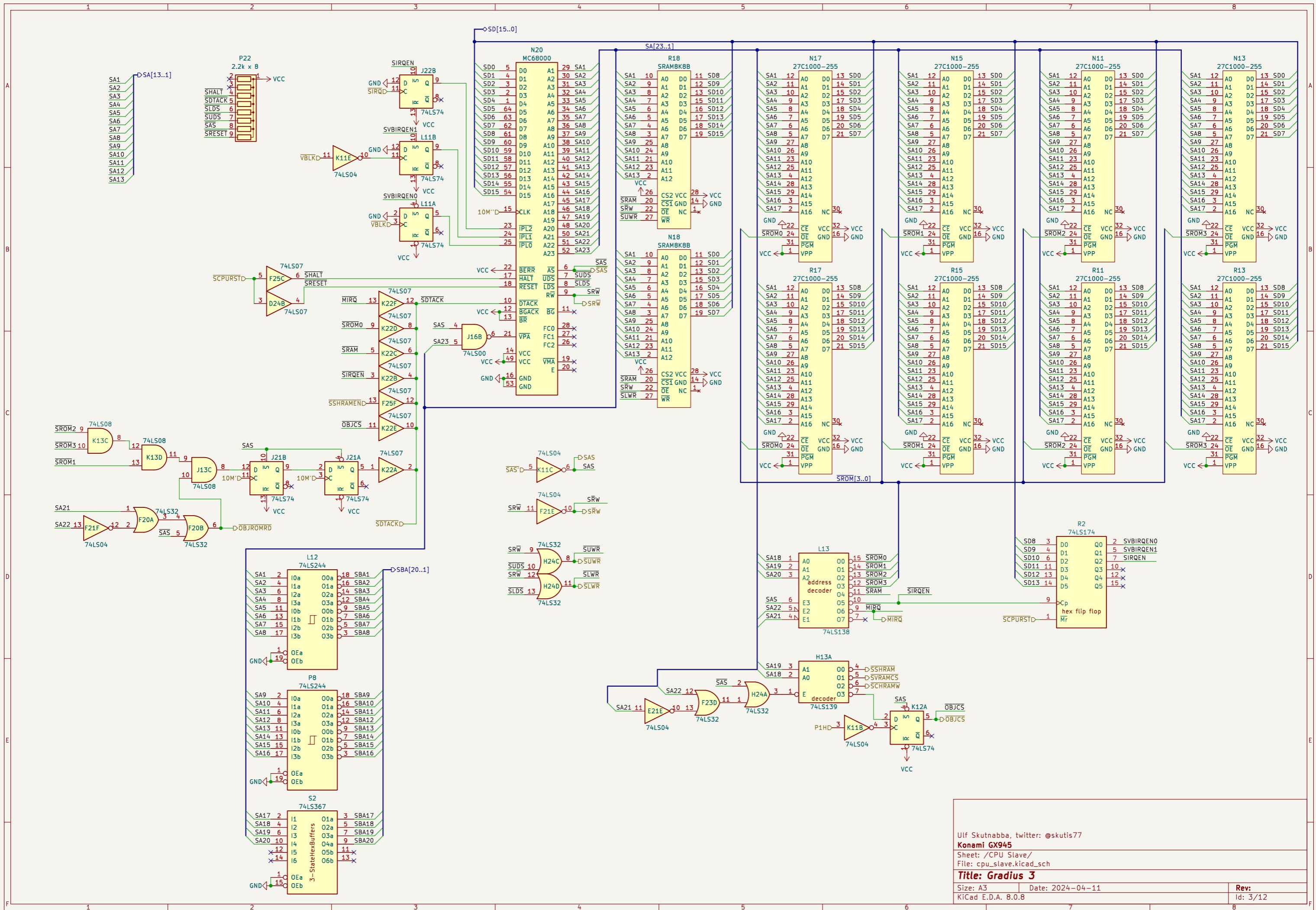




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Konami GX945Sheet: /CPU Master/
File: cpu_master.kicad_sch**Title: Gradius 3**Size: A3 Date: 2024-04-11
KiCad E.D.A. 8.0.8

Rev: Id: 2/12



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Konami GX945

Sheet: /CPU Slave/

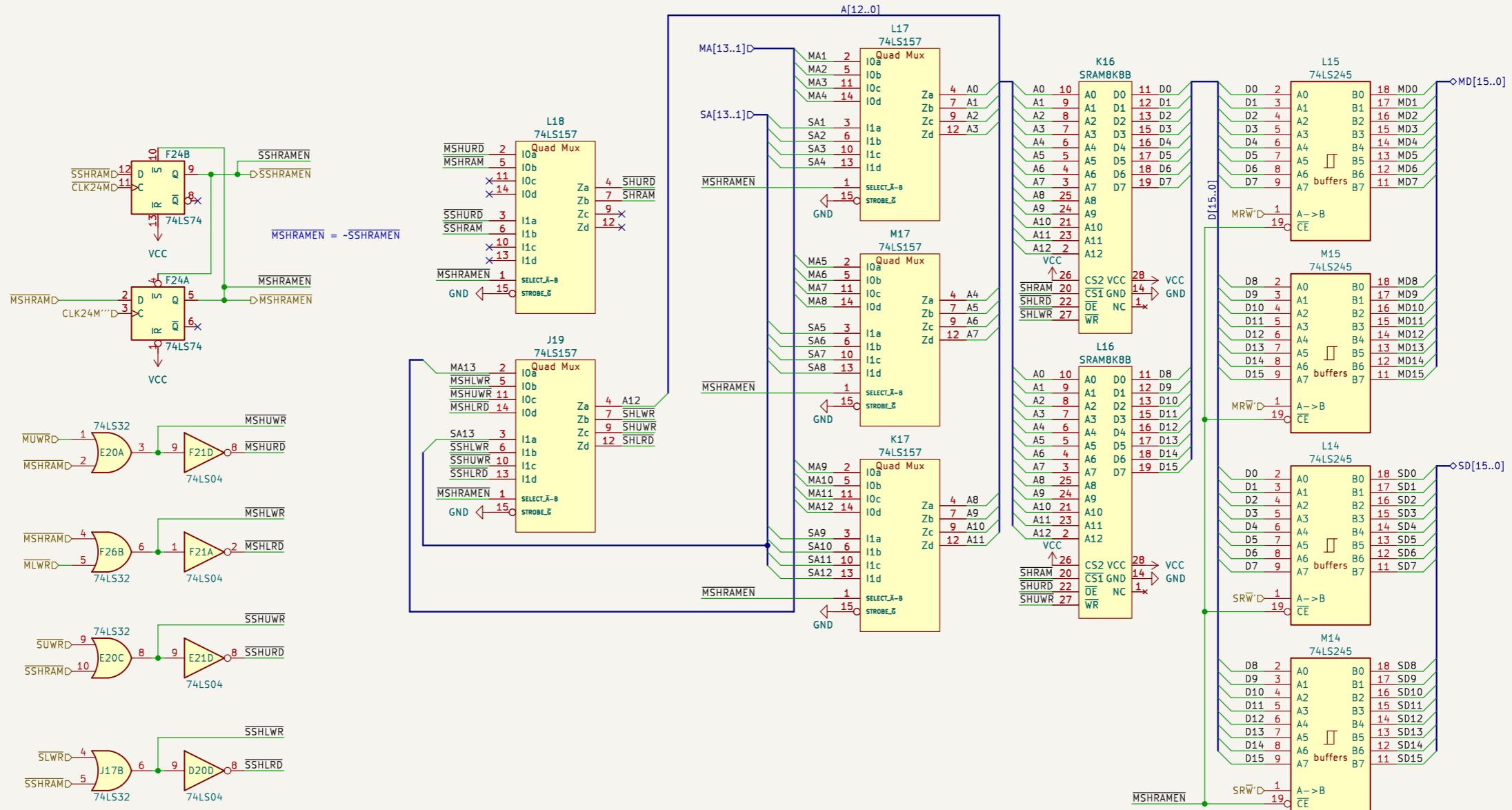
File: cpu_slave.kicad_sch

Title: Gradius 3

Size: A3 Date: 2024-04-11

KiCad E.D.A. 8.0.8

Rev: 3/12



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Konami GX945

Sheet: /Shared RAM/

File: shram.kicad_sch

Title: Gradius 3

Size: A3 Date: 2024-04-11

KiCad E.D.A. 8.0.8

Rev:

Id: 4/12

1 2 3 4 5 6 7 8

A



B



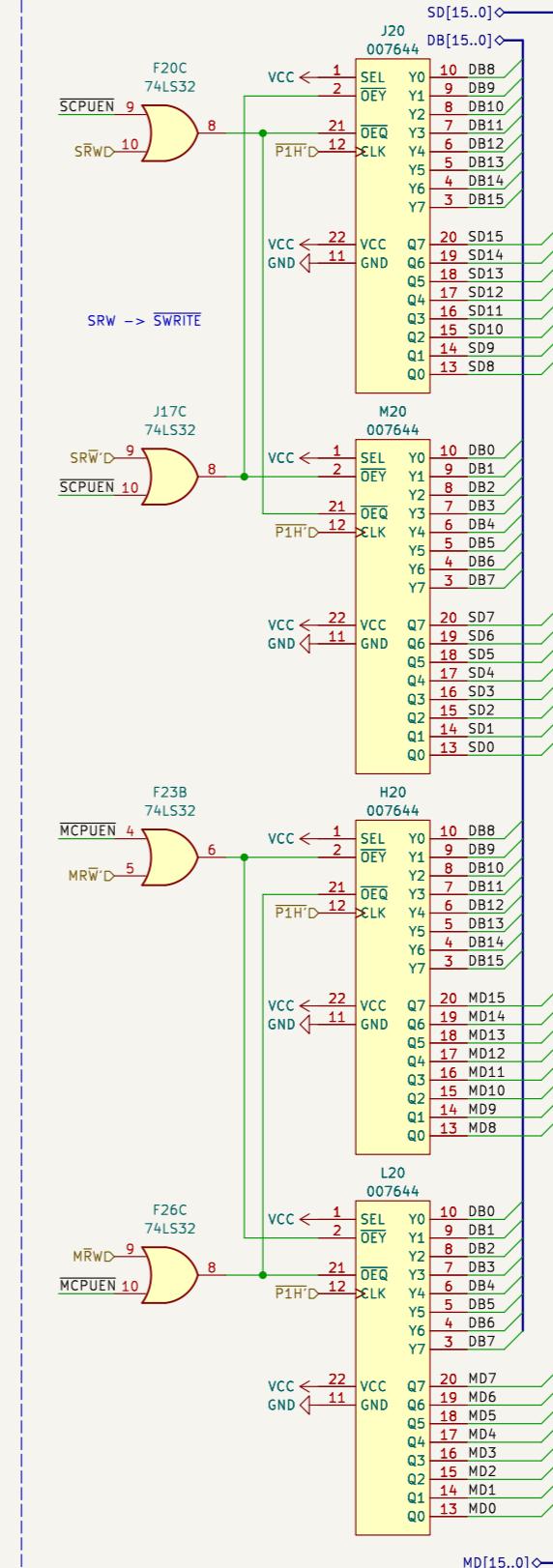
C

D

E

F

Tile Layers – Shared Data Bus



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Konami GX945

Sheet: /Tile Logic/

File: tile_logic.kicad_sch

Title: Gradius 3

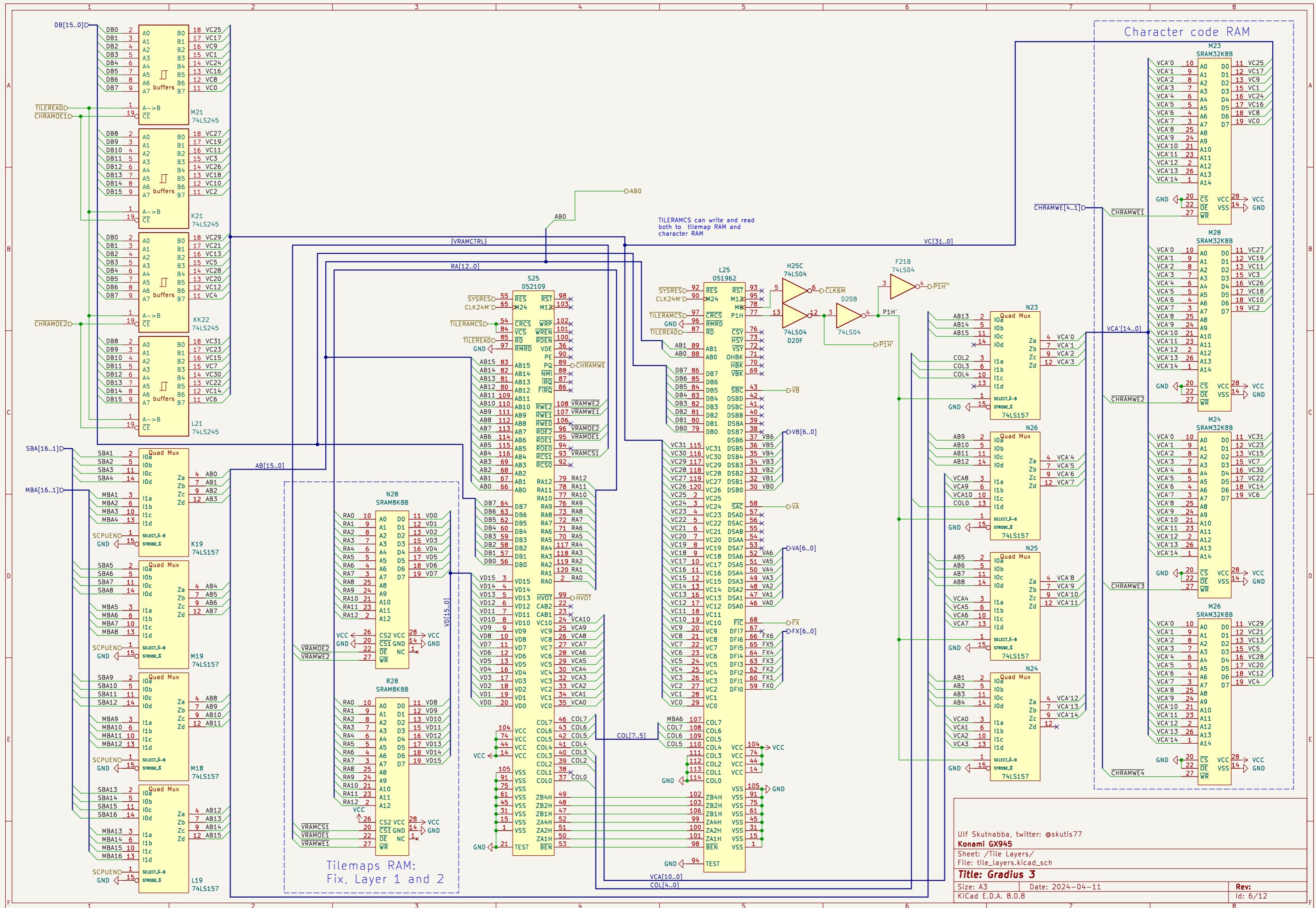
Size: A3 Date: 2024-04-11

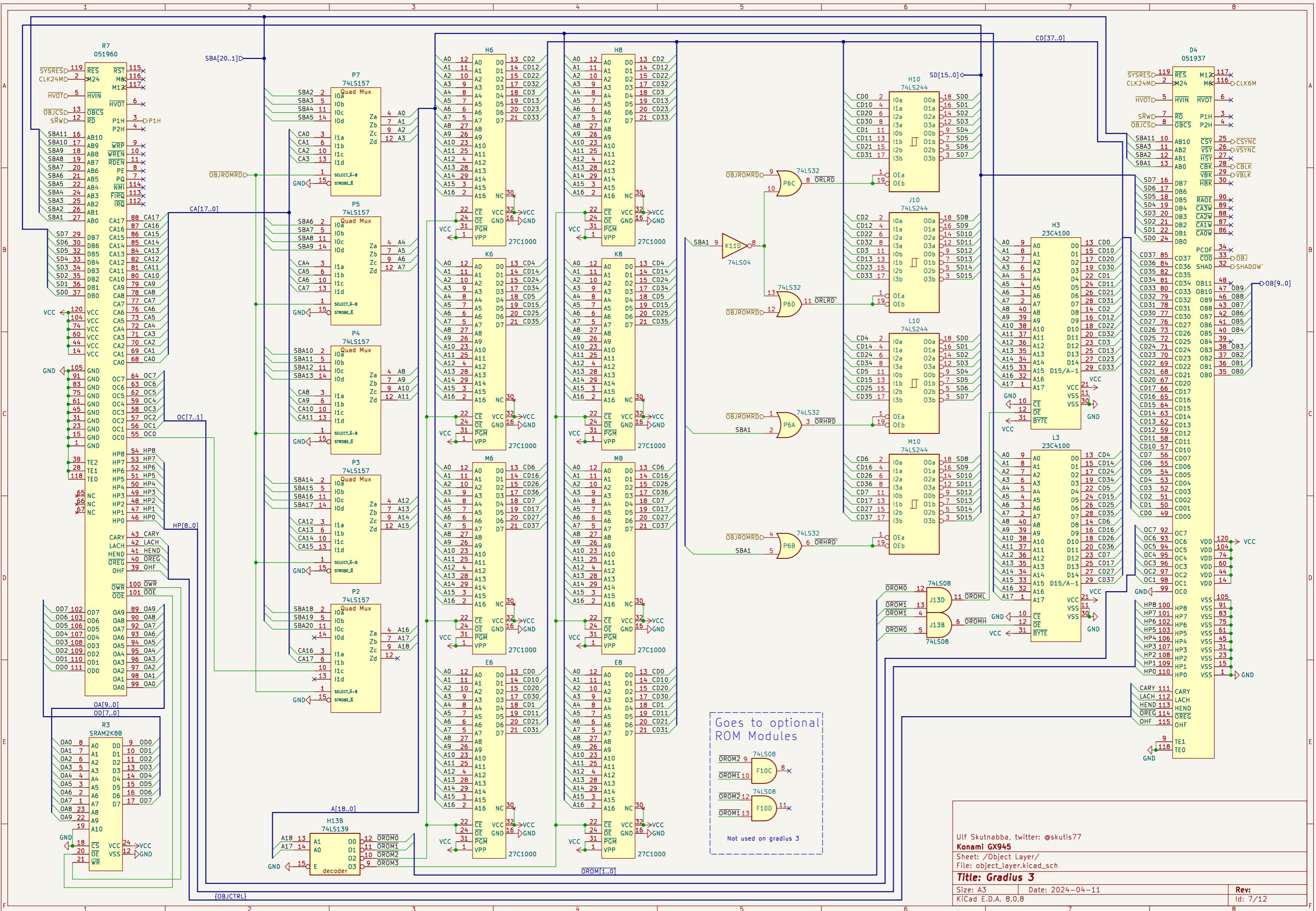
KiCad E.D.A. 8.0.8

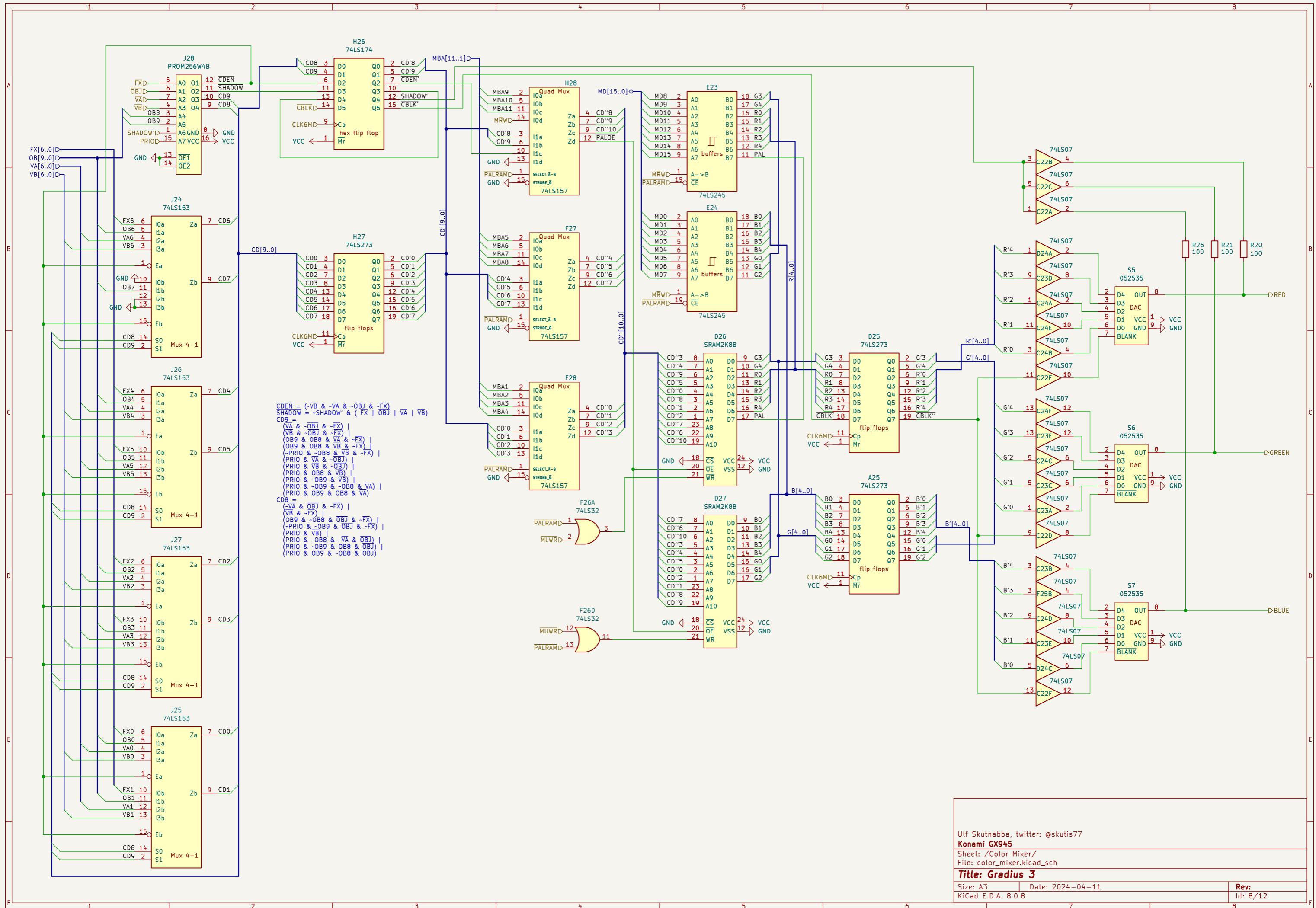
Rev:

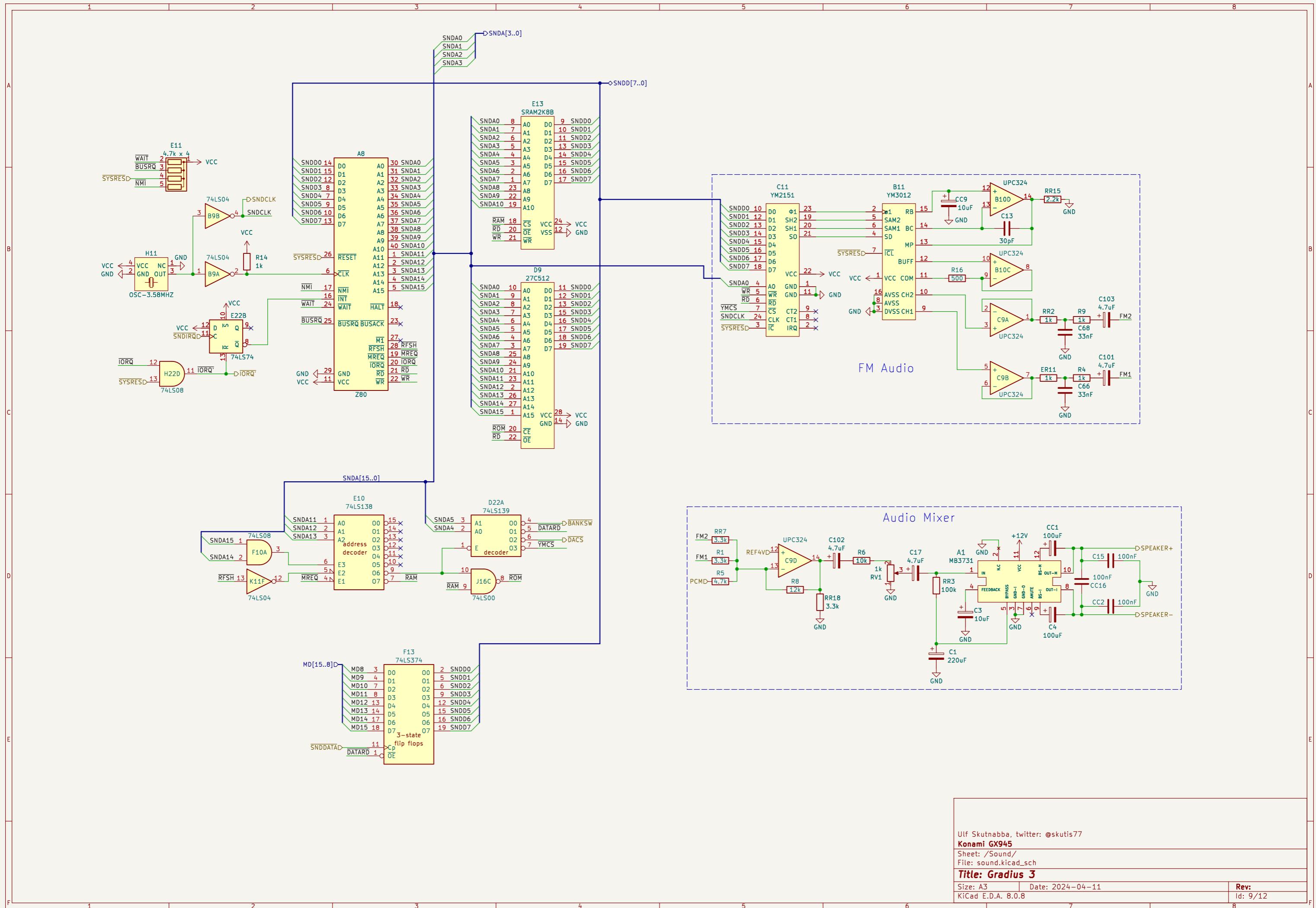
Id: 5/12

1 2 3 4 5 6 7 8

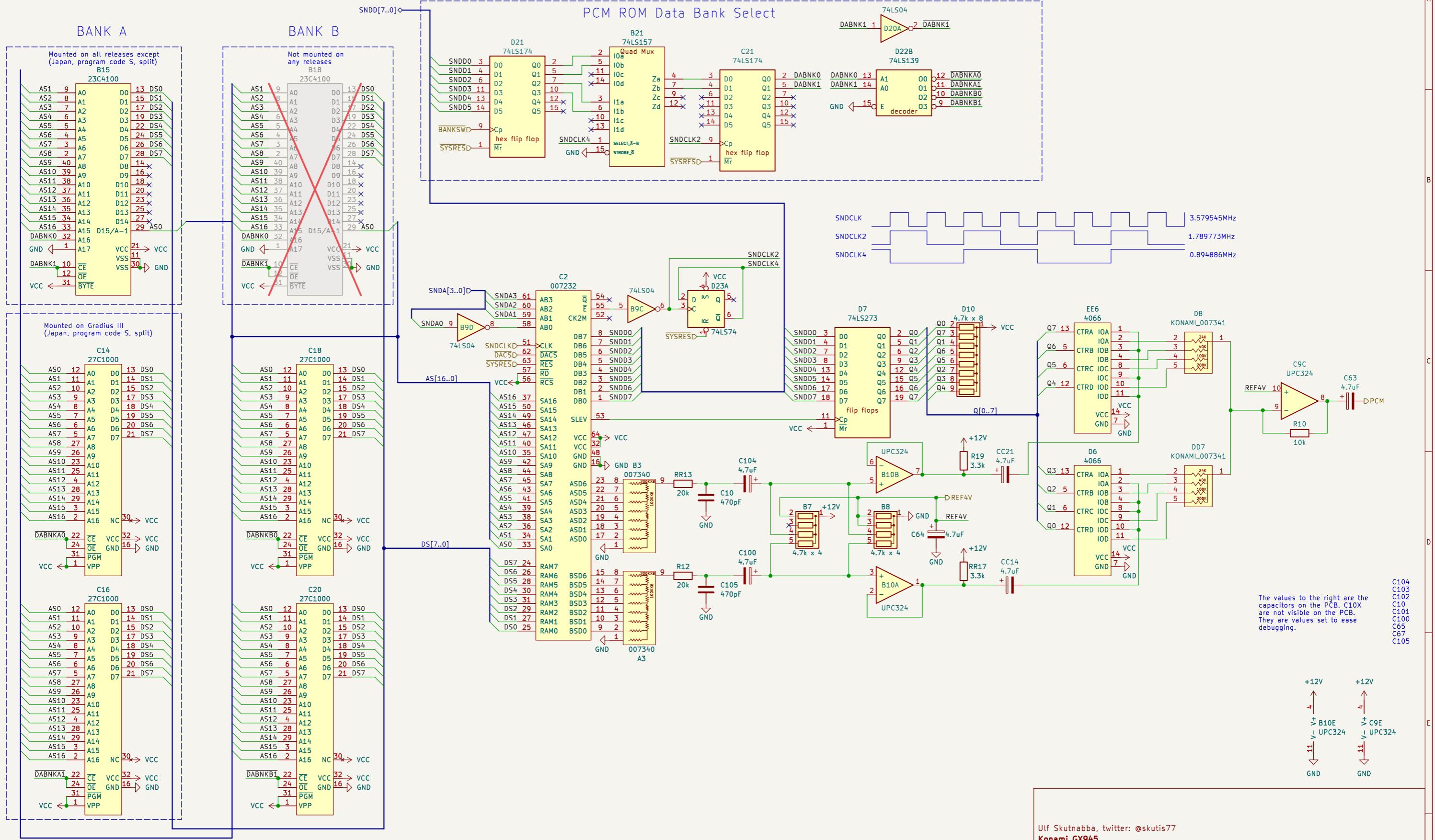








B15 and B18 do not follow the standard Mask ROM behaviour.
The BYTE mode select must be selected from factory and pin 31 is probably not connected.



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Konami GX945

Sheet: /PCM/

File: pcm.kicad_sch

Title: Gradius 3

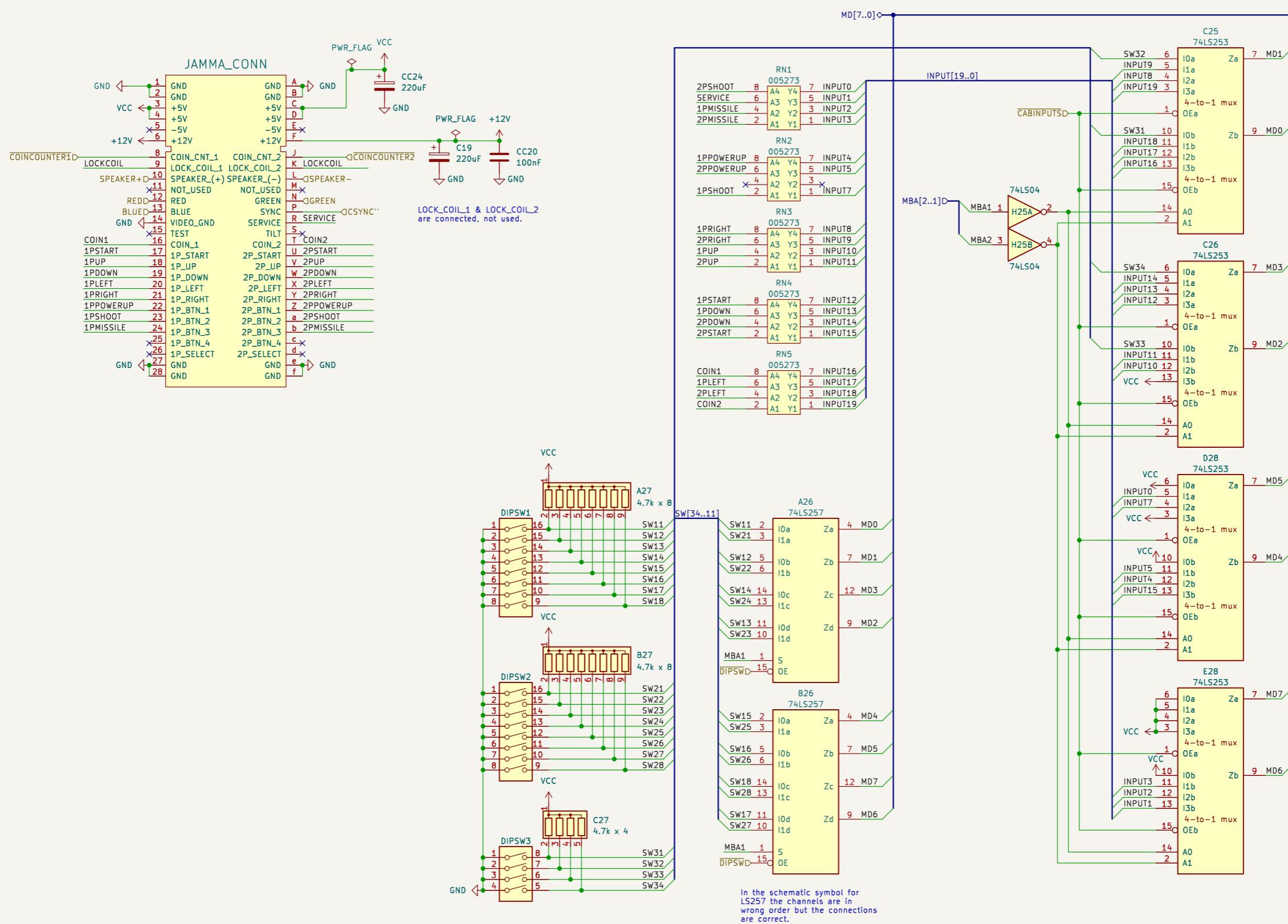
Size: A3 Date: 2024-04-11

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C104
C103
C102
C101
C100
C65
C67
C105

+12V
+12V
GND
GND
+12V
+12V
GND
GND

Rev:
Id: 10/12





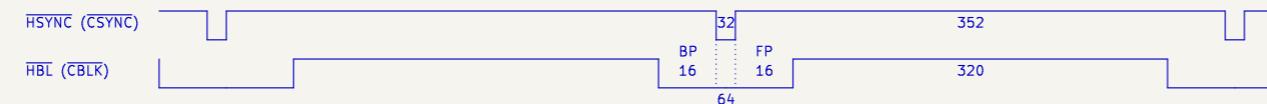
Horizontal and vertical synch timing diagrams

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

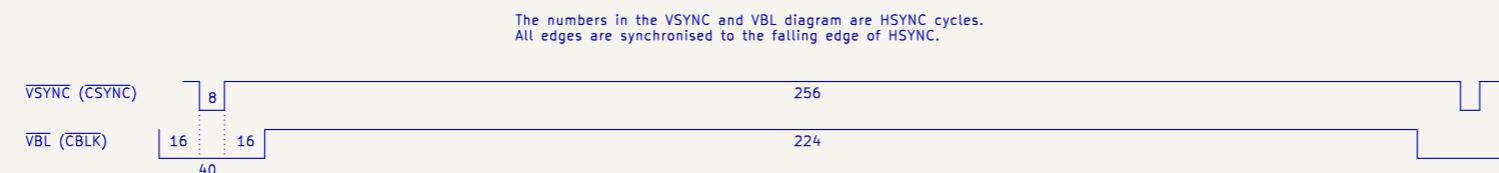
The numbers in the HSYNC and HBL diagram are pixel clock cycles.
All edges are synchronised to the rising edge of the pixel clock.

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 $T = 1/f = 64\mu\text{s}$.



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

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Konami GX945

Sheet: /Misc/

File: misc.kicad_sch

Title: Gradius 3

Size: A3 Date: 2024-04-11

KiCad E.D.A. 8.0.8

Rev:

Id: 12/12