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

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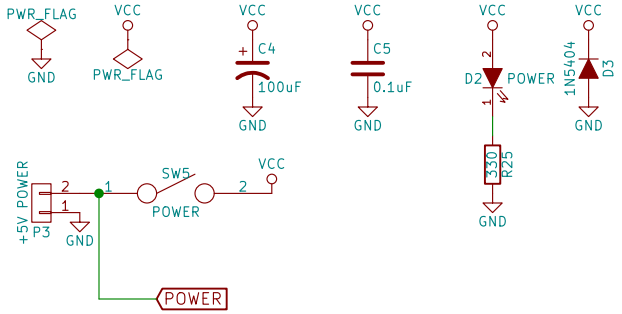
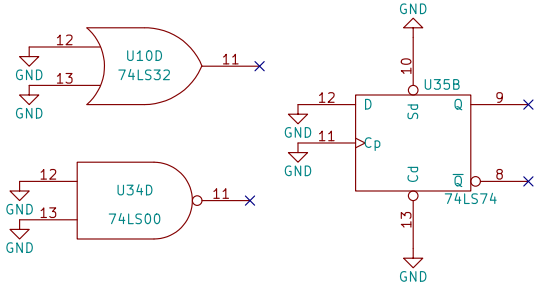
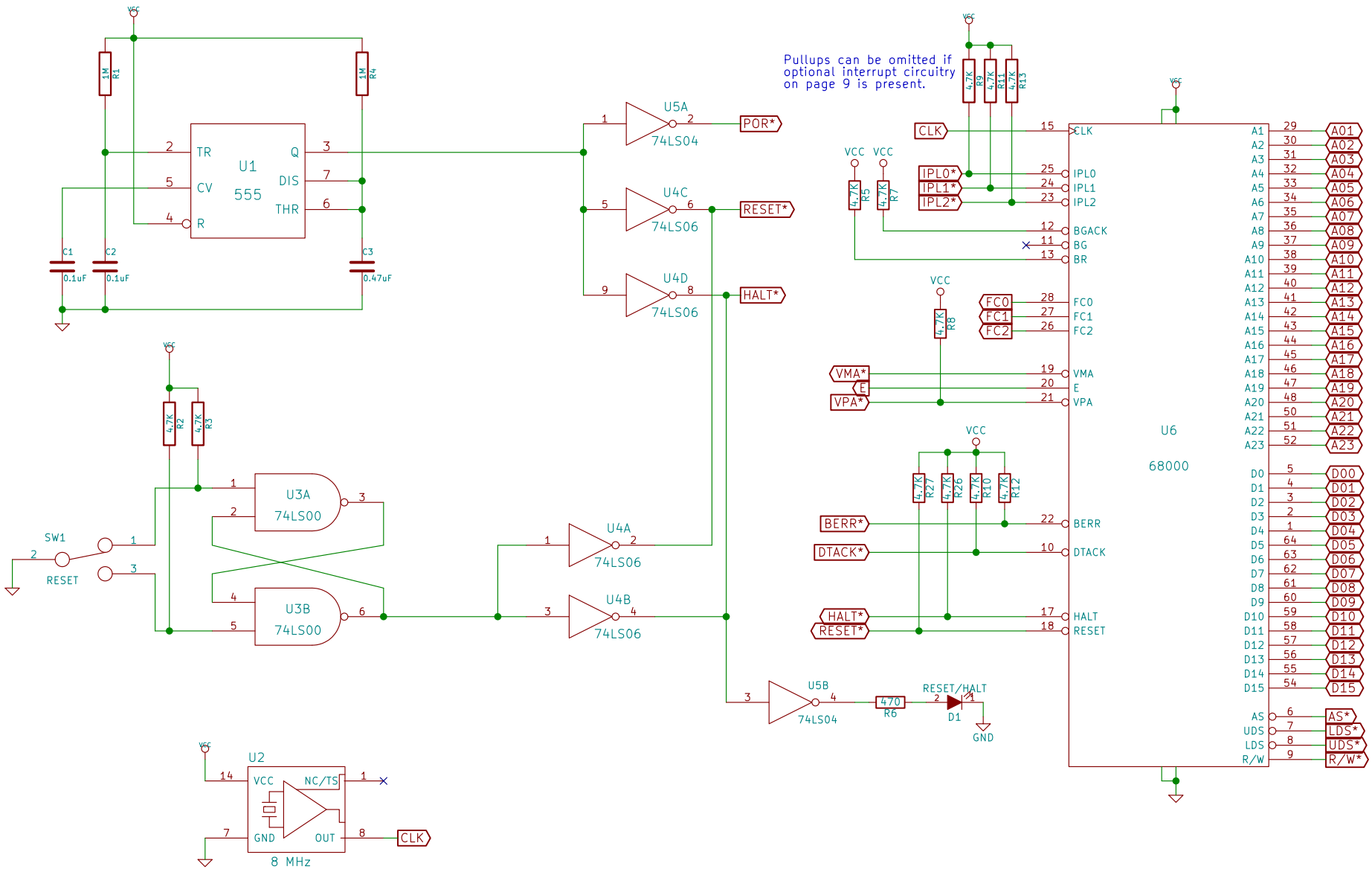
Bypass caps, one per IC



Spare Gates



Top Level Schematic		
Jeff Tranter		
Sheet: /		
File: ts2.sch		
Title: TS2 68000 Single Board Computer		
Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 1/9



Reset, Halt, and Clock Control Circuits

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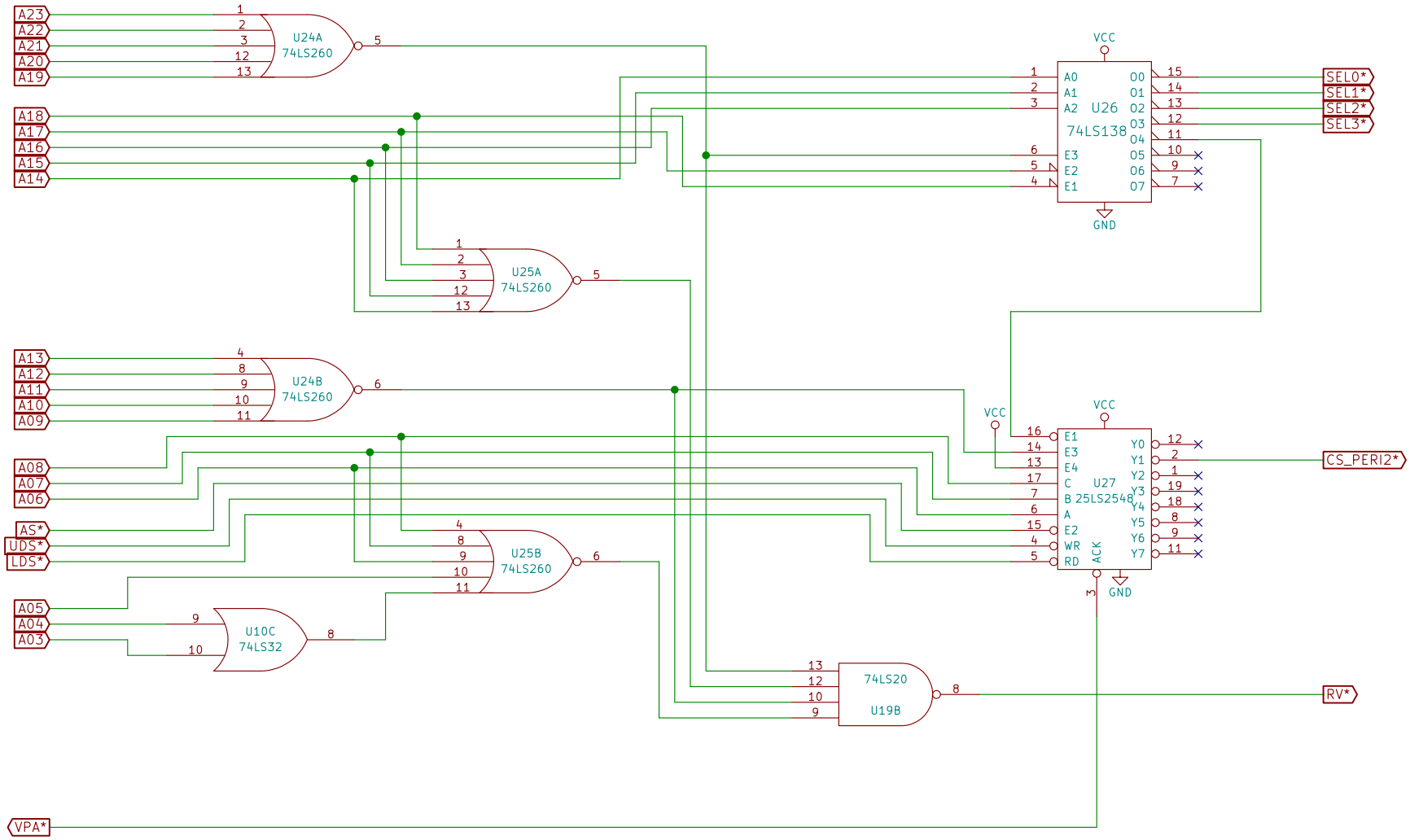
File: page1.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 2/9



Address Decoding

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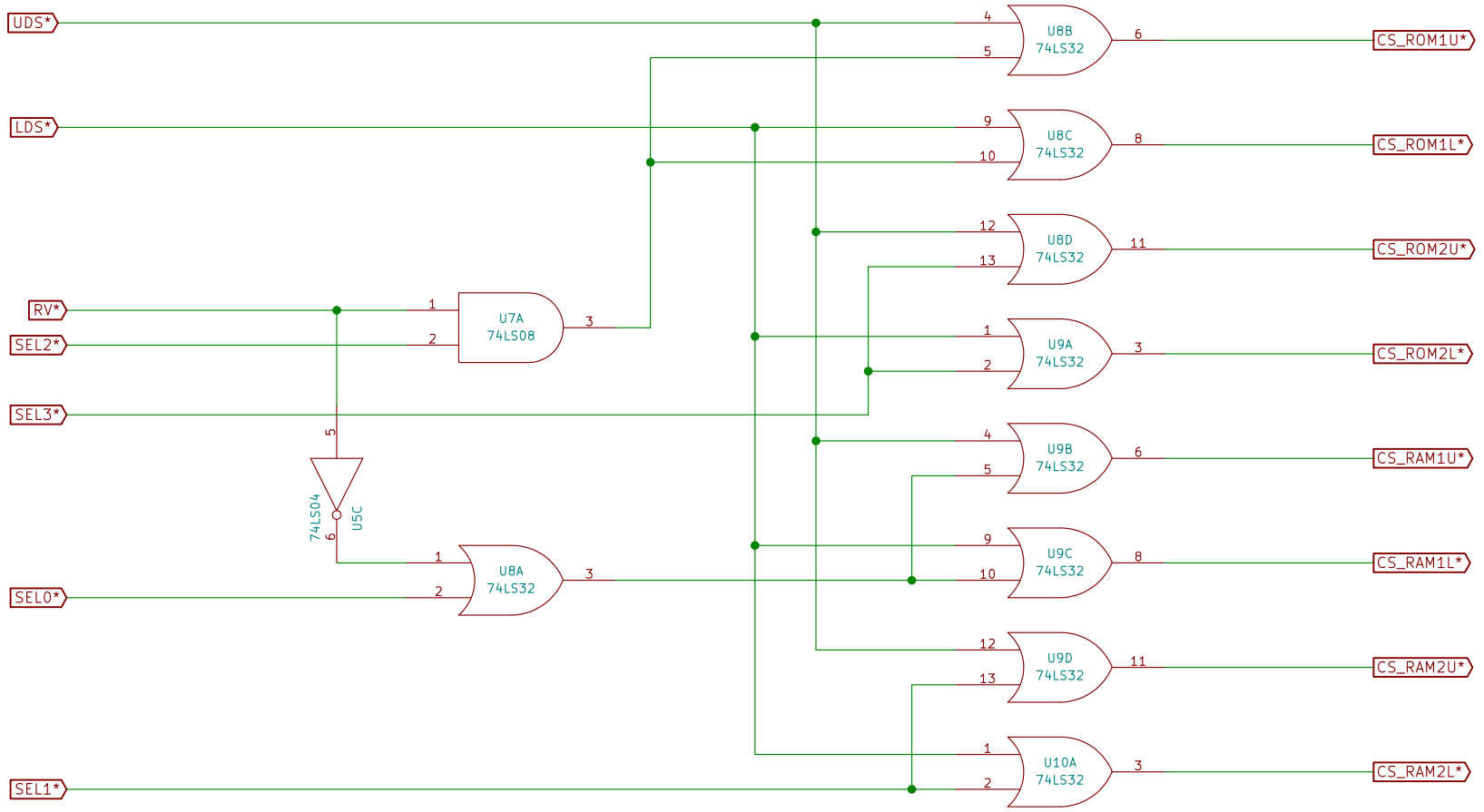
File: page2.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 3/9



RAM and ROM Address Select

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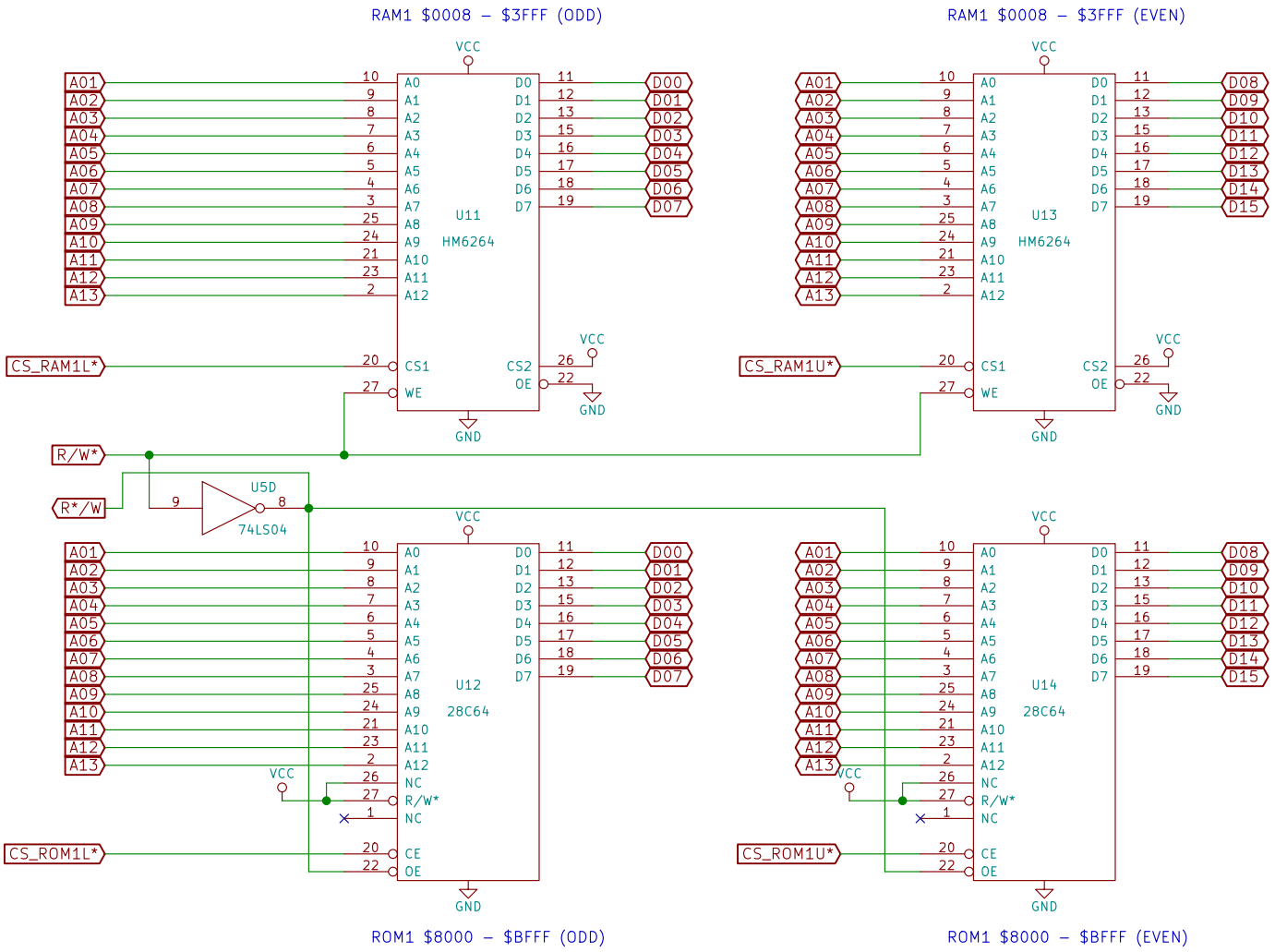
File: page3.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 4/9



RAM and ROM (1 of 2)

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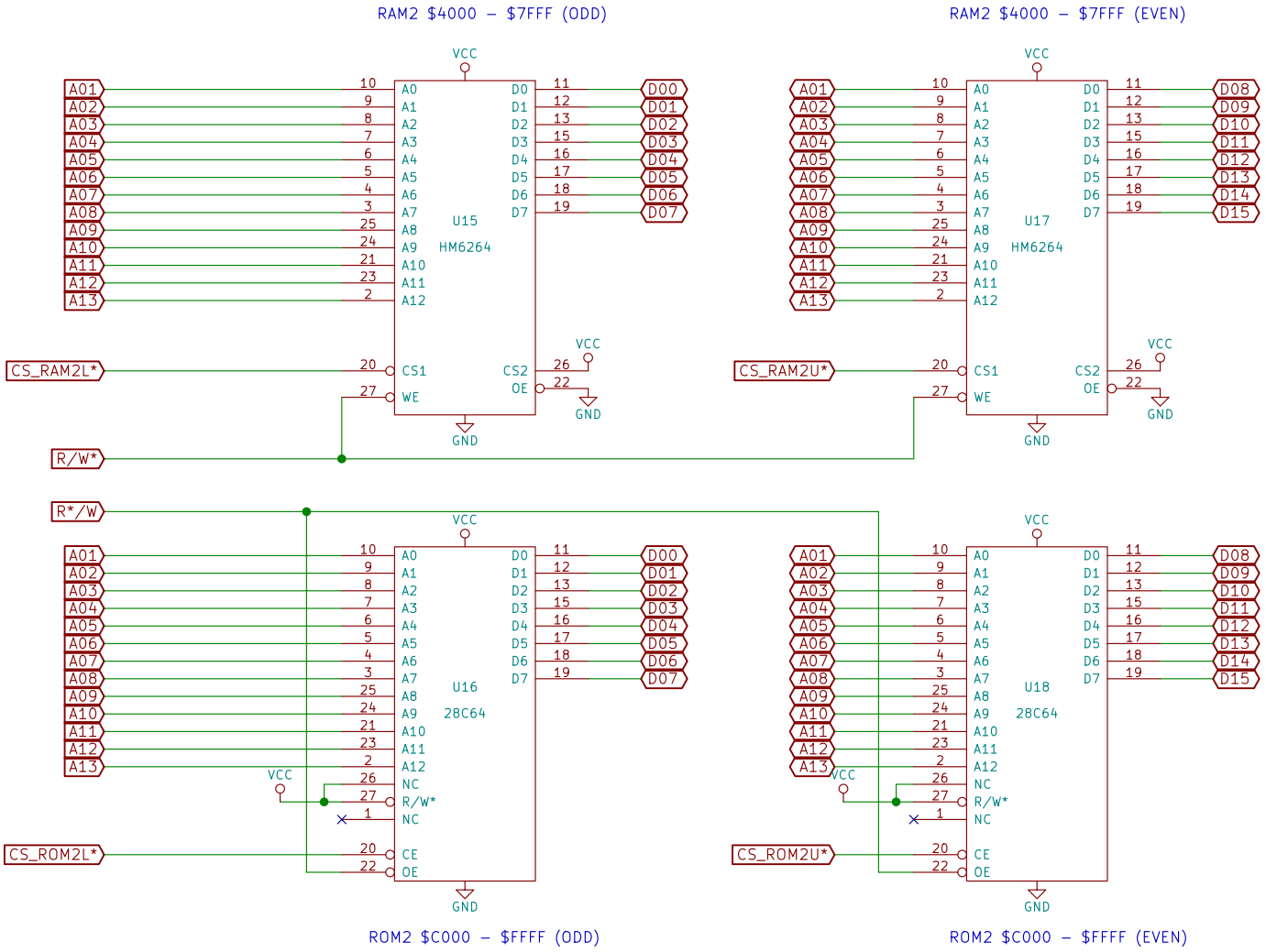
File: page4.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 5/9



RAM and ROM (2 of 2)

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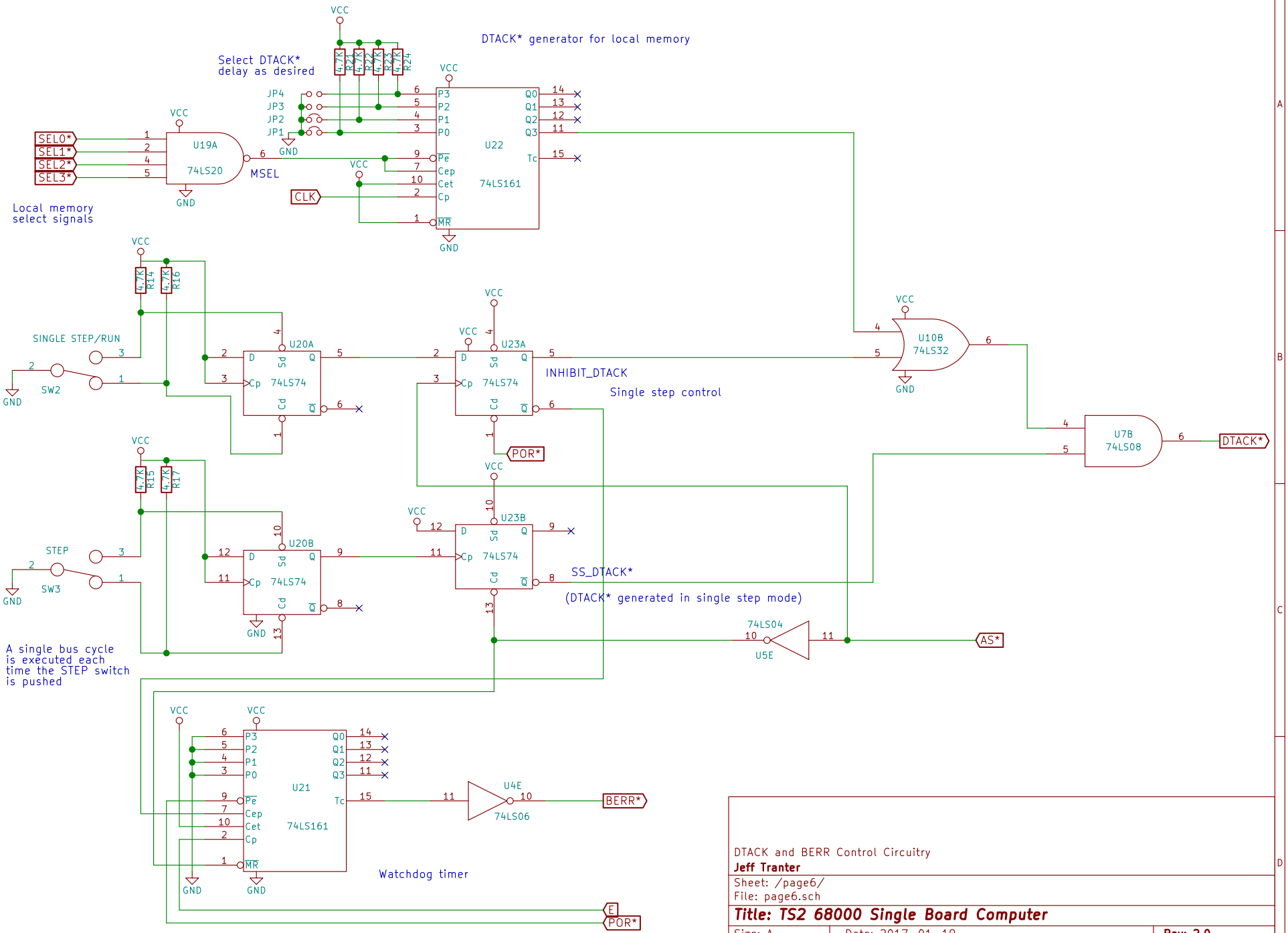
File: page5.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 6/9



DTACK and BERR Control Circuitry

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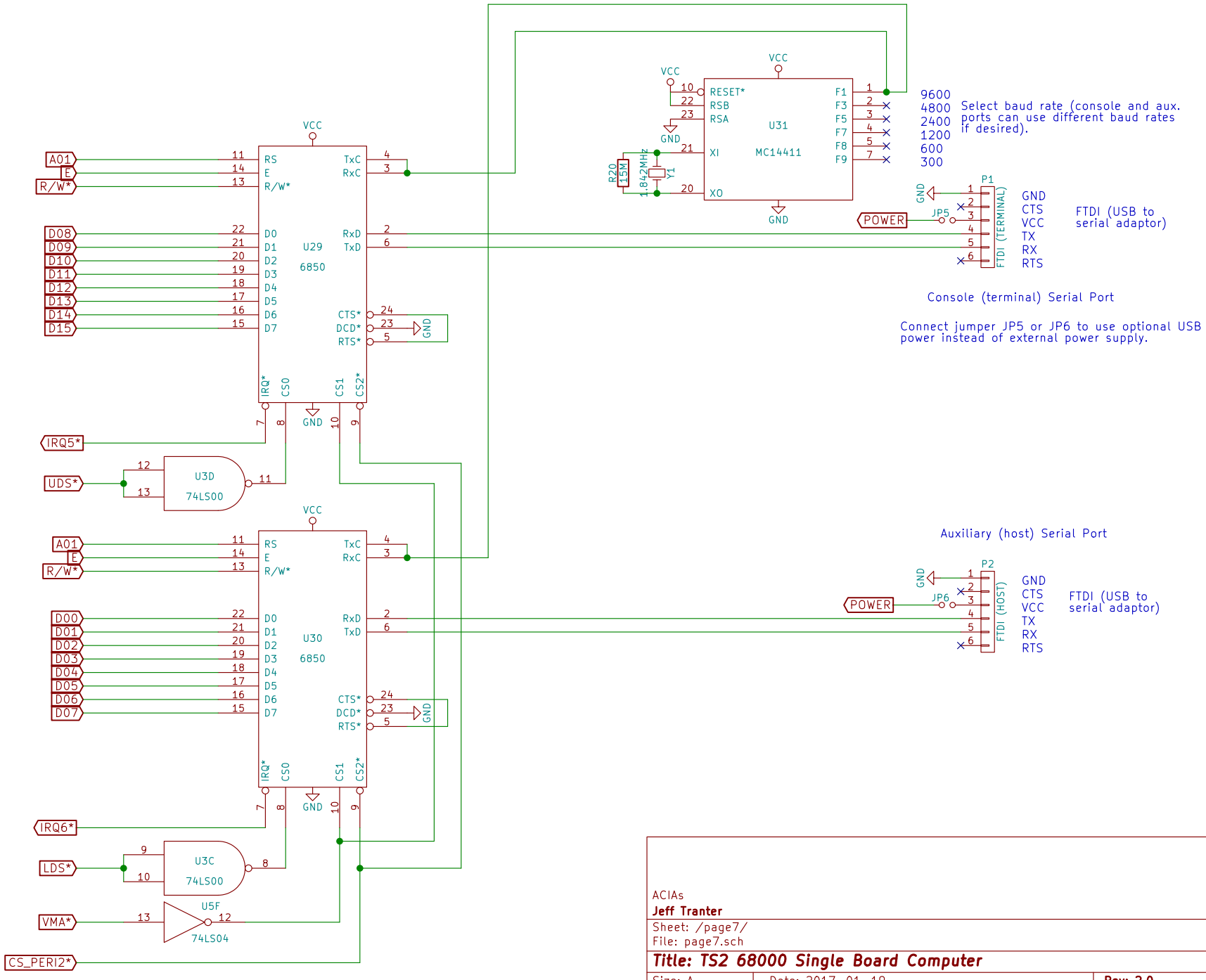
File: page6.sch

Title: TS2 68000 Single Board Computer

Size: A	Date: 2017-01-19	**Rev: 2.0**
KiCad E.D.A. kicad 4.0.2+dfsg1-stable		Id: 7/9


VCC
A01
E
R/W*
D08
D09
D10
D11
D12
D13
D14
D15
RS
E
R/W*
D0
D1
D2
D3
D4
D5
D6
D7
U29
6850
TxC
RxC
RxD
TxD
CTS*
DCD*
RTS*
IRQ*
CS0
CS1
CS2*
GND
IRQ5*
UDS*
U3D
74LS00
D00
D01
D02
D03
D04
D05
D06
D07
U30
IRQ6*
LDS*
U3C
VMA*
U5F
74LS04
CS_PERI2*
RESET*
RSB
RSA
XI
XO
U31
MC14411
F1
F3
F5
F7
F8
F9
R20
15M
1.842MHz
Y1
9600
4800
2400
1200
600
300
Select baud rate (console and aux. ports can use different baud rates if desired).
P1
JP5
POWER
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)
ACIAs
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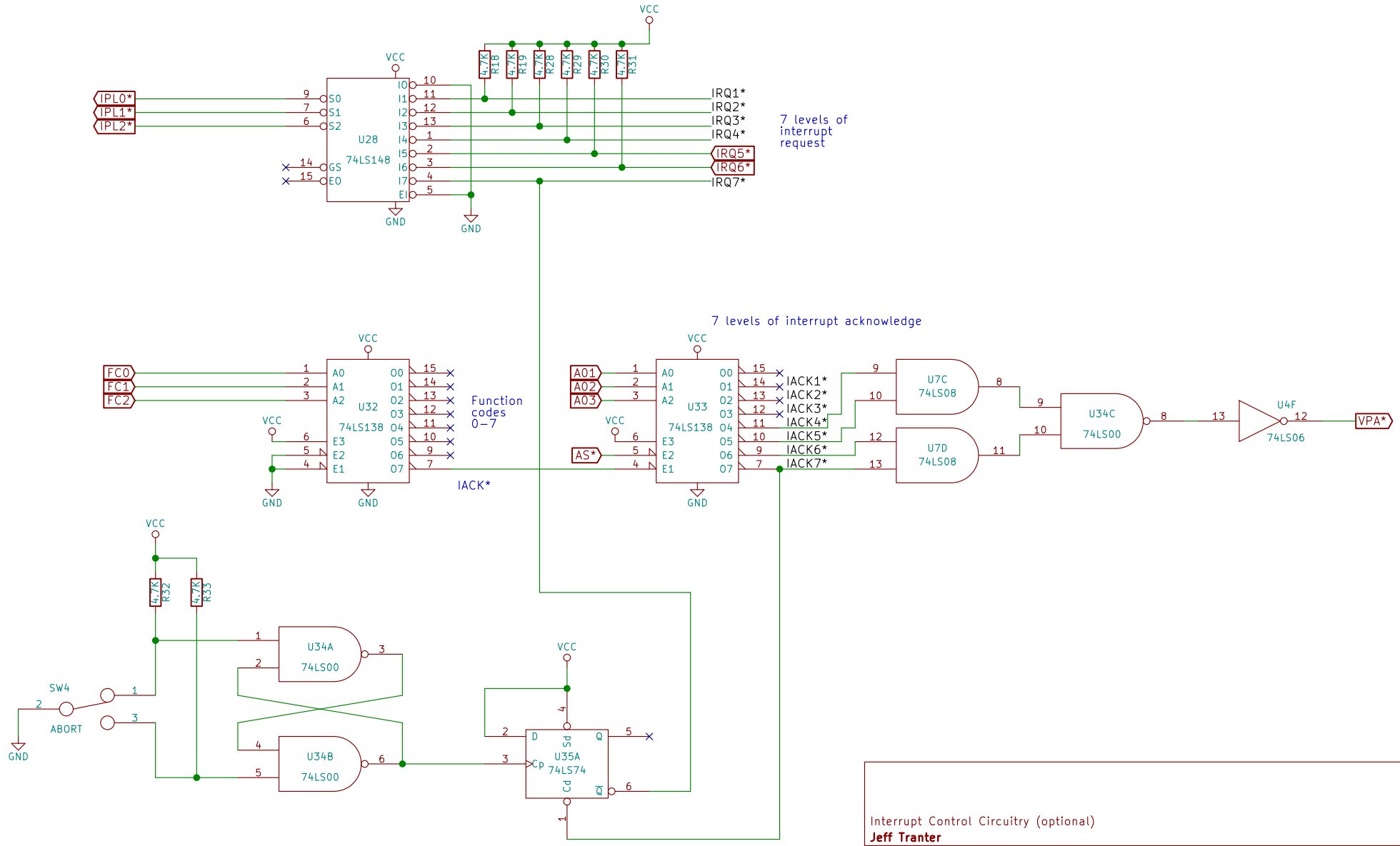
Sheet: /page7/
File: page7.sch
Title: TS2 68000 Single Board Computer
Size: A
Date: 2017-01-19
Rev: 2.0
KiCad E.D.A. kicad 4.0.2+dfsg1-stable
Id: 8/9


VCC
IPL0*
IPL1*
IPL2*
U28
74LS148
S0
S1
S2
GS
EO
EI
I0
I1
I2
I3
I4
I5
I6
I7
GND
4.7K R18
4.7K R19
4.7K R28
4.7K R29
4.7K R30
4.7K R31
IRQ1*
IRQ2*
IRQ3*
IRQ4*
IRQ5*
IRQ6*
IRQ7*
7 levels of interrupt request
7 levels of interrupt acknowledge
FC0
FC1
FC2
U32
74LS138
A0
A1
A2
E3
E2
E1
O0
O1
O2
O3
O4
O5
O6
O7
Function codes 0-7
IACK*
A01
A02
A03
AS*
U33
IACK1*
IACK2*
IACK3*
IACK4*
IACK5*
IACK6*
IACK7*
U7C
74LS08
U7D
74LS08
U34C
74LS00
U4F
74LS06
VPA*
4.7K R32
4.7K R33
SW4
ABORT
U34A
74LS00
U34B
74LS00
U35A
74LS74
D
Cp
Sd
Cd
Q
Q
Interrupt Control Circuitry (optional)
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Sheet: /page8/
File: page8.sch
Title: TS2 68000 Single Board Computer
Size: A4
Date: 2017-01-19
Rev: 2.0
KiCad E.D.A. kicad 4.0.2+dfsg1-stable
Id: 9/9