Laser Based Security System

Components List:

1. **Laser Transmitter**
   a. Laser Diode
   b. Power Supply
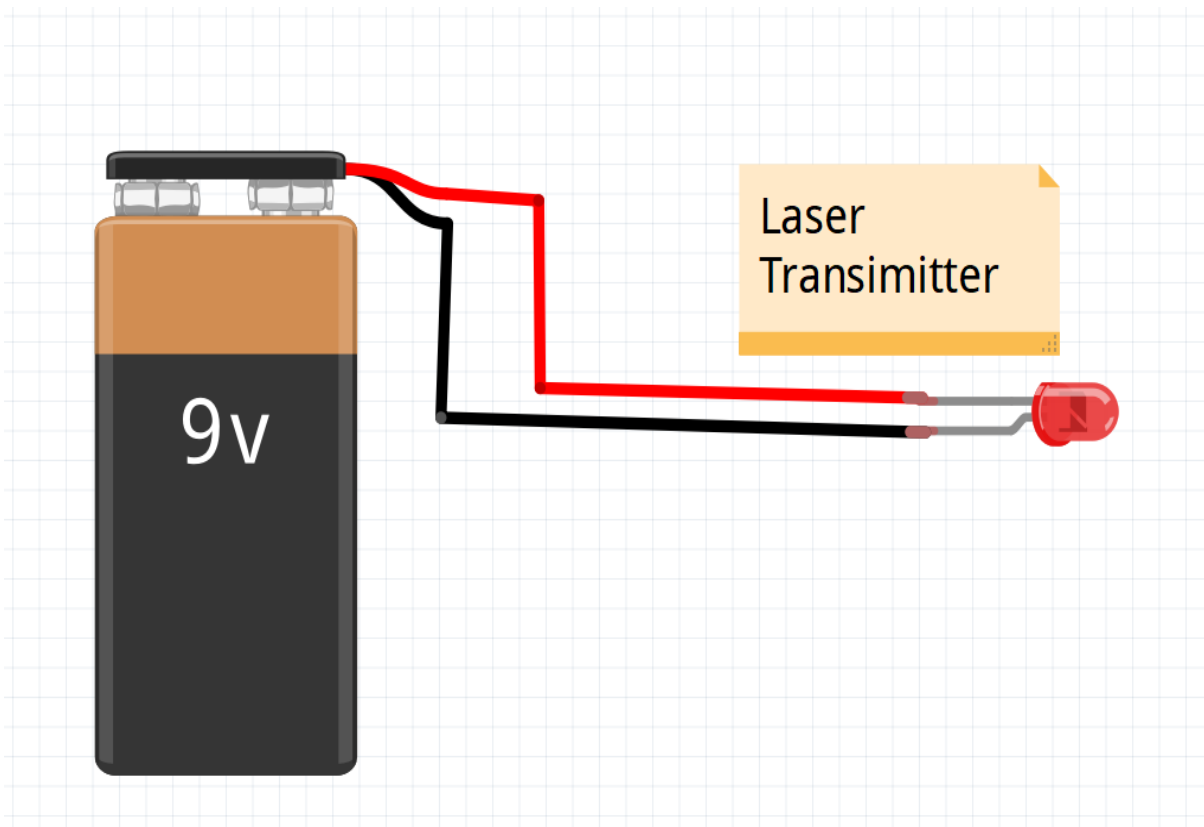
2. **Signal Transmitter and Laser Receiver**
   a. Arduino Nano / pro mini
   b. LDR (Light Dependent Resistor)
   c. Resistor 10k ohm
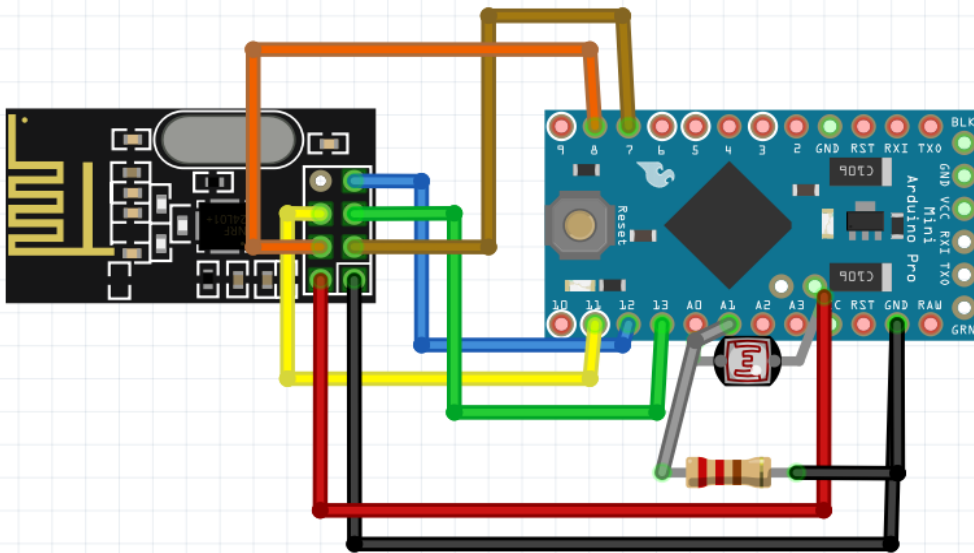   d. NRF-24 transceiver Module

3. **Signal Receiver**
   a. Arduino Nano / pro mini
   b. Resistor 10k ohm
   c. NRF-24 transceiver Module
   d. LED and Buzzer for Indication
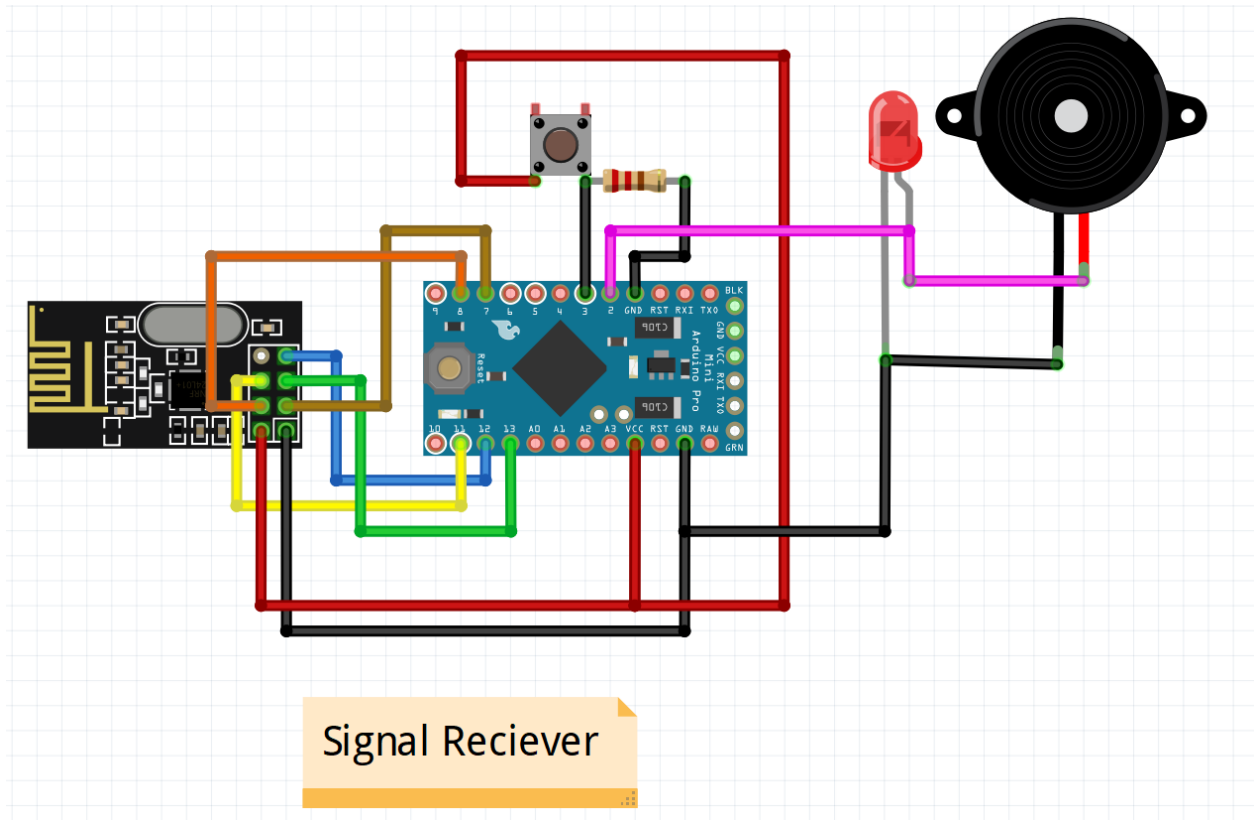   e. Push Button

Circuit Diagrams

1. Laser Transmitter

Laser
Transimitter
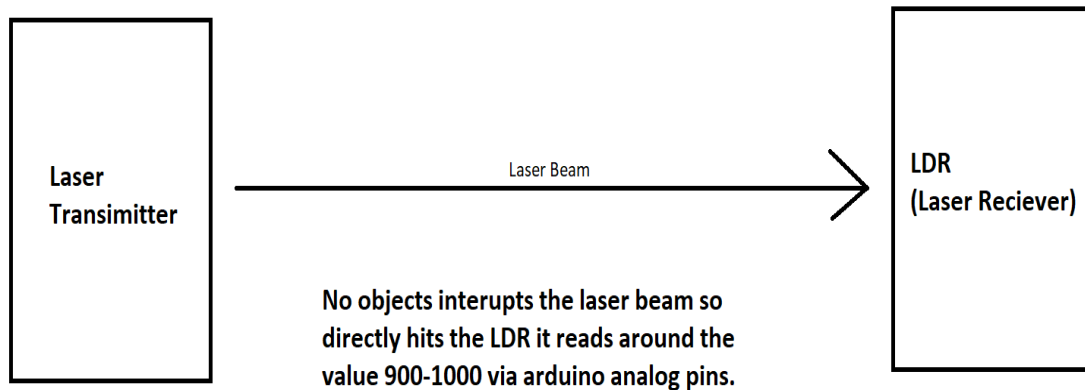
2. Signal Transmitter and Laser Receiver

Laser Reciever and Signal Transmitter

3. Signal Receiver

Signal Reciever

How it Works? :

✓ **Case 1: When No objects interrupts the laser beam.**

| Laser Transimitter | | Laser Beam → | LDR (Laser Reciever) |

No objects interupts the laser beam so directly hits the LDR it reads around the value 900-1000 via arduino analog pins.

✓ **Case 2: When a objects interrupts the laser beam.**

Laser
Transimitter

Laser Beam

Object
Interpution

LDR
(Laser Reciever)

Object Interupts the laser bream so LDR
reads. It reads less 800 via arduino analog
pins