

# To Set Up IR Sensor Using Arduino

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**Abstract:** to establish a strong connection between ir sensor and arduino. infrared (IR) communication is a widely used and easy to implement wireless technology that has many useful applications. The most prominent examples in day to day life are TV/video remote controls, motion sensors, and infrared thermometers.

In order to complete the prospective we may perform certain steps that is discussed below :-  
**Keywords :** ir rays , arduino , gnd , breadboard

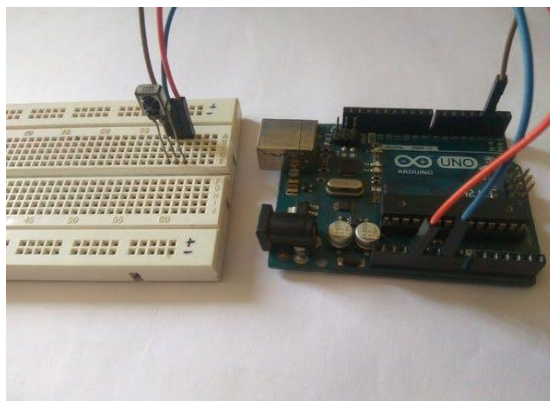
## INTRODUCTION-

This is user friendly tutorial for making a very simple IR Remote decoder using an Arduino and IR receiver. This tutorial will cover everything from setting up the software to using the IR Receiver and decoding the signals. These signals can be used later for multiple projects including IR Remote control Robot, Home automation and similar IR controlled projects.

### Step 1: Gathering Materials :-

1. Arduino.
2. IR Receiver ( 1838 used here)
3. BreadBoard.
4. Wires.
5. Arduino IDE.

### Step 2: Making Connections:-



1. Arduino.

First check the PinOut diagram of the

IR receiver you have. IR receivers have 3 pins, +Ve, GND and Out. Before using any receive make sure you know these pins. If connected improperly the setup won't work and you will find it difficult to figure it out.

### Make the following connections :-

1. Connect +ve pin of receiver to 3.3v of Arduino.
2. GND pin of receiver to GND of Arduino.
3. Out pin of receiver to Digital pin 2 of Arduino.

connect the arduino board to computer as we need to upload the code and monitor the IR pulses.

### Step 3: Setting Up the IDE :-

For using IR applications first you need to add an IR library to your IDE or our program won't work.

Download聽IR Library.

Extract the downloaded file.

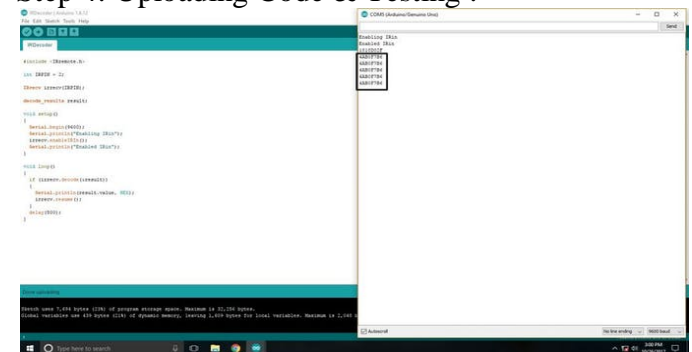
Copy the extracted folder.

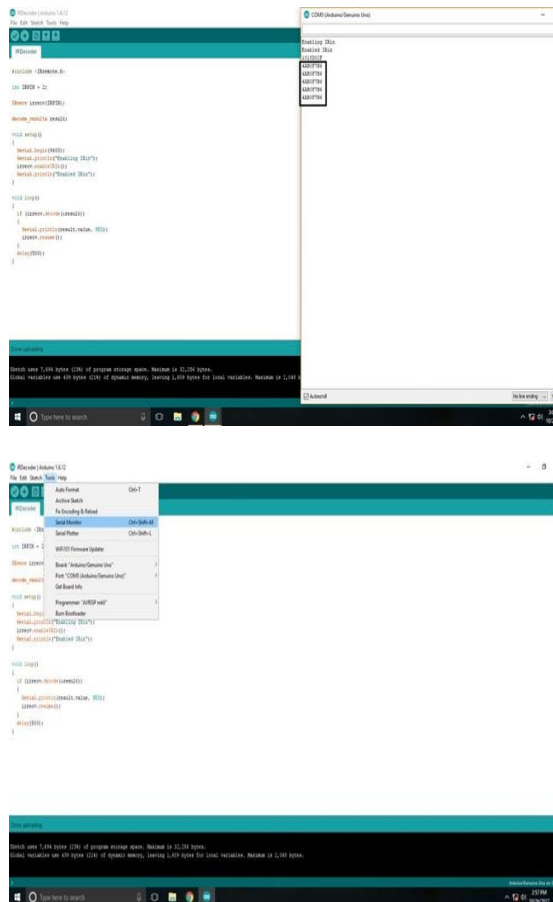
Goto >> C drive >> Programs Files (x86) >> Arduino >> Libraries.

Paste the folder in Libraries.

That's it IDE is ready to work with our code.

### Step 4: Uploading Code & Testing :-





Once the code is uploaded, Goto tools and select serial monitor.

The arduino should restart/rest and you are ready to collect the codes of your remote. Just point the remote towards the IR receiver and press the button you have to decode the signal of. A hexadecimal value will appear on the screen, these are the IR codes you need to note which will be needed for future IR remote operated projects.

#### CODE REQUIRES

```
#include <IRremote.h>
int IRPIN = 2;
IRrecv irrecv(IRPIN);
decode_results result;
void setup()
{
  Serial.begin(9600);
  Serial.println("Enabling IRin");
  irrecv.enableIRIn();
  Serial.println("Enabled IRin");
}
```

```
}
void loop()
{
  if (irrecv.decode(&result))
  {
    Serial.println(result.value, HEX);
    irrecv.resume();
  }
  delay(500);
}
```

#### Conclusion:

The future of IoT is virtually unlimited due to advances in technology and consumers' desire to integrate devices such as smart phones with household machines. Wi-Fi has made it possible to connect people and machines on land, in the air and at sea. It is critical that both companies and governments keep in ethics in mind as we approach the fourth Industrial Revolution (Pye, 2014). With so much data traveling from device to device, security in technology will be required to grow just as fast as connectivity in order to keep up with demands. Governments will undoubtable face tough decisions as to how far the private the sector is allowed to go in terms of robotics and information sharing. The possibilities are exciting, productivity will increase and amazing things will come by connecting the world.

#### References:

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- [3] Vijay madiseti and ArshdeepBagha, " **Internet of Things**" 1<sup>st</sup> edition ,vpt, 2014