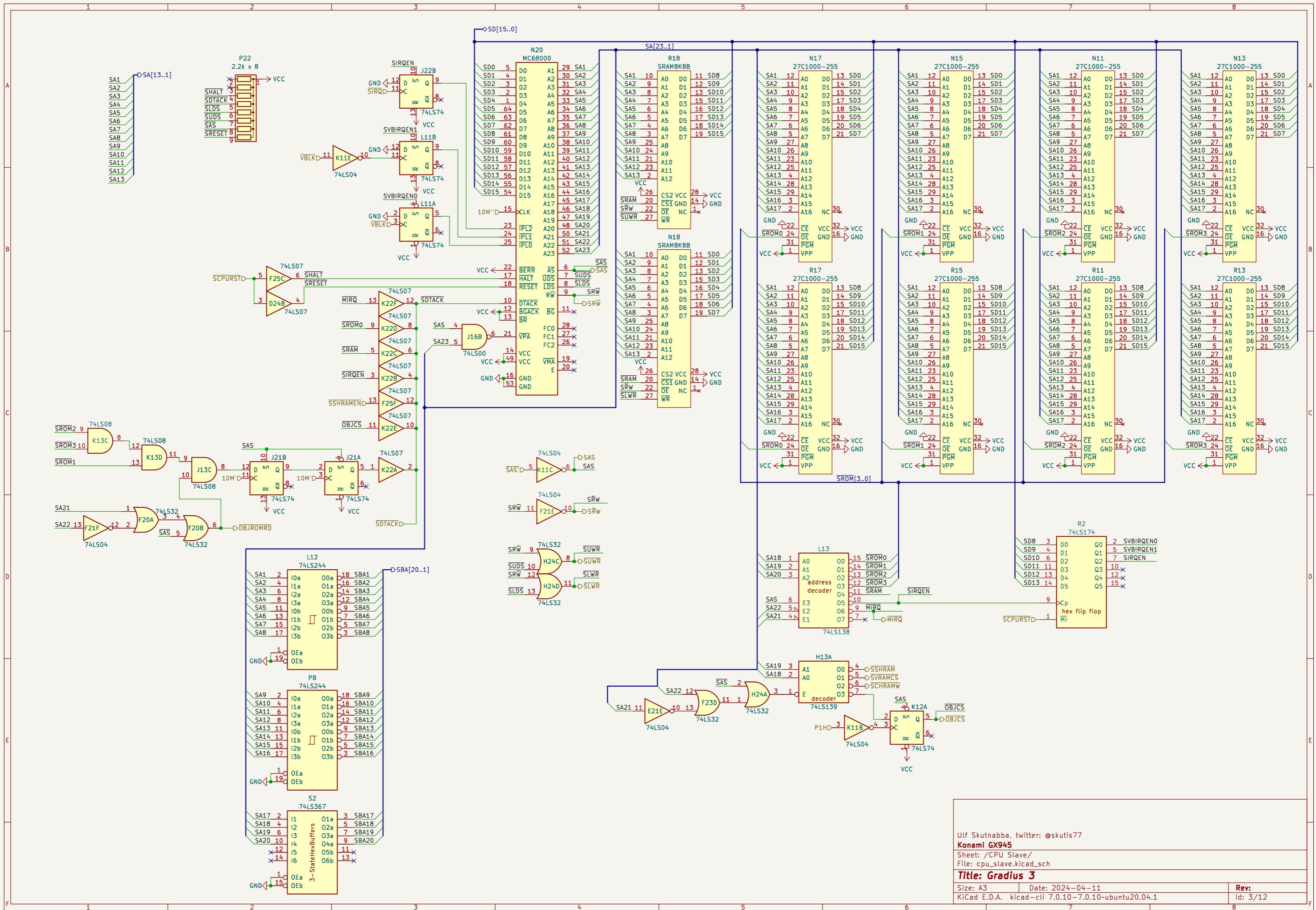
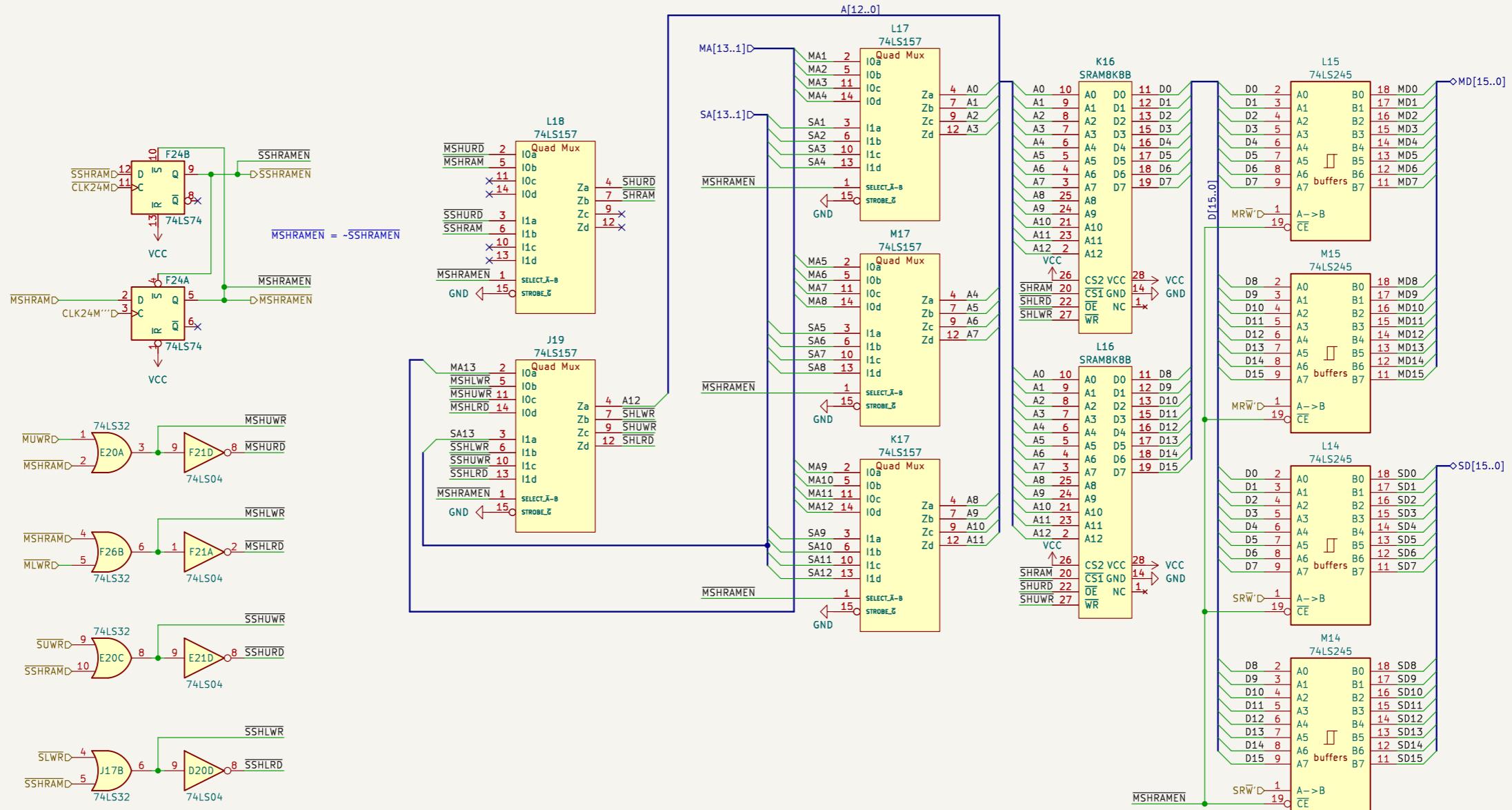


Ulf Skutnabba, twitter: @skutis77

**Konami GX945**Sheet: /CPU Master/  
File: cpu\_master.kicad\_sch**Title: Gradius 3**Size: A3 Date: 2024-04-11  
KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

Rev: 2/12





Ulf Skutnabba, twitter: @skutis77

**Konami GX945**

Sheet: /Shared RAM/

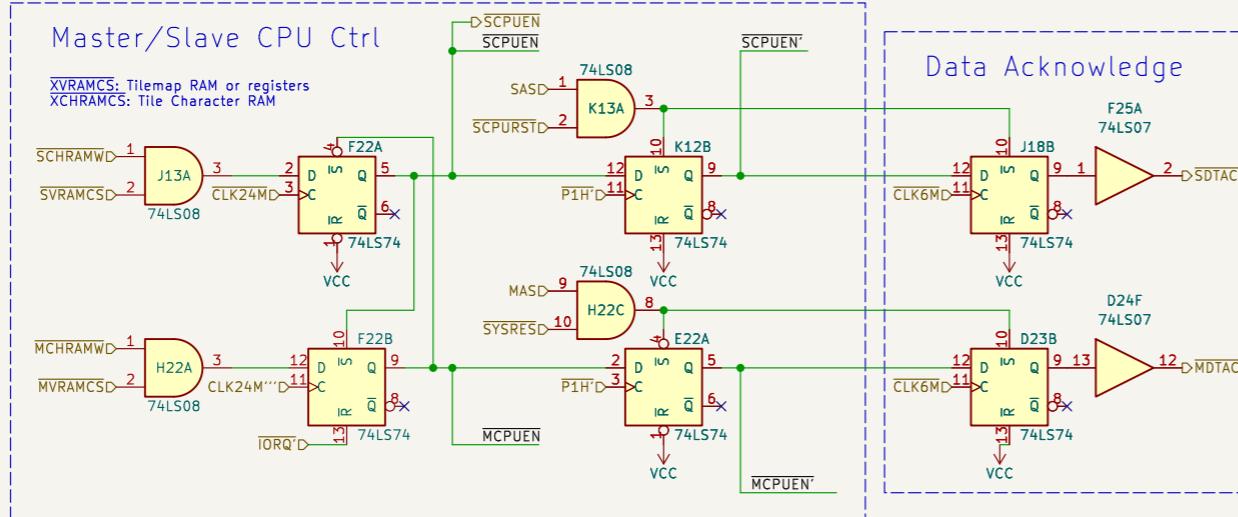
File: shram.kicad\_sch

**Title: Gradius 3**Size: A3 Date: 2024-04-11  
KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

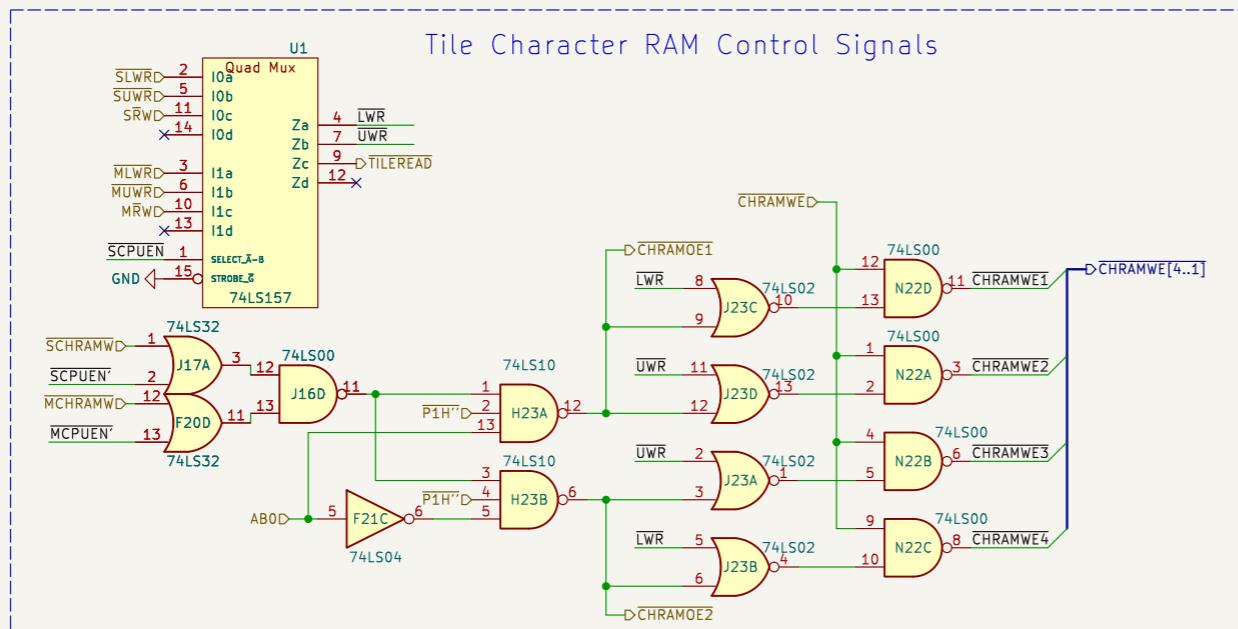
Rev: Id: 4/12

1 2 3 4 5 6 7 8

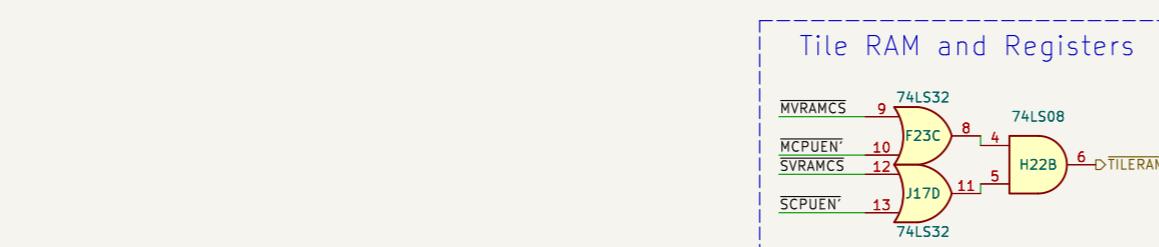
A



B



C

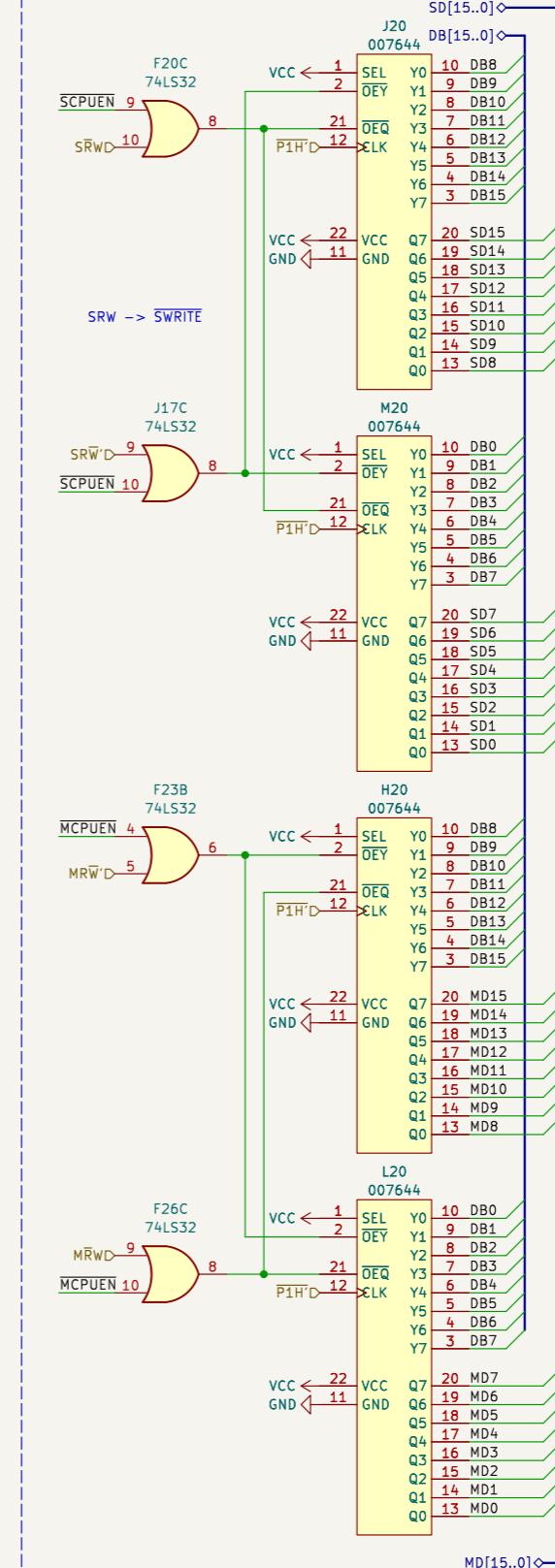


D

E

F

### Tile Layers – Shared Data Bus



Ulf Skutnabba, twitter: @skutis77

**Konami GX945**

Sheet: /Tile Logic/

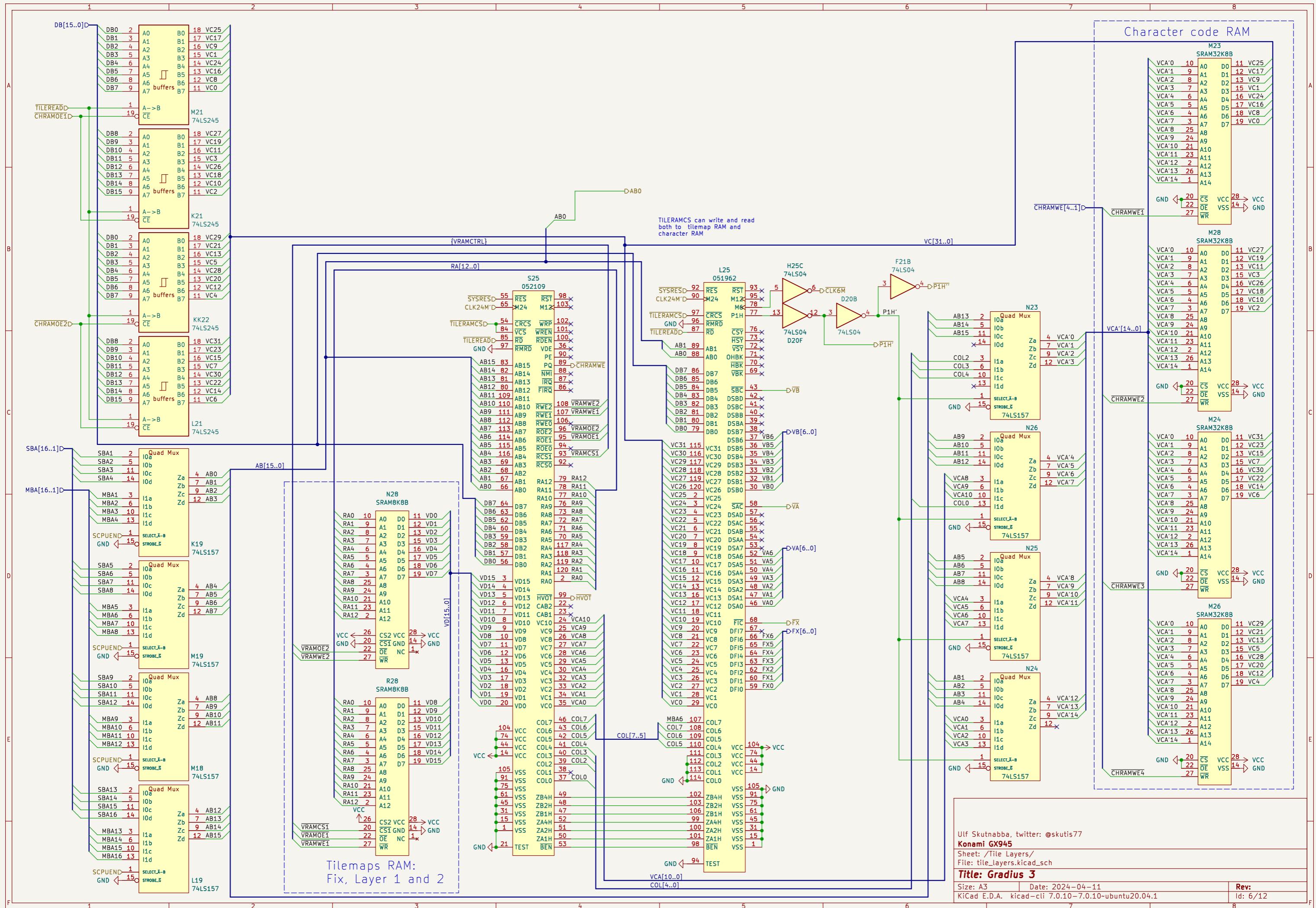
File: tile\_logic.kicad\_sch

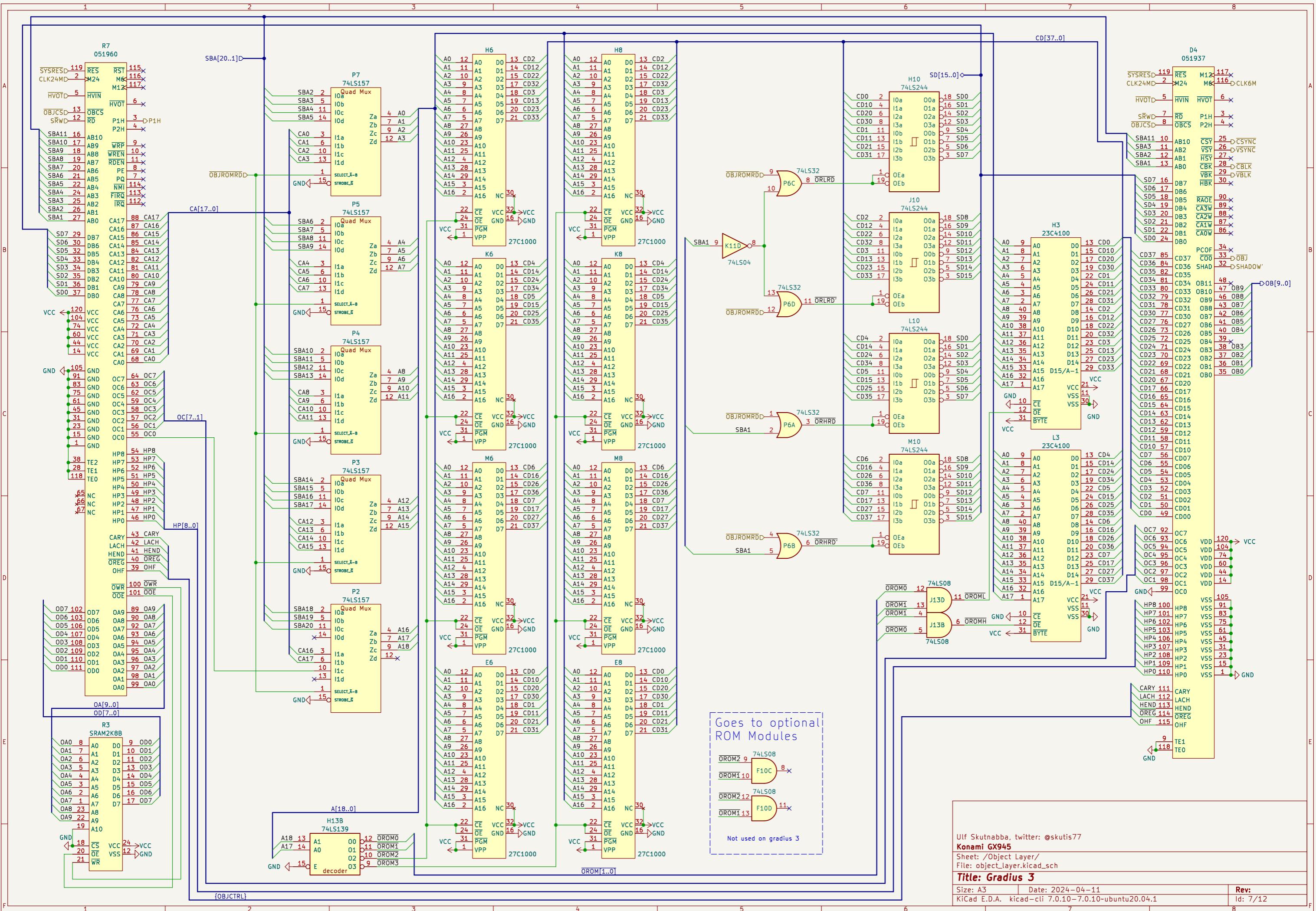
**Title: Gradius 3**

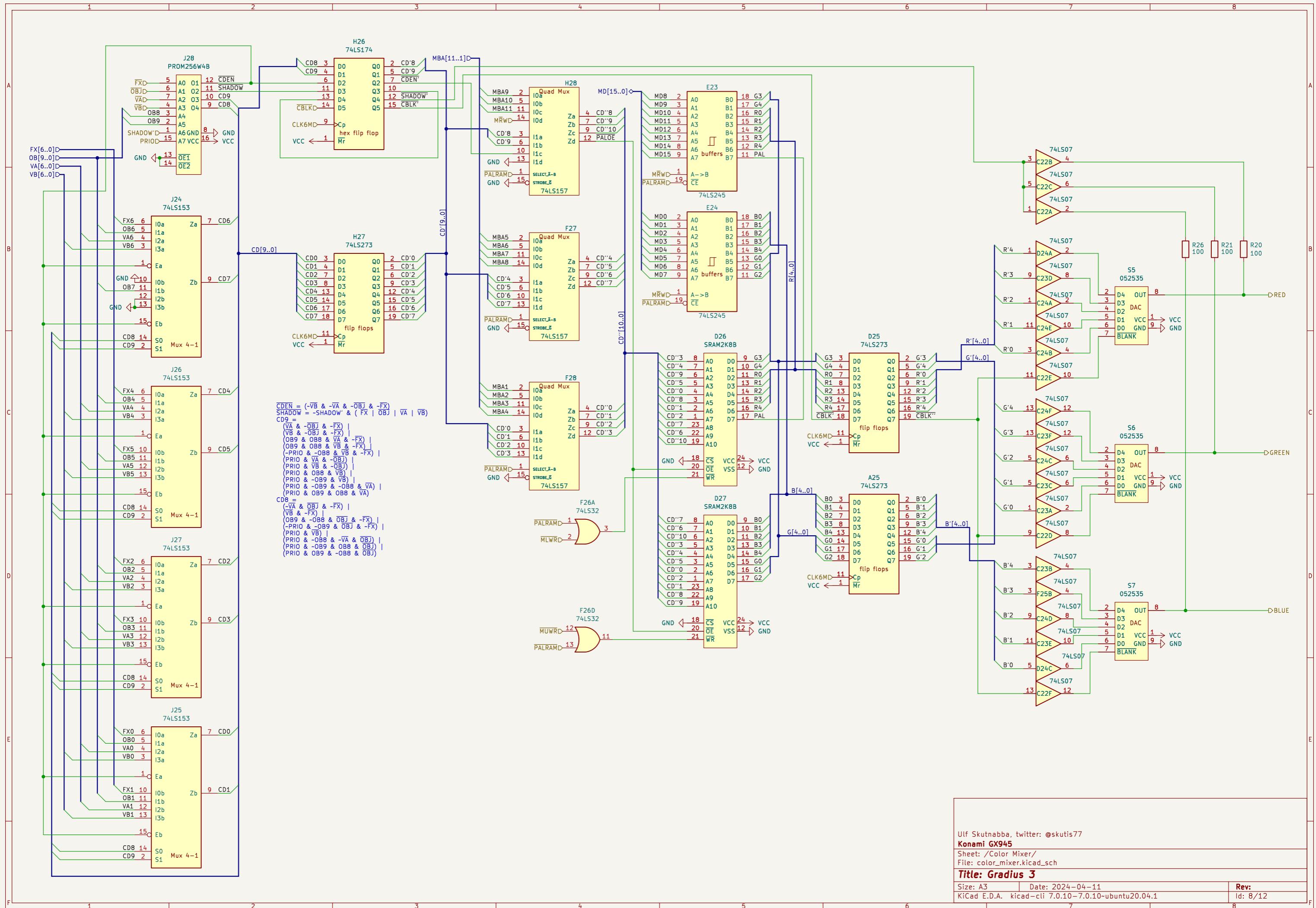
Size: A3 Date: 2024-04-11  
KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

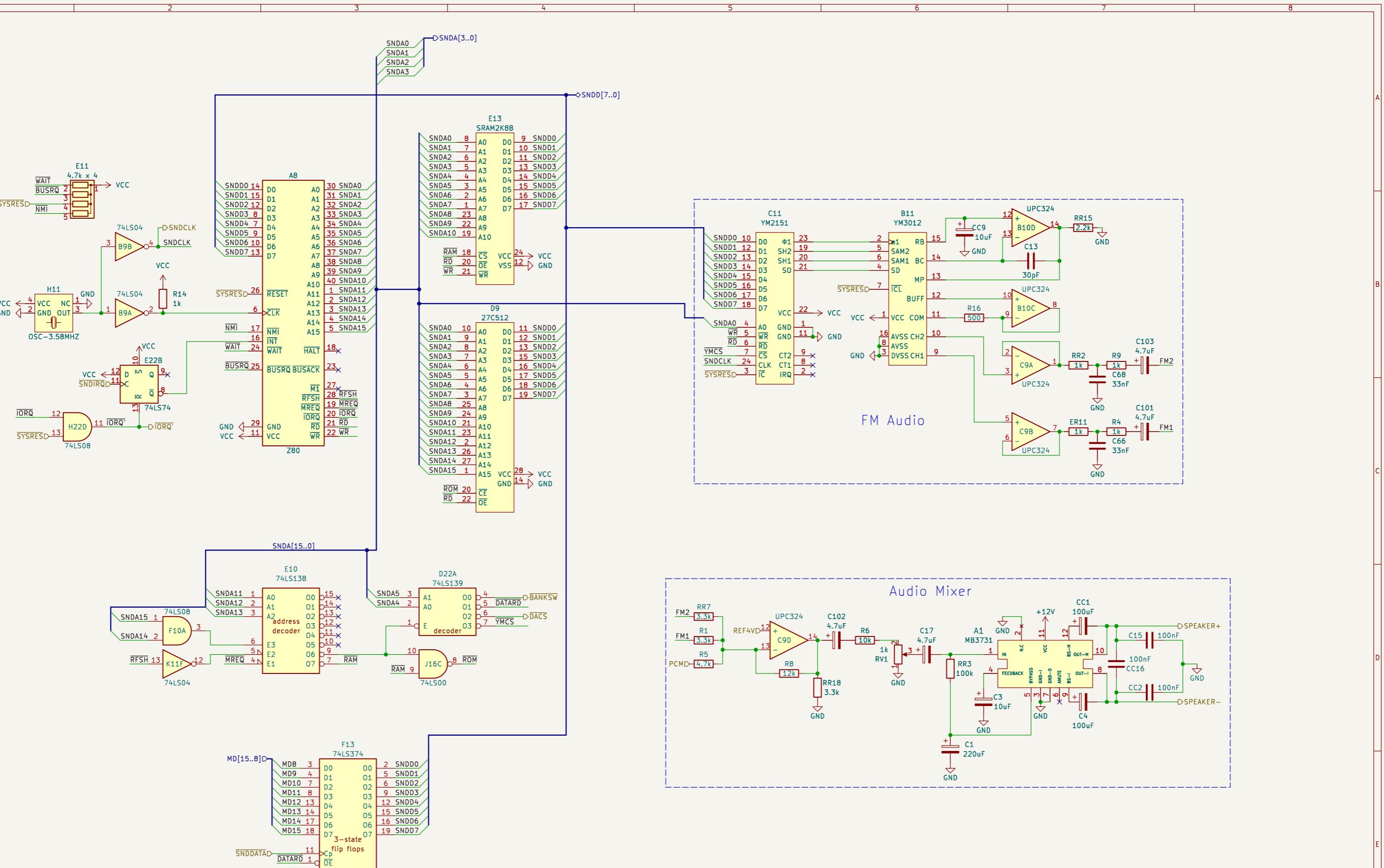
Rev: Id: 5/12

1 2 3 4 5 6 7 8









Ulf Skutnabba, twitter: @skutis77

Konami GX945

Sheet: /Sound/

File: sound.kicad\_sch

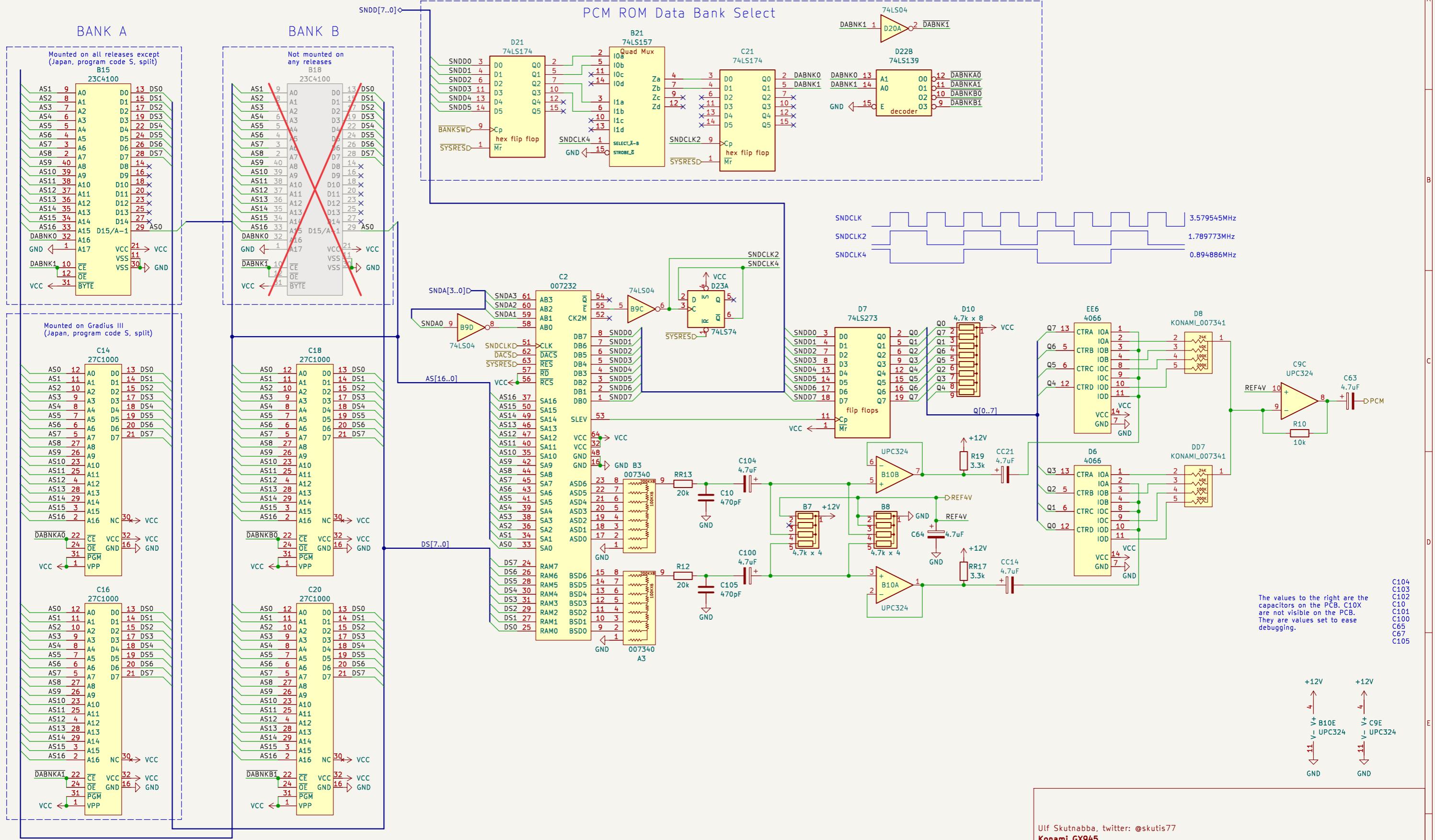
Title: Gradius 3

Size: A3 Date: 2024-04-11

KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

Rev: 9/12

B15 and B18 do not follow the standard Mask ROM behaviour.  
The BYTE mode select must be selected from factory and pin 31 is probably not connected.



Ulf Skutnabba, twitter: @skutis77

Konami GX945

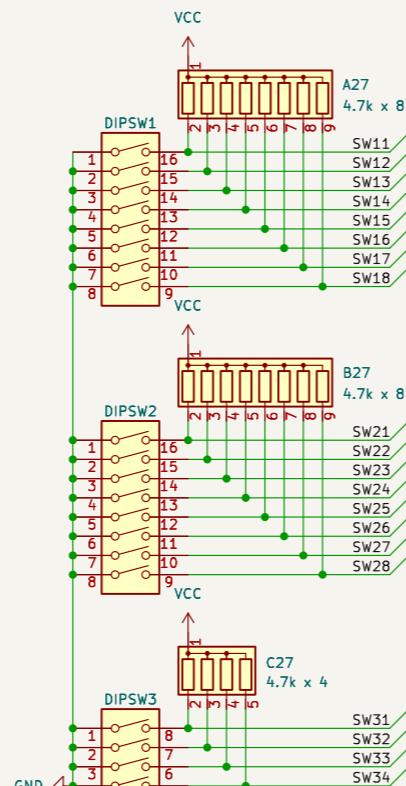
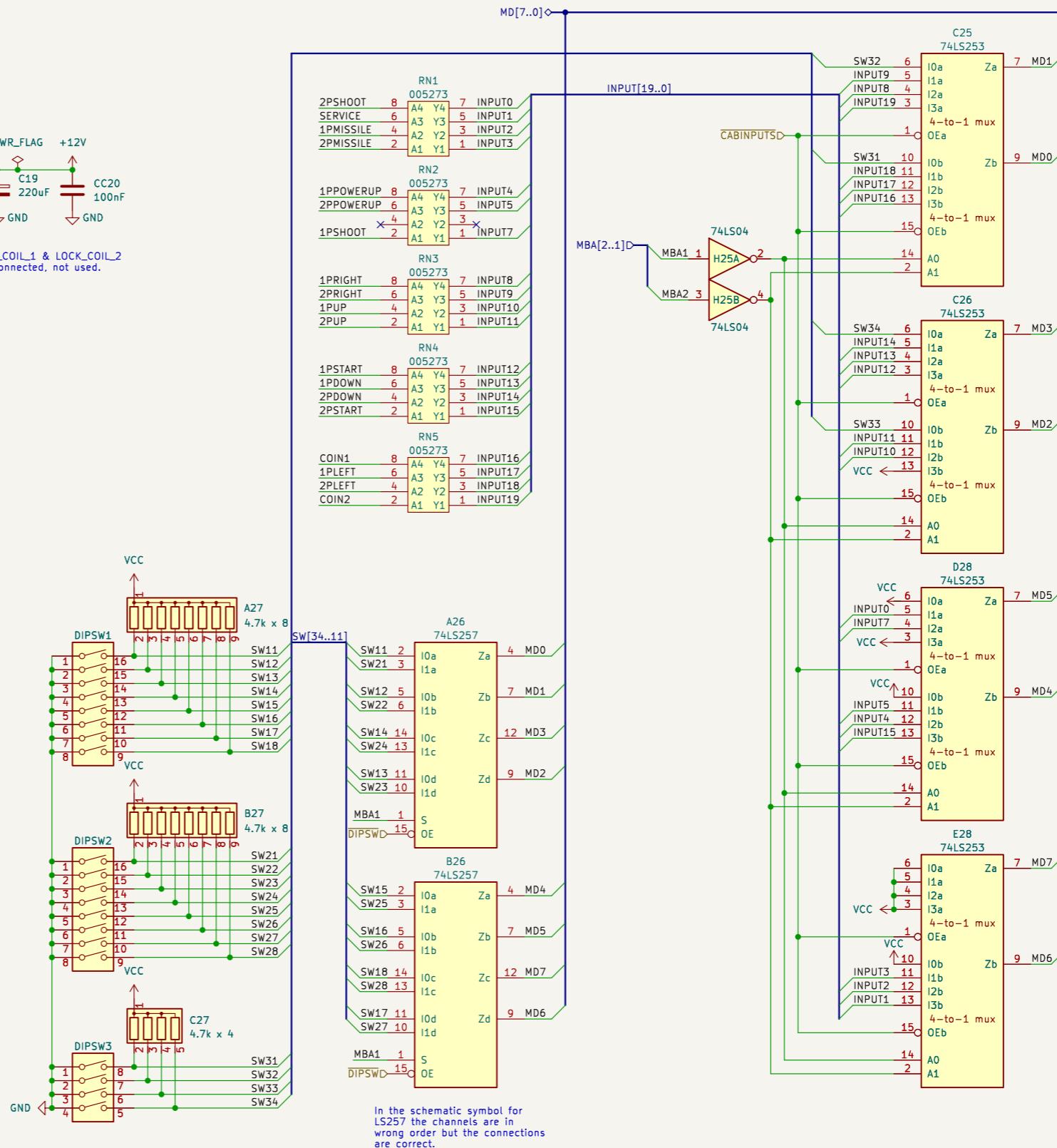
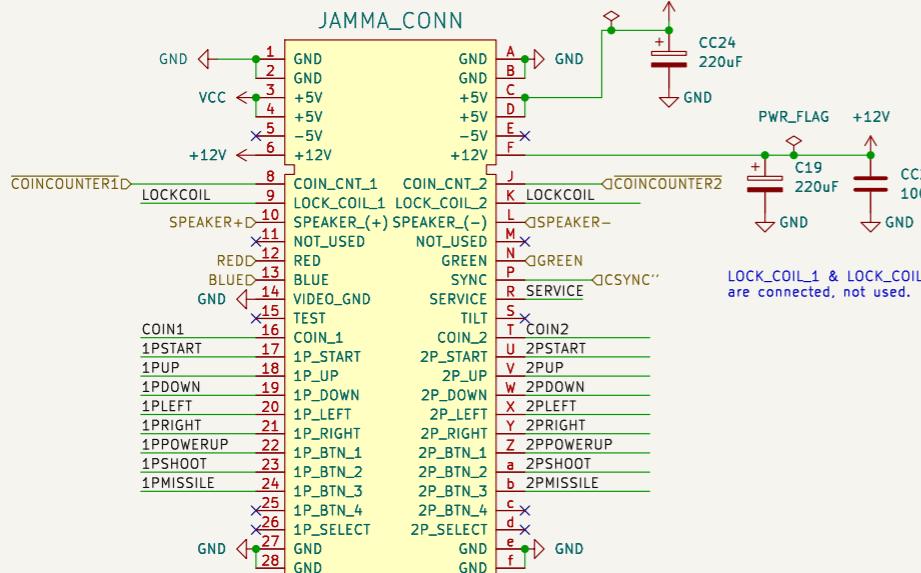
Sheet: /PCM/

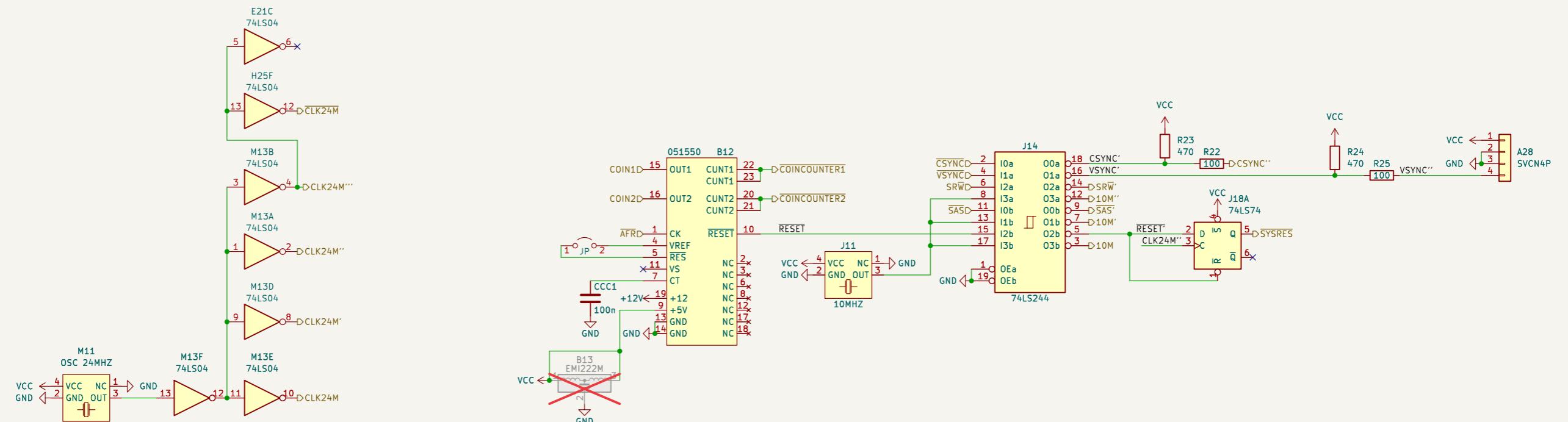
File: pcm.kicad\_sch

Title: Gradius 3

Size: A3 Date: 2024-04-11  
KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

Rev: Id: 10/12





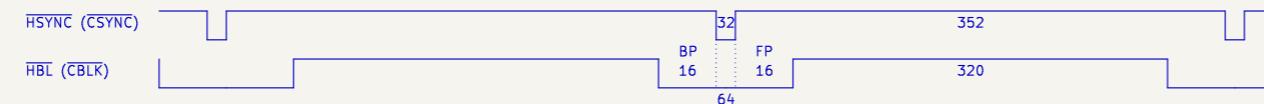
### Horizontal and vertical synch timing diagrams

The pixel clock is derived from the 24MHz oscillator.  
Pixel clock OVCK:  $f = 24\text{MHz} / 4 = 6\text{MHz}$

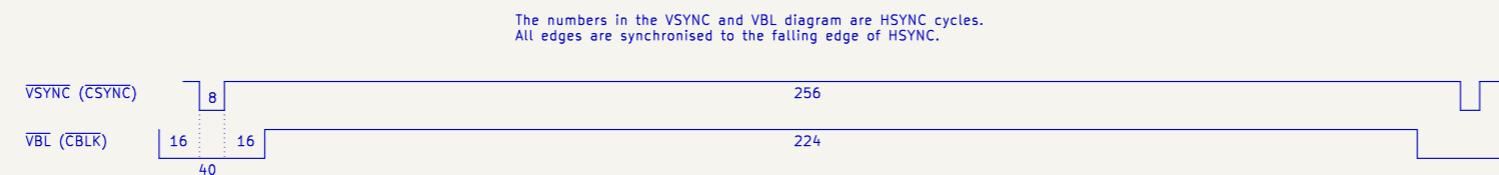
The numbers in the HSYNC and HBL diagram are pixel clock cycles.  
All edges are synchronised to the rising edge of the pixel clock.

The signals have been measured at the output of the  
graphic chips.

If horizontal blanking is measured at the RGB DACs, the blanking  
is delayed 2 pixel clocks relative to composite sync. This  
gives BP = 14 and FP = 18.



HSYNC and HBL  
Frequency  $f = 6\text{MHz} / 384 = 15.625\text{kHz}$ .  
Period  $T = 1/f = 64\text{us}$ .



VSYNC and VBL:  
Frequency  $f = 15.625\text{kHz} / 264 = 59.1856\text{Hz}$   
Period  $T = 1/f = 1 / 59.1856\text{Hz} = 16.896\text{ms}$

Ulf Skutnabba, twitter: @skutis77

Konami GX945

Sheet: /Misc/

File: misc.kicad\_sch

Title: Gradius 3

Size: A3 Date: 2024-04-11  
KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

Rev: Id: 12/12