TOPXCDZ SP801E

TOPXCDZ SP801E WiFi Art-Net Magic LED Controller User Manual

Model: SP801E

1. Introduction

The TOPXCDZ SP801E is a WiFi Art-Net Magic LED Controller designed for controlling addressable LED light strips such as WS2812B and WS2811. It offers wireless control via iOS and Android applications, supporting both AP (Access Point) and STA (Station) working modes. This manual provides detailed instructions for setup, operation, and maintenance of your SP801E controller.

2. Features

- APP controlled via WiFi, compatible with multiple Art-Net computer software.
- BluFi configuration using dual mode chip (WIFI & BT).
- Supports AP mode and STA mode.
- Two layout setting methods: regular rectangle layout setting and importing DXF files.
- Supports two layers overlay, with built-in multiple types of effect layers: text layer, music effect layer, etc.
- Effect layers support a variety of custom parameters: direction, width, color, length, shape.
- Real-time preview, supports recording the current scene to the controller storage.
- Supports changing device name, reordering RGB order, and OTA updates.

3. Specifications

- Working Temperature: -20℃ to 60℃
- Working Voltage: DC5V~24V
- Working Current: 25mA~130mA
- Flash Capacity: 128M
- Output Signal: 4-port TTL signals
- Maximum Pixel Number: 1024 pixels per port

- LED Driver IC: Normal one-wire RZ code LED driver IC
- Dimensions: 80mm × 41mm × 20mm

4. Package Contents

Verify that all items are present in your package:

- 1 × SP801E WiFi Art-Net Magic LED Controller
- 1 × Connector Wire
- 1 × Small Screwdriver

Image: Contents of the SP801E package, including the controller, connector wire, and screwdriver.

5. Setup and Operation

5.1. App Control

The SP801E controller is managed via a mobile application. Both iOS and Android versions are available.

1. **Compatibility:** Requires iOS version 10.0 or later, or Android OS version 4.4 or later.
2. **Download:** Search for "BanlanX" on the App Store (iOS) or Google Play (Android). Alternatively, scan the QR code provided on the controller or packaging, or visit the official download page: https://download.ledhue.com/page/scenex/.

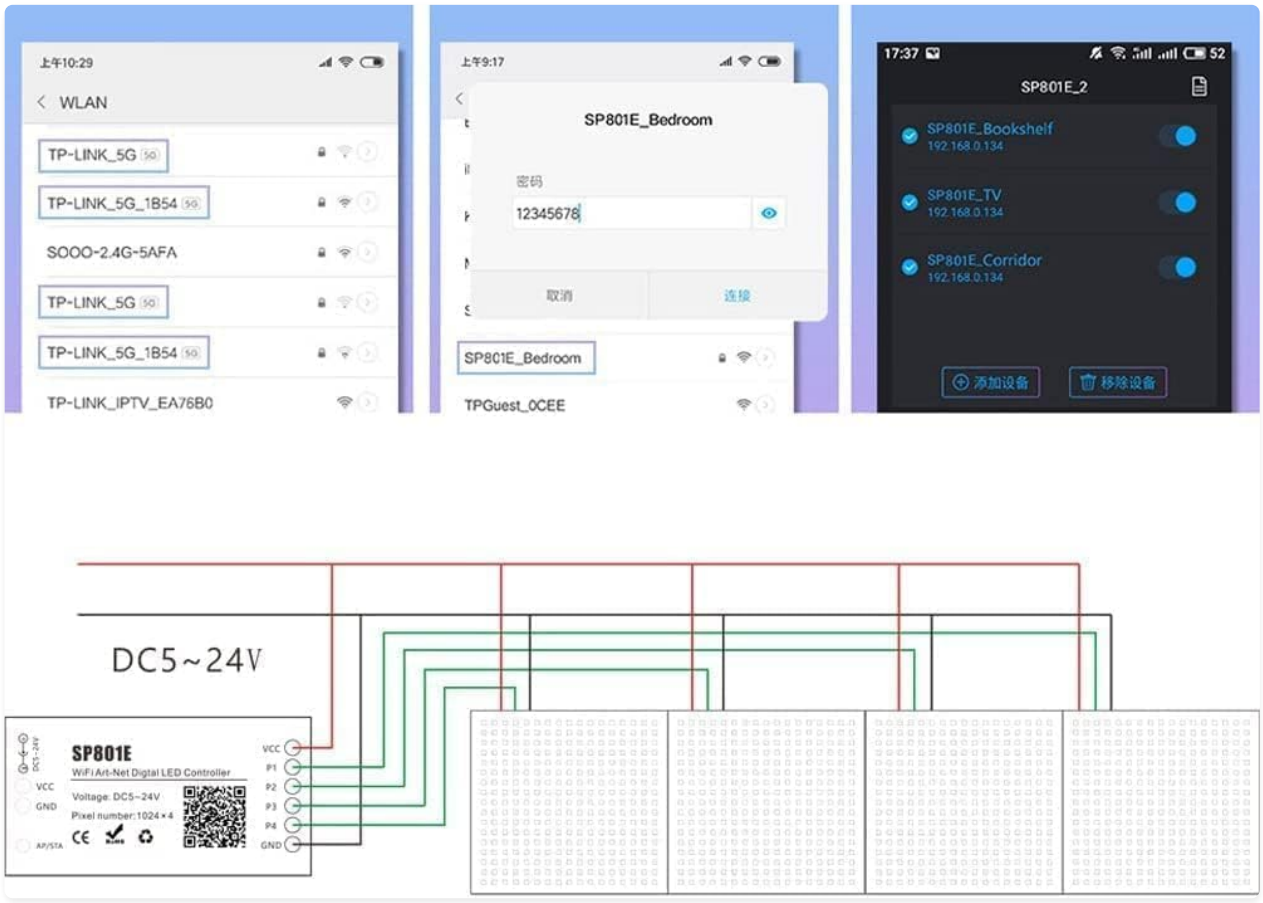

Image: Screenshots of the BanlanX application interface, demonstrating WiFi network selection and the device list.

5.2. Controller Functions

The controller features a single button and an LED indicator for status and mode changes.

Button Functions:

- **Click:** Switches between AP (Access Point) mode and STA (Station) mode.
- **Press and Hold:** Enters BluFi network configuration mode.

LED Indicator Functions:

- **Blue Static:** Indicates AP (Access Point) mode.
- **Green Static:** Indicates STA (Station) mode.
- **Green Flashing:** Indicates BluFi configuration mode.

5.3. Working Modes and Network Configuration

The SP801E controller supports two primary working modes for network connectivity:

AP (Access Point) Mode:

In AP mode, the controller acts as a WiFi access point, allowing your phone to connect directly to it.

1. Go to your phone's WiFi settings and connect to the controller's network (SSID will be similar to "SP801E_XXX"). The default password is **12345678**.
2. Open the BanlanX App. Click the "+" button to configure the new SP801E controller. The controller should then appear in the device list.

STA (Station) Mode:

In STA mode, the controller connects to your existing WiFi network, allowing both the controller and your

phone to be on the same network. This enables control from anywhere within your WiFi network range. There are two methods to configure the controller into your local WiFi network:

1. **Method 1: Via App Configuration**
    a. Connect your phone or tablet to a 2.4G WiFi network (5.0G WiFi networks are not supported).
    b. Open the app and click the "+" button to scan devices. Click "Add manually" and select the SP801E controller in the device category.
    c. Input your WiFi network password.
    d. BluFi config and AP control.
    e. For BluFi config: Press and hold the device's "STA/AP" button until the green LED indicator flashes. The device then enters network configuration state. Click "Next" and select the device you want to add.
    f. For AP config: Switch to AP mode. Click "Next" and connect your phone's WiFi to the network named "SP801E_XXX" (password: 12345678). Return to the app.
    g. Press "Next" to wait for the configure processing to finish.
    h. After configuration finishes, the LED indicator will turn into solid green, and the controller will be shown on the device list.
2. **Method 2: Using the Help & FAQ Page**
    Users can get more help and detailed information about the SP801E on the Help & FAQ page. Please keep your phone, the WiFi router, and the controller closer together to maintain a better signal connection during configuration.

5.4. Wire Connection

Proper wiring is crucial for the correct operation of the LED controller and connected light strips. Ensure power is disconnected before making any connections.

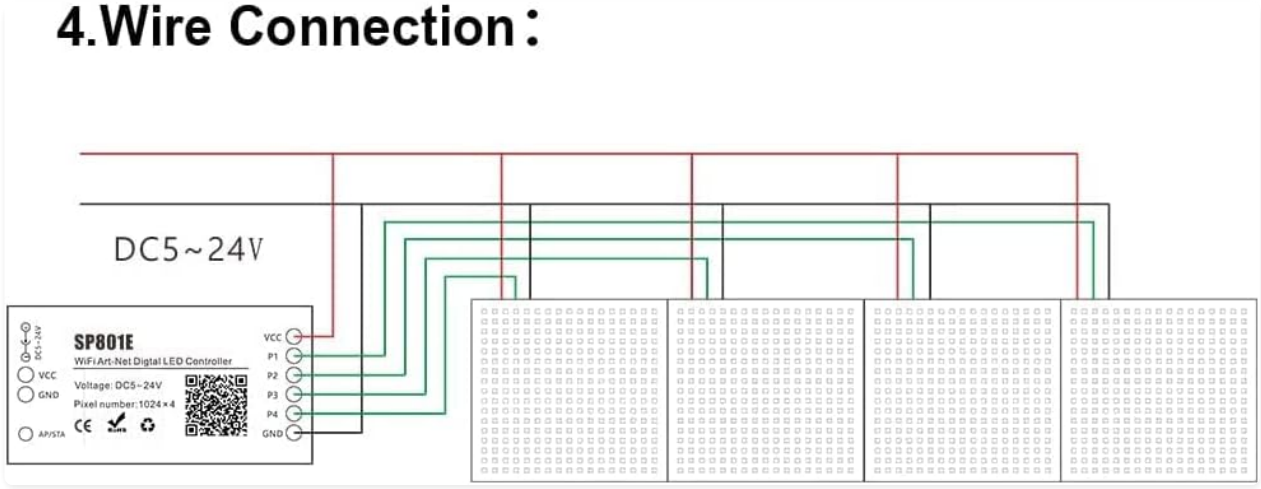

Image: Detailed wiring diagram showing connections from the SP801E controller to multiple LED matrix panels, indicating VCC, GND, and data lines (P1-P4).

The controller has terminals for VCC (power input), GND (ground), and four data output ports (P1, P2, P3, P4). Connect your DC5-24V power supply to the VCC and GND terminals. Connect the data input of your LED light strips or matrix panels to the corresponding P1-P4 data output ports, ensuring the GND lines are also connected.

6. Maintenance and Safety

To ensure the longevity and safe operation of your SP801E controller, please observe the following guidelines:

- **Operating Temperature:** The controller is designed to operate within -20°C to 60°C. Avoid exposing it to temperatures outside this range.
- **Storage Temperature:** For storage, maintain temperatures between -40°C and 80°C.
- **Installation Surface:** Ensure the installation surface is smooth, clean, and dry.
- **LED Components:** The part of LED components should not be fixed on the surface of sharp edges.
- **Physical Handling:** LED strips should not be collided or crushed.
- **Cutting LED Strips:** If cutting LED strips, always follow the designated cutting lines.
- **Moisture Sensitivity:** This device contains moisture-sensitive electrostatic sensitive devices. Handle with care.

Image: Product packaging displaying caution symbols and important handling and storage instructions.

7. Troubleshooting

If you encounter issues with your SP801E controller, consider the following common solutions:

- **No Power:** Ensure the DC5-24V power supply is correctly connected to the VCC and GND terminals and is providing adequate power. Check all power connections.
- **LEDs Not Lighting Up:** Verify that the LED strip's data input is correctly connected to one of the P1-P4 ports and that the GND lines are common. Confirm the LED driver IC type is compatible with the controller.
- **App Connection Issues:**
  - Ensure your phone's WiFi is enabled and connected to the correct network (either the controller's AP network or your home WiFi in STA mode).
  - For STA mode, confirm your home WiFi is 2.4GHz, as 5GHz networks are not supported.
  - Keep your phone, router, and controller in close proximity during initial setup.
  - If the controller is in AP mode, ensure you are connected to its "SP801E_XXX" network.
  - If the controller is in STA mode, ensure the green LED is static, indicating a successful connection to your home WiFi.
- **Incorrect LED Behavior:** Check the RGB order settings within the BanlanX app. Ensure the correct pixel count is configured for each port.
- **Controller Unresponsive:** Try power cycling the controller (disconnect and reconnect power). If issues persist, attempt to reconfigure the network settings.

8. Warranty and Support

For warranty information or technical support, please refer to the product documentation provided at the time of purchase or contact TOPXCDZ customer service through their official channels. Keep your purchase receipt for warranty claims.