

BTF-LIGHTING SP530E+RB3 Kit

BTF-LIGHTING SP530E LED Controller with RB3 Remote Kit User Manual

Model: SP530E+RB3 Kit

1. INTRODUCTION

Thank you for choosing the BTF-LIGHTING SP530E LED Controller with RB3 Remote Kit. This device offers versatile control over various LED light strips, integrating WiFi, Bluetooth, and 2.4GHz RF technologies. It supports smart home platforms like Alexa and Google Home, providing a comprehensive lighting control solution for your environment. This manual provides detailed instructions for setup, operation, and maintenance to ensure optimal performance.

2. SAFETY INFORMATION

- Ensure the power supply voltage matches the requirements of the LED strip (DC5V-24V).
- Do not expose the controller to moisture or extreme temperatures.
- Disconnect power before making any wiring connections to prevent electrical shock.
- This device is designed for indoor use only.
- Keep out of reach of children.

3. PACKAGE CONTENTS

The BTF-LIGHTING SP530E+RB3 Kit includes the following items:

- 1x SP530E LED Controller
- 1x RB3 RF Remote Control

4. PRODUCT FEATURES

- All-in-One LED Controller:** Compatible with various LED strip types including PWM 3CH RGB, 4CH RGBW (without IC), and SPI RGB/RGBW (with Addressable IC Chip). Supports up to 1,200 ICs for SPI RGB LED strips and 900 ICs for SPI RGBW LED strips.
- Third-Party Voice Control:** Seamlessly integrates with smart speaker platforms such as Amazon Alexa and Google

Home for voice commands to control light switches, brightness, and color.

- **4-Zone Control:** The RB3 RF remote allows control of up to 4 distinct lighting zones. Supports one-to-many control (one remote controls multiple controllers) and multi-to-one control (each controller can bind up to 5 RF remotes).
- **Color Calibration:** Feature to calibrate colors if the app display is inconsistent with the LED strip's output.
- **Timing Function:** Set up to 5 timers for automated lighting schedules.
- **Memory Function:** Retains settings in case of power loss. Supports Power On/Off Effect Setting, Fun Switch Setting, and Default Switching State Setting.
- **2.4GHz Wireless Remote Control:** Offers a control distance of up to 30 meters (98 feet) in open spaces.
- **LED Matrix Spectrum Effect:** Configure rectangular LED Matrix size and alignment, and set music spectrum parameters like color, saturation, and direction for unique music synchronization.

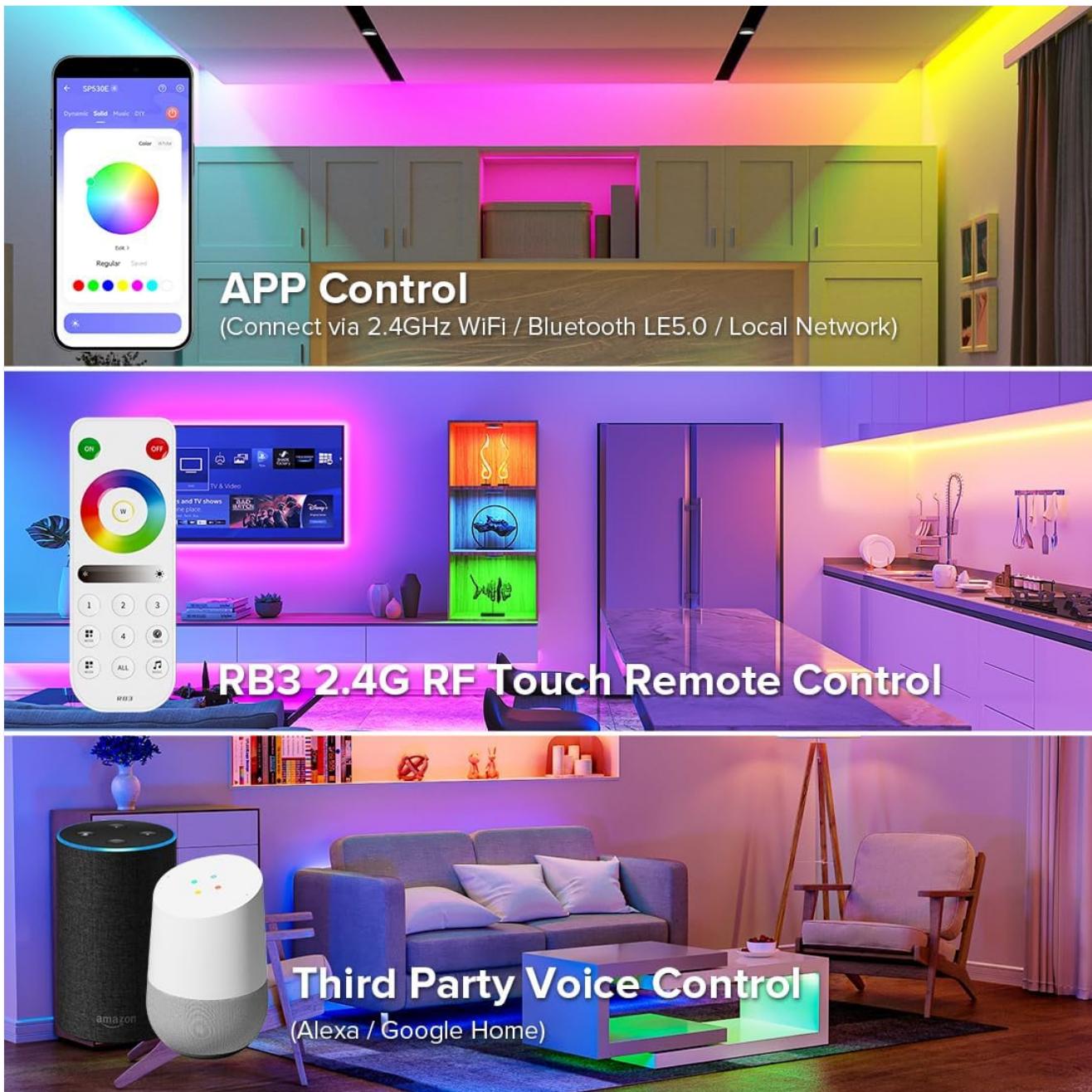


Image: Overview of control methods including app, RB3 remote, and third-party voice control (Alexa, Google Home).



Image: Key features of the RGB/RGBW RF Wireless Controller, including PWM/SPI support, Bluetooth, music effects, color calibration, and app/RF/Alexa control.

5. SETUP

5.1. Wiring the LED Controller

The SP530E controller supports various LED strip types. Ensure correct wiring based on your LED strip's specifications (SPI with IC or PWM without IC, and RGB/RGBW configuration). The input voltage (DC5V-24V) depends on your LED strip.

5.1.1. SPI RGB LED Strip Wiring (e.g., WS2812B, WS2811, WS2815)

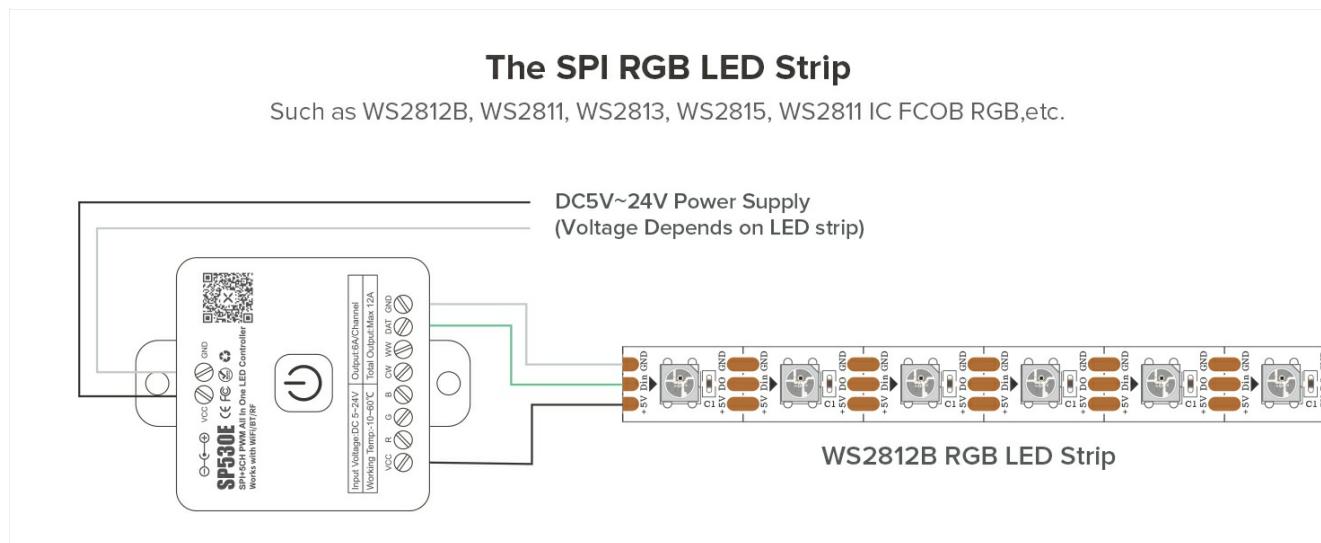


Image: Wiring diagram for an SPI RGB LED Strip (e.g., WS2812B). Connect VCC, DAT, and GND from the controller to the corresponding pins on the LED strip.

The SPI RGB LED Strip

Such as WS2812B, WS2811, WS2813, WS2815, WS2811 IC FCOB RGB,etc.

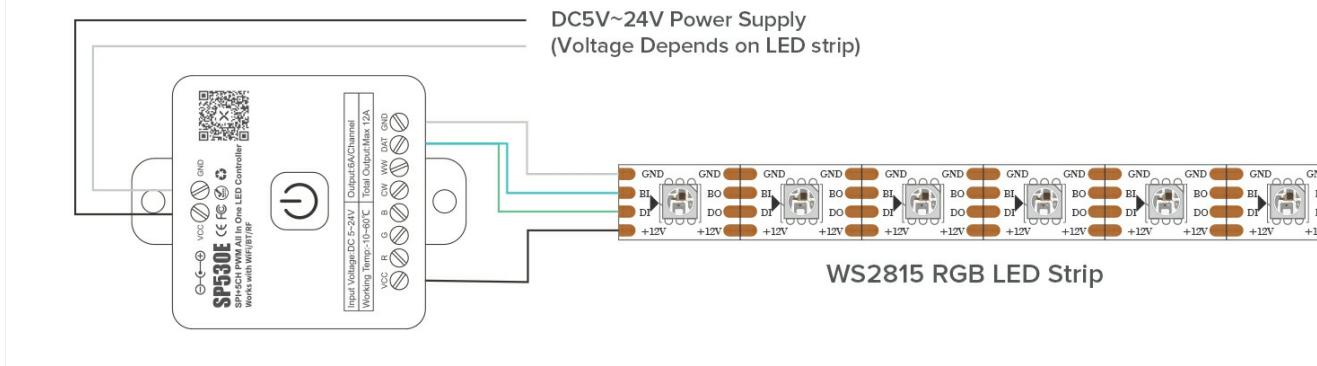


Image: Wiring diagram for an SPI RGB LED Strip (e.g., WS2815). Connect VCC, BI, DI, and GND from the controller to the corresponding pins on the LED strip.

5.1.2. SPI RGBW LED Strip Wiring (e.g., SK6812RGBW, WS2814RGBW)

The SPI RGBW LED Strip

Such as SK6812RGBW, WS2814RGBW etc.

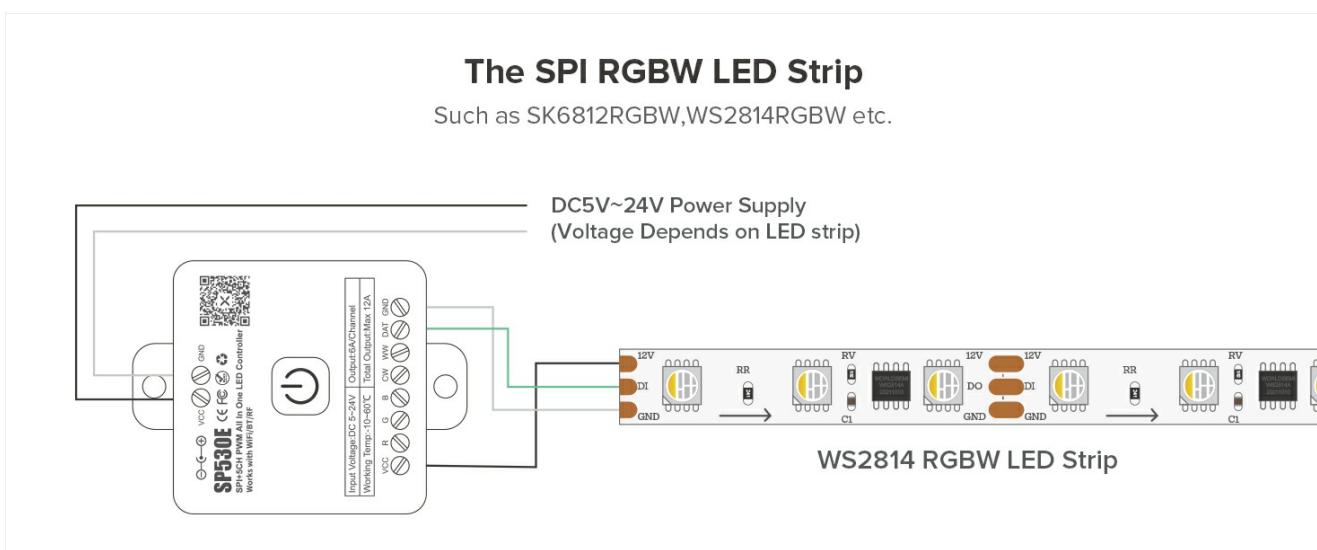


Image: Wiring diagram for an SPI RGBW LED Strip (e.g., SK6812RGBW, WS2814RGBW). Connect VCC, DAT, and GND from the controller to the corresponding pins on the LED strip.

5.1.3. PWM RGB LED Strip Wiring (e.g., 5050 RGB, FCOB RGB)

The PWM RGB LED Strip

Such as 5050 RGB, FCOB RGB,etc.

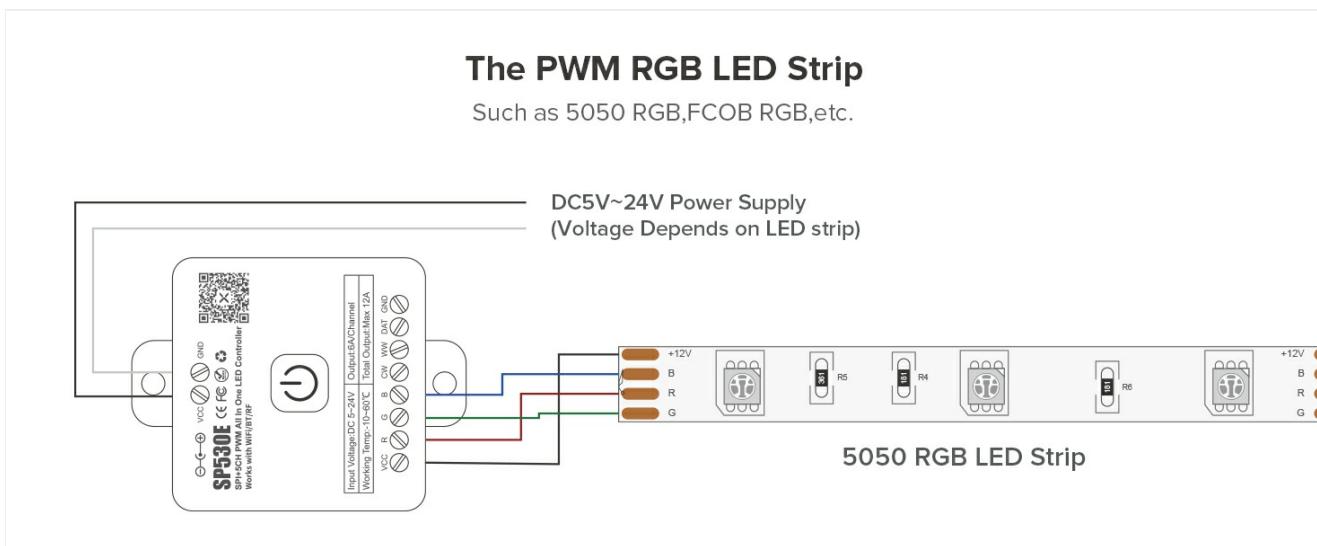


Image: Wiring diagram for a PWM RGB LED Strip (e.g., 5050 RGB, FCOB RGB). Connect VCC, R, G, B, and GND from the controller to the corresponding pins on the LED strip.

5.1.4. PWM RGBW LED Strip Wiring (e.g., 5050 RGBW, FCOB RGBW)

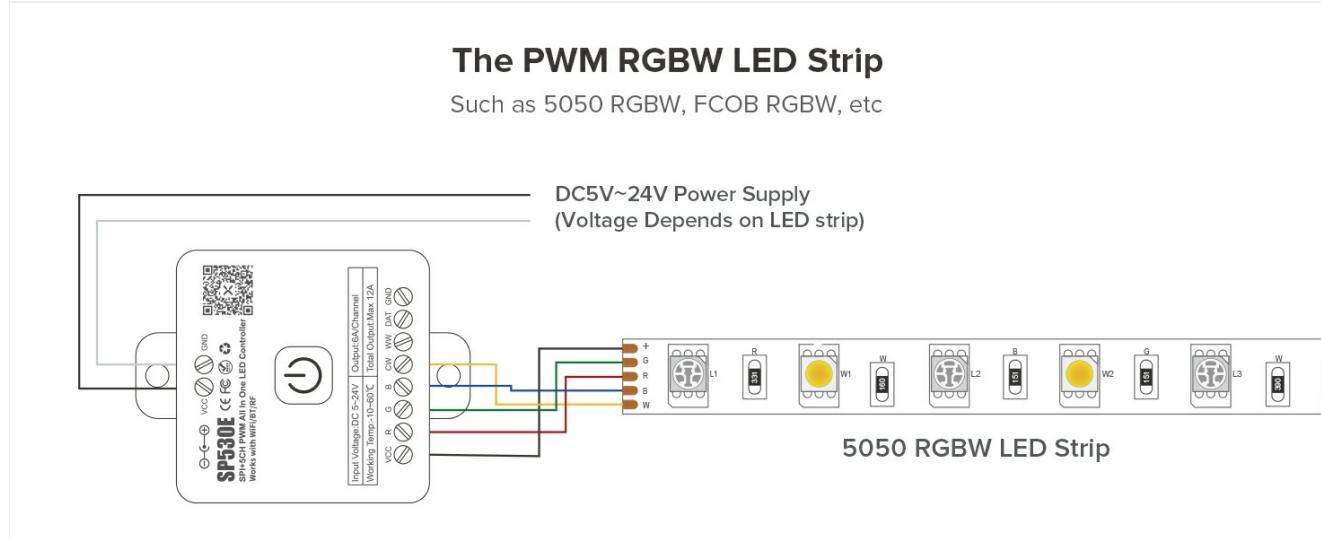


Image: Wiring diagram for a PWM RGBW LED Strip (e.g., 5050 RGBW, FCOB RGBW). Connect VCC, R, G, B, W, and GND from the controller to the corresponding pins on the LED strip.

5.2. App Installation and Connection

Download the BanlanX app from your smartphone's app store. Follow the in-app instructions to connect the SP530E controller via WiFi or Bluetooth.

5.2.1. Setting LED Type in App

After connecting, it is crucial to set the correct LED type in the app to ensure proper functionality and color accuracy.

1. Enter the parameter setting interface in the app.
2. Select 'Modify Light Type' and choose the appropriate LED type (e.g., SPI RGB, PWM RGBW).
3. Follow the prompts to complete color correction if needed.

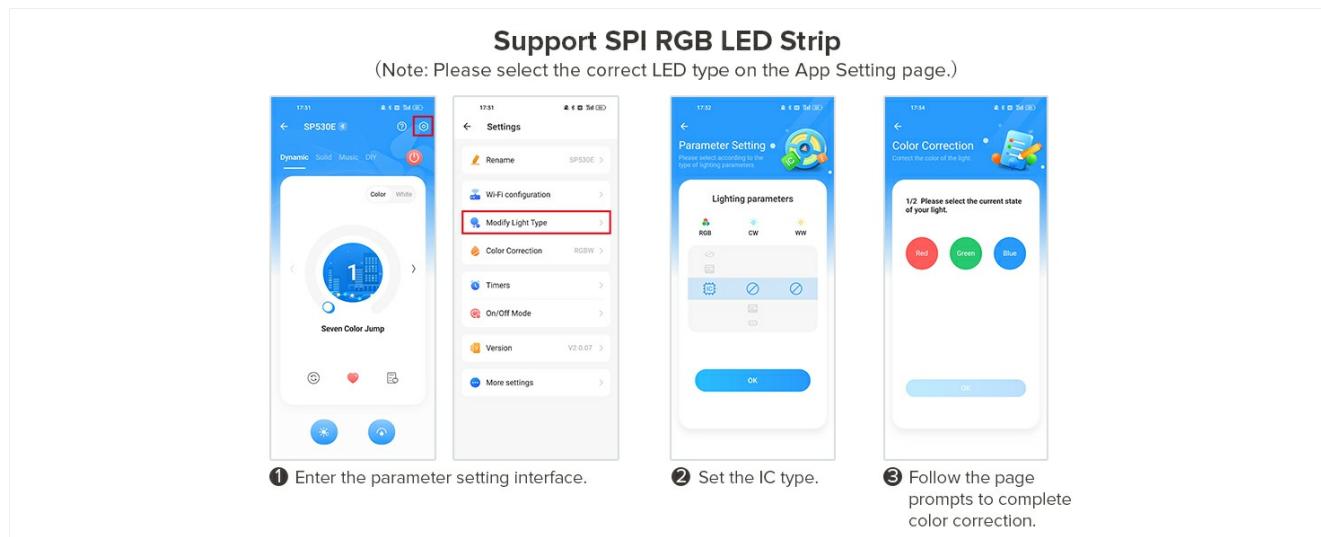
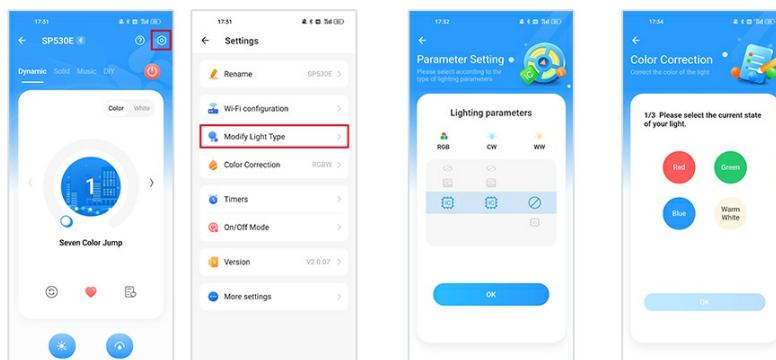


Image: App interface showing steps to set the LED type for SPI RGB LED strips and perform color correction.

Support SPI RGBW LED Strip

(Note: Please select the correct LED type on the App Setting page.)



① Enter the parameter setting interface.

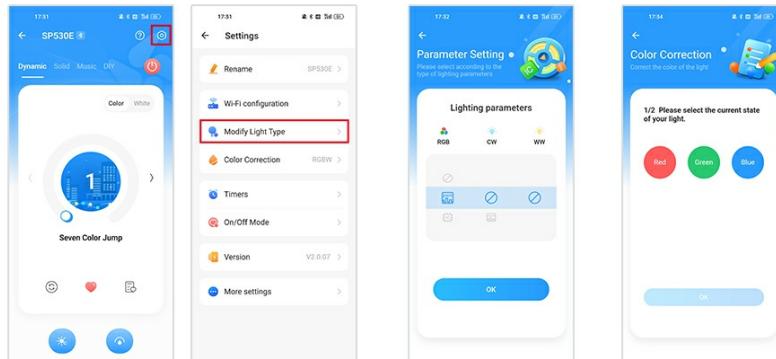
② Set the IC type.

③ Follow the page prompts to complete color correction.

Image: App interface showing steps to set the LED type for SPI RGBW LED strips and perform color correction.

Support PWM RGB LED Strip

(Note: Please select the correct LED type on the App Setting page.)



① Enter the parameter setting interface.

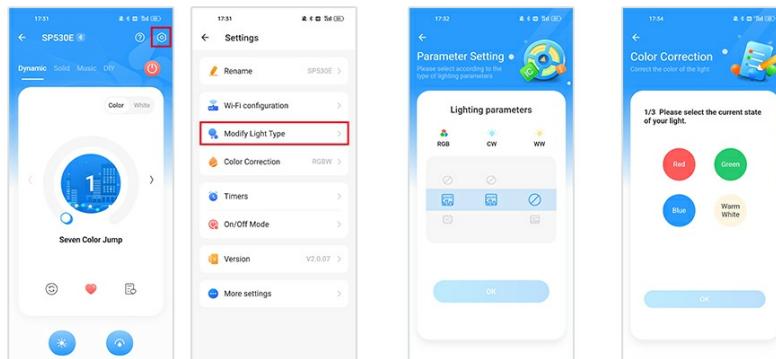
② Set the LED type.

③ Follow the page prompts to complete color correction.

Image: App interface showing steps to set the LED type for PWM RGB LED strips and perform color correction.

Support PWM RGBW LED Strip

(Note: Please select the correct LED type on the App Setting page.)



① Enter the parameter setting interface.

② Set the LED type.

③ Follow the page prompts to complete color correction.

Image: App interface showing steps to set the LED type for PWM RGBW LED strips and perform color correction.

5.3. Pairing the RB3 RF Remote Control

The RB3 remote can control up to 4 zones. Follow these steps to pair the remote with your SP530E controller(s).

5.3.1. Binding the Remote Control

- Power on the controller. Within 20 seconds, long press the **ON** button on the RB3 remote. The LED strip will flash to indicate successful binding.

5.3.2. Unbinding the Remote Control

- Power on the controller. Within 20 seconds, first turn off the lights completely using the remote, then long press the **OFF** button to clear all bound remote controls.

5.3.3. Zone Setting

The RB3 remote allows you to assign controllers to specific zones (1-4).

- **Short Press:** Select a specific zone (1, 2, 3, or 4). Short press the zone number, then press the **ON** button. Only that zone will respond.
- **Long Press:** To set a controller to a specific zone, power on the controller. Within 20 seconds, long press the desired zone key (1, 2, 3, or 4).



Image: Illustration of short press and long press functions for zone setting on the RB3 remote control.

5.3.4. Group Setting and Control

The RB3 remote supports controlling multiple controllers in groups, with each group controlling an LED strip within 30m (98ft). There is no limit to the number of controllers in a group.

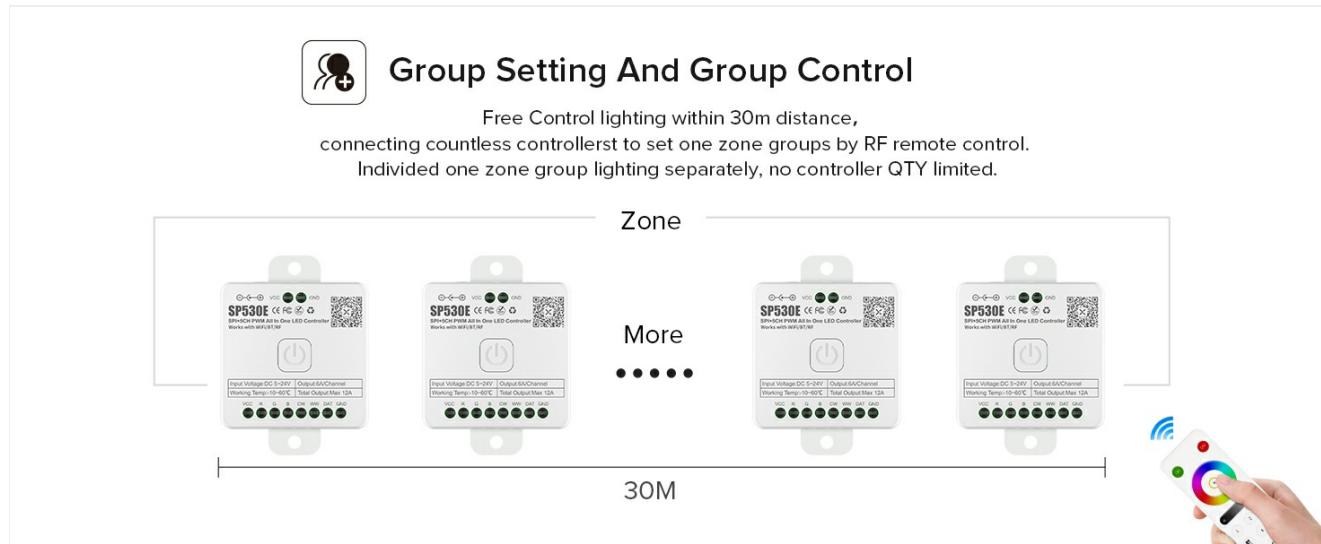


Image: Diagram showing how multiple SP530E controllers can be grouped and controlled by a single RB3 RF remote.



Image: Illustration of the RB3 remote controlling four separate zones within a home environment.

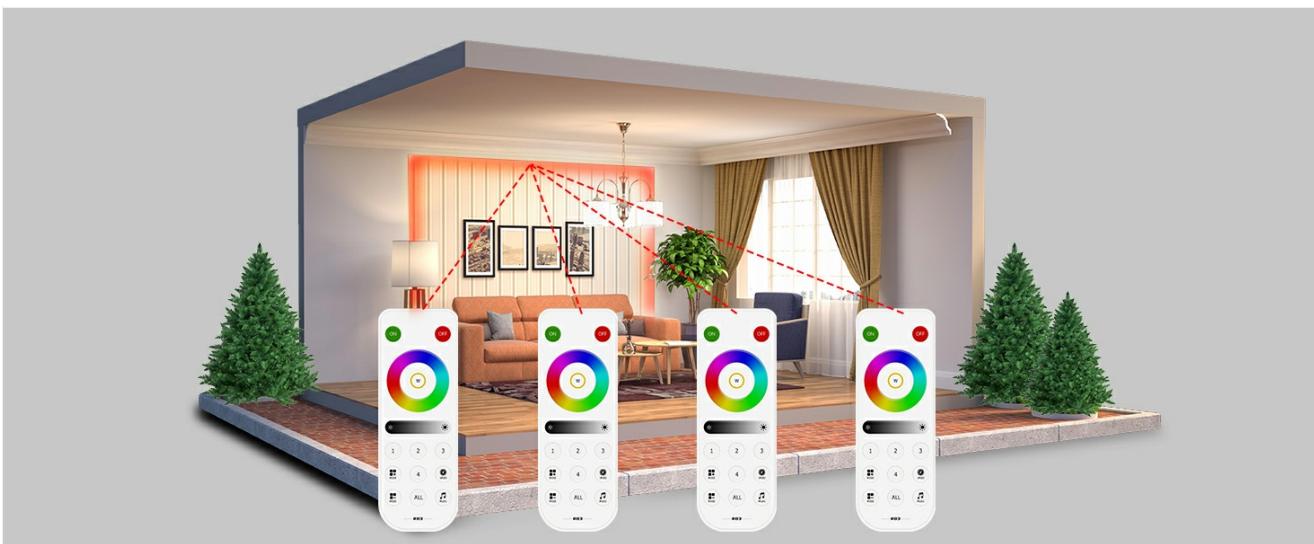


Image: Depiction of multiple RB3 remotes controlling a single lighting zone, demonstrating multi-to-one control capability.

6. OPERATING INSTRUCTIONS

6.1. App Control (BanlanX App)

The BanlanX app provides comprehensive control over your SP530E controller. The app features Dynamic, Static, Music, and DIY modes, along with various settings.



Image: Overview of the BanlanX app interface, showing Dynamic, Static, Music, DIY modes, and the Settings menu.

6.1.1. Music Effects

The app supports both multi-segment LED strip music effects and matrix LED music spectrum effects.

- **Multi-segment LED Strip Music Effects:** Configure segments and pixels of light strips. Each segment can have a different music effect with four audio ranges (low, middle, high, full frequency).
- **Matrix LED Music Spectrum Effects:** Flexibly configure the size and alignment of the rectangular LED Matrix. Adjust parameters like color, saturation, and direction for sound column effects.

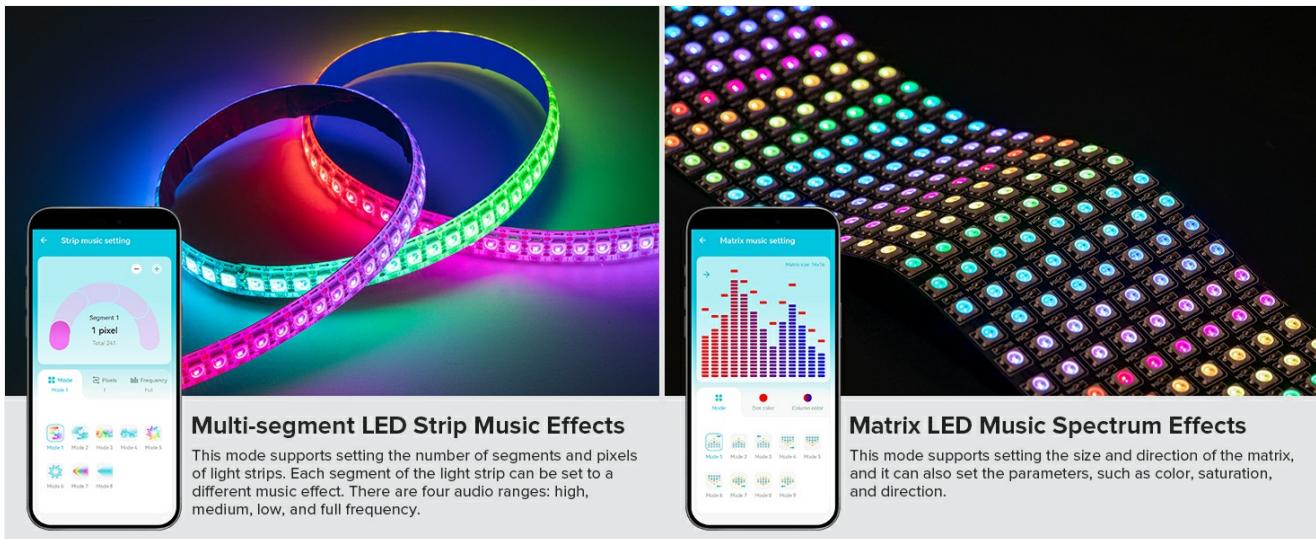


Image: App screenshots demonstrating multi-segment LED strip music effects and matrix LED music spectrum effects.

6.2. RB3 RF Remote Control Functions

The RB3 remote provides quick access to essential lighting controls.

- **ON Button:** Short press to turn on the light. Long press (within 20s of power-on) to bind/unbind the remote control.
- **OFF Button:** Short press to turn off the light. Long press (within 20s of power-on, after turning off lights) to clear all bound remote controls.
- **ALL Button:** Short press to select all zones. Long press (within 20s of power-on) to unset the zones.
- **Color Wheel:** Touch to select desired color.
- **Brightness/Speed Control:** Adjust brightness or effect speed.
- **Zone Selection (1-4):** Select individual zones for control.



Image: Detailed functions of the RB3 RF remote control, including ON/OFF, ALL, and zone selection.

6.3. Voice Control (Alexa & Google Home)

The SP530E controller supports third-party voice control without needing a 2.4GHz gateway.



Image: Demonstrates smartphone app control and compatibility with Amazon Alexa and Google Assistant for voice commands.

6.3.1. Connecting to Alexa

1. Open the BanlanX app and navigate to the 'Me' section.
2. Select 'Third-Party Voice Services'.
3. Choose 'Amazon Alexa'.
4. Click 'Quick Link' to proceed.
5. In the Alexa App, search for 'BanlanX' in the Skills & Games section. Ensure you select the correct skill.
6. Enable the skill and log in to your BanlanX account to link.

Connect to Alexa

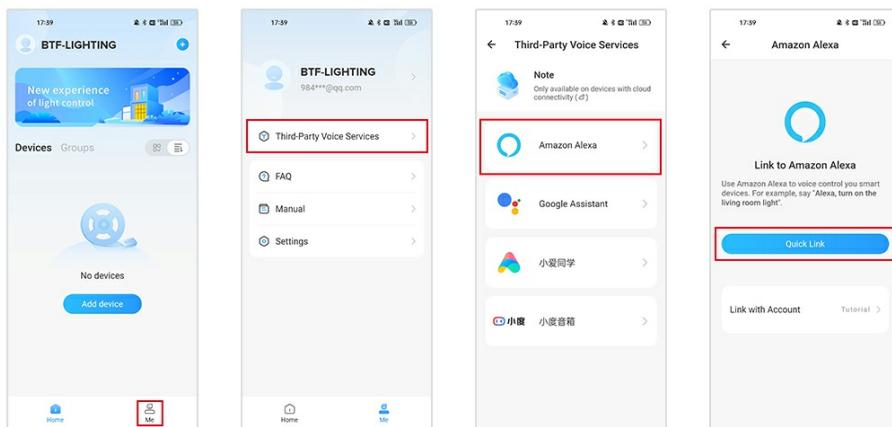
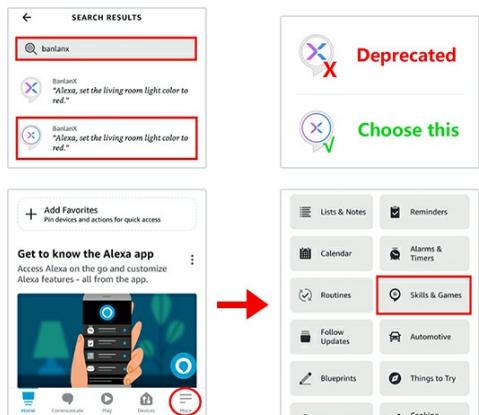
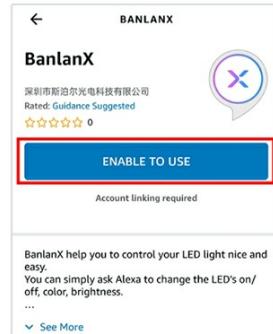


Image: Step-by-step guide within the BanlanX app to connect the SP530E controller to Amazon Alexa.

1. Search "banlanx" on Alexa App's Skills page. (Make sure you choose the right skills)



2. Click "ENABLE TO USE" button



3. Log in to your account

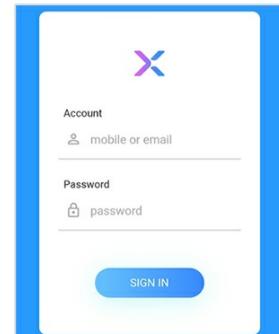


Image: Instructions for finding and enabling the BanlanX skill within the Amazon Alexa application.

6.4. Official Product Video

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Video: An official product overview of the SP530E BT WiFi Controller by BTF-Lighting, demonstrating its features and capabilities.

7. MAINTENANCE

- Keep the controller clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the device to direct sunlight or heat sources.
- Regularly check wiring connections to ensure they are secure.

8. TROUBLESHOOTING

- Lights not turning on:** Check power connections to the controller and LED strip. Ensure the power supply is adequate for the LED strip.
- Remote not responding:** Check if the remote is paired correctly (refer to Section 5.3). Ensure the remote's battery is not depleted.
- App connection issues:** Verify your WiFi network is 2.4GHz. Restart the controller and your smartphone. Ensure the BanlanX app is updated to the latest version.

- **Incorrect colors:** Perform color calibration through the BanlanX app (refer to Section 5.2.1). Ensure the correct LED type is selected in the app settings.
- **Delay in power-on with wall switch:** If connected to a standard wall switch, there might be a 15-second delay for WiFi connection before lights turn on. This is normal behavior for WiFi-enabled controllers.

9. SPECIFICATIONS

Feature	Detail
Brand	BTF-LIGHTING
Model	SP530E+RB3 Kit
Control Method	WiFi (2.4GHz), Bluetooth, 2.4GHz RF Remote, Voice (Alexa, Google Home)
Input Voltage	DC5V-24V
Max Control (SPI RGB)	1,200 ICs
Max Control (SPI RGBW)	900 ICs
Remote Control Distance	30m (98ft) in open space
Indoor/Outdoor Usage	Indoor use only
Material	Plastic
Item Weight	0.13 Kilograms (4.6 ounces)
Average Life	50000 Hours

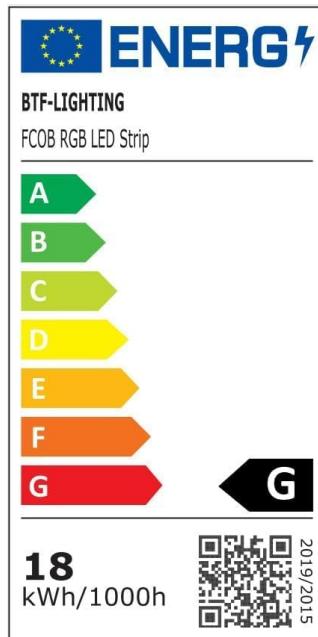


Image: EU Energy Label for FCOB RGB LED Strip. For more details, visit <https://eprel.ec.europa.eu/qr/1411725>.

10. WARRANTY AND SUPPORT

Specific warranty information is not provided in the product details. For warranty claims, technical support, or further assistance, please contact BTF-LIGHTING customer service through the retailer where the product was purchased or visit

the official BTF-LIGHTING website.