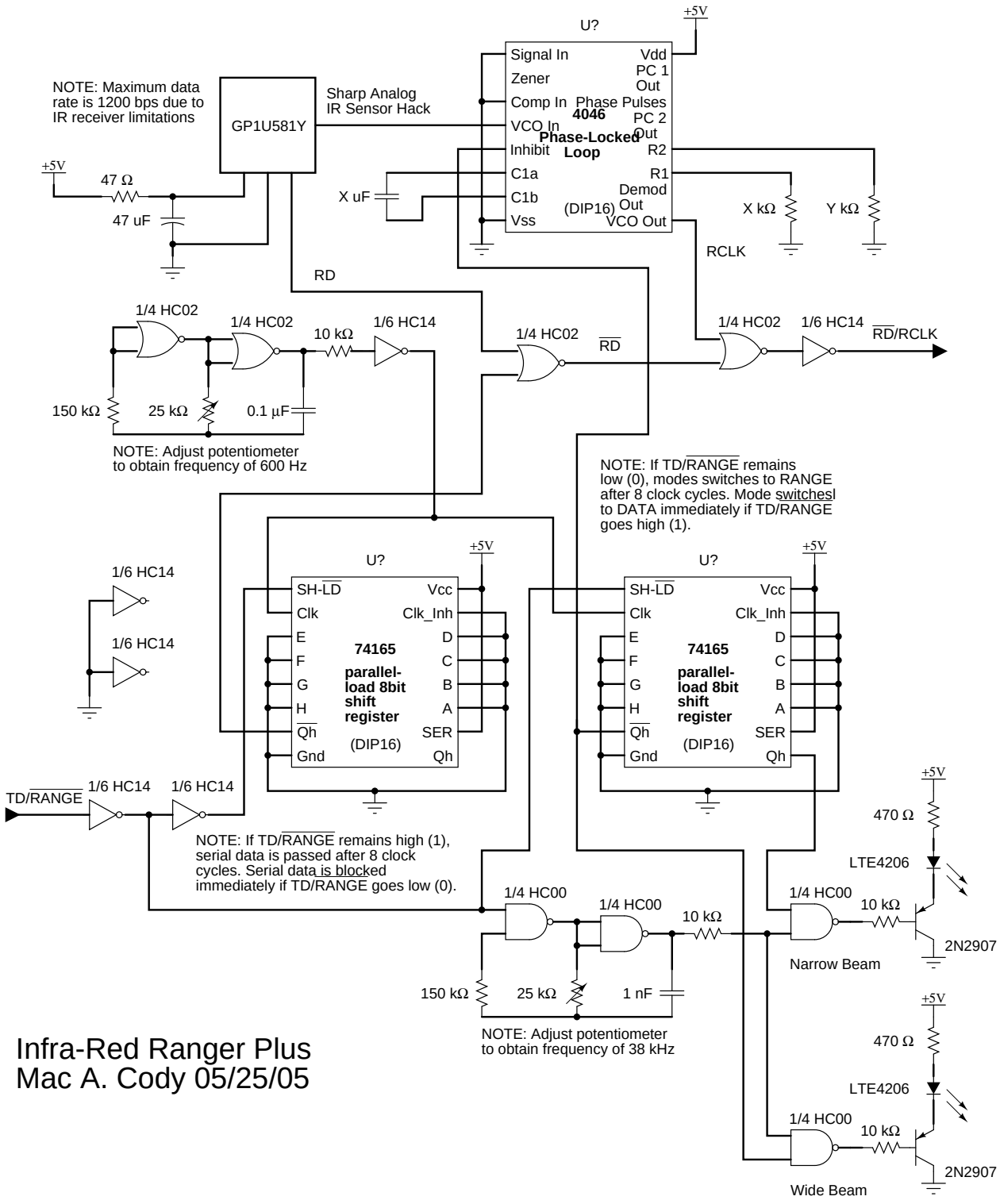
NOTE: Maximum data rate is 1200 bps due to IR receiver limitations
GP1U581Y
Sharp Analog IR Sensor Hack
+5V
47 Ω
47 uF
U?
Signal In
Zener
Comp In
VCO In
Inhibit
C1a
C1b
Vss
Vdd
PC 1 Out
Phase Pulses
PC 2 Out
R2
R1
Demod Out
VCO Out
4046
Phase-Locked Loop
(DIP16)
X uF
X kΩ
Y kΩ
RCLK
RD
1/4 HC02
1/4 HC02
10 kΩ
1/6 HC14
1/4 HC02
RD
1/4 HC02
1/6 HC14
RD/RCLK
150 kΩ
25 kΩ
0.1 µF
NOTE: Adjust potentiometer to obtain frequency of 600 Hz
NOTE: If TD/RANGE remains low (0), modes switches to RANGE after 8 clock cycles. Mode switchesl to DATA immediately if TD/RANGE goes high (1).
1/6 HC14
1/6 HC14
U?
SH-LD
Clk
E
F
G
H
Qh
Gnd
Vcc
Clk_Inh
D
C
B
A
SER
Qh
74165
parallel-load 8bit shift register
(DIP16)
U?
TD/RANGE
1/6 HC14
1/6 HC14
NOTE: If TD/RANGE remains high (1), serial data is passed after 8 clock cycles. Serial data is blocked immediately if TD/RANGE goes low (0).
1/4 HC00
1/4 HC00
10 kΩ
150 kΩ
25 kΩ
1 nF
NOTE: Adjust potentiometer to obtain frequency of 38 kHz
1/4 HC00
10 kΩ
470 Ω
LTE4206
2N2907
Narrow Beam
1/4 HC00
10 kΩ
470 Ω
LTE4206
2N2907
Wide Beam
Infra-Red Ranger Plus
Mac A. Cody 05/25/05