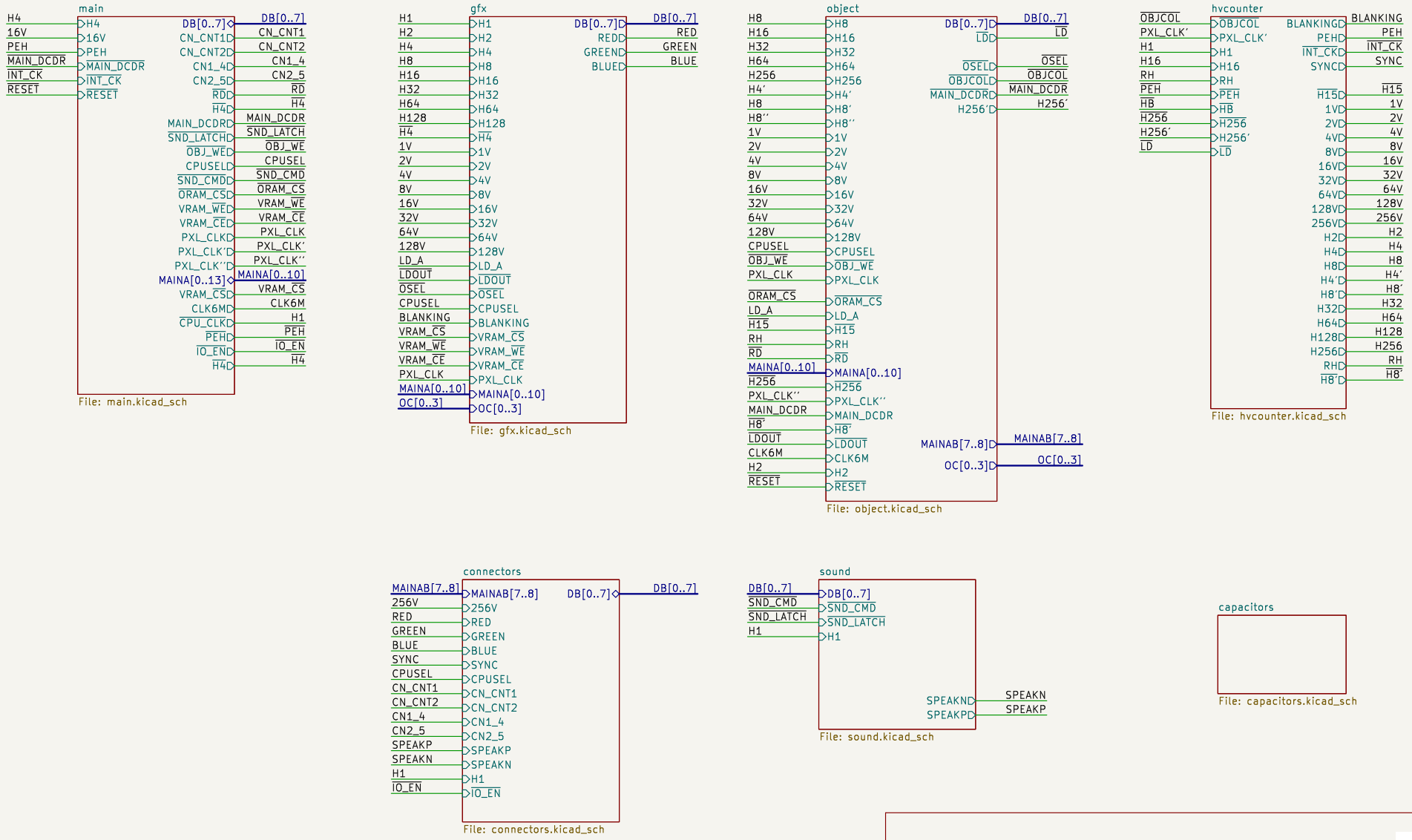


JOTEGO
Ping Pong
JOTEGO

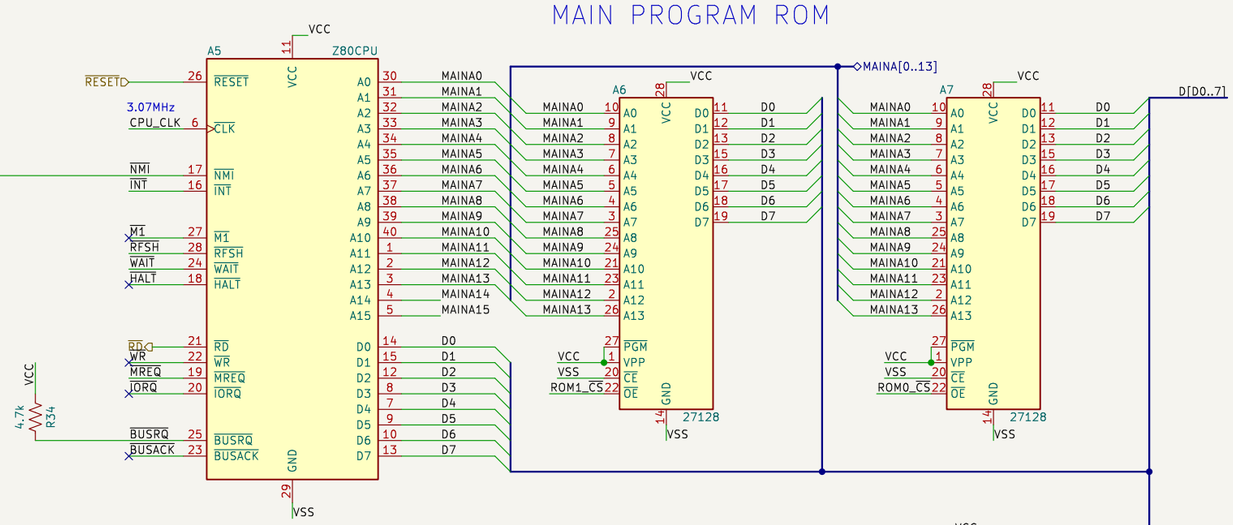
Sheet: /
File: pingpong.kicad_sch

GX555

Title: Ping Pong

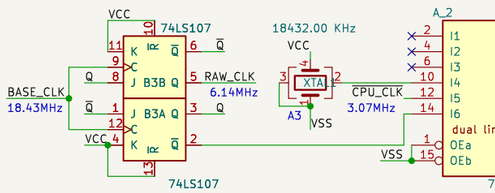
Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 1/11

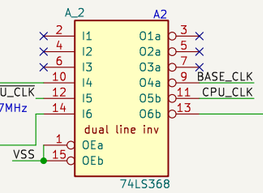
MAIN PROGRAM ROM



MAINA[0..13]

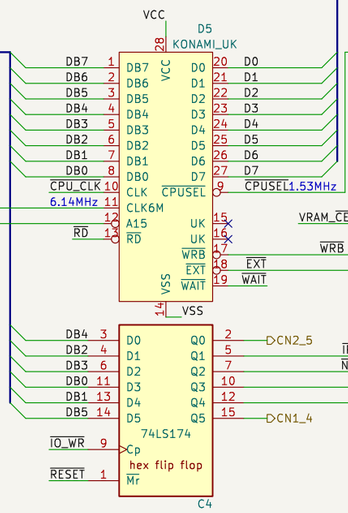
D[D0..7]

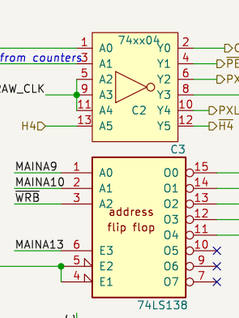


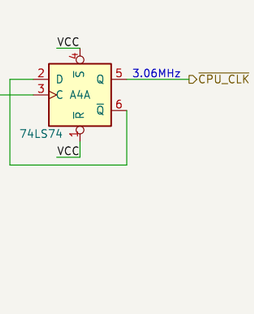


CLK6M

DB[0..7]







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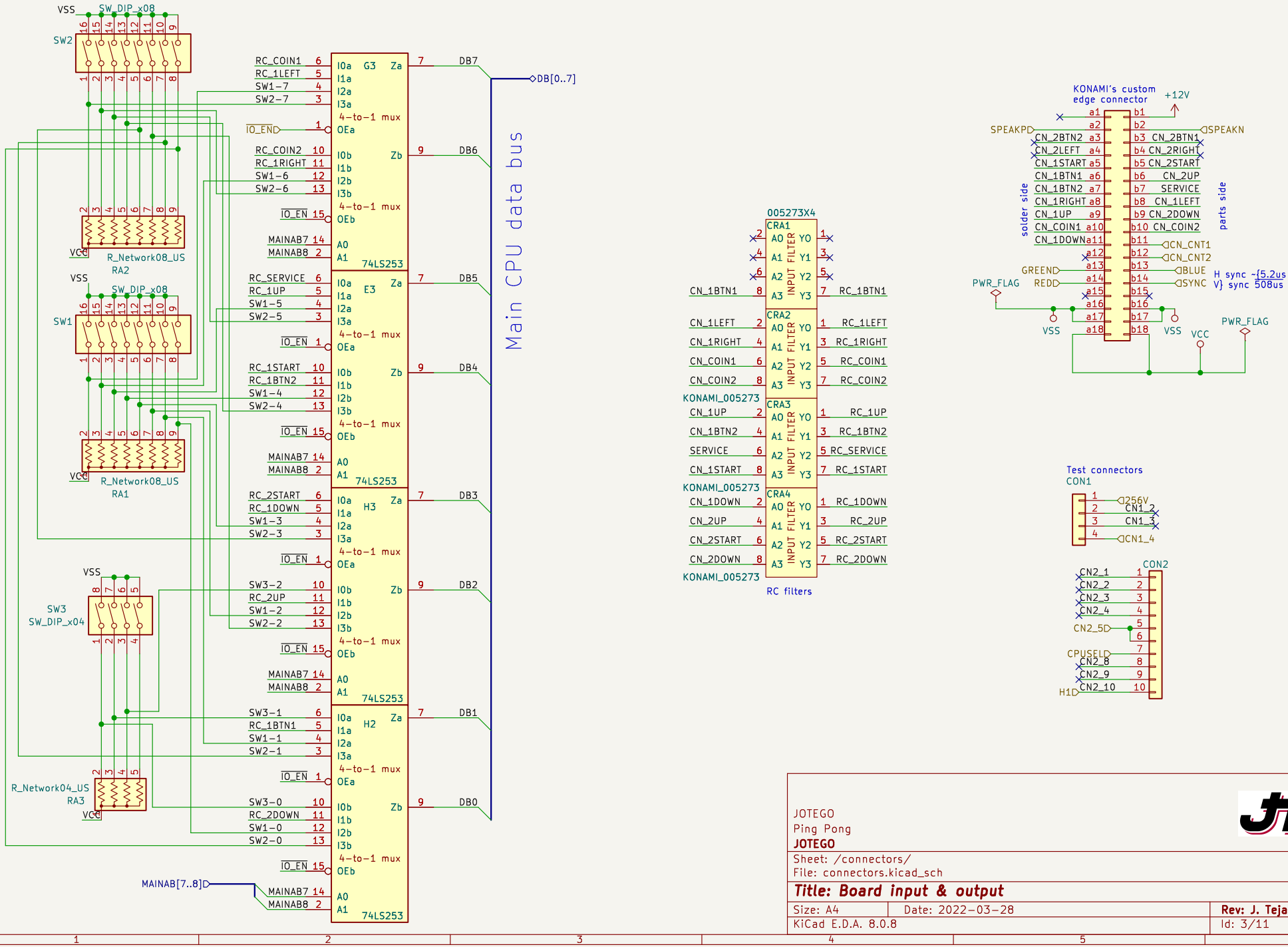
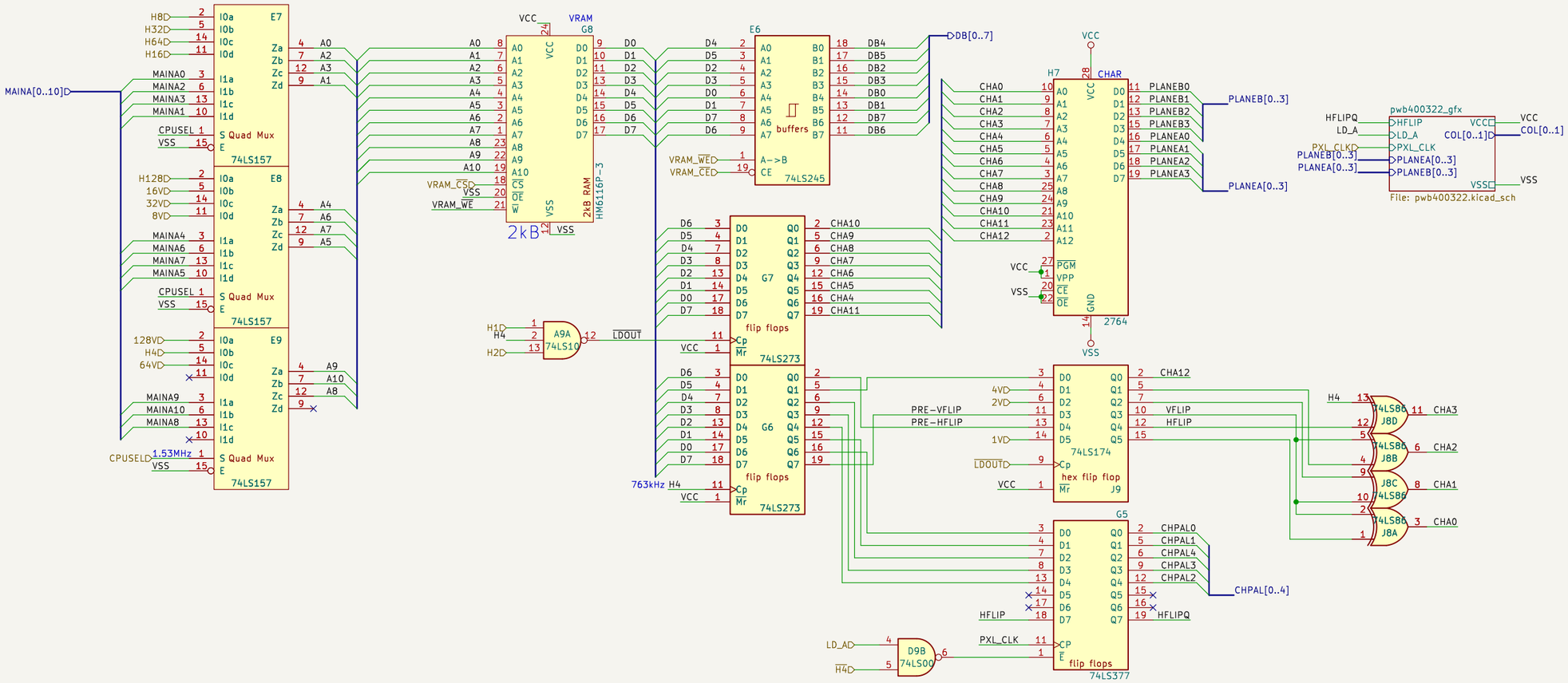
Sheet: /main/
File: main.kicad_sch

Title: CPU & address decoders

Size: A3	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 2/11


SW_DIP_x08
SW2
R_Network08_US
RA2
SW1
RA1
SW_DIP_x04
SW3
R_Network04_US
RA3
VSS
VCC
74LS253
H3
H2
G3
E3
Main CPU data bus
DB[0..7]
MAINAB[7..8]
005273X4
INPUT FILTER
RC filters
KONAMI_005273
KONAMI's custom
edge connector
+12V
SPEAKP
SPEAKN
solder side
parts side
PWR_FLAG
H sync ~{5.2us
V} sync 508us
Test connectors
CON1
CON2
JOTEGO
Ping Ping
JOTEGO
Sheet: /connectors/
File: connectors.kicad_sch
Title: Board input & output
Size: A4
Date: 2022-03-28
Rev: J. Tejada
KiCad E.D.A. 8.0.8
Id: 3/11



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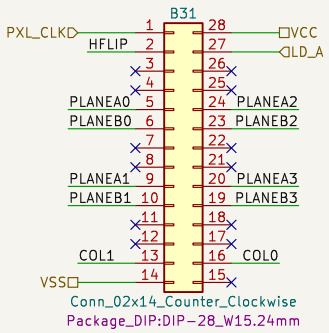
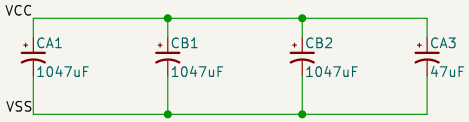
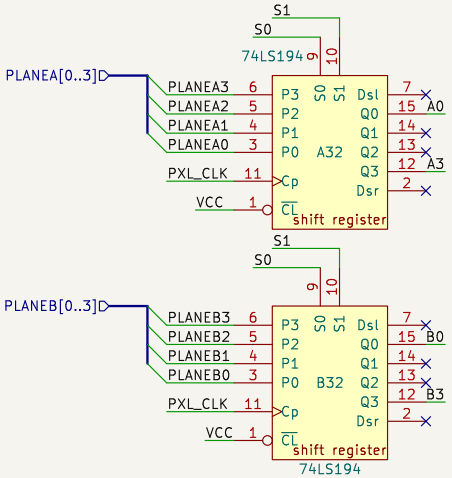
Sheet: /gfx/
File: gfx.kicad_sch

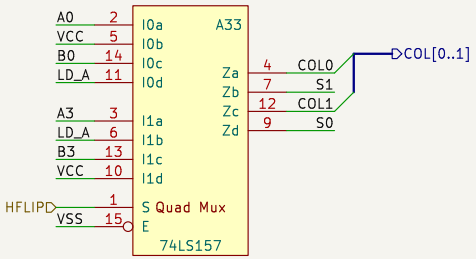
Title: Character generator

Size: A3	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 4/11









This is a small board soldered to a DIP-28 footprint. It appears twice in the design

PWB-400322

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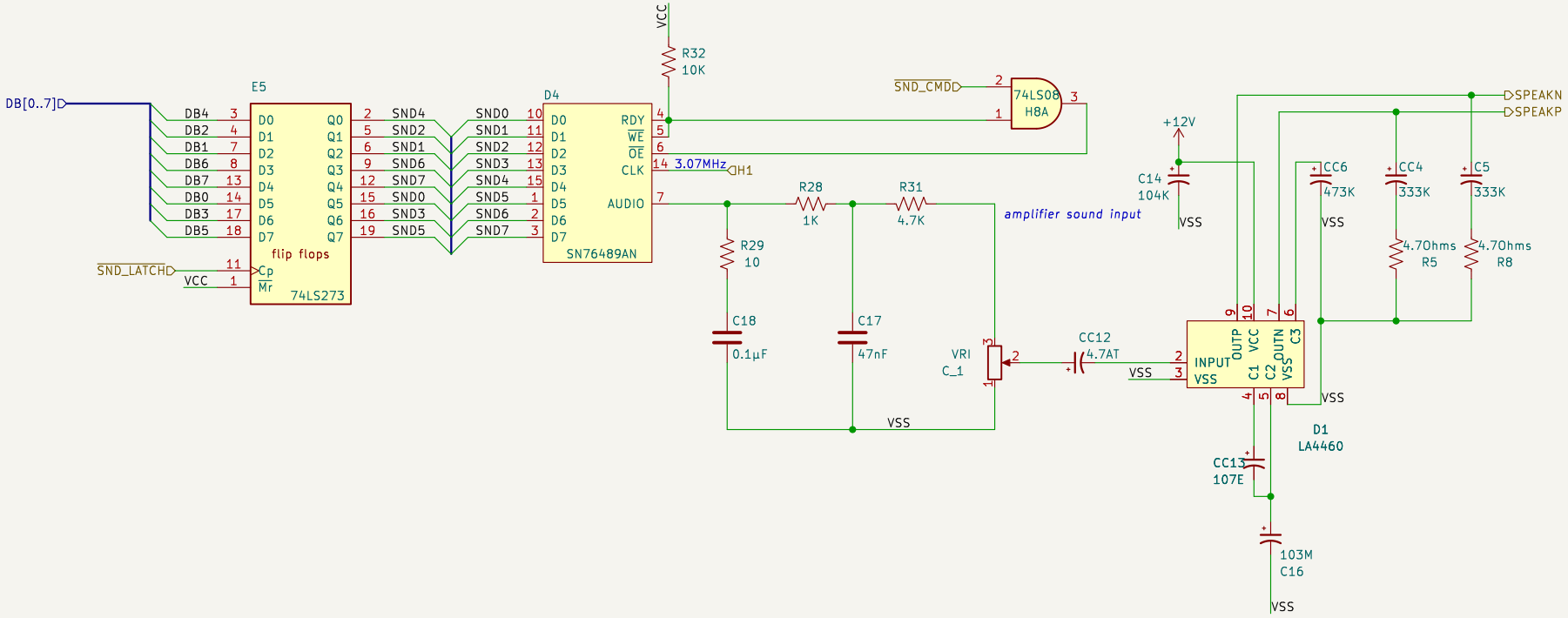
Sheet: /gfx/pwb400322_gfx/
File: pwb400322.kicad_sch

Title: Pixel shift register

Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 5/11



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Sheet: /sound/
File: sound.kicad_sch

Title: Sound generator

Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 6/11

OBJRAM

MAINA[0..10]

192kHz H16
781kHz H4
385kHz H8
96kHz H32
MAINA2 MAINA0 MAINA1 MAINA3
CPUSEL VSS
74LS157 S Quad Mux

16.1kHz H256
47.6kHz H64
16.1kHz RHD
MAINA6 MAINA4 MAINA5 MAINA7
CPUSEL VSS
74LS157 S Quad Mux

VSS
MAINA10 MAINA9 RDD MAINA8
1.54MHz CPUSEL VSS
74LS157 S Quad Mux

AA2 AA0 AA1 AA3
AA6 AA4 AA5 AA7
AA10 AA9 OEB AA8

VCC
A8 HM6116P-3
AA0..AA10 VSS OEB OBJ_WE
D0..D7 VSS
2kB RAM OBJECT TABLE

24 objects read
in order from
the first 24x4 bytes

A10 buffers 74LS245
DA0..DA7 OBJ_WE1 ORAM_CS
DB0..DB7
DB[0..7]

DA0..DA7
flip flops 74LS273
H15D VCC
ATTR0..ATTR7

PRE_LINE HFLIP ATTR4 ATTR0 ATTR1 ATTR2 ATTR3
74LS377 flip flops G11
PXL_CLK OBJCOL
LINECS HFLIP' PAL4 PAL0 PAL1 PAL2 PAL3

COL[0..1]
J11 PROM TBP24S10N Color PROM
COL0 COL1 PAL0 PAL1 PAL2 PAL3 PAL4 VSS
IC0 IC1 IC2 IC3
IC[0..3]

E10 74LS367
ATTR6 ATTR7 MAINA8 MAINA7 H8'D VSS
DN6 (hflip)
DN7 (vflip)
MAINAB8 MAINAB7
MAINAB[7..8]

DA7 DA5 DA3 DA1 DA0 DA2 DA4 DA6
A11 3-state flip flops 74LS374
H8' H8''
DN7 DN5 DN3 DN1 DN0 DN2 DN4 DN6

A12 V/HFLIP XORed KONAMI_503
DN7..DN0
128V 64V 32V 16V 8V 4V 2V 1V
OBJV8 OBJH8 OBJH4 OBJV4 OBJV2 OBJV1
OBJDATA OBJCOL HFLIP LINE_CS
H8 (input) H4 LD
17383kHz H8'
16766kHz H4'
OBJ5 OBJ4 OBJ3 OBJ2 OBJ1 OBJ0
OBJDATA OBJCOL HFLIP PRE_LINE

C12 2764 8kB
OBJ0..OBJ12
OBJD0..OBJD7
OBJD[0..7]
VCC VSS PGM VPP CE OE OE_M GND

DA6 DA2 DA3 DA4 DA5 DA0 DA1 DA7
C13 flip flops 74LS273
OBJDATA
OBJ12 OBJ8 OBJ9 OBJ10 OBJ11 OBJ6 OBJ7 OBJ13

H9A ATTR5 74LS74
OE_OF OE_M

C11 27128 16kB ONLY FOOTPRINT
OBJ0..OBJ13
OBJD0..OBJD7
VCC VSS PGM VPP CE OE OE_OF GND

OBJD[4..7] OBJD[0..3] PXL_CLK HFLIP LD_A
pwb400322
PLANEA[0..3] PLANEB[0..3] PXL_CLK HFLIP LD_A
VCC COL[0..1] VSS
File: pwb400322.kicad_sch

PXL_CLK'' DA[0..7] LINECS H2 LD OBJCOL MAIN_DCDR H8' LDOUT H256 CLK6M IC[0..3] RESET
linebuffer
PXL_CLK'' DA[0..7] LINECS H2 LD OBJCOL MAIN_DCDR H8' LDOUT H256 CLK6M IC[0..3] RESET
OC[0..3] OSEL H256 H8'' LD_A H256' MAIN_DCDR
OC[0..3] OSEL H256 H8'' LD_A H256' MAIN_DCDR
File: linebuffer.kicad_sch

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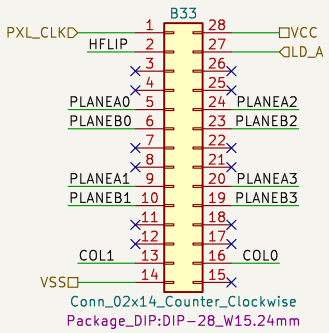
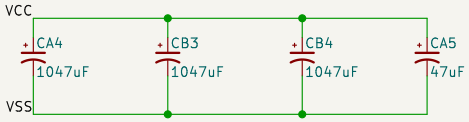
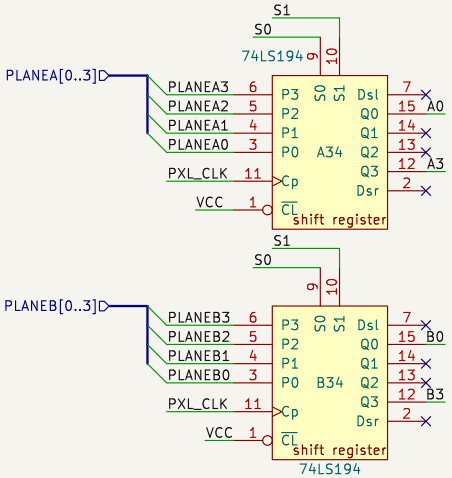
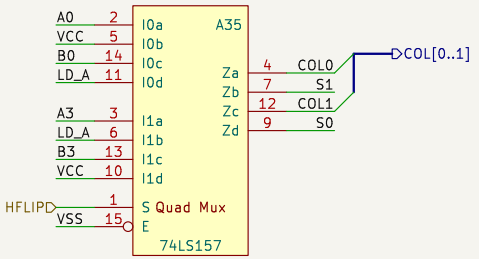
Sheet: /object/
File: object.kicad_sch
Title: Object generator
Size: A3 | Date: 2022-03-28 | **Rev: J. Tejada**
KiCad E.D.A. 8.0.8 | Id: 7/11









This is a small board soldered to a DIP-28 footprint. It appears twice in the design

PWB-400322

JOTEGO
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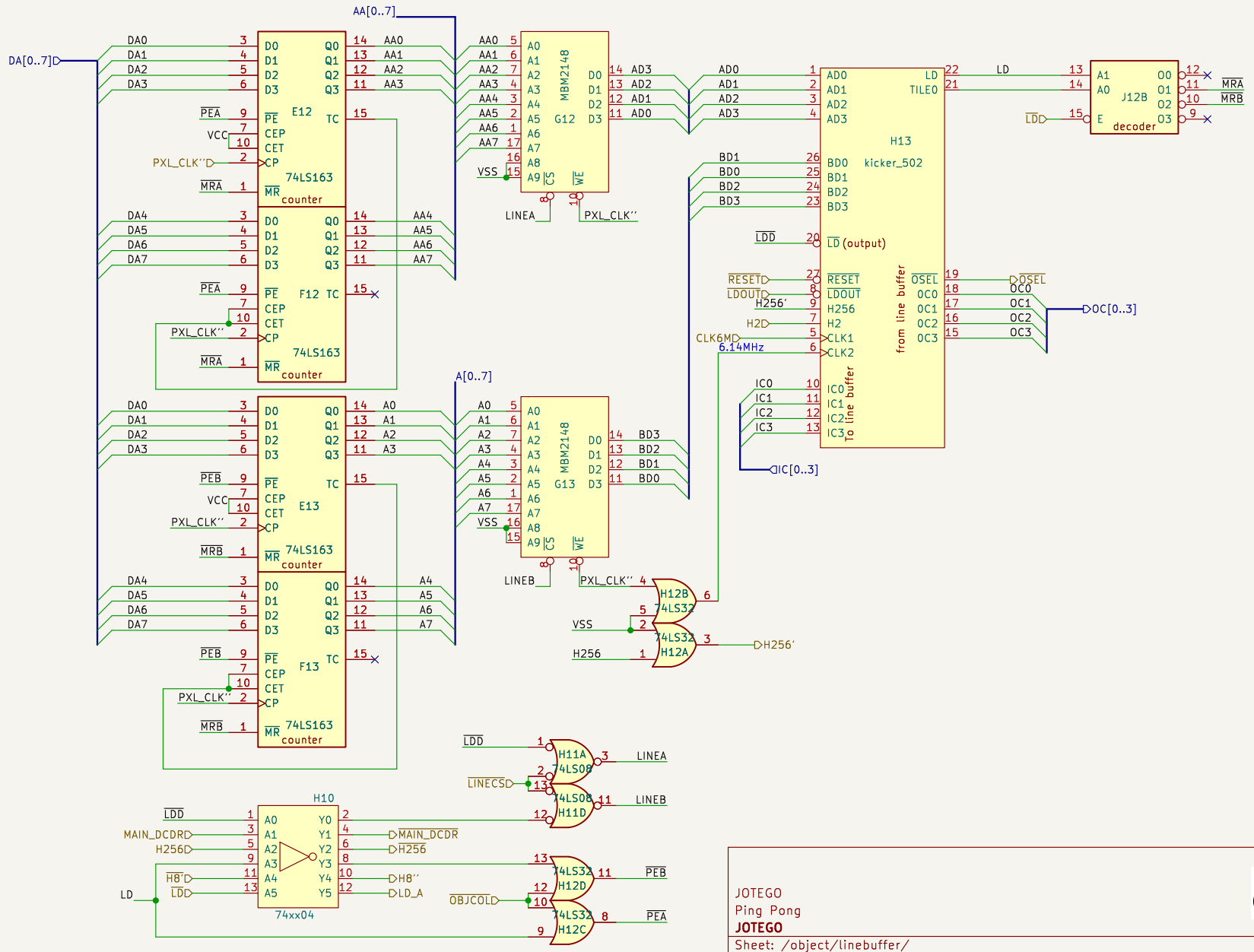
Sheet: /object/pwb400322/
File: pwb400322.kicad_sch

Title: Pixel shift register

Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 8/11

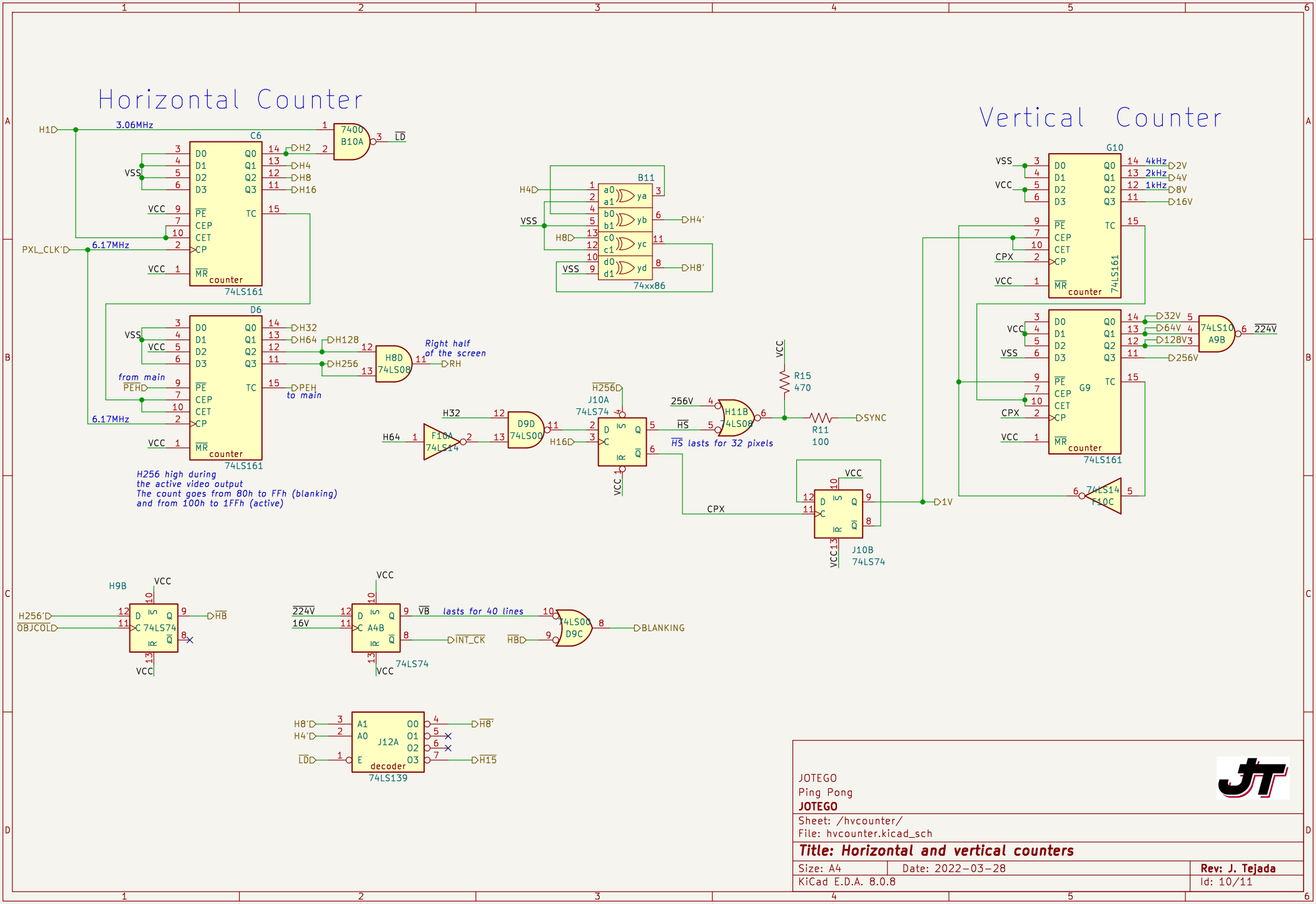


JOTEGO
Ping Pong
JOTEGO

Sheet: /object/linebuffer/
File: linebuffer.kicad_sch

Title: Doube line buffer

Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 9/11

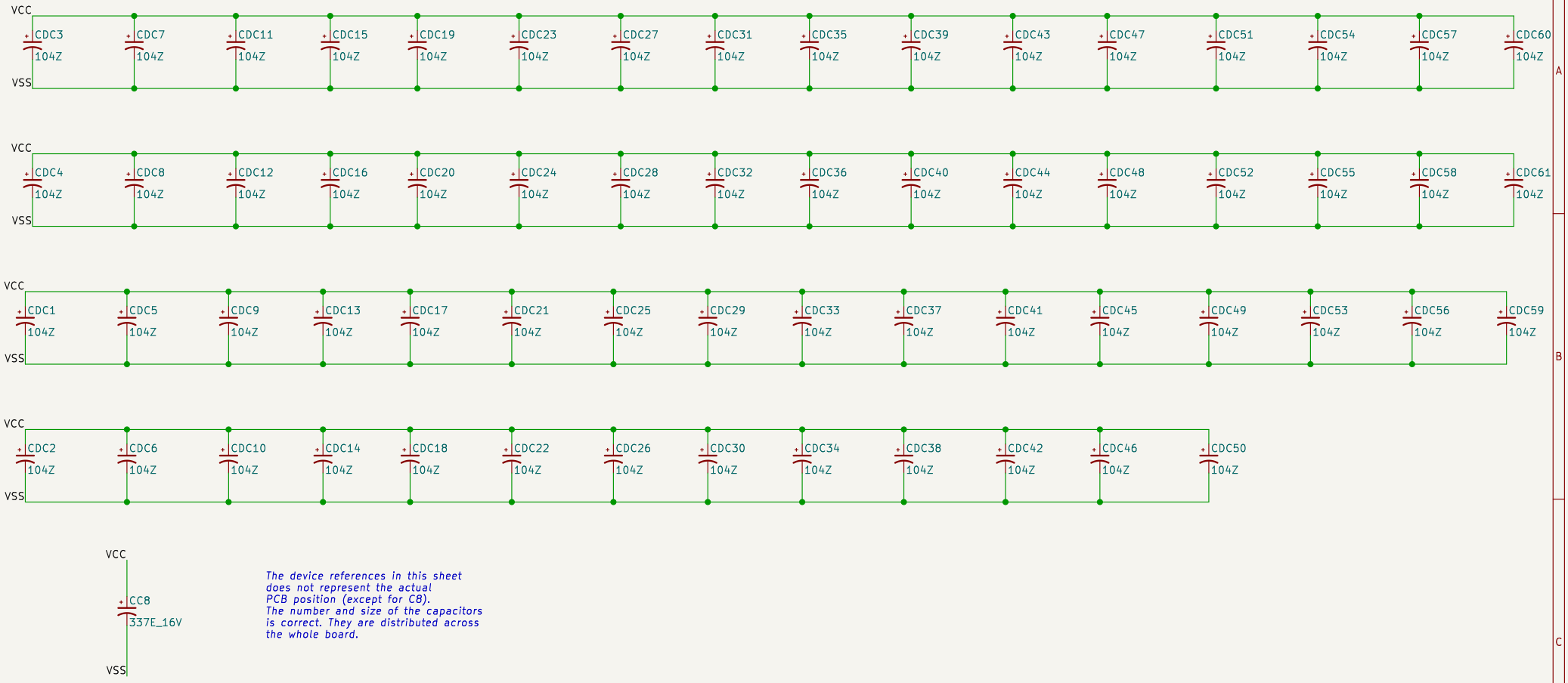


JOTEGO
Ping Pong
JOTEGO

Sheet: /hvcounter/
File: hvcounter.kicad_sch

Title: Horizontal and vertical counters

Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 10/11



The device references in this sheet does not represent the actual PCB position (except for C8). The number and size of the capacitors is correct. They are distributed across the whole board.

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Sheet: /capacitors/
File: capacitors.kicad_sch

Title: Decoupling capacitors

Size: A4	Date: 2022-03-28	**Rev: J. Tejada**
KiCad E.D.A. 8.0.8		Id: 11/11