




# Cheap and Cute Digital PhotoFrame Without SD Card on ESP8266 and 1.8-inch TFT

Cheap & Cute PhotoFrame Without SD Card on ESP8266 + 1.8inch TFT

 Difficulty **Medium**

 Duration **1 hour(s)**

 Categories **Decoration, Furniture, House, Play & Hobbies**

 Cost **10 USD (\$)**

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Comments

## Introduction

Digital photo frame are awesome thing to show photos of your family members, friends and your pets. I wanted to build a small, cheap and cute photo frame with the parts already in my hand. This frame use 1.8" Small TFT panel and ESP8266 wireless development environment in a 3D printed case.

## Materials

## Tools

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## Step 1 - Parts

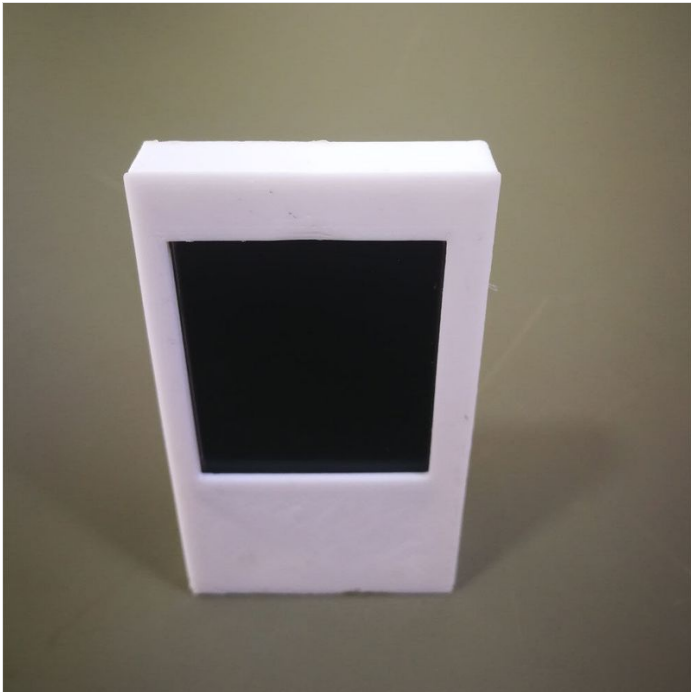
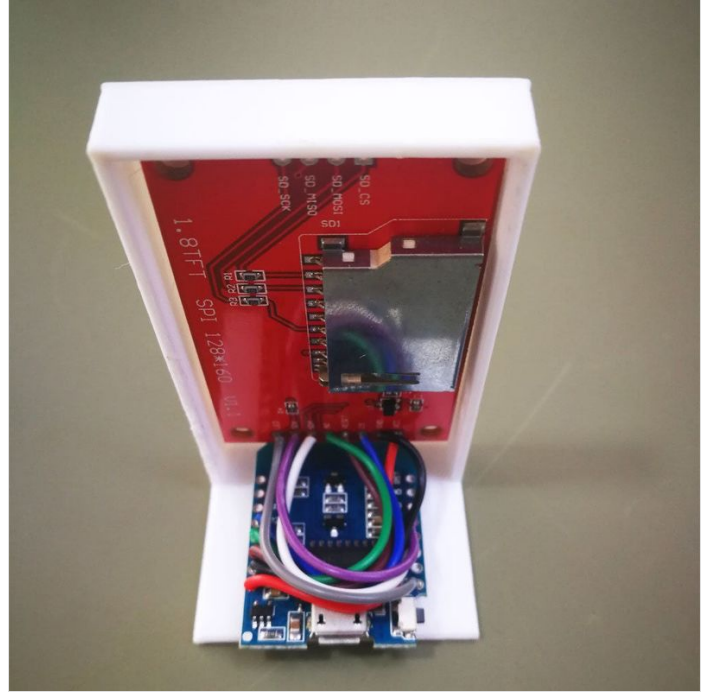
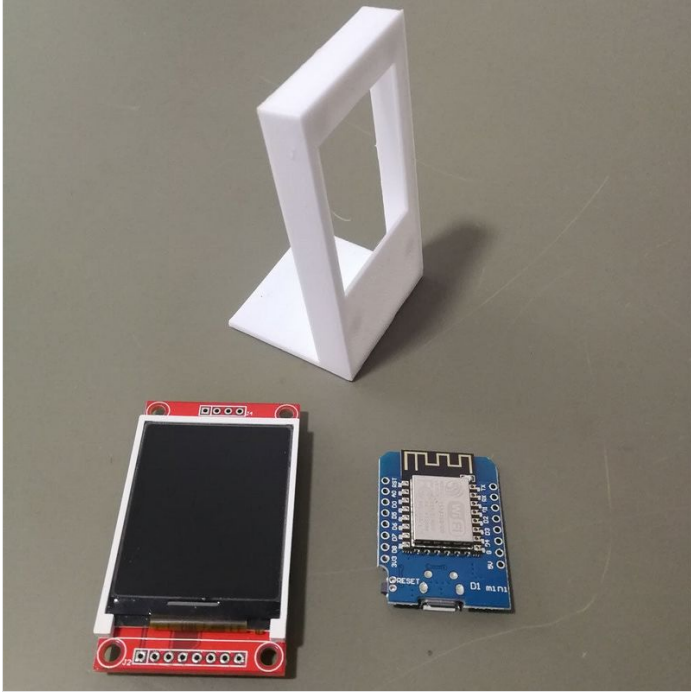
1.8 TFT Panel ST7735 <https://www.aliexpress.com/item/32913848470.html>

1.8 TFT Panel ST7735 [https://www.banggood.com/1\\_441\\_82\\_02\\_22\\_42\\_8-Inch-TFT-LCD-Display-Module-Colorful-Screen-Module-SPI-Interface-p-1494883.html](https://www.banggood.com/1_441_82_02_22_42_8-Inch-TFT-LCD-Display-Module-Colorful-Screen-Module-SPI-Interface-p-1494883.html)

ESP8266 WEMOS D1 <https://www.aliexpress.com/item/33036965281.html>

3D Printed Case <https://www.thingiverse.com/thing:4097143>

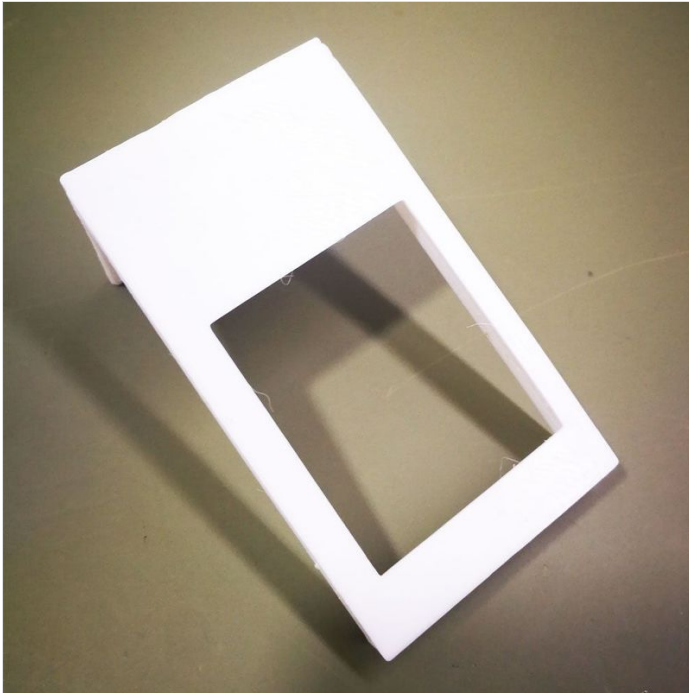
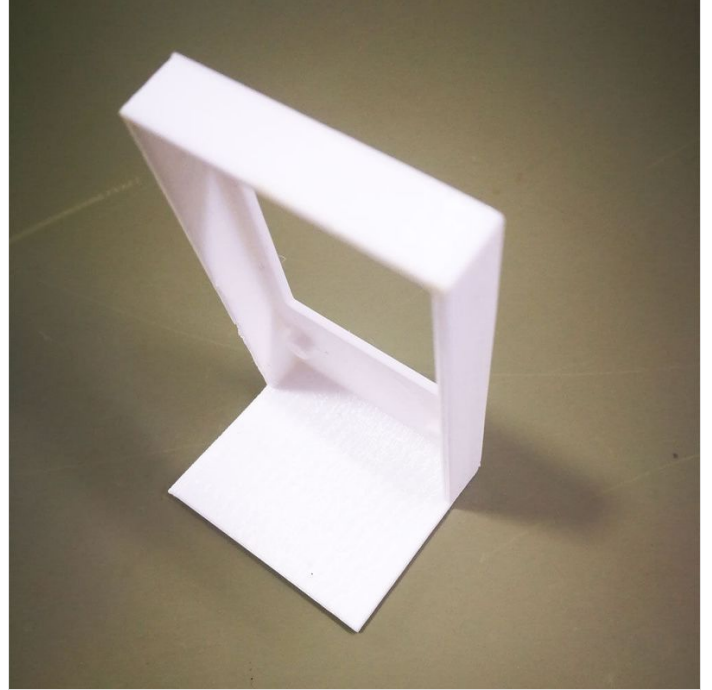
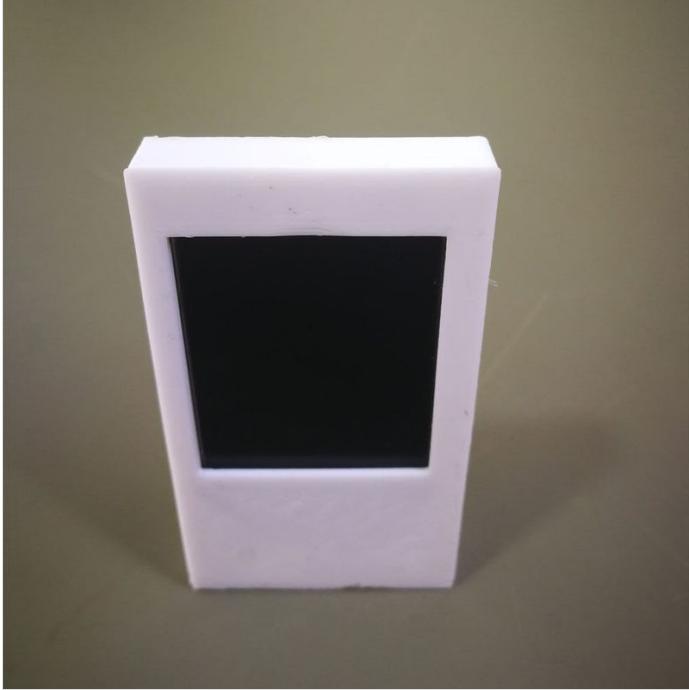
Some Wires & Soldering Iron.



## Step 2 - 3D printed Object

I've prepare parts and printed frame on my 3D Printer.

Model Download: <https://www.tinkercad.com/things/1oIgHjgJMjd>

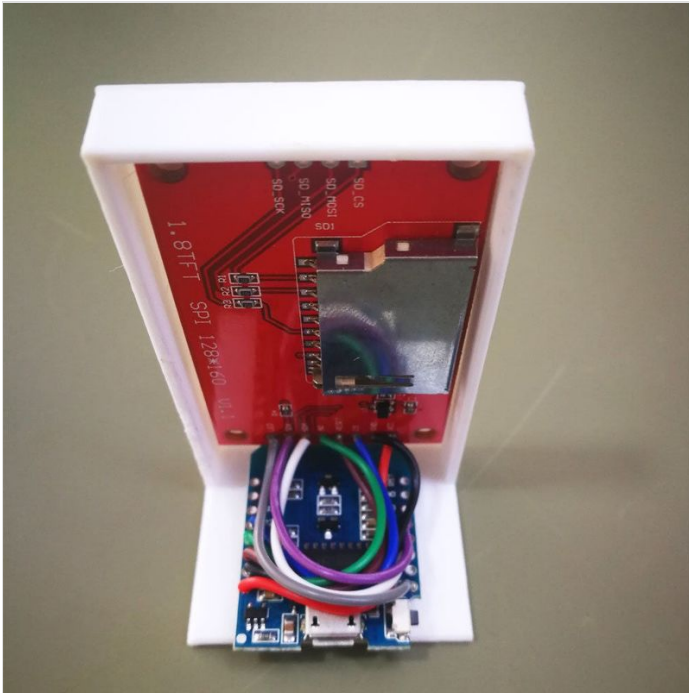


## Step 3 - Mounting Parts & Technical Information

Solder and mount parts on 3D Printed case as shown above images.

1.8" (Actually 1.77") TFT Panel datasheet

Wemos D1 datasheet

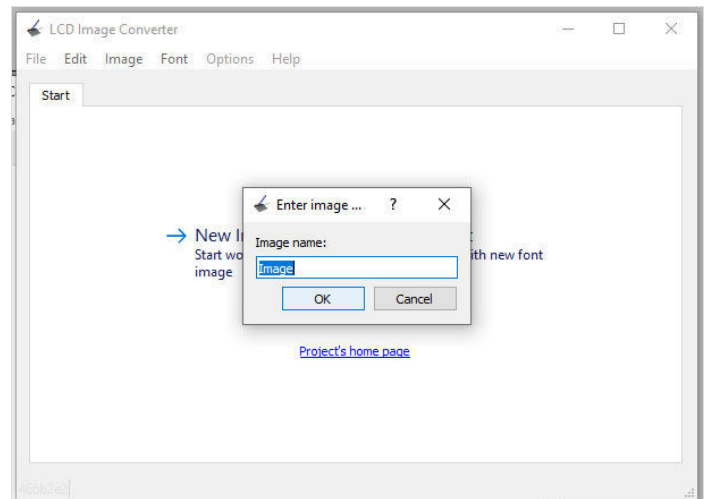
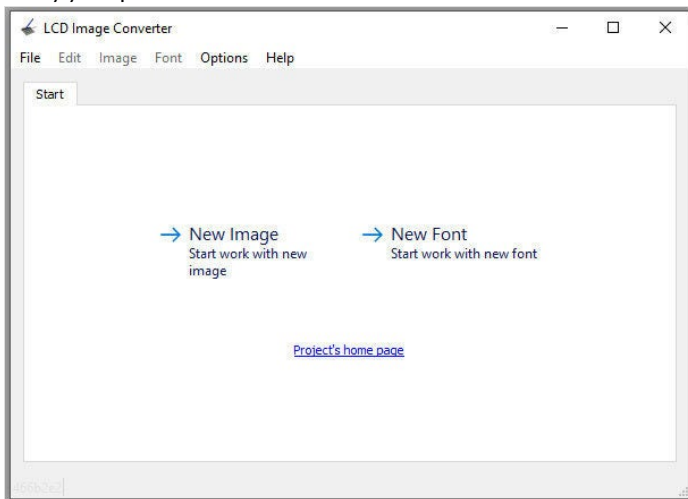


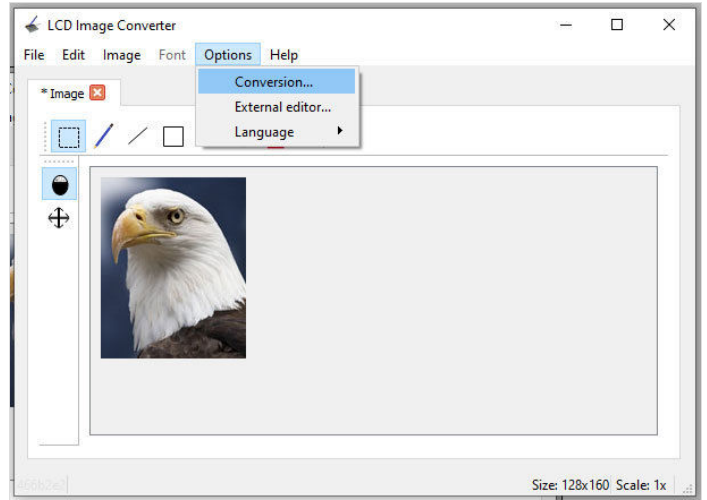
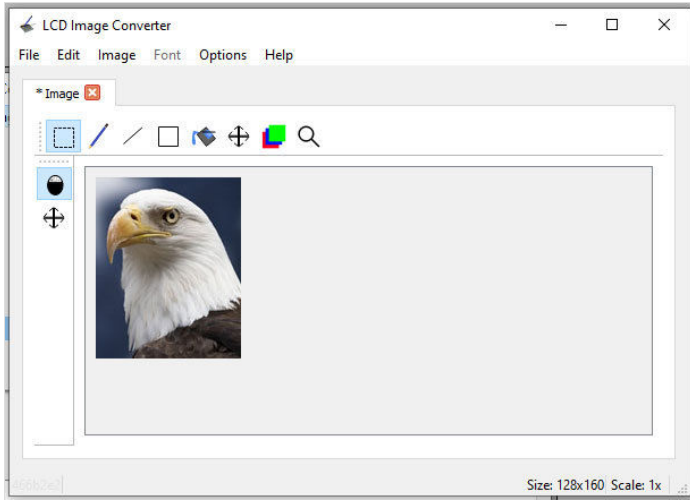
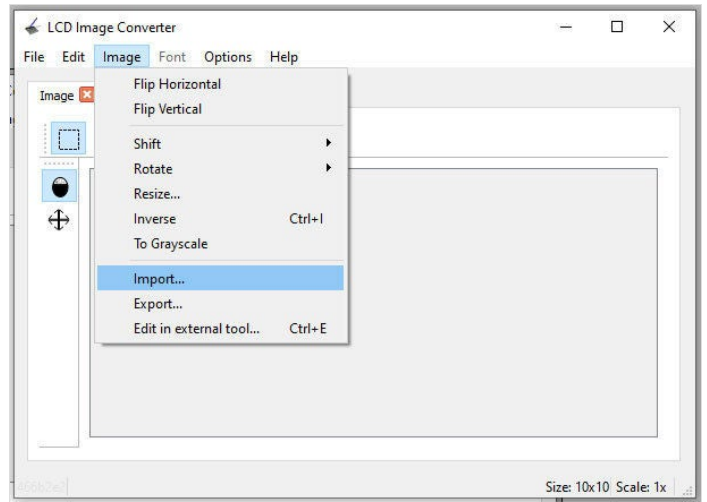
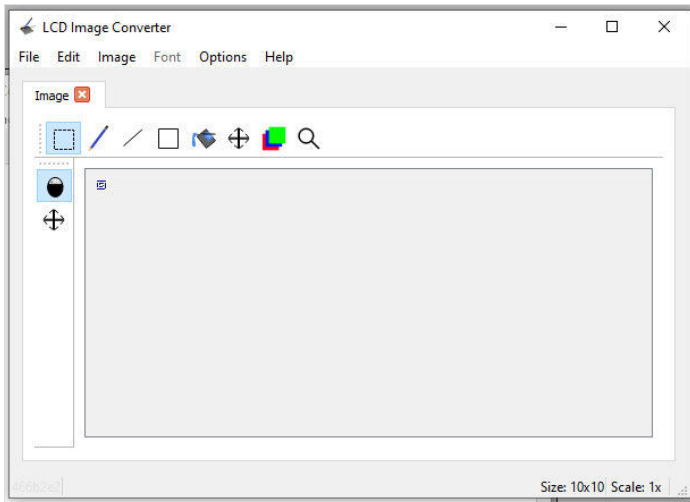
### Connection

Wemos D1	1.8" TFT ST7735
5V	P1 (VCC)
GND	P2(GND)
D2	P3(CS)
D4	P4(RST)
D3	P5(A0)
D7	P6(SDA)
D5	P7(SCK)
3.3V	P8(LED+)

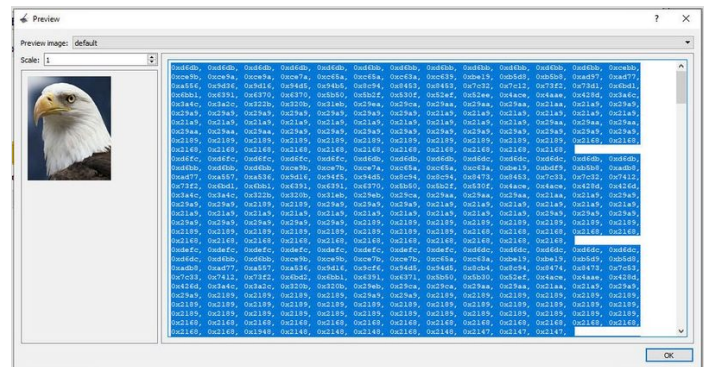
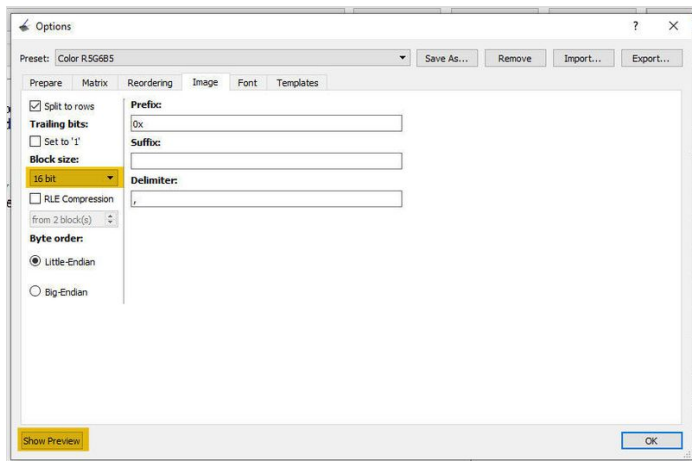
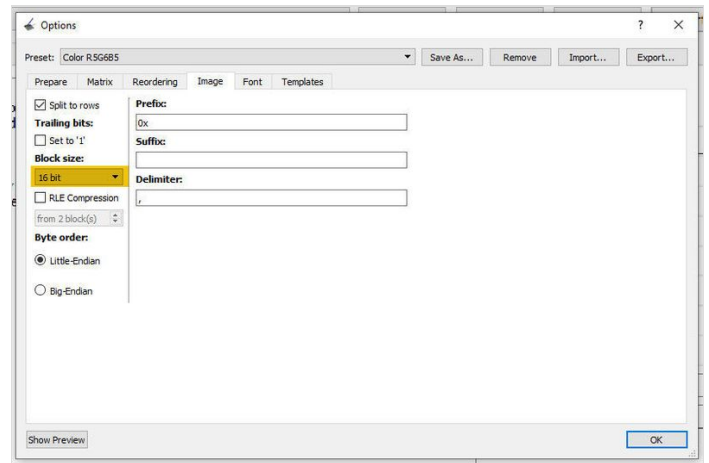
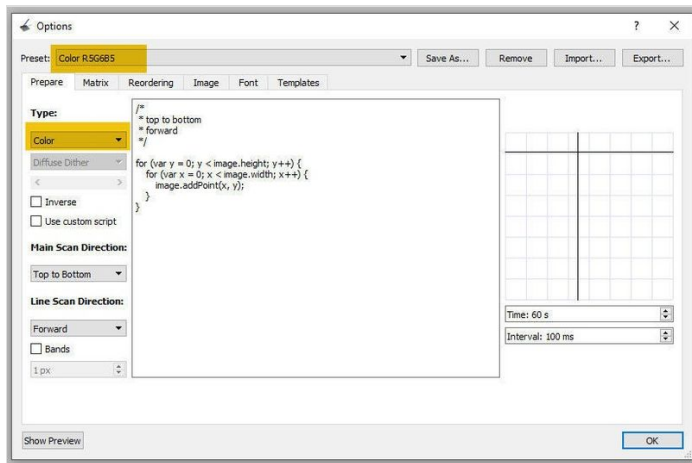
## Step 4 - Programming

This photoframe uses internal flash of ESP8266 module. So you don't need any external SD Card. You may convert 128x160 pixel photo to C array with LCDImageConverter. ESP8266's 4MB flash memory is enough to store many photos. You can download software and convert C Array your photos.





## Step 5 - Programming Continue...



## Step 6 - C Array Photo

You can store your c array photos on photos.h file. Also need Adafruit GFX library and Adafruit ST7735 header file for this application.

