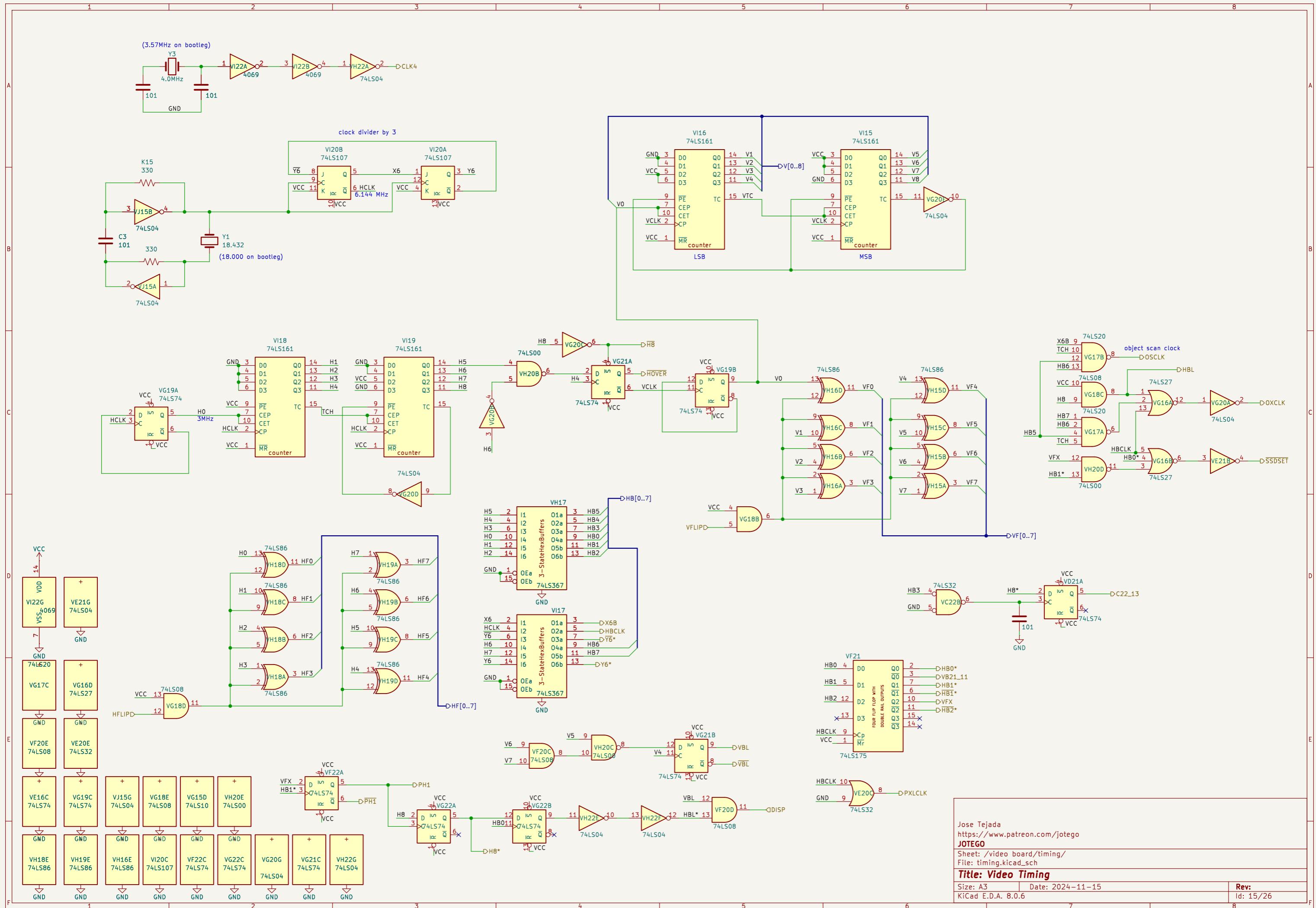
Size: A3 Date: 2024-11-15

KiCad E.D.A. 8.0.6

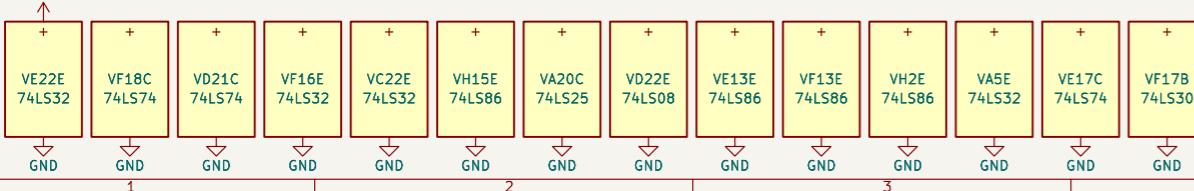
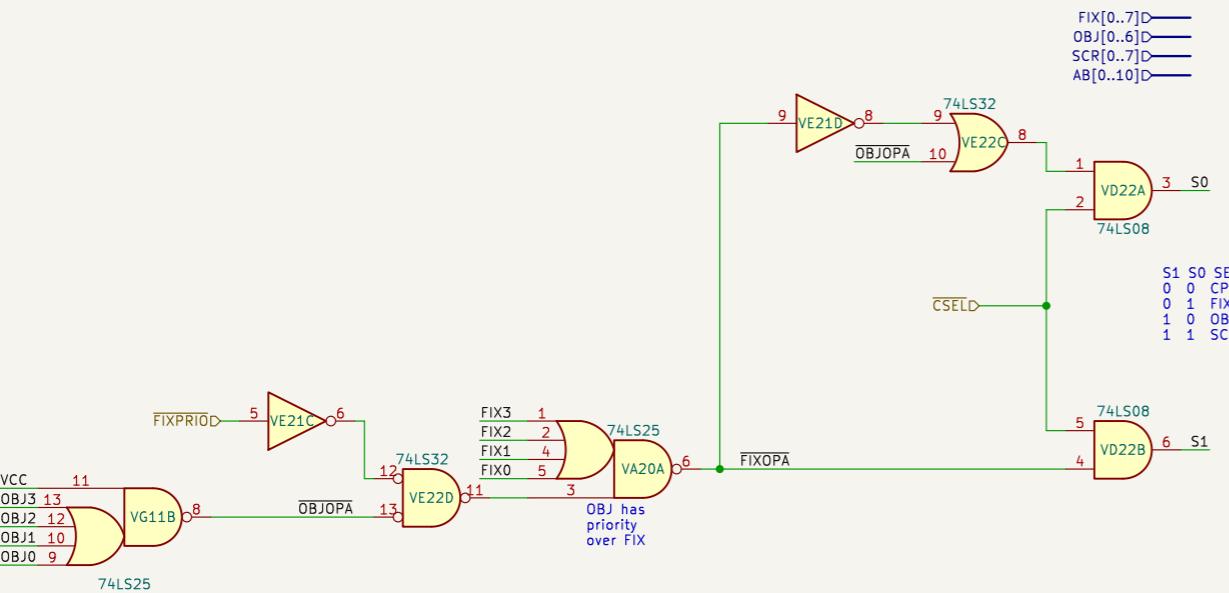
1 / 1

Id: 14/2

8



1 2 3 4 5 6 7 8



1

2

3

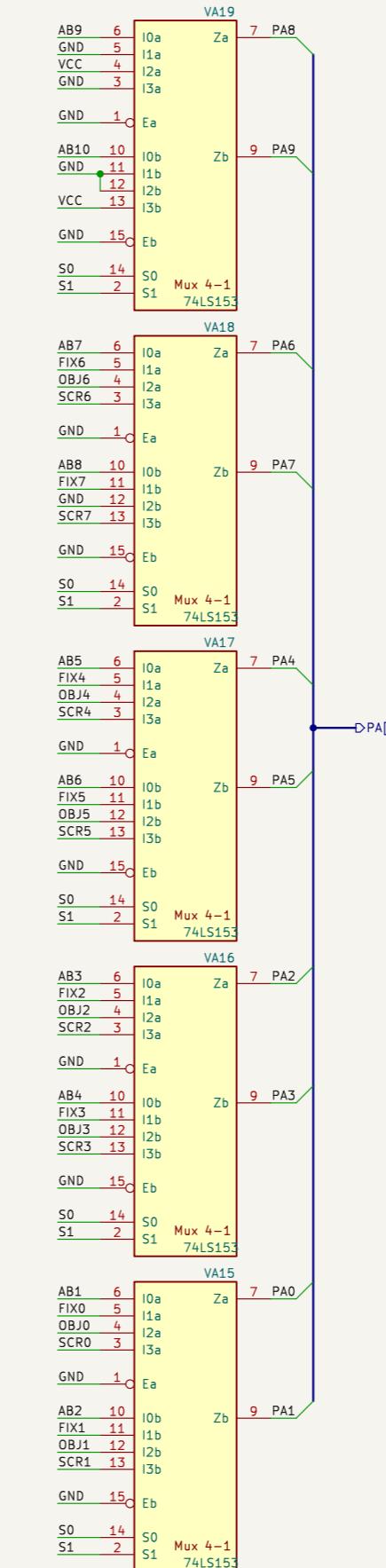
4

5

6

7

8



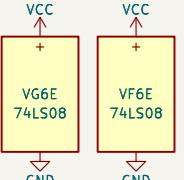
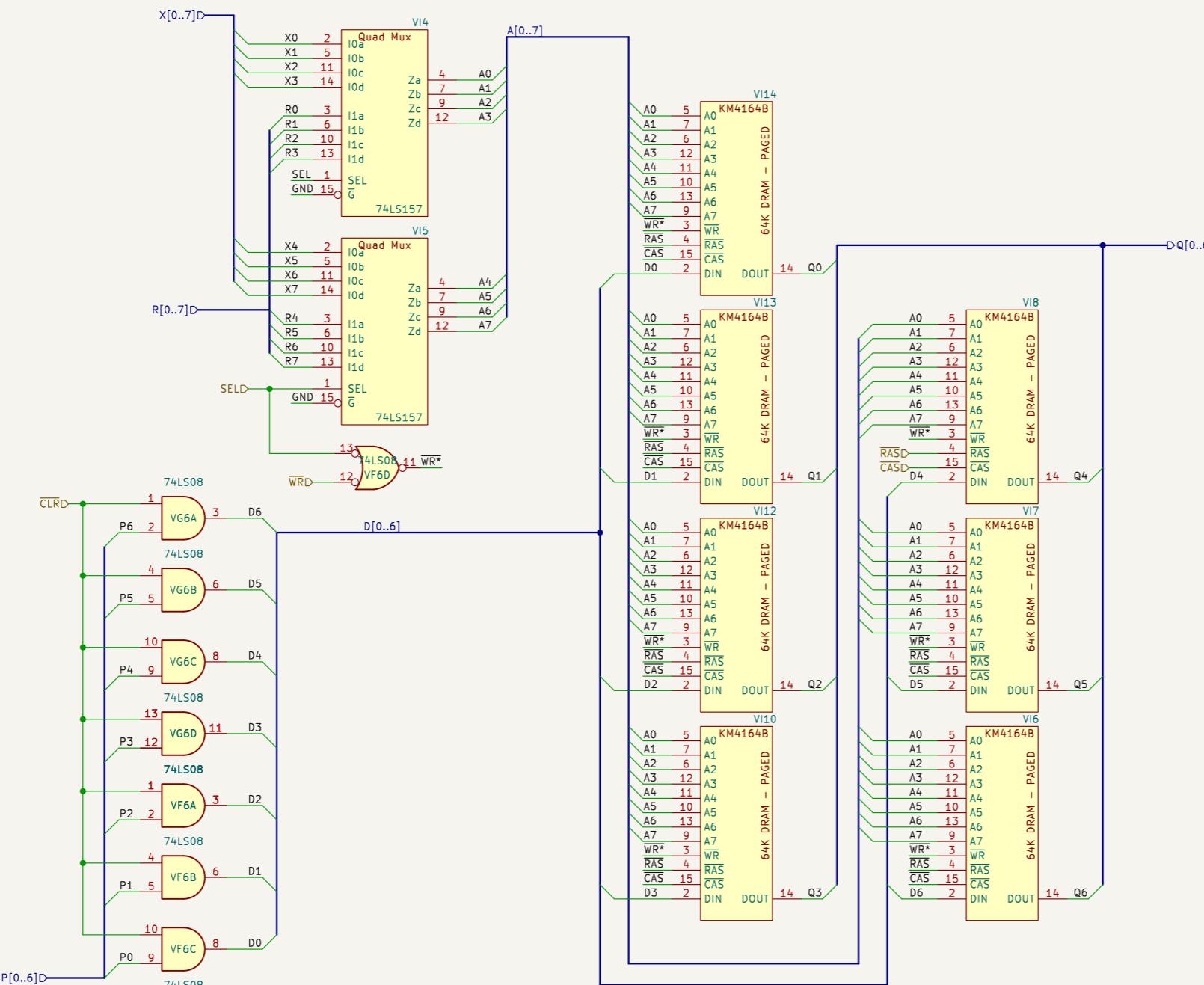
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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

**Title: Color mixer**

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

Rev:  
Id: 16/26



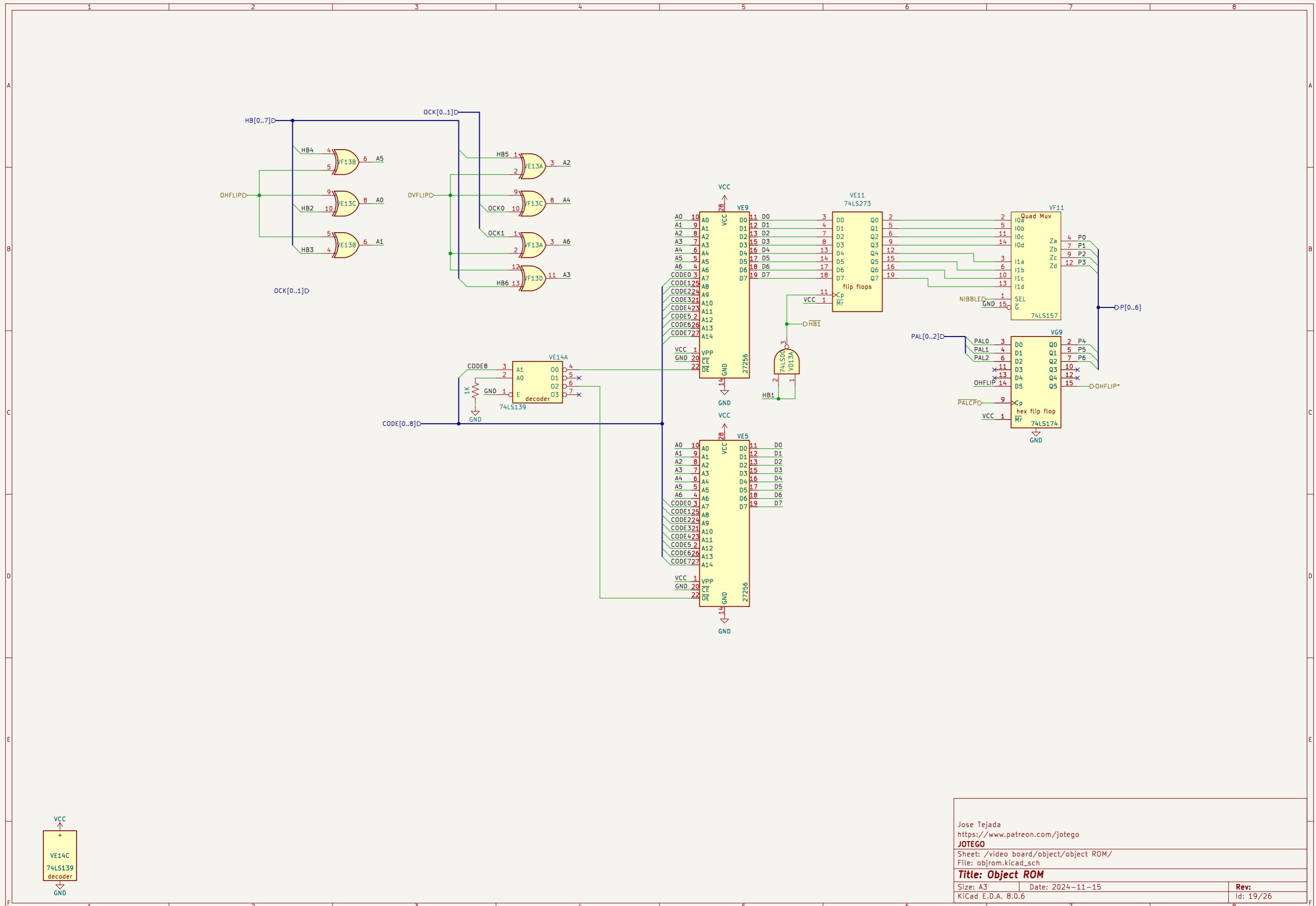
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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

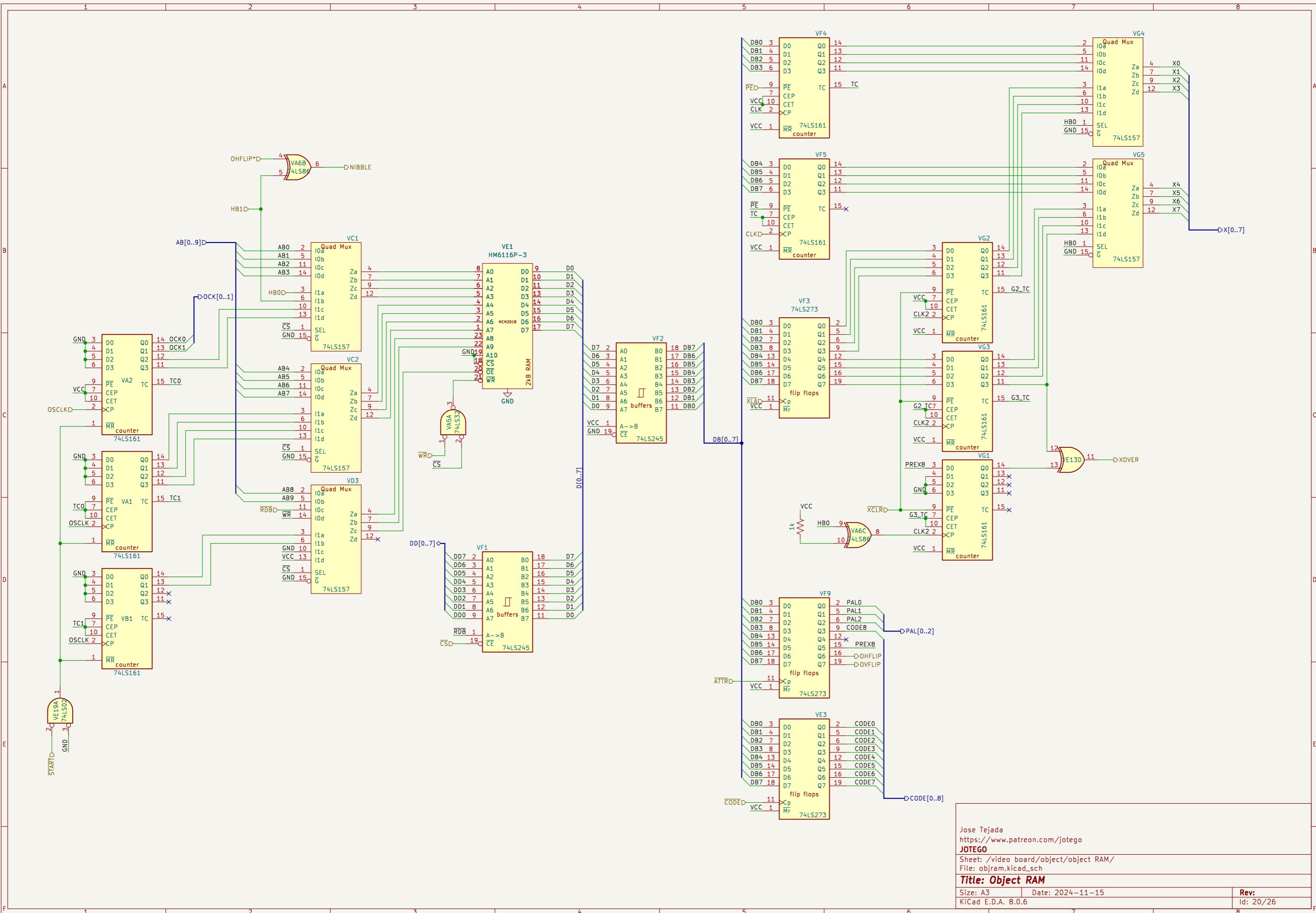
**Title: Line Buffer**

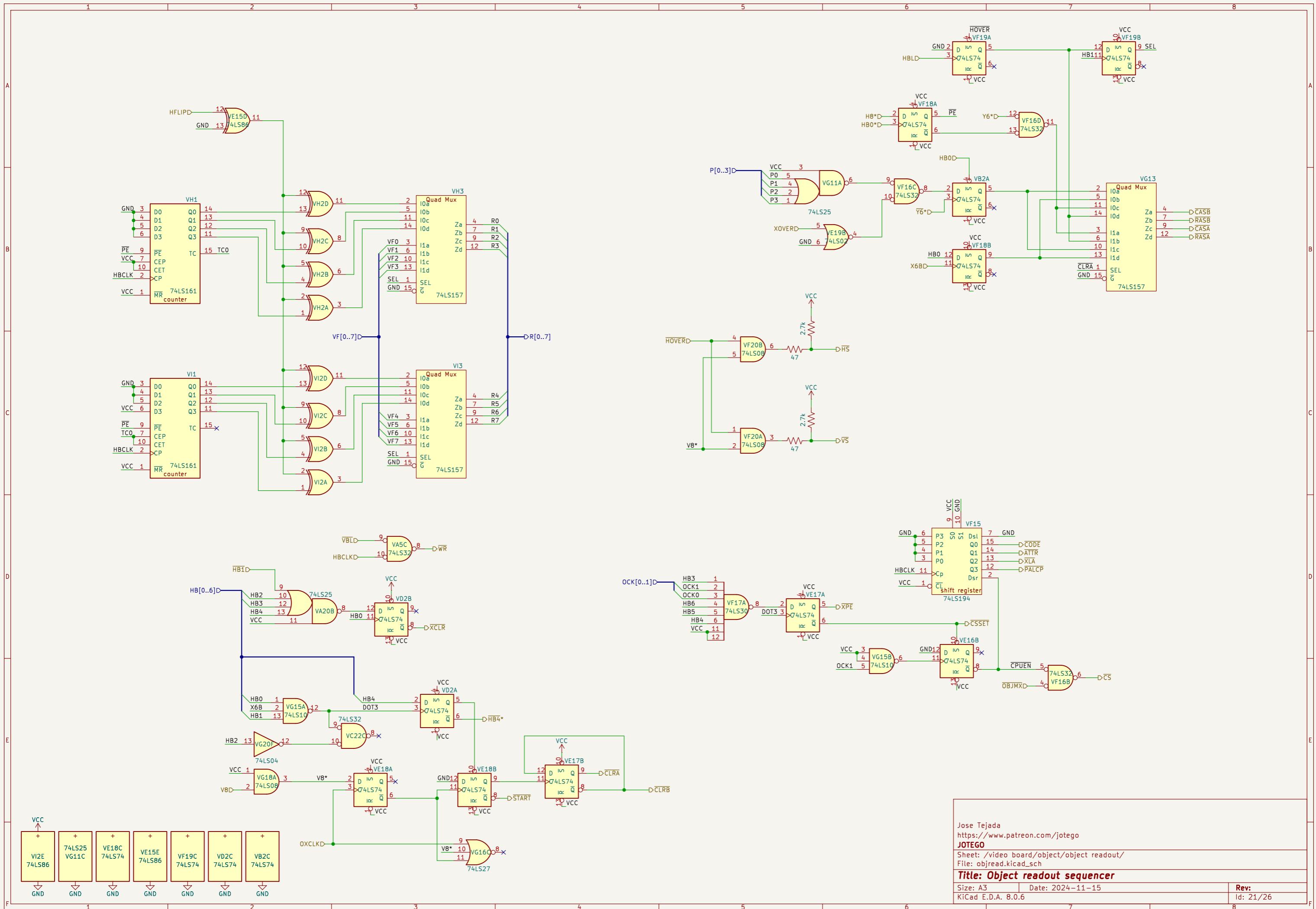
Size: A3 | Date: 2024-11-15  
KiCad E.D.A. 8.0.6

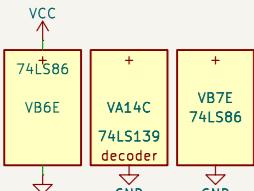
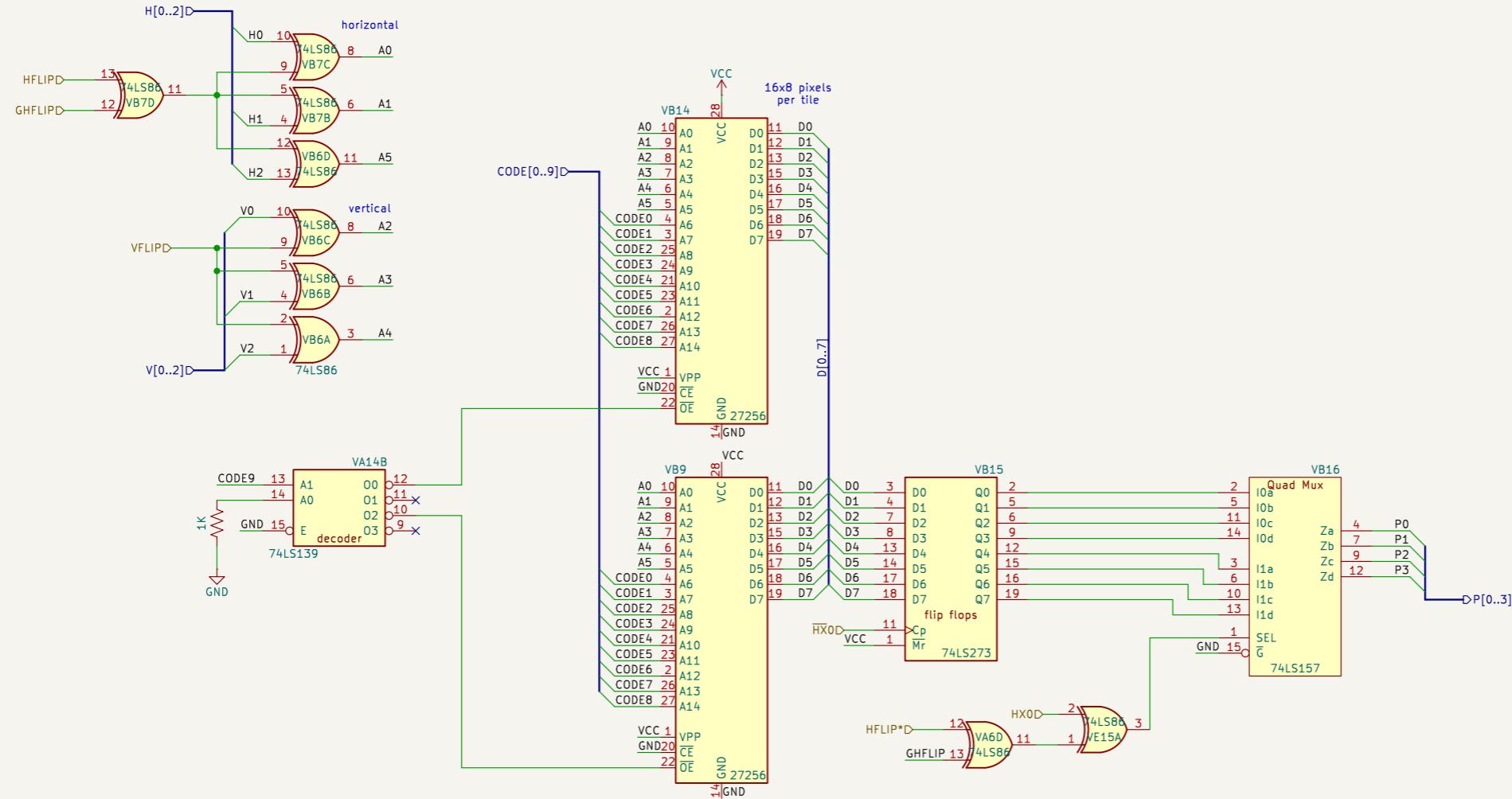
Rev:  
Id: 17/26



Jose Tejada  
<https://www.patreon.com/jotego>  
**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







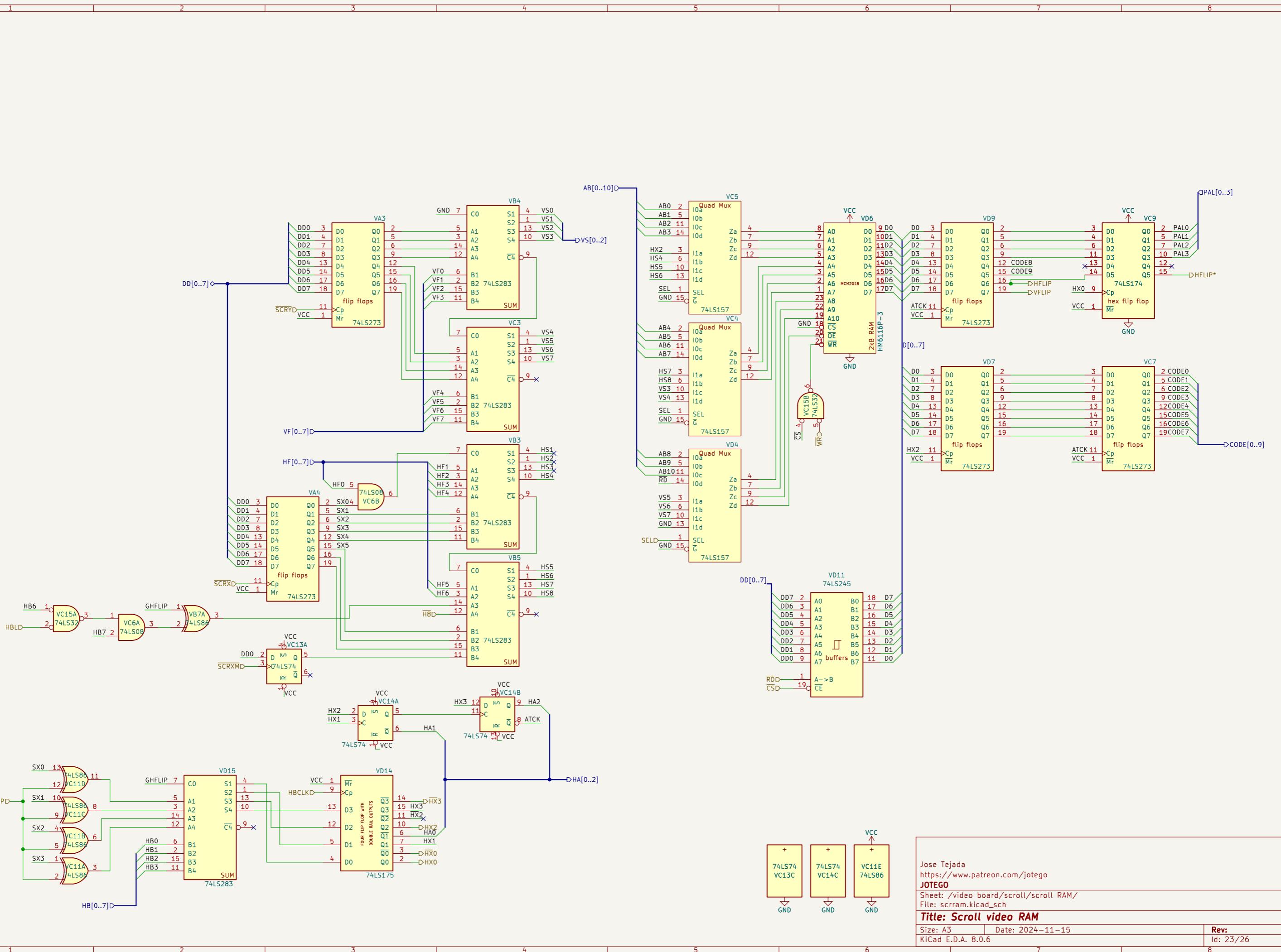
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

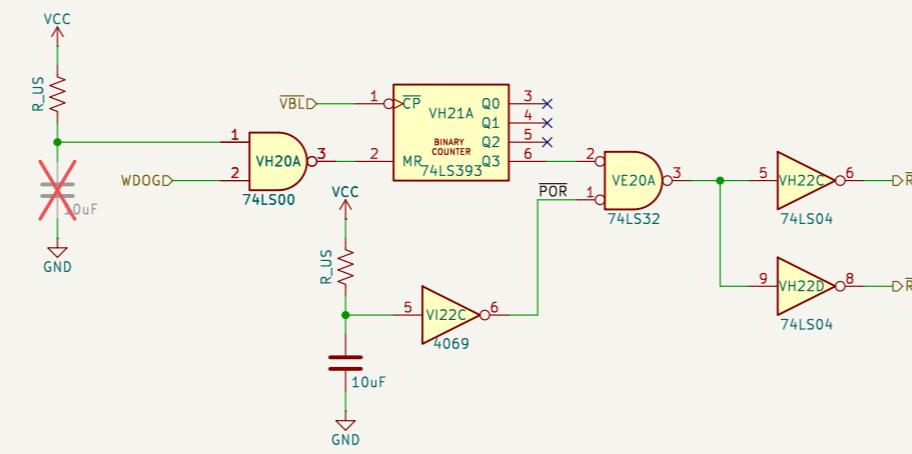
Sheet: /video board/scroll/scroll ROM/  
File: scrom.kicad\_sch

**Title: scroll ROM**

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

Rev: 22/26





Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

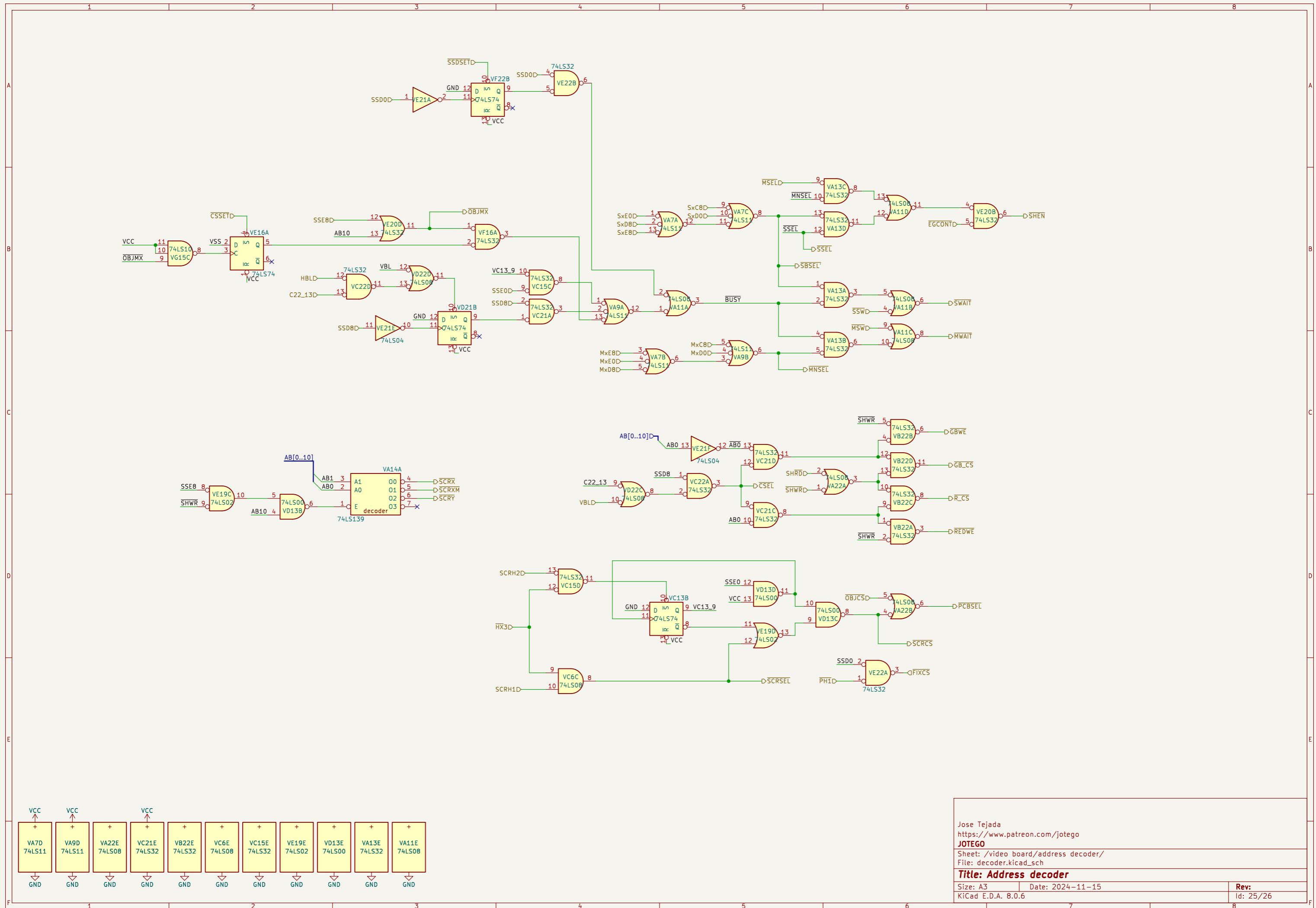
Sheet: /video board/watchdog/  
File: watchdog.kicad\_sch

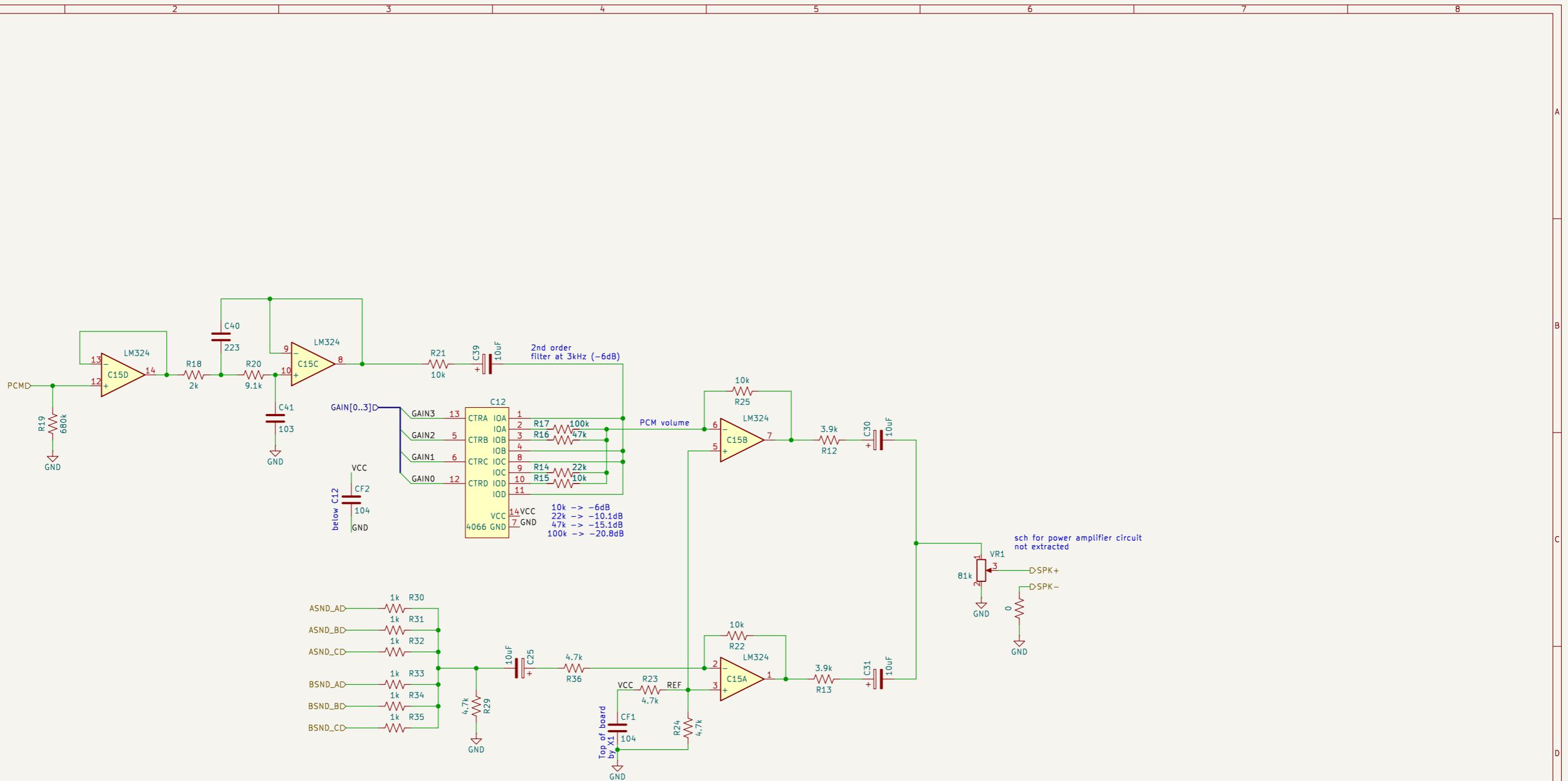
## Title: Watchdog Circuit

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

7

Rev:  
Id: 24/26





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

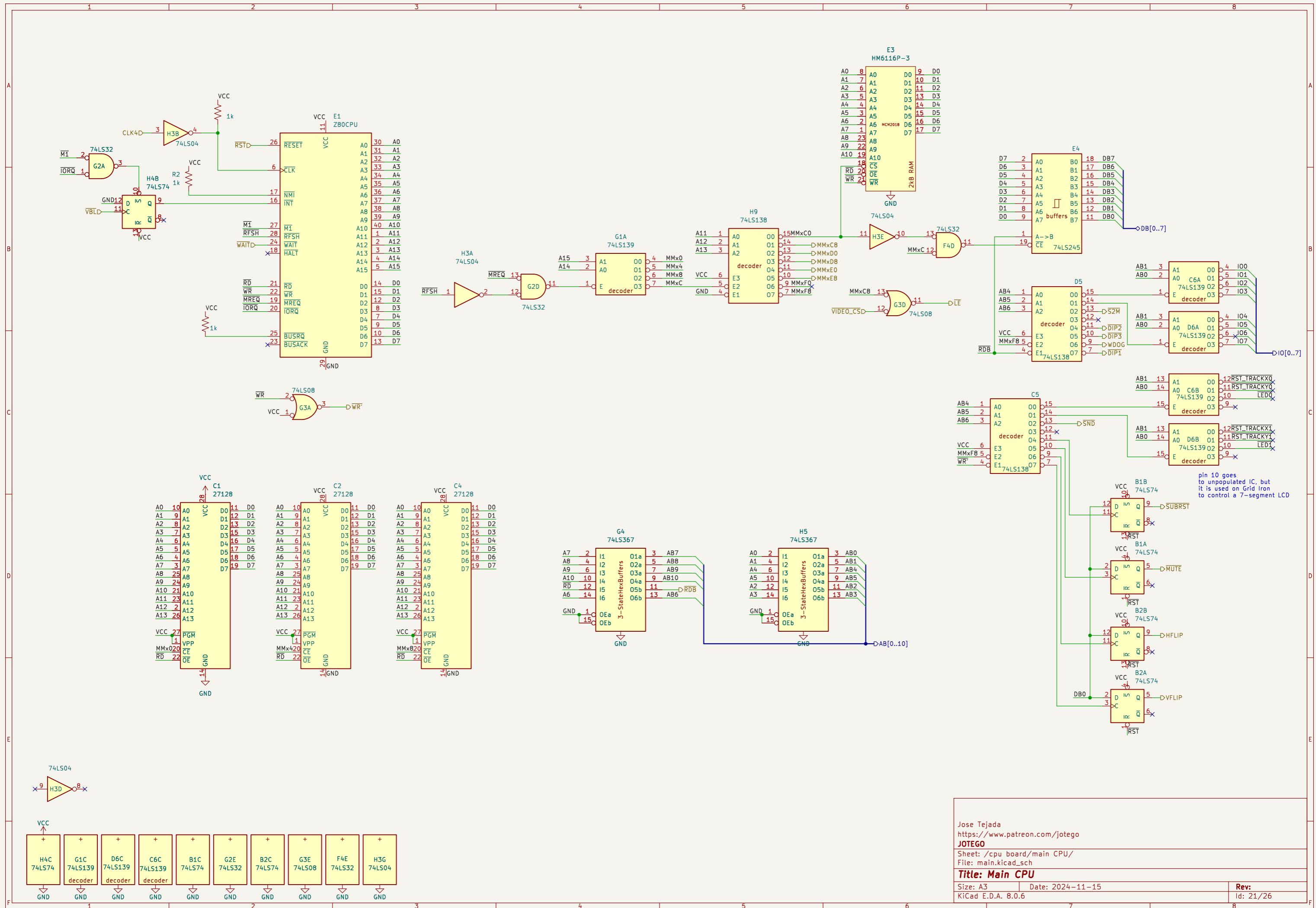
Device components follow bootleg references.  
The bootleg counts letters from left to right and numbers from bottom to top.  
The original counts numbers left to right and letters bottom to top.

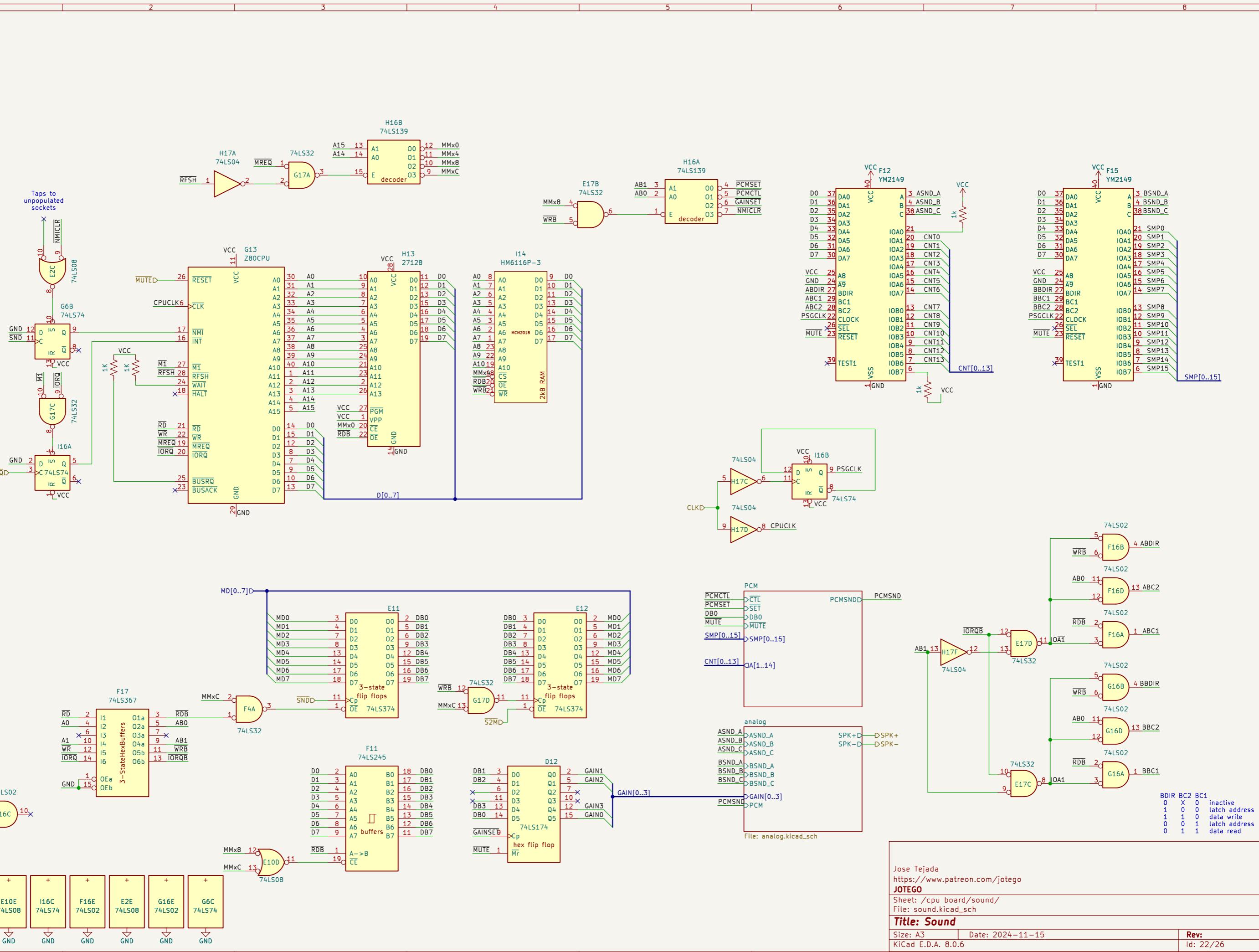
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**  
Sheet: /cpu board/sound/analog/  
File: analog.kicad\_sch

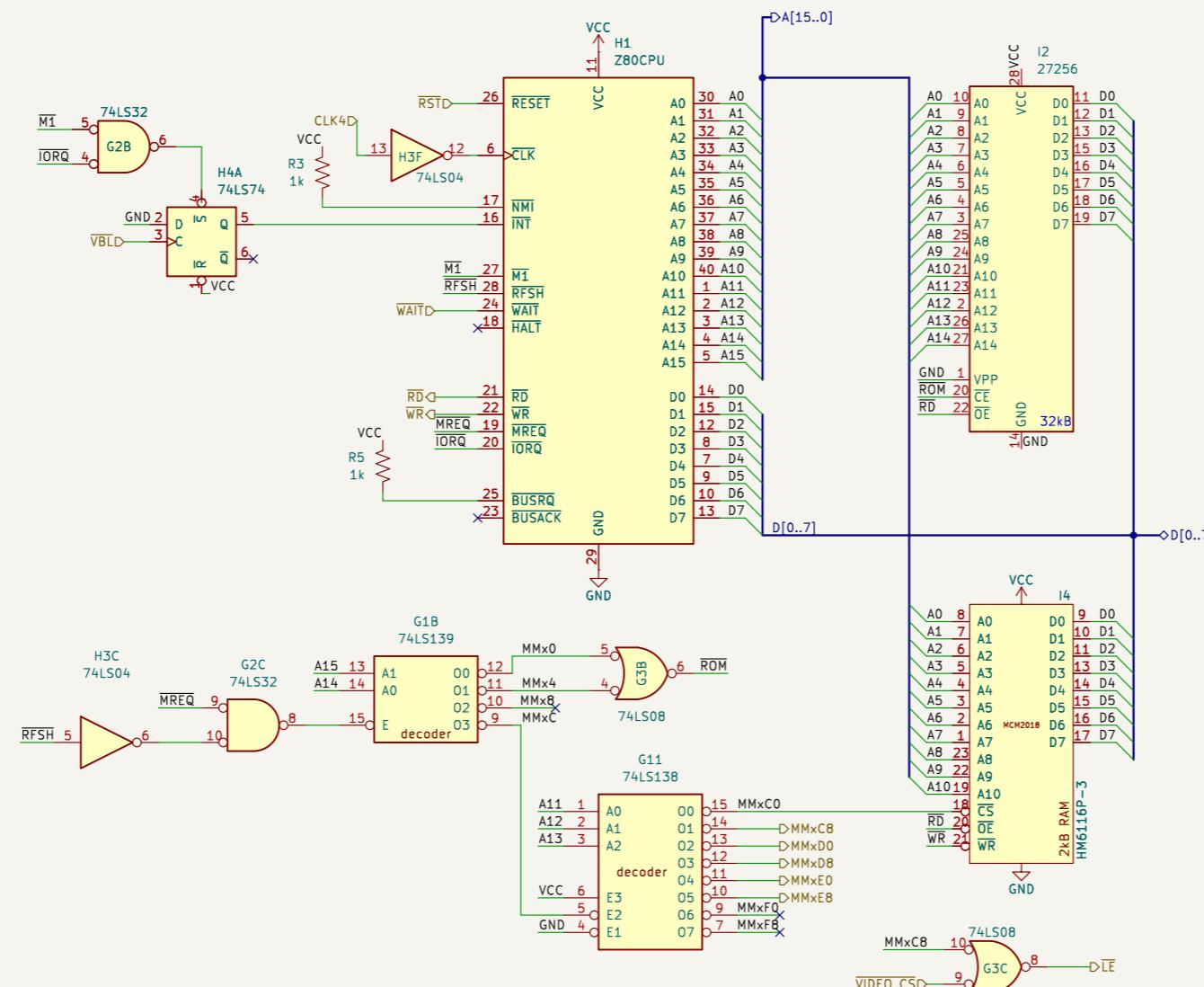
**Title: Sound amplifiers**

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

Rev:  
Id: 26/26







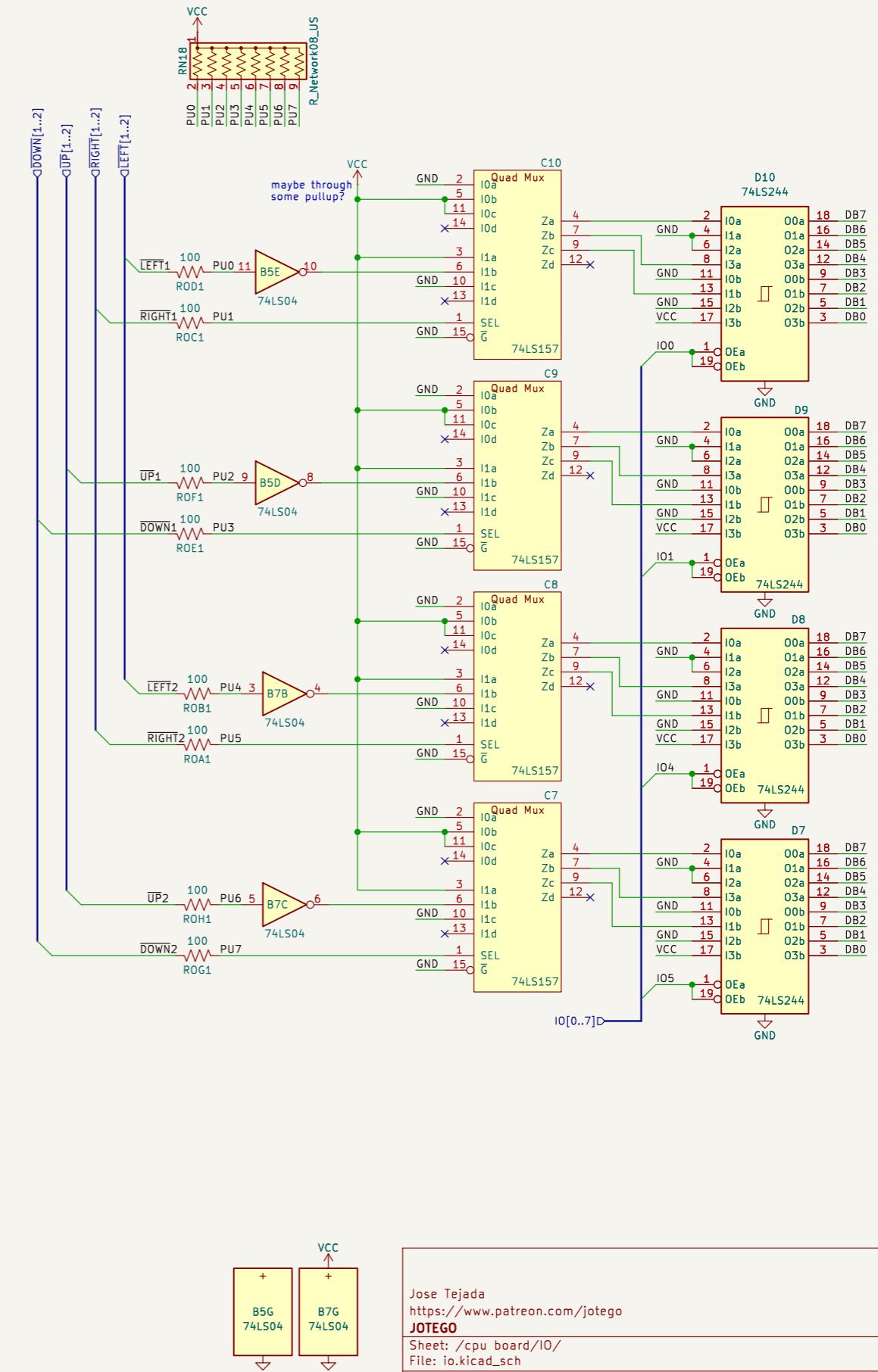
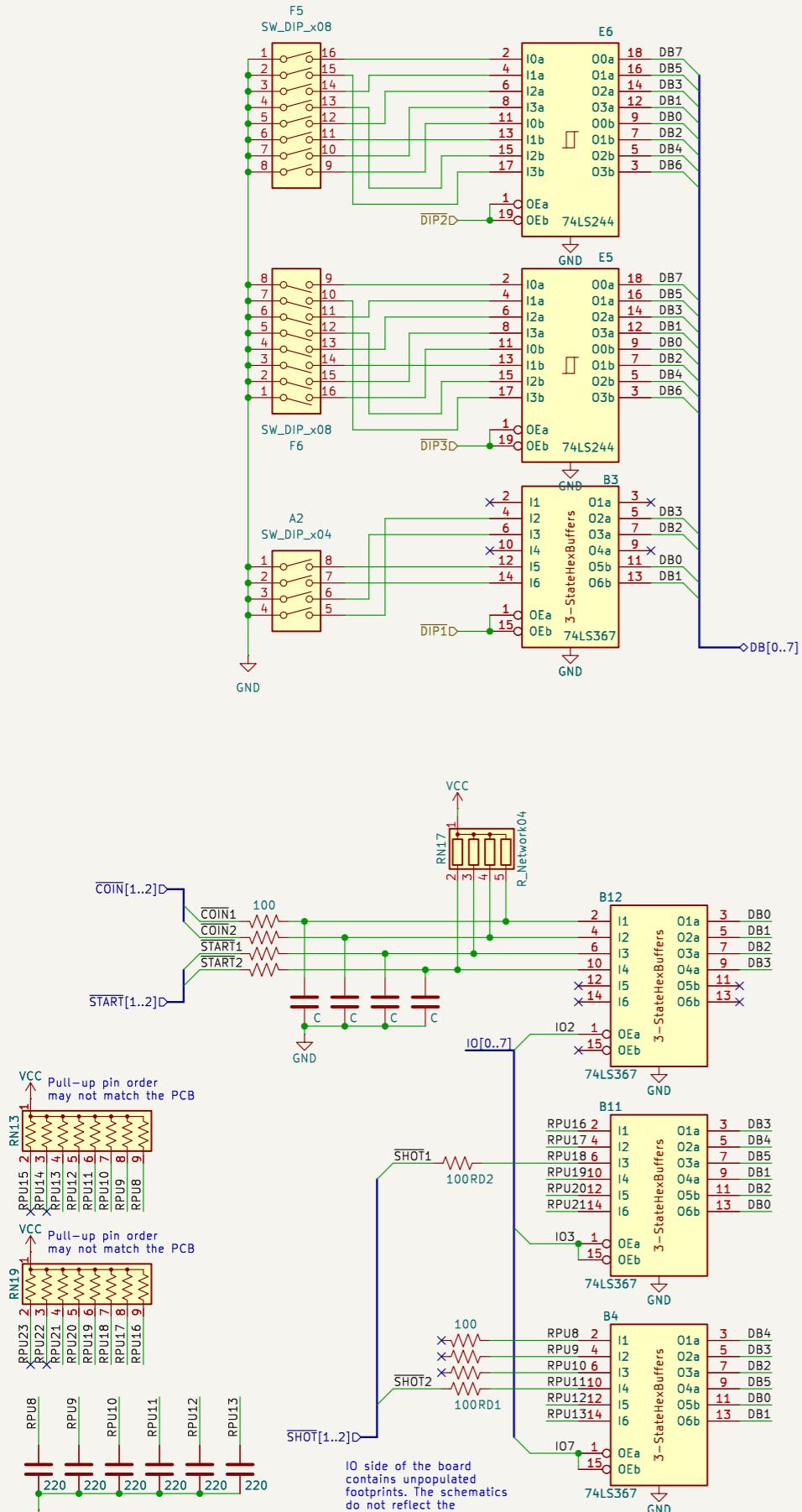
Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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

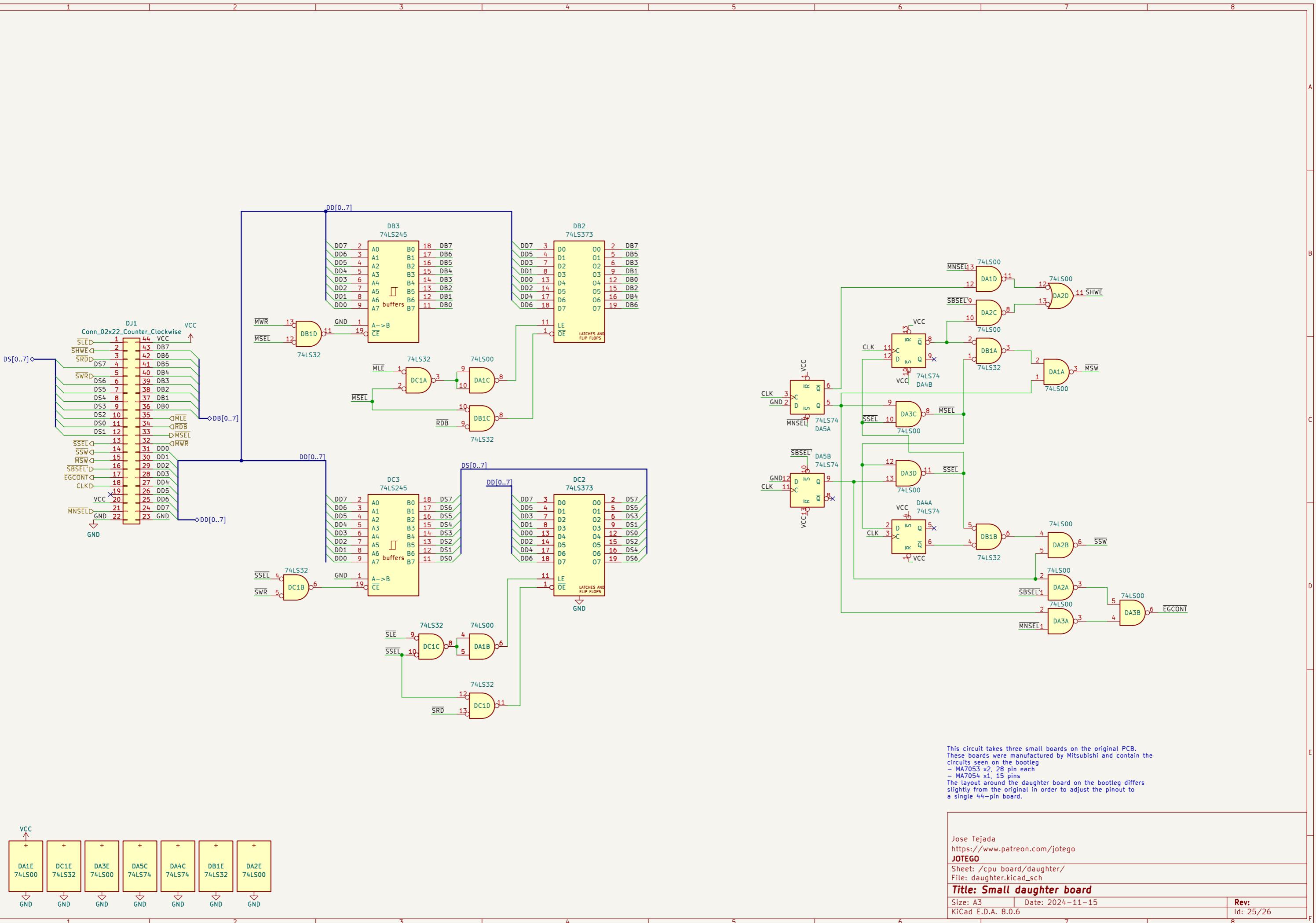
Rev:  
Id: 23/26

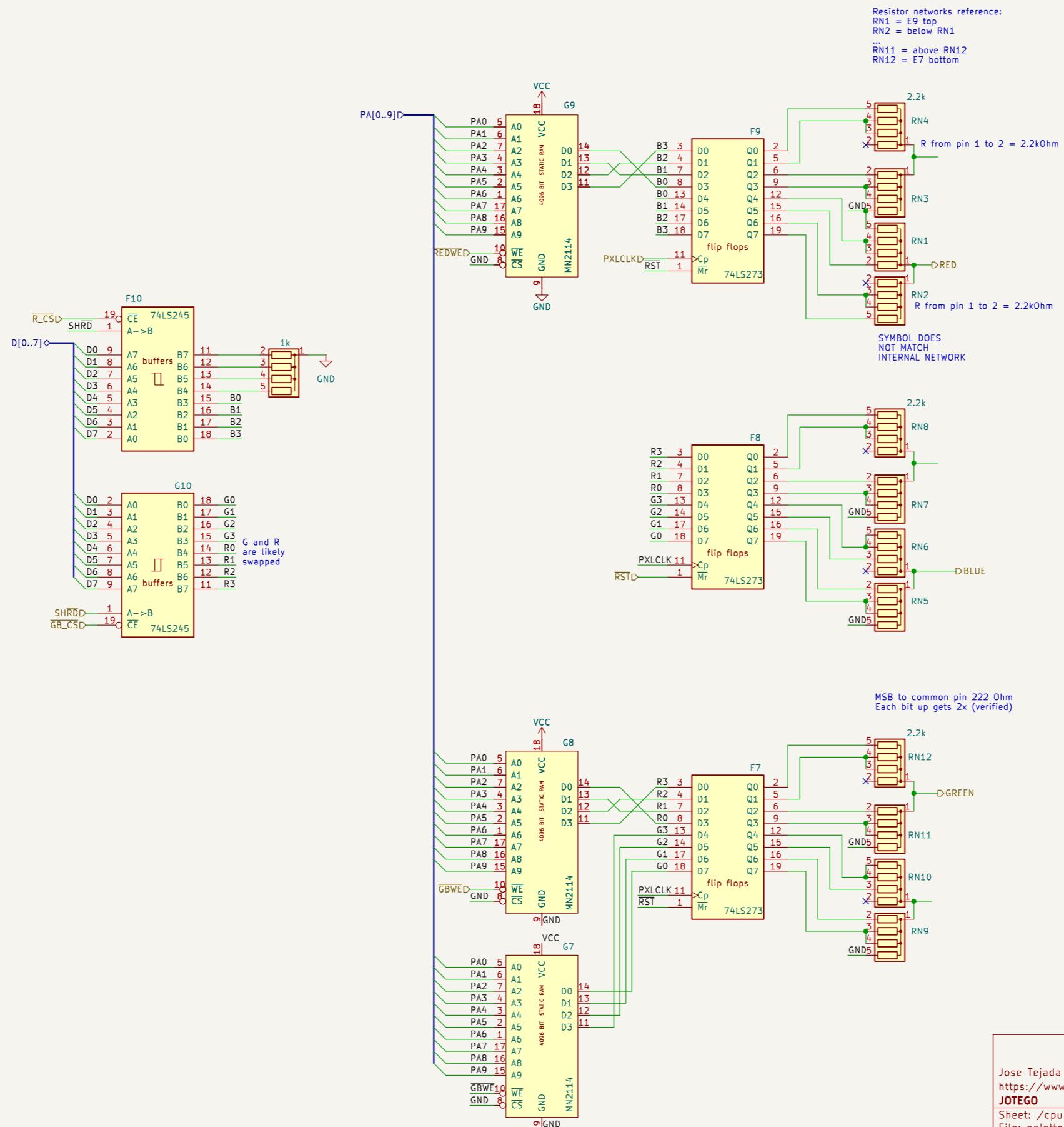


Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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





Jose Tejada  
<https://www.patreon.com/jotego>  
**JOTEGO**

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