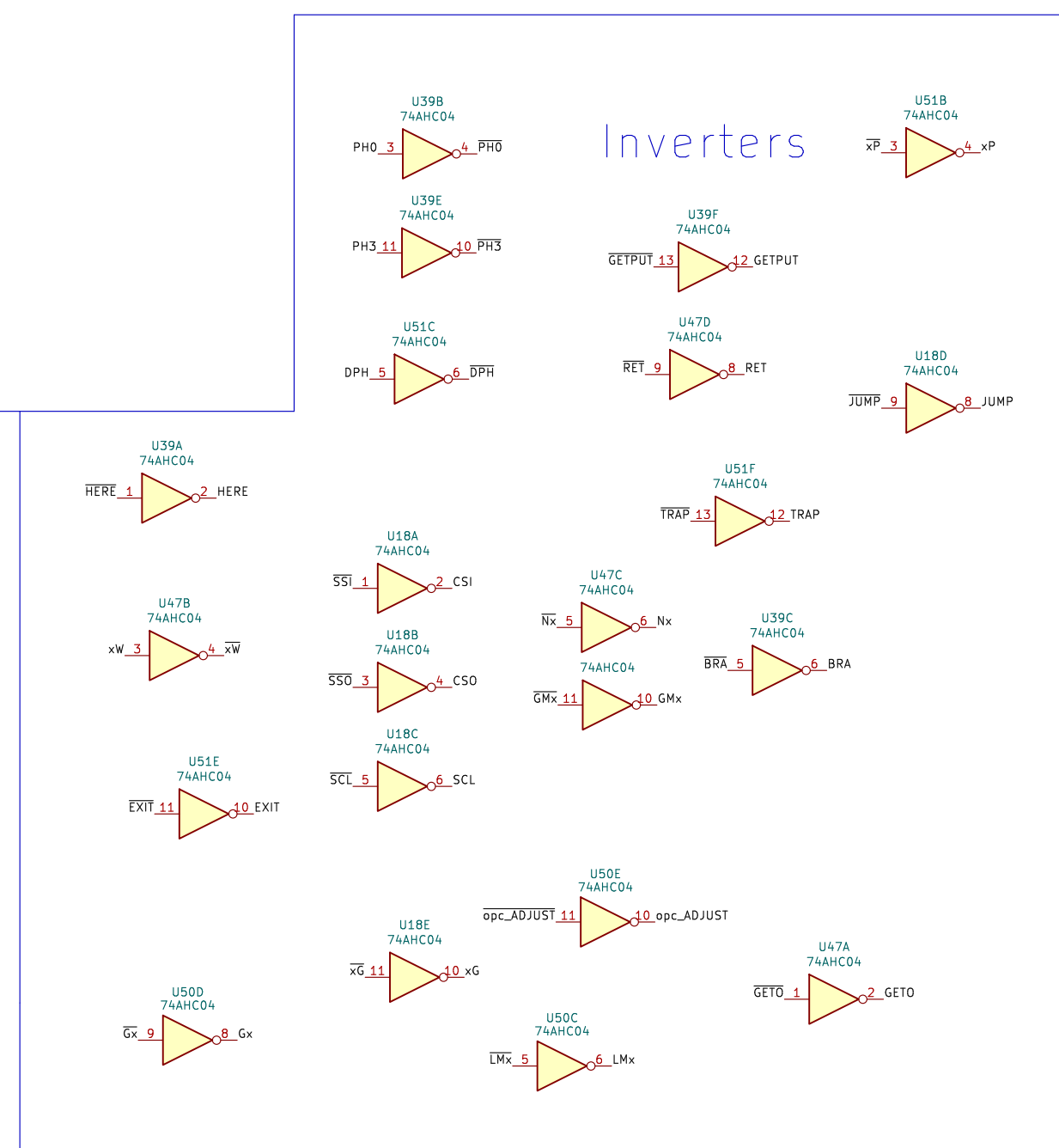
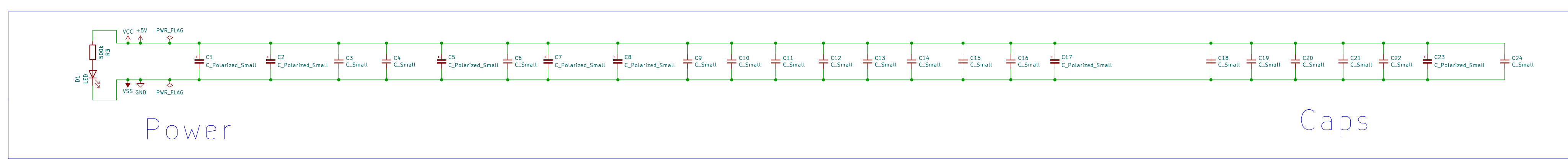


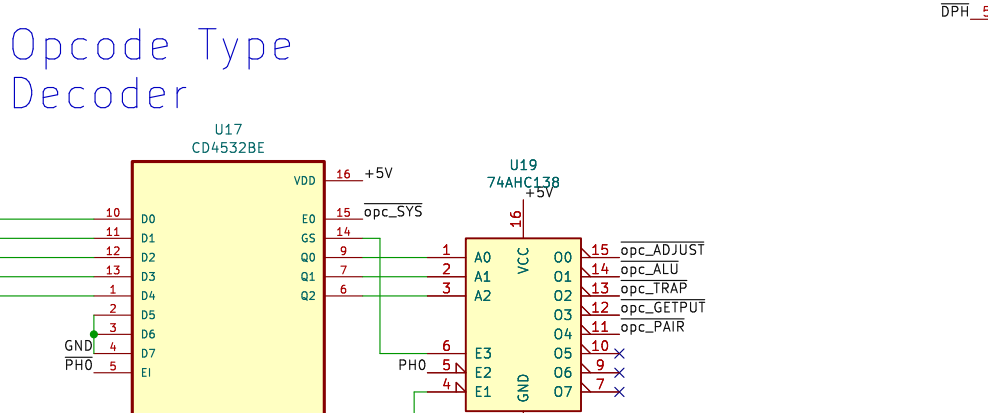
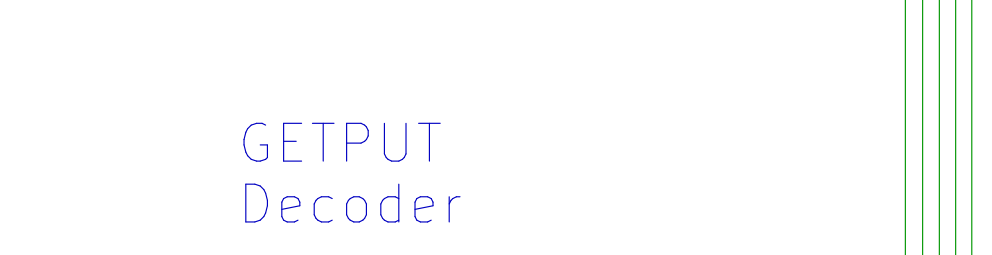
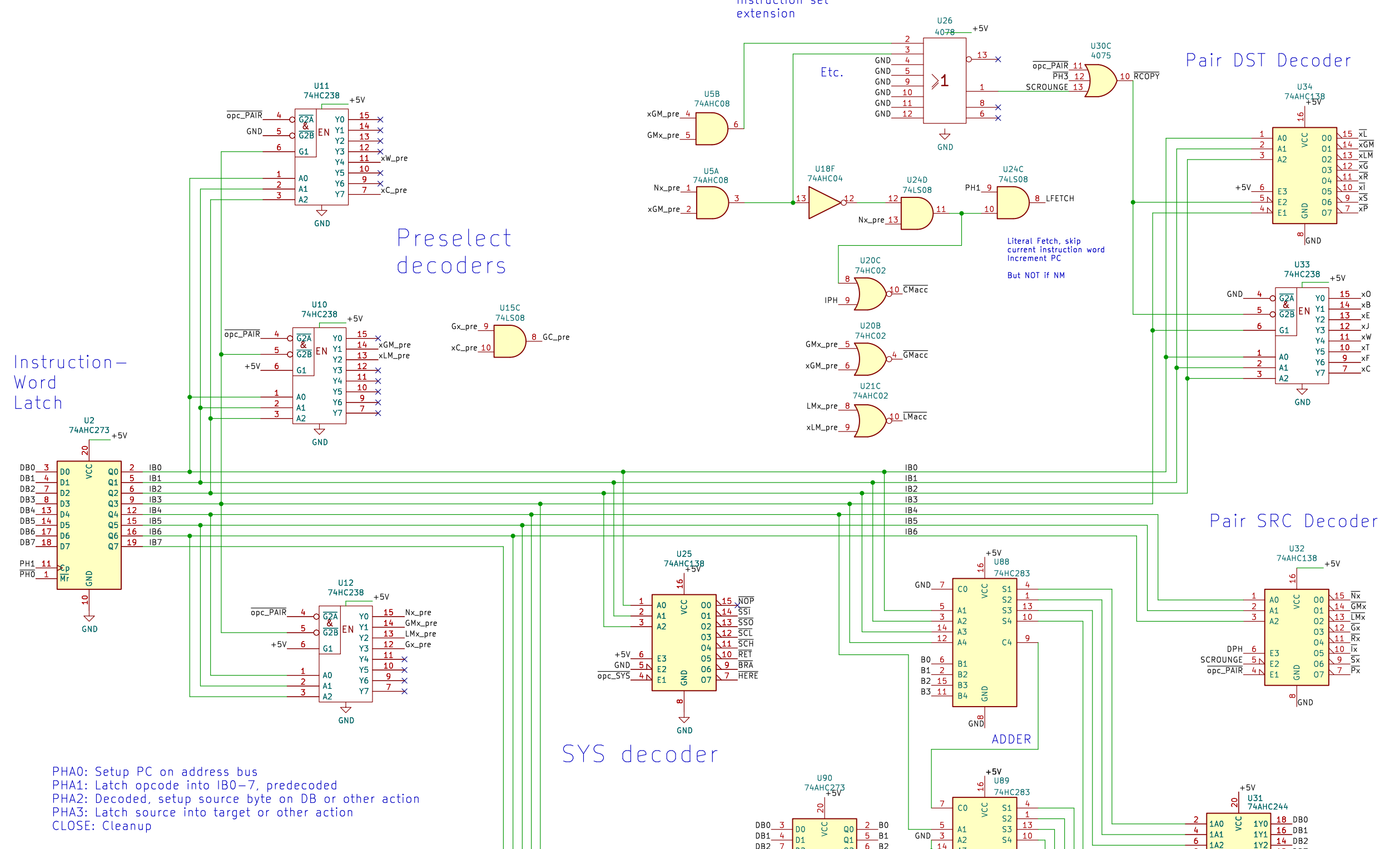
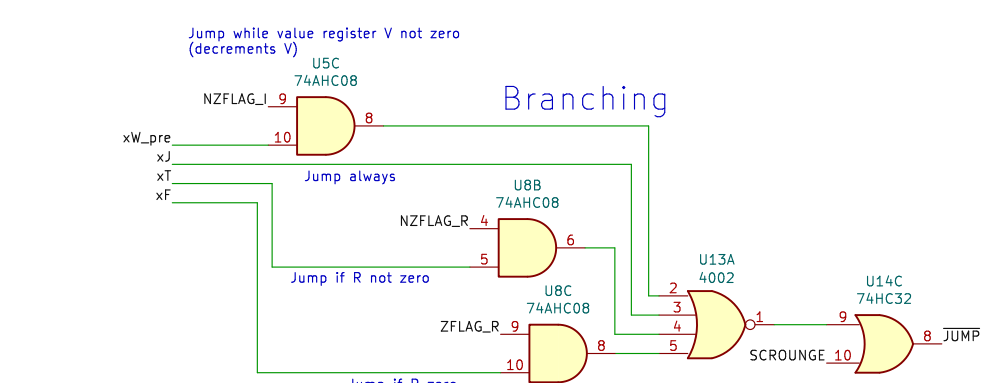
# Myth Microcontroller Reference Schematics



## Instruction Decoder

Scrounger

Currently NOP, reserved for instruction set extension



Instruction byte:  
a10: OPC\_SYS  
else: OPC\_ADJUST  
OPC\_ALU  
OPC\_TRAP  
OPC\_GETPUT  
OPC\_PAIR

See table @ SYS decoder  
See table @ ALU  
b4: MSB b3-0: LSB (remaining bits set 1)  
b5-3: OPFS b2: GL b1: GP b0: RD  
DEST SRC

## R Adjust

If bits 0-2 not all zero, sign extend bit 2  
Else hard-code replace 0 by 4

0000 => R100 +4 P4  
0001 => R100 +1 P1  
0010 => R100 +2 P2  
0011 => R100 +3 P3  
1000 => R100 +4 P4  
1001 => R100 +5 P5  
1010 => R100 +6 P6  
1011 => R100 +7 P7  
1100 => R100 +8 P8  
1101 => R100 +9 P9  
1110 => R100 +10 P10  
1111 => R100 +11 P11

R(esult) Register

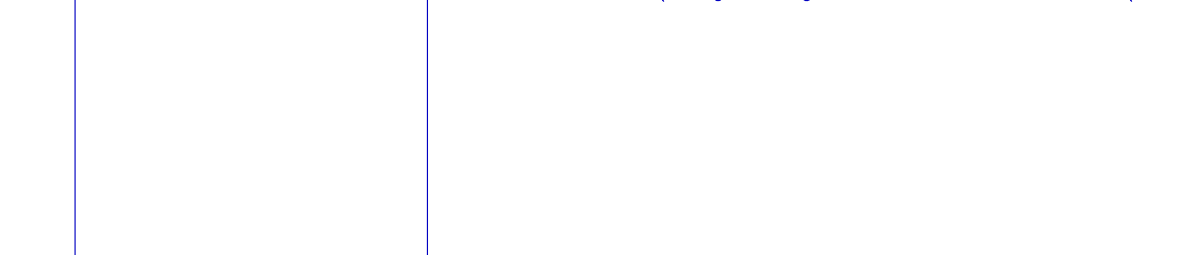
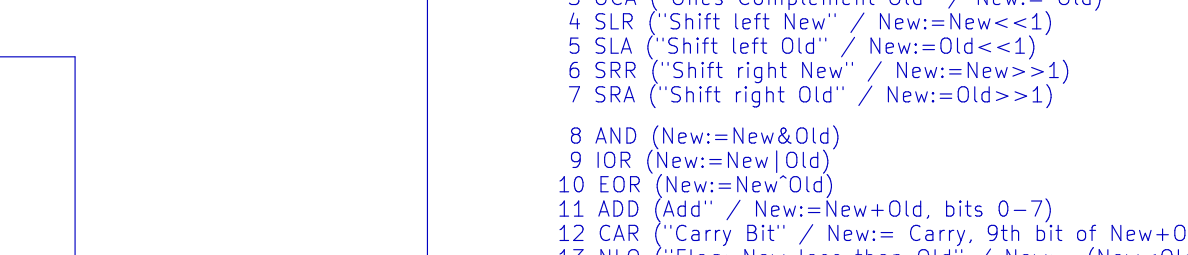
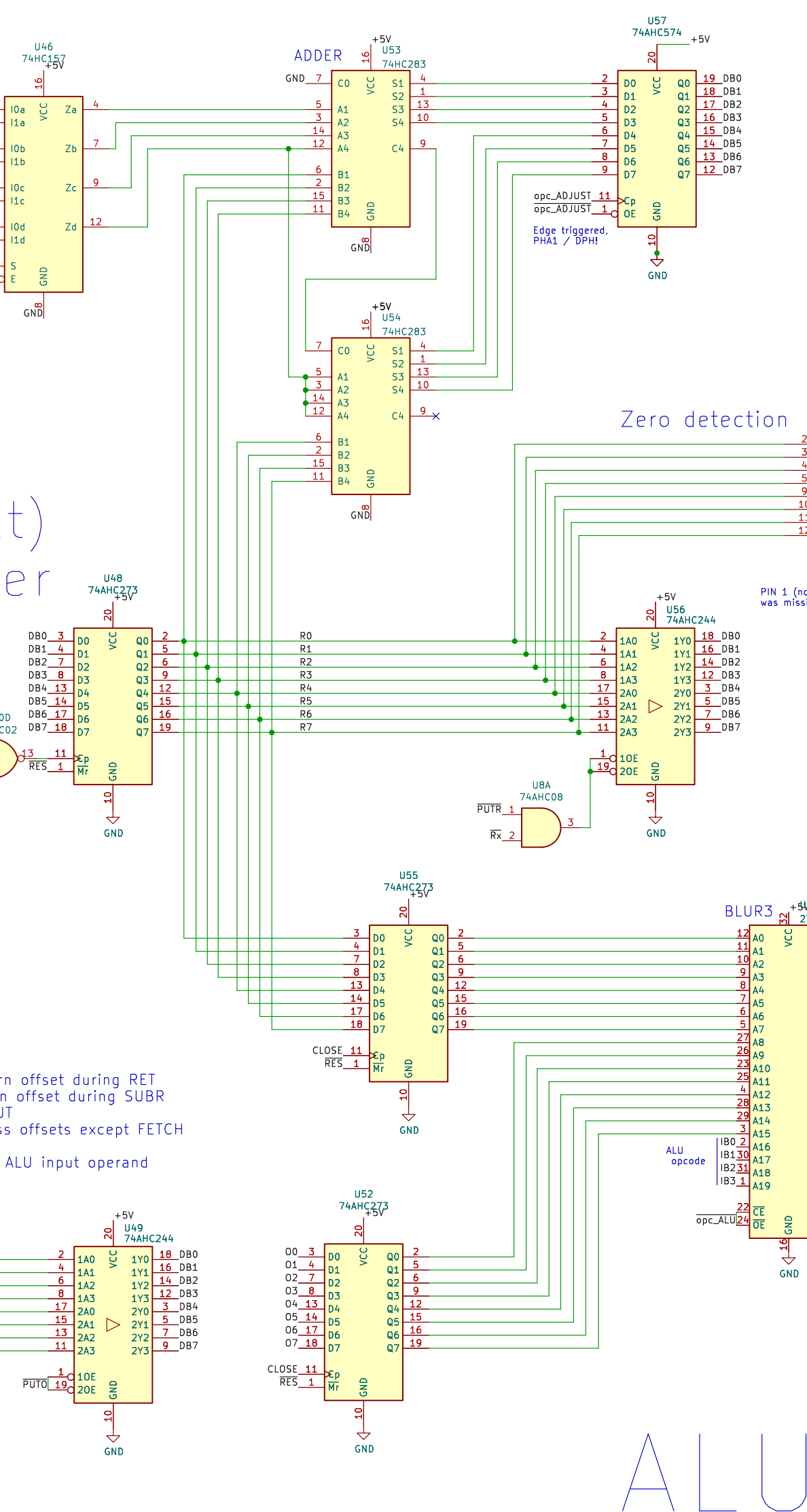
Zero detection

0 provides the return offset during RET receives the return offset during SUBR provides all address offsets except FETCH to the implied 2nd ALU input operand

BLUR3 LUT ROM

ALU

O (OFFSET) Operand Register



## ALU

- 0 IDN ("Identify New" / New=New)
- 1 ODN ("Identify Old" / New=Old)
- 2 OCN ("Ones Complement New" / New=-New)
- 3 OCA ("Ones Complement Old" / New=-Old)
- 4 SLR ("Shift left New" / New=New<<1)
- 5 SLA ("Shift left Old" / New=Old<<1)
- 6 SRR ("Shift right New" / New=New>>1)
- 7 SRA ("Shift right Old" / New=Old>>1)
- 8 AND (New=New&Old)
- 9 OR (New=New|Old)
- 10 XOR (New=New^Old)
- 11 AND (New=New&Old, bits 0-7)
- 12 CRR ("Carry Bit" / New=Carry, 9th bit of New=Old) 00h or 01h
- 13 NLD ("Flag: New less than Old" / New=(New<Old)? 0xFF:0)
- 14 NED ("Flag: New equals Old" / New=(New==Old)? 0xFF:0)
- 15 NOD ("Flag: New greater than Old" / New=(New>Old)? 0xFF:0)

BLUR3 LUT ROM layout: 16 mops @256x256

## Storage

FR0-7 bus Frame/Record

Automatic call stack CALL: Enter stack frame RET: Resume previous frame

Delay EXIT until CLOSE

L (LOCAL) Page index (Stack Pointer)

C (CODE) Page index

I (INNER Loop Register)

G (GLOBAL) Page index

Spare Units

Glue Logic

Serial IO

Device Enable

Parallel IO

Serial IO

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