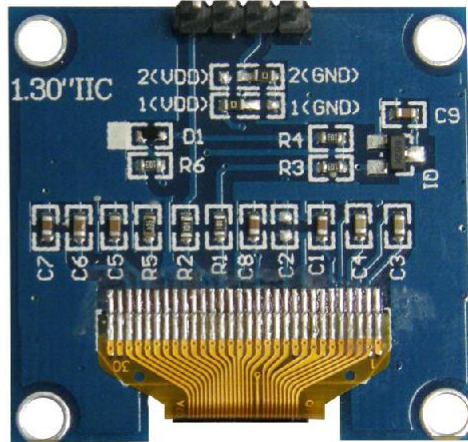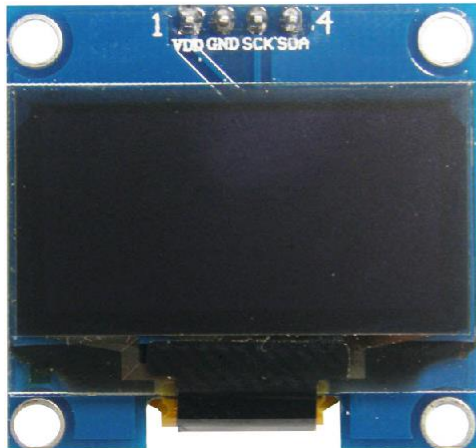# OLED 4 PIN 128x64 Display Module 1.3" White Color

In contrast to LCD technology, Organic Light-Emitting Diode (OLED) displays do not require a backlight and are regarded as the ultimate technology for the next generation of flat-panel displays.

OLED displays are composed of a thin, multi-layered organic film placed between an anode and cathode, which are made up of electric conductive transparent Indium Tin Oxide.

The multi-layered organic film includes a Hole Transporting Layer, Emission Layer and Electron Transporting Layer.

By applying an appropriate electrical voltage, the holes and electrons are injected into the Emission Layer from the anode and cathode respectively and combine to form excitons, after which electroluminescence occurs.

This 1.3" 128*64 White OLED Module offers 128*64-pixel resolution. They are featuring much less thickness than LCD Displays with good brightness and produce better and true colors.

This OLED Display Module is very compact and will add a great ever user interface experience to your Arduino project. The connection of this display with Arduino is made through the I2C (also called as IIC) serial interface.

FEATURES:

- Supply voltage: 3.3V-5V
- Pixel: 128*64
- Display size- 1.3 inch
- Operating temperature range: -40^0C - $+80^0$C
- Use I2C Interface
- Chip No: SSD1306
- Color: White
- Super high contrast and brightness(adjustable)
- PCB Size: 33.7 mm x 35.5 mm
- Low power consumption
- High contrast, thus supporting clear display with no need of backlight
- For OLED SSD1306, a more elaborate and beautiful screen than LCD with more functions

PIN DISCRIPTION:

Pin No.	Pin Name	Description
1.	Supply Voltage (Vcc, 5V)	Can be powered by either 3.3V or 5V
2.	Ground (GND)	Pin Ground
3.	Serial Clock(SCL)	Pin SCL of I2C interface
4.	Serial Data(SDA)	Pin SDA of I2C interface

ELECTRICAL CHARACTERISTICS:

ITEM	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating voltage	VDD	Ta=25^0C	--------	5.0	--------	V
Operating voltage for LCD	VLCD	Ta=25^0C	--------	5.0	--------	V
Supply current	IDD	Ta=25^0C, VDD=5.0V	--------	2.0	3.0	MA
Supply current for Back light	IF	Ta=25^0C, VF=5V	--------	20	--------	MA

SCHEMATIC DIAGRAM:
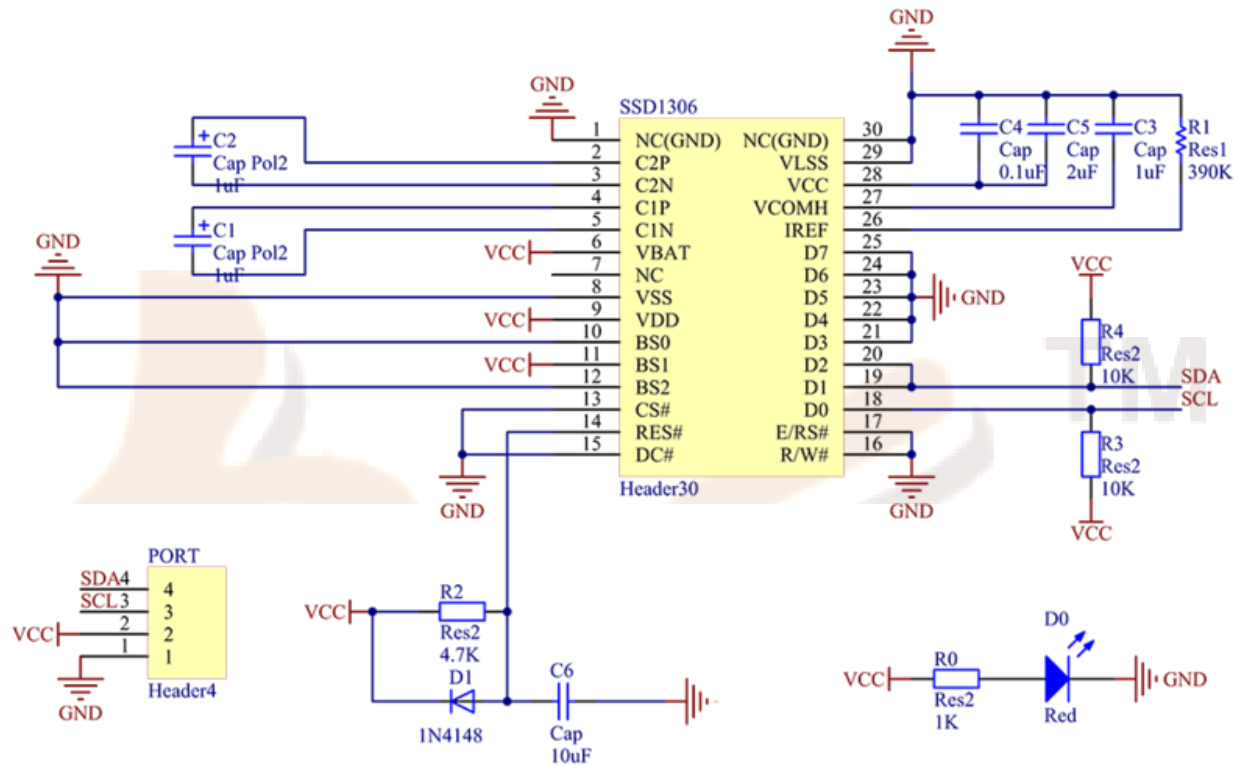
TEST:

To use the OLED with Arduino, you can take the following steps.

Step1: Connecting circuit

SSD1306 ------- Arduino Uno/Mega2560

GND --------- GND
VCC ------- 5V
SCL ------- A5 Uno/pin21 Mega2560
SDA ------- A4 Uno/pin20 Mega2560

Step2: Install the Arduino IDE in your computer. For detailed steps, refer to
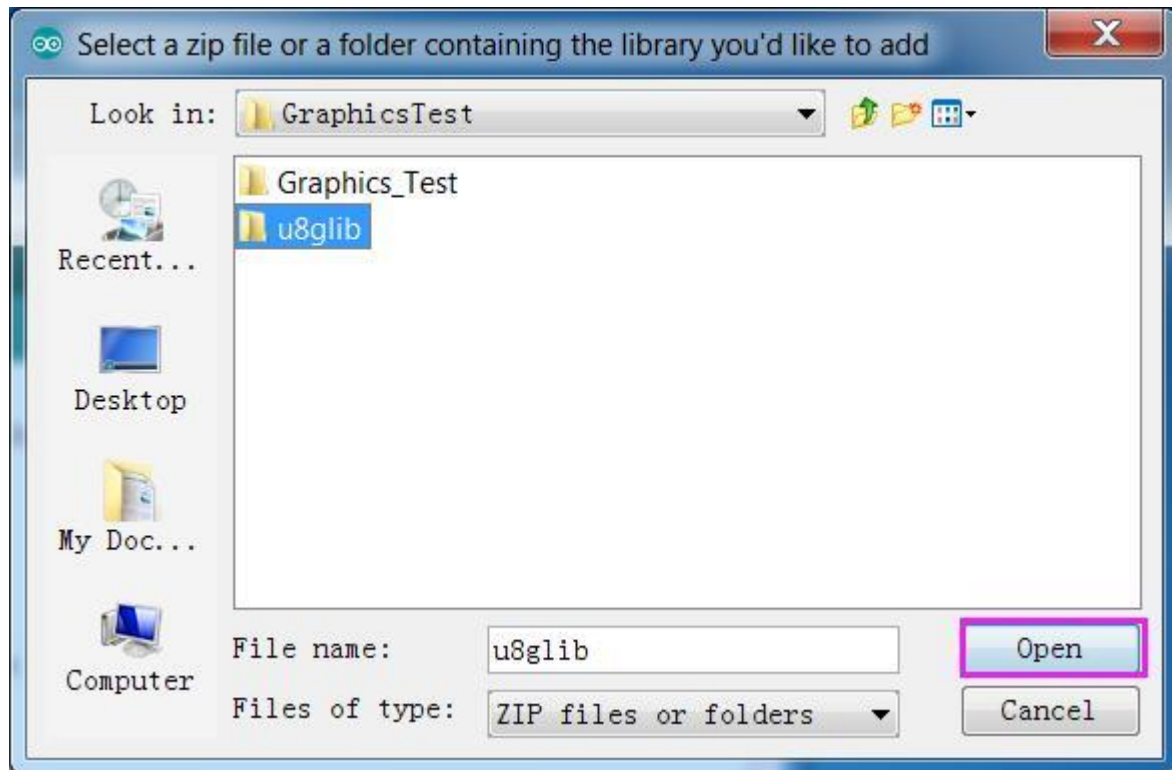
http://wiki.sunfounder.cc/index.php?title=Install_Arduino_Software
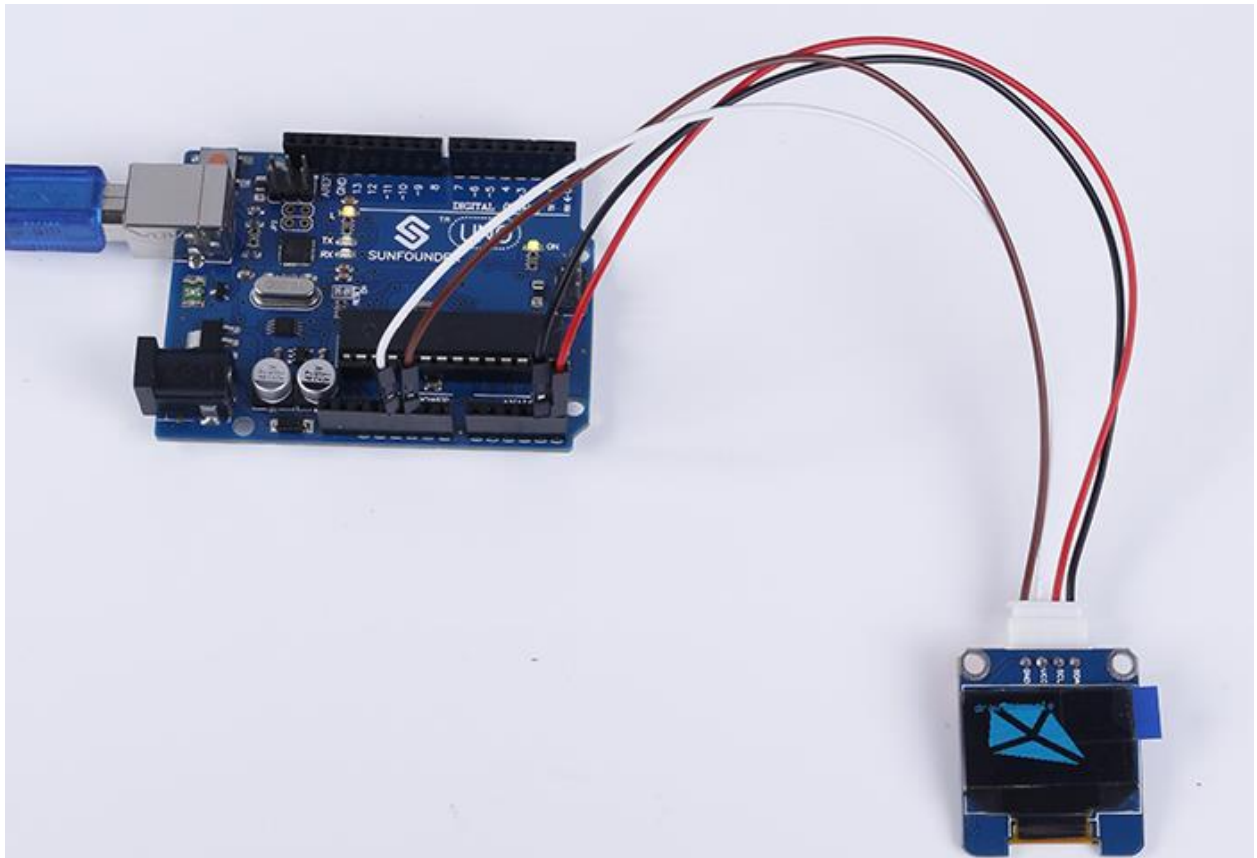
Step3: Add U8glib library.

1) Through the links at the bottom of the page to **download** U8glib.zip and unzip.

2)the Arduino IDE, import the library from the "**Add Library**" Menu.
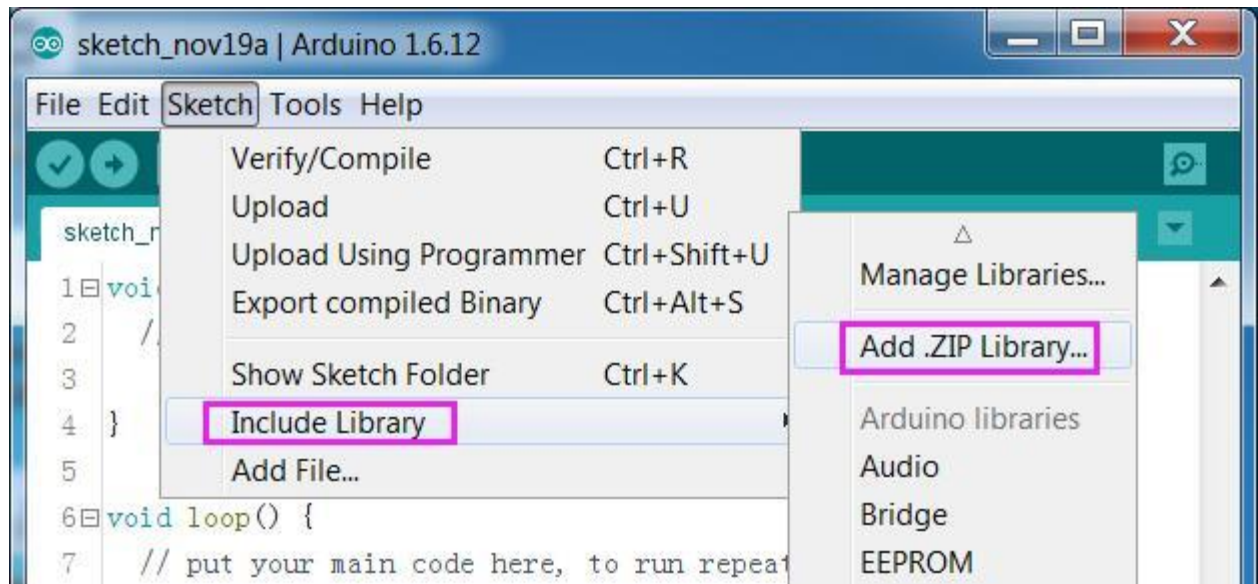
3) Find the **u8glib** folder you just extracted clink **open**.

Step4 : Open **Graphics _Test. Ino** , Before clicking the Upload icon, set the **Port** and **Board** under **Tools** menu. Then upload the code to the board

To use the OLED with Raspberry Pi, you can take the following steps.
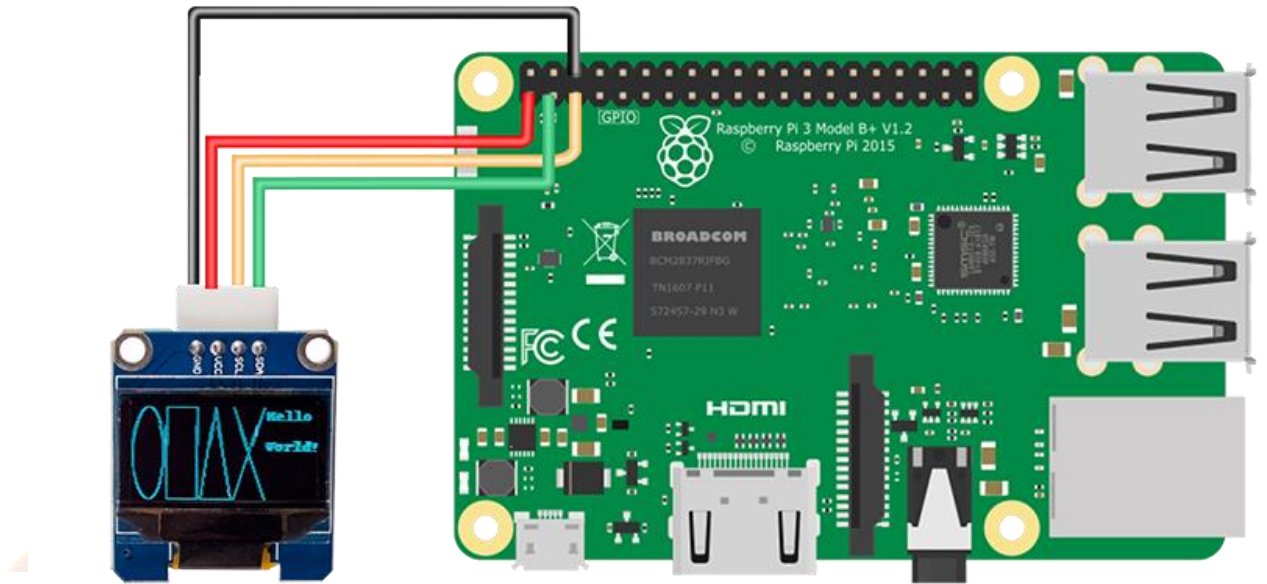
Step1: Connecting circuit

SSD1306 ------- Raspberry Pi

GND ------- GND
VCC ------- 3.3V
SCL ------- SCL
SDA ------- SDA

Step2: Download

git clone https://github.com/adafruit/Adafruit_Python_SSD1306

Step3: Install

Go to the folder extracted from the package file downloaded:
cd Adafruit_Python_SSD1306
sudor python setup.py install

Step4: Edit the code

Go to the examples folder and you can see some example files inside. Let's take shapes.py for example.
cd examples
nano shapes.py
Since we use the I2C interface, the lines for SPI interface need to be commented out.
Add a # to the beginning of the lines to do it.
Here comment out the Line 23 #import Adafruit_ GPIO.SPI as SPI.

```
# import Adafruit_GPIO.SPI as SPI
```
Comment out Line 34, 35, and 36:

```
# Note the following are only used with SPI:
#DC = 23
#SPI_PORT = 0
#SPI_DEVICE = 0
```

Comment out Line 46:

```
# 128x32 display with hardware I2C:
#disp = Adafruit_SSD1306.SSD1306_128_32(rst=RST)
```
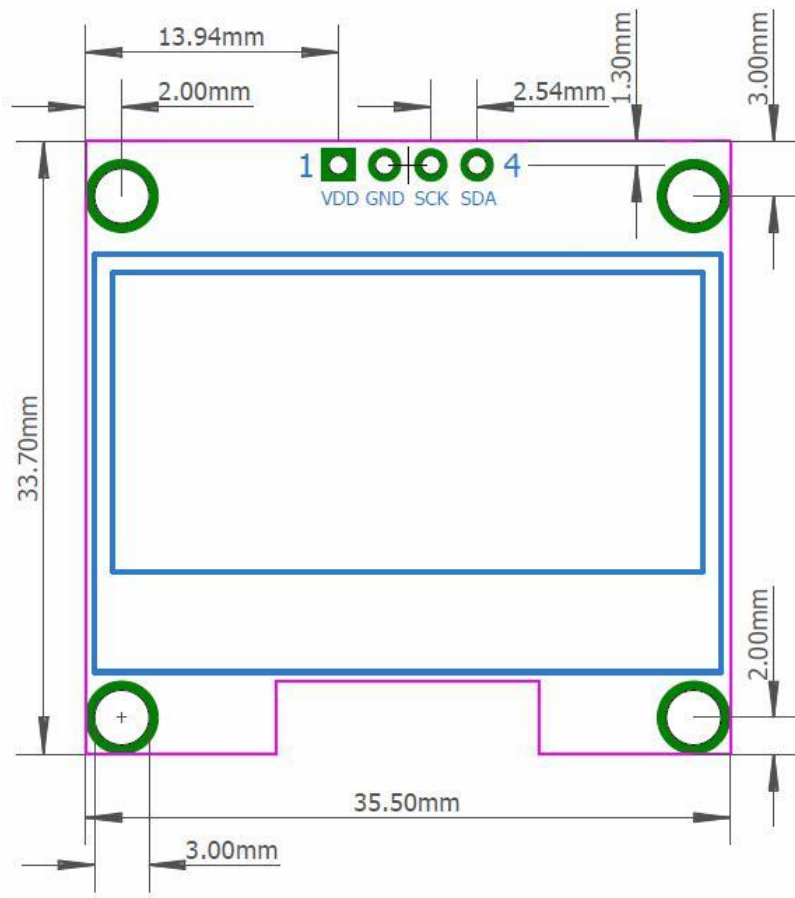
Comment out Line 49:

```
# 128x64 display with hardware I2C:
disp = Adafruit_SSD1306.SSD1306_128_64(rst=RST)
```

Press CTRL+O to save, and CTRL +Xto exit.

Then run the program:

OUTER DIMENSION:

APPLICATIONS:

• Used in consumer electronics.

• Used for Smartwatch, mobile phone, and MP3 displays.

• Small level gaming displays.

• Wide range of viewing angle enable to be used in low light.