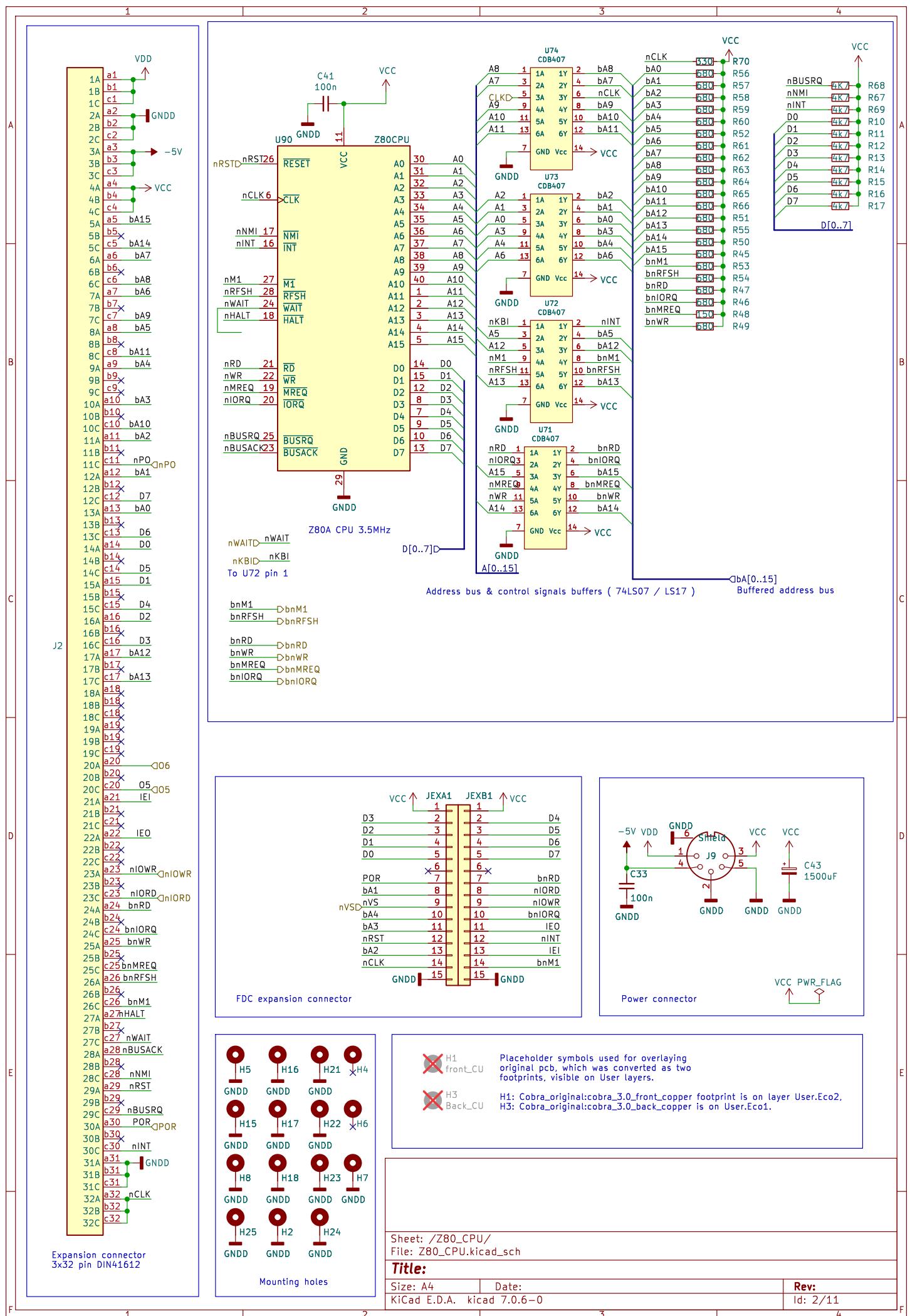
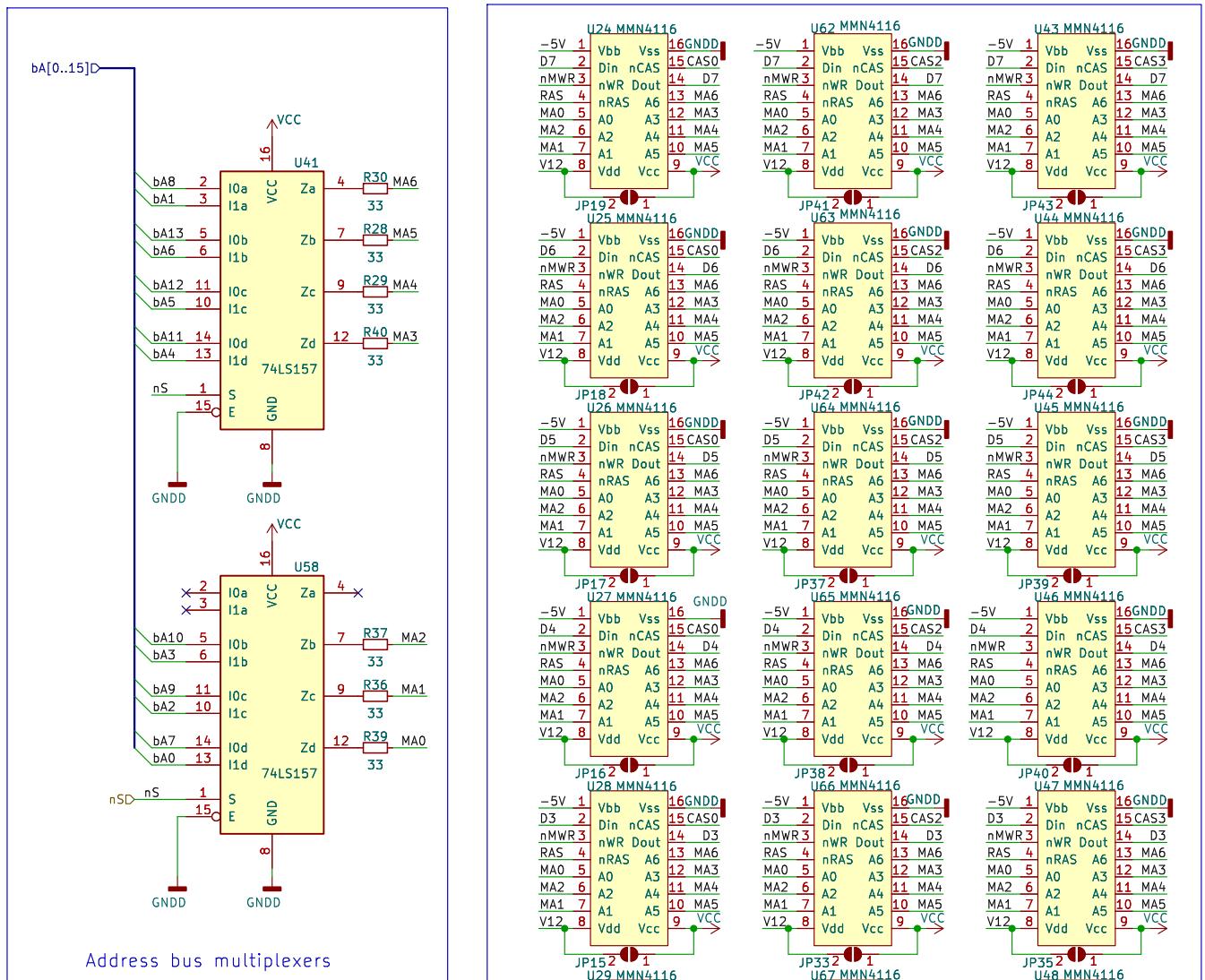


Sheet: /
File: main.kicad_sch

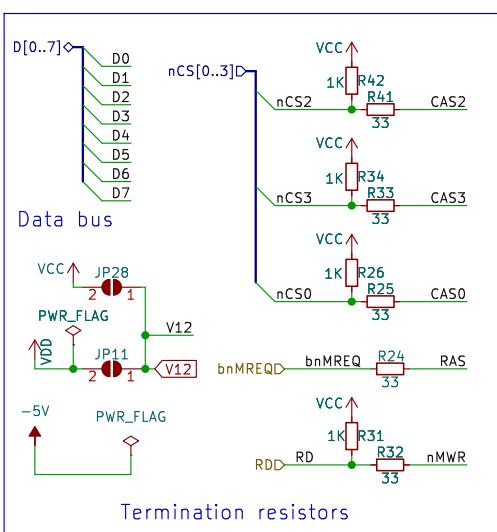
Title:

Size: A4	Date:
KiCad E.D.A. kicad 7.0.6-0	Rev: 1/11

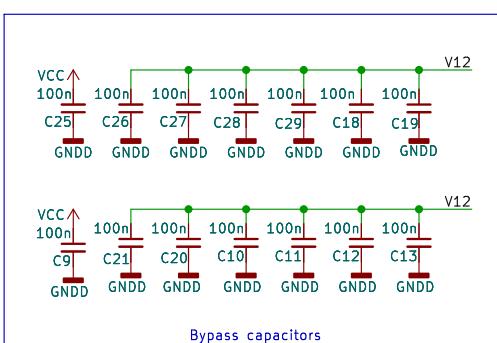




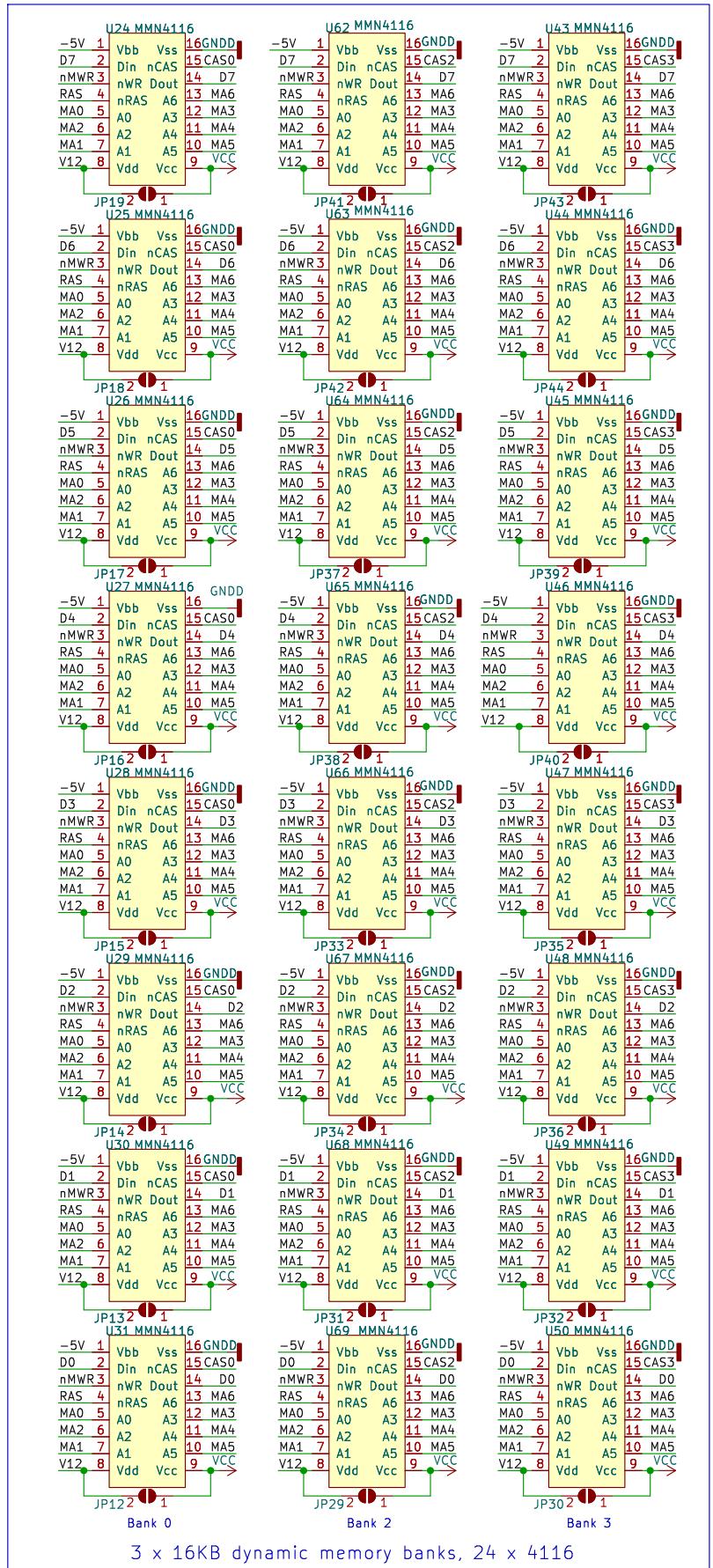
Address bus multiplexers



Termination resistors



Bypass capacitors



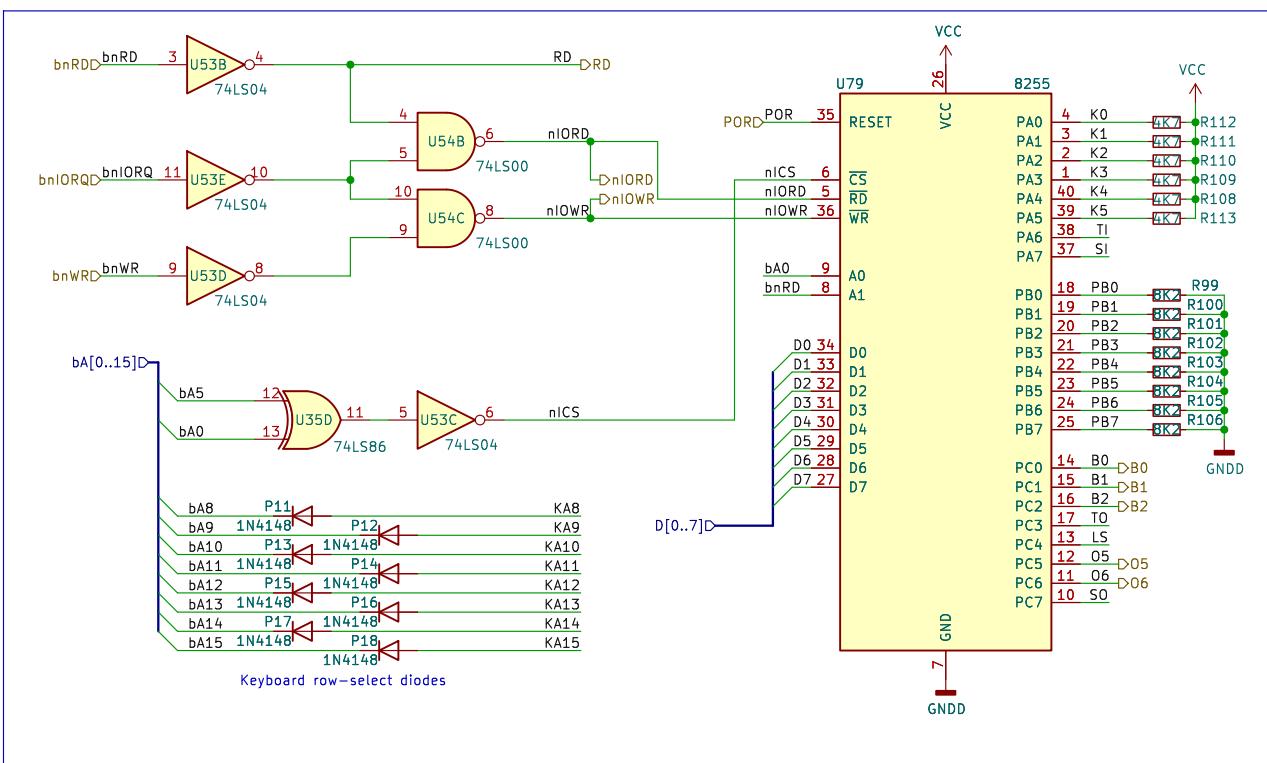
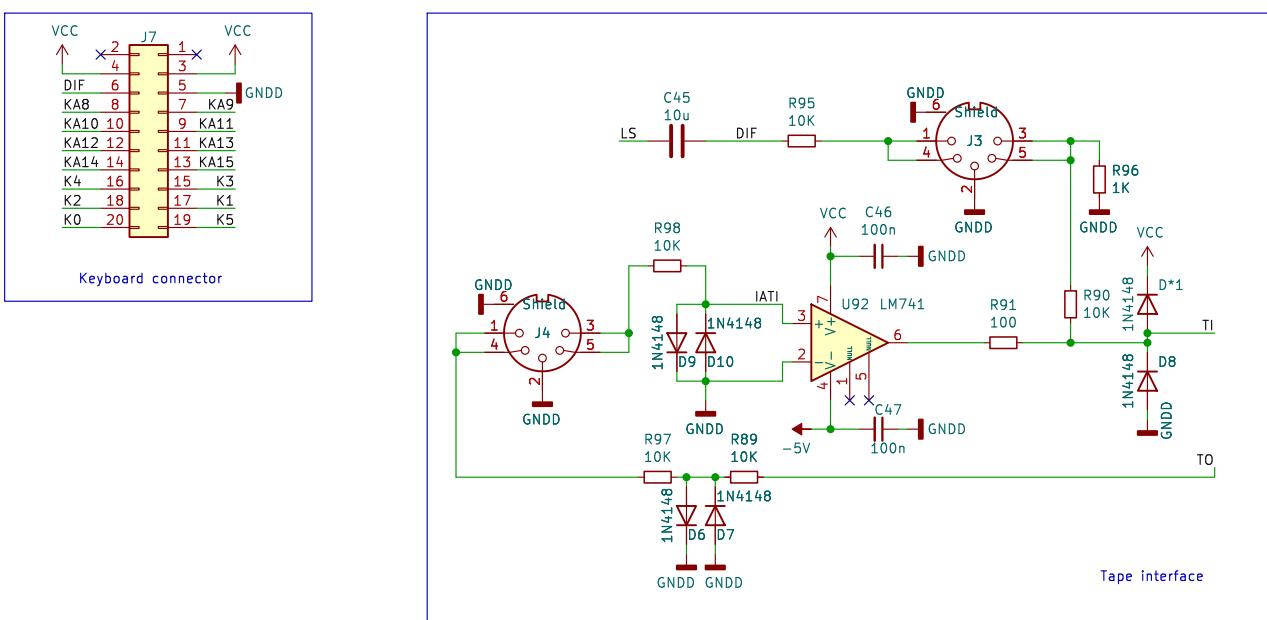
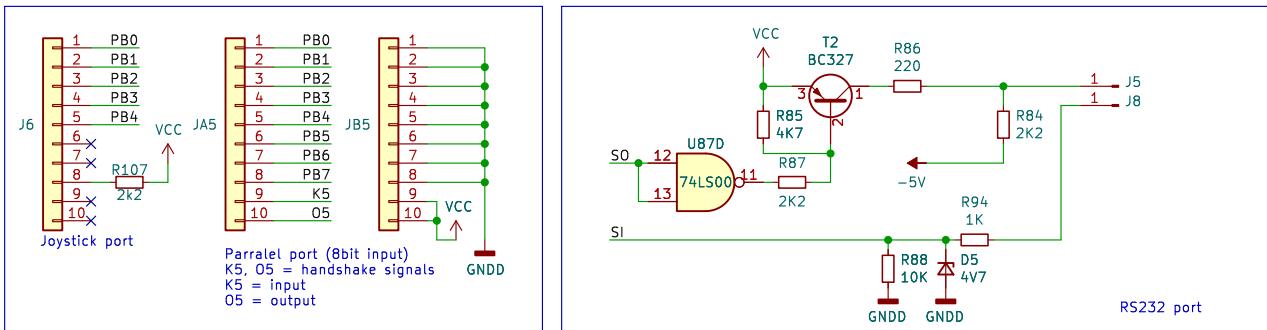
3 x 16KB dynamic memory banks, 24 x 4116

Sheet: /48K RAM & MUX/
File: RAM_48.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. kicad 7.0.6-0

Rev:
Id: 3/11

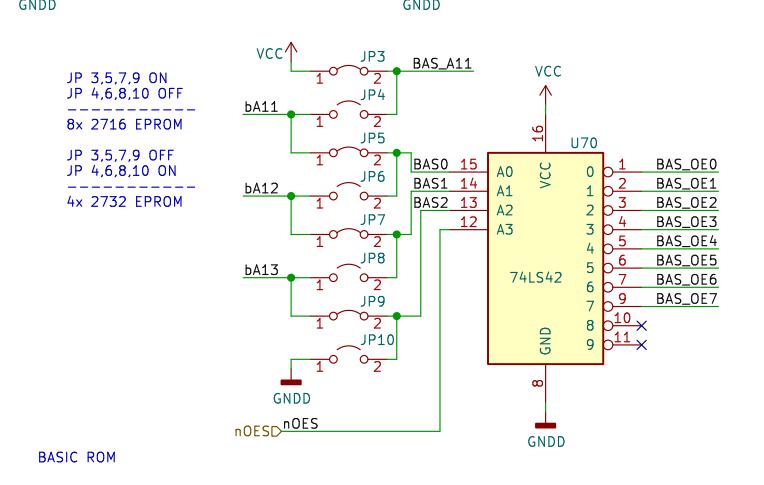
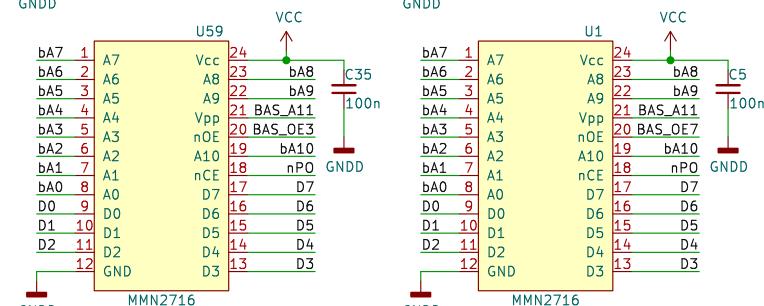
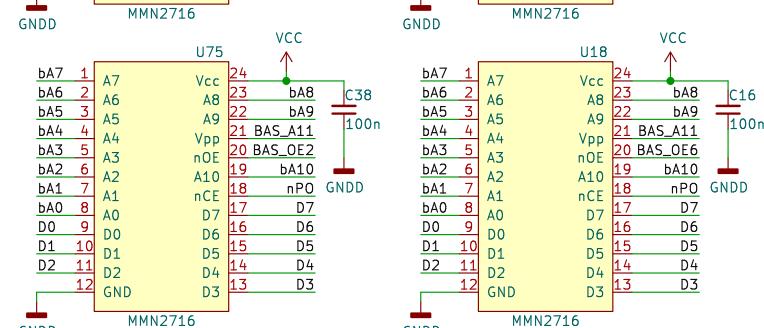
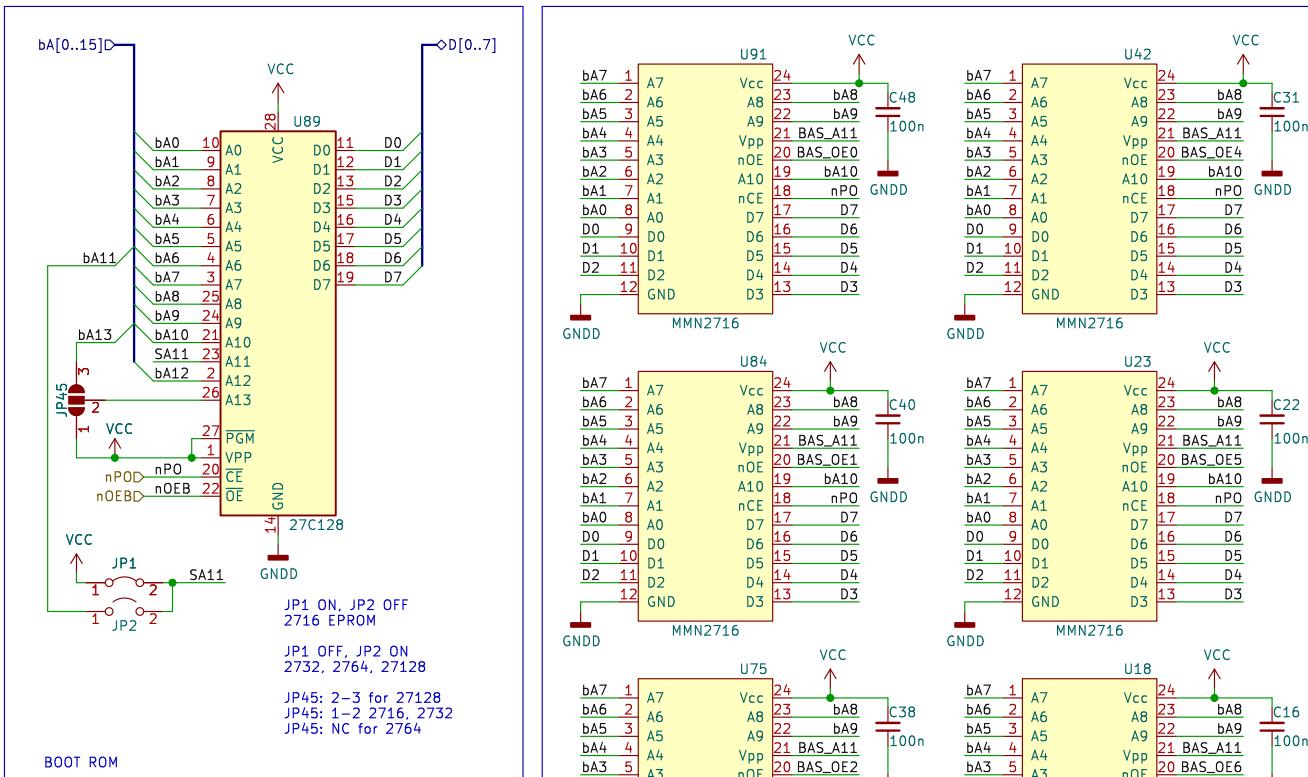


Sheet: /Interface & Voltage Adapters/
File: Interface.kicad_sch

Title:

Size: A4 Date:
KiCad E.D.A. kicad 7.0.6-0

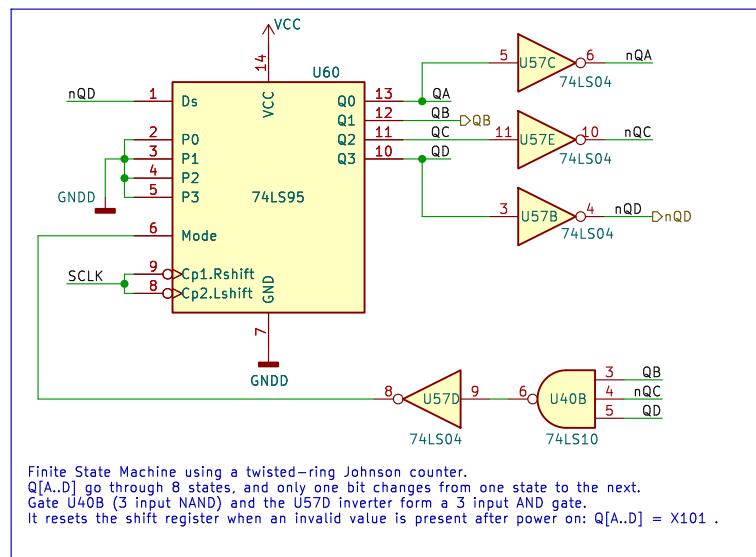
Rev:
Id: 5/11



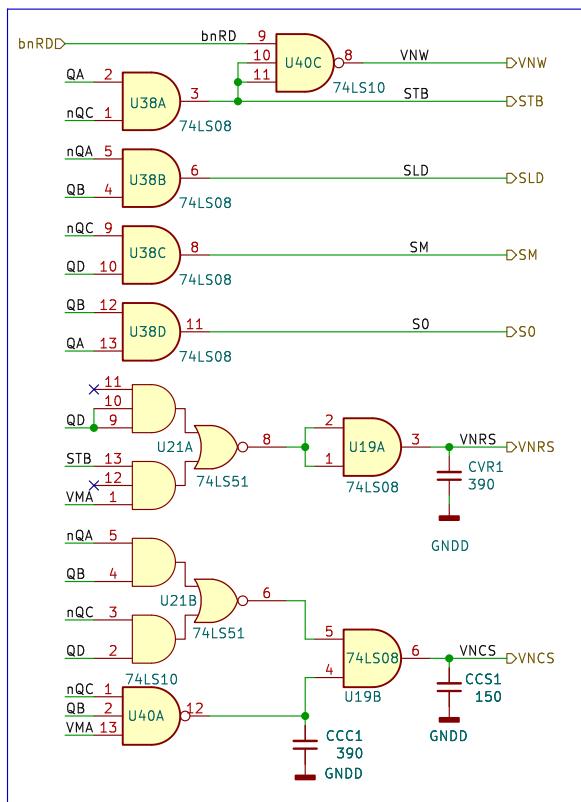
Sheet: /ROM/
File: ROM.kicad_sch

Title:

Size: A4 Date: Rev:
KiCad E.D.A. kicad 7.0.6-0 Id: 6/11



Finite State Machine using a twisted-ring Johnson counter.
 $Q[A..D]$ go through 8 states, and only one bit changes from one state to the next.
 Gate U40B (3 input NAND) and the U57D inverter form a 3 input AND gate.
 It resets the shift register when an invalid value is present after power on: $Q[A..D] = X101$.



VNW – Video Not Write, active-low signal, video DRAM bank WR pins

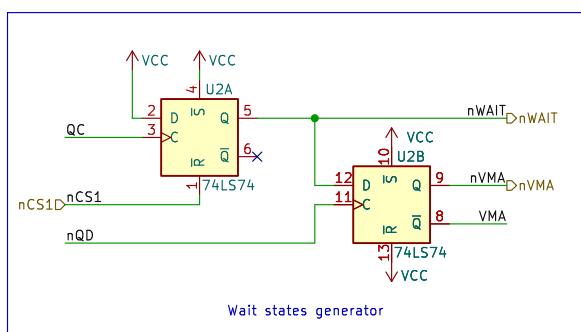
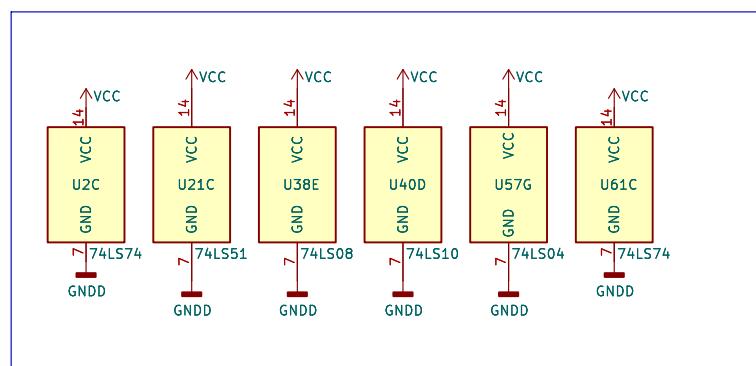
STB – Strobe, loads P8212 video register with data from video memory, for CPU to read it
Also, it controls the video memory address multiplexer MSB, when STB = 1, cpu address bus is selected

SLD – Serializer Load, controls loading data from the video memory bus into the pixel shift registers

SM – Serial Mode (?) – loads color attributes in shift registers used as 2x4bit D registers

S0 – Select Zero (not S0 which is Serial OUT)
controls the video memory address multiplexer LSB
performs the switching between ROW and COLUMN
address for video dram

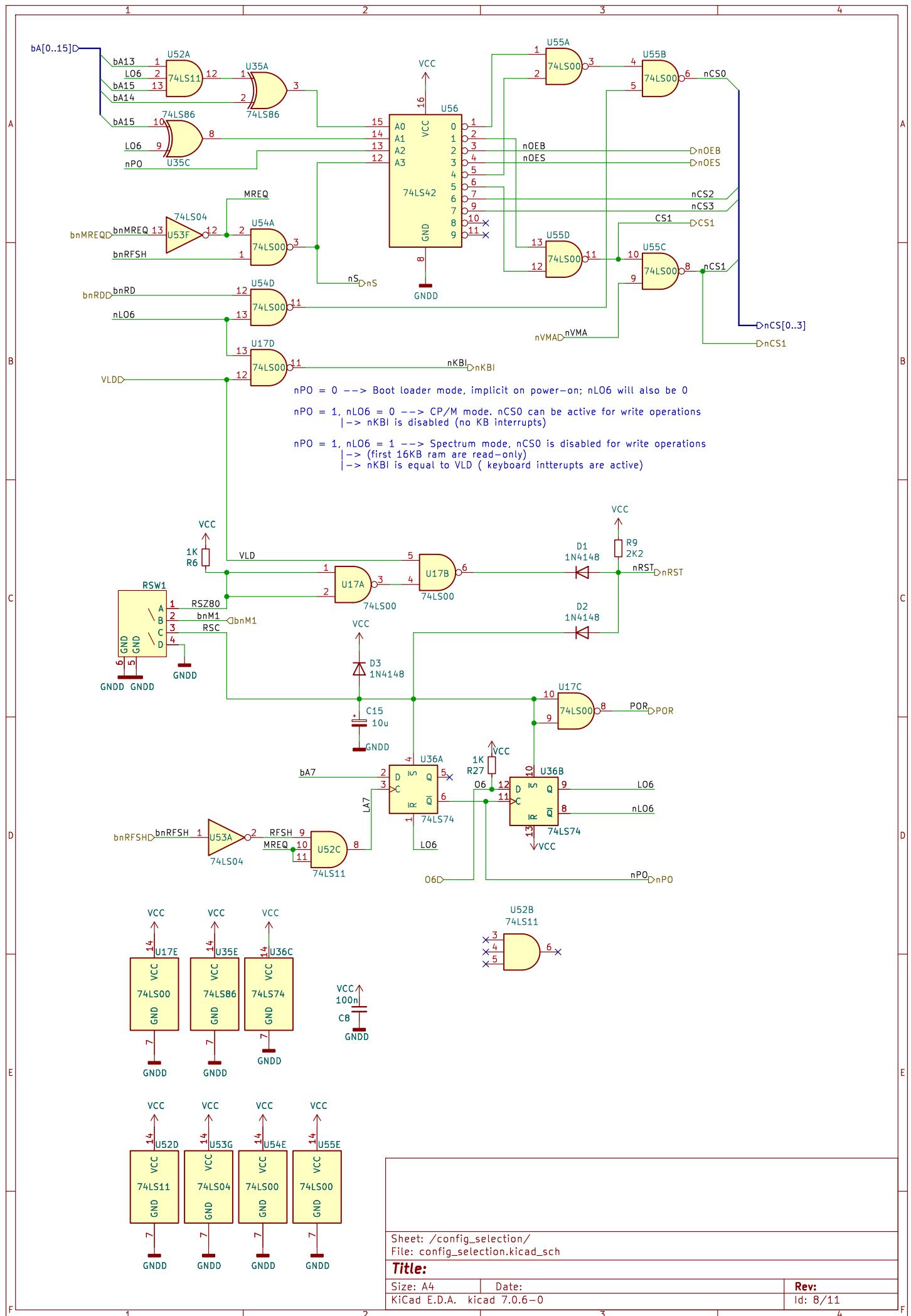
VNRS – Video Not RAS is the RAS signal for the video memory DRAM

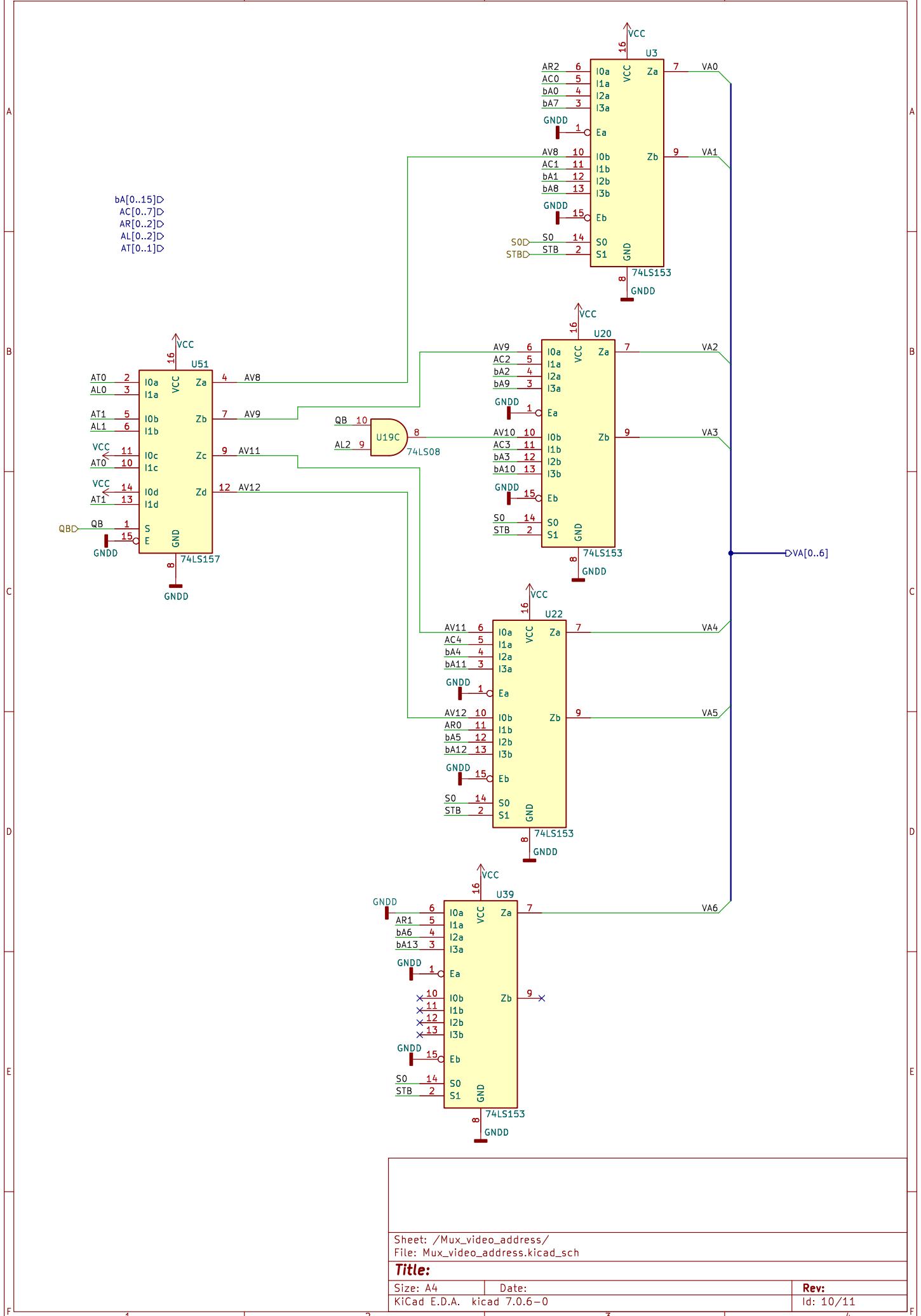


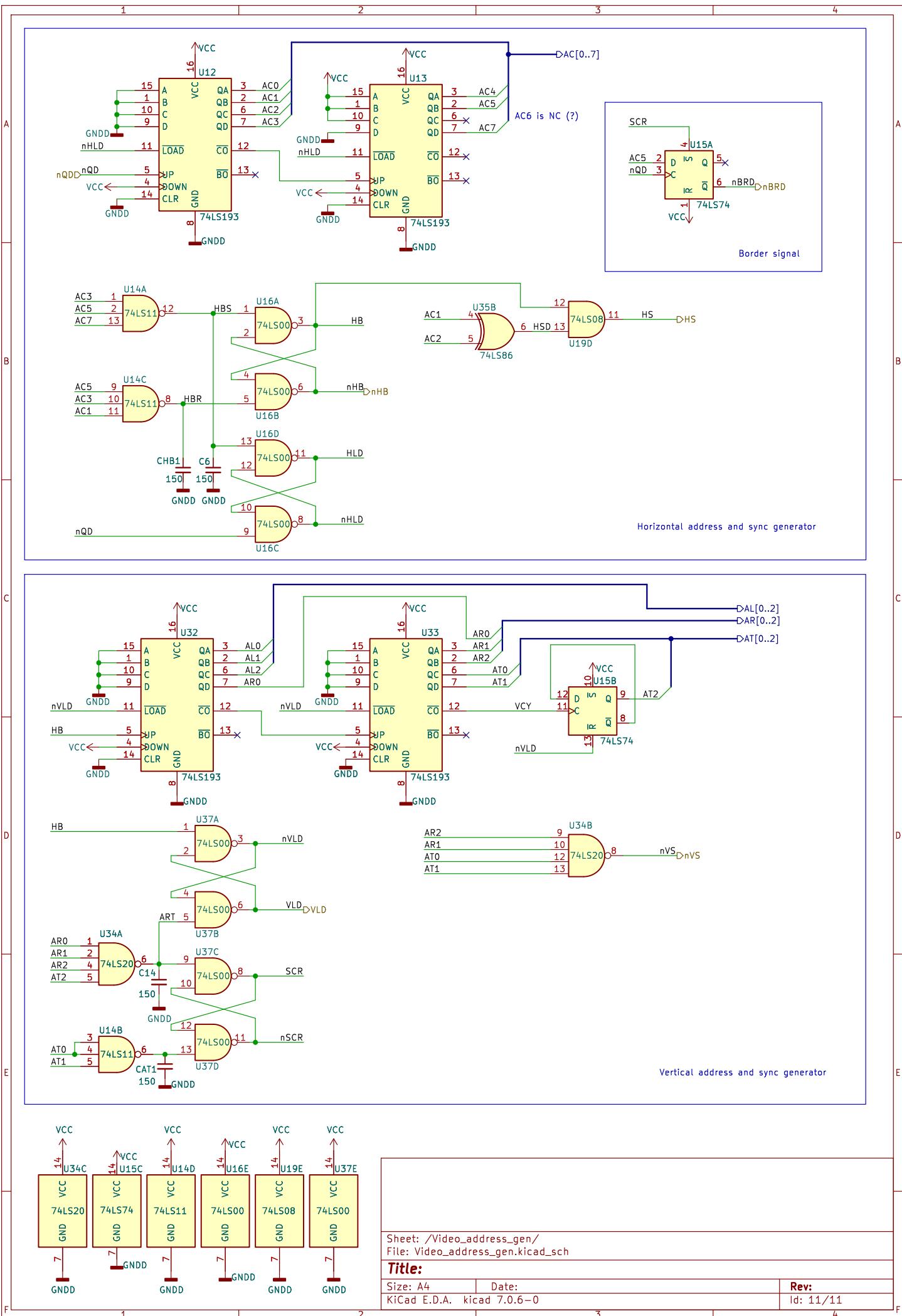
Sheet: /Memory_arbiter_cmd/
File: Memory_arbiter_cmd.kicad_sch

Title:

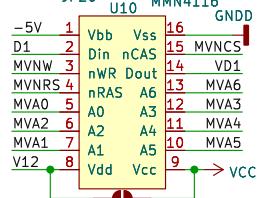
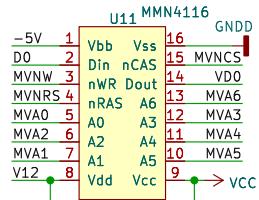
Size: A4 Date: Rev: KiCad E.D.A. kicad 7.0.6-0 Id: 7/11



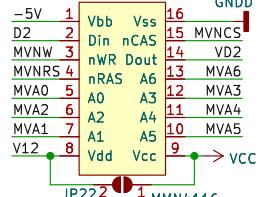




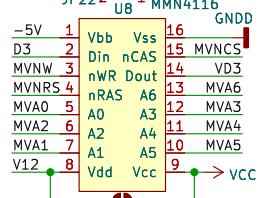
A



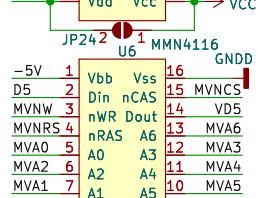
B



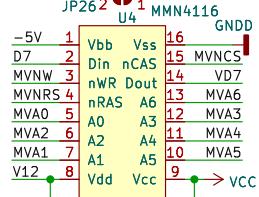
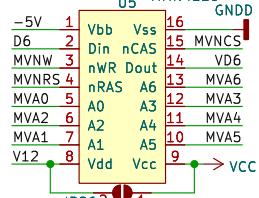
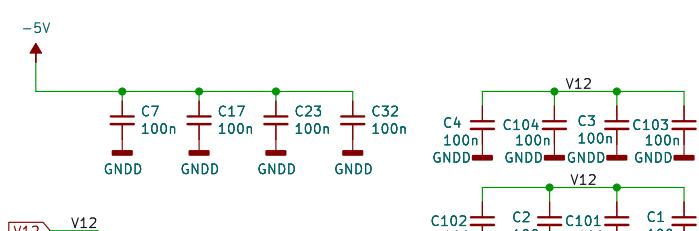
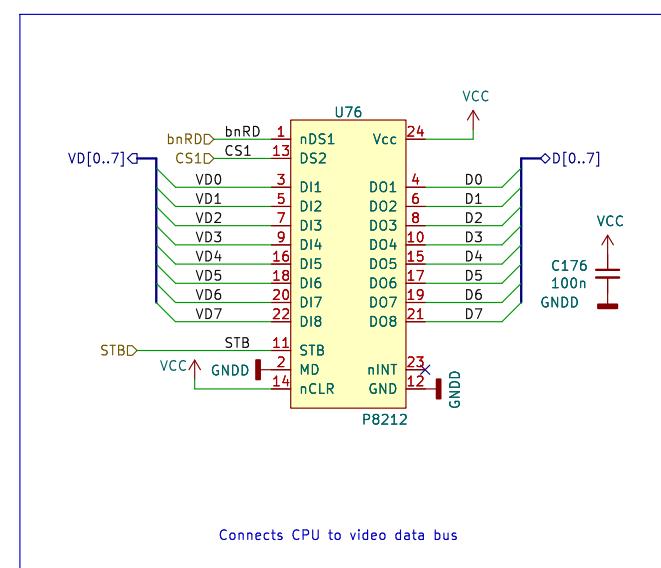
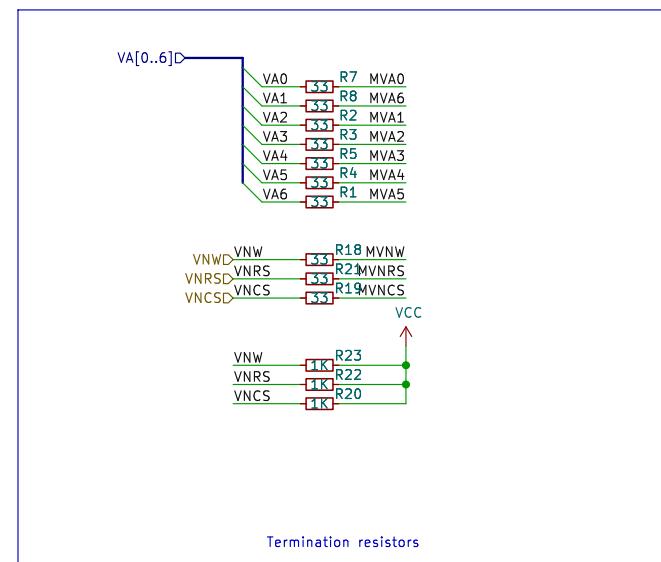
C



D



E

DRAM Bank 1
Video memorySheet: /Video_memory/
File: Video_memory.kicad_sch**Title:**

Size: A4 Date:

KiCad E.D.A. kicad 7.0.6-0

Rev:

Id: 12/11

