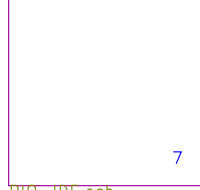
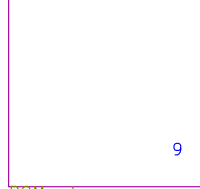


PIO-IDE



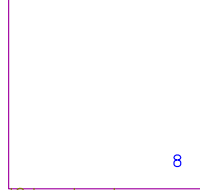
PIO-IDE.sch

ROM.sch



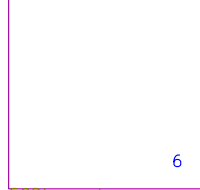
ROM.sch

I/O DECODE



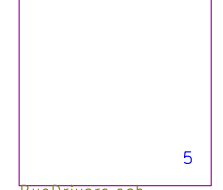
Iodecode.sch

ECB bus



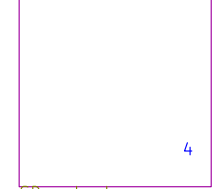
ECBbus.sch

Bus Drivers



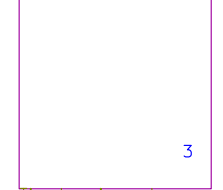
BusDrivers.sch

SD Card



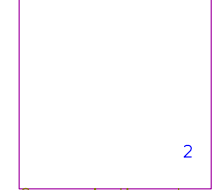
SDcard.sch

Timekeeping

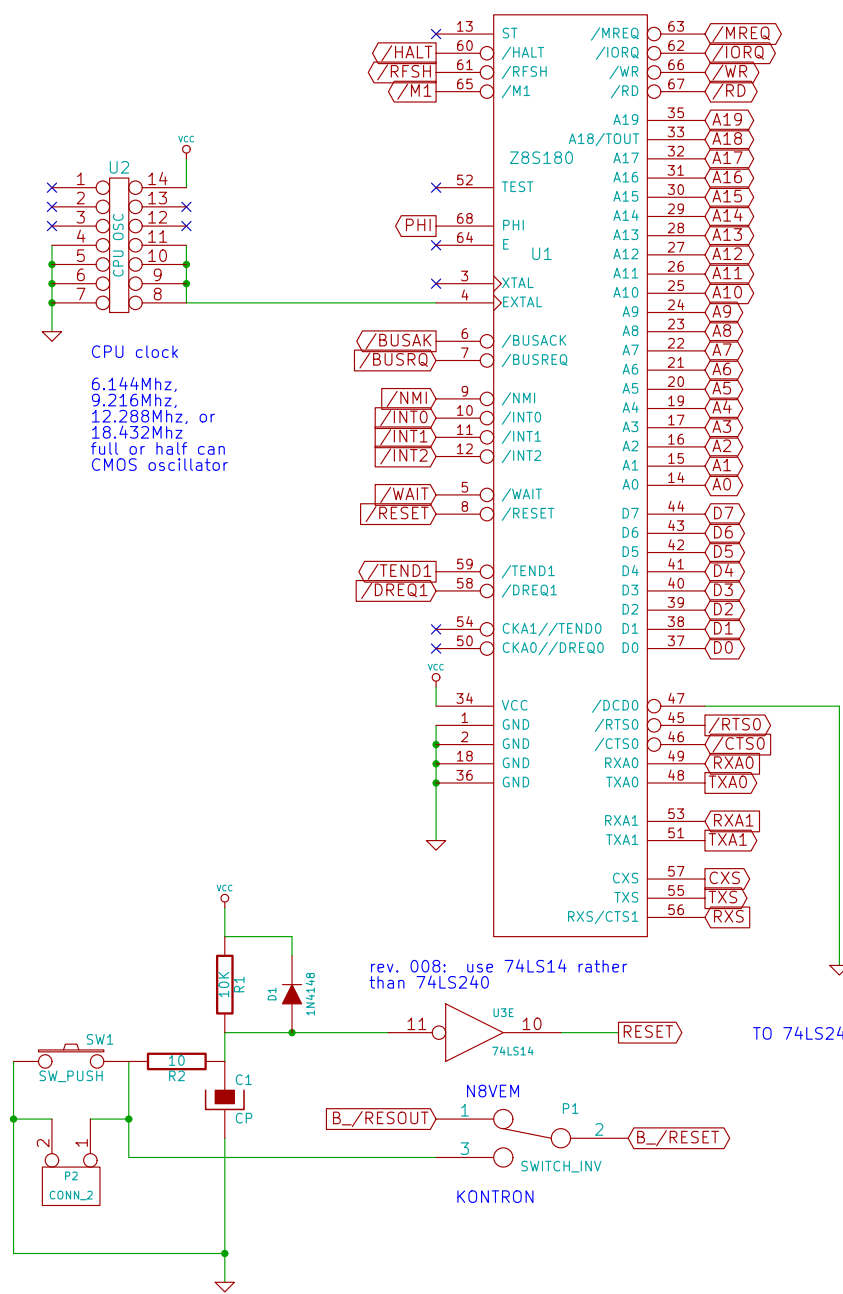


Timekeeping.sch

Communication

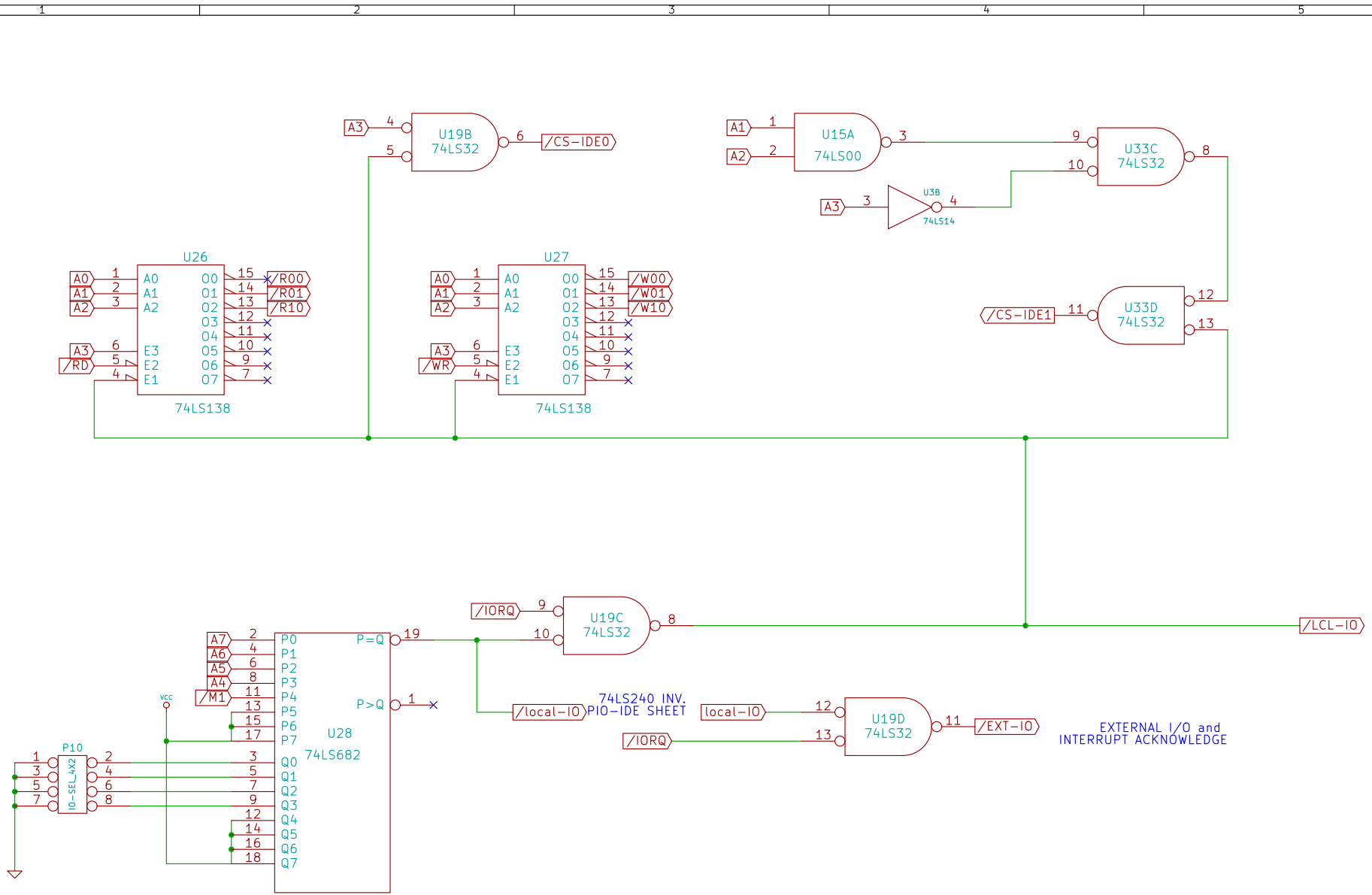


Communication.sch



CPU clock
 6.144Mhz,
 9.216Mhz,
 12.288Mhz, or
 18.432Mhz
 full or half can
 CMOS oscillator

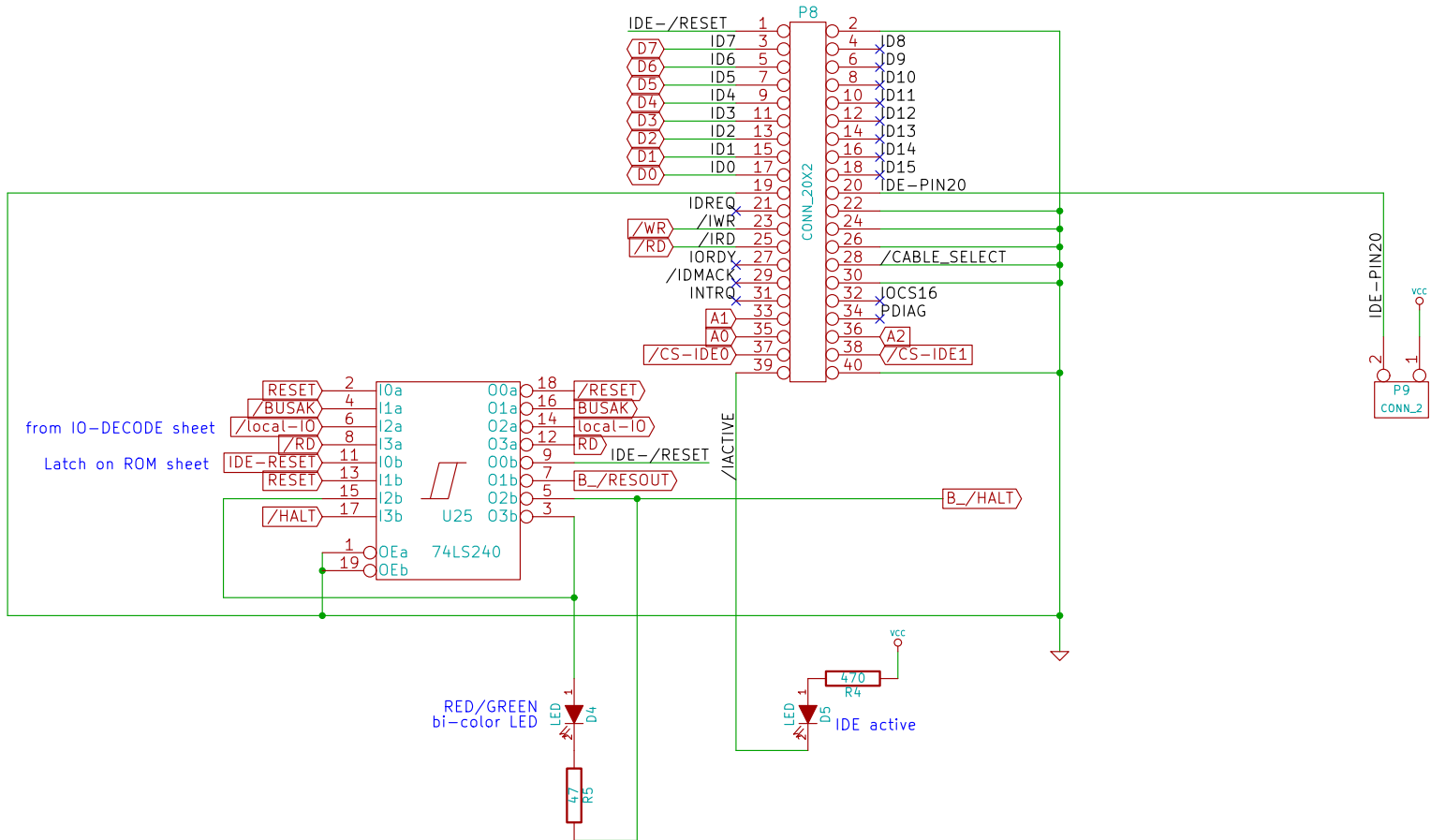
Copyright (c) 2013 John R. Coffman	
N8VEM Users Group	
File: SBCv3.sch	
Sheet: /	
Title: SBC Mark IV	
Size: A4	Date: 17 mar 2014
KiCad E.D.A.	Rev: 008
	Id: 1/9



EXTERNAL I/O and
INTERRUPT ACKNOWLEDGE

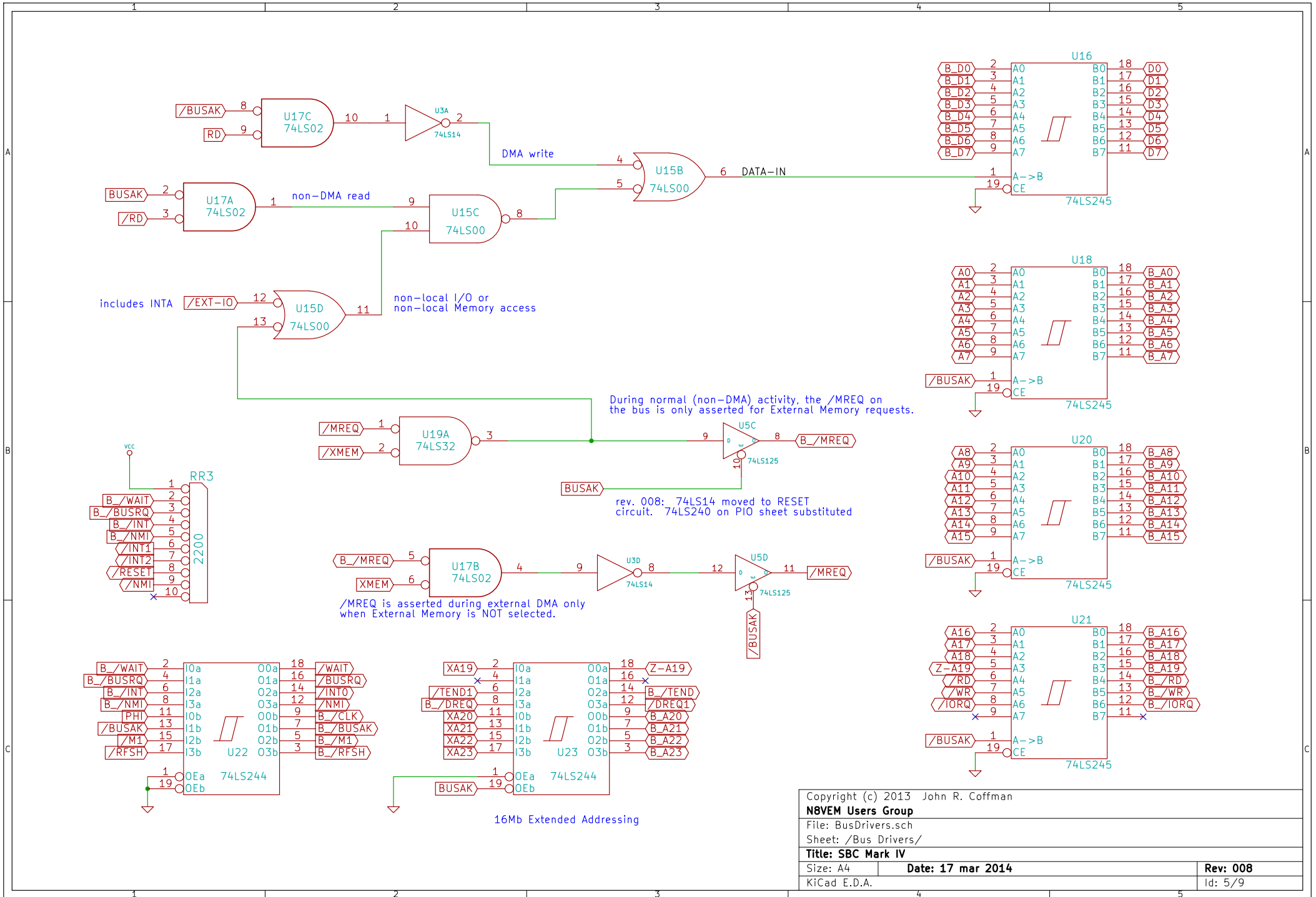
Copyright (c) 2013 John R. Coffman		
N8VEM Users Group		
File: IOdecode.sch		
Sheet: /I/O DECODE/		
Title: SBC Mark IV		
Size: A4	Date: 17 mar 2014	Rev: 008
KiCad E.D.A.		Id: 8/9

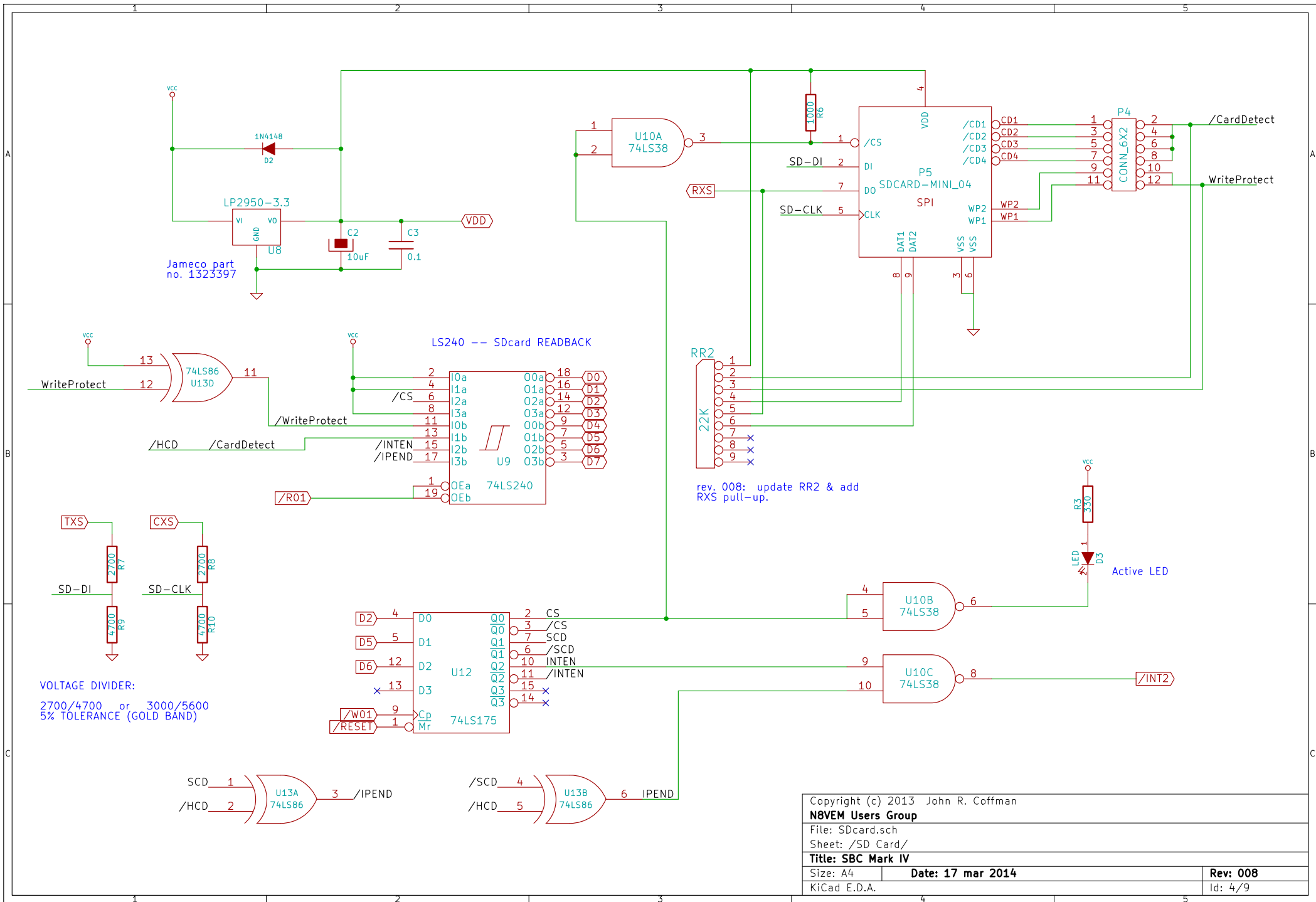
IDE connector supports 8-bit data transfers only
This is good for CF cards, but not most Hard Disk drives



R5 should be 47ohm to 82ohm when U25 is LS-TTL
R5 may be 100ohm to 220ohm when U25 is ACT-logic
Adjust R5 so that D4(LED) draws 10-20ma, depending upon
max. current rating and desired brightness

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File: PIO-IDE.sch	
Sheet: /PIO-IDE/	
Title: SBC Mark IV	
Size: A4	Date: 17 mar 2014
KiCad E.D.A.	Rev: 008
	Id: 7/9





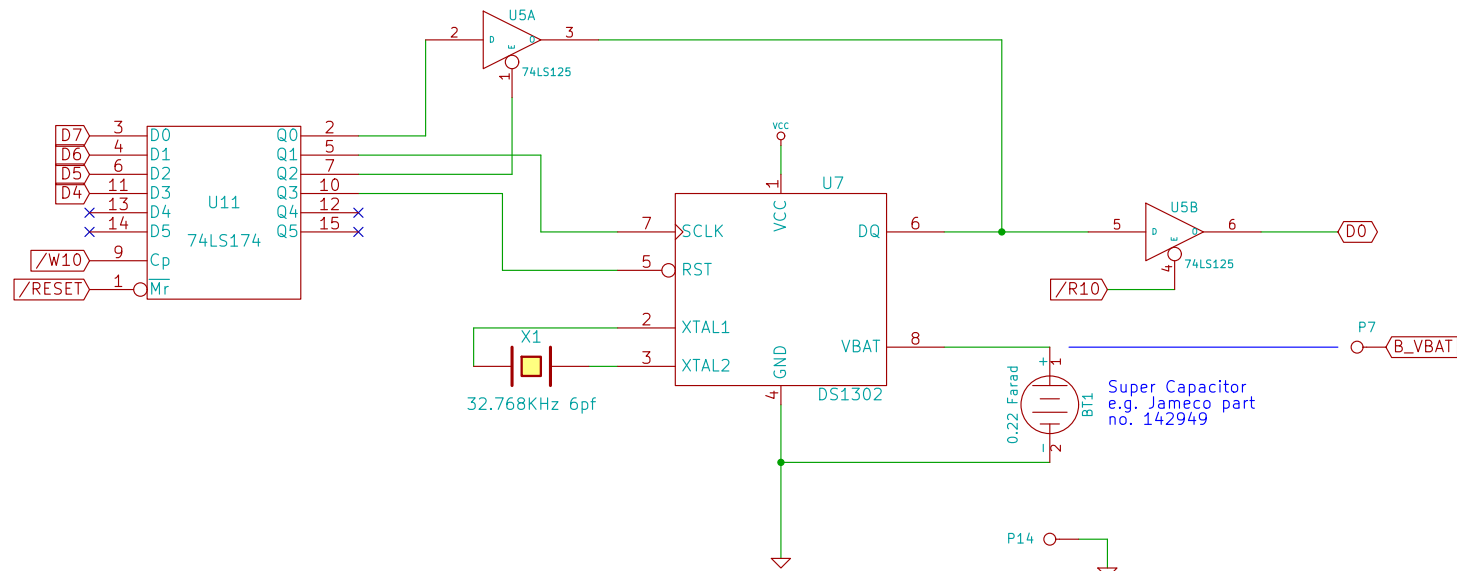
Jameco part no. 1323397

LS240 -- SDCard READBACK

rev. 008: update RR2 & add RXS pull-up.

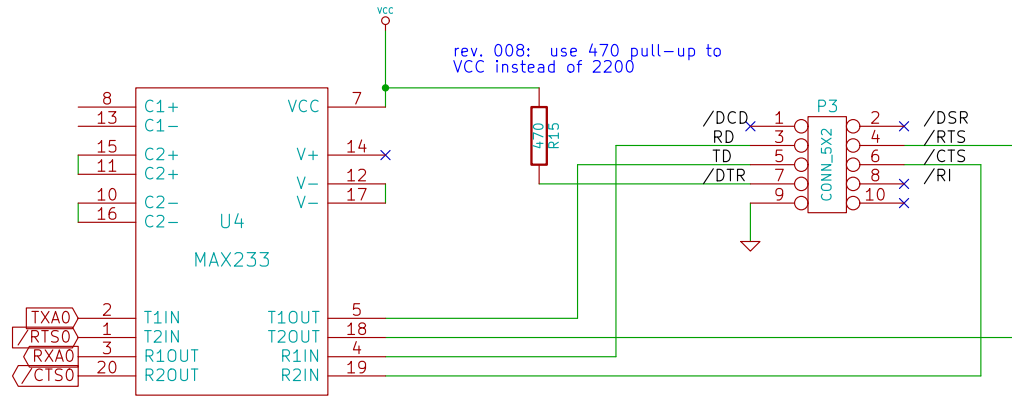
VOLTAGE DIVIDER:
2700/4700 or 3000/5600
5% TOLERANCE (GOLD BAND)

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File: SDCard.sch	
Sheet: /SD Card/	
Title: SBC Mark IV	
Size: A4	Date: 17 mar 2014
KiCad E.D.A.	Rev: 008
	Id: 4/9

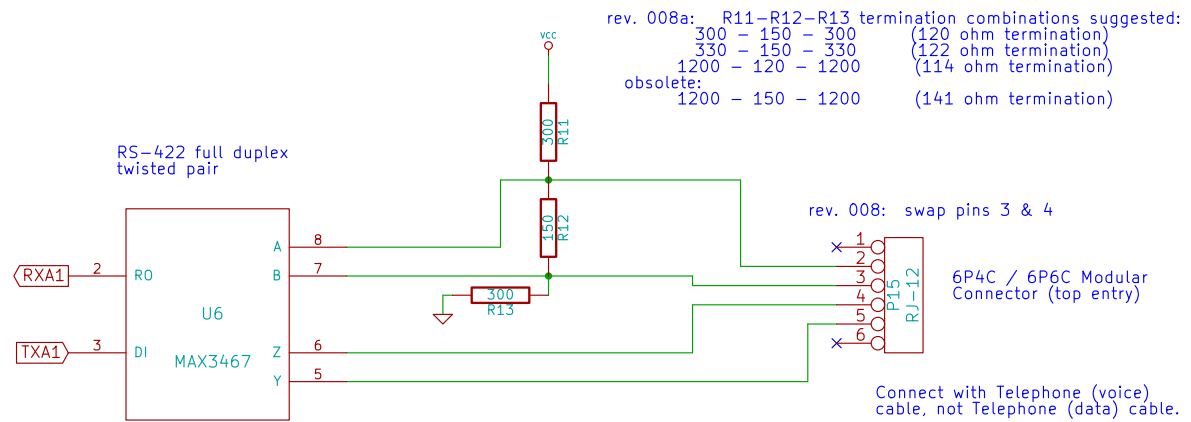


Combine with + terminal of super cap to form a 2-pin alternate external battery connector, if desired.

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File: Timekeeping.sch	
Sheet: /Timekeeping/	
Title: SBC Mark IV	
Size: A4	Date: 17 mar 2014
KiCad E.D.A.	Rev: 008
	Id: 3/9



rev. 008: use 470 pull-up to VCC instead of 2200



rev. 008a: R11-R12-R13 termination combinations suggested:
 300 - 150 - 300 (120 ohm termination)
 330 - 150 - 330 (122 ohm termination)
 1200 - 120 - 1200 (114 ohm termination)
 obsolete:
 1200 - 150 - 1200 (141 ohm termination)

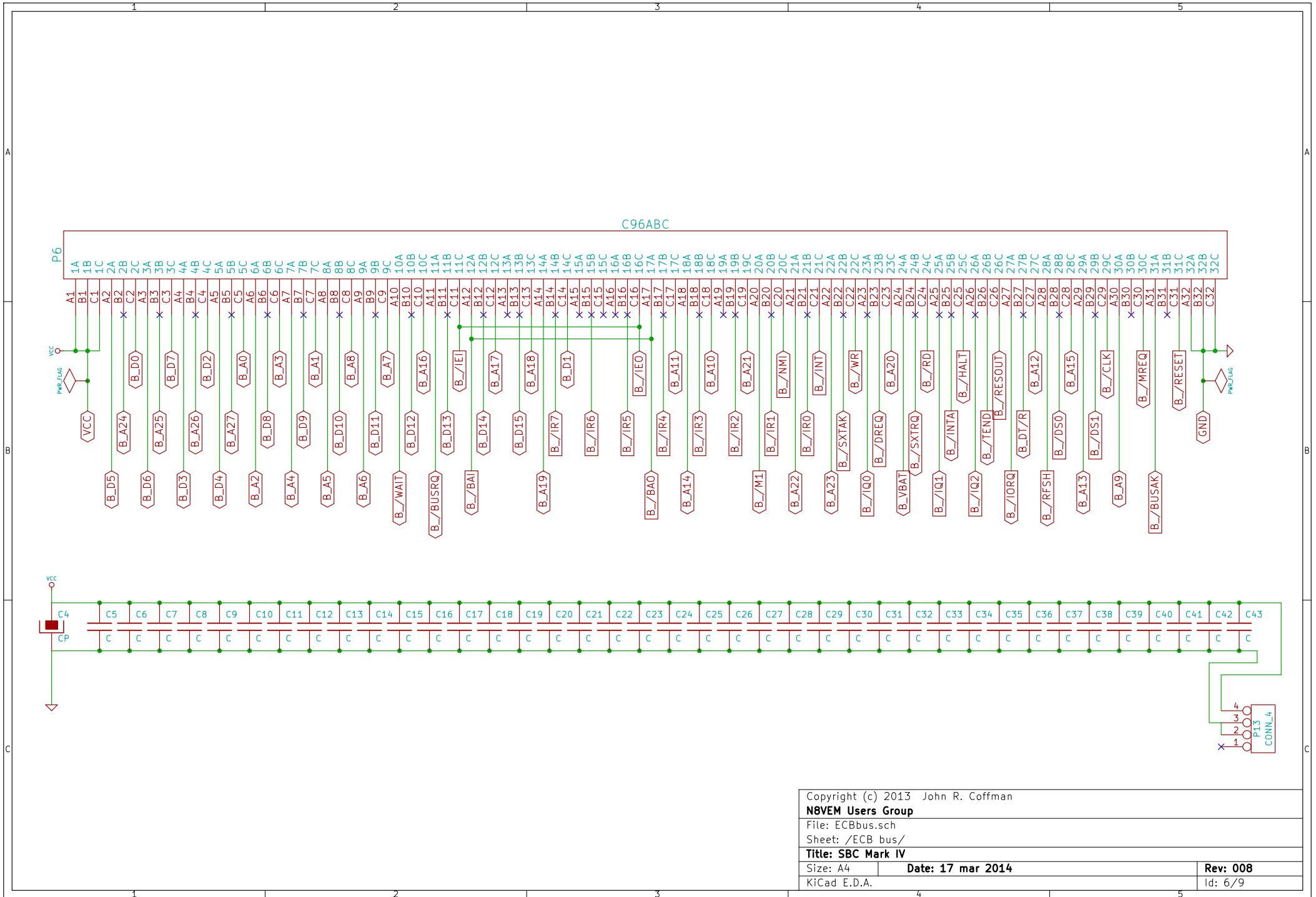
RS-422 full duplex twisted pair

rev. 008: swap pins 3 & 4

6P4C / 6P6C Modular Connector (top entry)

Connect with Telephone (voice) cable, not Telephone (data) cable.

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NBVM Users Group		
File: Communication.sch		
Sheet: /Communication/		
Title: SBC Mark IV		
Size: A4	Date: 4 may 2014	Rev: 008
KiCad E.D.A.		Id: 2/9



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NBVEU Users Group		
File: ECBus.sch		
Sheet: /ECB bus/		
Title: SBC Mark IV		
Size: A4	Date: 17 mar 2014	Rev: 008
KiCad E.D.A.		Id: 6/9