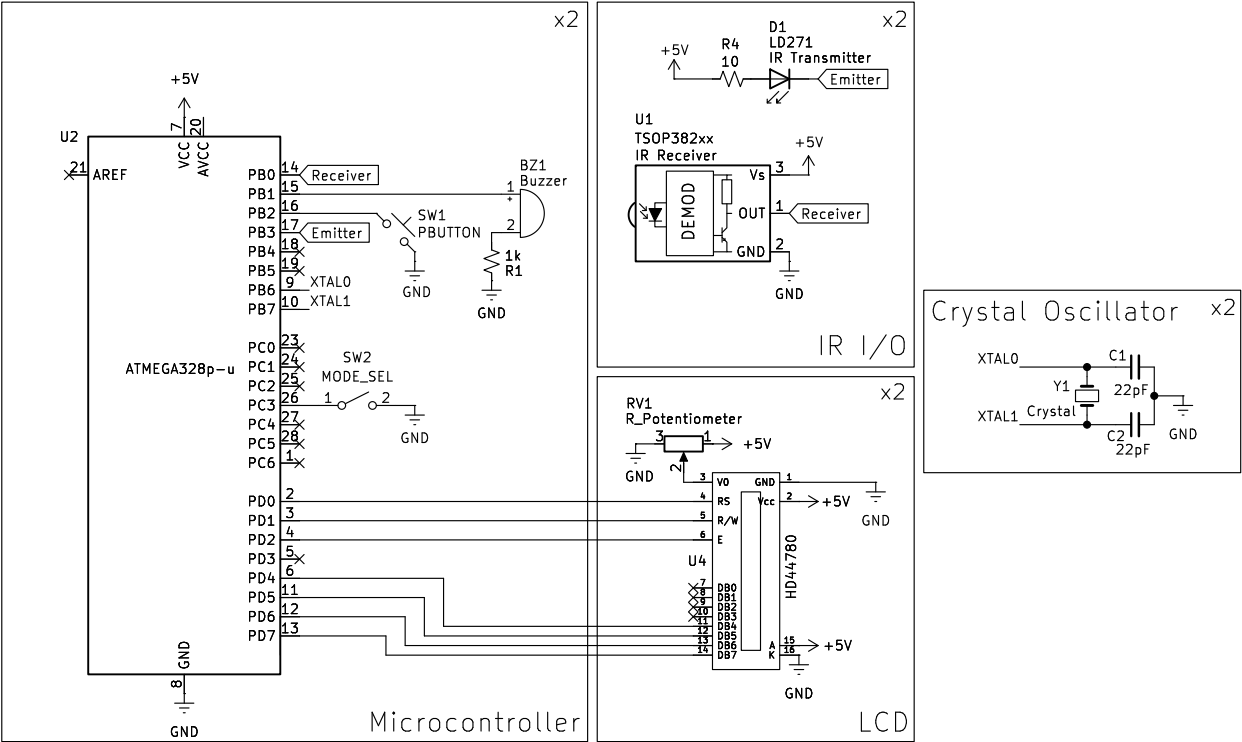# IR Communication with Morse Code

This system is designed for operation with two ATMega328p MCUs. We have designed the system to decode Morse Code into ASCII text. Our goal was to achieve wireless communication between two devices.
+5V from voltage regulator connected to wall power adapter.

Microcontroller ×2

U2
ATMEGA328p-u

+5V
VCC 7
AVCC 20
AREF 21

PB0 14 Receiver
PB1 15
PB2 16
PB3 17 Emitter
PB4 18
PB5 19
PB6 9 XTAL0
PB7 10 XTAL1

PC0 23
PC1 24
PC2 25
PC3 26
PC4 27
PC5 28
PC6 1

PD0 2
PD1 3
PD2 4
PD3 5
PD4 6
PD5 11
PD6 12
PD7 13

GND 8

BZ1
Buzzer

SW1
PBUTTON

1k
R1

GND

SW2
MODE_SEL
1   2
GND

IR I/O ×2

+5V   R4   D1
      10   LD271
           IR Transmitter
           Emitter

U1
TSOP382xx
IR Receiver
+5V
Vs 3
DEMOD
OUT 1 Receiver
GND 2
GND

Crystal Oscillator ×2

XTAL0   C1
        Y1   22pF
XTAL1 Crystal   GND
             C2
             22pF

LCD ×2

RV1
R_Potentiometer
3   1 +5V
GND   2

U4
HD44780

3 VO   GND 1
4 RS   Vcc 2 +5V
5 R/W   GND
6 E

7 DB0
8 DB1
9 DB2
10 DB3
11 DB4
12 DB5
13 DB6
14 DB7

A 15 +5V
K 16
GND