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Using an I2C-MaxSonar with an Arduino

Author: Carl Myhre Date: 03-27-2015

A number of customers have asked if the Arduino supports talking to the I2C-MaxSonar sensors over an I2C interface. MaxBotix staff has worked to provide a clear and easy to follow path to get an I2C-MaxSonar up and running on your Arduino.

Corner Reflectors can Cause Surprise Clutter

Author: Scott Wielenberg Date: 03-12-2015

Sometimes when using an ultrasonic sensor, users experience detection of unwanted objects that appear outside the expected beam pattern. These types of detections are the result of reflectors in the environment.

MaxSonar Quick Start Guide

Author: CJM & TEB Date: 01-06-2012

MaxBotix Inc., is excited to provide this guide which is designed to assist you in using your MaxSonar sensor for the first time!

HRXL-MaxSonar®-WR Extreme Duty Sensors

Author: Tim Gallagher Date: 03-27-2013

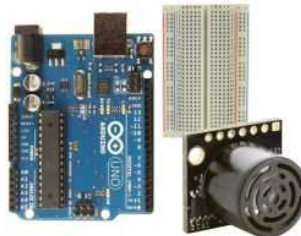
MaxBotix Inc., thanks guest writer Tim Gallagher who shares his experience with the MB7369 while transporting heavy equipment.

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New Product Signup

Using a MaxSonar With an Arduino

| Written By: Tom Bonar | Date Posted: 04-30-2014 |



The Arduino micro-controller is one of the most popular development boards for electronics enthusiasts. With the ability to control components such as buzzers, LED's, servos, motors, and LCD's, Arduinos have become the go-to selection for users that are looking to start into electronics, firmware coding, or automation. So with all these item types at your finger tips, what good is it to have control over so many components, if there are no sensors to trigger different functions in the Arduinos firmware?

The MaxBotix Inc., MaxSonar sensor line has become a very popular sensor for operation with the Arduino micro-controller. With three simple interfaces, it is easy to connect a MaxSonar to an Arduino.

In this article, I will be providing: links to components needed, wiring diagrams for all outputs, and Arduino sketch files for all compatible MaxSonar sensors. With that being said, let's get coding!

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Arduino Coding Part 2

Code the Setup

This section covers how to write the code section that tells the Arduino how to communicate the computer, and the IO pin characteristic.

Note - Any time a section is being written besides the input pins and viables, a "void" section will be created.

Note - When code is being written, care should be taken to ensure the correct case is being used. All characters are case sensitive. i.e. "Serial" always starts with a capital S. All code in this tutorial will have the proper cases.

Reading Analog Voltage

```
void setup(){
  Serial.begin(9600);
}
```

Reading Pulse Width

```
void setup(){
  Serial.begin(9600);
  pinMode(pwPin1, INPUT);
}
```

Take notice of the 9600 that is used in the "void setup" section. This is the BAUD rate that is used to read the Arduino for use in software such as: HyperTerminal, Termite, MatLab, or any software that can read a COM Port.

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Code the Section to Read the Sensor's Output

This section covers how to write the code section that tells the Arduino how to read and scale the sensor's output.

Reading Analog Voltage

The Arduino has a 10-bit ADC to read the MB1013. The MB1013 outputs a scale of 5mm per bit when reading Pin 3. This means every bit read by the Arduino has to be multiplied by 5 for the range in mm. To code this use the example below. For the sensor scaling of a different sensor line please consult the datasheet or the article entitled "[Finding Distance Using Analog Voltage](#)"

```
void read_sensor(){
  anVolt = analogRead(anPin);
  mm = anVolt*5; //Takes bit count and converts it to mm
  inches = mm/25.4; //Takes mm and converts it to inches
}
```

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Reading Pulse Width

The MB1013 outputs a Time Of Flight signal when reading Pin 2. The scaling factor on this is 1mm per 1uS. This means if the Arduino reads 800, the target distance is 800mm away. For the sensor scaling of a different sensor line please consult the datasheet or the article entitled "[Finding Distance Using Pulse Width](#)"

```
void read_sensor (){\n  sensor = pulseIn(pwPin1, HIGH);\n  mm = sensor; //Takes the pulse width and tells Arduino it is equal to millimeters\n  inches = mm/25.4; //Takes mm and converts it to inches\n}
```

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Products related to the Article Above

[HRLV-MaxSonar-EZ1](#)



[XL-MaxSonar-EZ2](#)



[HRXL-MaxSonar-WR](#)



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