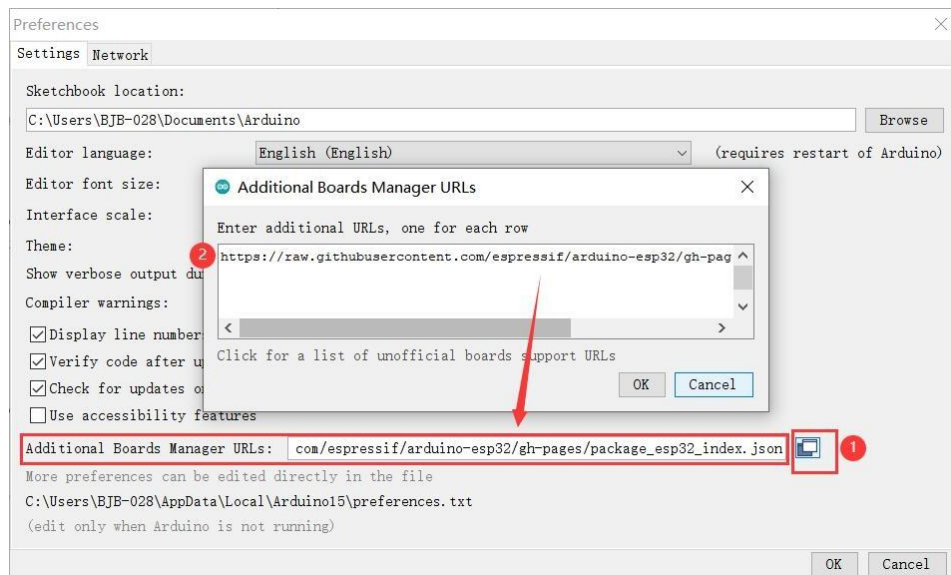


How to upload the ESP32 display factory program by Arduino IDE?

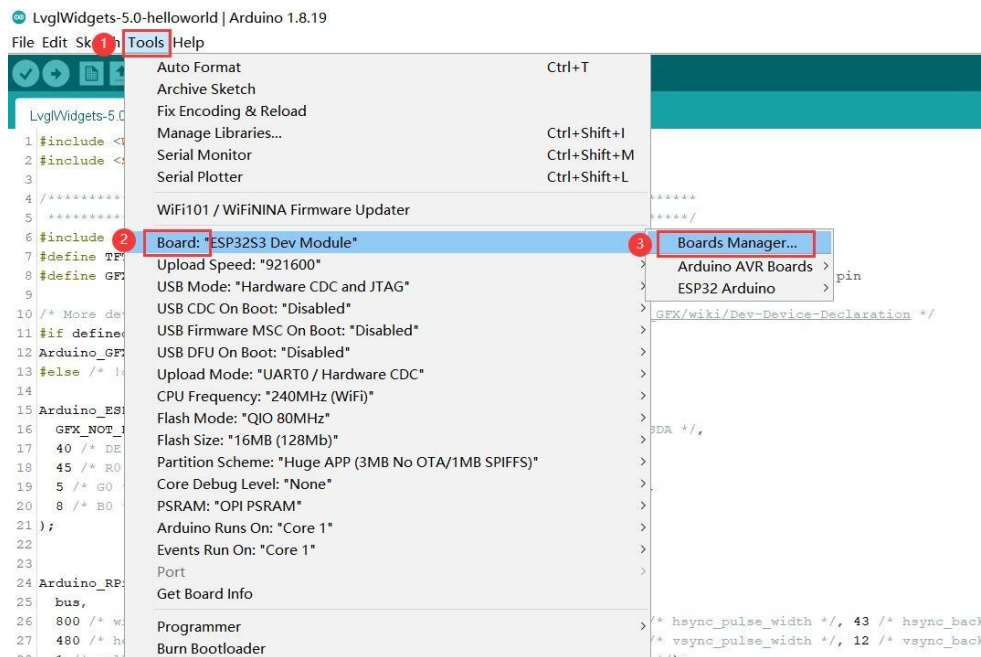
Step 1 Download the Arduino IDE(<https://www.arduino.cc/en/software>)



Step 2 After downloading the Arduino IDE, click on "File-->Preference", and add the ESP32 S3 URL(https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_index.json) to "Board Manager URLs" as follows:



Step 3 Click "Tool-->Board-->Board Manager", and search for "esp32". It is recommended to install **version 2.0.3** ESP32 package.





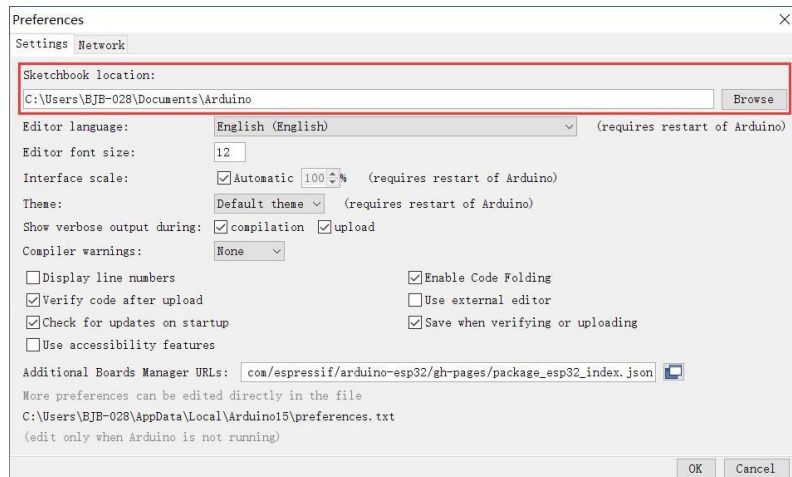
Step 4 Install the libraries provided by Elecrow

Firstly download the libraries files.

Then copy them to the Arduino libraries directory:

Program Files (x86) > Arduino > libraries				
名称	修改日期	类型	大小	
Arduino_GFX-master	2023/8/14 17:10	文件夹		
arduinoFFT-develop	2023/8/14 17:09	文件夹		
BLE	2023/8/14 17:01	文件夹		
DHT-sensor-library	2023/8/14 17:01	文件夹		
ESP32-audioI2S-master	2023/8/14 17:01	文件夹		
ESP32-AudioI2S	2023/8/14 17:01	文件夹		
FT6236	2023/8/14 17:01	文件夹		
gt911-arduino-main	2023/8/14 17:01	文件夹		
I2S	2023/8/14 17:01	文件夹		
LiquidCrystal	2023/8/14 17:01	文件夹		
LovyanGFX	2023/8/15 11:51	文件夹		
lvgl-3	2023/8/14 17:01	文件夹		
SD	2023/8/14 17:01	文件夹		
SPI	2023/8/14 17:01	文件夹		
TFT_eSPI	2023/8/14 17:01	文件夹		
U8g2	2023/8/14 17:01	文件夹		
UI	2023/8/14 17:01	文件夹		
WiFi	2023/8/14 17:01	文件夹		
Wire	2023/8/14 17:02	文件夹		
XPT2046_Touchscreen	2023/8/14 17:02	文件夹		
XT_DAC_Audio	2023/8/14 17:02	文件夹		
lv_conf.h	2023/8/3 9:55	C Header 源文件	26 KB	

Here's the method to locate the libraries directory: open Arduino IDE→Click on "File"→Click "Preference"→then you will see "Sketchbook location":



Please note that different sizes of the ESP32 display require different UI libraries, you need to replace the UI files when you using different displays.

Program Files (x86) > Arduino > libraries > **UI**

名称	修改日期	类型	大小
ui.c	2023/8/4 12:25	C 源文件	17 KB
ui.h	2023/2/27 12:10	C Header 源文件	2 KB
ui_helpers.c	2023/2/13 14:16	C 源文件	6 KB
ui_helpers.h	2023/2/13 14:58	C Header 源文件	3 KB
ui_img_480x272_r043_png.c	2023/2/27 12:09	C 源文件	2,304 KB
ui_img_97665003.c	2023/2/27 12:09	C 源文件	65 KB
ui_img_553284475.c	2023/2/27 12:09	C 源文件	65 KB
ui_img_1220821074.c	2023/2/27 12:09	C 源文件	65 KB
ui_img_1406806916.c	2023/2/27 12:09	C 源文件	65 KB
ui_img_1614516011.c	2023/2/27 12:09	C 源文件	43 KB
ui_img_bar_480_01_png.c	2023/2/27 12:09	C 源文件	107 KB
ui_img_bar_480_02_png.c	2023/2/27 12:09	C 源文件	107 KB
ui_img_icon_click_1_png.c	2023/2/27 12:09	C 源文件	65 KB
ui_img_icon_home_1_png.c	2023/2/27 12:09	C 源文件	65 KB
ui_img_wizee_logo_02_120x30_png.c	2023/2/27 12:09	C 源文件	65 KB

And the User_Setup.h in TFT_eSPI library folder also needs to be modified according to their screen driver(except for the 4.3"/5.0"/7.0" HMI display, which do not use TFT_eSPI library)

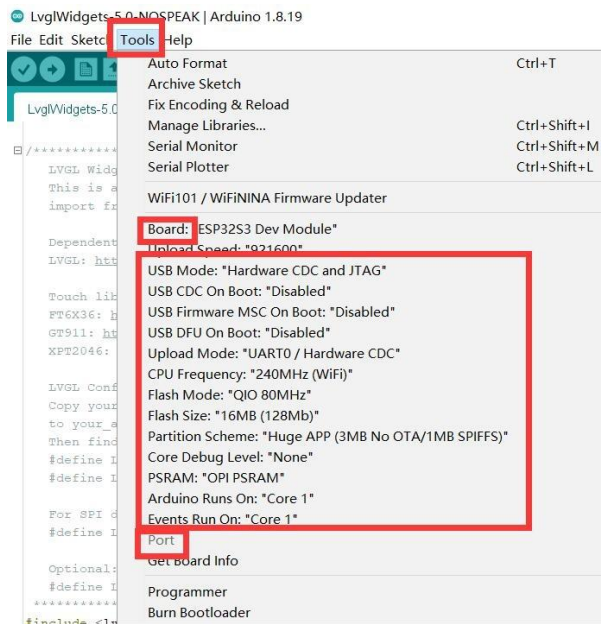
Program Files (x86) > Arduino > libraries > **TFT_eSPI**

名称	修改日期	类型	大小
docs	2023/8/14 17:01	文件夹	
examples	2023/8/14 17:01	文件夹	
Extensions	2023/8/14 17:01	文件夹	
Fonts	2023/8/14 17:01	文件夹	
Processors	2023/8/14 17:01	文件夹	
TFT_Drivers	2023/8/14 17:01	文件夹	
Tools	2023/8/14 17:01	文件夹	
User_Setups	2023/8/14 17:01	文件夹	
CMakeLists.txt	2023/6/19 23:21	文本文档	1 KB
Kconfig	2023/6/19 23:21	文件	13 KB
keywords.txt	2023/6/19 23:21	文本文档	4 KB
library.json	2023/6/19 23:21	JSON 源文件	1 KB
library.properties	2023/6/19 23:21	Properties 源文件	1 KB
license.txt	2023/6/19 23:21	文本文档	7 KB
README.md	2023/6/19 23:21	Markdown 源文件	20 KB
README.txt	2023/6/19 23:21	文本文档	1 KB
TFT_config.h	2023/6/19 23:21	C Header 源文件	10 KB
TFT_eSPI.cpp	2023/6/19 23:21	C++ 源文件	189 KB
TFT_eSPi.h	2023/6/19 23:21	C Header 源文件	46 KB
User_Setup.h	2023/8/10 11:52	C Header 源文件	16 KB
User_Setup.h.9341	2023/6/19 23:21	9341 文件	16 KB
User_Setup_Select.h	2023/6/19 23:21	C Header 源文件	16 KB

Step 5 Download and open the factory program.

- 2.4-Factory-Program
- 2.8-Factory-Program
- 3.5-Factory-Program
- 4.3-Factory-Program
- 5.0-Factory-Program
- 7.0-Factory-Program

Step 6 Choose the board and set the parameter on Arduino IDE



ESP Terminal RGB&SPI :

Auto Format	Ctrl+T
Archive Sketch	
Fix Encoding & Reload	
Manage Libraries...	Ctrl+Shift+I
Serial Monitor	Ctrl+Shift+M
Serial Plotter	Ctrl+Shift+L
WiFi101 / WiFiNINA Firmware Updater	
Board: "ESP32S3 Dev Module"	>
Upload Speed: "921600"	>
USB Mode: "Hardware CDC and JTAG"	>
USB CDC On Boot: "Disabled"	>
USB Firmware MSC On Boot: "Disabled"	>
USB DFU On Boot: "Disabled"	>
Upload Mode: "UART0 / Hardware CDC"	>
CPU Frequency: "240MHz (WiFi)"	>
Flash Mode: "QIO 80MHz"	>
Flash Size: "16MB (128Mb)"	>
Partition Scheme: "Huge APP (3MB No OTA/1MB SPIFFS)"	>
Core Debug Level: "None"	>
PSRAM: "OPI PSRAM"	>
Arduino Runs On: "Core 1"	>
Events Run On: "Core 1"	>
Port	>
Get Board Info	
Programmer	>
Burn Bootloader	

ESP32 HMI Display 2.4"&2.8"&3.5"

Auto Format	Ctrl+T
Archive Sketch	
Fix Encoding & Reload	
Manage Libraries...	Ctrl+Shift+I
Serial Monitor	Ctrl+Shift+M
Serial Plotter	Ctrl+Shift+L
WiFi101 / WiFinINA Firmware Updater	
Board: "ESP32-WROOM-DA Module"	>
Upload Speed: "921600"	>
CPU Frequency: "240MHz (WiFi/BT)"	>
Flash Frequency: "80MHz"	>
Flash Mode: "QIO"	>
Flash Size: "4MB (32Mb)"	>
Partition Scheme: "Huge APP (3MB No OTA/1MB SPIFFS)"	>
Core Debug Level: "None"	>
Arduino Runs On: "Core 1"	>
Events Run On: "Core 1"	>
Port	>
Get Board Info	
Programmer	>
Burn Bootloader	

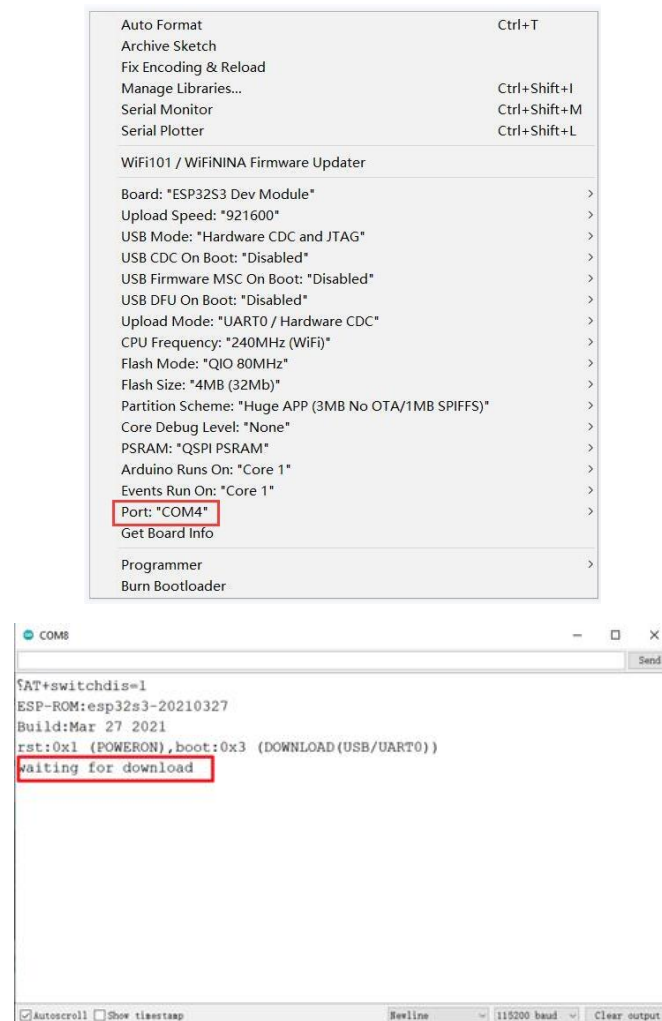
ESP32 HMI Display 4.3"

Auto Format	Ctrl+T
Archive Sketch	
Fix Encoding & Reload	
Manage Libraries...	Ctrl+Shift+I
Serial Monitor	Ctrl+Shift+M
Serial Plotter	Ctrl+Shift+L
WiFi101 / WiFinINA Firmware Updater	
Board: "ESP32S3 Dev Module"	>
Upload Speed: "921600"	>
USB Mode: "Hardware CDC and JTAG"	>
USB CDC On Boot: "Disabled"	>
USB Firmware MSC On Boot: "Disabled"	>
USB DFU On Boot: "Disabled"	>
Upload Mode: "UART0 / Hardware CDC"	>
CPU Frequency: "240MHz (WiFi)"	>
Flash Mode: "QIO 80MHz"	>
Flash Size: "4MB (32Mb)"	>
Partition Scheme: "Huge APP (3MB No OTA/1MB SPIFFS)"	>
Core Debug Level: "None"	>
PSRAM: "QSPI PSRAM"	>
Arduino Runs On: "Core 1"	>
Events Run On: "Core 1"	>
Port	>
Get Board Info	
Programmer	>
Burn Bootloader	

ESP32 HMI Display 5.0"&7.0"

Auto Format	Ctrl+T
Archive Sketch	
Fix Encoding & Reload	
Manage Libraries...	Ctrl+Shift+I
Serial Monitor	Ctrl+Shift+M
Serial Plotter	Ctrl+Shift+L
WiFi101 / WiFinINA Firmware Updater	
Board: "ESP32S3 Dev Module"	>
Upload Speed: "921600"	>
USB Mode: "Hardware CDC and JTAG"	>
USB CDC On Boot: "Disabled"	>
USB Firmware MSC On Boot: "Disabled"	>
USB DFU On Boot: "Disabled"	>
Upload Mode: "UART0 / Hardware CDC"	>
CPU Frequency: "240MHz (WiFi)"	>
Flash Mode: "QIO 80MHz"	>
Flash Size: "16MB (128Mb)"	>
Partition Scheme: "Huge APP (3MB No OTA/1MB SPIFFS)"	>
Core Debug Level: "None"	>
PSRAM: "OPI PSRAM"	>
Arduino Runs On: "Core 1"	>
Events Run On: "Core 1"	>
Port	>
Get Board Info	
Programmer	>
Burn Bootloader	

Step 7 Choose the correct port number. Open the serial monitor. Press and hold the "BOOT" button and press the "RESET" button, the serial monitor shows "waiting for download".



Step 8 Then click on "Upload" and wait for the compilation and download...

Step 9 When the progress finishes, press the **RESET** button then the program will run on ESP32 display.

Tutorial Video:

For ESP Terminal RGB&SPI: https://www.youtube.com/watch?v=7rstSmn_YKM

For ESP32 HMI 2.4"/2.8"/3.5" Display: <https://www.youtube.com/watch?v=EARKhr3ABEY>

For ESP32 HMI 4.3"/5.0"/7.0" Display: https://www.youtube.com/watch?v=iKJesBu_cg4