

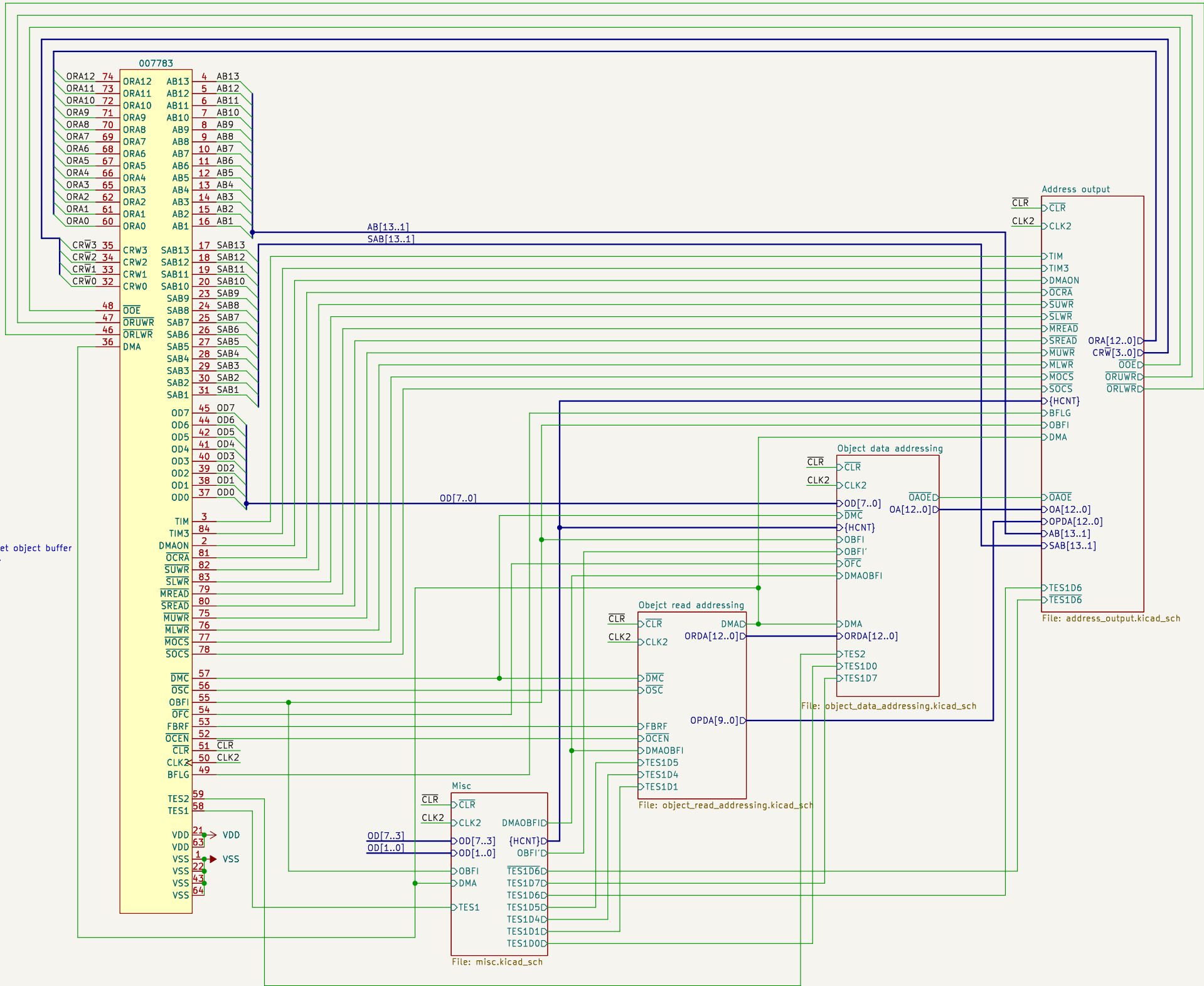
1. OBFi: (OBJBUFINIT) zeros are written to 1800h..1AFFh.
2. DMA: OA[12:0] active.
a) 8 words are read from addresses 0000h..0007h, 0028h..002Fh....17E0h..17E7h by the sprite data parser 007784 and if the sprite is enabled with BEFLAG they are written to the buffer OBJBUF.

OBJRAM
0000h..17E7h Unprocessed data
1800h..1BFFh Processed data

WD0	WD1	WD2	WD3	WD4	WD5	WD6	WD7	WD0	WD1	WD2	WD3
0000	0001	0002	0003	0004	0005	0006	0007	BA1	BA2	BA3	BA4

OBJBUF, Buffer Address
BA1 : OA[12:0] = 1800h + OD[7:0] << 2
BA2 : OA[12:0] = BA1 + 1
BA3 : OA[12:0] = BA1 + 2
BA4 : OA[12:0] = BA1 + 3

OBFi	H8	OA	OA0E	
1	X	{3'b110,OWRA[9:0]}	1	Writes to 1800h..1BFFh, reset object buffer
0	0	ORDA[12:0]	0	Read data from object RAM.
0	1	{3'b110,OD[7:0],OWRA[2:1]}	1	Writes to 1800h..1BFFh



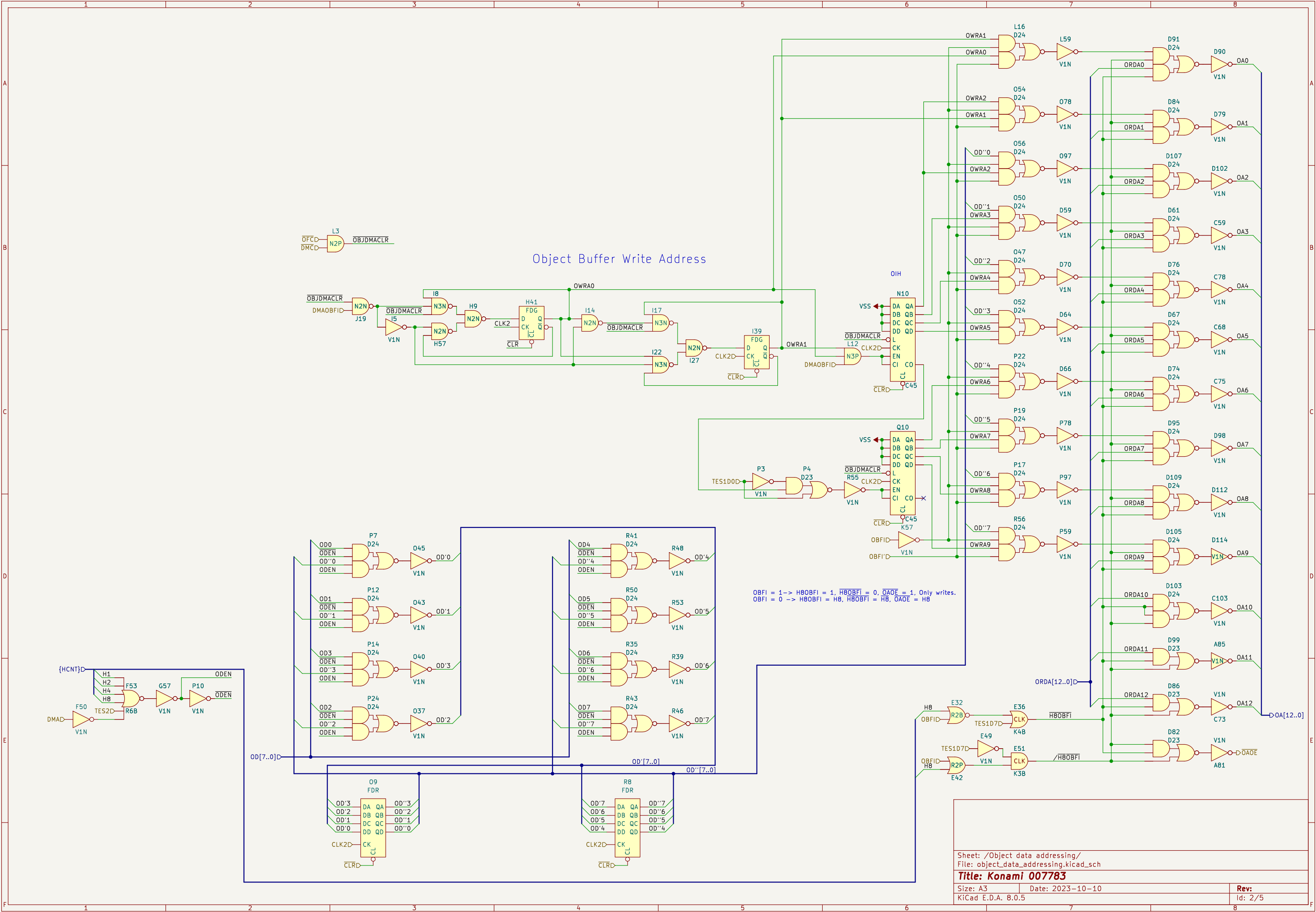
Ulf Skutnabba, twitter: @skutis77

Sheet: /
File: 007783.kicad_sch

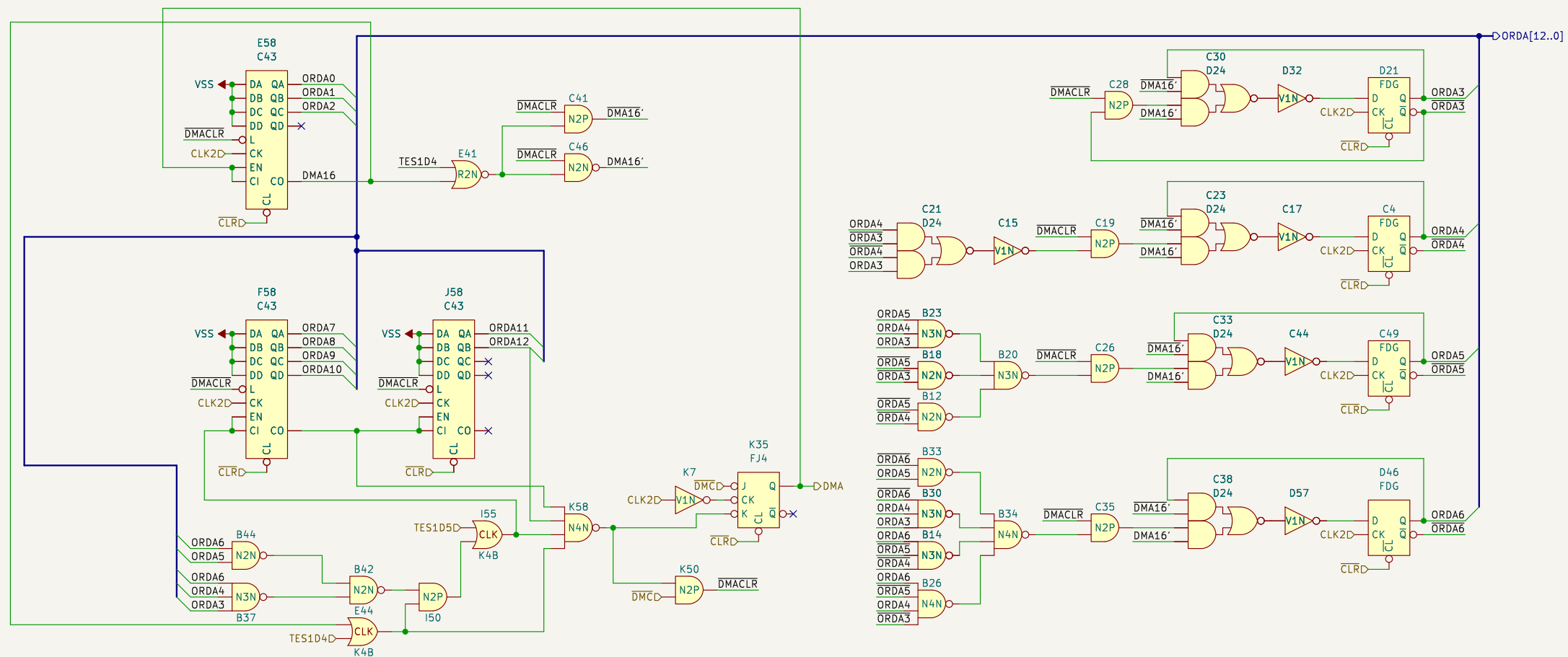
Title: Konami 007783

Size: A3 Date: 2023-10-10
KiCad E.D.A. 8.0.5

Rev:
Id: 1/5



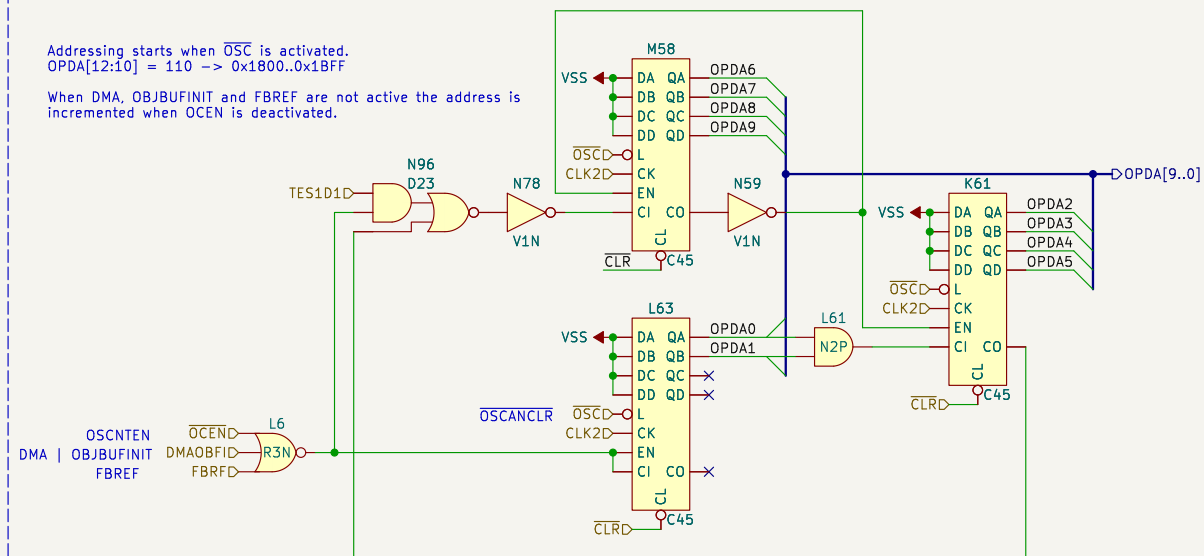
Object Read Addressing

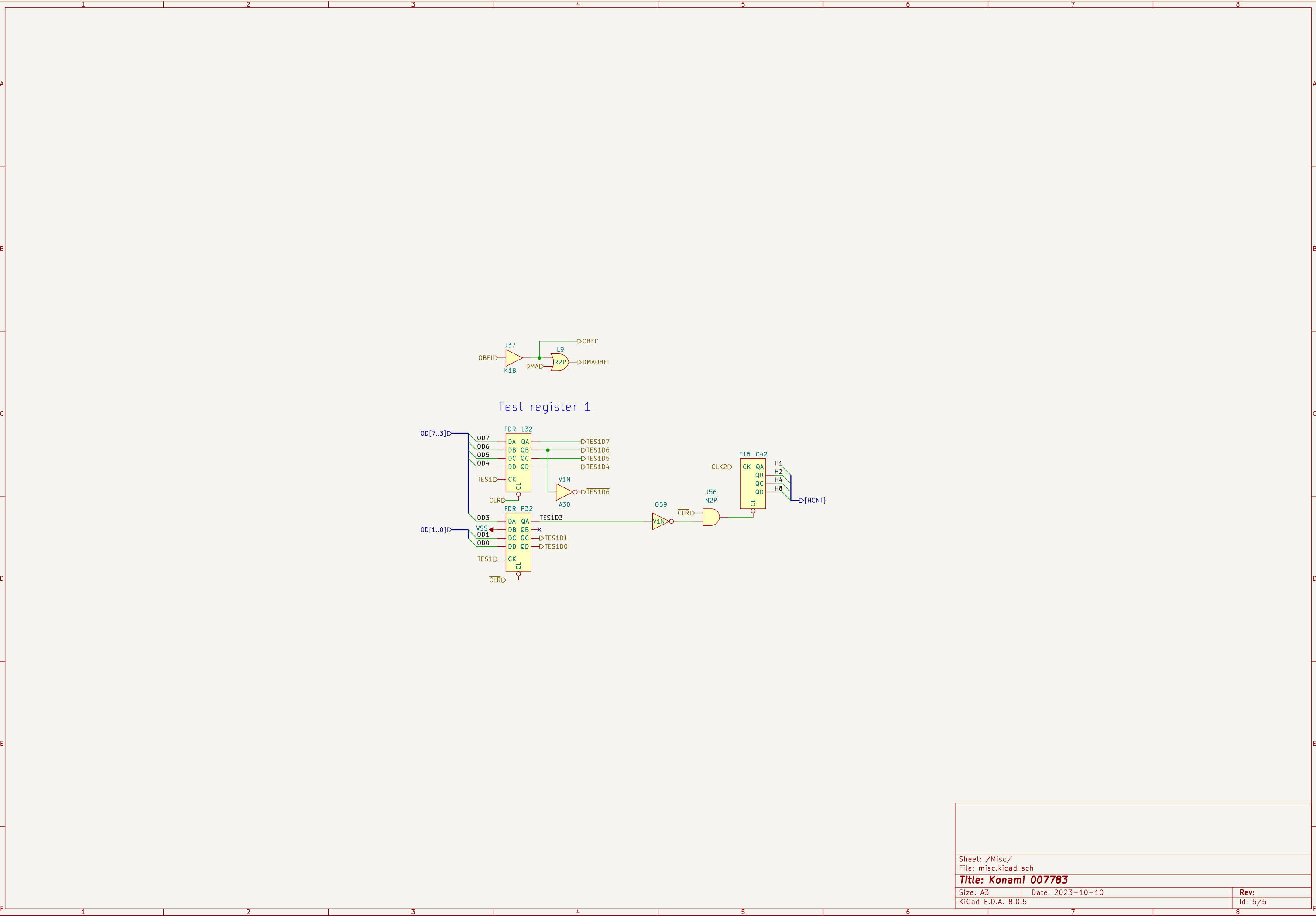


Parsed Object Data Addressing

Addressing starts when \overline{OSC} is activated.
 OPDA[12:10] = 110 \rightarrow 0x1800..0x1BFF

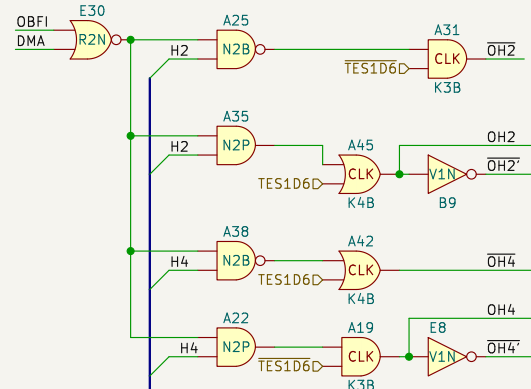
When DMA, OBJBUFINIT and FBREF are not active the address is incremented when OCEN is deactivated.



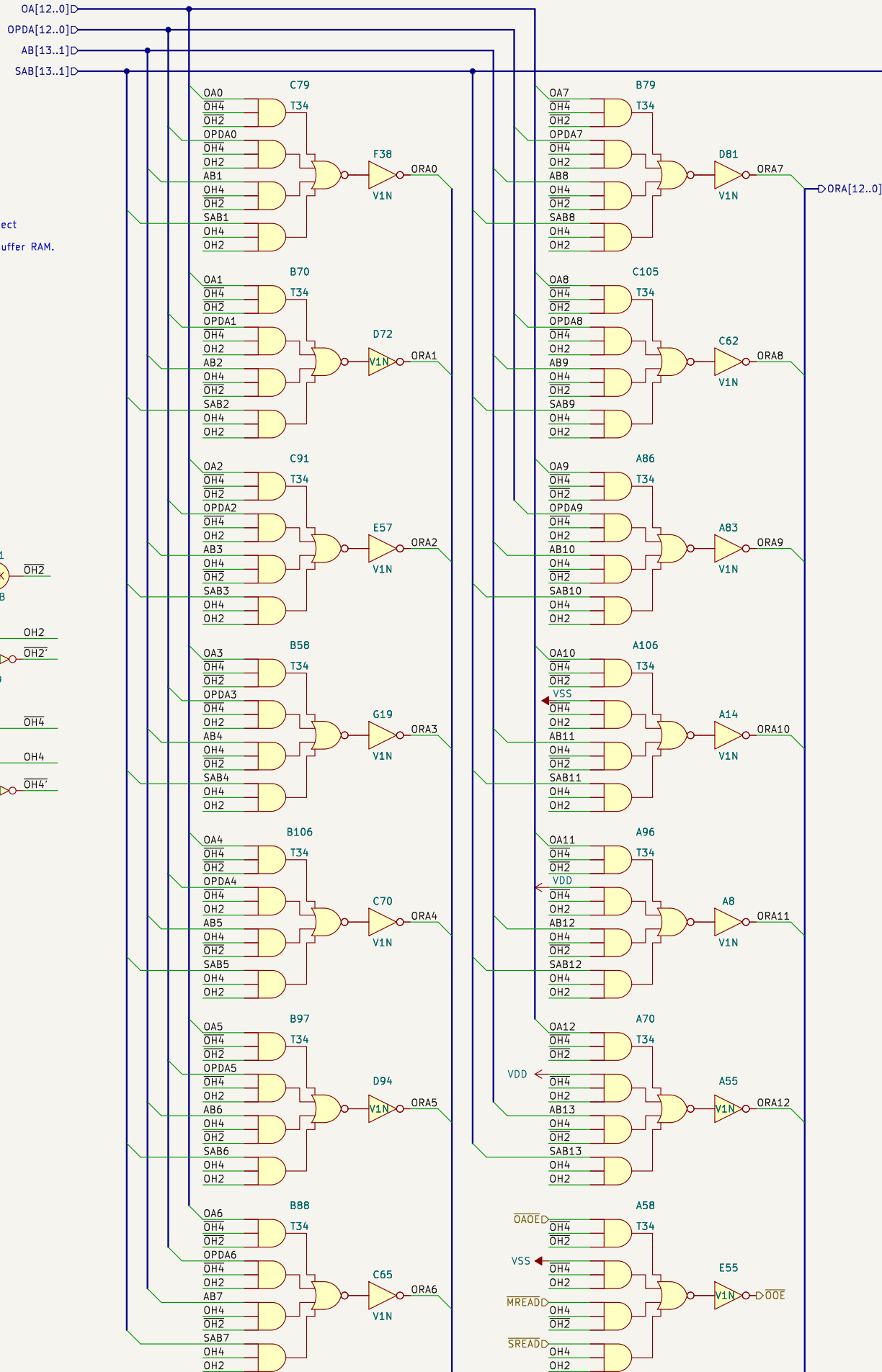


Four time slots available all the time for addressing.
0: - OBJ/BUF/INIT high: Writing zeros to all data in the Object Data Buffer.
- DMA high: Data copying from Object RAM to Object Buffer RAM.
1: Parsed object data copy to the frame buffers.
2: Master CPU access
3: Slave CPU access

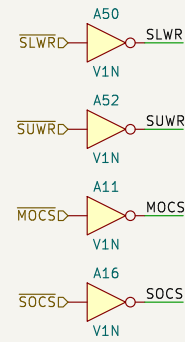
OBFI	DMA	OH2	OH2'	OH4	OH4'
1	X	0	1	0	1
X	1	0	1	0	1



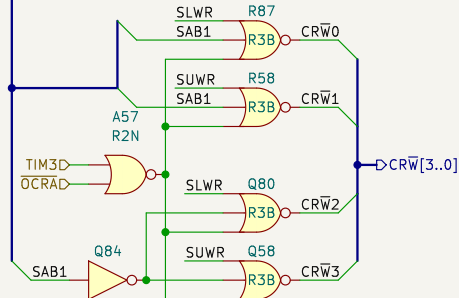
{HCNT}D



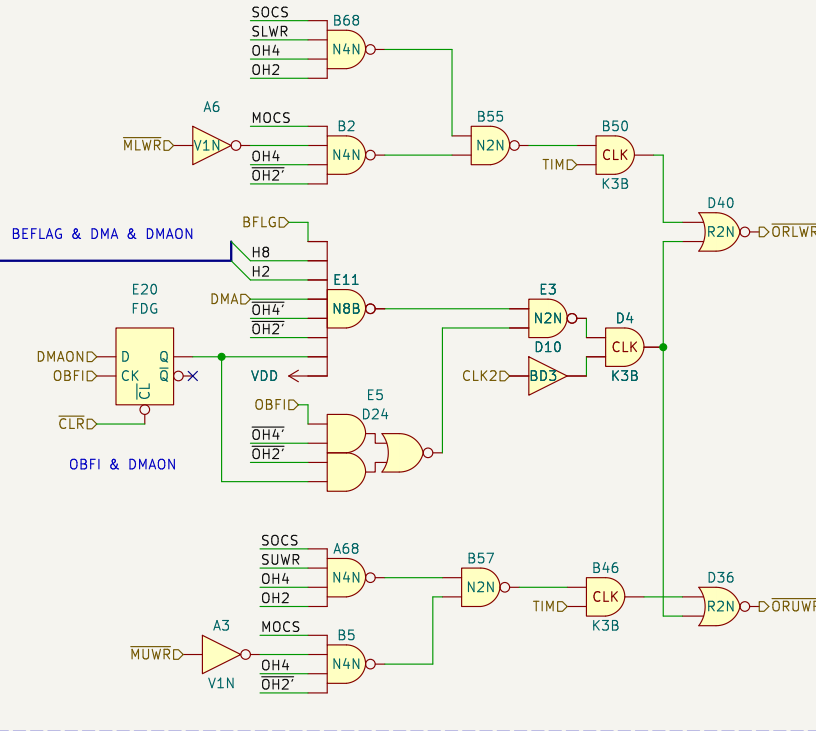
CPU Read/Write logic



Object Character RAM Read/Write logic



Object RAM Read/Write logic



Sheet: /Address output/
File: address_output.kicad_sch

Title: Konami 007783

Size: A3 Date: 2023-10-10
KiCad E.D.A. 8.0.5

Rev:
Id: 6/5