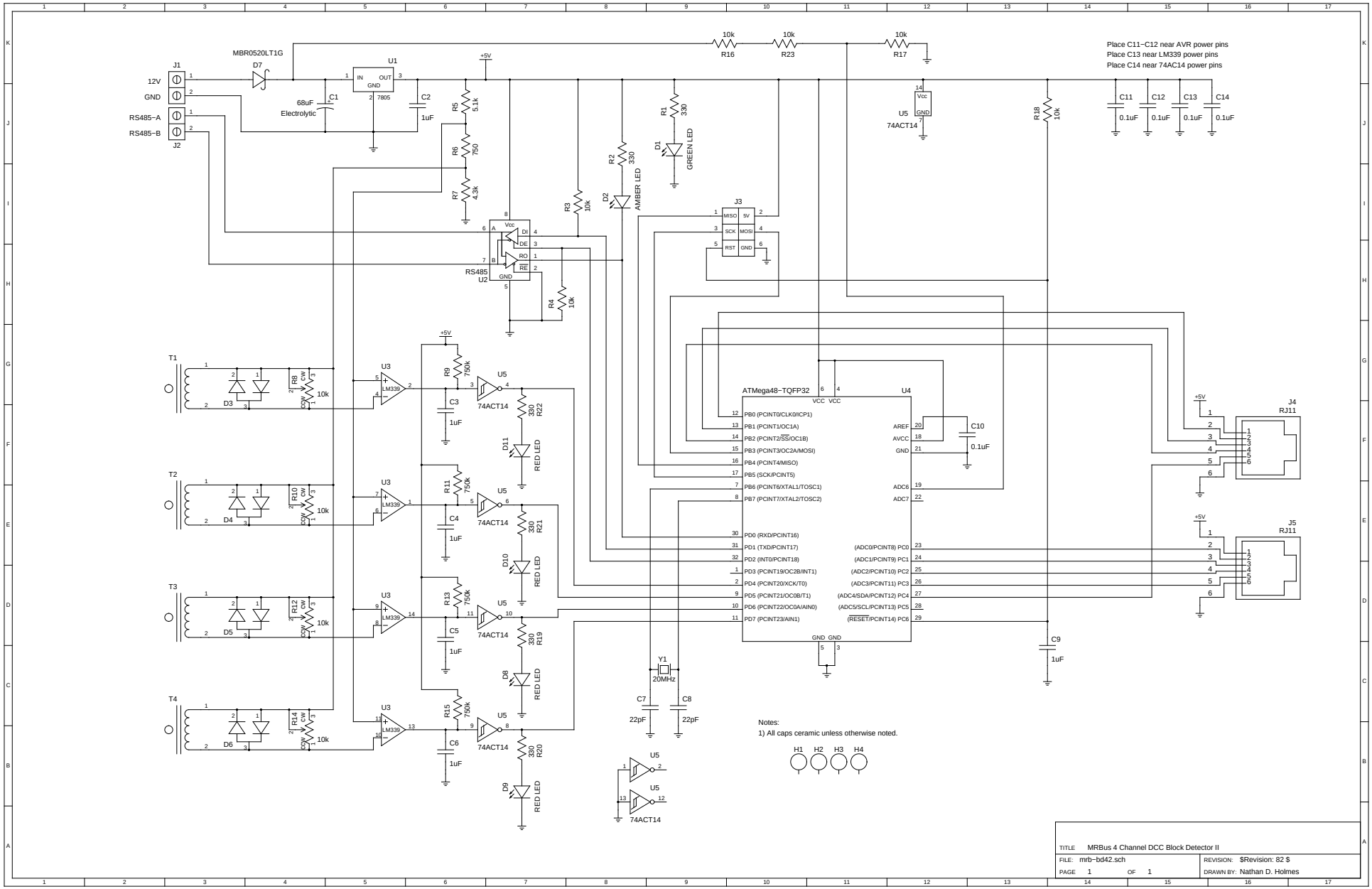
Place C11−C12 near AVR power pins
Place C13 near LM339 power pins
Place C14 near 74AC14 power pins
J1
12V
GND
RS485−A
RS485−B
J2
MBR0520LT1G
D7
U1
IN
OUT
GND
7805
68uF
Electrolytic
C1
C2
1uF
+5V
R5
5.1k
R6
750
R7
4.3k
R16
10k
R23
10k
R17
10k
R1
330
D1
GREEN LED
R2
330
D2
AMBER LED
R3
10k
R4
10k
RS485
U2
Vcc
DI
DE
RO
RE
GND
U5
74ACT14
R18
10k
C11
C12
C13
C14
0.1uF
J3
MISO
5V
SCK
MOSI
RST
GND
ATMega48−TQFP32
U4
VCC
GND
PB0 (PCINT0/CLK0/ICP1)
PB1 (PCINT1/OC1A)
PB2 (PCINT2/SS/OC1B)
PB3 (PCINT3/OC2A/MOSI)
PB4 (PCINT4/MISO)
PB5 (SCK/PCINT5)
PB6 (PCINT6/XTAL1/TOSC1)
PB7 (PCINT7/XTAL2/TOSC2)
PD0 (RXD/PCINT16)
PD1 (TXD/PCINT17)
PD2 (INT0/PCINT18)
PD3 (PCINT19/OC2B/INT1)
PD4 (PCINT20/XCK/T0)
PD5 (PCINT21/OC0B/T1)
PD6 (PCINT22/OC0A/AIN0)
PD7 (PCINT23/AIN1)
AREF
AVCC
GND
ADC6
ADC7
(ADC0/PCINT8) PC0
(ADC1/PCINT9) PC1
(ADC2/PCINT10) PC2
(ADC3/PCINT11) PC3
(ADC4/SDA/PCINT12) PC4
(ADC5/SCL/PCINT13) PC5
(RESET/PCINT14) PC6
C10
0.1uF
C9
1uF
Y1
20MHz
C7
22pF
C8
22pF
J4
RJ11
J5
RJ11
T1
T2
T3
T4
D3
D4
D5
D6
R8
R10
R12
R14
10k
U3
LM339
R9
R11
R13
R15
750k
C3
C4
C5
C6
1uF
U5
74ACT14
R22
R21
R19
R20
330
D11
D10
D8
D9
RED LED
Notes:
1) All caps ceramic unless otherwise noted.
H1
H2
H3
H4
TITLE MRBus 4 Channel DCC Block Detector II
FILE: mrb−bd42.sch
REVISION: $Revision: 82 $
PAGE 1 OF 1
DRAWN BY: Nathan D. Holmes