

RGBZONE SP110E

RGBZONE SP110E Bluetooth LED Controller User Manual

Model: SP110E (BT-001)

1. INTRODUCTION

The RGBZONE SP110E is a compact Bluetooth LED controller designed for addressable LED pixel strips. It allows users to control various lighting effects, colors, and brightness levels through a dedicated mobile application. This manual provides detailed instructions for setting up, operating, and maintaining your SP110E controller.

2. PRODUCT OVERVIEW

The SP110E controller offers versatile control over a wide range of addressable LED IC types, including WS2812B, APA102, and SK6812. It supports a broad input voltage range of 5V to 24V DC and can manage up to 1024 pixels. Control is facilitated via the 'LED Hue' mobile application, providing access to 120 dynamic modes, static color selection, and adjustable brightness and speed settings.



Image 2.1: RGBZONE SP110E Bluetooth LED Controller. This image shows the compact white controller unit with its attached 3-pin JST connector cable.

3. PACKAGE CONTENTS

- 1 x RGBZONE SP110E Bluetooth LED Controller
- 1 x 3PIN Connector Cable
- 1 x User Manual (this document)

4. SPECIFICATIONS

Model Number	BT-001
Input Voltage	DC 5V~24V
Max Pixels Supported	1024 pixels
Control Method	Bluetooth App (LED Hue)
Supported IC Types	WS2811, WS2812B, WS2813, SK9822, APA102, SK6812, LPD8806, DMX512, 1903, etc.
Material	Plastic
Dimensions (L x W x H)	54mm x 25mm x 13mm (approx. 2.12 x 0.98 x 0.51 inches)
Item Weight	0.04 Kilograms (approx. 1.44 ounces)

**Water Resistance
Level**

Not Water Resistant

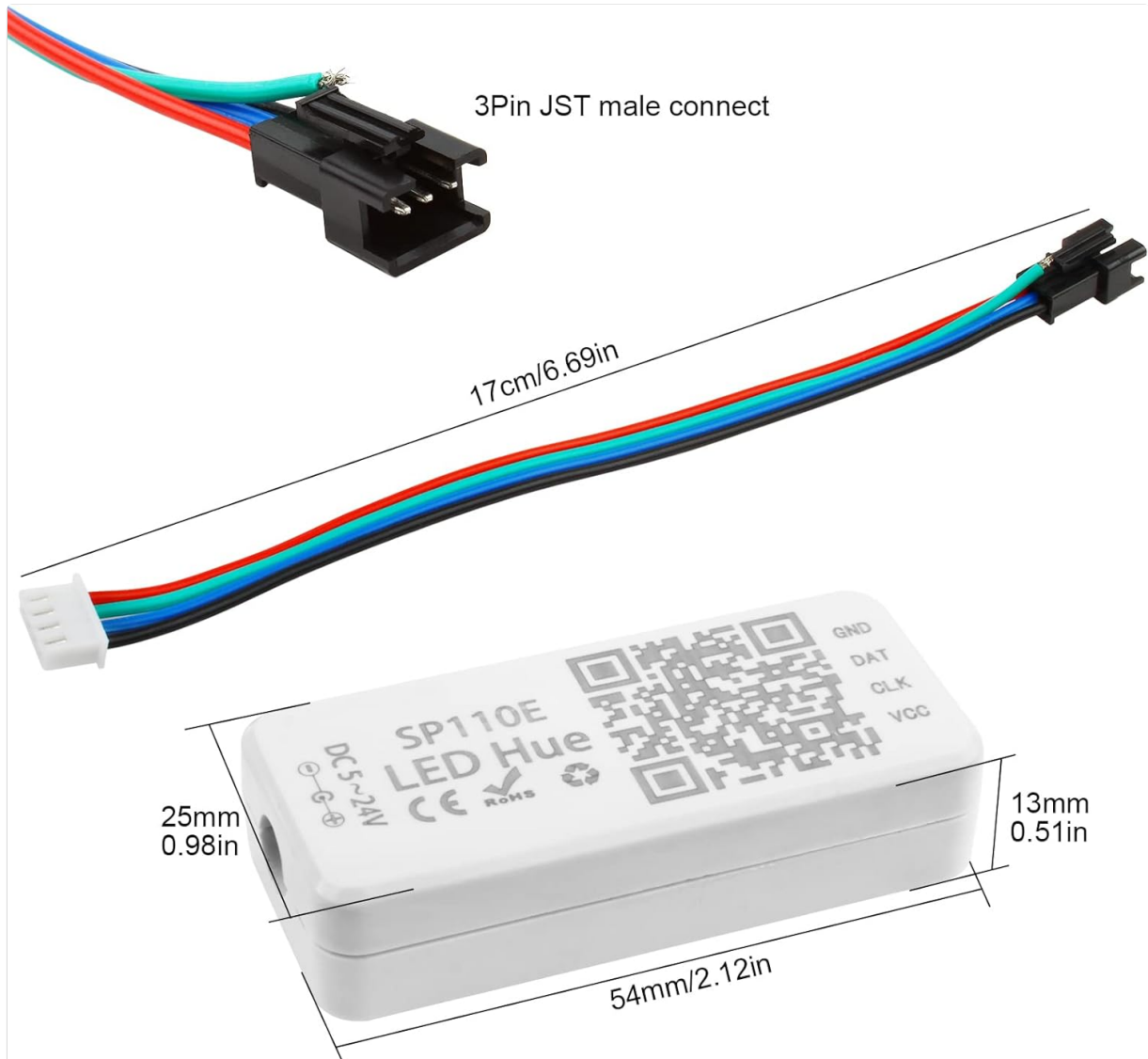


Image 4.1: Physical dimensions of the SP110E controller and its 3-pin JST connector cable.

5. SETUP

5.1 Hardware Connection

1. **Identify Ports:** Locate the DC 5V-24V Input Port and the 3-pin output connector (VCC, DAT, GND) on the SP110E controller.
2. **Connect LED Strip:** Connect your addressable LED strip to the 3-pin JST connector cable provided with the controller. Ensure the VCC, DAT, and GND pins align correctly with your LED strip's input.
3. **Connect Power Supply:** Connect a compatible DC 5V-24V power supply (not included) to the controller's DC input port. **Important:** The input voltage of the controller must match the working voltage of your LED strip. The controller does not regulate output voltage at the VCC pin.

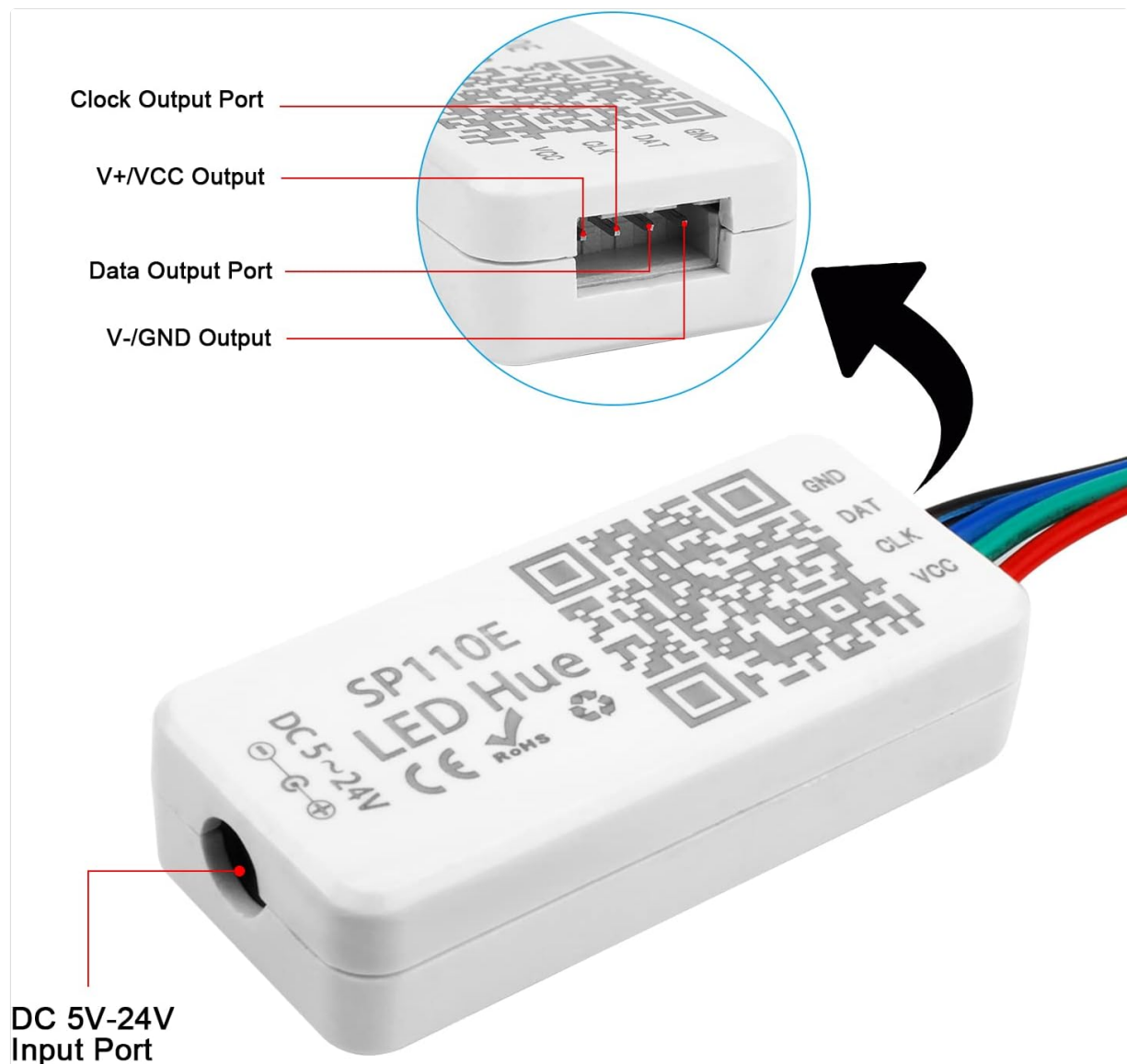
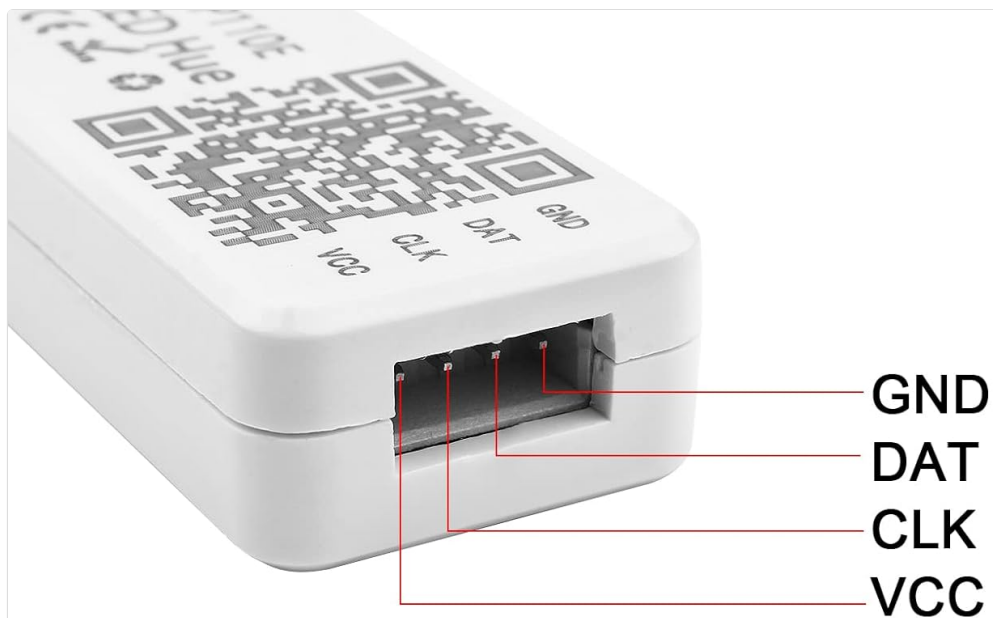


Image 5.1: Detailed view of the SP110E controller, highlighting the DC 5V-24V Input Port, Clock Output Port (CLK), Data Output Port (DAT), V+/VCC Output, and V-/GND Output.



WS2811	WS2812B	WS2801	WS2813	SM16703	TM1804
UCS19603	SK6812	LPD8806	APA102	APA105	DMX512
TM1914	TM1913	P9813	INK1003	P943S	P9411
P9413	TX1812	TX1813	GS8206	GS8208	SK9822
TM1814	SK6812-RGBW		P9414	P9412	

Note: WS2812(B) and WS2813 are not available in the IC model number in the APP, so when using these two models, just select WS2811 for the model number

Image 5.2: Close-up of the 3-pin connector showing the GND, DAT, CLK, and VCC pin assignments. Below it is a list of supported IC chip types.

HOW TO CONNECT?

LED strip and power supply are not included



Image 5.3: Diagram illustrating how to connect the SP110E controller to an LED strip and a power supply. It shows the power supply connecting to the controller, and the controller connecting to the LED strip via the 3-pin JST connector.

5.2 App Download

1. Search for "LED Hue" in your mobile device's App Store (iOS) or Google Play Store (Android).
2. Alternatively, scan the QR code provided on the controller or in the product packaging to directly access the download link. You can also visit <http://www.ledhue.com/app/ledhue/download.html>.
3. Install the "LED Hue" application on your device.

Compatibility: The app requires iOS version 10.0 or later, or Android OS version 4.4 or later.

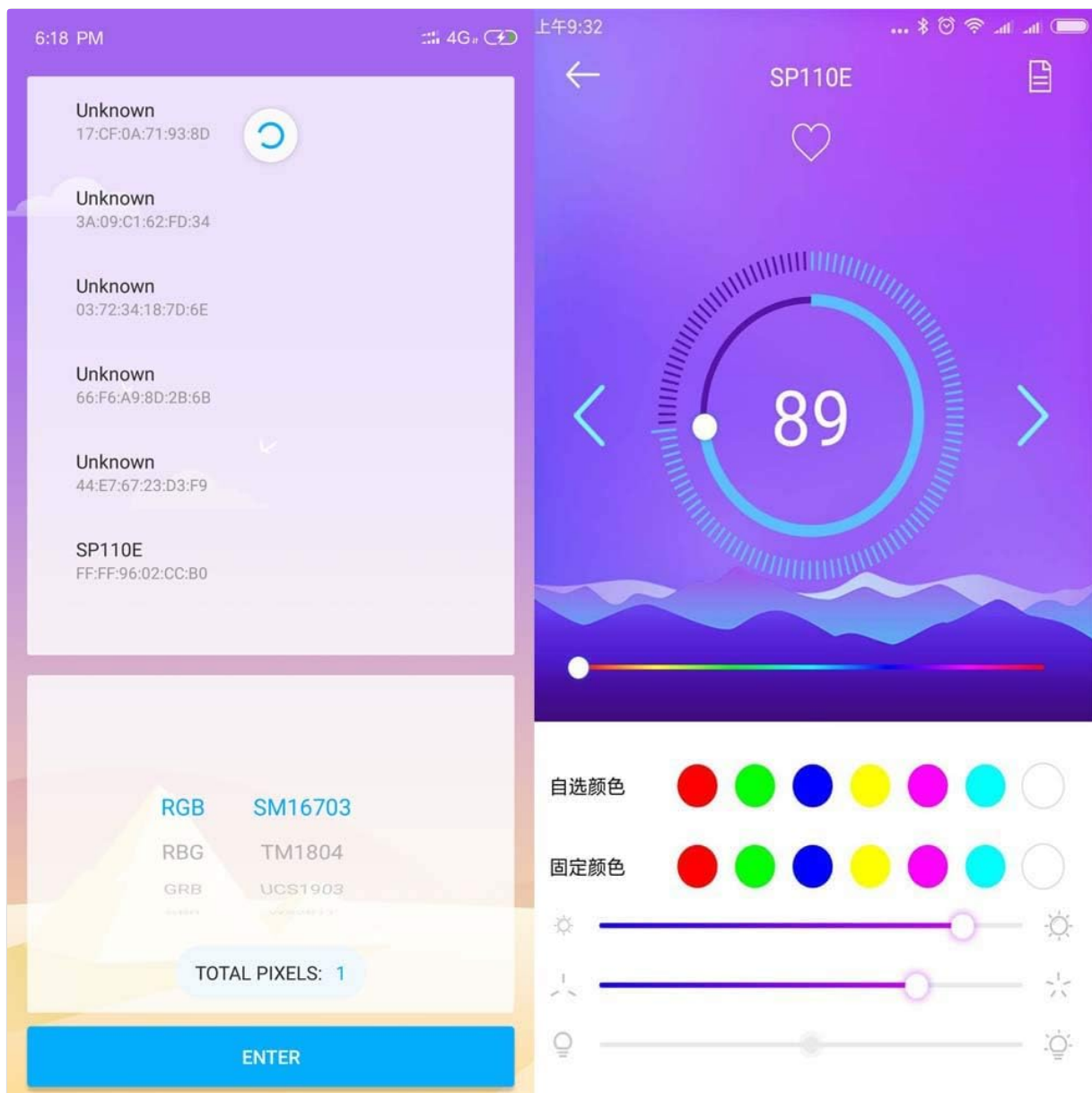


Image 5.4: Instructions for downloading the 'LED Hue' app by searching or scanning a QR code, alongside the Bluetooth logo and a screenshot of the app interface.

5.3 App Connection

1. Ensure Bluetooth is enabled on your mobile device.
2. Open the "LED Hue" application.
3. In the app, pull down to refresh the device list. Your SP110E controller should appear as "SP110E".
4. Select "SP110E" to connect. You can long-press the connected device in the app to change its name for easier identification if you have multiple controllers.



Image 5.5: Screenshots of the LED Hue app, showing the device list with "SP110E" detected and the main control interface for color and brightness adjustments.

6. OPERATING INSTRUCTIONS

6.1 IC Type Selection

After connecting, navigate to the settings within the LED Hue app to select the correct IC type for your LED strip. This is crucial for proper functionality.

- For WS2812B and WS2813 LED strips, select **WS2811** in the app, as these models are not listed individually.
- For SK6812RGBW LED strips, select **SK6812RGBW**. The white channel can be adjusted independently for this type.

Search for “LED Hue” to download and install the app.

LED Hue



Bluetooth



Mobile Positioning

Note:

The controller only supports LED lights with smart IC. It can't support ordinary RGB / RGBW LED strip without IC.

Image 6.1: A table listing various supported IC types for LED strips, with a specific note indicating that for WS2812(B) and WS2813, users should select WS2811 in the app.

6.2 Color and Mode Selection

The LED Hue app provides extensive options for customizing your lighting:

- **Dynamic Modes:** Choose from 120 kinds of dynamic color change modes.
- **Static Colors:** Select from a wide range of static colors.
- **Brightness Adjustment:** Adjust the overall brightness of the LED strip.
- **Speed Adjustment:** Control the speed of dynamic modes.

6.3 Pixel Count Setting

Set the total number of pixels your LED strip contains within the app. The SP110E controller supports up to 1024 pixels in total. Accurate pixel count ensures proper display of effects.

6.4 RGB Sequence Adjustment

The app allows you to adjust the color order (RGB/RBG/BRG/BGR/GRB/GBR) to match your specific LED strip configuration, ensuring colors are displayed as intended.

7. MAINTENANCE

To ensure the longevity and optimal performance of your RGBZONE SP110E Bluetooth LED Controller, follow these maintenance guidelines:

- **Keep Dry:** The controller is not water-resistant. Avoid exposure to moisture, humidity, or liquids.
- **Temperature:** Operate and store the controller within recommended temperature ranges. Avoid extreme heat or cold.
- **Cleaning:** Clean the exterior of the controller with a soft, dry cloth. Do not use harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure the controller is placed in an area with adequate ventilation to prevent overheating.

8. TROUBLESHOOTING

If you encounter issues with your SP110E controller, refer to the following troubleshooting steps:

- **Controller Not Powering On:**
 - Verify that the power supply is correctly connected to the controller's DC input port.
 - Ensure the power supply is providing the correct voltage (5V-24V DC).
 - Check for any loose connections or damaged cables.
- **LEDs Not Lighting Up or Displaying Incorrect Colors:**
 - Confirm that the correct IC type for your LED strip is selected in the LED Hue app (e.g., WS2811 for WS2812B/WS2813).
 - Check the wiring between the controller and the LED strip (VCC, DAT, GND) for proper alignment and secure connection.
 - Ensure the input voltage to the controller matches the operating voltage of your LED strip.
 - Verify that the pixel count set in the app accurately reflects the number of pixels in your LED strip.
- **Bluetooth Connection Issues:**
 - Ensure Bluetooth is enabled on your mobile device.
 - Restart the LED Hue app and the SP110E controller (by disconnecting and reconnecting power).
 - Make sure your mobile device is within close proximity to the controller.
 - Check that your mobile device's operating system meets the minimum requirements (iOS 10.0+ / Android 4.4+).
- **LEDs Flashing Erratically or Unpredictably:**
 - This can often be caused by an insufficient power supply. Ensure your power supply can provide enough current for all connected LEDs.
 - Re-check the selected IC type and pixel count in the app.
 - Inspect wiring for any shorts or loose connections.

9. WARRANTY AND SUPPORT

For technical assistance, product support, or inquiries regarding warranty information, please contact RGBZONE customer service through the retailer where the product was purchased or visit the official RGBZONE website for contact details.

