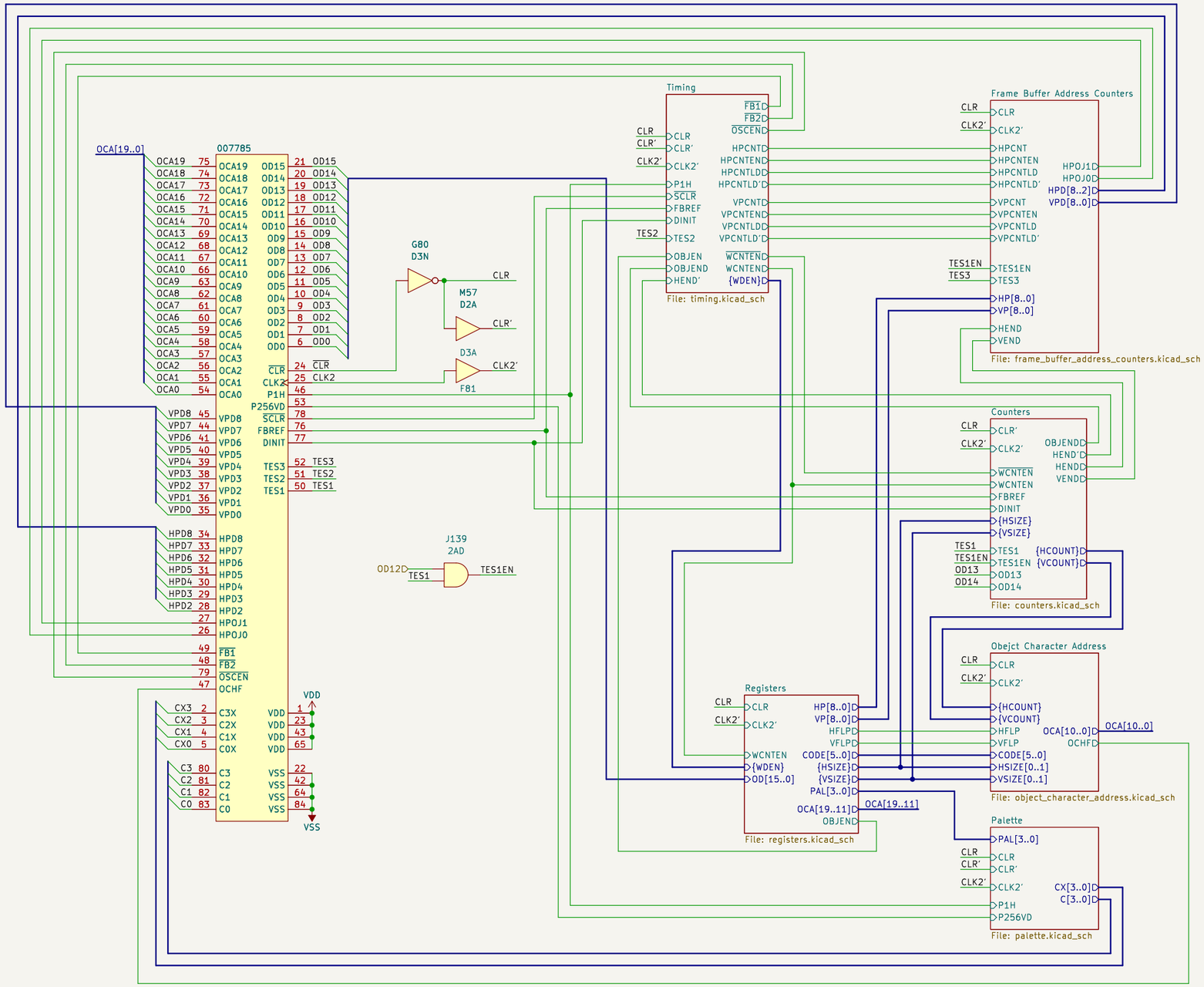
The 007786 scans for valid object data:
– Object (sprite) code,
– palette,
– position and
– attributes

It translates it into:
– individual object character (tiles) color code,
– Palette values
– object character address

This is copied into the frame buffers with the 007786.

1. $\overline{SCLR}$ ($\overline{OSCANCLR}$) starts the obejct scanning process.
2. $\overline{OSCEN}$ is activated when each of the four words to be scanned are to be read. The 007783 increments the address.

The 007786 uses an OKI 79V000 gate cell array with 3289 unit cells.



Ulf Skutnabba, twitter: @skutis77

Sheet: /
File: 007785.kicad_sch

Title: Konami 007785

Size: A3	Date: 2023-12-22	Rev:
KiCad E.D.A. 8.0.6		Id: 1/7

Object Character Addressing

Horizontal Position

Vertical Position

OD[15..0]

OCA[19..11]

HP[8..0]

VP[8..0]

PAL[3..0]

{HSIZE}

{VSIZE}

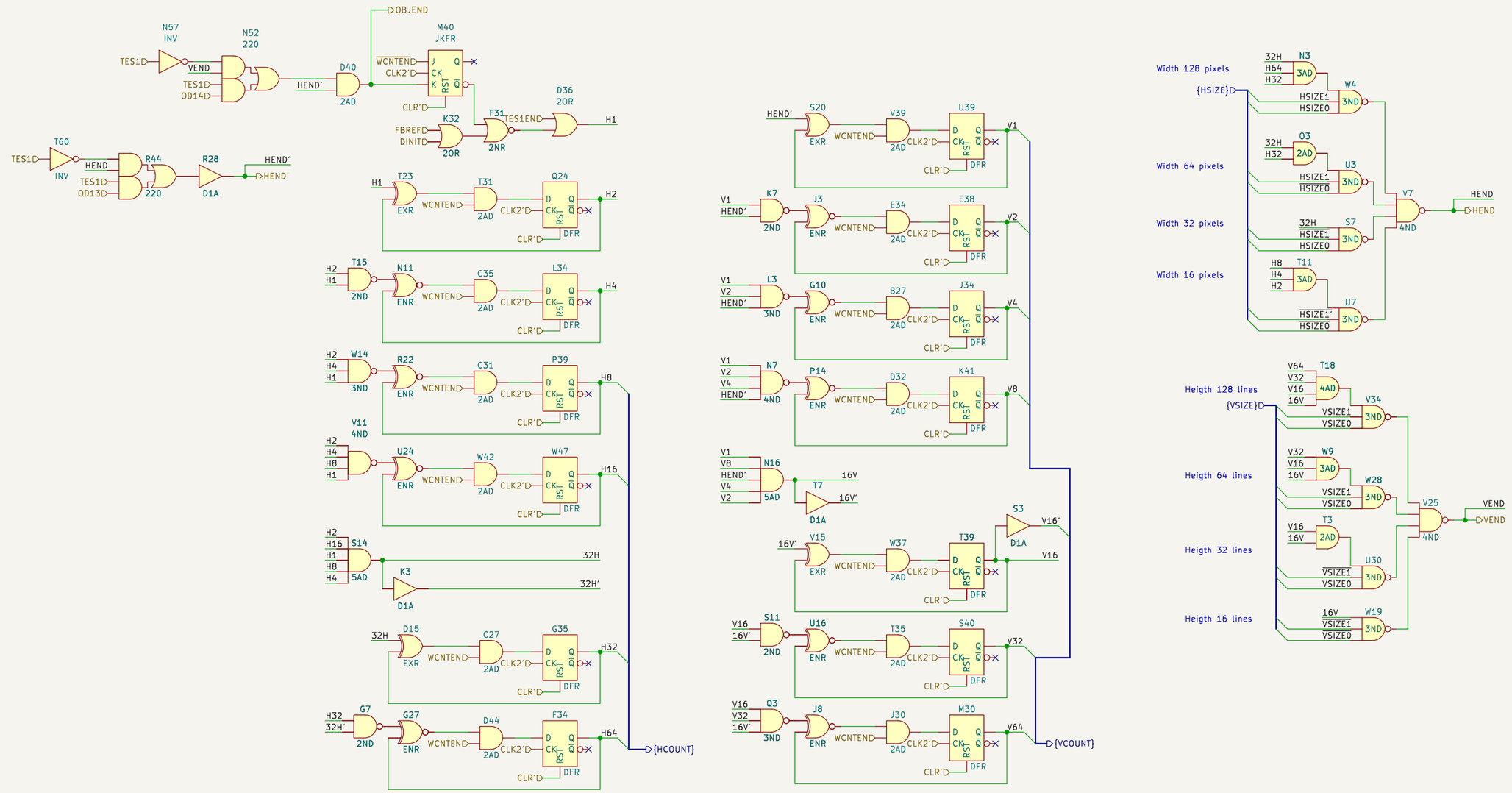
{WDEN}

HFLP

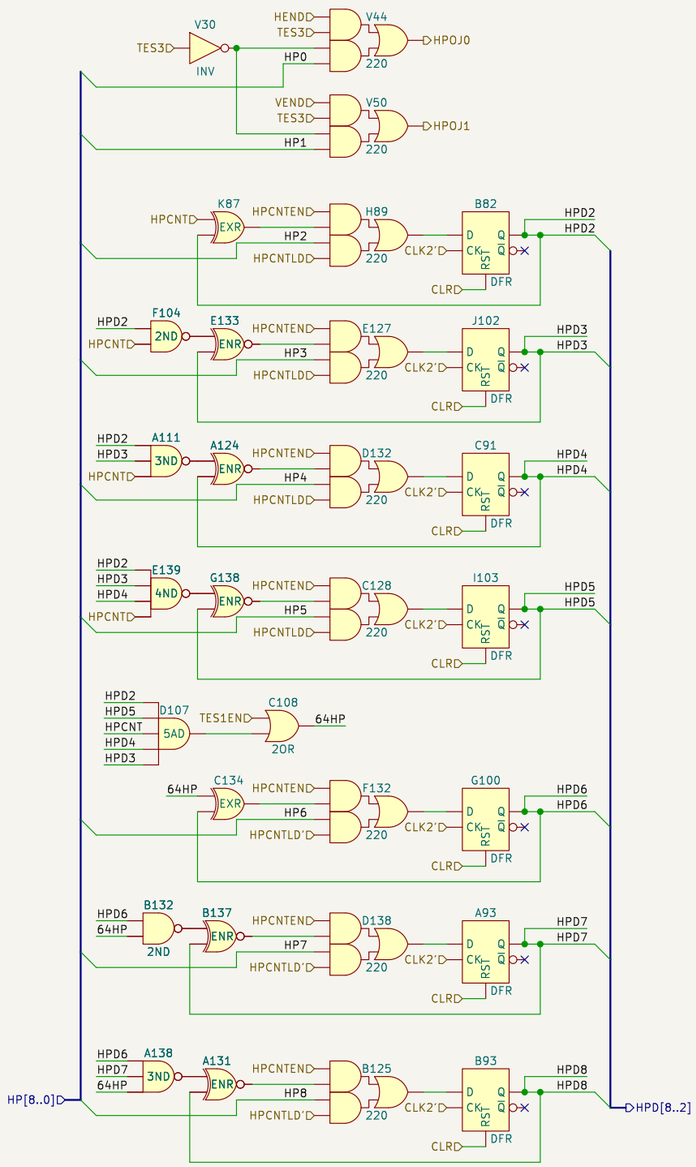
VFLP

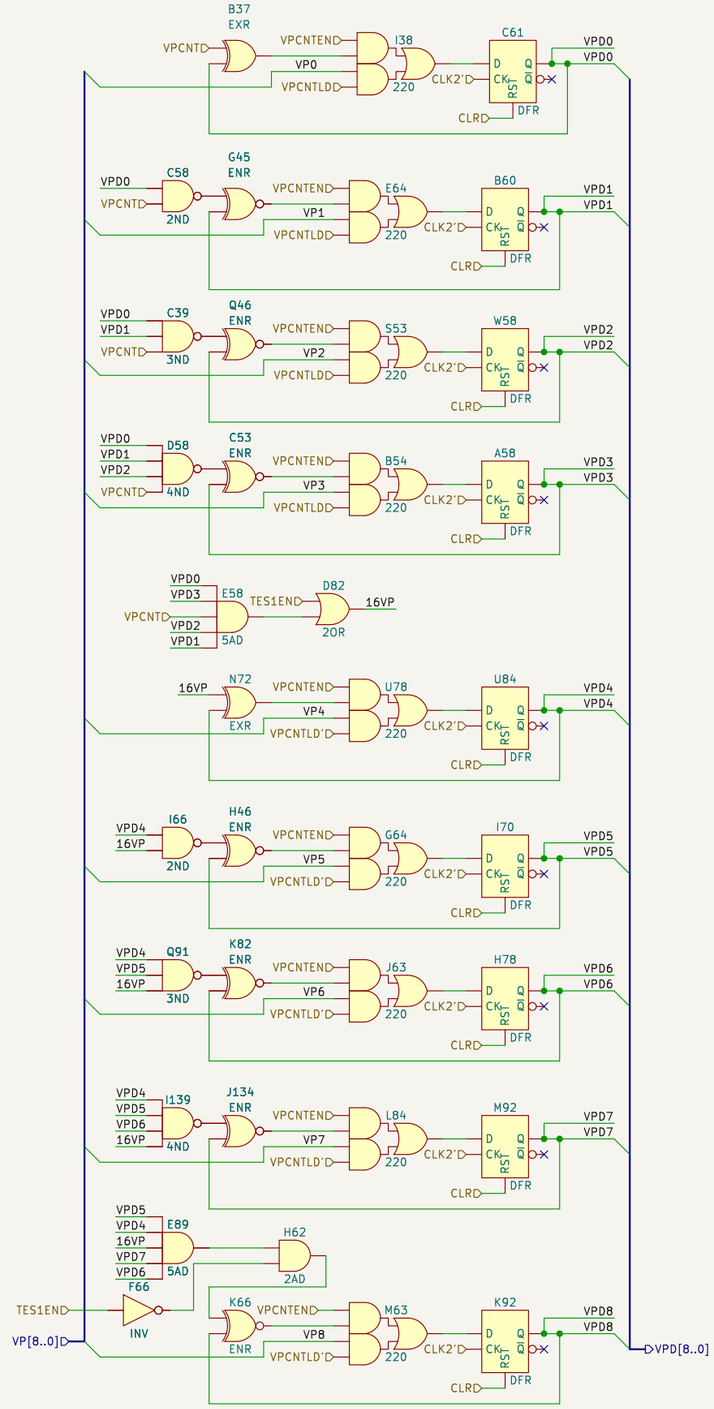
OBJEN

Sheet: /Registers/		
File: registers.kicad_sch		
Title:		
Size: A3	Date: 2023-12-22	**Rev:**
KiCad E.D.A. 8.0.6		Id: 2/7



Sheet: /Counters/	
File: counters.kicad_sch	
Title:	
Size: A3	Date: 2023-12-22
KiCad E.D.A. 8.0.6	Id: 3/7





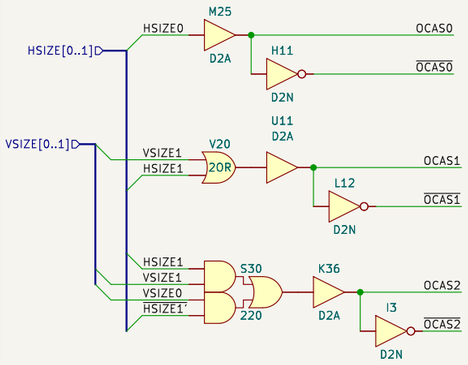
Sheet: /Frame Buffer Address Counters/
File: frame_buffer_address_counters.kicad_sch

Title:

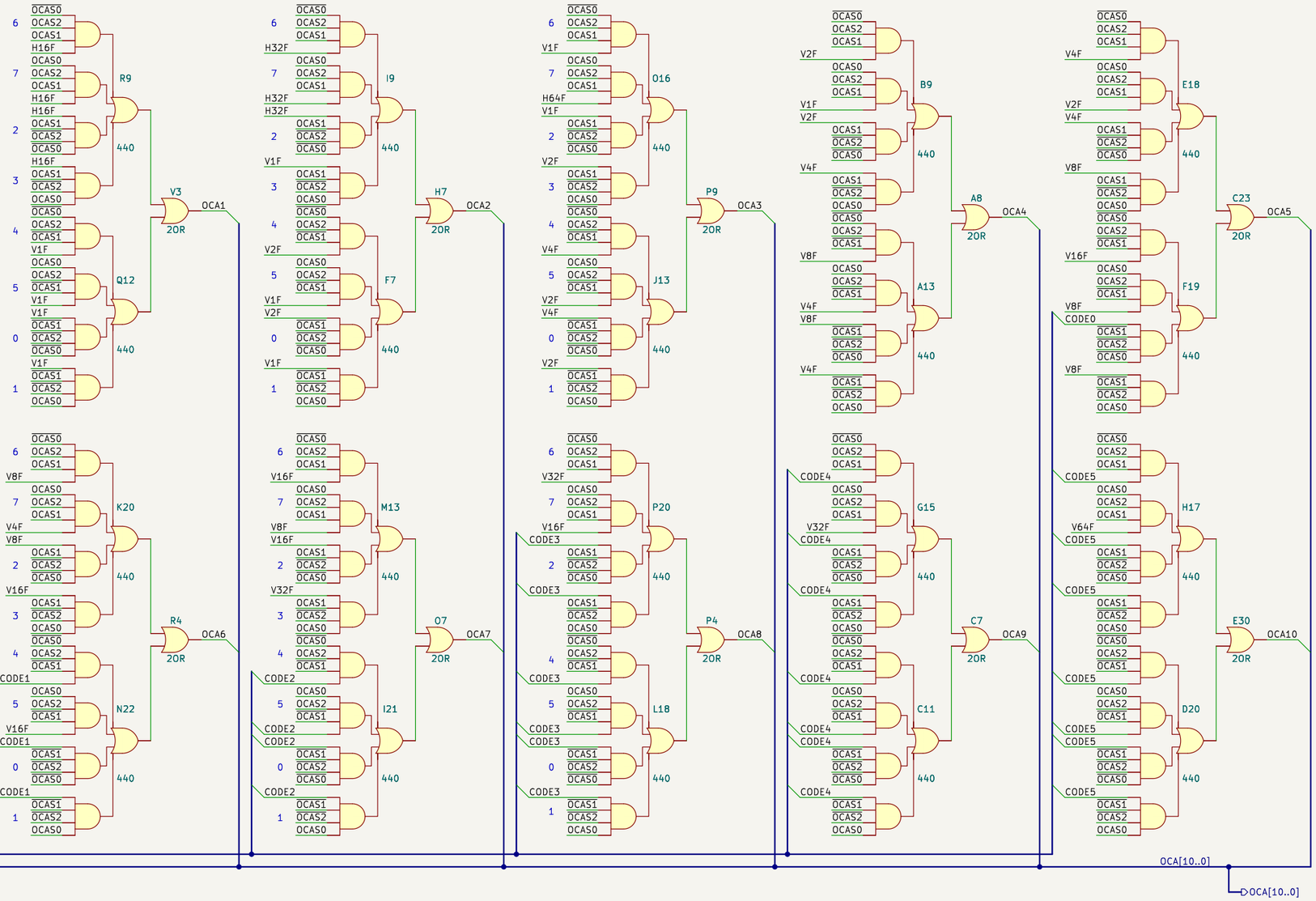
Size: A3	Date: 2023-12-22	**Rev:**
KiCad E.D.A. 8.0.6		Id: 4/7

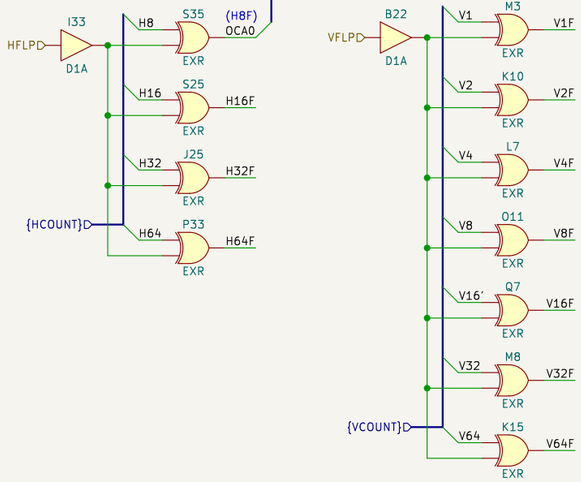
Object Character Select Address

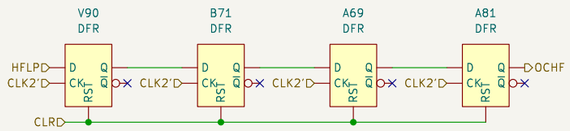
Object (Sprite) tiles are called
characters on the twin16 platform.



VSIZE1	VSIZE0	VSIZE	HSIZE1	HSIZE0	HSIZE	OCAS2	OCAS1	OCAS0			
0	0	16	0	0	16	0	0	0	0	16H16V	256
0	0	16	0	1	32	0	0	1	1	32H16V	512
0	0	16	1	0	64	0	1	0	2	64H16V	1024
0	0	16	1	1	128	0	1	1	3	128H16V	2048
0	1	32	0	0	16	1	0	0	4	16H32V	512
0	1	32	0	1	32	1	0	1	5	32H32V	1024
0	1	32	1	0	64	0	1	0	2	64H32V	2048
0	1	32	1	1	128	0	1	1	3	128H32V	4096
1	0	64	0	0	16	0	1	0	2	16H64V	1024
1	0	64	0	1	32	0	1	1	3	32H64V	2048
1	0	64	1	0	64	1	1	0	6	64H64V	4096
1	0	64	1	1	128	1	1	1	7	128H64V	8192
1	1	128	0	0	16	1	1	0	6	16H128V	2048
1	1	128	0	1	32	1	1	1	7	32H128V	4096
1	1	128	1	0	64	1	1	0	6	64H128V	8192
1	1	128	1	1	128	1	1	1	7	128H128V	16384







Sheet: /Obejct Character Address/	
File: object_character_address.kicad_sch	
Title:	
Size: A3	Date: 2023-12-22
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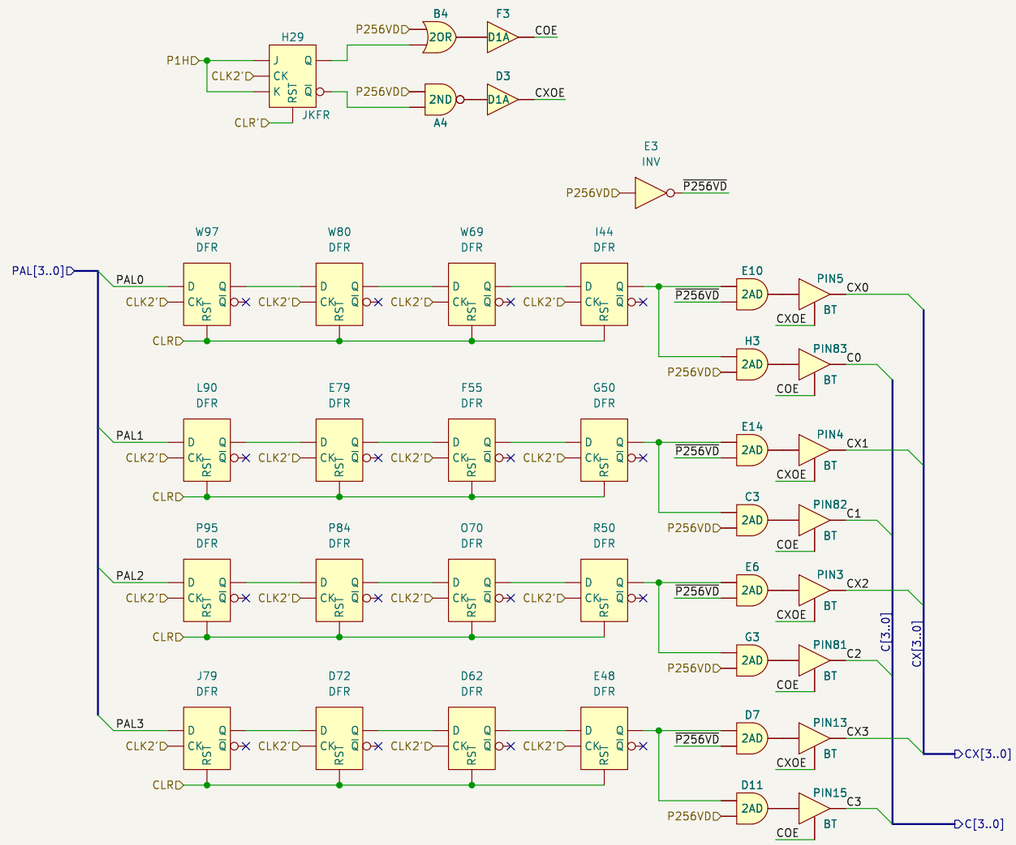

Sheet: /Palette/
File: palette.kicad_sch

Title:

Size: A3 | Date: 2023-12-22 | **Rev:**
KiCad E.D.A. 8.0.6 | Id: 6/7

Word W0: Code
Word W1: HPOS
Word W2: VPOS
Word W3: Params and sprten

Horizontal counter is running while:
~FBREF & ~DINIT

HPCNTEN = ~HEND' & WCNTEN
HPCNTLD = HEND' | ~WCNTEN
HPCNTEN = ~HPCNTLD

Signals delayed four pixelclocks

VPCNTEN = WCNTEN, delayed four pixelclocks

Sheet: /Timing/		
File: timing.kicad_sch		
Title:		
Size: A3	Date: 2023-12-22	**Rev:**
KiCad E.D.A. 8.0.6		Id: 7/7