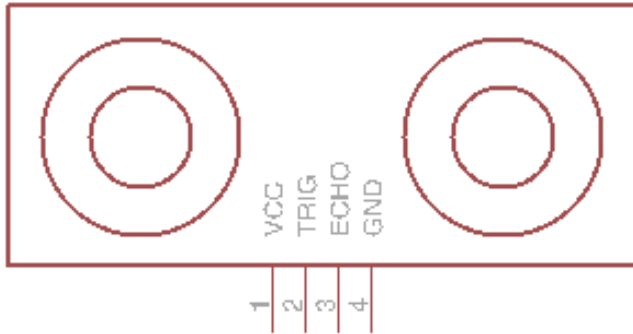# Basic ultrasonic ranger use on an Arduino

Ultrasonic ranger wires:

VCC: +5V
trigger and echo are data pins which connect with the pins as described in the sketch
GND: ground

The ultrasonic ranger, like most small simple digital devices that are Arduino inputs, does not use much current and so it's fine to run off of the Arduino's 5V supply.

Sample Arduino sketch to read distance

Begin by searching for the "NewPing" library online, downloading the ZIP, then in the Arduino software use Sketch–>Include library–>Add .ZIP Library. Then go to File–>Examples–>NewPing–>NewPingExample to load the below example sketch. (Note: I've lightly modified the comments for clarity and brevity.)

```
#include <NewPing.h>

#define TRIGGER_PIN  12  // attach the trigger pin to Arduino pin 12
#define ECHO_PIN     11  // attach the echo pin to Arduino pin 11
#define MAX_DISTANCE 200 // Maximum distance we want to ping for (in
centimeters). Maximum sensor distance is rated at 400-500cm.

NewPing sonar(TRIGGER_PIN, ECHO_PIN, MAX_DISTANCE); // looks like Servo myservo!

void setup() {
  Serial.begin(115200); // note that this is not 9600, the usual serial rate
}

void loop() {
    delay(50); // Wait 50ms between pings
    Serial.print("Ping: ");
    Serial.print(sonar.ping_cm()); // do pinging, return result in centimeters
    Serial.println("cm");
}
```