UART–B

{UART–Signals}

{S100–Signals}

File: UART–B.kicad_sch

UART–A

{UART–Signals}

{S100–Signals}

File: UART–A.kicad_sch

Port Decoding and BAUD Rate Generator

{UART–Signals}

{S100–Signals}

File: PortDecoding.kicad_sch

Power Supply

+8V +8V

–18V –18V

+18V +18V

File: Power–Supply.kicad_sch

{S100–Signals}

+8V +18V–18V

1 +8V
51 +8V
2 +18V
52 –18V
3 XRDY
53 SSWDSB
4 VI0
54 EXTCLR
5 VI1
55 VI2
6 VI3
56 VI4
7 VI5
57 VI6
8 VI7
58 SDSB
9 MWRT
59 CDSB
10 PS
60 UNPROT
11 PROT
61 SS
12 RUN
62 ADSB
13 pRDY
63 DODSB
14 pINT
64 Φ2
15 pHOLD
65 Φ1
16 pRESET
66 pHLDA
17 pSYNC
67 pWAIT
18 PWR
68 pWR
19 pINTE
69 pDBIN
20 A5
70 A0
21 A4
71 A1
22 A3
72 A2
23 A15
73 A6
24 A12
74 A7
25 A9
75 A8
26 DO1
76 A13
27 DO0
77 A14
28 A10
78 A11
29 DO4
79 DO2
30 DO5
80 DO3
31 DO6
81 DO7
32 DI2
82 DI4
33 DI3
83 DI5
34 DI7
84 DI6
35 sM1
85 DI1
36 sOUT
86 DI0
37 sINP
87 sINTA
38 sMEMR
88 sWO
39 sHLTA
89 sSTACK
40 CLOCK
90 POC
41 GND
91 GND

J1
Bus_S100

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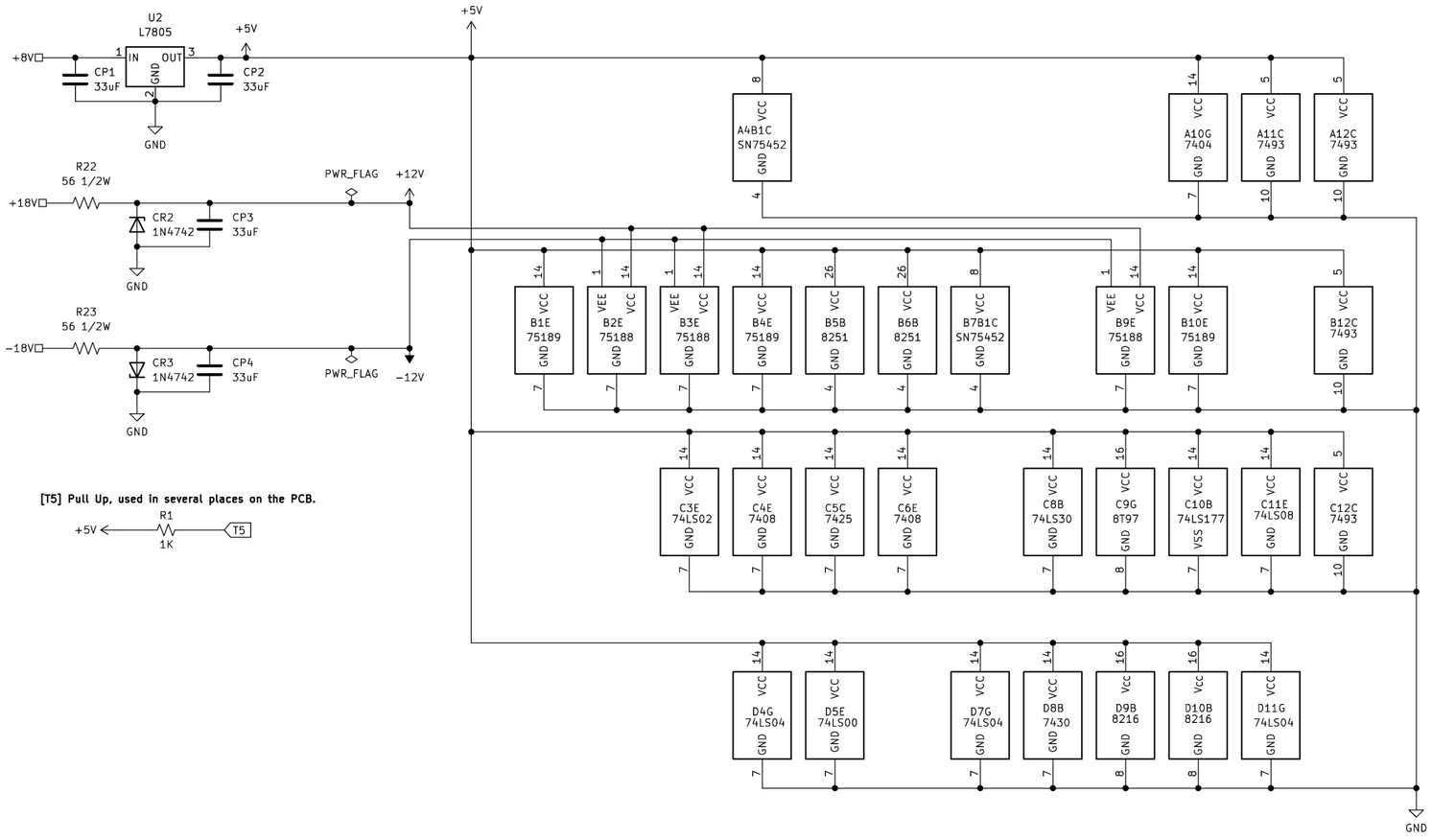
RetroTechReboot
for
IMSAI Manufacturing Corp.

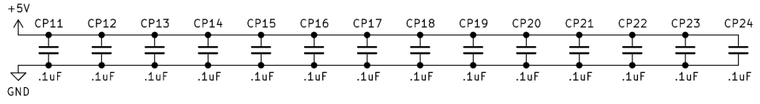
Sheet: /
File: SIO.kicad_sch

Title: SIO–2 Rev. 3

Size: B	Date: 2025–04–19	**Rev: RTR1.09**
KiCad E.D.A. kicad 7.0.7		Id: 1/5

Power Supply – Page 2





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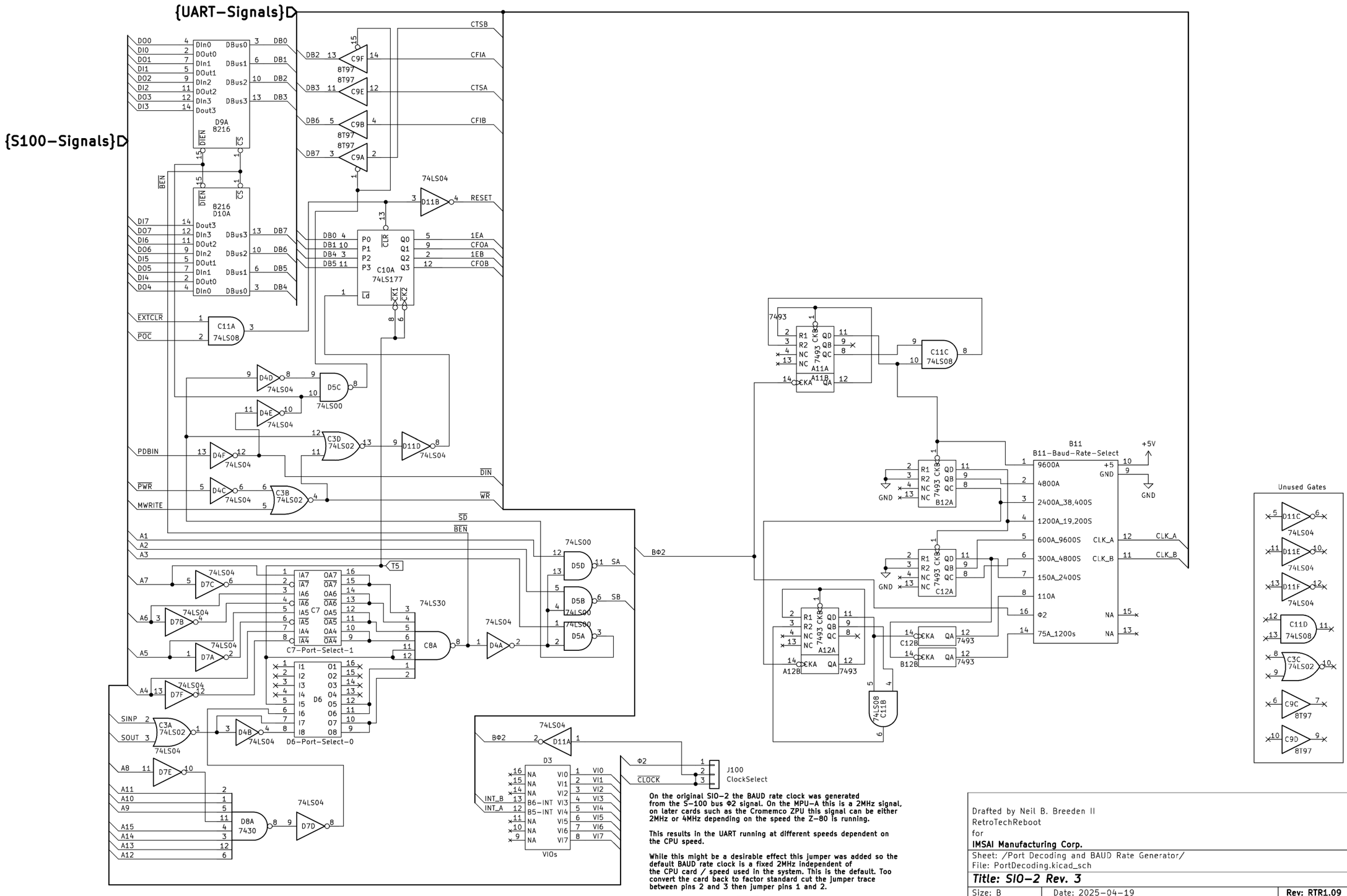
Sheet: /Power Supply/
File: Power-Supply.kicad_sch

Title: SIO-2 Rev. 3

Size: B	Date: 2025-04-19	**Rev: RTR1.09**
KiCad E.D.A. kicad 7.0.7		Id: 2/5

Port Decoding and BAUD Rate Generator – Page 3



On the original SIO–2 the BAUD rate clock was generated from the S–100 bus Φ2 signal. On the MPU–A this is a 2MHz signal, on later cards such as the Cromemco ZPU this signal can be either 2MHz or 4MHz depending on the speed the Z–80 is running.

This results in the UART running at different speeds dependent on the CPU speed.

While this might be a desirable effect this jumper was added so the default BAUD rate clock is a fixed 2MHz independent of the CPU card / speed used in the system. This is the default. Too convert the card back to factor standard cut the jumper trace between pins 2 and 3 then jumper pins 1 and 2.

Note that S–100 Pin 3 $\overline{\text{CLOCK}}$ is defined to be a fixed 2MHz clock.

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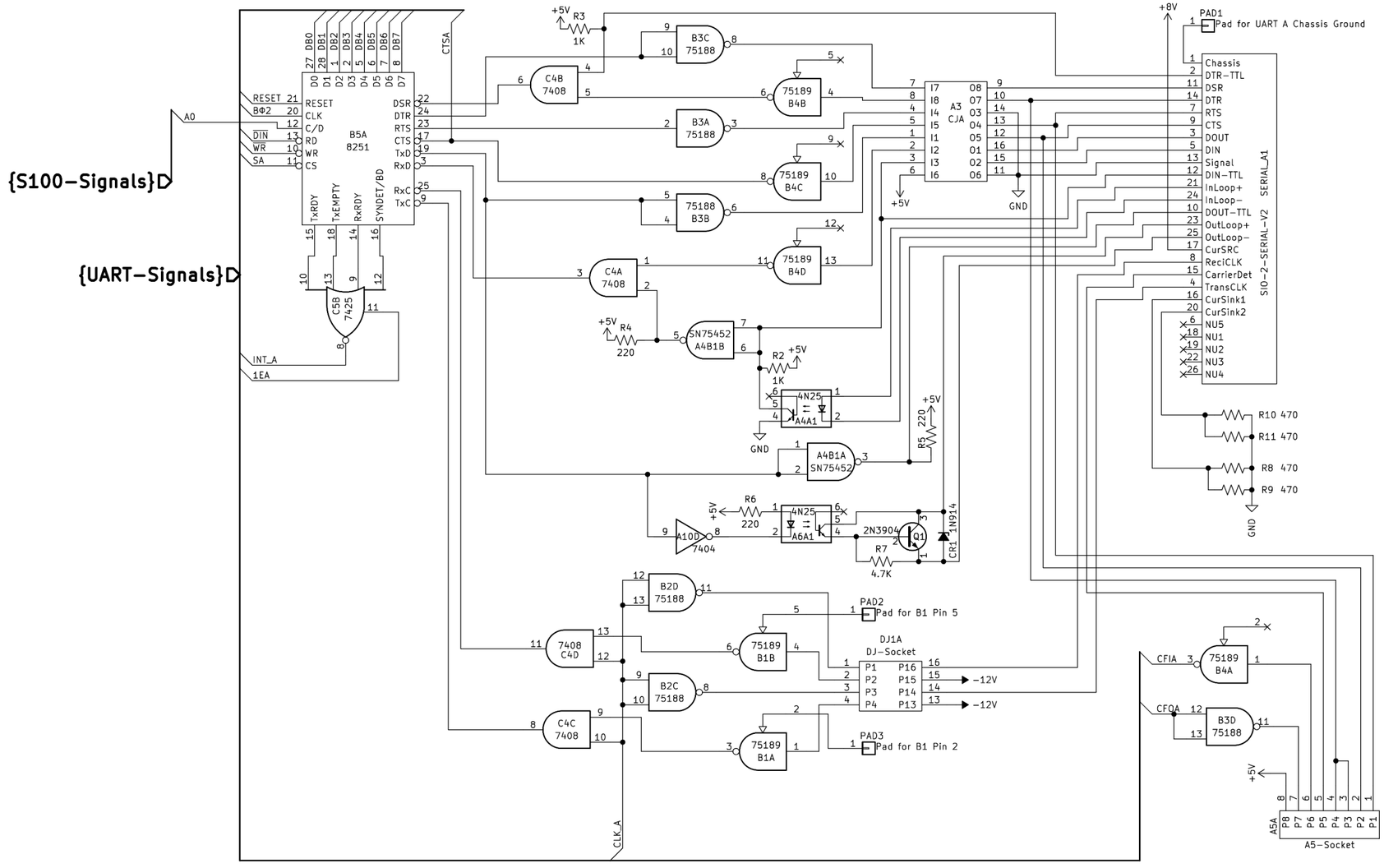
Sheet: /Port Decoding and BAUD Rate Generator/
File: PortDecoding.kicad_sch

Title: SIO–2 Rev. 3

Size: B	Date: 2025–04–19	**Rev: RTR1.09**
KiCad E.D.A. kicad 7.0.7		Id: 3/5



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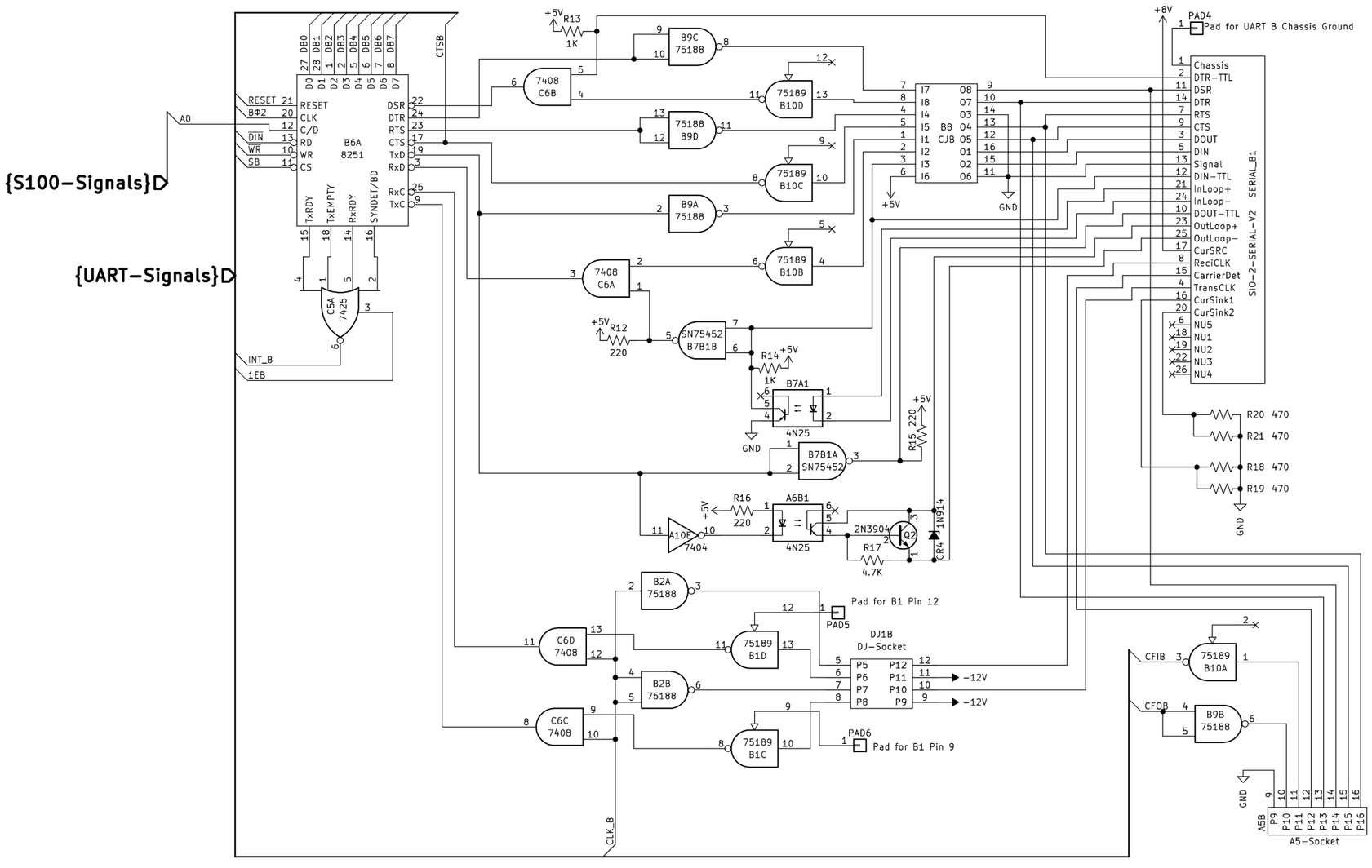
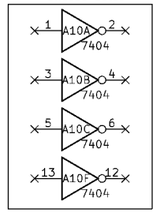
Sheet: /UART-A/
File: UART-A.kicad_sch

Title: SIO-2 Rev. 3

Size: B	Date: 2025-04-19	**Rev: RTR1.09**
KiCad E.D.A. kicad 7.0.7		Id: 4/5



Unused Gates



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File: UART–B.kicad_sch

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Size: B	Date: 2025–04–19	**Rev: RTR1.09**
KiCad E.D.A. kicad 7.0.7		Id: 5/5