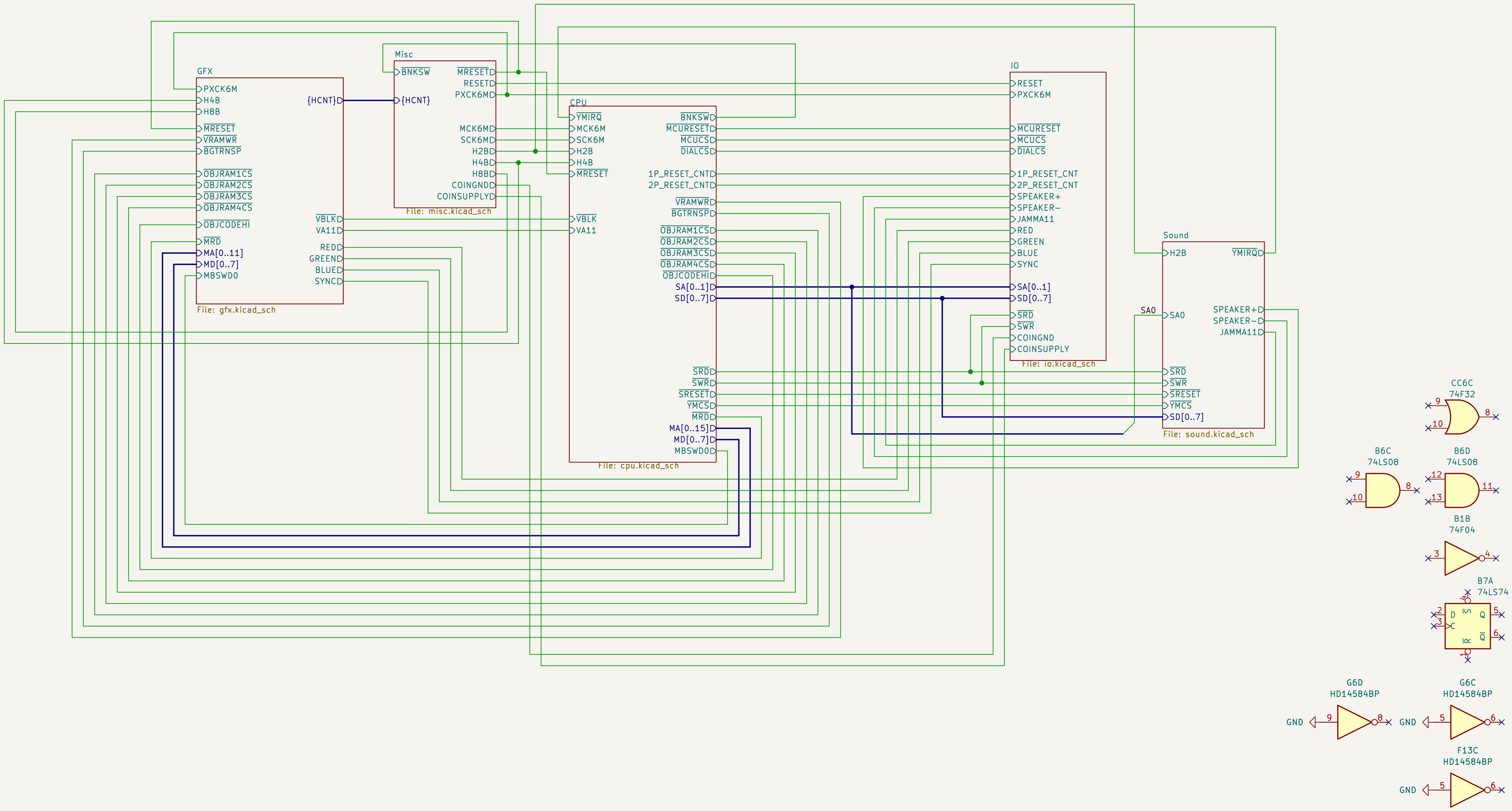

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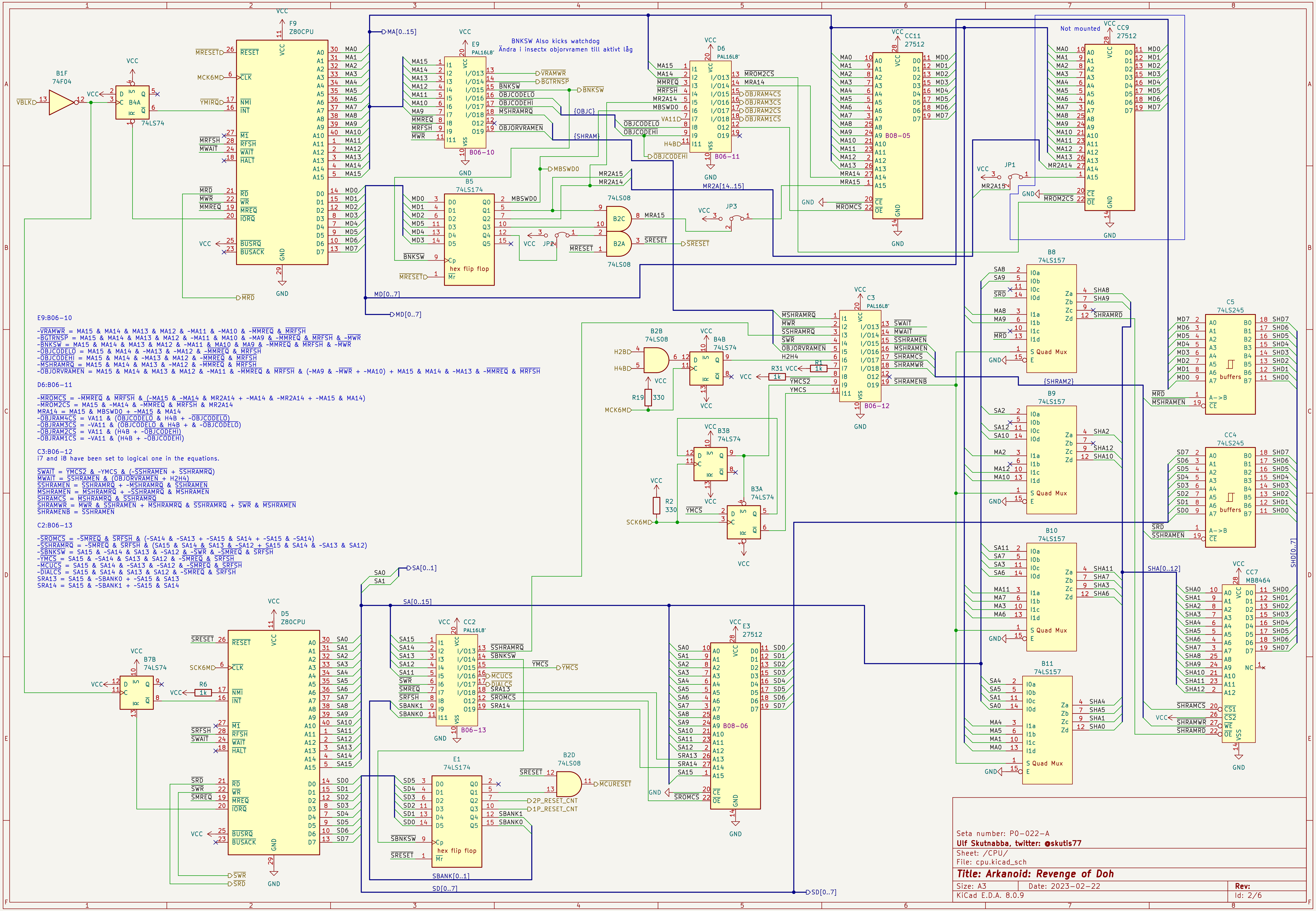
Sheet: /

File: arknoid2.kicad_sch

Title: Arkanoid: Revenge of Doh

Size: A3 Date: 2023-02-22 **Rev:**

KiCad E.D.A. 8.0.9 Id: 1/6



BNKSW Also kicks watchdog
Ändra i insectx objorvramen till aktivt låg

E9:B06-10

~VRAMWR = MA15 & MA14 & MA13 & MA12 & ~MA11 & ~MA10 & ~MMREQ & MRFSH
~BGTRNSP = MA15 & MA14 & MA13 & MA12 & ~MA11 & MA10 & ~MA9 & ~MMREQ & MRFSH & ~MWR
~BNKSW = MA15 & MA14 & MA13 & MA12 & ~MA11 & MA10 & MA9 & ~MMREQ & MRFSH & ~MWR
~OBJCODELO = MA15 & MA14 & ~MA13 & ~MA12 & ~MMREQ & MRFSH
~OBJCODEHI = MA15 & MA14 & ~MA13 & MA12 & ~MMREQ & MRFSH
~MSHRAMRQ = MA15 & MA14 & MA13 & ~MA12 & ~MMREQ & MRFSH
~OBJORVRAMEN = MA15 & MA14 & MA13 & MA12 & ~MA11 & ~MMREQ & MRFSH & (~MA9 & ~MWR + ~MA10) + MA15 & MA14 & ~MA13 & ~MMREQ & MRFSH

D6:B06-11

~MROMCS = ~MMREQ & MRFSH & (~MA15 & ~MA14 & MR2A14 + ~MA14 & ~MR2A14 + ~MA15 & MA14)
~MROM2CS = MA15 & ~MA14 & ~MMREQ & MRFSH & MR2A14
MRA14 = MA15 & MBSWD0 + ~MA15 & MA14
~OBJRAM4CS = VA11 & (OBJCODELO & H4B + ~OBJCODELO)
~OBJRAM3CS = ~VA11 & (OBJCODELO & H4B + & ~OBJCODELO)
~OBJRAM2CS = VA11 & (H4B + ~OBJCODEHI)
~OBJRAM1CS = ~VA11 & (H4B + ~OBJCODEHI)

C3:B06-12
i7 and i8 have been set to logical one in the equations.

SWAIT = YMCS2 & ~YMCS & (~SSHRAMEN + SSHRAMRQ)
MWAIT = SSHRAMEN & (OBJORVRAMEN + H2H4)
SSHRAMEN = SSHRAMRQ + ~MSHRAMRQ & SSHRAMEN
MSHRAMEN = MSHRAMRQ + ~SSHRAMRQ & MSHRAMEN
SHRAMCS = MSHRAMRQ & SSHRAMRQ
SHRAMWR = MWR & SSHRAMEN + MSHRAMRQ & SSHRAMRQ + SWR & MSHRAMEN
SHRAMENB = SSHRAMEN

C2:B06-13

~SROMCS = ~SMREQ & SRFSH & (~SA14 & ~SA13 + ~SA15 & SA14 + ~SA15 & ~SA14)
~SSHRAMRQ = ~SMREQ & SRFSH & (SA15 & SA14 & SA13 & ~SA12 + SA15 & SA14 & ~SA13 & SA12)
~SBNKSW = SA15 & ~SA14 & SA13 & ~SA12 & ~SWR & ~SMREQ & SRFSH
~YMCS = SA15 & ~SA14 & SA13 & SA12 & ~SMREQ & SRFSH
~MCUCS = SA15 & SA14 & ~SA13 & ~SA12 & ~SMREQ & SRFSH
~DIALCS = SA15 & SA14 & SA13 & SA12 & ~SMREQ & SRFSH
SRA13 = SA15 & ~SBANK0 + ~SA15 & SA13
SRA14 = SA15 & ~SBANK1 + ~SA15 & SA14

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Sheet: /CPU/
File: cpu.kicad_sch
Title: Arkanoid: Revenge of Doh
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Date: 2023-02-22
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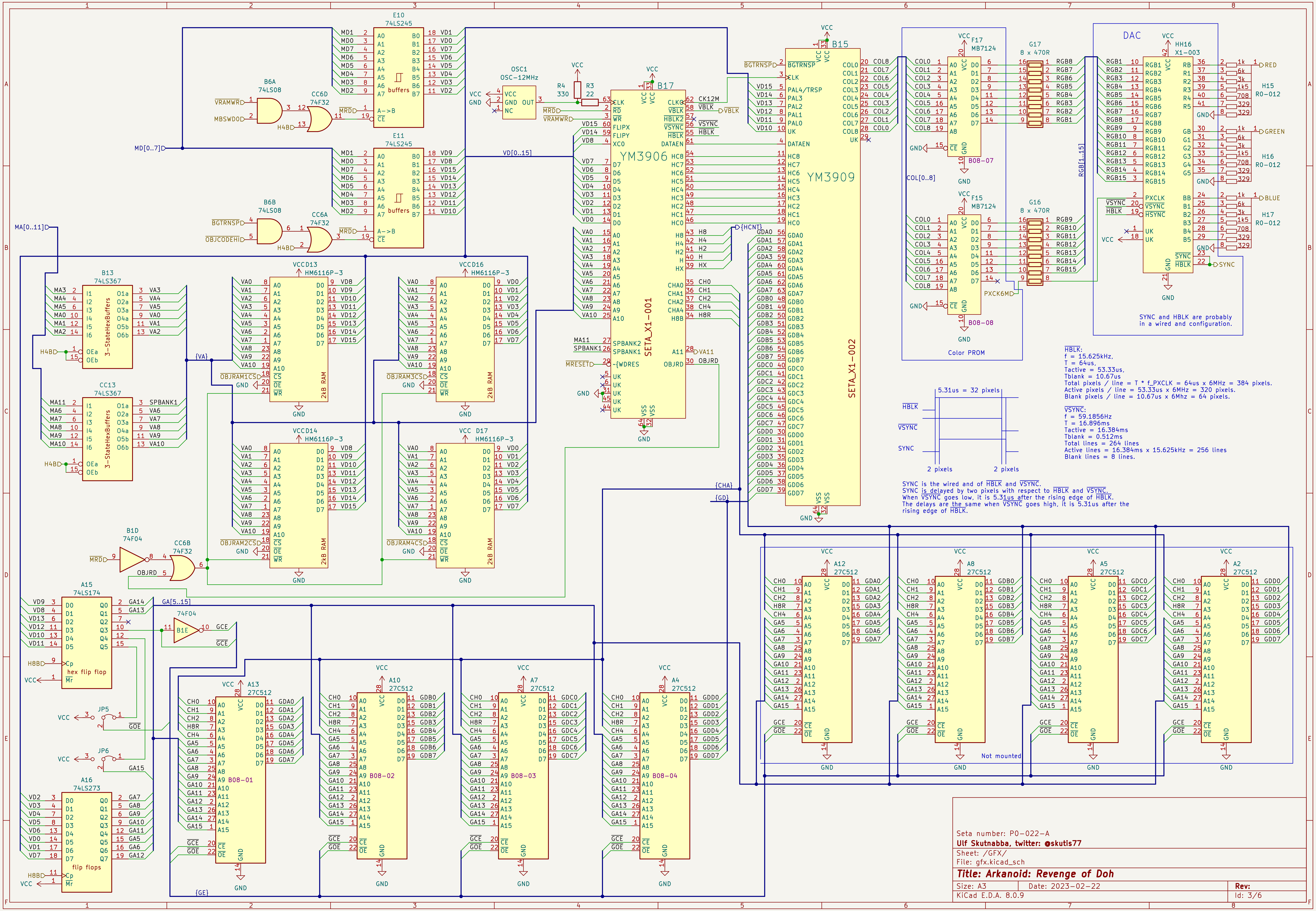

5.31us = 32 pixels

HBLK

VSYNC

SYNC

2 pixels

2 pixels

SYNC is the wired and of HBLK and VSYNC.
SYNC is delayed by two pixels with respect to HBLK and VSYNC.
When VSYNC goes low, it is 5.31us after the rising edge of HBLK.
The delays are the same when VSYNC goes high, it is 5.31us after the rising edge of HBLK.

HBLK:
f = 15.625kHz,
T = 64us,
Tactive = 53.33us,
Tblank = 10.67us
Total pixels / line = T * f_PXCLK = 64us x 6MHz = 384 pixels.
Active pixels / line = 53.33us x 6MHz = 320 pixels.
Blank pixels / line = 10.67us x 6Mhz = 64 pixels.

VSYNC:
f = 59.1856Hz
T = 16.896ms
Tactive = 16.384ms
Tblank = 0.512ms
Total lines = 264 lines
Active lines = 16.384ms x 15.625kHz = 256 lines
Blank lines = 8 lines.

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Sheet: /GFX/
File: gfx.kicad_sch
Title: Arkanoid: Revenge of Doh
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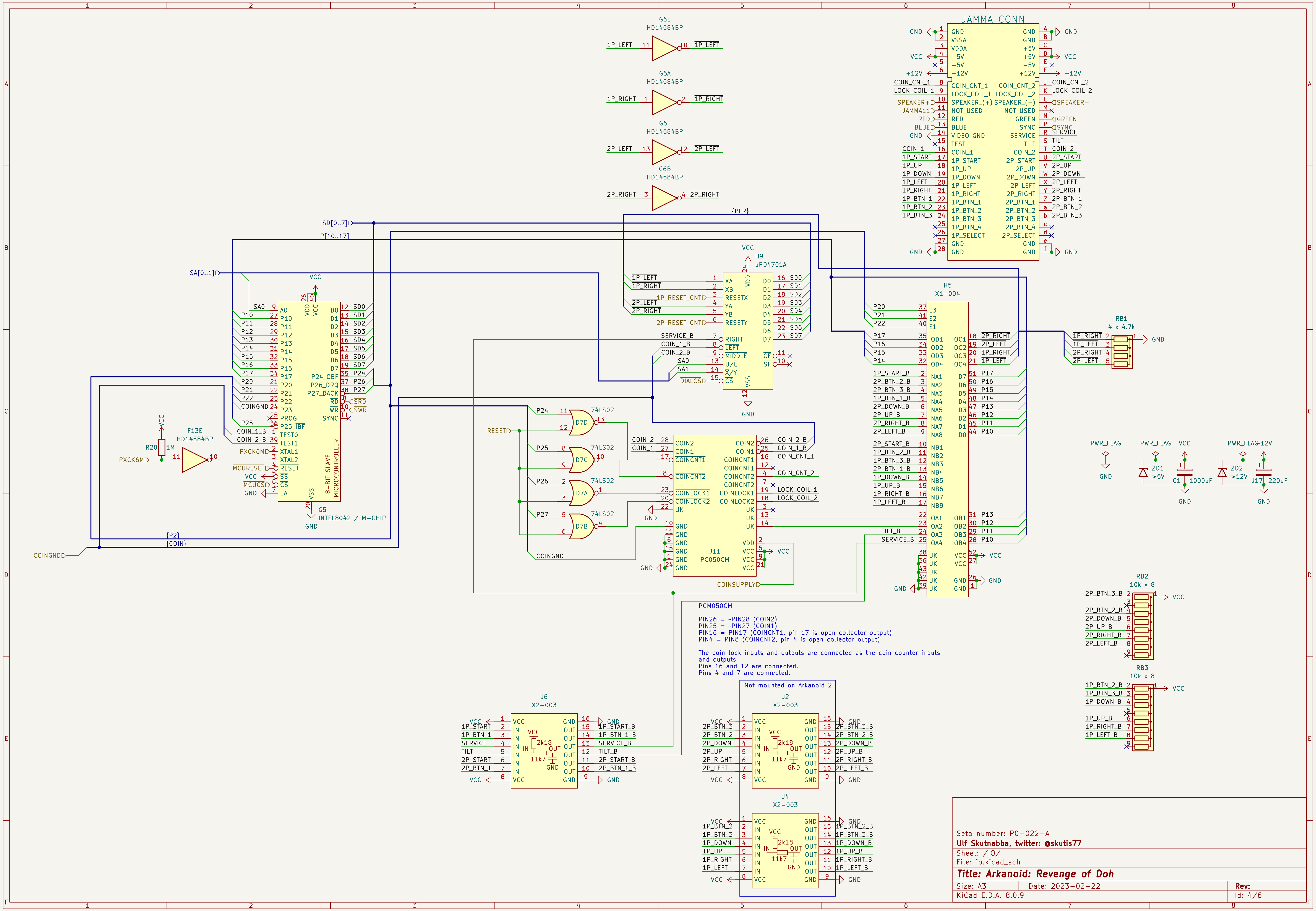
KiCad E.D.A. 8.0.9 Id: 3/6



PCM050CM

PIN26 = ~PIN28 (COIN2)
PIN25 = ~PIN27 (COIN1)
PIN16 = PIN17 (COINCNT1, pin 17 is open collector output)
PIN4 = PIN8 (COINCNT2, pin 4 is open collector output)

The coin lock inputs and outputs are connected as the coin counter inputs and outputs.
Pins 16 and 12 are connected.
Pins 4 and 7 are connected.

Not mounted on Arkanoid 2.

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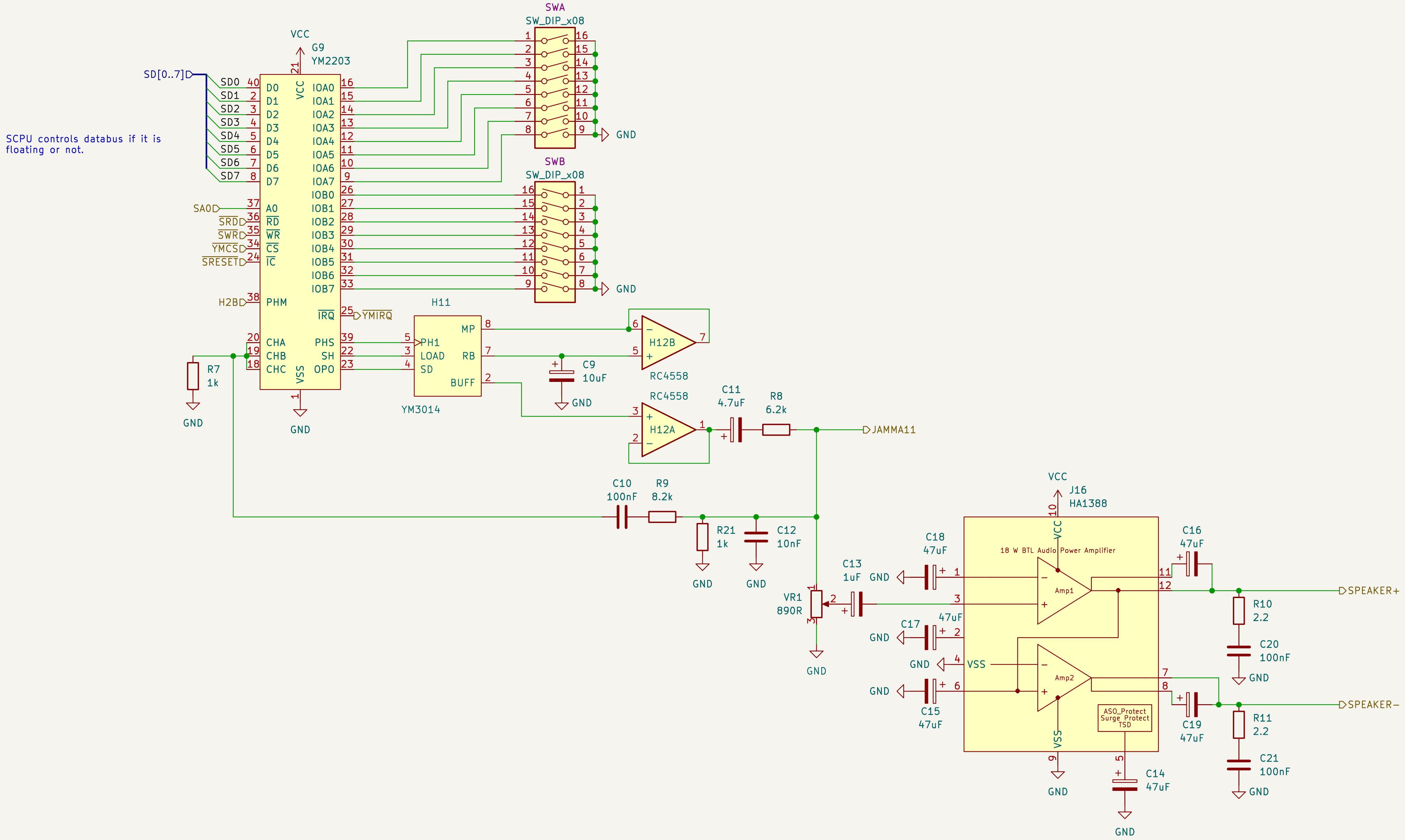
Sheet: /IO/
File: io.kicad_sch

Title: Arkanoid: Revenge of Doh

Size: A3 Date: 2023-02-22 **Rev:**
KiCad E.D.A. 8.0.9 Id: 4/6



Seta number: P0-022-A
Ulf Skutnabba, twitter: @skutis77
Sheet: /Sound/
File: sound.kicad_sch
Title: *Arkanoid: Revenge of Doh*
Size: A3 Date: 2023-02-22 **Rev:**
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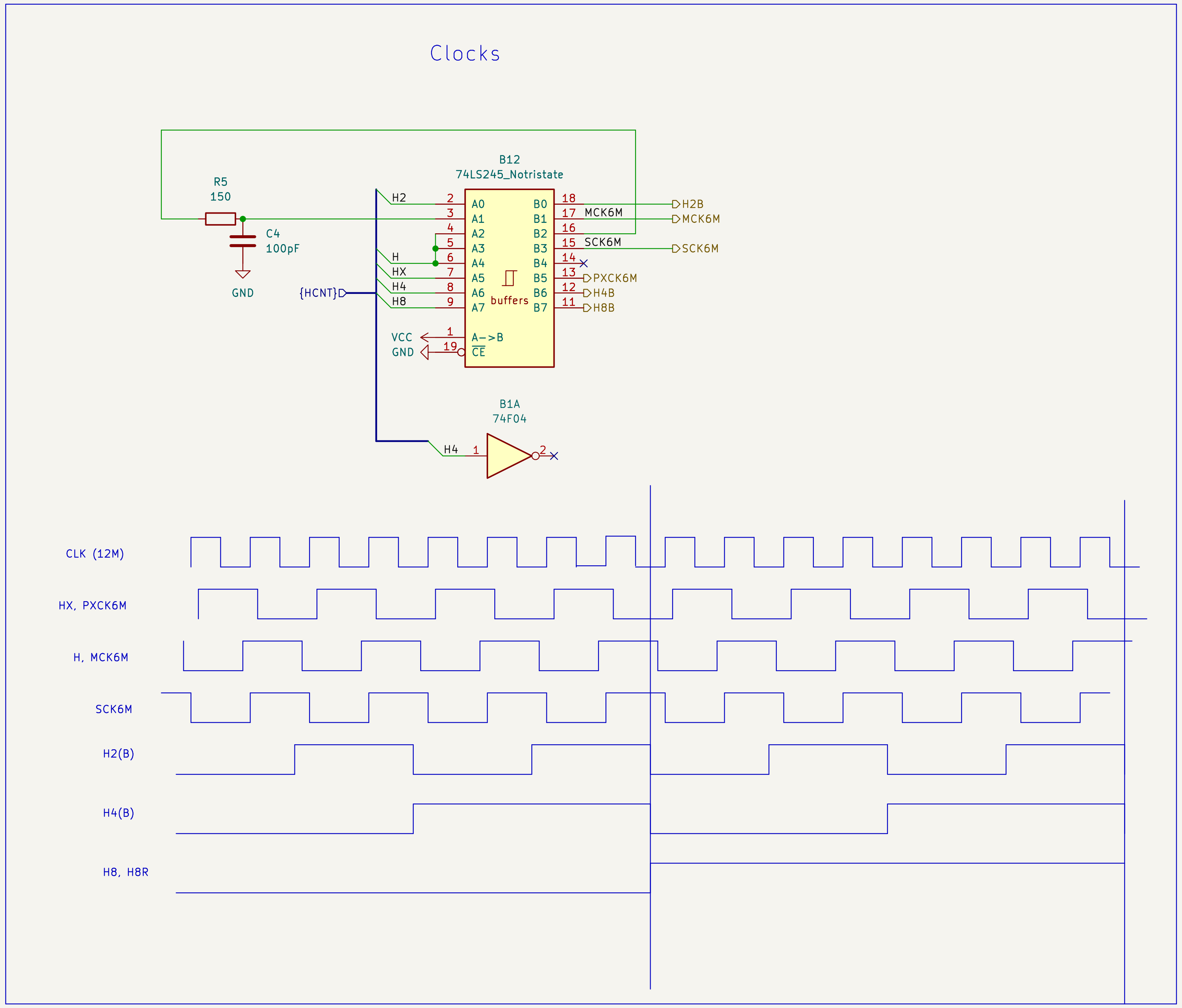
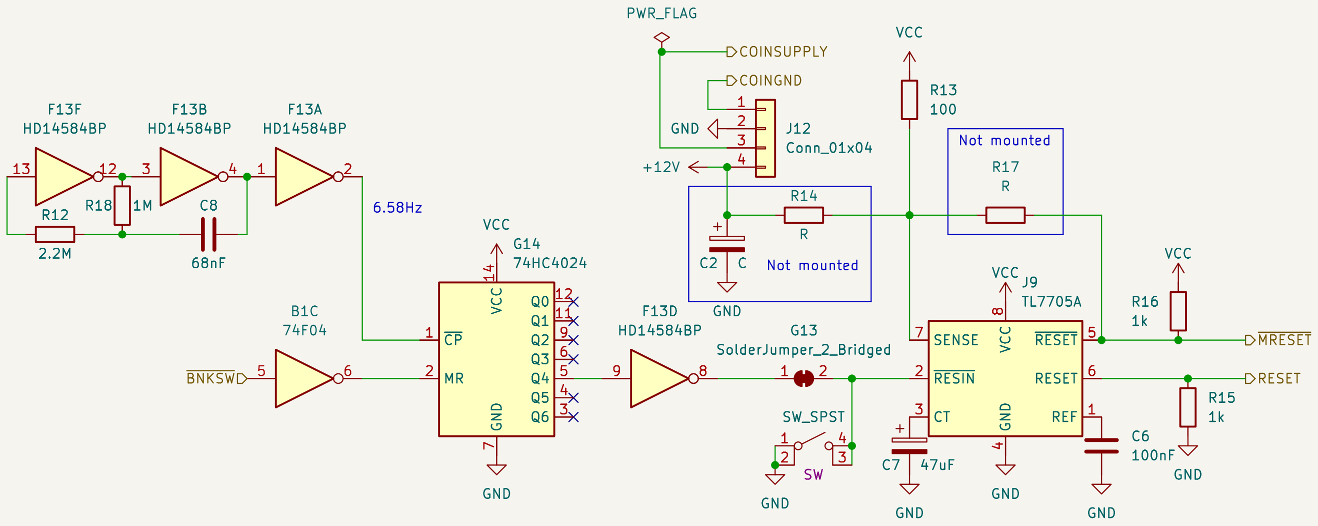


During normal operation pin 1 is shorted to
pin 2 and pin 3 is shorted to pin 4.



Seta number: P0-022-A
Ulf Skutnabba, twitter: @skutis77
Sheet: /Misc/
File: misc.kicad_sch

Title: Arkanoid: Revenge of Doh

Size: A3 Date: 2023-02-22 **Rev:**
KiCad E.D.A. 8.0.9 Id: 6/6