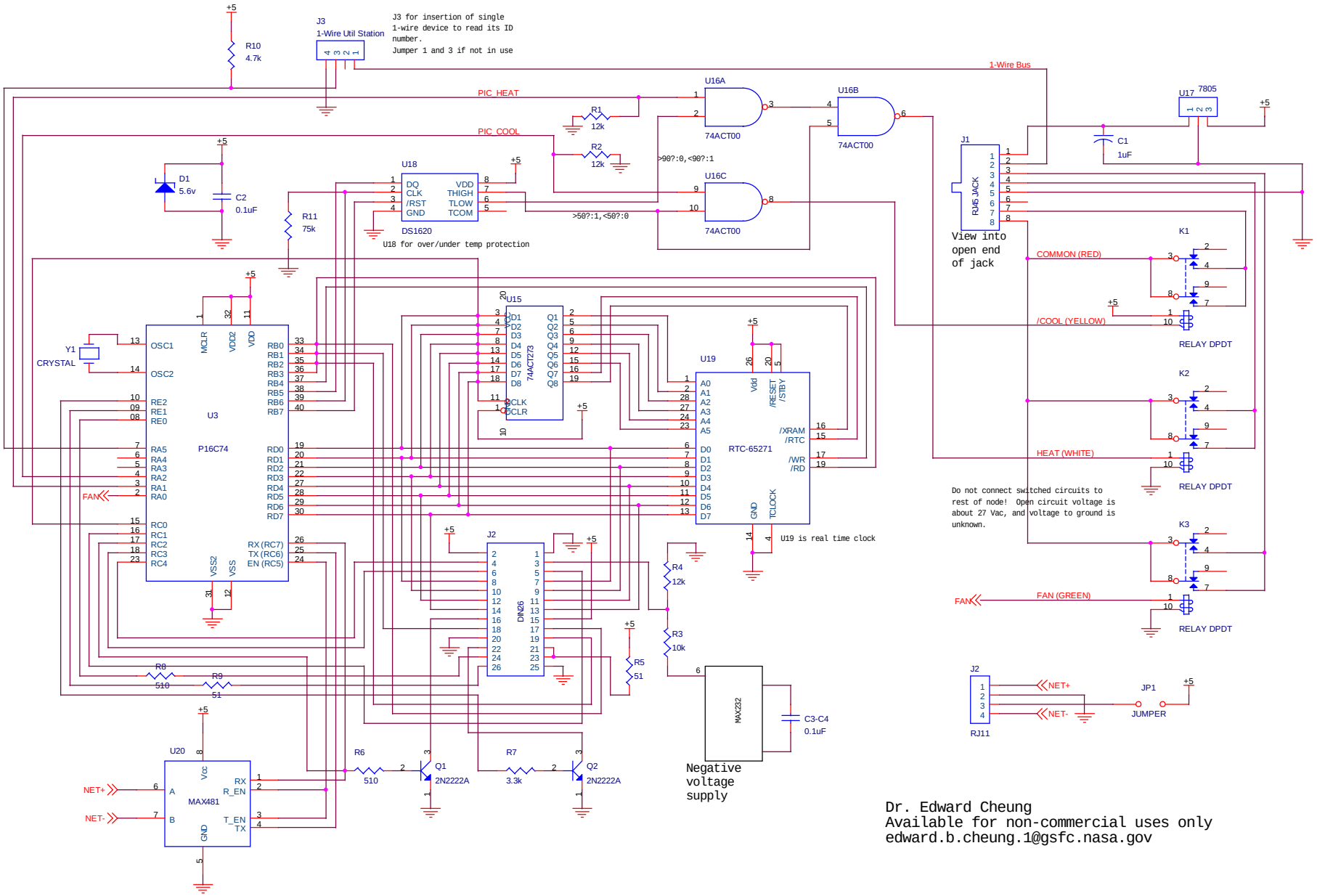
J3
1-Wire Util Station
J3 for insertion of single 1-wire device to read its ID number.
Jumper 1 and 3 if not in use
1-Wire Bus
R10
4.7k
PIC_HEAT
PIC_COOL
R1
12k
R2
12k
U16A
74ACT00
U16B
74ACT00
U16C
74ACT00
>90?:0,<90?:1
>50?:1,<50?:0
U18
DS1620
U18 for over/under temp protection
R11
75k
D1
5.6v
C2
0.1uF
U17
7805
C1
1uF
J1
RJ45 JACK
View into open end of jack
K1
K2
K3
COMMON (RED)
/COOL (YELLOW)
HEAT (WHITE)
FAN (GREEN)
RELAY DPDT
Do not connect switched circuits to rest of node! Open circuit voltage is about 27 Vac, and voltage to ground is unknown.
Y1
CRYSTAL
U3
P16C74
U15
74ACT273
U19
RTC-65271
U19 is real time clock
J2
DIN26
R4
12k
R3
10k
R5
51
R8
510
R9
51
U20
MAX481
NET+
NET-
R6
510
R7
3.3k
Q1
2N2222A
Q2
2N2222A
MAX232
C3-C4
0.1uF
Negative voltage supply
J2
RJ11
JP1
JUMPER
Dr. Edward Cheung
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Title
Thermostat Node
Size
Custom
Document Number
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Rev
-
Date:
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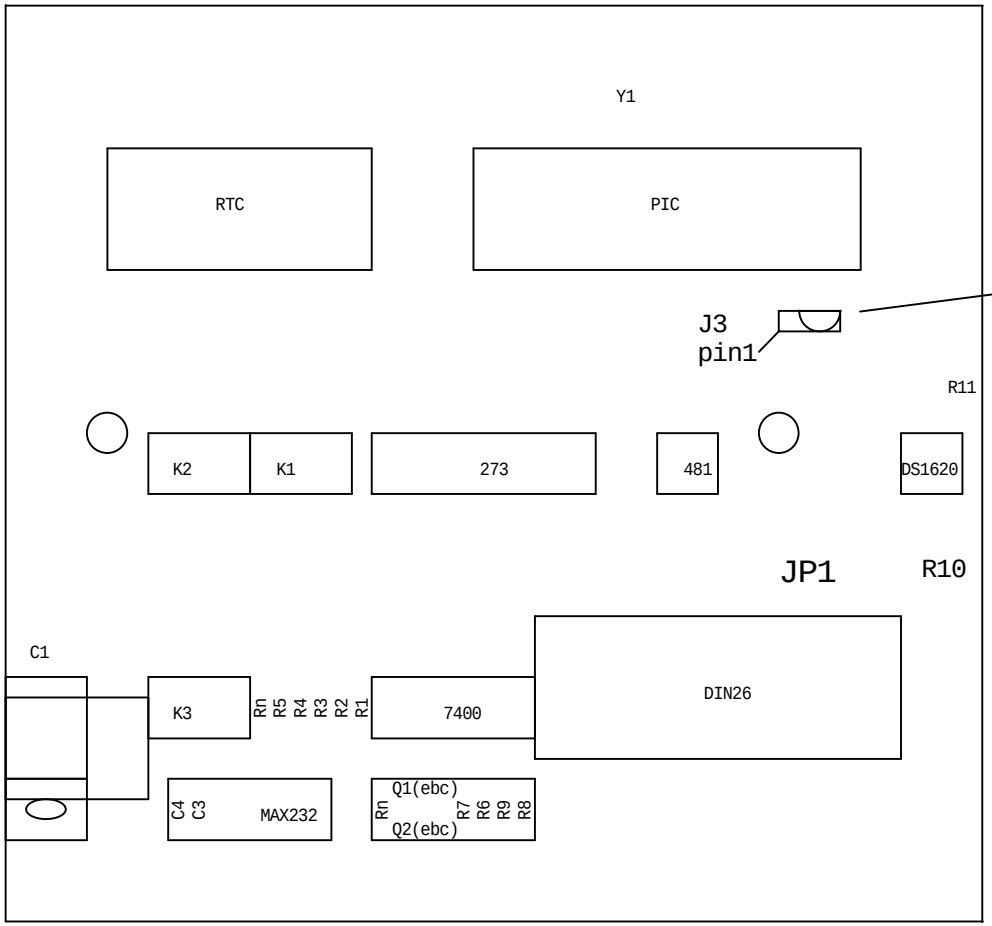

DS1820 if in test config

TOP

DIN26 Pinout:

1-LCD Gnd
2-LCD Vcc
3-LCD Vee (crystal drive)
4-LCD RS
5-LCD R/W
6-LCD ENABLE
7-LCD DB0
8-LCD DB1
9-LCD DB2
10-LCD DB3
11-LCD DB4
12-LCD DB5
13-LCD DB6
14-LCD DB7
15-LCD Backlight + (400mA)
16-LCD Backlight -
17-Top Button
18-Middle Button
19-Bottom Button
20-Ground (return)
21-Blue LED 1
22-LED Common
23-Blue LED 2
24-Red LED
25-LED Common
26-Green LED

If R10 too small, there will be different rise time for each 1-wire device as line resistance becomes important (higher currents). If R10 too large, the devices will sample 0's when a 1 was intended. R10 needs to be 3k to 6k for long runs

Title: Thermostat Node Component Layout		
Size: A	Document Number: 1	Rev: -
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