

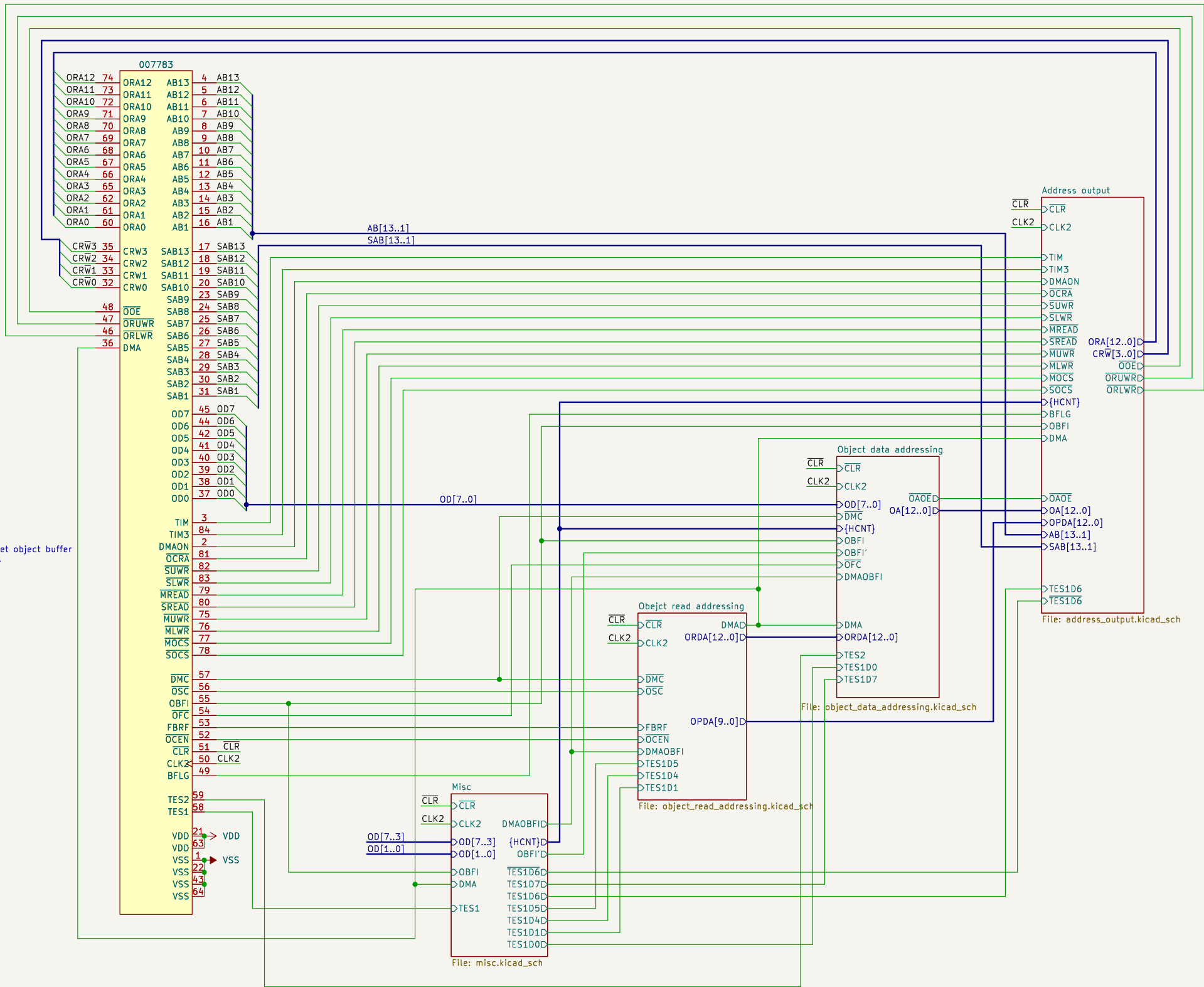
1. OBFi: (OBJBUFINIT) zeros are written to 1800h..1AFFh.
2. DMA: OA[12:0] active.
a) 8 words are read from addresses 0000h..0007h, 0028h..002Fh....17E0h..17E7h by the sprite data parser 007784 and if the sprite is enabled with BEFLAG they are written to the buffer OBJBUF.

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 |



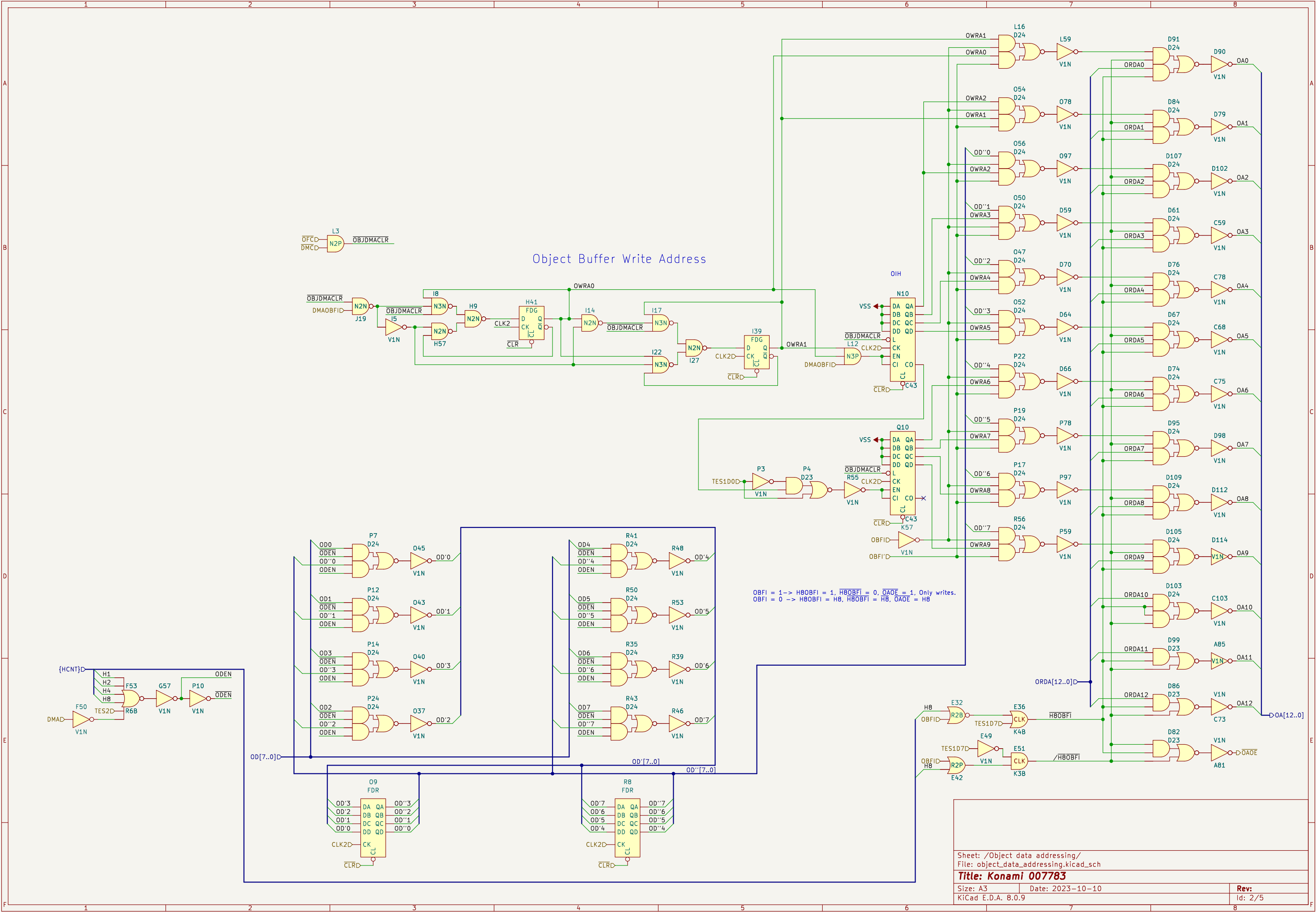
Ulf Skutnabba, twitter: @skutis77

Sheet: /
File: 007783.kicad_sch

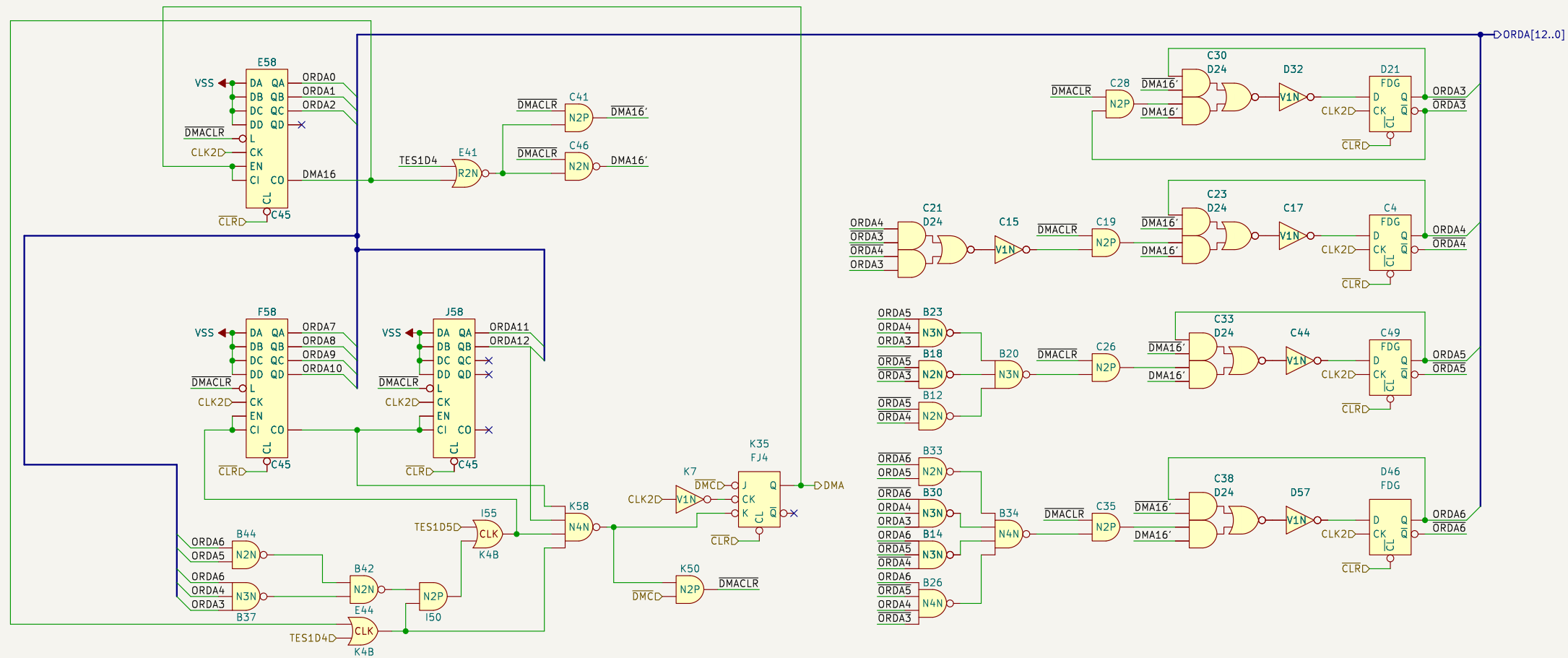
Title: Konami 007783

Size: A3 Date: 2023-10-10
KiCad E.D.A. 8.0.9

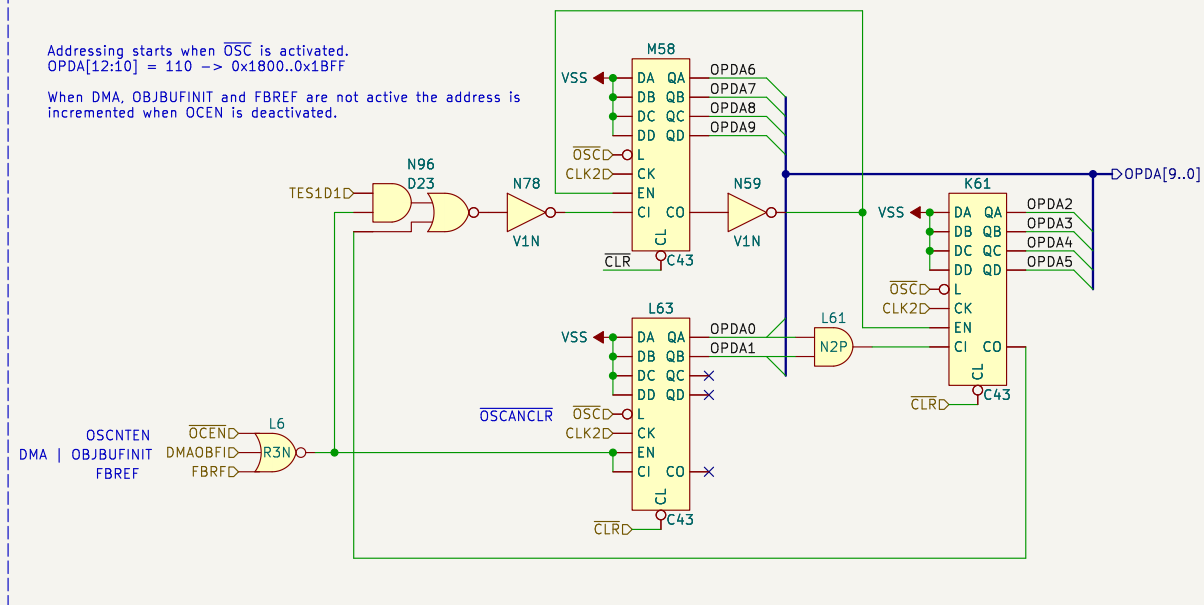
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Object Read Addressing



Parsed Object Data Addressing

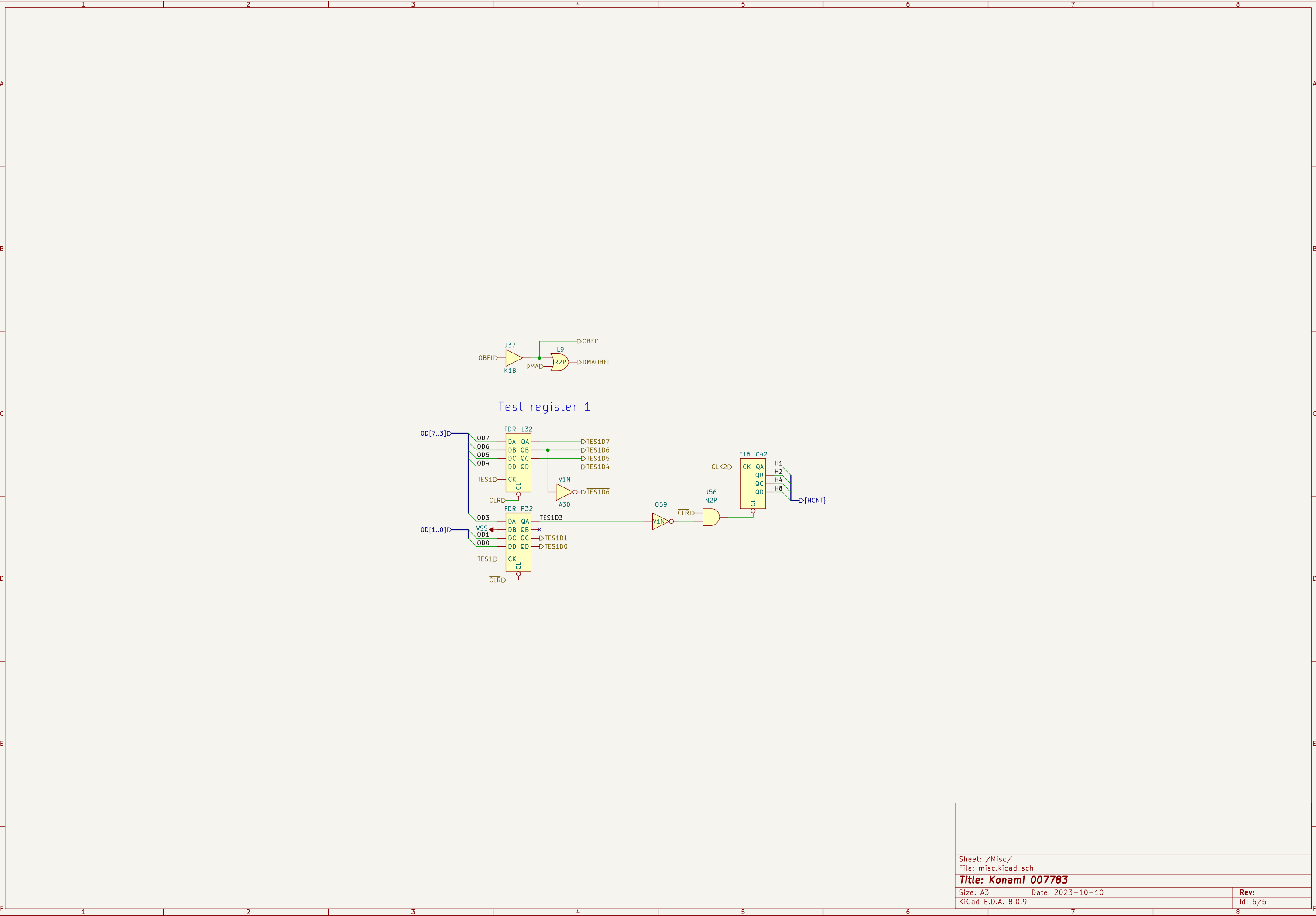


Sheet: /Obejct read addressing/
 File: object_read_addressing.kicad_sch

Title: Konami 007783

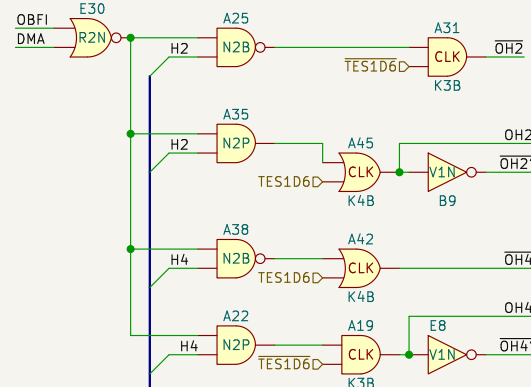
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Rev:
 Id: 3/5

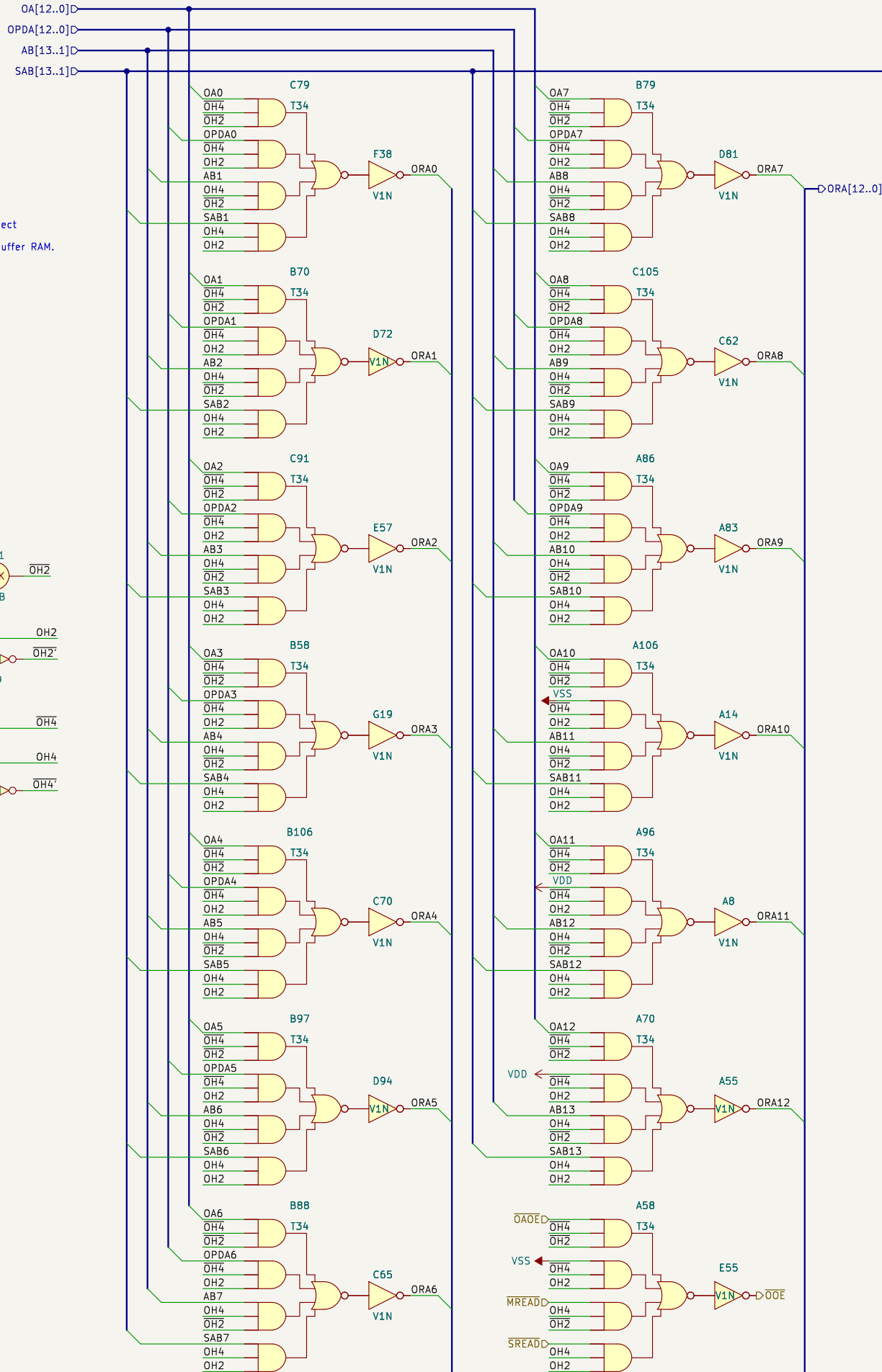


Four time slots available all the time for addressing.
0: - OBJBUFINIT high: Writing zeros to all data in the Object Data Buffer.
- DMA high: Data copying from Object RAM to Object Buffer RAM.
1: Parsed object data copy to the frame buffers.
2: Master CPU access
3: Slave CPU access

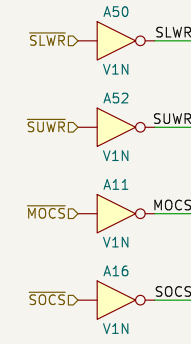
| OBFI | DMA | OH2 | OH2' | OH4 | OH4' |
|------|-----|-----|------|-----|------|
| 1 | X | 0 | 1 | 0 | 1 |
| X | 1 | 0 | 1 | 0 | 1 |



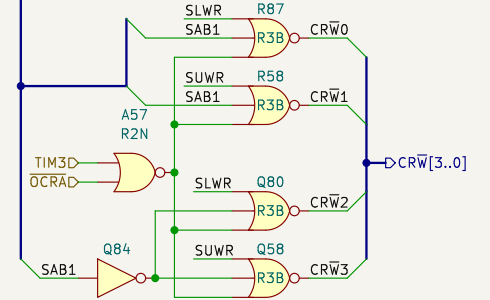
{HCNT}D



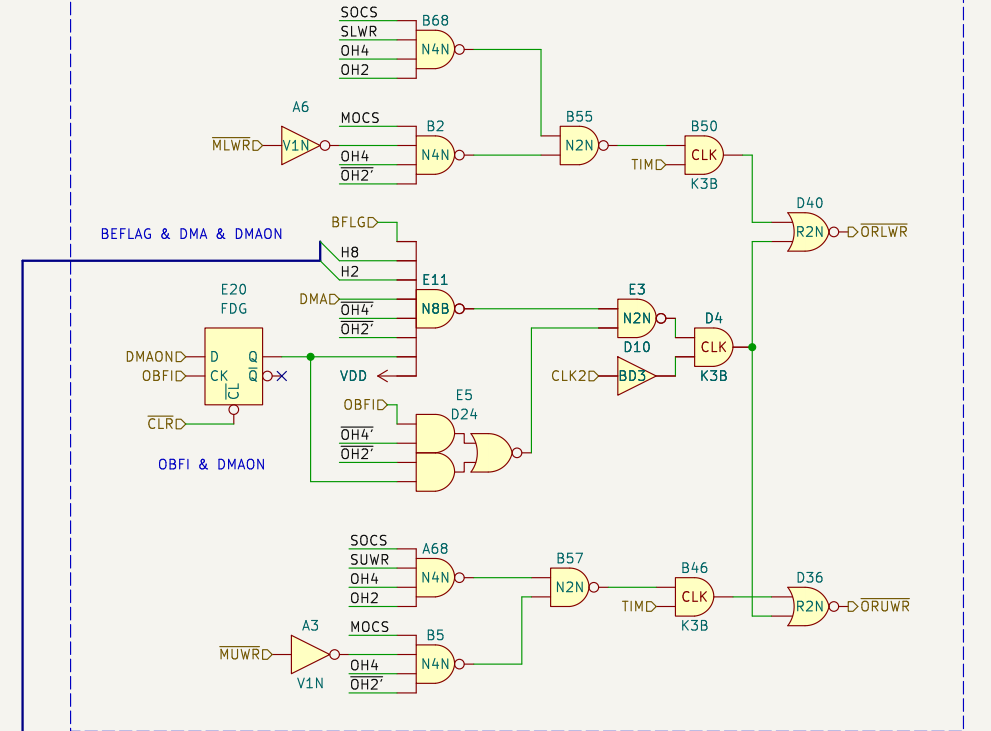
CPU Read/Write logic



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
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Rev:
Id: 6/5