

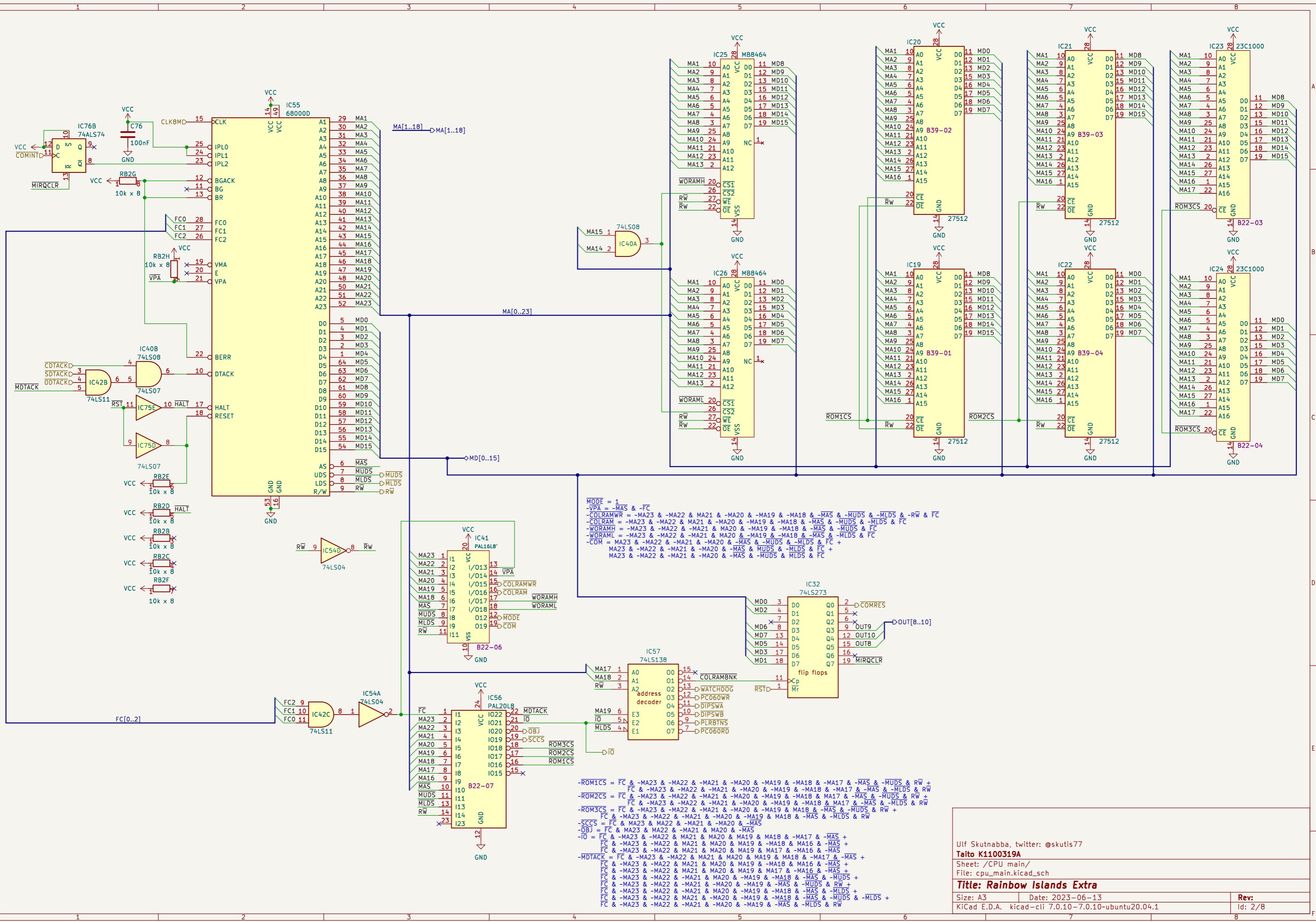
Ulf Skutnabba, twitter: @skutis77

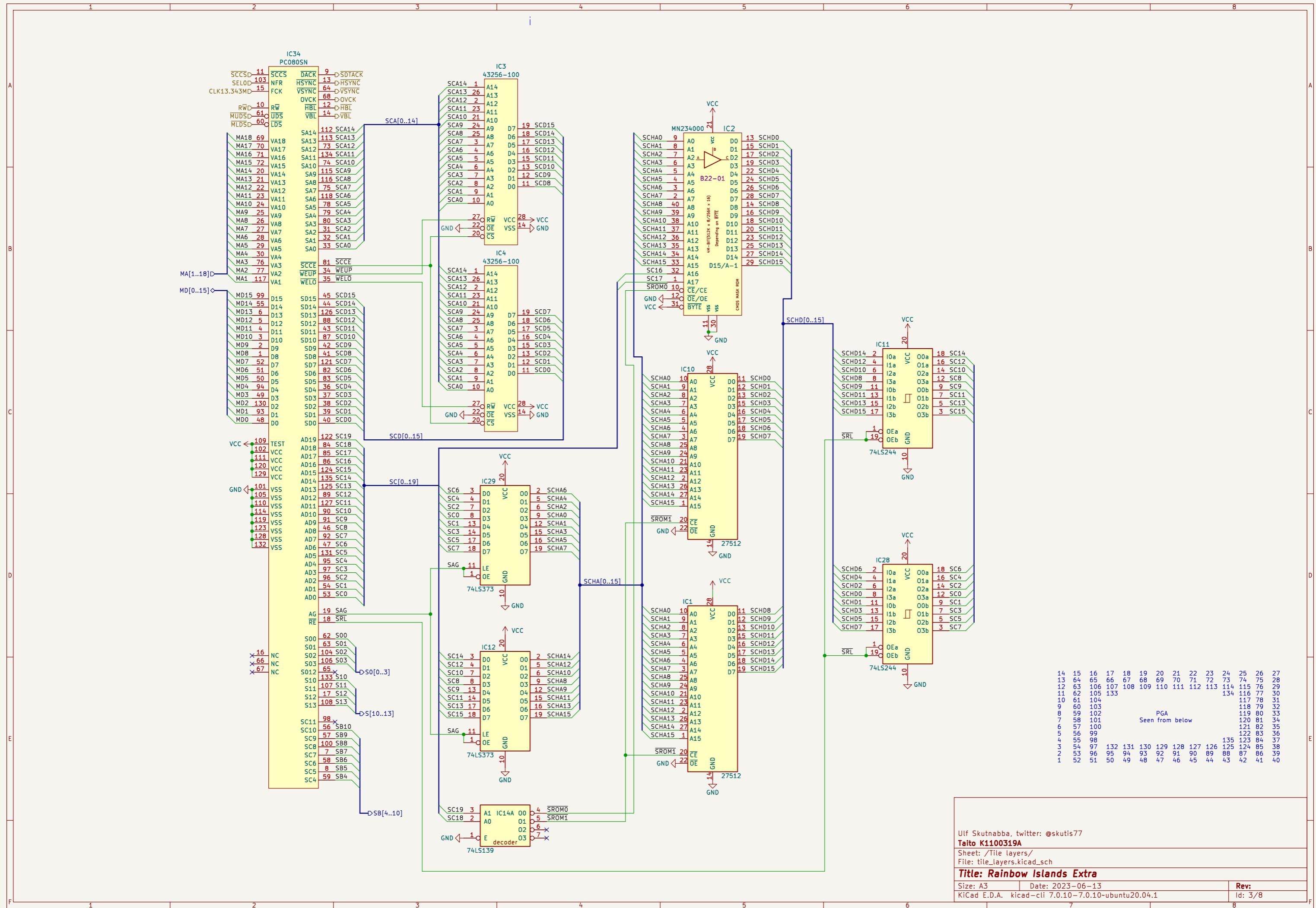
Taito K1100319A

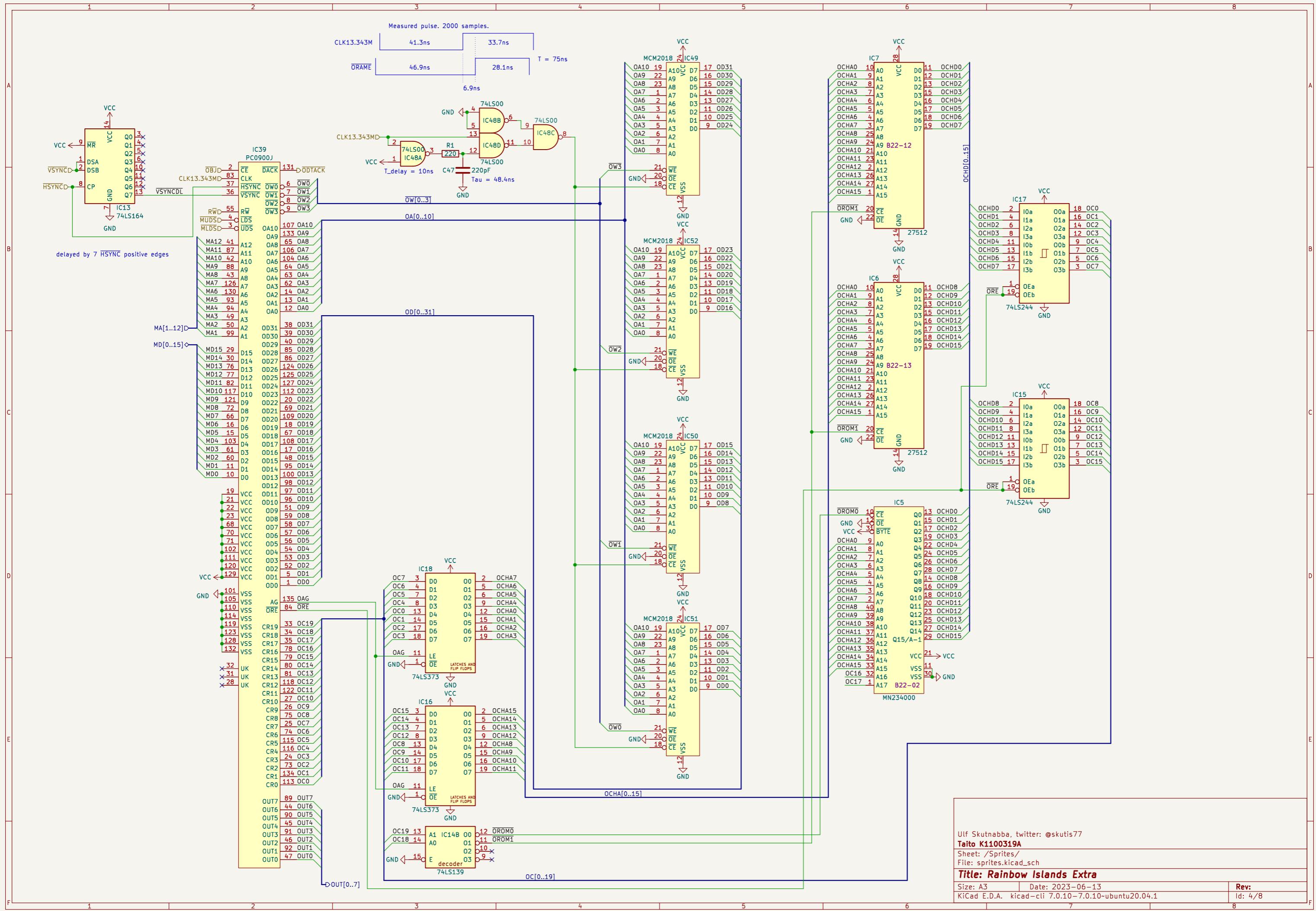
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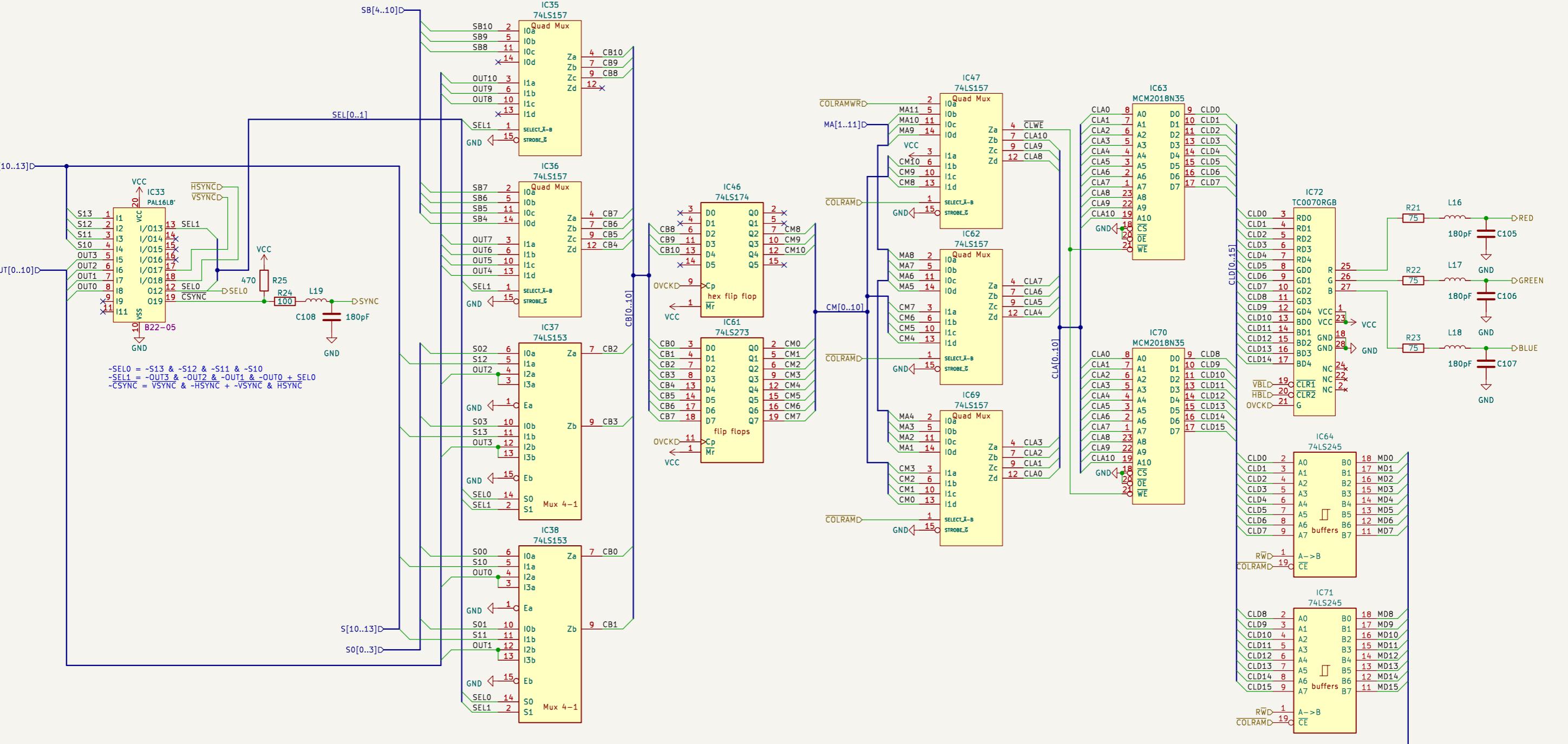
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Title: Rainbow Islands ExtraSize: A3 | Date: 2023-06-13
KiCad E.D.A. kicad-cll 7.0.10-7.0.10-ubuntu20.04.1Rev:
Id: 1/8









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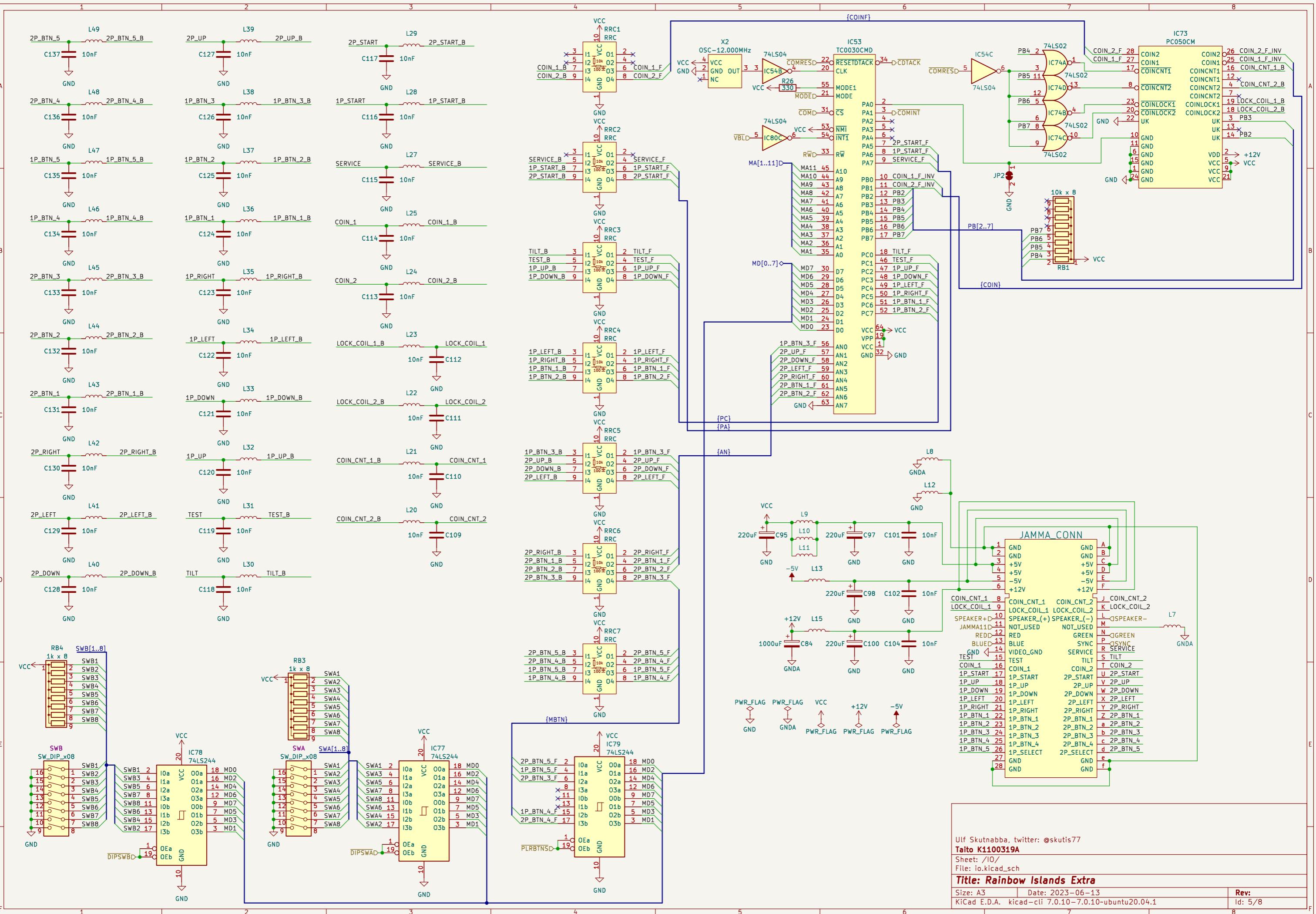
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File: color_mixer.kicad_sch

Title: Rainbow Islands Extra

Size: A3 Date: 2023-06-13
KiCad E.D.A. kicad-cl 7.0.10-7.0.10-ubuntu20.04.1

Rev: Id: 4/8



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Sheet: 10/10

File: io.kicad_sch

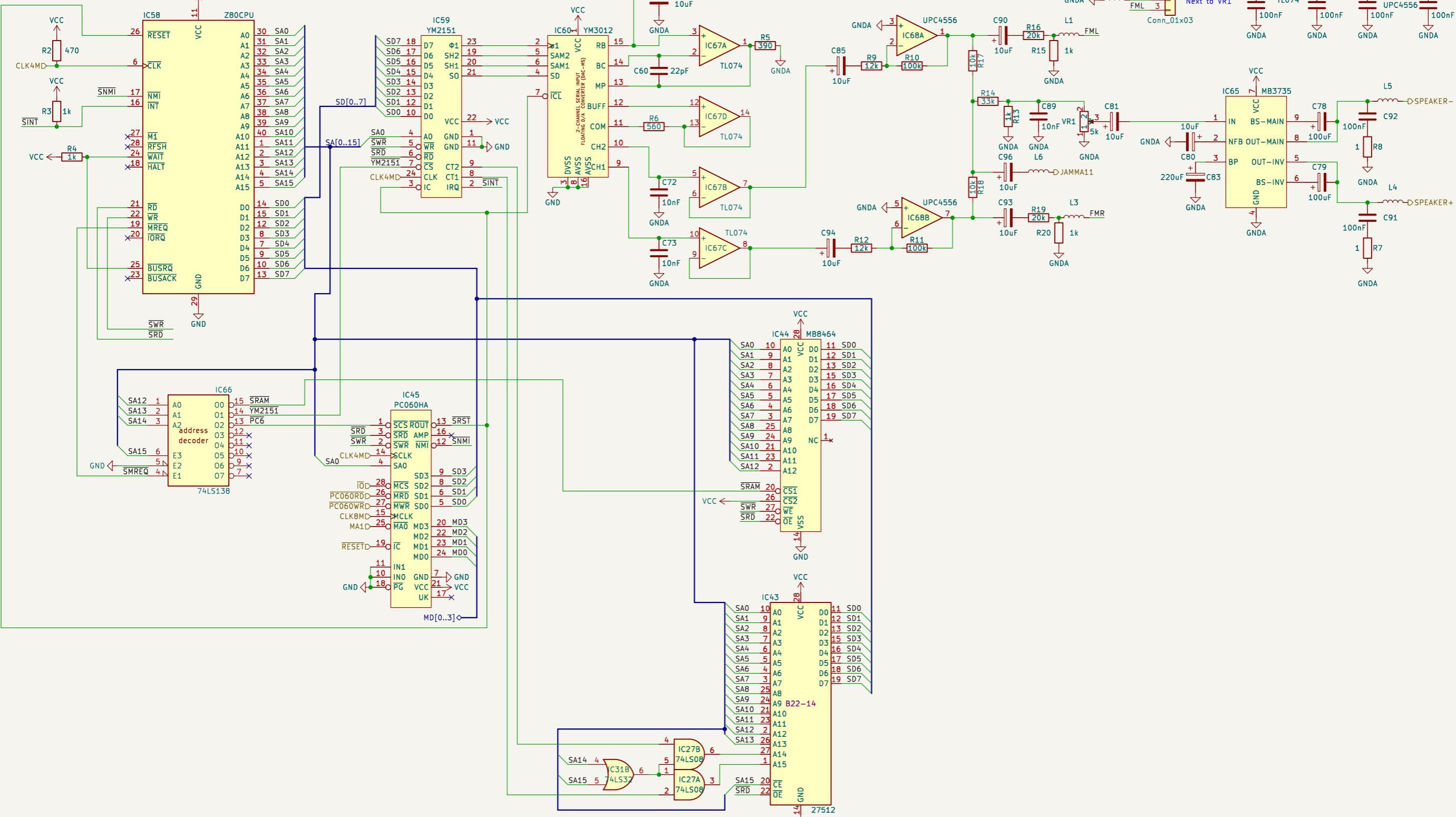
Title: Rainbow Islands Extra

Size: A3 Date: 2023-06-13

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

Rev:

Id: 5/8



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Sheet: /Sound/

File: sound.kicad_sch

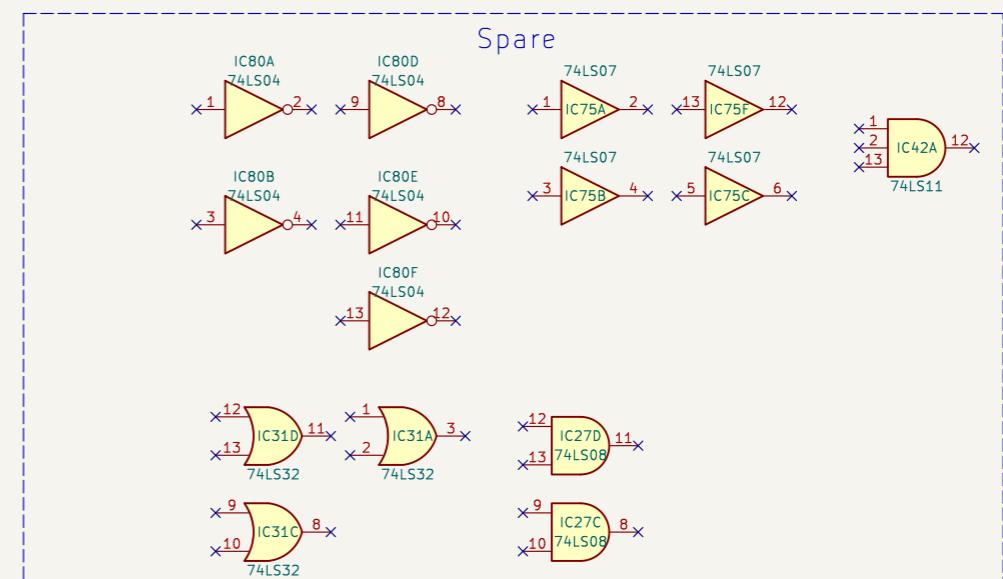
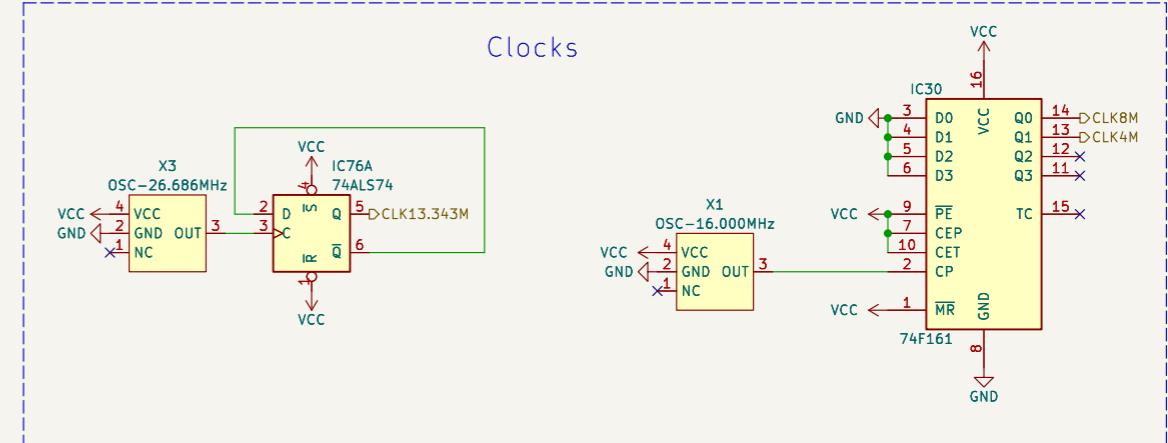
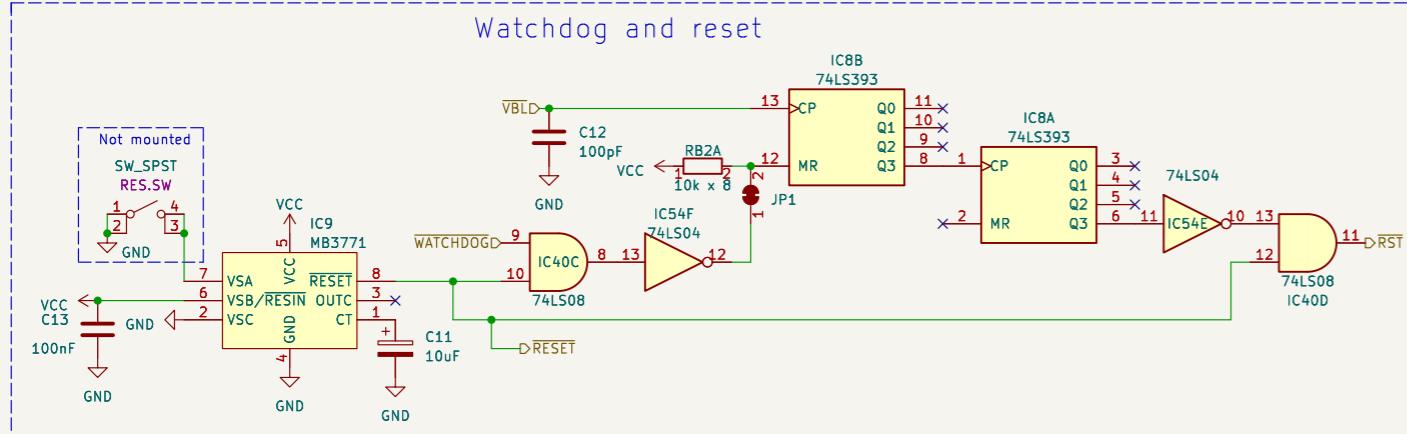
Title: Rainbow Islands Extra

Size: A3 Date: 2023-06-13

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

Rev:

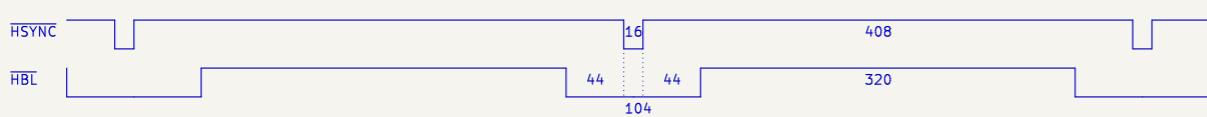
Id: 6/8



Horizontal and vertical synch timing diagrams

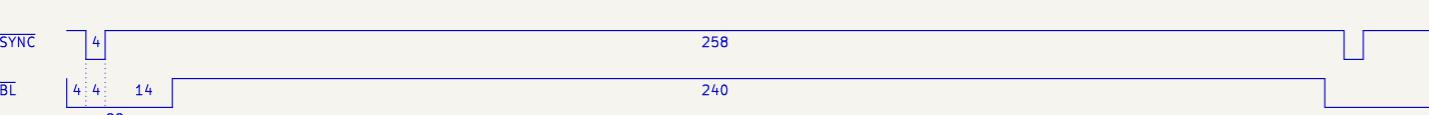
The pixel clock is derived from the 26.686MHz oscillator.
Pixel clock OVCK: $f = 26.686\text{MHz} / 4 = 6.6715\text{MHz}$

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



HSYNC and HBL
Frequency $f = 6.6715\text{MHz} / 424 = 15.734670\text{kHz}$.
Period $T = 1/f = 63.5539\mu\text{s}$.

The numbers in the VSYNC and VBL diagram are HSYNC cycles.
All edges are synchronised to the falling edge of HSYNC.



VSYNC and VBL:
Frequency $f = 15.734670\text{kHz} / 262 = 60.05599\text{Hz}$
Period $T = 1/f = 1 / 15.734670\text{kHz} = 16.6511\text{ms}$

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Sheet: /Misc/
File: misc.kicad_sch

Title: Rainbow Islands Extra

Size: A3 Date: 2023-06-13
KiCad E.D.A. kicad-cliv 7.0.10-7.0.10-ubuntu20.04.1

Rev: 7/8