TOPXCDZ H807SA

TOPXCDZ H807SA LED Pixel Controller

8-PORT DMX/ARTNET TO SPI LED PIXEL CONTROLLER

1. Introduction

The TOPXCDZ H807SA is an 8-port output single machine controller designed for advanced LED pixel control. It supports up to 8192 pixels in total, with each port capable of controlling a maximum of 1024 pixels. This controller integrates DMX/Art-Net protocols with SPI LED control, making it suitable for a wide range of LED strip light applications.

Key features include support for the Art-Net protocol, direct connection to DMX consoles, addressing of DMX chips, and flexible file management via an SD card. It also offers network synchronization capabilities and compatibility with various LED driver chips.

2. Package Contents

- H807SA 8-Port DMX/Artnet to SPI LED Pixel Controller
- 1 x Ethernet Adapter
- SD Card (pre-installed or included separately)

3. Setup

This section details the steps for connecting and preparing your H807SA controller for operation.

3.1 Power Connection

Connect the provided AC power cable to the controller's power input. Ensure the power switch is in the OFF position before connecting to a power source. The controller operates on AC power.

3.2 SD Card Installation

The H807SA controller uses an SD card for storing program files (DAT files). The SD card supports FAT32 and FAT16 formats and can hold up to 64 DAT files.

1. Locate the SD card slot on the side of the controller.

2. Insert the SD card gently into the slot until it clicks into place.

3. To remove, push the SD card inward until it springs out.

Figure 1: Side view of the H807SA controller, highlighting the SD card slot for program storage.

3.3 LED Strip Connections (SPI)

The controller features 8 output ports for connecting SPI LED strip lights. Each port typically requires GND, CLK/D-, and DAT/D+ connections.

1. Identify the GND, CLK/D-, and DAT/D+ terminals for each port on the controller.

2. Connect the corresponding wires from your LED strip to these terminals. Ensure correct polarity and connection for each pixel segment.

3. Each port can control up to 1024 pixels. Do not exceed this limit per port.

Figure 2: Top view of the H807SA controller, displaying the 8 output ports with screw terminals for connecting LED strips.

3.4 Network and DMX Connections

The H807SA supports both Art-Net over Ethernet and DMX512 protocols.

- **Ethernet Ports (NET1, NET2):** Use these ports for Art-Net communication with software like MADRIX or Jinx, or for local area network synchronization with other controllers. You can connect directly to a computer network card, a router, or a main controller.
- **DMX IN/OUT Ports:** Use these XLR ports to connect to a DMX console for control or to daisy-chain with other DMX devices.

Figure 3: Rear view of the H807SA controller, illustrating the Ethernet (NET1, NET2) and DMX IN/OUT ports for network and DMX connectivity.

3.5 Software Installation

The controller requires the use of the "LED Programming Software" V4.47 or above for creating and uploading program files to the SD card, as well as for advanced configuration. Please obtain the latest version of this software from the manufacturer's official support channels.
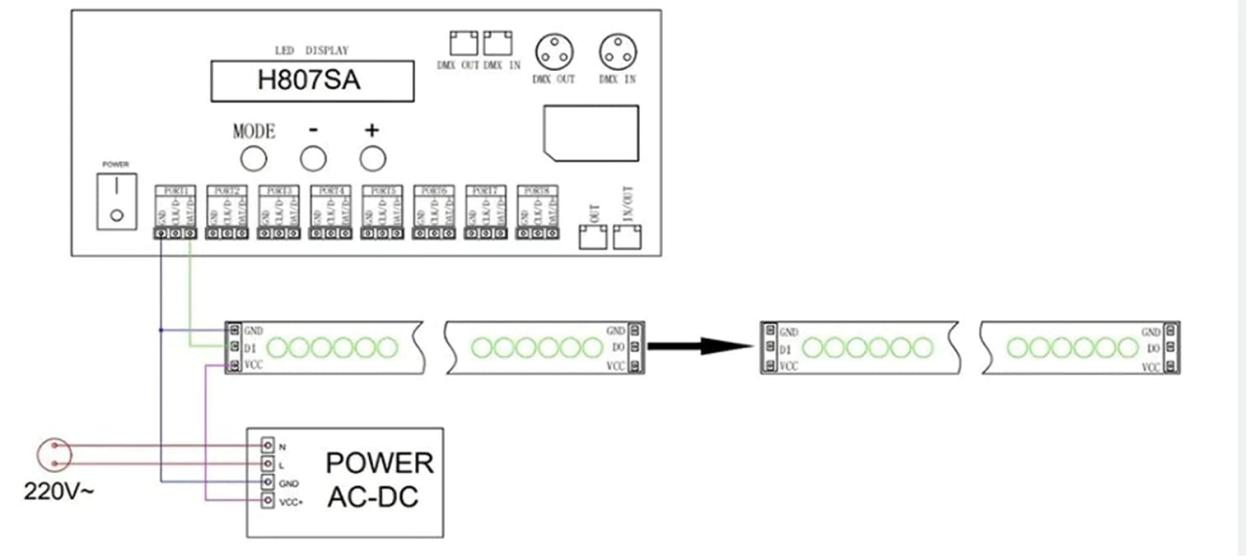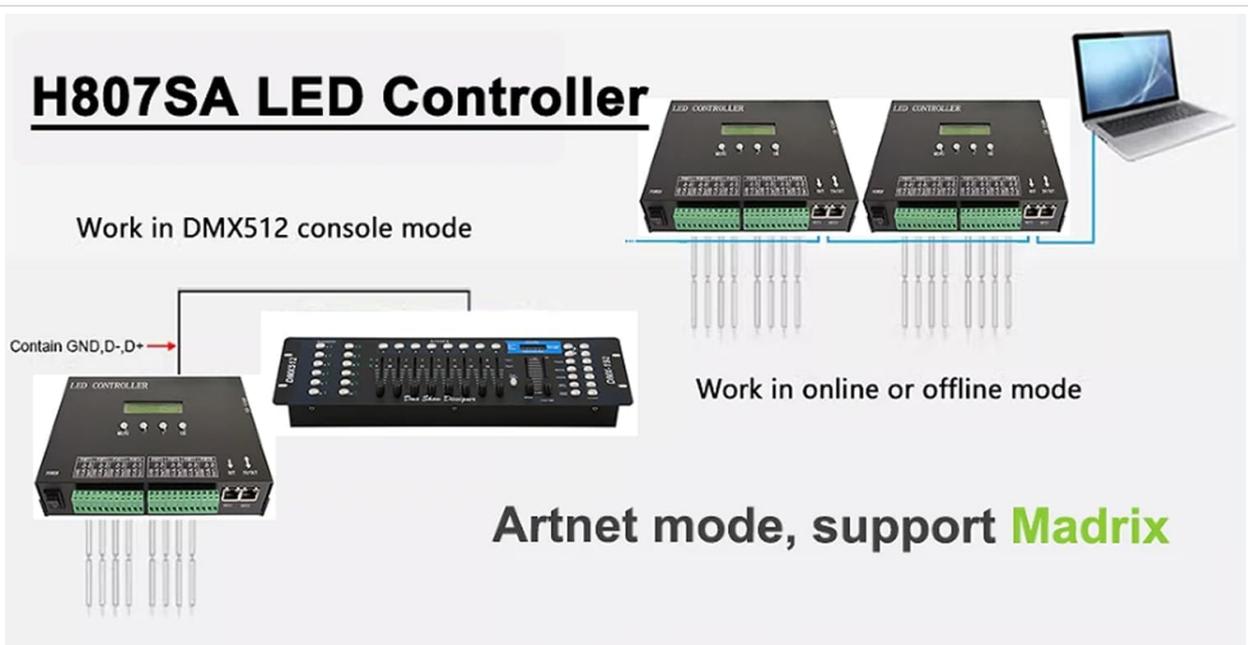
Figure 4: Connection diagram illustrating different operational modes, including DMX512 console mode and Art-Net integration with software like Madrix.

4. Operating Instructions

This section covers the basic operation and advanced functionalities of the H807SA controller.

4.1 Basic Controls

The controller features an LCD display and several buttons for navigation and control:

- **MENU:** Accesses the main menu and navigates back.
- **+:** Increases values or moves forward in menus.
- **-:** Decreases values or moves backward in menus.
- **OK:** Confirms selections.

Figure 5: Front view of the H807SA controller, showing the LCD display and control buttons (MENU, +, -, OK) for direct interaction.

4.2 Operational Modes

The H807SA supports various operational modes:

- **Offline Mode:** Plays programs directly from the SD card.
- **Online Mode:** Receives data via Art-Net protocol from software like MADRIX or Jinx.
- **DMX Console Mode:** Connects to a DMX console for real-time control, supporting RGBW channels and allowing adjustment of speed and brightness.

4.3 File Management and Playback

Program files (DAT files) are stored on the SD card. The controller can switch between these files:

- **Manual Selection:** Use the MENU and +/- buttons to select and play specific DAT files from the SD card.
- **Network Control:** In network mode, you can switch files by sending UDP instructions to network port 2. This also allows you to obtain the current playing file number.

4.4 Advanced Features

- **DMX Chip Addressing:** Supports addressing of DMX chips, enabling precise control over individual pixels.
- **Built-in Testing:** Includes built-in counting and internal control testing functions for diagnostics.
- **Encryption Function:** Features an encryption function for limiting the number of power cycles, providing security for your programs.
- **Synchronization:** Multiple H807SA controllers can achieve synchronization control through a local area

network.

5. Maintenance

To ensure the longevity and optimal performance of your H807SA controller, follow these maintenance guidelines:

- **Cleaning:** Keep the controller clean and free from dust. Use a soft, dry cloth for cleaning. Avoid liquid cleaners.
- **Environment:** Operate the controller in a dry, indoor environment. Avoid exposure to extreme temperatures, humidity, or direct sunlight.
- **SD Card Care:** Handle the SD card carefully. Avoid frequent insertion and removal. Always power off the device before removing the SD card to prevent data corruption.
- **Connections:** Periodically check all cable connections (power, LED strips, Ethernet, DMX) to ensure they are secure and free from damage.

6. Troubleshooting

If you encounter issues with your H807SA controller, refer to the following common problems and solutions:

- **Controller Does Not Power On:**
  - Ensure the AC power cable is securely connected to both the controller and a working power outlet.
  - Check the power switch on the controller is in the ON position.

- **LED Strips Not Lighting Up or Displaying Incorrect Patterns:**
  - Verify that the LED strip connections (GND, CLK/D-, DAT/D+) are correct and secure for each port.
  - Confirm that the correct program (DAT file) is loaded on the SD card and selected on the controller.
  - Ensure the LED Programming Software settings match your specific LED chip type and pixel count.
  - Check for any damage to the LED strip or wiring.

- **No Response from DMX Console or Art-Net Software:**
  - For DMX, ensure the DMX IN/OUT cables are correctly connected and the DMX console is transmitting data.
  - For Art-Net, verify the Ethernet cable connection and network settings (IP addresses, subnet masks) between the controller and your computer/router.
  - Confirm that the controller is set to the appropriate DMX Console or Online (Art-Net) mode.
  - Check firewall settings on your computer if using Art-Net software.

- **SD Card Not Recognized or Programs Not Loading:**
  - Ensure the SD card is properly inserted into the slot.
  - Verify the SD card is formatted to FAT32 or FAT16.
  - Confirm that the program files are in the correct DAT format and placed in the root directory of the SD card.
  - Try using a different SD card to rule out card malfunction.

If these steps do not resolve the issue, please contact TOPXCDZ customer support for further assistance.

7. Specifications

Feature	Detail
Model	H807SA
Output Ports	8 Ports
Max Pixels (Total)	8192 pixels
Max Pixels (Per Port)	1024 pixels
SD Card Support	FAT32, FAT16; up to 64 DAT files
Supported Protocols	Art-Net, DMX512
Supported Chips	DMX512, HDMX, APA102, APA102-65536, WS2801, WS2811, WS2812, WS2812B, WS2813, TM1812, TM1809, TM1804, TM1923, TM1934, TM1925D, TM1926D, TM1803, TM1814, TM1913, TM1914, TM1926, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, UCS8904, UCS5603, UCS9812, UCS2603, SK9816, SK6816, SM16716, SM16703, SM16709, SM16712, SM16704, SM16714, LPD6803, LPD8806, LPD1882, LPD1889, LPD1883, INK1003, APA104, P943, LC8812, GW6205, QED3110, D9866E, D9866B, D9865C, D9865E, D9865F, D9864B, D9864C, MBI6023, MBI6024, ADT6610, TLC5971, JCS0104, LD1510, LD1512, LD153X (8bit mode only)
Power Source	AC
Indoor/Outdoor Usage	Indoor
Material	Plastic
Included Components	H807SA Controller, 1 x Ethernet Adapter

8. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact TOPXCDZ customer service directly. Ensure you have your product model and purchase details available when seeking support.

Documents - TOPXCDZ – H807SA
no relevant documents