# Seeeduino Lotus v1.0

Introduction

Seeeduino Lotus is an ATMEGA328 Microcontroller development board. It is a combination of Seeeduino and Base Shield. It used Atmel ATMEGA328P-MU and CH340. ATMEGA328P-MU is a high performance, low power AVR 8-Bit Microcontroller. CH340 is an USB bus converter chip that can realize an USB to serial interface. Seeeduino Lotus has 14 digital input/output (6 of which can output PWM) and 7 analog input/output, a micro USB connection, an ICSP header, 12 Grove connections, a reset button.

Specification

- Microcontroller: ATmega328P-MU
- Operating Voltage: 5V
- Digital I/O Pins:14
- PWM Channels:6
- Analog Input Channels:7
- DC Current per I/O Pin: 40 mA
- Flash Memory: 32 KB (ATmega328P-MU)
- RAM: 2 KB (ATmega328P-MU)
- EEPROM:1 KB (ATmega328P-MU)
- Clock Speed:16 MHz

Interface Function
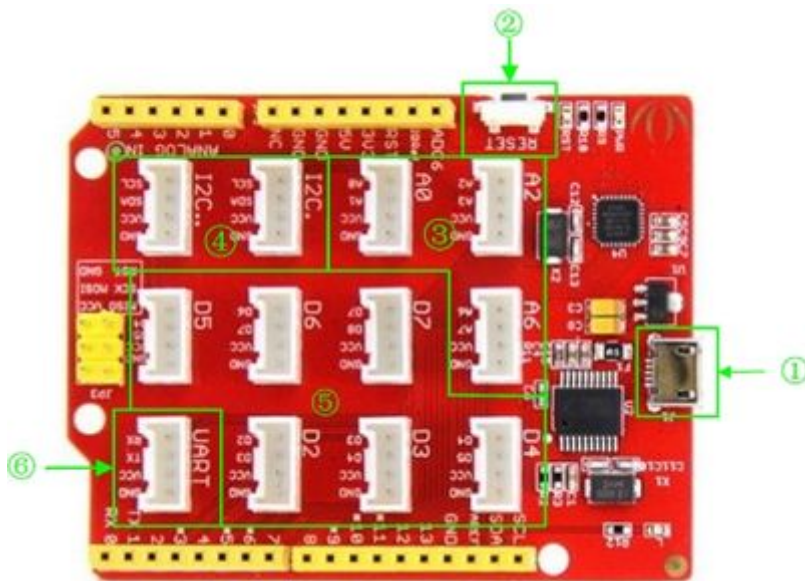
- ① : Micro USB
- ② : Reset button
- ③ : Analog Ports: Analog sensors can return readings ranging from 0 to 1023.Compared with digital sensors that only return 0 or 1, analog readings are more detailed and precise.
- ④ : I2C Ports:I2C is a low-speed bus protocol that transfers data via two wire : SCL and SDA . SCL is the clock line that synchronizes data transfer over the I2C bus, and SDA is data line.
- ⑤ : Digital Ports: Normally, they are used when reading a digital sensor that only outputs 0 or 1,or turning on or off an actuator.
- ⑥ : UART Port:we can control serial device by this port.

Driver Install

Seeeduino Lotus is used CH340 to download .It need to install driver.

Windows/Linux

Totally compatible with serial application program in computer endpoint Windows operation system

- 1)You plug it to computer by USB Port.
- 2)Wait a minute,you can find it in Device Manager.
- 3)If you can not find the port,please download Driver from Here

Mac OS

Driver download: http://www.wch.cn/downloads.php?name=pro&proid=178
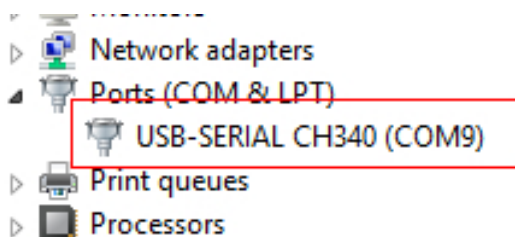
Usage

We will show how to used Seeeduino Lotus.

## Hardware Installation

- 1） Part lists:Seeeduino Lotus v1.0、Grove - LCD RGB Backlight、Grove - I2C FM Receiver、Grove - Button、Grove - Rotary Angle Sensor.
- 2） Hardware linking is very easy, Grove - LCD RGB Backligt and Grove - I2C FM Receiver are I2C communication,Grove - Button is digital input,Grove - Rotary Angle Sensor is analog input,so you can link it as show.
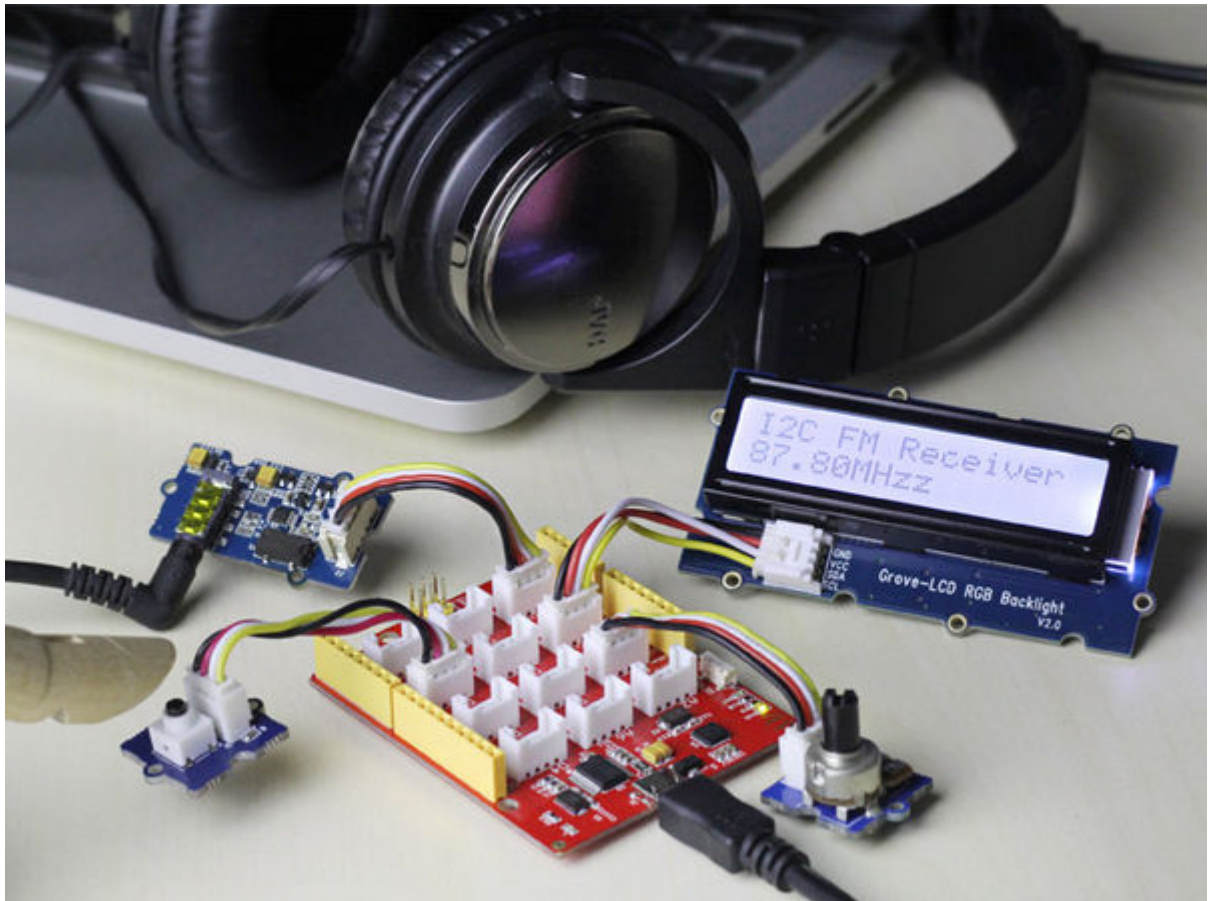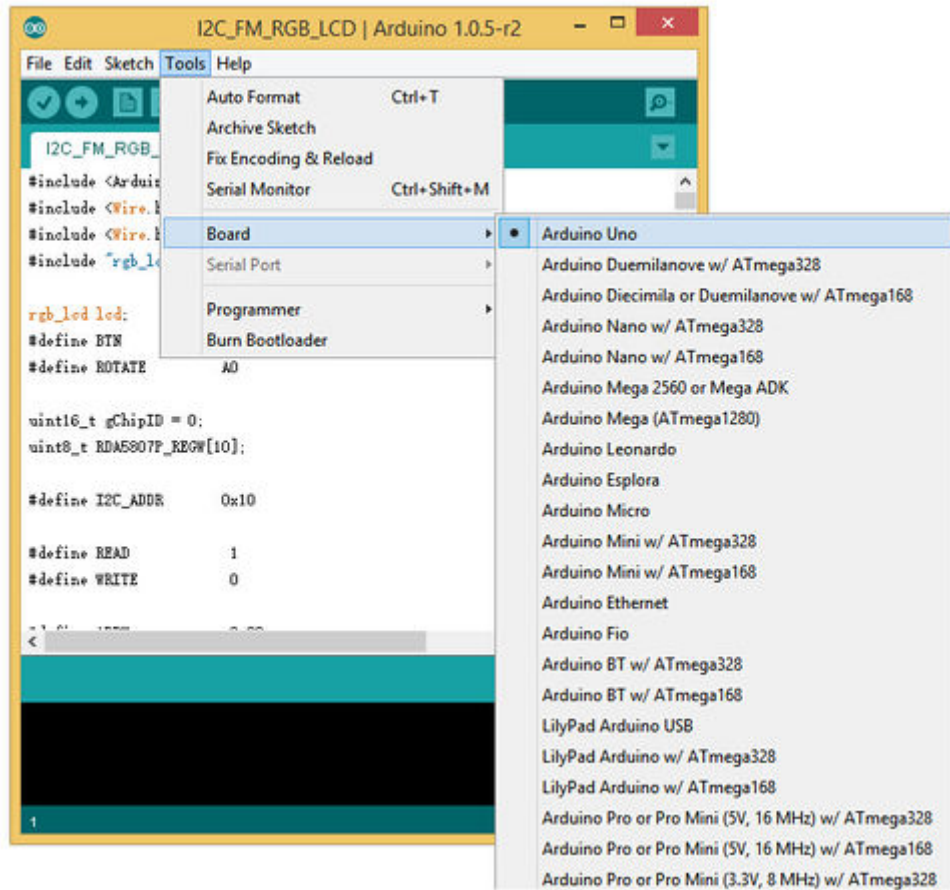
Software Part

- 1)You can download the demo code in github, click here.
- 2)If you don't know How to install Arduino Library,please click Here
- 3)Open the I2C_FM_RGB_LCD example sketch: File->Examples->Seeeduino_lotus_Usage->I2C_FM_RGB_LCD
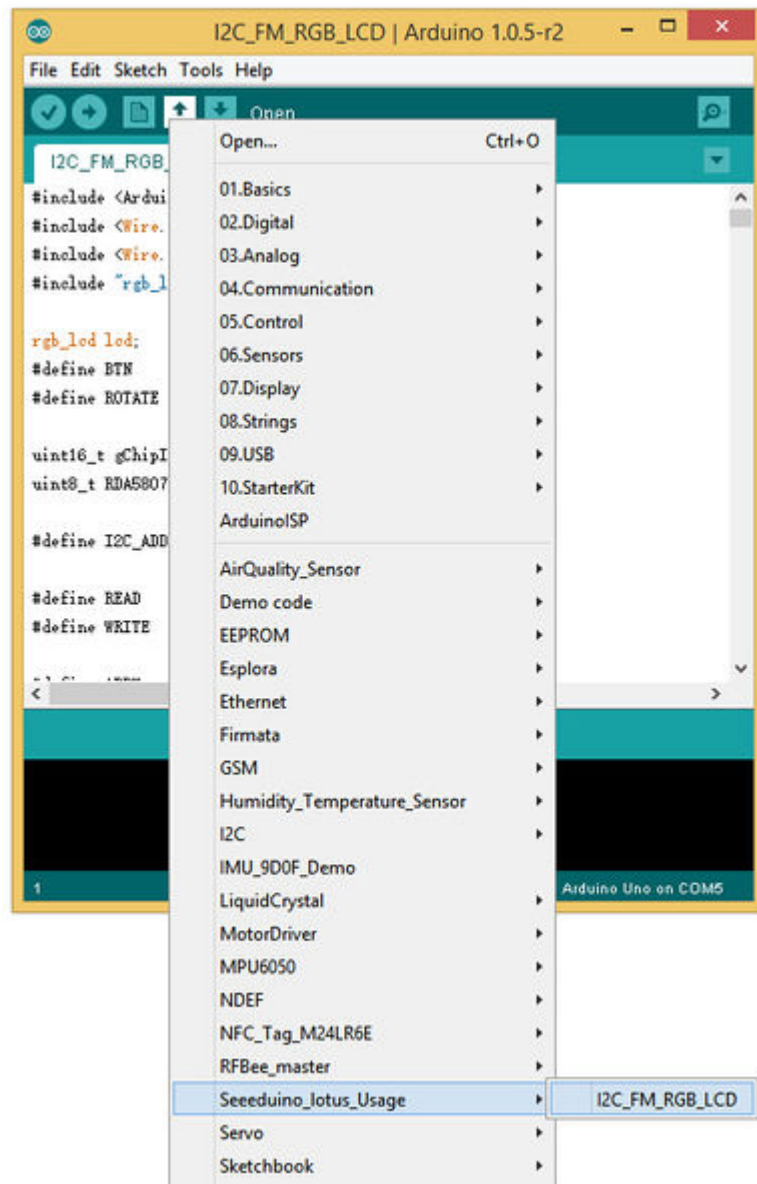
- 4)You'll need to select the entry in the Tools > Board menu that corresponds to your Arduino,You need to select Arduino Uno.

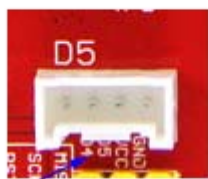- 5) Select the serial device of the Arduino board from the Tools | Serial Port menu.
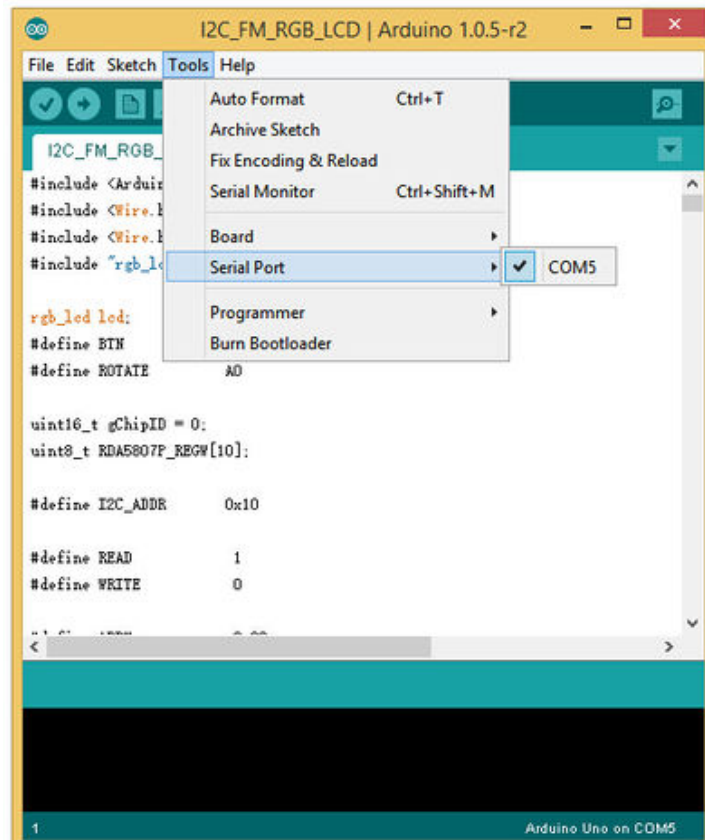
- 6）Now, simply click the "Upload" button in the environment. Wait a few seconds - If the upload is successful, the message "Done uploading." will appear in the status bar.
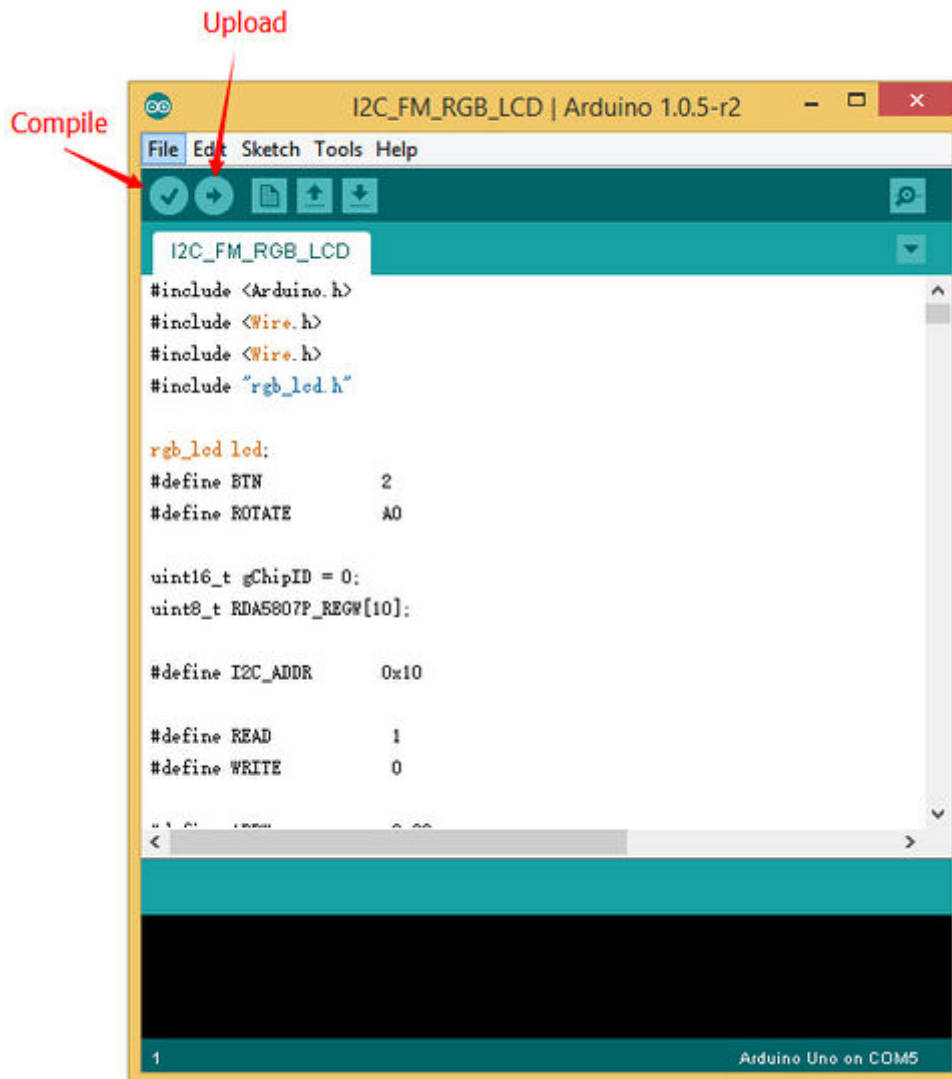
Bug Report

- The silk printed near the D5 Grove connector has an error. The D4,D5 should be D5,D6. We will fix this error asap.

Resource

- [Seeeduino Lotus Eagle file]
- [Seeeduino Lotus bootloader]
- [Seeeduino Lotus PDF file]