

The 007786 scans for valid object data:

- Object (sprite) code,
- palette,
- position and
- attributes

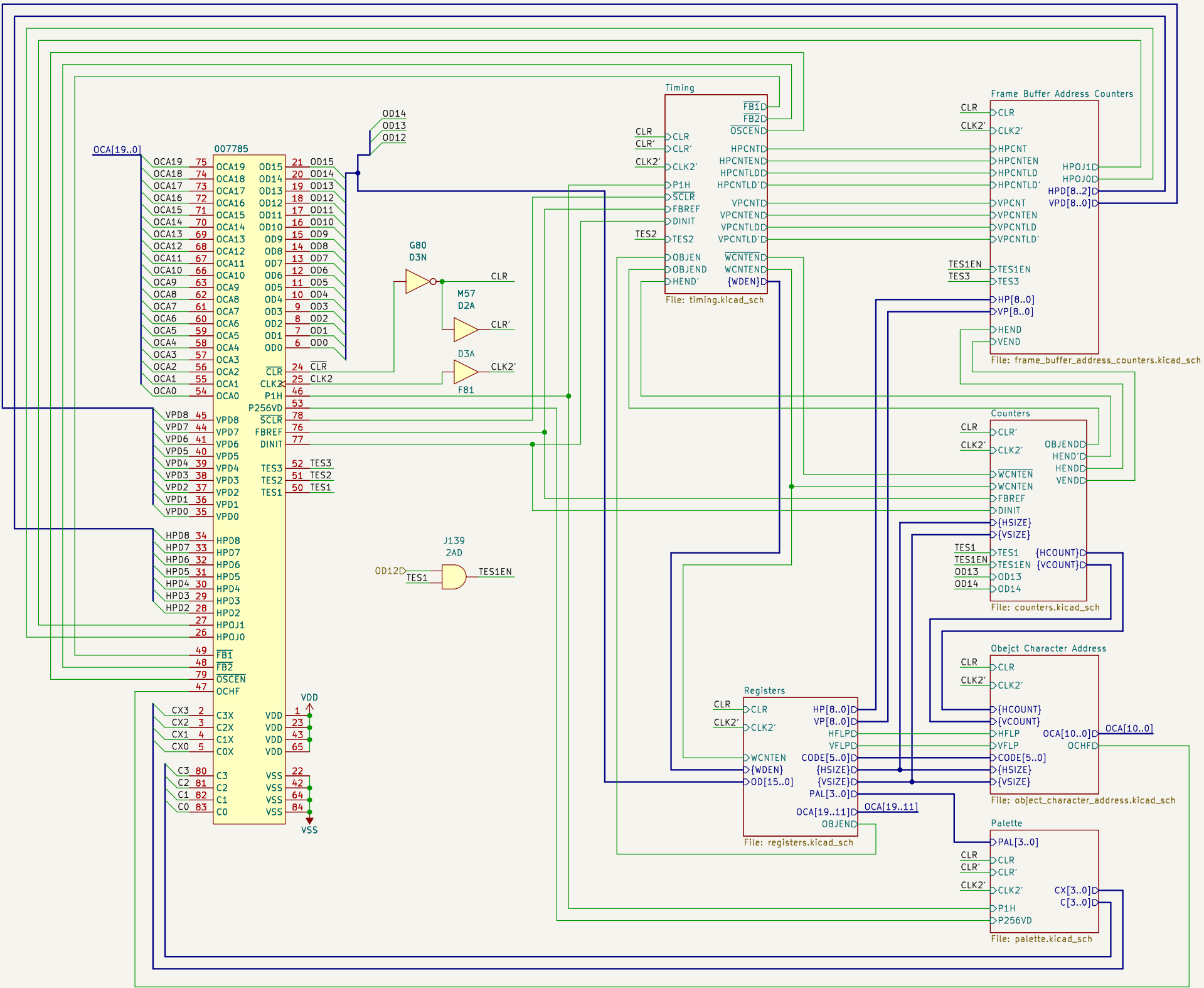
It translates it into:

- Individual object character (tiles) color code,
- Palette values
- object character address

This is copied into the frame buffers with the 007786.

1. SCLR (OSCANCLR) starts the obejct scanning process.
2. 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.



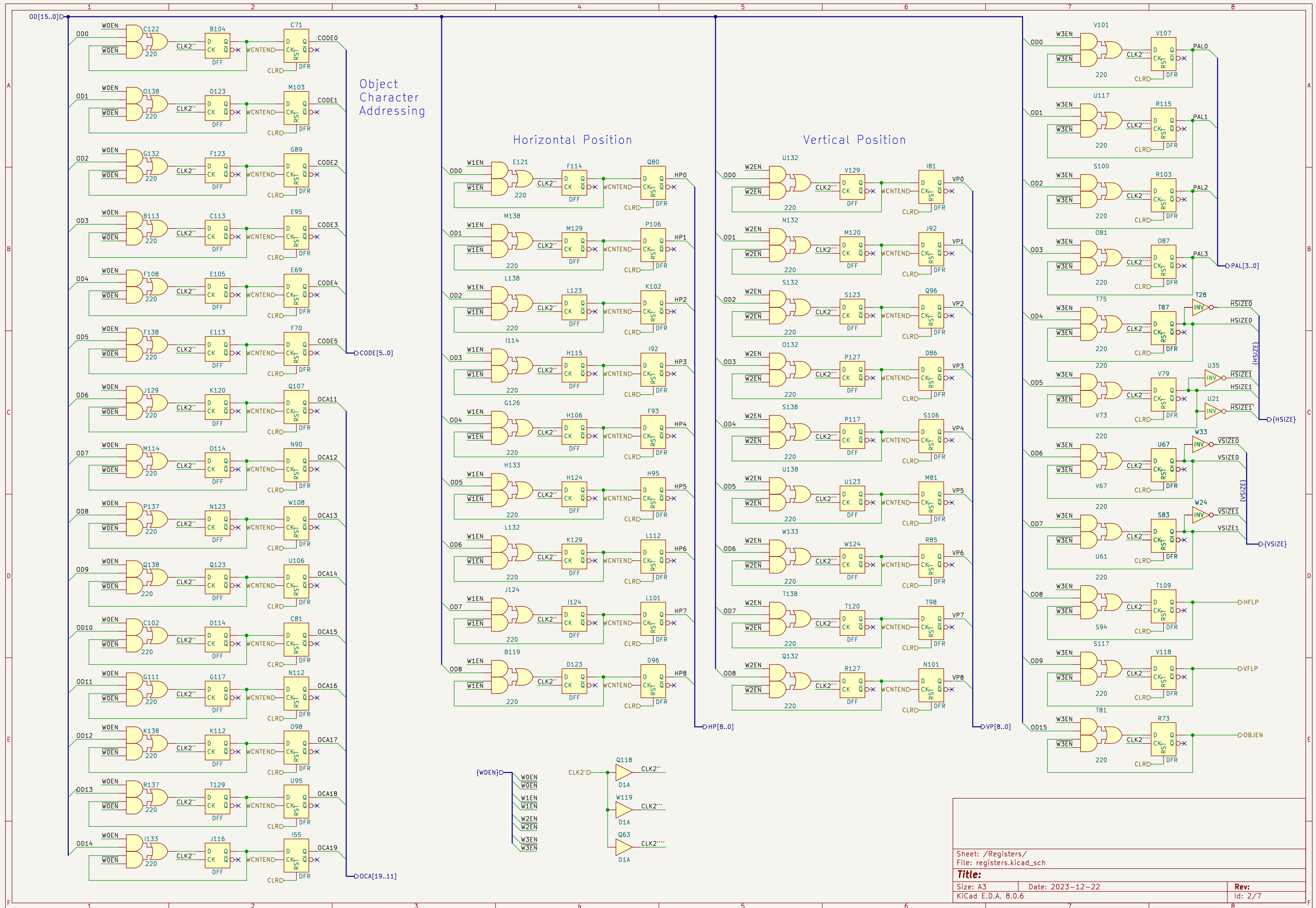
Ulf Skutnabba, twitter: @skutis77

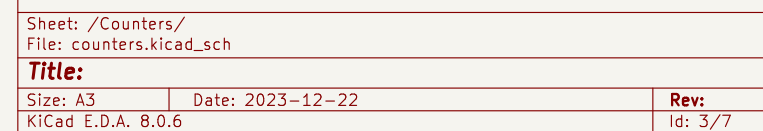
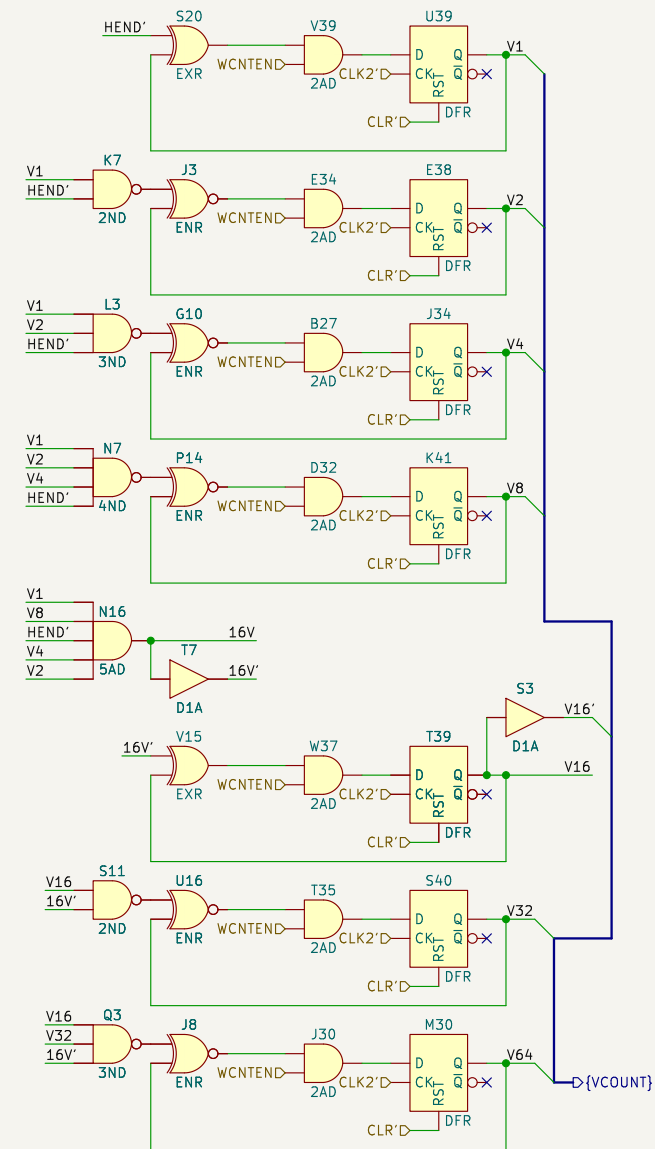
Sheet: /  
File: 007785.kicad\_sch

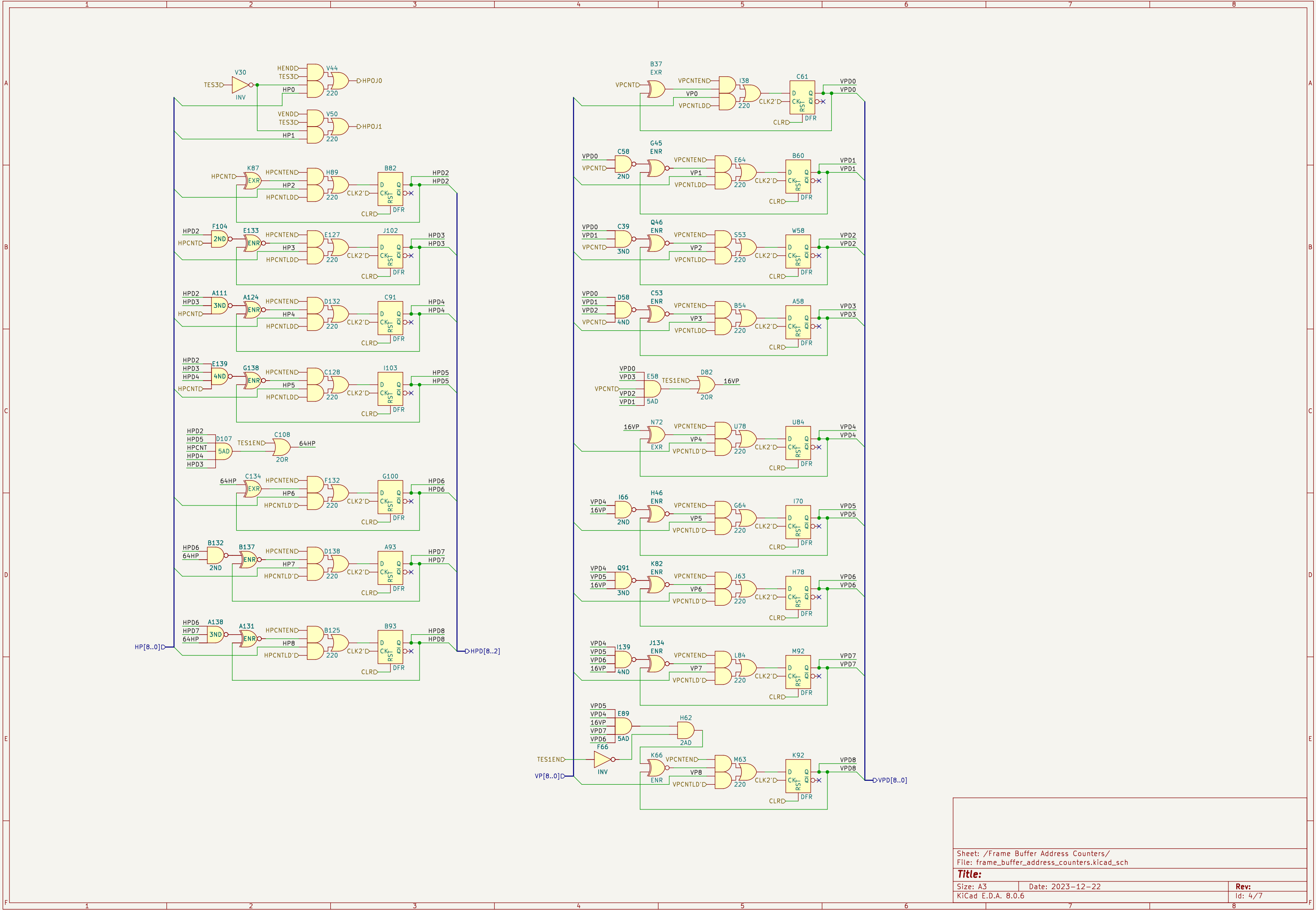
Title: Konami 007785

Size: A3 Date: 2023-12-22  
KiCad E.D.A. 8.0.6

Rev:  
Id: 1/7





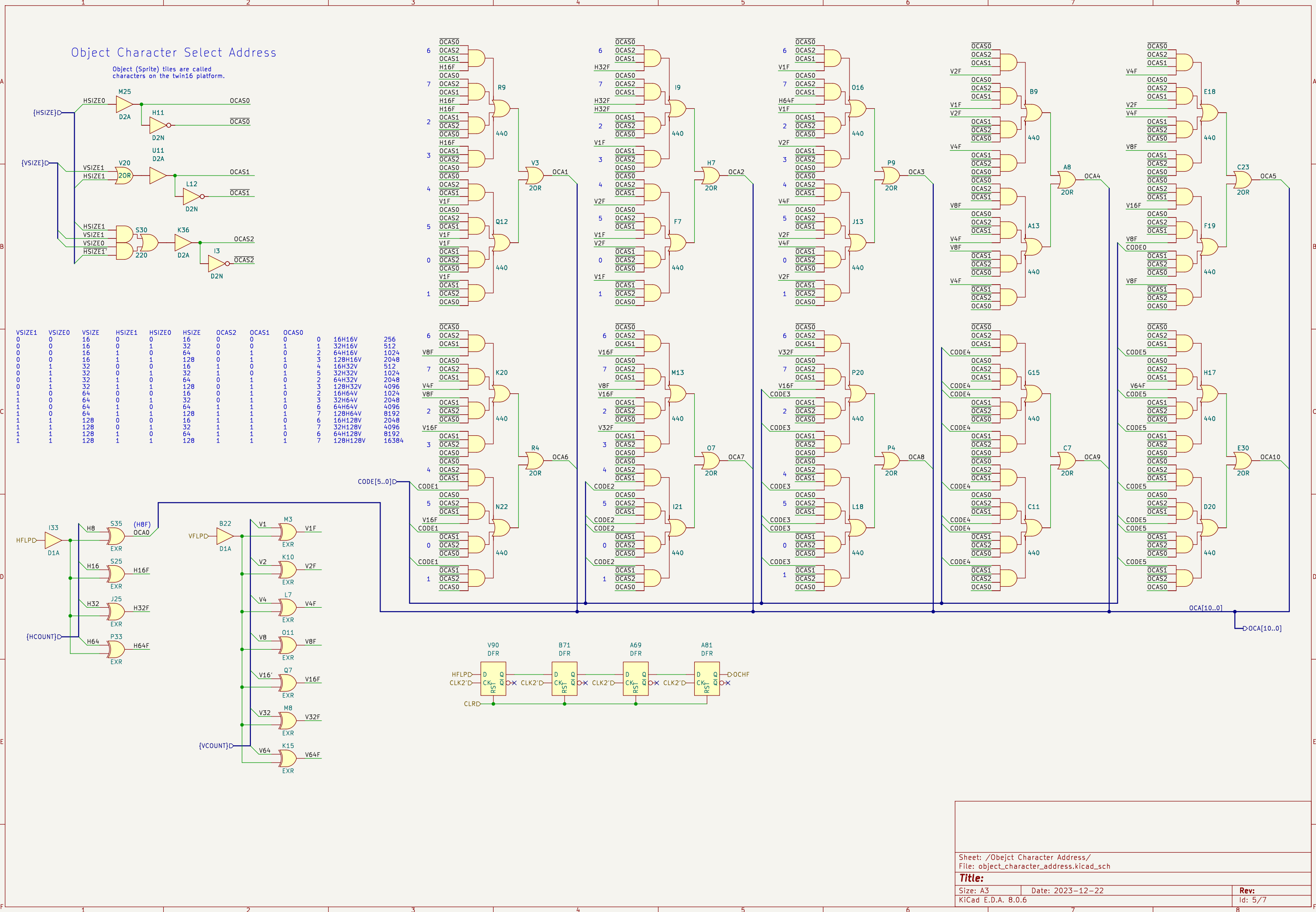


Object Character Select Address

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

VSIZ1 VSIZ0 VSIZ HSIZE1 HSIZE0 HSIZE OCA2 OCA1 OCA0

VSIZ1	VSIZ0	VSIZ	HSIZE1	HSIZE0	HSIZE	OCA2	OCA1	OCA0
0	0	0	0	0	16	0	0	0
0	0	0	0	0	16	0	0	1
0	0	0	0	0	16	0	0	2
0	0	0	0	0	16	0	0	3
0	0	0	0	0	16	0	0	4
0	0	0	0	0	16	0	0	5
0	0	0	0	0	16	0	0	6
0	0	0	0	0	16	0	0	7
0	0	0	0	0	16	0	0	8
0	0	0	0	0	16	0	0	9
0	0	0	0	0	16	0	0	10
0	0	0	0	0	16	0	0	11
0	0	0	0	0	16	0	0	12
0	0	0	0	0	16	0	0	13
0	0	0	0	0	16	0	0	14
0	0	0	0	0	16	0	0	15
0	0	0	0	0	16	0	0	16
0	0	0	0	0	16	0	0	17
0	0	0	0	0	16	0	0	18
0	0	0	0	0	16	0	0	19
0	0	0	0	0	16	0	0	20
0	0	0	0	0	16	0	0	21
0	0	0	0	0	16	0	0	22
0	0	0	0	0	16	0	0	23
0	0	0	0	0	16	0	0	24
0	0	0	0	0	16	0	0	25
0	0	0	0	0	16	0	0	26
0	0	0	0	0	16	0	0	27
0	0	0	0	0	16	0	0	28
0	0	0	0	0	16	0	0	29
0	0	0	0	0	16	0	0	30
0	0	0	0	0	16	0	0	31
0	0	0	0	0	16	0	0	32
0	0	0	0	0	16	0	0	33
0	0	0	0	0	16	0	0	34
0	0	0	0	0	16	0	0	35
0	0	0	0	0	16	0	0	36
0	0	0	0	0	16	0	0	37
0	0	0	0	0	16	0	0	38
0	0	0	0	0	16	0	0	39
0	0	0	0	0	16	0	0	40
0	0	0	0	0	16	0	0	41
0	0	0	0	0	16	0	0	42
0	0	0	0	0	16	0	0	43
0	0	0	0	0	16	0	0	44
0	0	0	0	0	16	0	0	45
0	0	0	0	0	16	0	0	46
0	0	0	0	0	16	0	0	47
0	0	0	0	0	16	0	0	48
0	0	0	0	0	16	0	0	49
0	0	0	0	0	16	0	0	50
0	0	0	0	0	16	0	0	51
0	0	0	0	0	16	0	0	52
0	0	0	0	0	16	0	0	53
0	0	0	0	0	16	0	0	54
0	0	0	0	0	16	0	0	55
0	0	0	0	0	16	0	0	56
0	0	0	0	0	16	0	0	57
0	0	0	0	0	16	0	0	58
0	0	0	0	0	16	0	0	59
0	0	0	0	0	16	0	0	60
0	0	0	0	0	16	0	0	61
0	0	0	0	0	16	0	0	

[illegible]

**Object Character Select Address**

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

**Truth Table:**

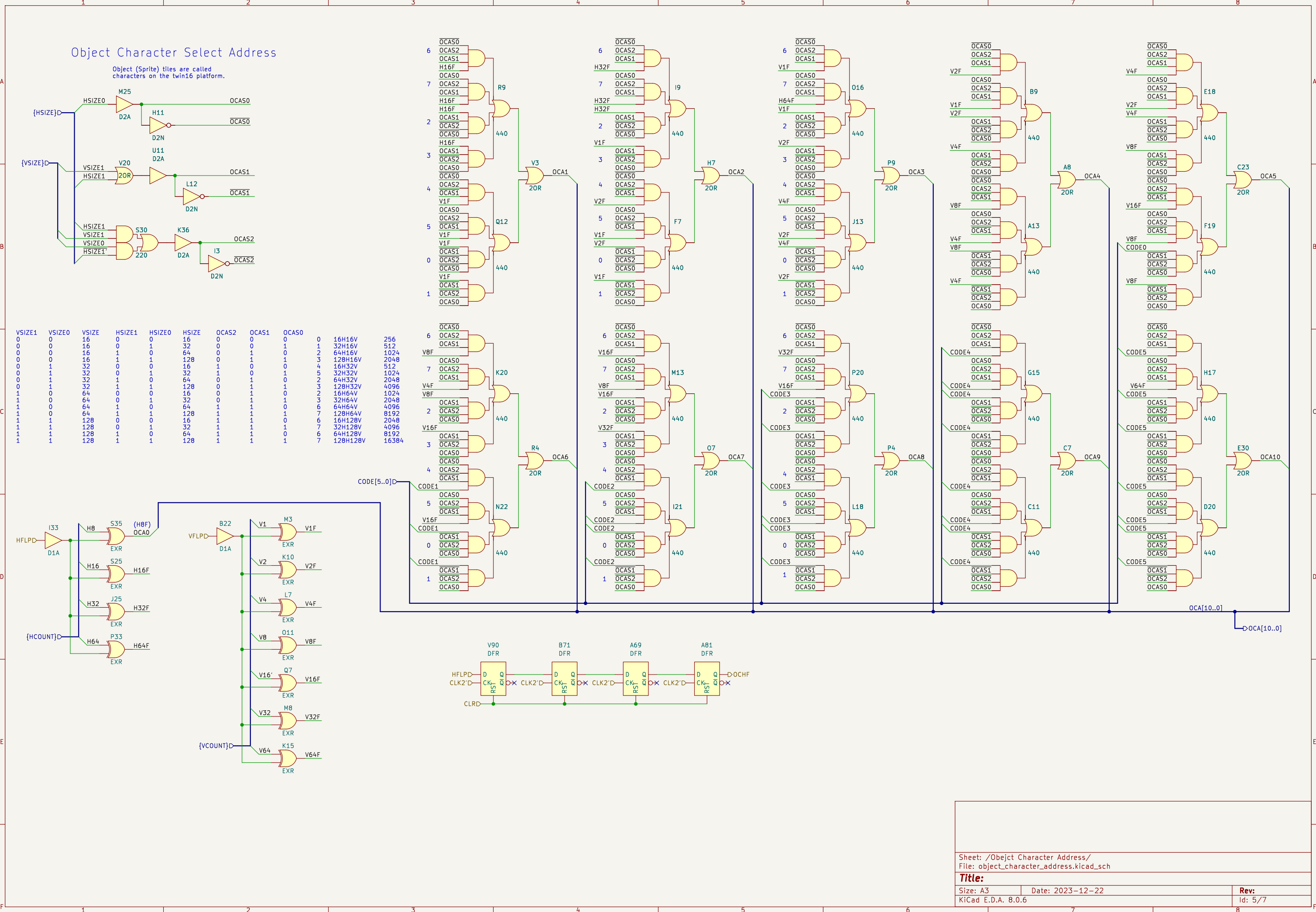
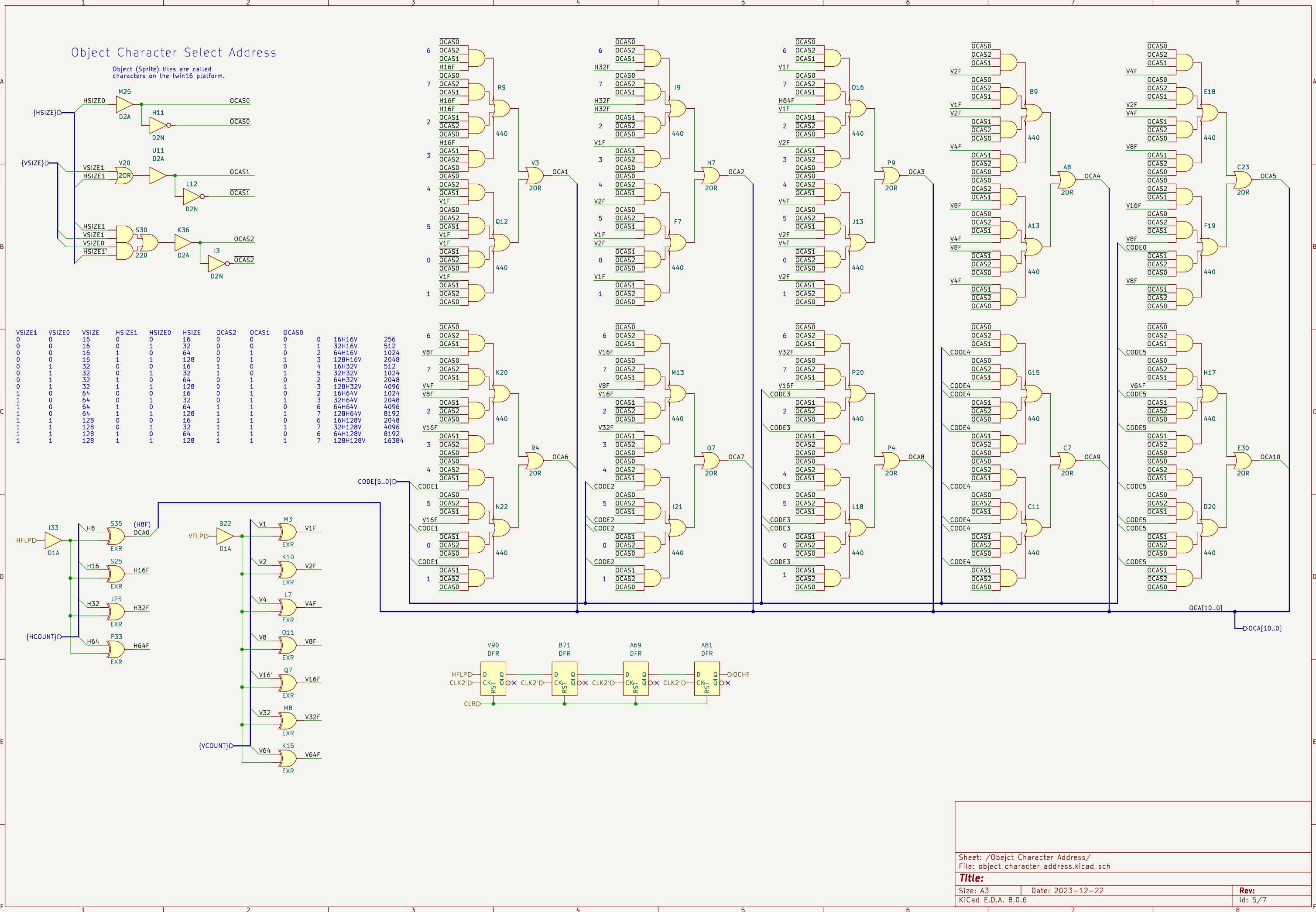
VSIZE1	VSIZE0	VSIZE	HSIZE1	HSIZE0	HSIZE	OCA52	OCA51	OCA50	0	16H16V	256
0	0	16	0	0	16	0	0	0	0	16H16V	256
0	0	16	0	1	32	0	0	1	1	32H16V	512
0	0	16	1	0	64	0	1	0	2	64H16V	1024
0	0	16	1	1	128	0	1	1	3	128H16V	2048
0	1	32	0	0	16	1	0	0	4	16H32V	512
0	1	32	0	1	32	1	0	1	5	32H32V	1024
0	1	32	1	0	64	0	1	0	2	64H32V	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

**Logic Schematic:**

The logic schematic is a complex digital circuit. It starts with inputs {HSIZE}D and {VSIZE}D, which are processed through a series of gates (M25, D2A, H11, D2N, V20, 20R, U11, D2A, L12, D2N, S30, 220, K36, D2A, I3, D2N) to produce OCA50, OCA51, and OCA52. These are then combined through a series of gates (R9, V3, 20R, Q12, 440, H7, 20R, P9, 20R, A8, 20R, C23, 20R) to produce OCA1, OCA2, OCA3, OCA4, and OCA5. The circuit also includes a truth table for object character selection, which is used to generate a 10-bit address OCA[10..0]. The address is then used to select one of 16 object character tiles (OCA0 to OCA15) from a memory array. The tiles are then combined through a series of gates (V1, M3, V1F, V2, K10, V2F, V4, L7, V4F, V8, Q11, V8F, V16, Q7, V16F, V32, M8, V32F, V64, K15, V64F) to produce the final output OCA[10..0].

**Title Block:**

Sheet: /Obejct Character Address/  
File: object\_character\_address.kicad\_sch  
**Title:**  
Size: A3 Date: 2023-12-22 Rev:  
KiCad E.D.A. 8.0.6 Id: 5/7



<b>Title:</b>		
Size: A3	Date: 2023-12-22	<b>Rev:</b>
KiCad E.D.A. 8.0.6		Id: 5/7

