Show distance

Overview

This lesson will teach you how to use LCD1602 show ultrasonic module (HCSR04) test's distance.

Specification

Please view LCD1602-datasheet.pdf.

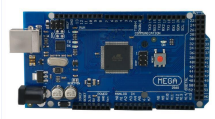
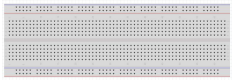
Path: \Public_materials\Datasheet\LCD1602-datasheet.pdf

Pin definition

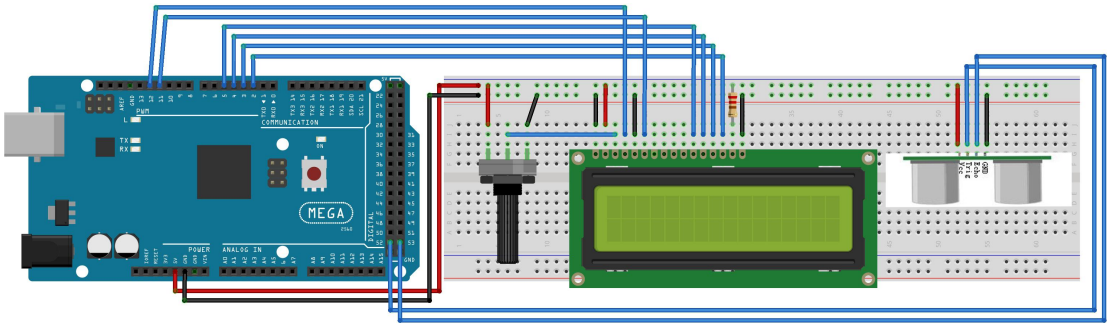
LCD1602	Arduino
VSS	->GND
VDD	->+5V
VO	->10K Potentiometer
RS	->D12
RW	->GND
E	->D11
D0	->null
D1	->null
D2	->null
D3	->null
D4	->D5
D5	->D4
D6	->D3
D7	->D2
A	->220/330Ω
K	->GND

HC SR04	Arduino
Vcc	->VCC
Trig	->D52
Echo	->D53
Gnd	->GND

Hardware required

Material diagram	Material name	Number
	HCSR04	1
	LCD1602	1
	220/330Ω resistor	1
	10KΩ Potentiometer	1
	USB Cable	1
	MEGA 2560	1
	Breadboard	1
	Jumper wires	Several

Connection diagram



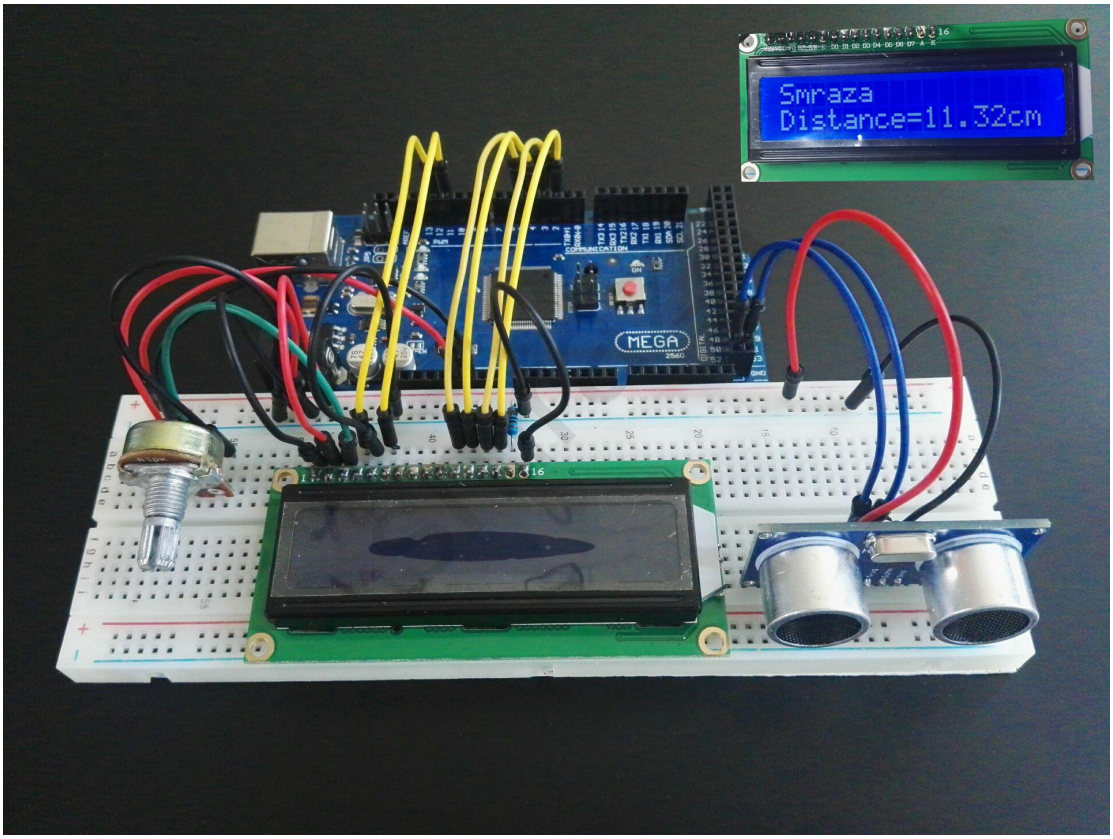
Sample code

Note: sample code under the **Sample code** folder

```
#include <LiquidCrystal.h>
LiquidCrystal lcd(12, 11, 5, 4, 3, 2);
const int TrigPin = 52;
const int EchoPin = 53;
float cm;
void setup()
{
// set up the LCD's number of columns and rows:
   lcd.begin(16,2);
// Print a message to the LCD.
   lcd.print("    Welcome to ");
   lcd.setCursor(0,1);    //Display position
   lcd.print("              Smraza");
   Serial.begin(9600);
   pinMode(TrigPin, OUTPUT);
   pinMode(EchoPin, INPUT);
}
void loop()
{
   digitalWrite(TrigPin, LOW);
   delayMicroseconds(2);
   digitalWrite(TrigPin, HIGH);
   delayMicroseconds(10);
   digitalWrite(TrigPin, LOW);
   cm = pulseIn(EchoPin, HIGH) / 58.0; //The echo time is converted into cm
   cm = (int(cm * 100.0)) / 100.0;         //Keep two decimal places
   Serial.print("Distance\t=\t");
   Serial.print(cm);
   Serial.print("cm");
```

```
  Serial.println();
  lcd.clear();                          //clear display
  lcd.setCursor(0,0) ;
  lcd.print("Smraza");                  //display "Smraza"
  lcd.setCursor(0,1) ;                  //Display position
  lcd.print("Distance=");                     //display"Distance="
  lcd.print(cm);
  lcd.print("cm");
  delay(1000);
}
```

Example picture



Language reference

Tips：click on the following name to jump to the web page.
If you fail to open, use the Adobe reader to open this document.
lcd.begin()
lcd.print()
lcd.setCursor()
delayMicroseconds()

Application effect

You will see the LCD display ultrasonic module (HCSR04) test's distance.

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* We are a leading manufacturer of electronic components for Arduino and Raspberry Pi.
* Official website: http://www.smraza.com/
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