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Vrabcry sp548e

Vrabcry SP548E SPI RGB LED Controller User Manual

Comprehensive instructions for setup, operation, and maintenance of your SP548E LED controller.

1. INTRODUCTION

The Vrabcry SP548E is an advanced SPI RGB LED controller designed for digital addressable LED strip lights. It offers versatile control options including WiFi, Bluetooth, 2.4G RF remote, and onboard buttons. This controller supports a wide range of LED ICs such as WS2811, WS2812B, WS2815, and SK series, operating on DC 5-24V. It enables users to manage up to 1200 controllable pixels, providing dynamic lighting effects, music synchronization, and smart home integration via Alexa.

2. PACKAGE CONTENTS

Please verify that all items listed below are included in your package:

- 1x Vrabcry SP548E WiFi BT Pixel LED Controller
- 1x 2.4G RF Remote Control (Battery not included)
- 1x User Manual (this document)
- 1x Mounting Clip (may vary by package)



Image: The SP548E controller, its 2.4G RF remote, and the included instruction manual, laid out on a white surface.



Image: A complete view of the package contents, including the SP548E controller, the remote, the manual, and a white mounting clip.

3. SPECIFICATIONS

Input Voltage	DC 5-24V
Connection Type	WiFi, Bluetooth
Controllable Pixels	Up to 1200 ICs
Application	Digital Addressable LED Light Strips
Output Signal	SPI (TTL) Digital Signal
Compatible LED Strips	WS2811, WS2812, WS2815, SK series IC SPI RGB LED strips
App Name	Banlanx

Working Temperature	-20°C to 60°C
Max Current	6A
Control Methods	APP, IR Remote, Buttons, Alexa Voice Control

4. SETUP INSTRUCTIONS

4.1 Controller Overview

Familiarize yourself with the controller's ports and buttons before proceeding with installation.



Image: The SP548E controller showing its 5.5x2.5mm DC input, 3-pin output for LED strips, and onboard buttons labeled for Music mode, ON/OFF, and Speed

4.2 Wiring Diagram

Follow the diagram below to correctly connect the LED controller to your power supply and LED strip.

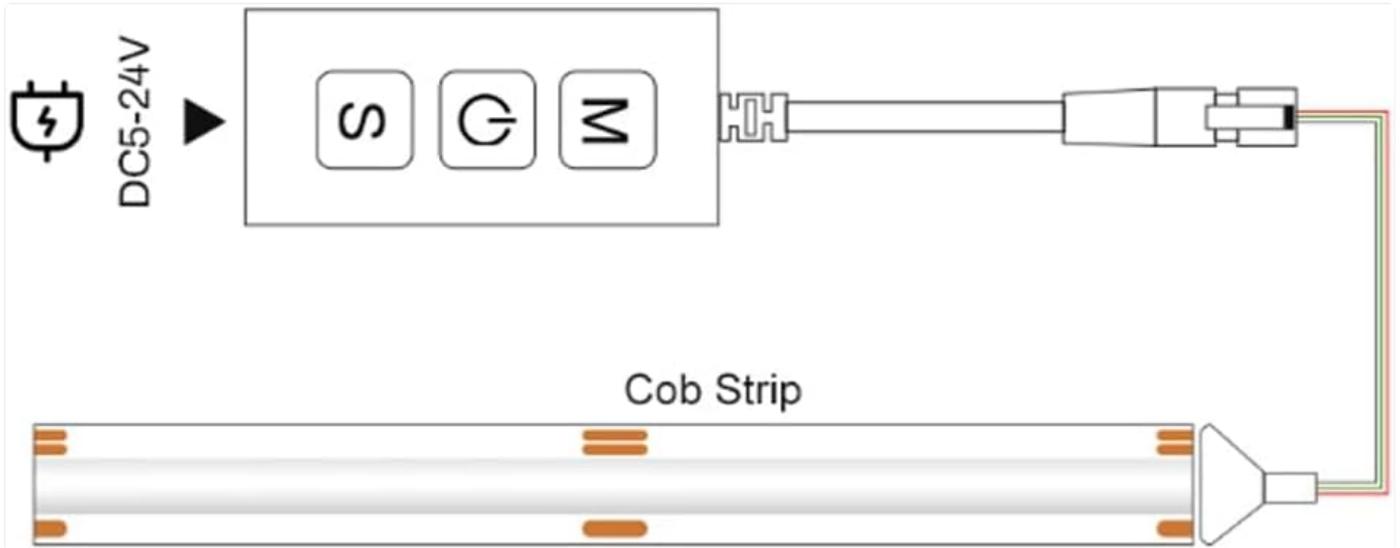


Image: A simplified wiring diagram illustrating the connection. The DC 5-24V power input connects to the controller, and the controller's 3-pin output connects to a compatible LED strip (e.g., Cob Strip).

1. Ensure all power is disconnected before making any connections.
2. Connect a DC 5-24V power supply to the controller's DC input port.
3. Connect your compatible digital addressable LED strip (e.g., WS2811, WS2812B) to the controller's 3-pin output connector. Ensure correct polarity (Data, Ground, VCC).
4. Once all connections are secure, connect the power supply to an electrical outlet.

4.3 App Installation (Banlanx)

To utilize the full features of your controller, download the "Banlanx" app from your device's app store (available for iOS and Android). Follow the in-app instructions to pair your controller via WiFi or Bluetooth.

5. OPERATING INSTRUCTIONS

5.1 Remote Control Functions

The included 2.4G RF remote control provides convenient access to various lighting modes and settings. Ensure the remote has batteries installed (not included).

1 ON Button

Short press: Turns on the light.

Long press: Long-press the **ON** button within 20 seconds of powering on the controller to bind/unbind the remote control.

2 OFF Button

Short press: Turns off the light.

Long press: within 20 seconds of powering on the controller, first turn off the light completely, then long-press the **OFF** button to clear all paired remote controllers.

3 Speed +/-

4 Timed 1H/2H Delay-Off

5 All Effect Cycle 6 Mode +/-

7 Music +/- 8 Brightness +/-

9 Color +/- 10 Color Select

W: White
Y/C/P: Yellow/Cyan/Purple
R/G/B: Red/Green/Blue



Image: A detailed layout of the 2.4G RF remote control, indicating the function of each button. Key functions include ON/OFF, Speed adjustment, Timed Delay-Off, Effect Cycle, Mode selection, Music effects, Brightness control, and Color selection.

1. **ON Button:** Short press to turn on the light. Long press within 20 seconds of powering on the controller to bind/unbind the remote control.
2. **OFF Button:** Short press to turn off the light. Long press within 20 seconds of powering on the controller (after turning off the light completely) to clear all paired remote controllers.
3. **Speed +/-:** Adjusts the speed of dynamic effects.
4. **Timed 1H/2H Delay-Off:** Sets a timer for the lights to turn off after 1 or 2 hours.
5. **All Effect Cycle (AUTO):** Cycles through all available dynamic effects.
6. **Mode +/-:** Selects different dynamic lighting modes.
7. **Music +/-:** Selects different music synchronization effects.
8. **Brightness +/-:** Adjusts the brightness level of the lights.
9. **Color +/-:** Fine-tunes color selection within certain modes.
10. **Color Select Buttons (W, Y, C, P, R, G, B):** Directly selects White, Yellow, Cyan, Purple, Red, Green, or Blue colors.

The 2.4G RF remote offers a long control distance and stable signal transmission.



Image: The 2.4G RF remote control overlaid on an image of a room illuminated by colorful LED strip lights, demonstrating its wireless control capability.

5.2 Onboard Button Control

The controller itself features three buttons for basic control:



Image: The SP548E controller with its three buttons labeled: 'M' for Mode adjust, power symbol for ON/OFF, and 'S' for Speed adjust. The controller is shown in a room with LED strip lighting.

- **Power Button (Middle):** Turns the LED lights ON or OFF.
- **'M' Button (Top):** Adjusts the lighting mode.
- **'S' Button (Bottom):** Adjusts the speed of dynamic lighting effects.

5.3 Smart APP Control (Banlanx)

The "Banlanx" app provides comprehensive control over your LED lights. After pairing your controller via WiFi or Bluetooth, you can:

- Select from 180 non-music dynamic effects with adjustable brightness and speed.
- Choose from 8 built-in music effects for synchronization with audio.
- Access 8 dynamic LED effects and 8 solid color scenes.
- Customize colors and create personalized lighting scenes.
- Set timers and schedules for automatic operation.

5.4 Alexa Smart Voice Control

The SP548E controller supports integration with Alexa for voice commands. Once configured through the Banlanx app and linked to your Alexa account, you can use voice commands to:

- Turn lights ON/OFF.
- Change colors.
- Adjust brightness.
- Activate specific dynamic LED effects, solid color scenes, or music effects.

Refer to the Banlanx app's help section for detailed instructions on Alexa integration.

6. MAINTENANCE

- Keep the controller in a dry environment, away from moisture and extreme temperatures.
- Clean the controller's exterior with a soft, dry cloth. Do not use liquid cleaners or solvents.
- Ensure proper ventilation around the controller to prevent overheating.
- If the remote control is unresponsive, check and replace its batteries.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
LED strip does not light up.	<ul style="list-style-type: none">◦ No power to the controller.◦ Incorrect wiring.◦ LED strip is faulty or incompatible.	<ul style="list-style-type: none">◦ Check power supply connection and outlet.◦ Verify all connections according to the wiring diagram (Section 4.2).◦ Ensure the LED strip is a compatible digital addressable type (WS2811, WS2812B, etc.) and test with another strip if possible.
Remote control is unresponsive.	<ul style="list-style-type: none">◦ Low or dead batteries.◦ Remote not paired with controller.◦ Obstruction between remote and controller.	<ul style="list-style-type: none">◦ Replace batteries in the remote.◦ Re-pair the remote by long-pressing the ON button on the remote within 20 seconds of powering on the controller.◦ Ensure clear line of sight or reduce distance, though RF should penetrate some obstacles.
App cannot connect to the controller.	<ul style="list-style-type: none">◦ Incorrect WiFi password.◦ Controller not in pairing mode.◦ Bluetooth disabled on phone.	<ul style="list-style-type: none">◦ Double-check your WiFi network name and password.◦ Follow the Banlanx app's instructions for pairing.◦ Enable Bluetooth on your mobile device.◦ Ensure your phone is within Bluetooth range or connected to the same WiFi network.
Lights flicker or display incorrect colors.	<ul style="list-style-type: none">◦ Insufficient power supply.◦ Incorrect LED strip type selected in app.◦ Loose connections.	<ul style="list-style-type: none">◦ Ensure your power supply provides adequate voltage and current for your LED strip's length and pixel count.◦ Verify the correct LED strip IC type is selected in the Banlanx app settings.◦ Check all wiring connections for tightness.

