68000 Single Board Computer
from
"Microprocessor Systems Design" by Alan Clements
Modified by Jeff Tranter

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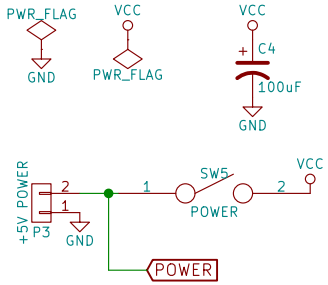
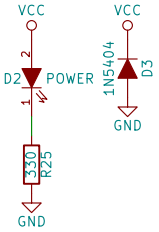
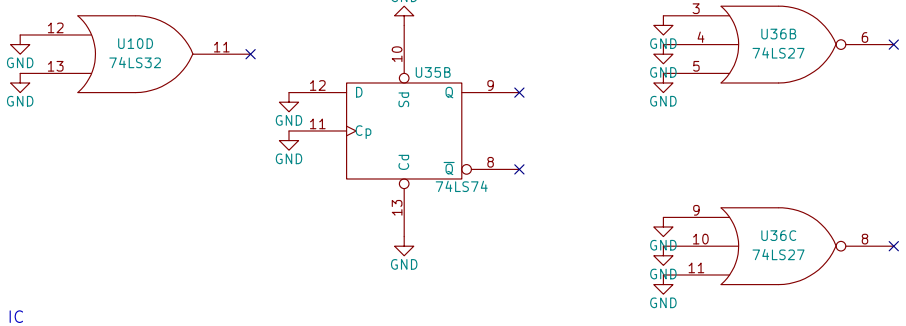
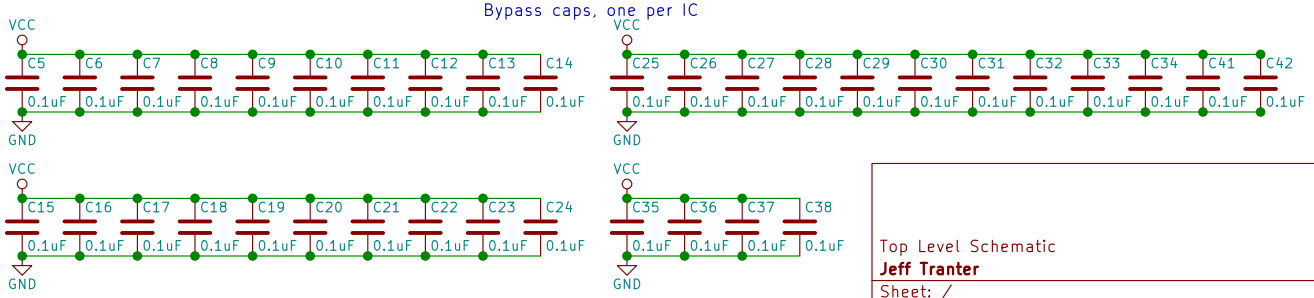




Spare Gates



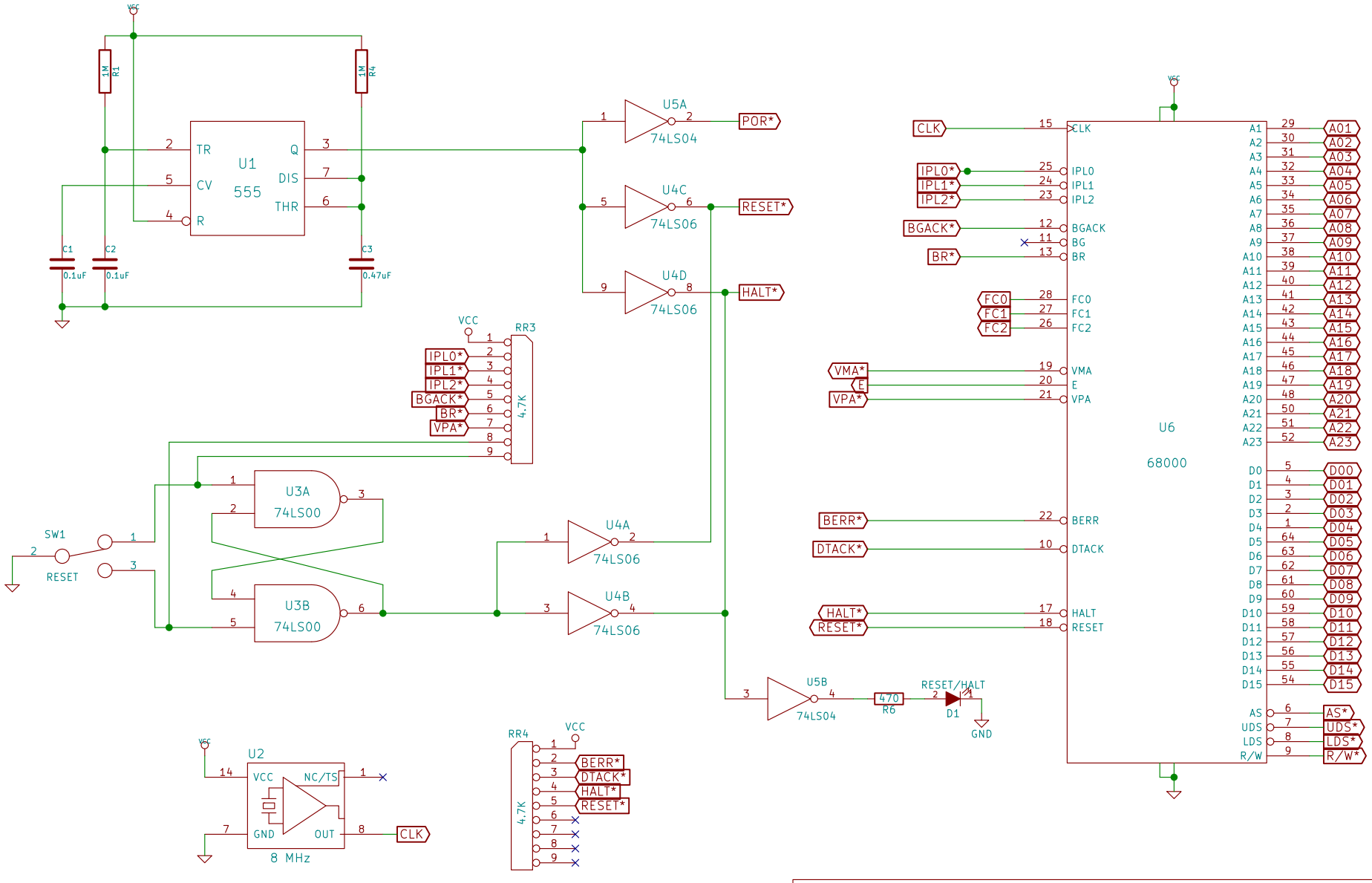
Bypass caps, one per IC



Top Level Schematic
Jeff Tranter
Sheet: /
File: ts2.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 1/9



Reset, Halt, and Clock Control Circuits

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Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
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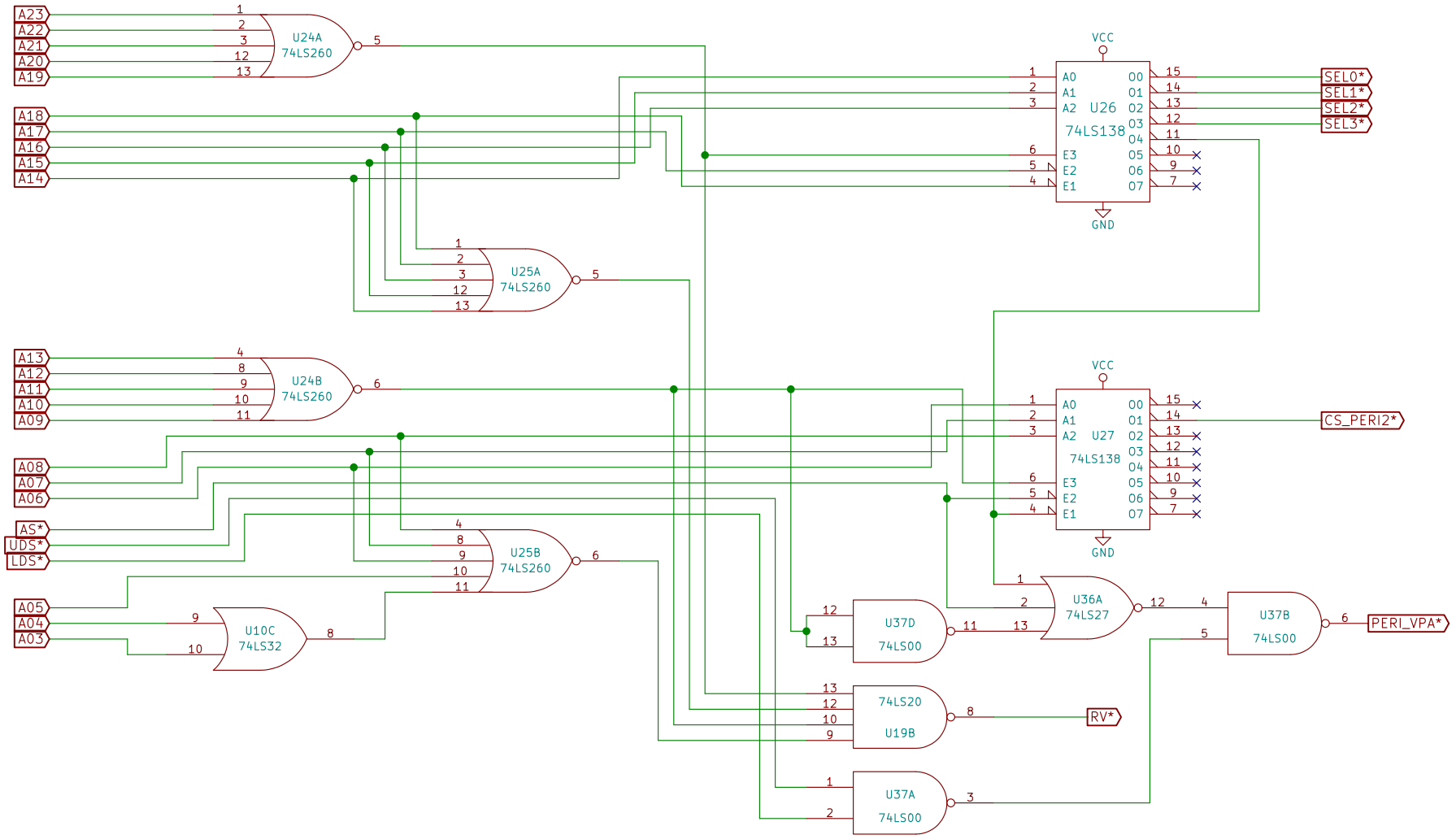

Address Decoding

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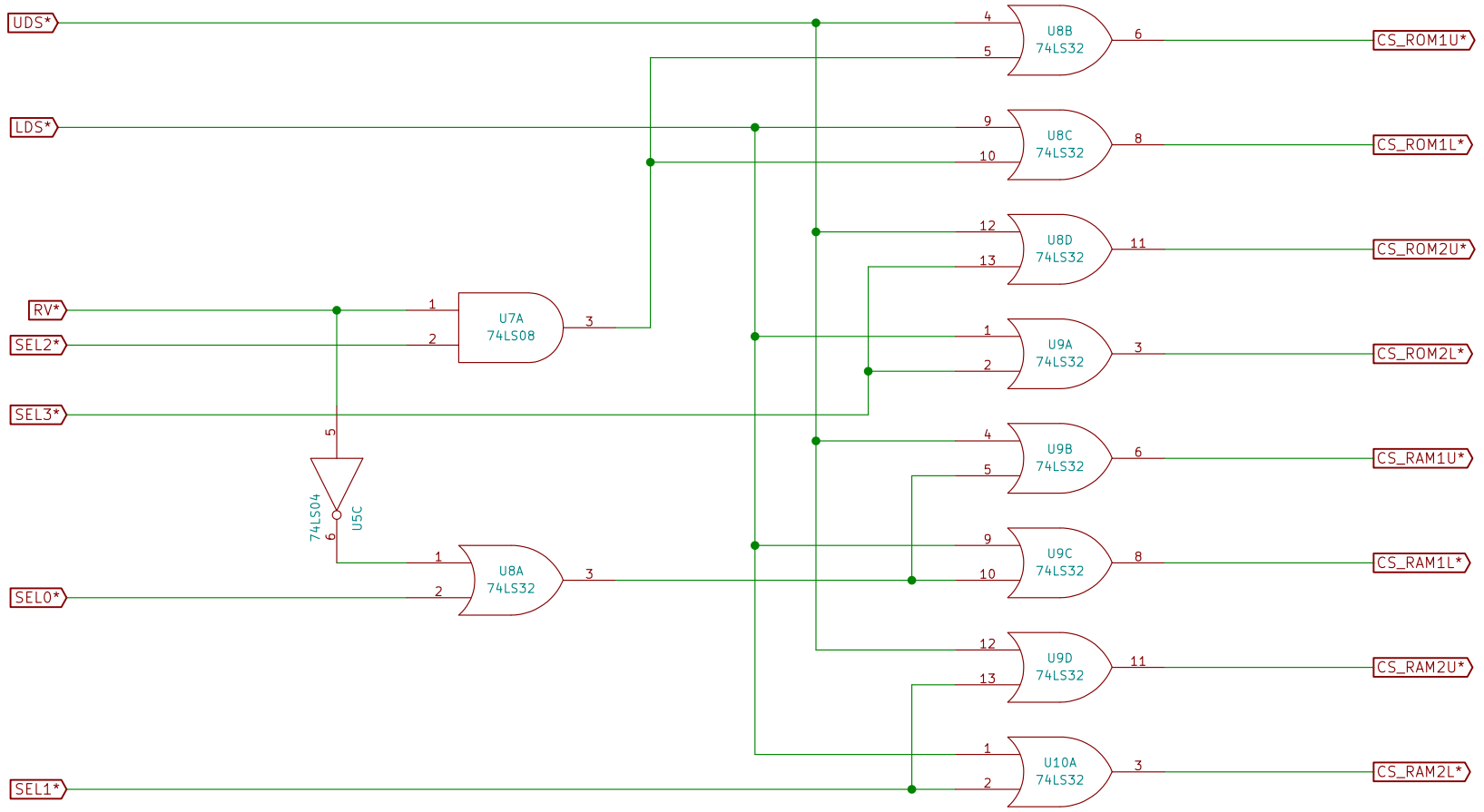
Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 3/9



RAM and ROM Address Select

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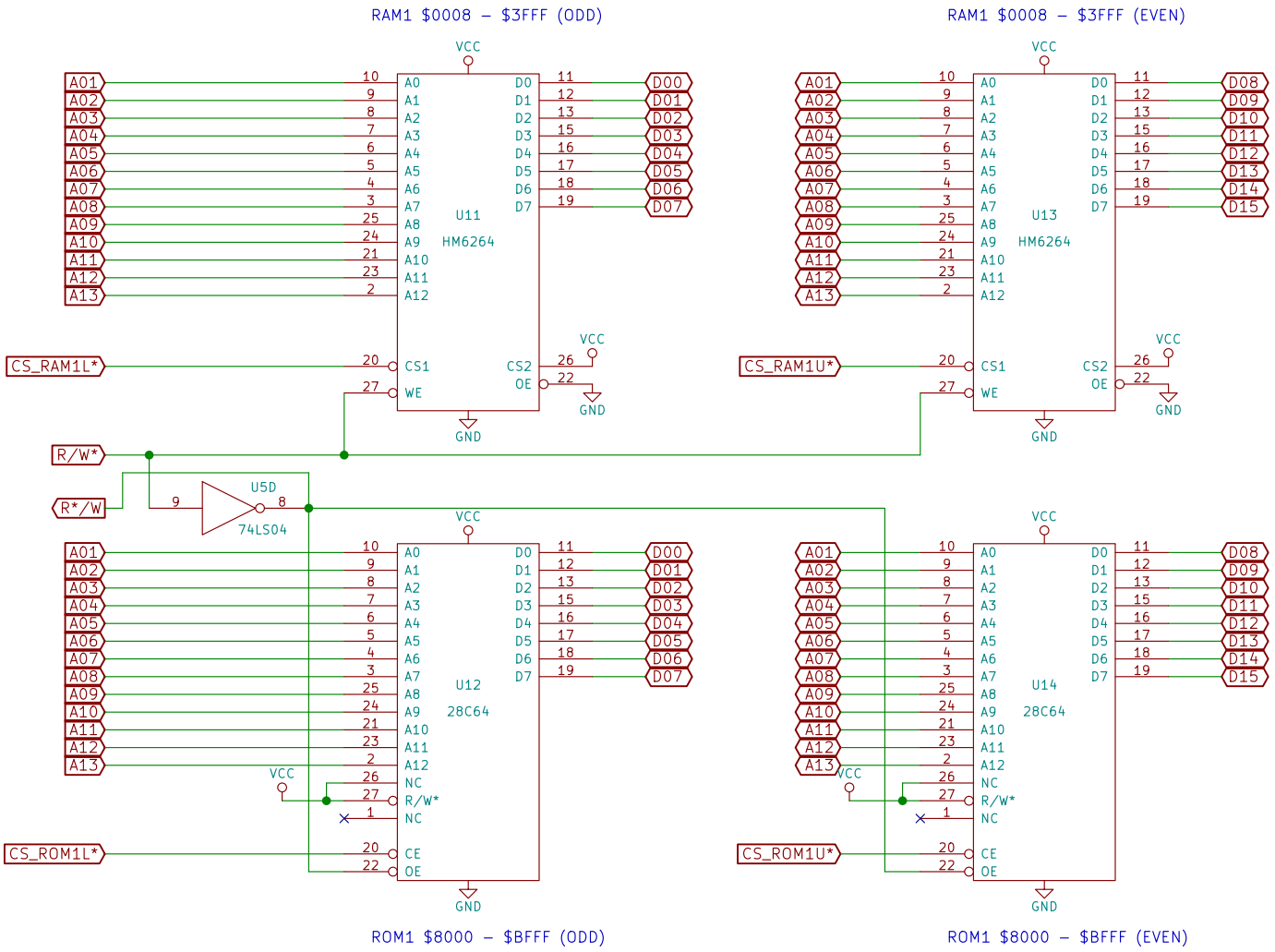
Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 4/9



RAM and ROM (1 of 2)

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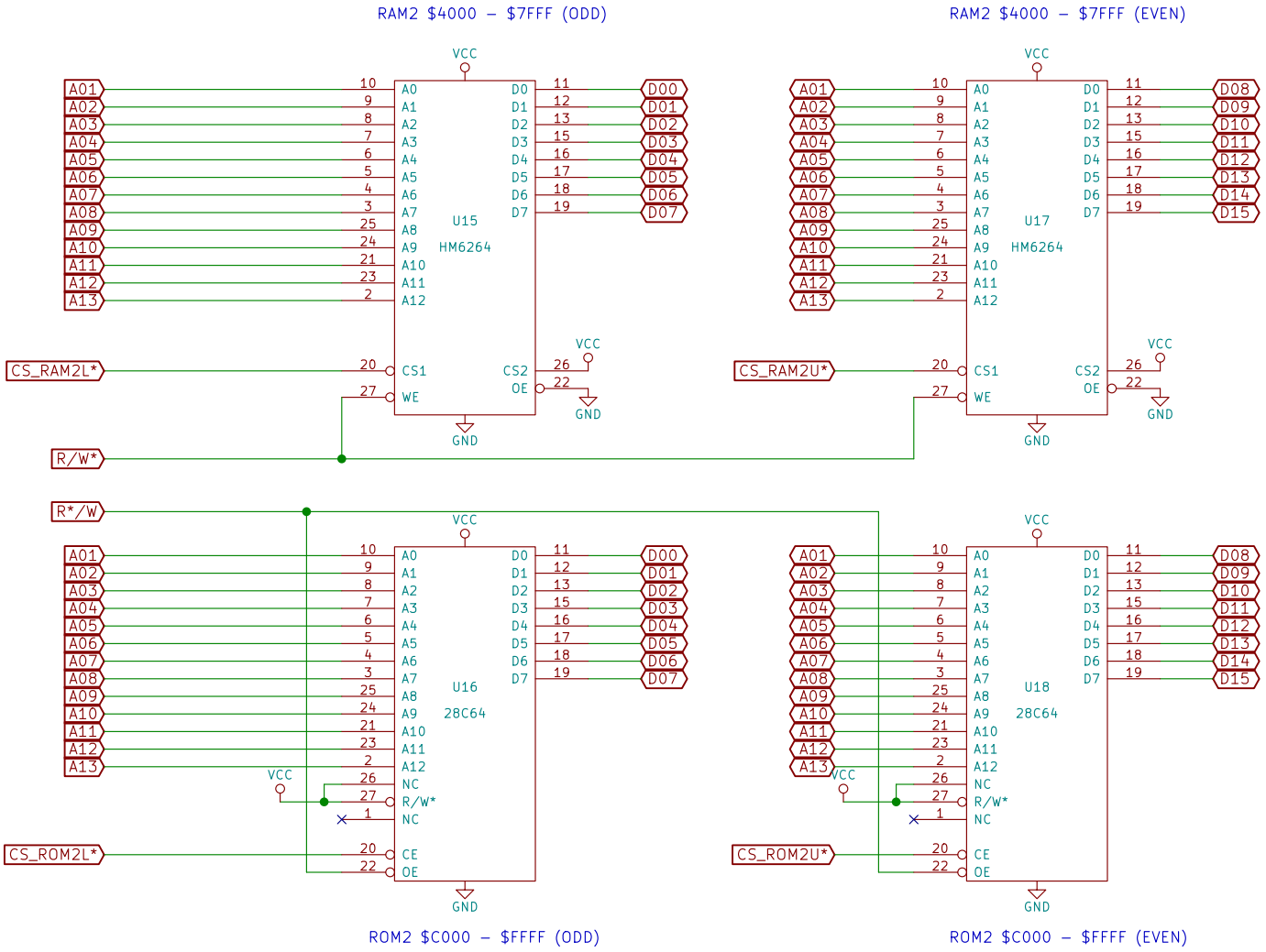
Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 5/9



RAM and ROM (2 of 2)

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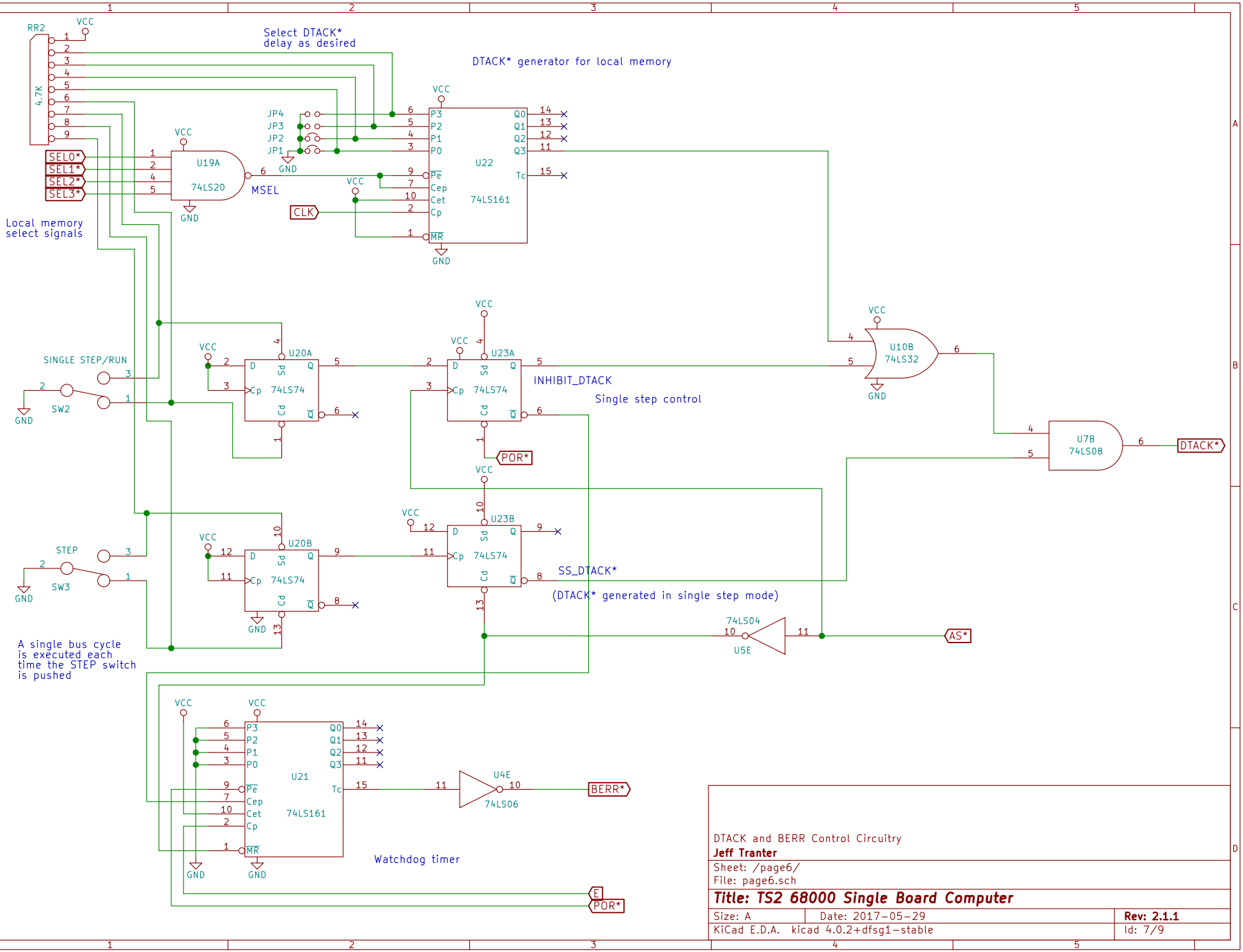
Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 6/9



DTACK and BERR Control Circuitry

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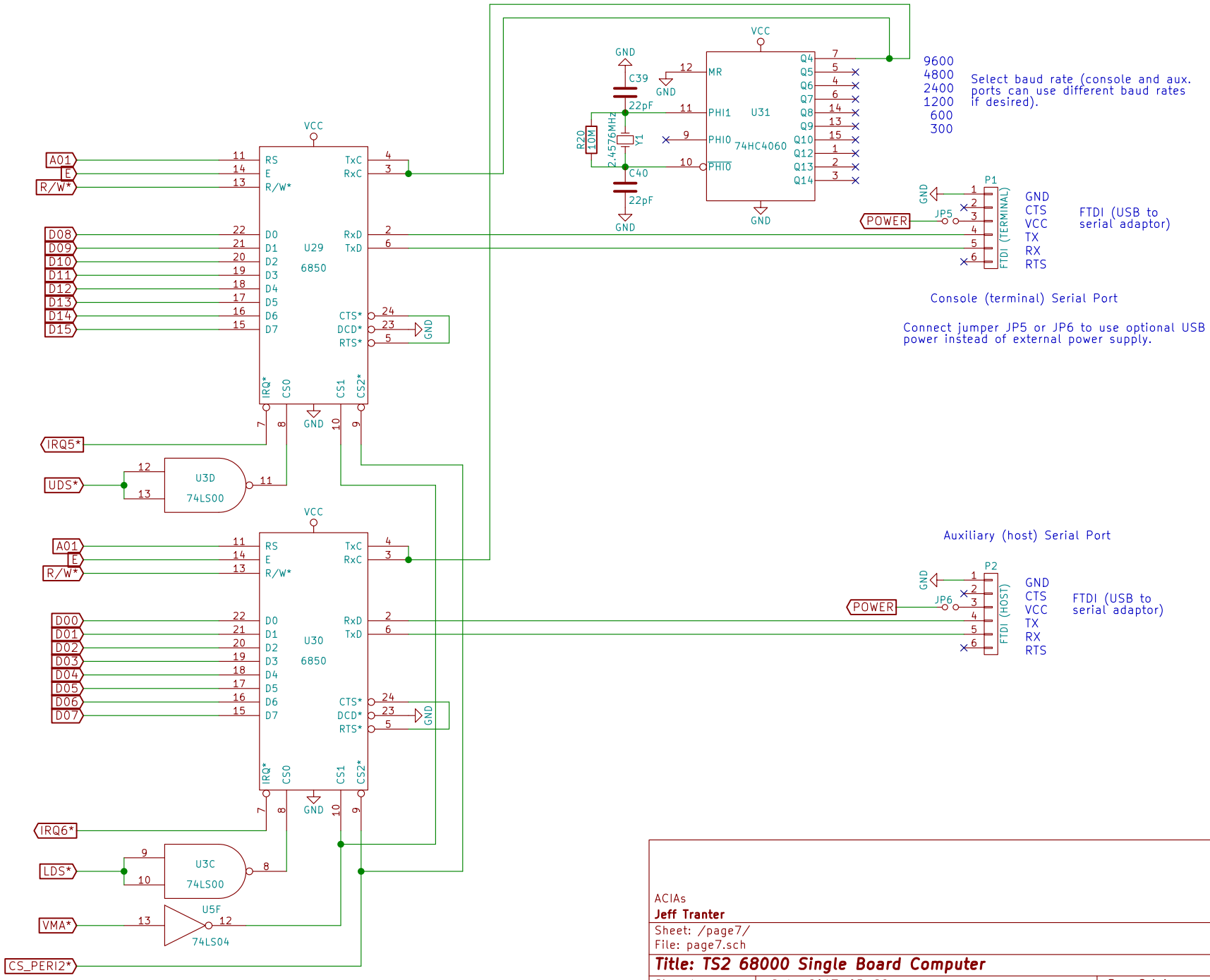
Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-05-29	**Rev: 2.1.1**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 7/9


VCC
GND
C39
22pF
C40
22pF
R20
10M
2.4576MHz
Y1
U31
74HC4060
MR
PHI1
PHI0
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q12
Q13
Q14
9600
4800
2400
1200
600
300
Select baud rate (console and aux. ports can use different baud rates if desired).
P1
JP5
POWER
GND
CTS
VCC
TX
RX
RTS
FTDI (TERMINAL)
FTDI (USB to serial adaptor)
Console (terminal) Serial Port
Connect jumper JP5 or JP6 to use optional USB power instead of external power supply.
Auxiliary (host) Serial Port
P2
JP6
FTDI (HOST)
A01
E
R/W*
D08
D09
D10
D11
D12
D13
D14
D15
U29
6850
RS
E
R/W*
D0
D1
D2
D3
D4
D5
D6
D7
TxC
RxC
RxD
TxD
CTS*
DCD*
RTS*
IRQ*
CS0
CS1
CS2*
IRQ5*
UDS*
U3D
74LS00
D00
D01
D02
D03
D04
D05
D06
D07
U30
IRQ6*
LDS*
U3C
VMA*
U5F
74LS04
CS_PERI2*
ACIAs
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Title: TS2 68000 Single Board Computer
Size: A
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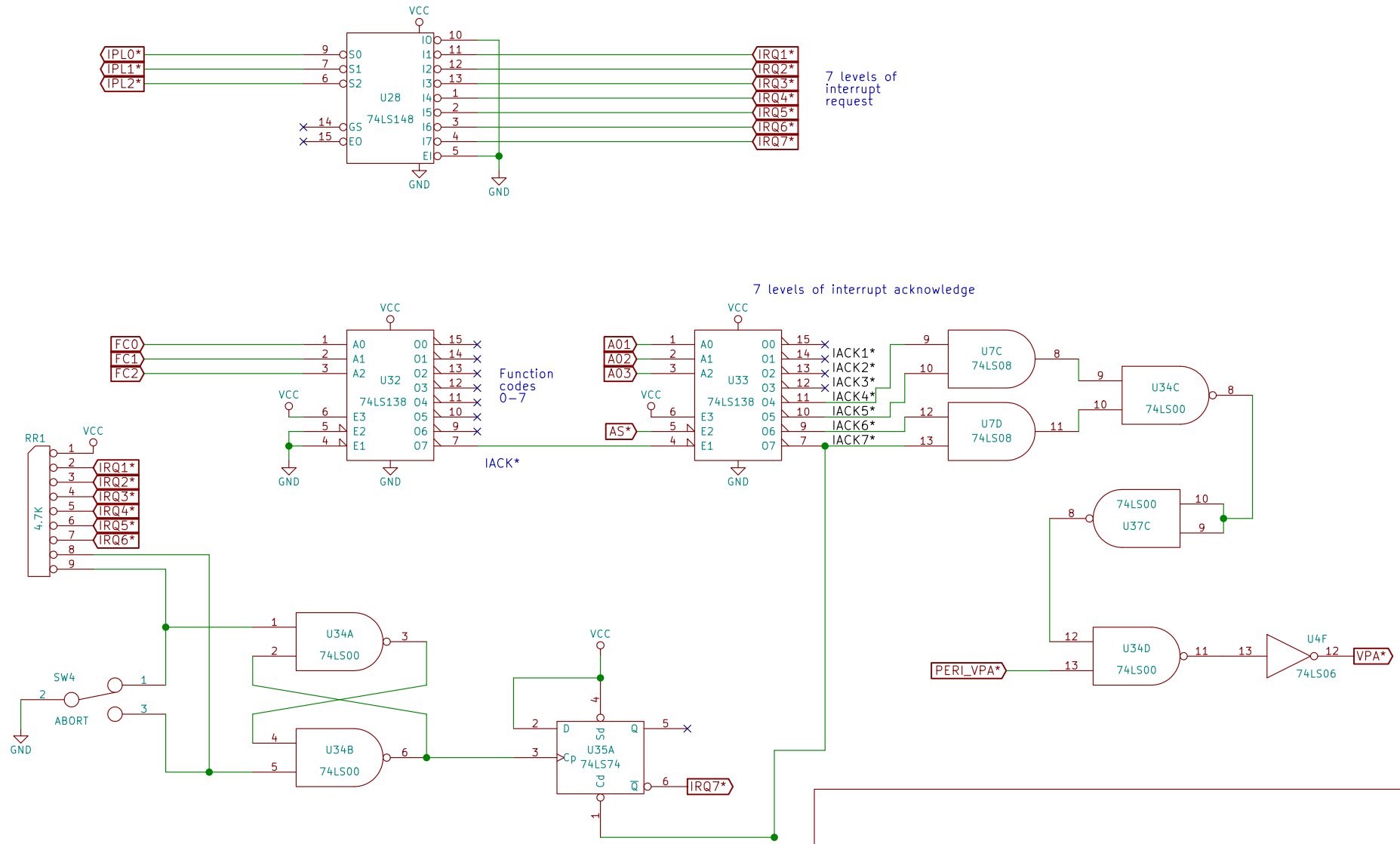
Rev: 2.1.1
KiCad E.D.A. kicad 4.0.2+dfsg1-stable
Id: 8/9


IPL0*
IPL1*
IPL2*
U28
74LS148
VCC
GND
IRQ1*
IRQ2*
IRQ3*
IRQ4*
IRQ5*
IRQ6*
IRQ7*
7 levels of interrupt request
7 levels of interrupt acknowledge
FC0
FC1
FC2
U32
74LS138
Function codes 0-7
IACK*
A01
A02
A03
AS*
U33
IACK1*
IACK2*
IACK3*
IACK4*
IACK5*
IACK6*
IACK7*
U7C
74LS08
U7D
74LS08
U34C
74LS00
U37C
74LS00
U4F
74LS06
VPA*
PERI_VPA*
U34D
74LS00
RR1
4.7K
U34A
74LS00
U34B
74LS00
SW4
ABORT
U35A
74LS74
Interrupt Control Circuitry (optional)
Jeff Tranter
Sheet: /page8/
File: page8.sch
Title: TS2 68000 Single Board Computer
Size: A
Date: 2017-05-29
Rev: 2.1.1
KiCad E.D.A. kicad 4.0.2+dfsg1-stable
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