bus

File: bus.kicad_sch

power

File: power.kicad_sch

buffers

File: buffers.kicad_sch

fpanel

File: fpanel.kicad_sch

80C188CPU

File: CPU_80C188.kicad_sch

Memory

File: Memory.kicad_sch

bus sharing

File: bussharing.kicad_sch

mapper

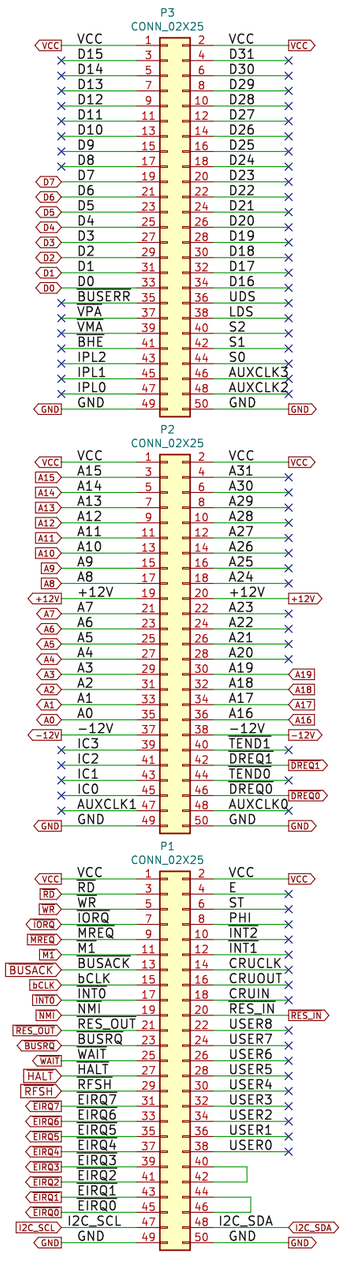
File: mapper.kicad_sch

RetroBrew Computer Group
Based on a design by John R Coffman.

Sheet: /
File: processor.80C188.kicad_sch

Title: Duodyne 80C188 CPU board

Size: B	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 1/9

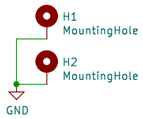


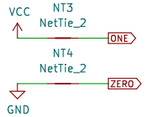
RetroBrew Computer Group
Based on a design by John R Coffman.

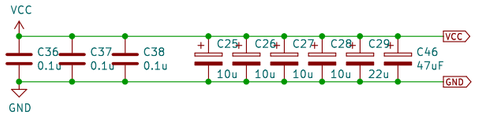
Sheet: /bus/
File: bus.kicad_sch

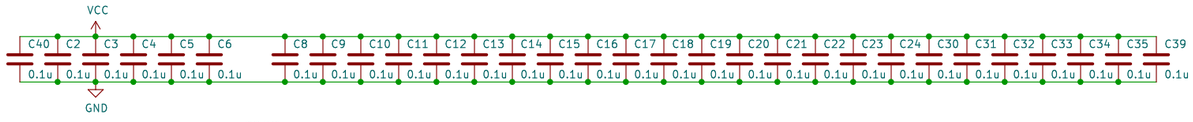
Title: Duodyne 80C188 CPU board

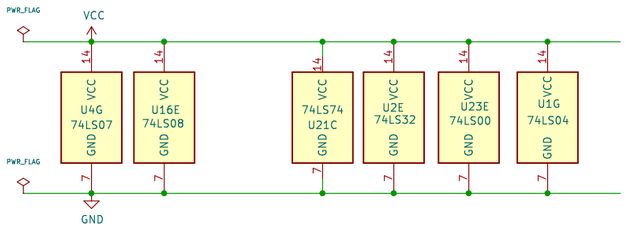
Size: B	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 2/9

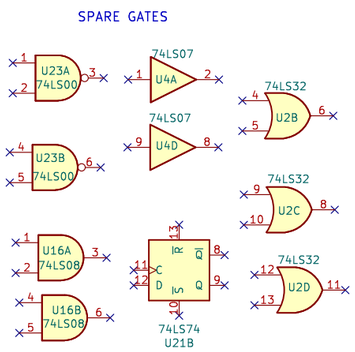












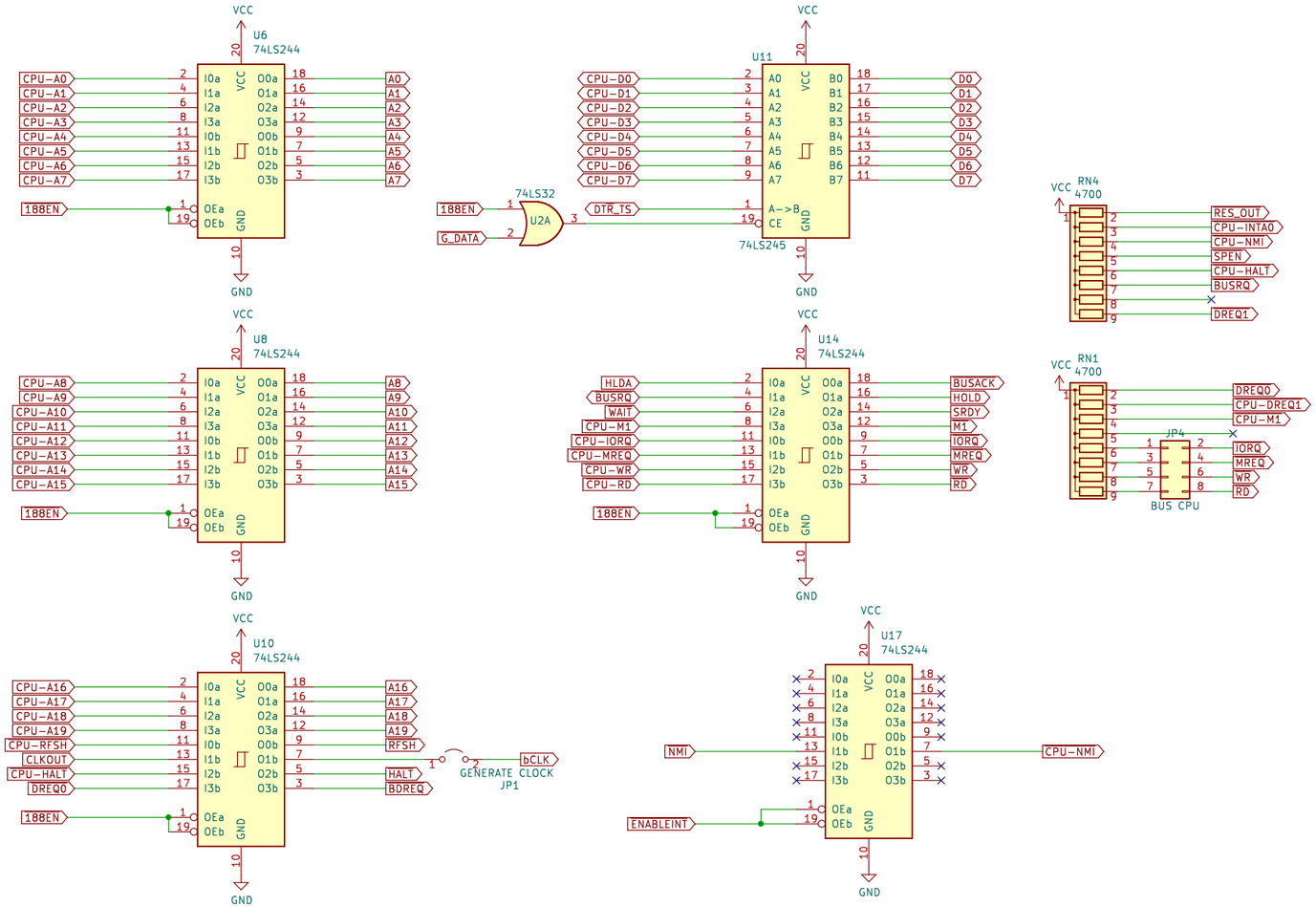
RetroBrew Computer Group
Based on a design by John R Coffman.

Sheet: /power/
File: power.kicad_sch

Title: Duodyne 80C188 CPU board

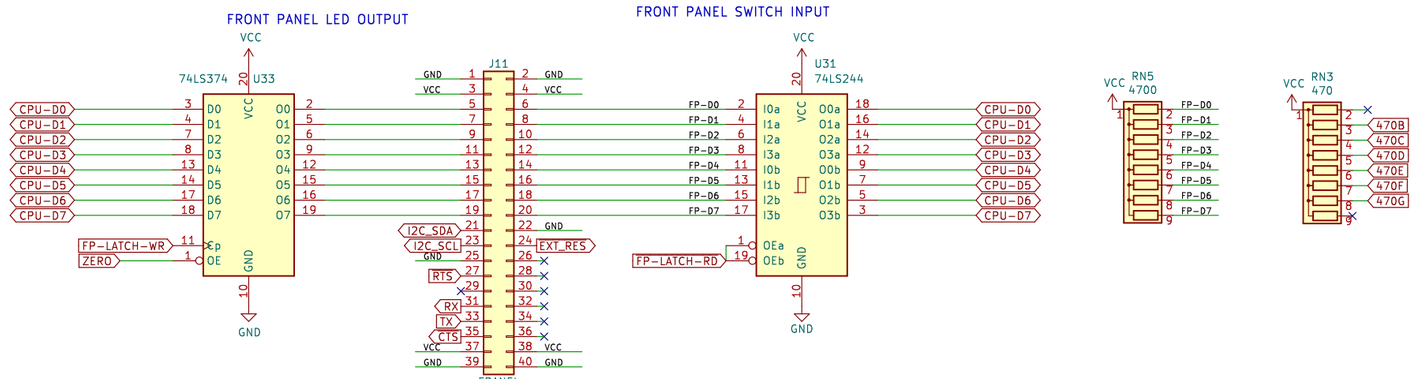
Size: B	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 4/9

Z80 BUS INTERFACE



RetroBrew Computer Group
Based on a design by John R Coffman.

Sheet: /buffers/		
File: buffers.kicad_sch		
Title: Duodyne 80C188 CPU board		
Size: B	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 6/9



U33 NOTE: USE 74HCT374 TO SOURCE OR SINK ADEQUATE CURRENT TO DRIVE LEDS ON FRONT PANEL

J11 NOTE:

PINS 5, 7, 9, 11, 13, 15, 17, 19 ARE FOR LED STATUS FOR ROMWBW FRONT PANEL INDICATOR

PINS 6, 8, 10, 12, 14, 16, 18, 20 ARE FOR SWITCH INPUTS FOR ROMWBW FRONT PANEL

PINS 21, 23 ARE FOR I2C CONNECTION (SDA & SCL)

PINS 25, 27, 29, 31, 33, AND 35 ARE FOR TTL SERIAL CONNECTOR TO UART

PINS 22, 24 ARE FOR EXTERNAL RESET SWITCH

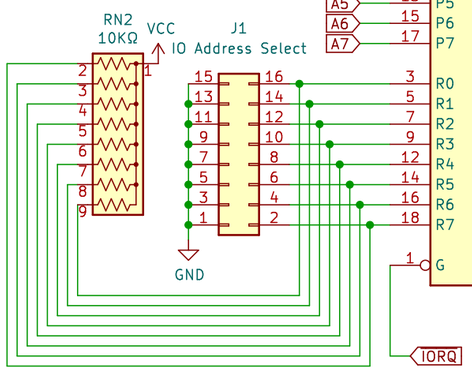
RetroBrew Computer Group
Based on a design by John R Coffman.

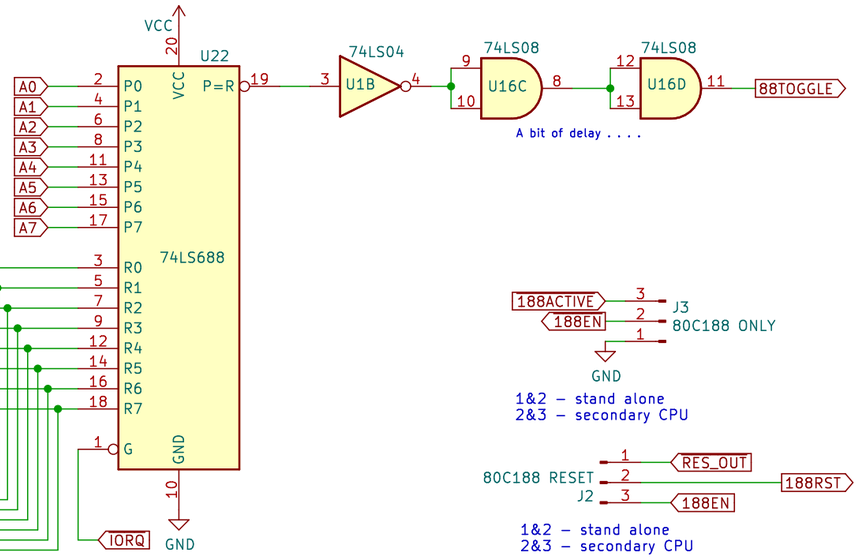
Sheet: /fpanel/
File: fpanel.kicad_sch

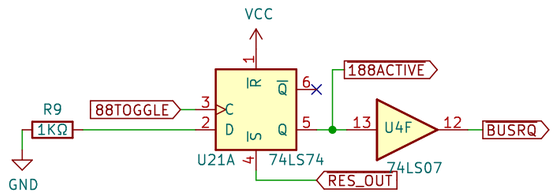
Title: Duodyne 80C188 CPU board

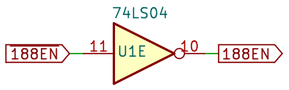
Size: B	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 8/9

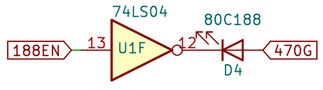
Note: IO Address Port $96
1–2 =off – A7 (high)
3–4 =on – A6 (low)
5–6 =on – A5 (low)
7–8 =off – A4 (high)
9–10 =on – A3 (low)
11–12 =off – A2 (high)
13–14 =off – A1 (high)
15–16 =on – A0 (low)









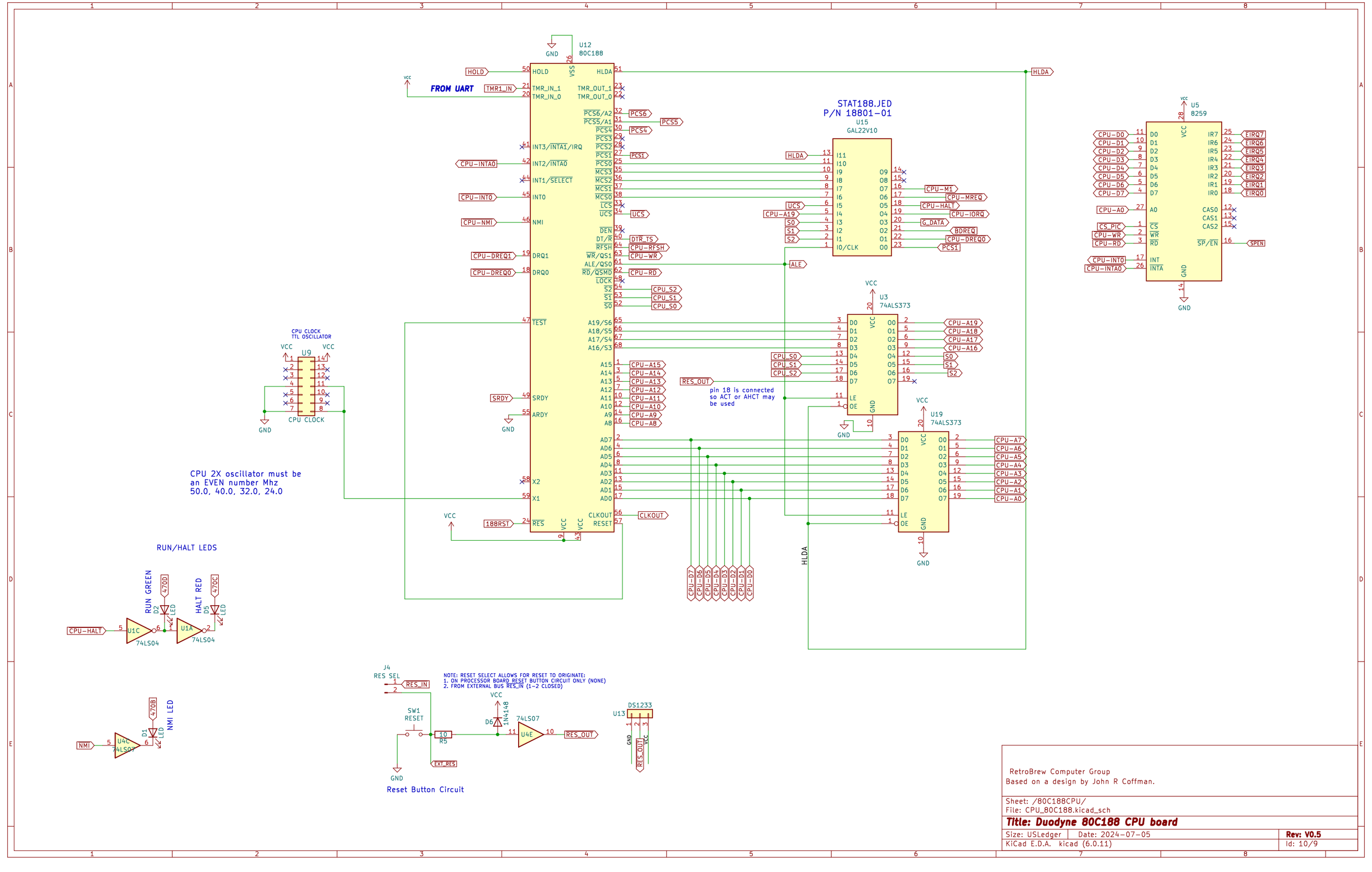


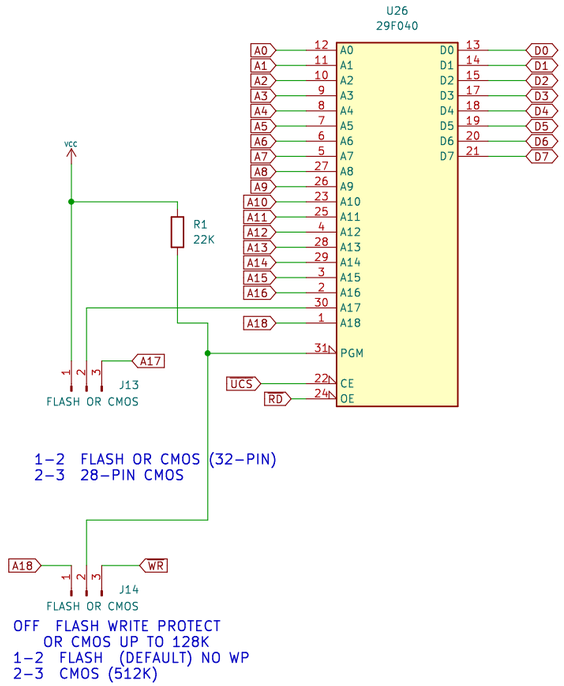
RetroBrew Computer Group
Based on a design by John R Coffman.

Sheet: /bus sharing/
File: bussharing.kicad_sch

Title: Duodyne 80C188 CPU board

Size: A4	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 9/9


U12
80C188
HOLD
HLDA
FROM UART
TMR1_IN
TMR_IN_1
TMR_IN_0
TMR_OUT_1
TMR_OUT_0
INT3/INTA1/IRQ
INT2/INTA0
INT1/SELECT
INT0
NMI
DRQ1
DRQ0
TEST
SRDY
ARDY
X2
X1
RES
CLKOUT
RESET
CPU-INTA0
CPU-INT0
CPU-NMI
CPU-DREQ1
CPU-DREQ0
188RST
CLKOUT
STAT188.JED
P/N 18801-01
U15
GAL22V10
CPU-M1
CPU-MREQ
CPU-HALT
CPU-IORQ
G_DATA
BDREQ
CPU-DREQ0
PCS1
ALE
U3
74ALS373
U19
74ALS373
RES_OUT
pin 18 is connected
so ACT or AHCT may
be used
HLDA
U5
8259
CPU-D0
CPU-D1
CPU-D2
CPU-D3
CPU-D4
CPU-D5
CPU-D6
CPU-D7
CPU-A0
CS_PIC
CPU-WR
CPU-RD
CPU-INT0
CPU-INTA0
EIRQ7
EIRQ6
EIRQ5
EIRQ4
EIRQ3
EIRQ2
EIRQ1
EIRQ0
SPEN
CPU CLOCK
TTL OSCILLATOR
U9
CPU CLOCK
CPU 2X oscillator must be
an EVEN number Mhz
50.0, 40.0, 32.0, 24.0
RUN/HALT LEDS
RUN GREEN
HALT RED
NMI LED
CPU-HALT
NMI
U1C
U1A
U4C
74LS04
74LS07
J4
RES SEL
RES_IN
NOTE: RESET SELECT ALLOWS FOR RESET TO ORIGINATE:
1. ON PROCESSOR BOARD RESET BUTTON CIRCUIT ONLY (NONE)
2. FROM EXTERNAL BUS RES_IN (1-2 CLOSED)
SW1
RESET
R5
D6
1N4148
74LS07
U4E
EXT_RES
DS1233
U13
Reset Button Circuit
RetroBrew Computer Group
Based on a design by John R Coffman.
Sheet: /80C188CPU/
File: CPU_80C188.kicad_sch
Title: Duodyne 80C188 CPU board
Size: USLedger
Date: 2024-07-05
KiCad E.D.A. kicad (6.0.11)
Rev: V0.5
Id: 10/9



ROM

FLASH 39SF010 (128K)
ALTERNATES: 39SF020, 29F020, 29F010
39SF040, 29F040 (512K) NOT RECOMMENDED

CMOS 27C010 (128K, 32pin)
ALTERNATE 27C020
28pin: 27C512(64K), 27C256(32K)

DEFAULT CHIP: 39SF010 (128K FLASH)
DEFAULT JUMPERS: 1–2, 1–2 (BOTH)

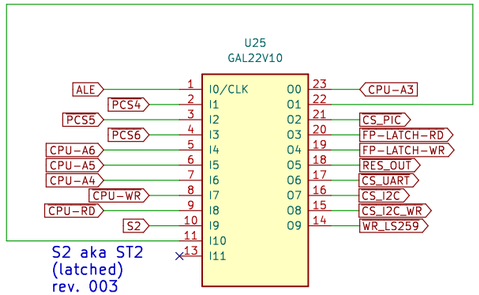
29F040 SHOWS ALL PIN ASSIGNMENTS

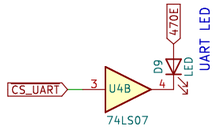
RetroBrew Computer Group
Based on a design by John R Coffman.

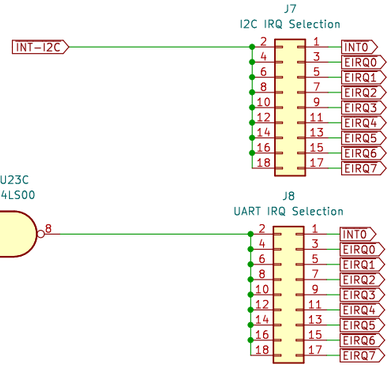
Sheet: /Memory/
File: Memory.kicad_sch

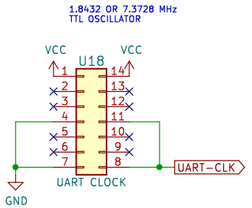
Title: Duodyne 80C188 CPU board

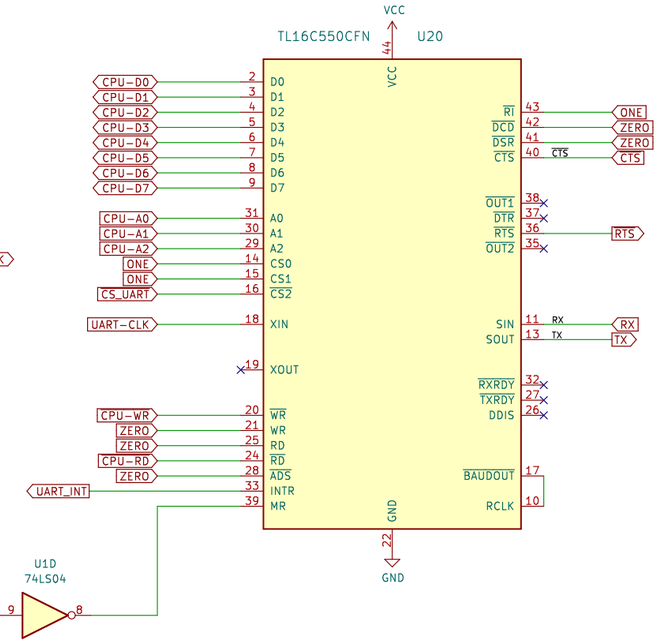
Size: USLedger | Date: 2024–07–05 | **Rev: V0.5**
KiCad E.D.A. kicad (6.0.11) | Id: 10/9

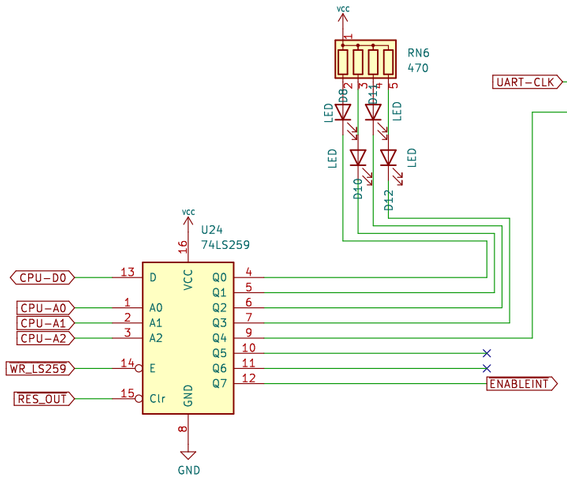


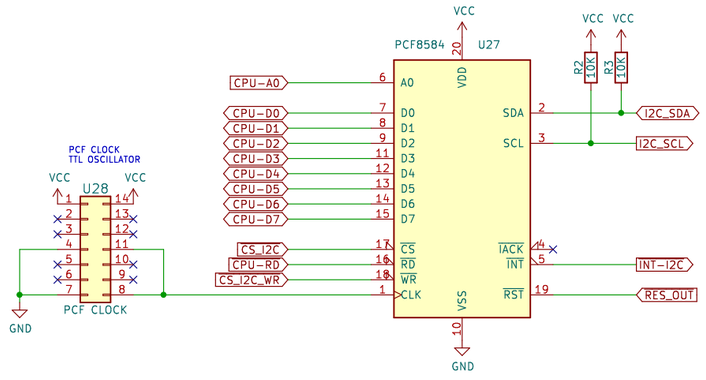












RetroBrew Computer Group
Based on a design by John R Coffman.

Sheet: /mapper/
File: mapper.kicad_sch

Title: Duodyne 80C188 CPU board

Size: B	Date: 2024-07-05	**Rev: V0.5**
KiCad E.D.A. kicad (6.0.11)		Id: 11/9