



Ulf Skutnabba, twitter: @skutis77

Taito K1100319A

Sheet: /

File: risle.kicad\_sch

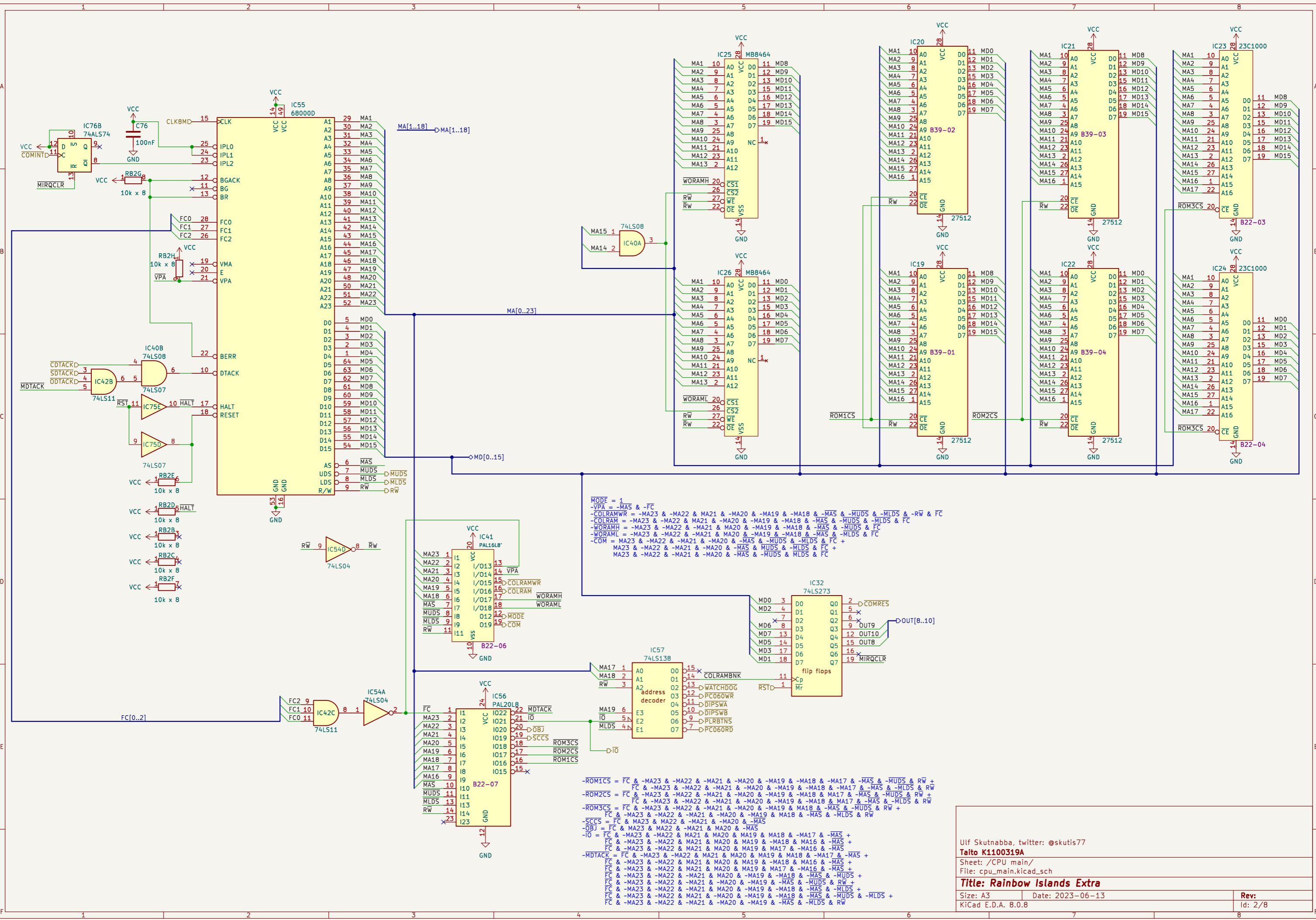
**Title: Rainbow Islands Extra**

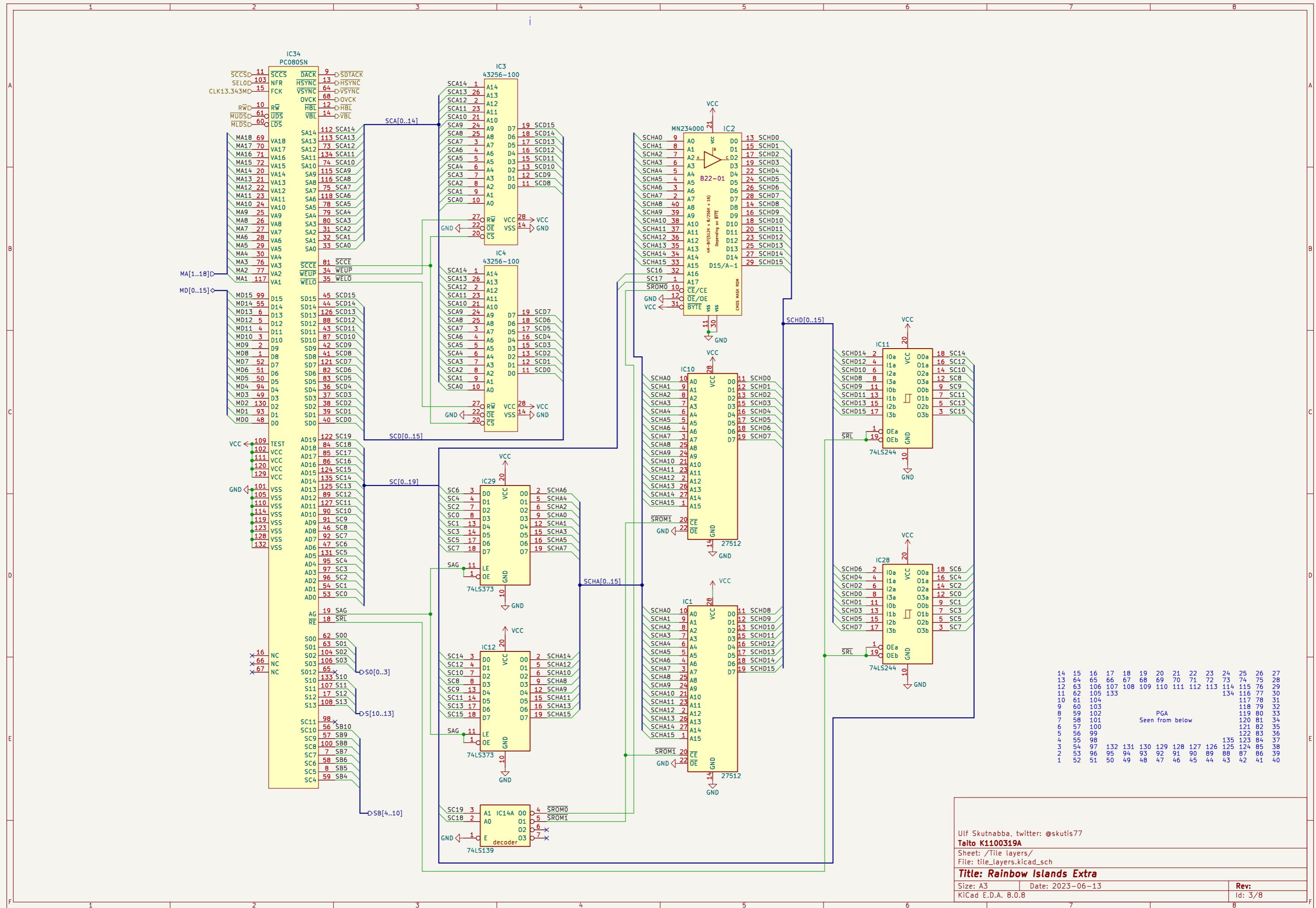
Size: A3 | Date: 2023-06-13

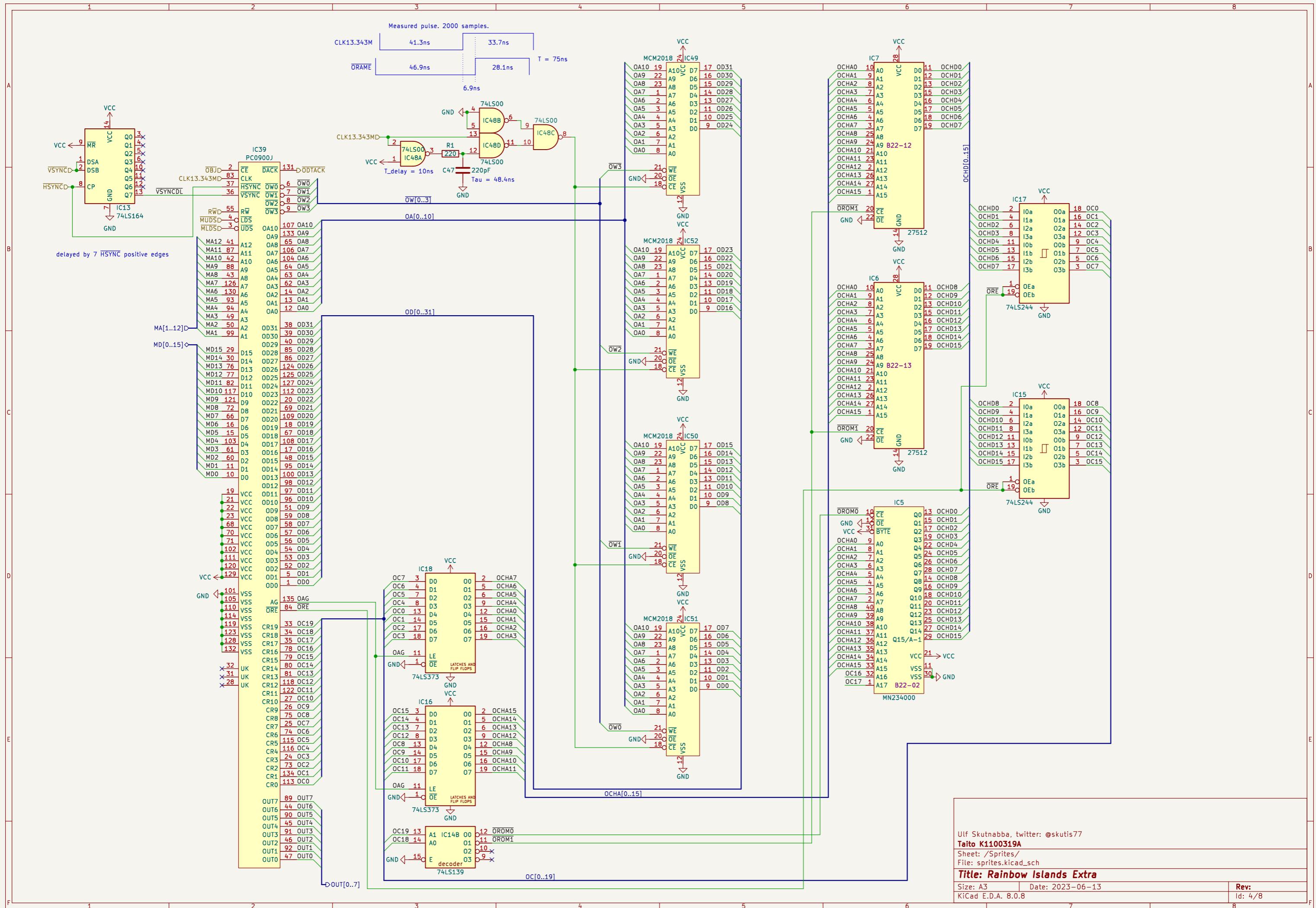
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Id: 1/8









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Sheet: /Color mixer/

File: color\_mixer.kicad\_sch

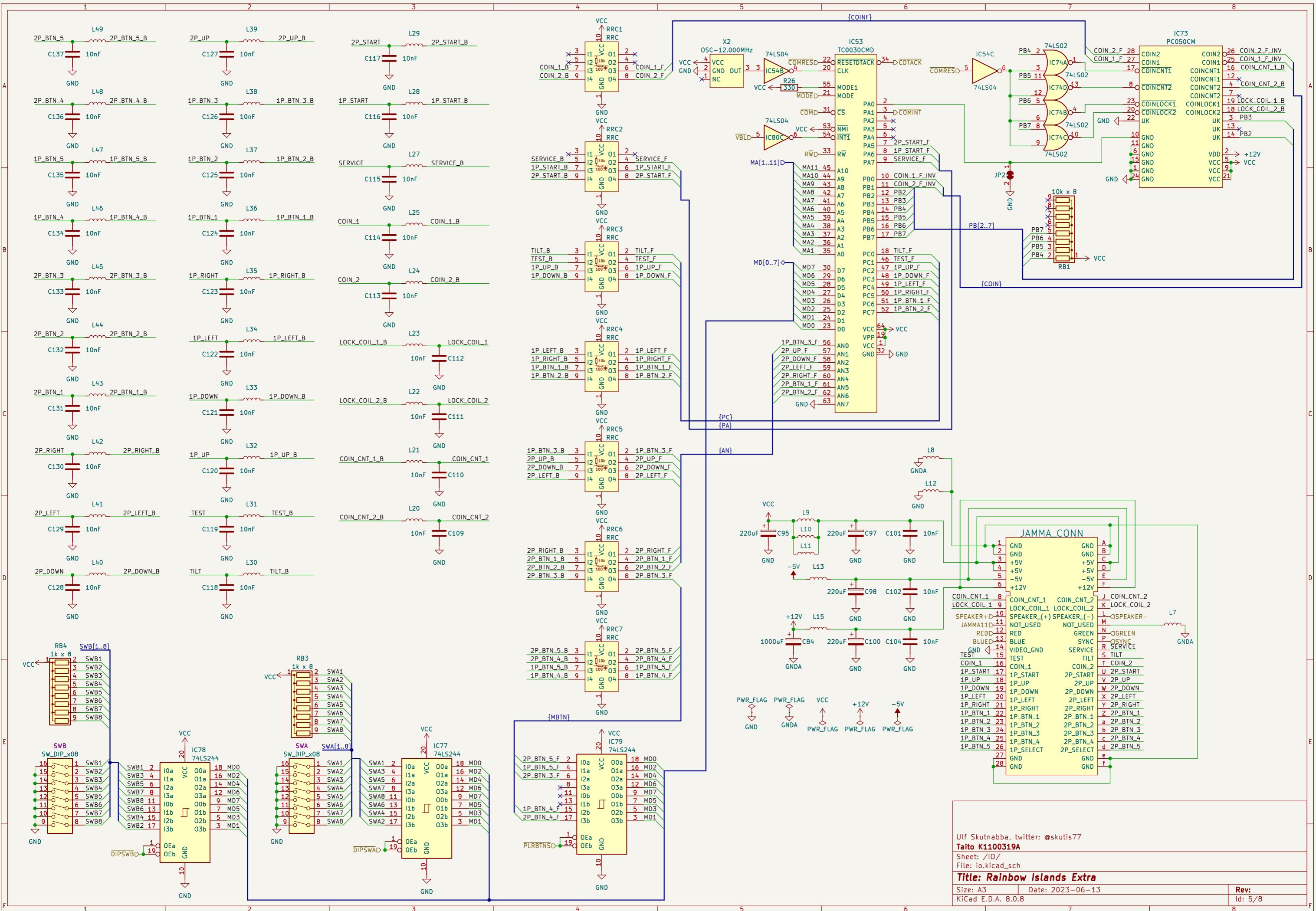
**Title: Rainbow Islands Extra**

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Sheet: /Sound/

File: sound.kicad\_sch

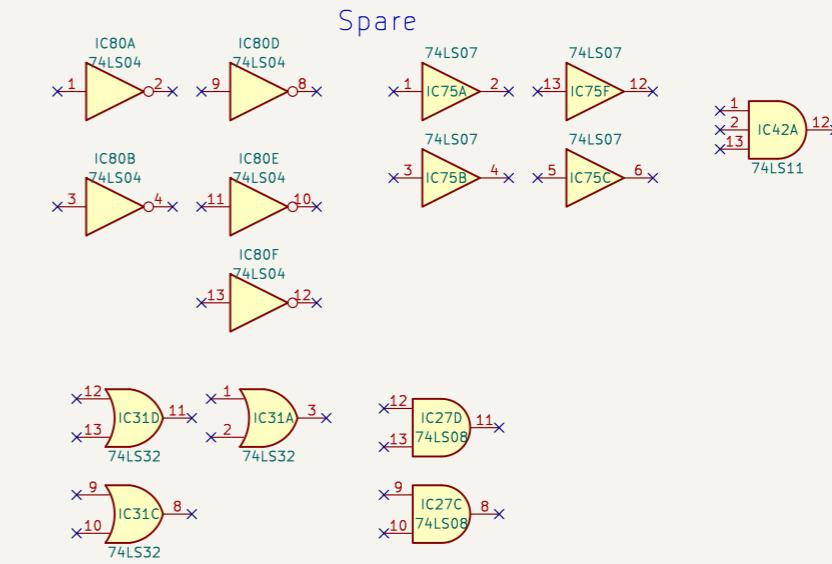
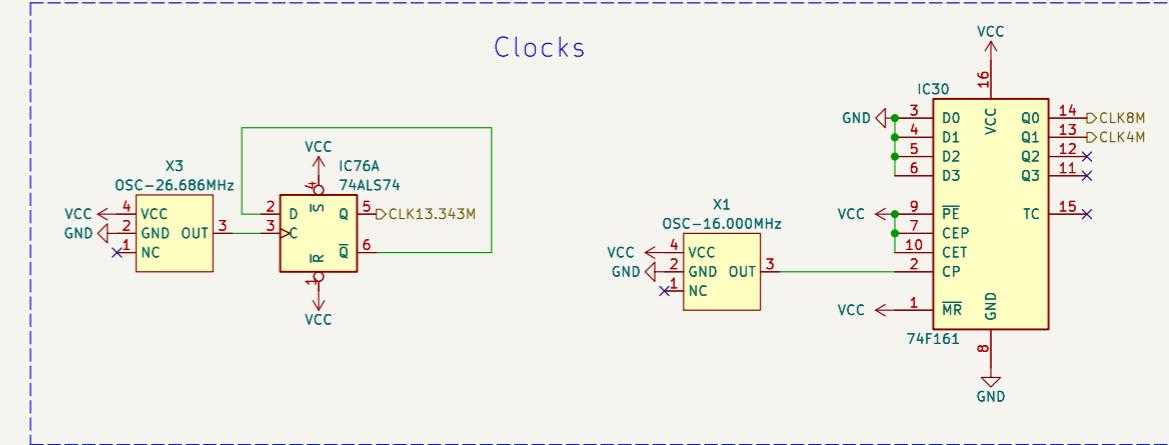
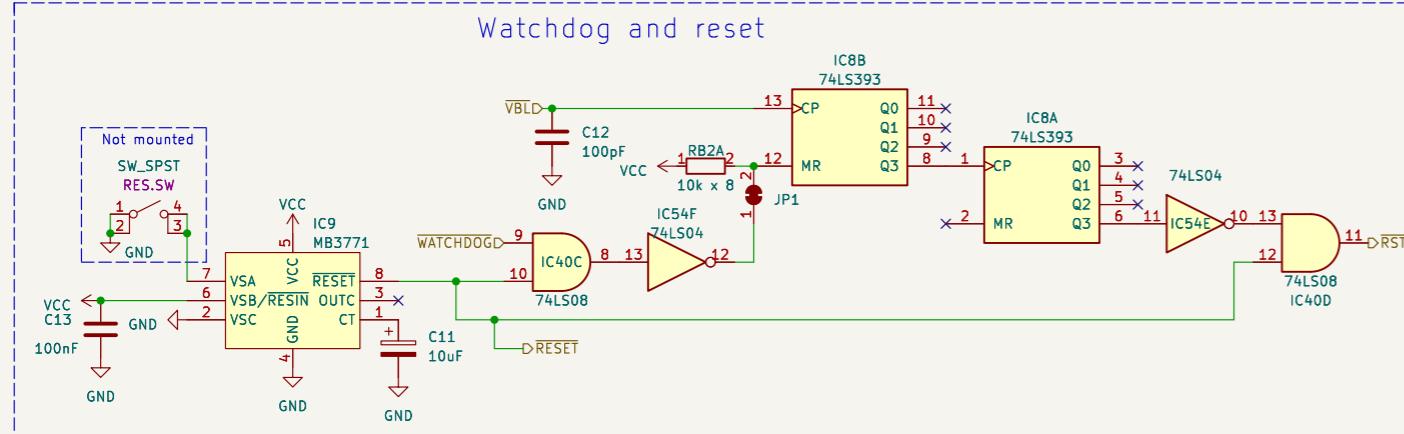
Title: Rainbow Islands Extra

Size: A3 Date: 2023-06-13

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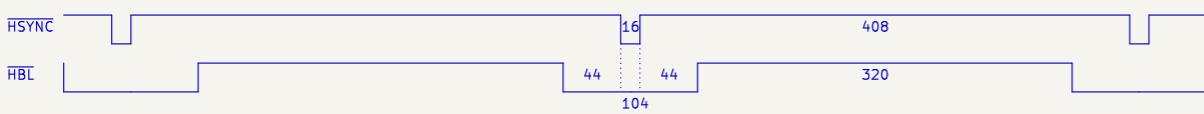
Id: 6/8



#### Horizontal and vertical synch timing diagrams

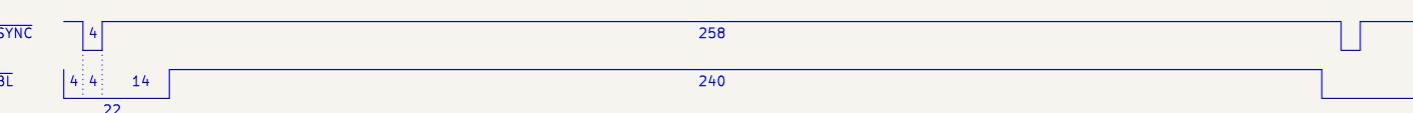
The pixel clock is derived from the 26.686MHz oscillator.  
Pixel clock OVCK:  $f = 26.686\text{MHz} / 4 = 6.6715\text{MHz}$

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

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Size: A3 Date: 2023-06-13

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