CANRIA K8 ARTNET+DMX

CANRIA K8 ARTNET+DMX CONSOLE LED CONTROLLER User Manual

Model: K8 ARTNET+DMX

Introduction

The CANRIA K8 ARTNET+DMX Console LED Controller is a versatile device designed for controlling SPI and DMX512 LED lights. It supports both online (ArtNet) and offline operation, offering addressable and programmable capabilities. Equipped with a 1G SD card, it provides 96 program modes and offline software for comprehensive lighting control in various applications, from indoor and outdoor commercial settings to entertainment venues.

Image: Front view of the K8 ARTNET+DMX Console LED Controller, showcasing its compact design and various ports.

Safety Information

- Ensure the power supply voltage matches the controller's requirements (AC 110V-220V).
- Do not expose the device to moisture or extreme temperatures.
- Avoid disassembling the unit; refer servicing to qualified personnel.
- Always disconnect power before making any connections or disconnections.
- Keep the device away from flammable materials.

Package Contents

Please check the package contents upon receipt to ensure all items are present and undamaged:

- 1 x K8 ARTNET+DMX Console LED Controller
- 1 x 1G SD Card
- 1 x Power Cord
- 1 x Screwdriver
- User Manual (this document)

Image: The K8 controller shown alongside its power cord, screwdriver, and SD card, representing the typical package contents.

Product Overview

Familiarize yourself with the various components and interfaces of the K8 ARTNET+DMX Controller.

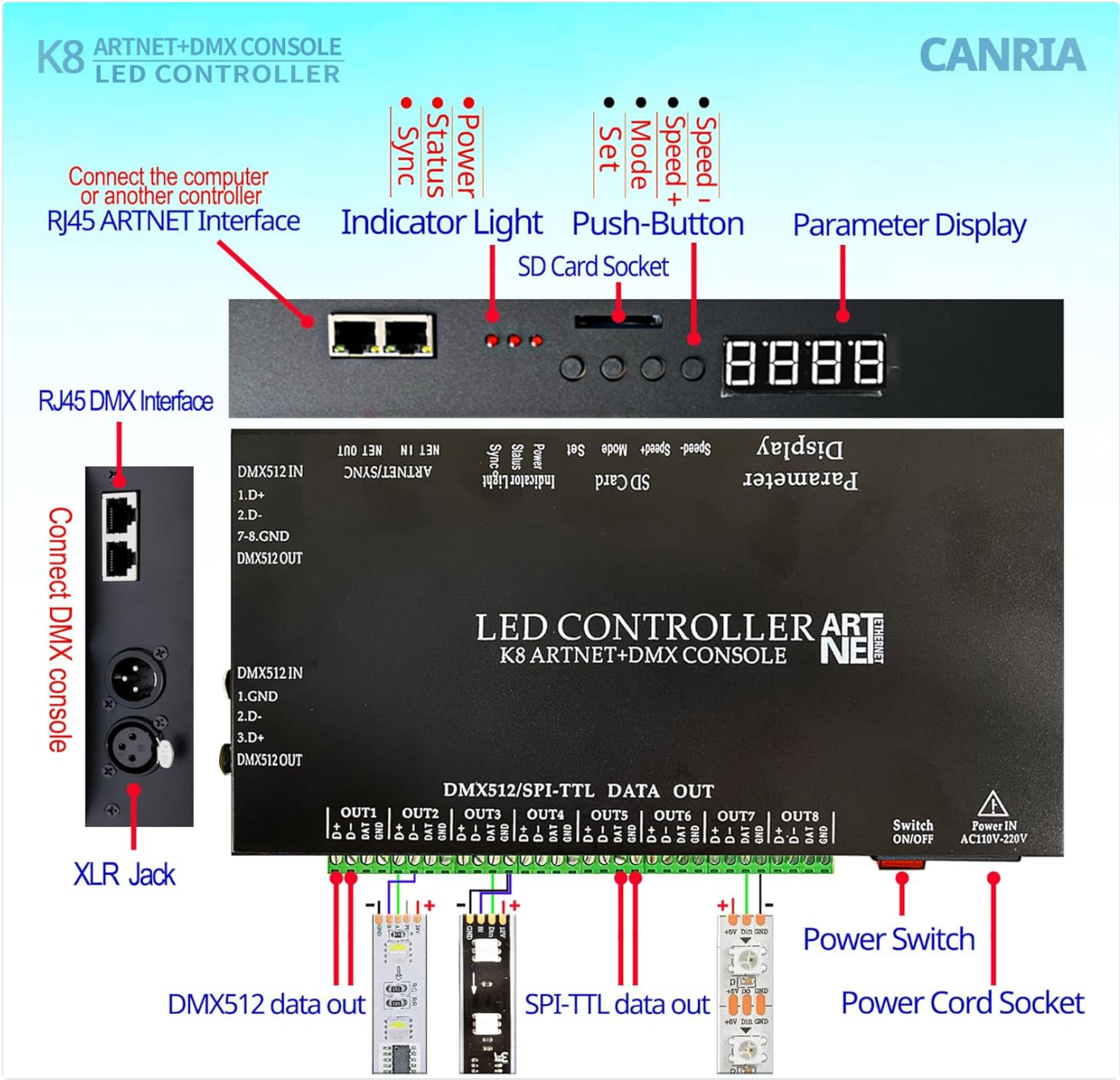

Image: Top view of the K8 controller, highlighting the DMX512 IN/OUT, ARTNET IN/OUT, Indicator Light, SD Card slot, Parameter Display, and control buttons (Speed-, Speed+, Mode, Set).

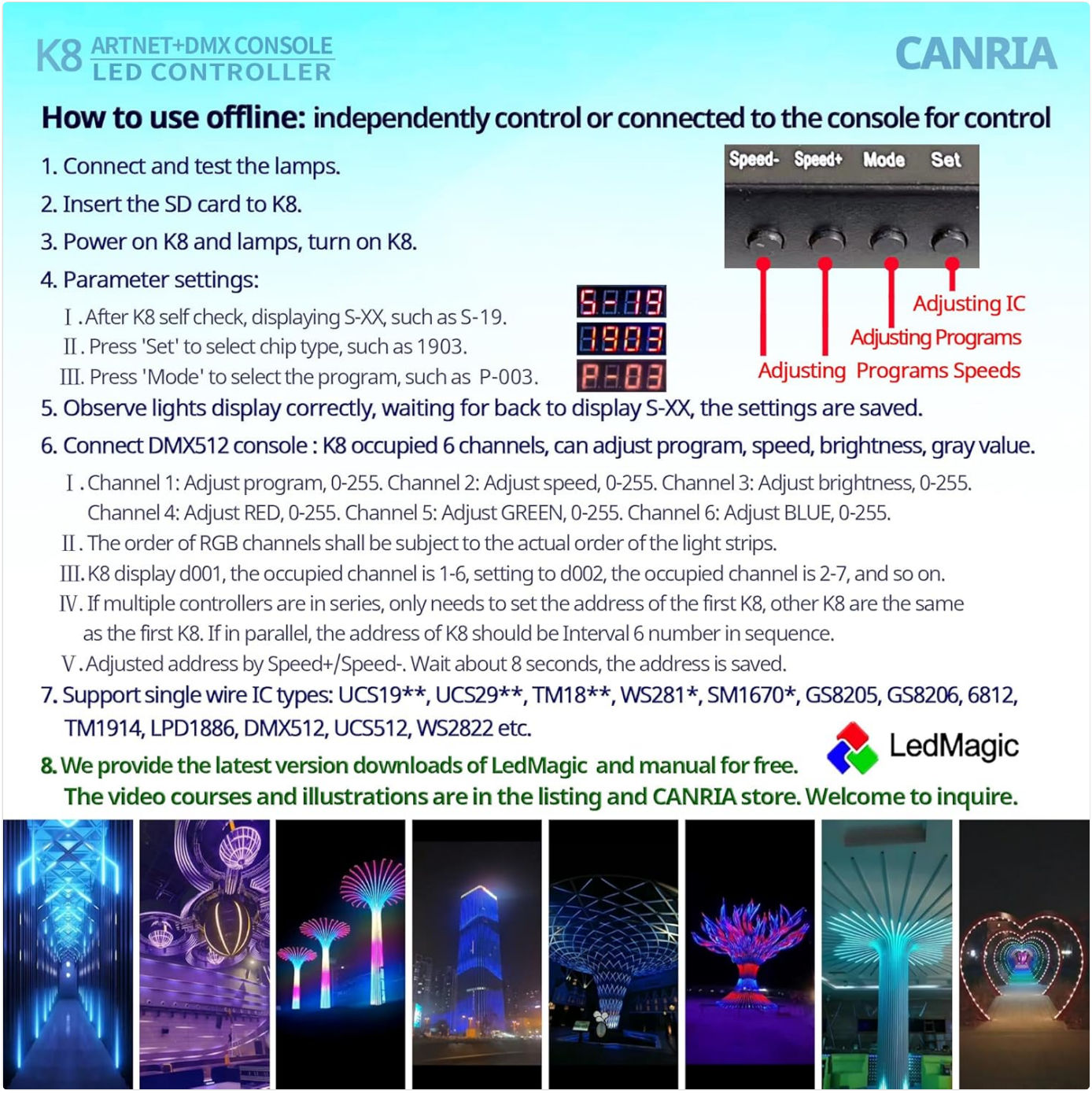

Image: Front view of the K8 controller, showing the 8 DMX512/SPI-TTL DATA OUT ports, Power Switch, and Power IN (AC110V-220V) socket.

Key Components:

- **ARTNET NET IN/OUT:** RJ45 ports for ArtNet protocol connection and cascading.
- **DMX512 IN/OUT:** RJ45 ports for DMX512 signal input and output.
- **XLR Jack:** 3-pin XLR sockets for DMX512 console connection.
- **SD Card Socket:** For inserting the 1G SD card containing program modes.
- **Parameter Display:** Digital display showing current settings (e.g., HXXX, FXXX, CXXX, dXXX, S-XX, P-XX).
- **Control Buttons:**
  - **Set:** Enters/saves settings.
  - **Mode:** Switches between setting parameters or program modes.
  - **Speed+/Speed-:** Adjusts values or program speed.
- **DMX512/SPI-TTL DATA OUT (OUT1-OUT8):** 8 output ports for connecting to LED lamps.
- **Power Switch:** On/Off toggle for the device.

- **Power IN (AC110V-220V):** Power input socket.

Setup

1. Connecting LED Lamps

Proper connection of LED lamps is crucial for correct operation. Ensure power is off before connecting.

1. **GND Connection:** The GND (Ground) of the LED lamps must connect to the GND of the controller.
2. **SPI Lamps:** The DAT (Data) line of the SPI lamp connects to the DAT terminal of the controller's output port.
3. **DMX512 Lamps:** The A line of the DMX512 lamp connects to the D+ terminal of the controller, and the B line connects to the D- terminal.

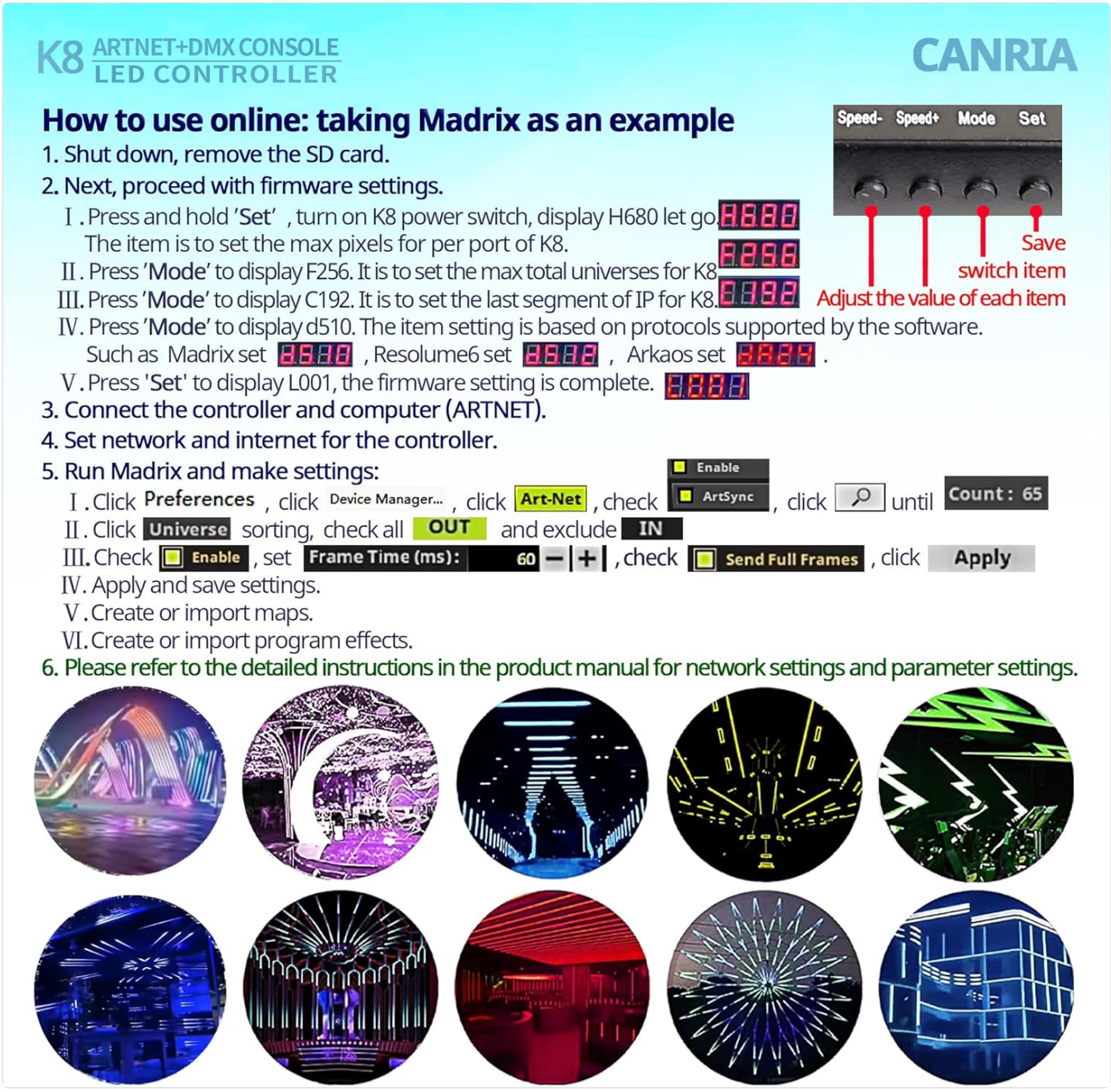

Image: Detailed wiring diagram illustrating how to connect single-color, multi-color (SPI/TTL), and DMX512 LED lights to the K8 controller's output ports, showing connections for positive pole, GND, DAT, D+, and D-.

2. Cascading Multiple K8 Controllers

Multiple K8 controllers can be cascaded for synchronized operation, expanding the total pixel capacity.

1. **Series Interface (ArtNet):** Connect the "ARTNET NET OUT" of the first K8 controller to the "ARTNET NET IN" of the next K8 controller, and so on. This method is typically used for online synchronization.
2. **Parallel Interface (DMX512):** Connect the "DMX512 OUT" (single network port) or XLR interfaces of one K8 to the "DMX512 IN" or XLR interfaces of the next K8.
3. For cascading synchronization, only the first controller needs to be controlled. Each cascaded controller must have an SD card inserted with the same number of programs. Programs with corresponding serial numbers should have identical pixel counts and speeds.

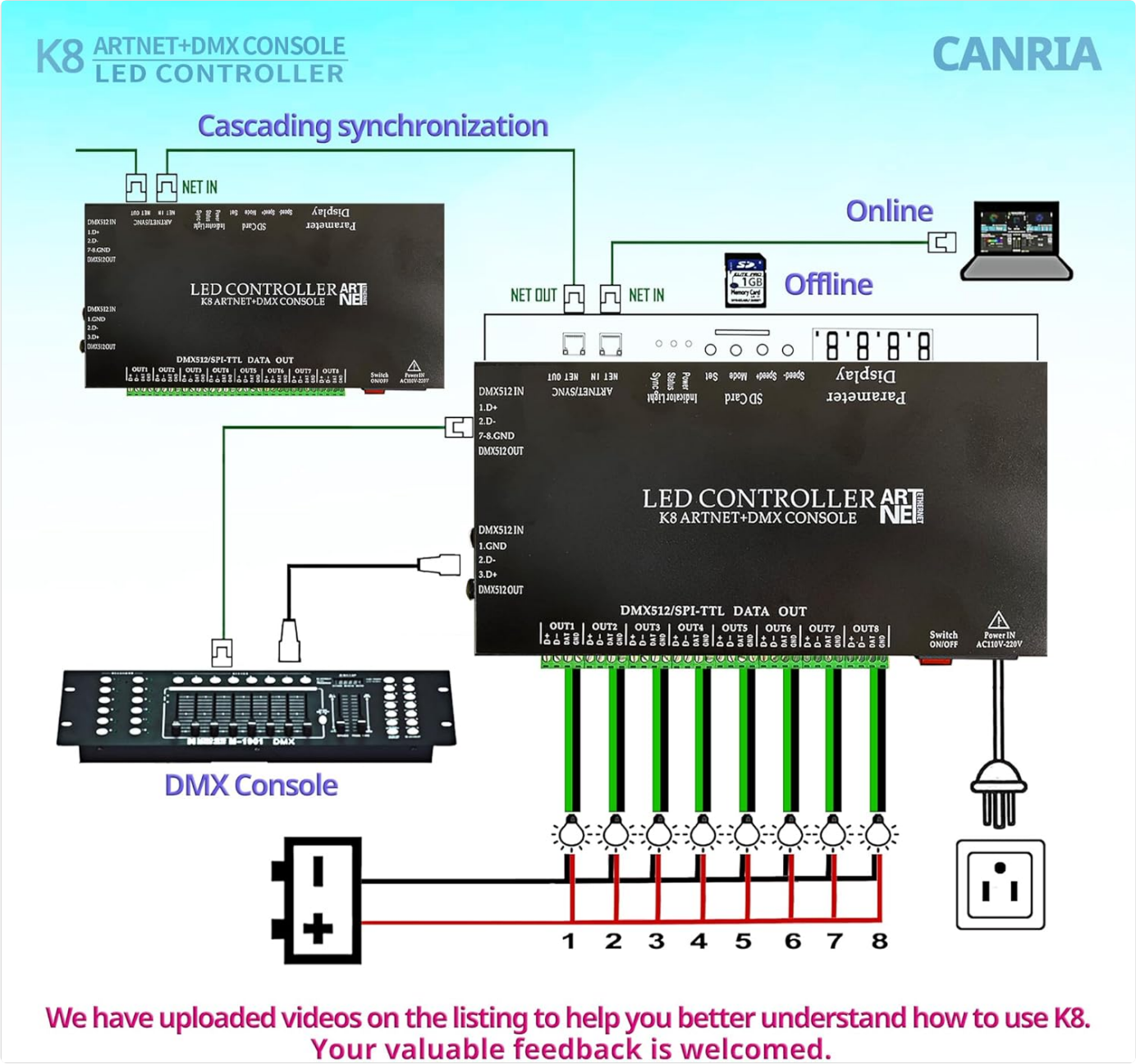

Image: Diagram showing how multiple K8 controllers can be connected in series (Online via ArtNet) and how a single K8 can connect to a DMX console and then to LED strips (Offline).

Operating Instructions

1. Offline Use (SD Card Mode)

This mode allows the K8 controller to operate independently using pre-loaded programs on the SD card.

1. Insert the provided 1G SD card into the SD card socket.
2. Power on the K8 controller and the connected LED lamps.
3. The display will show **S-XX**, indicating the program playback speed. Press **"Speed-"** or **"Speed+"** to adjust the speed (S-00

is slowest, S-99 is fastest).

4. Press **"Set"** to select the IC type of your LED lamps. The controller supports various SPI and DMX512 single-line IC LED lights (e.g., UCS1903, TM1804, WS2811, DMX512).
5. Press **"Mode"** to select a program. The SD card contains ready-made programs from P-01 to P-96. A-01 is a circular mode that cycles through all 96 programs.
6. Observe the lights display correctly. Wait approximately 8 seconds for settings to save automatically.

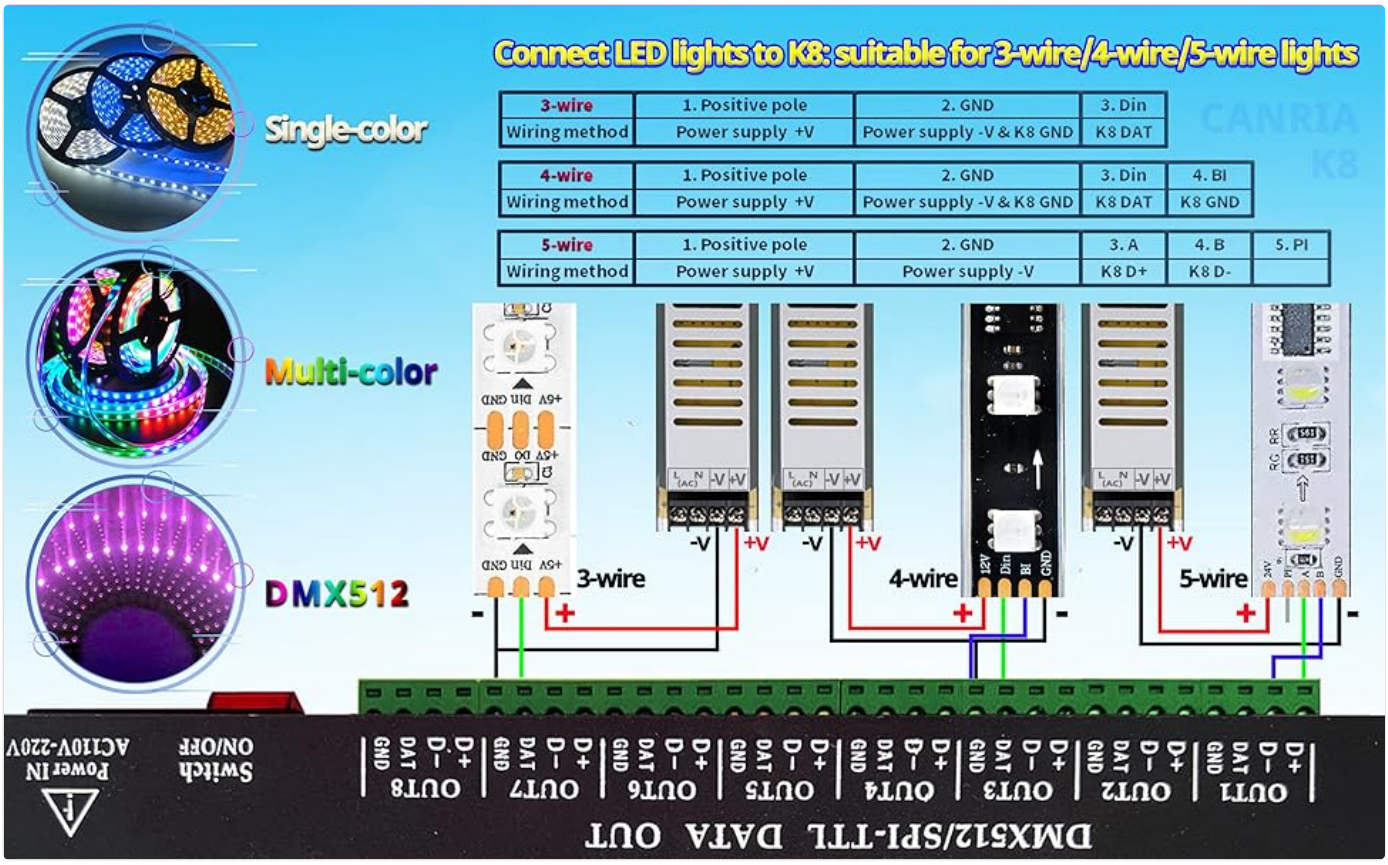

Image: Visual guide for offline operation, detailing how to adjust IC type, programs, and speeds using the controller's buttons and observing the digital display.

2. Connecting to a DMX512 Console (Offline)

The K8 controller can be controlled by an external DMX512 console for dynamic lighting effects.

1. Ensure the SD card is inserted.
2. Connect the K8 controller to your DMX512 console using either an RJ45 internet cable (via the DMX512 network port) or an XLR 3-pin male-to-female cable (via the XLR interfaces).
3. Power on both the K8 controller and the DMX console.
4. The K8 display will show **d001**, indicating the starting DMX address. The controller occupies 6 DMX channels:
    - **Channel 1:** Adjust Program (0-255)
    - **Channel 2:** Adjust Speed (0-255)
    - **Channel 3:** Adjust Brightness (0-255)
    - **Channel 4:** Adjust RED (0-255)
    - **Channel 5:** Adjust GREEN (0-255)
    - **Channel 6:** Adjust BLUE (0-255)
5. If multiple controllers are in series, only the first controller's address needs to be set. If in parallel, the addresses of controllers should be spaced by 6 numbers in sequence (e.g., d001, d007, d013).
6. Adjust the DMX address (dXXX) using **"Speed+"** and **"Speed-"**. The address will save automatically after about 8 seconds.

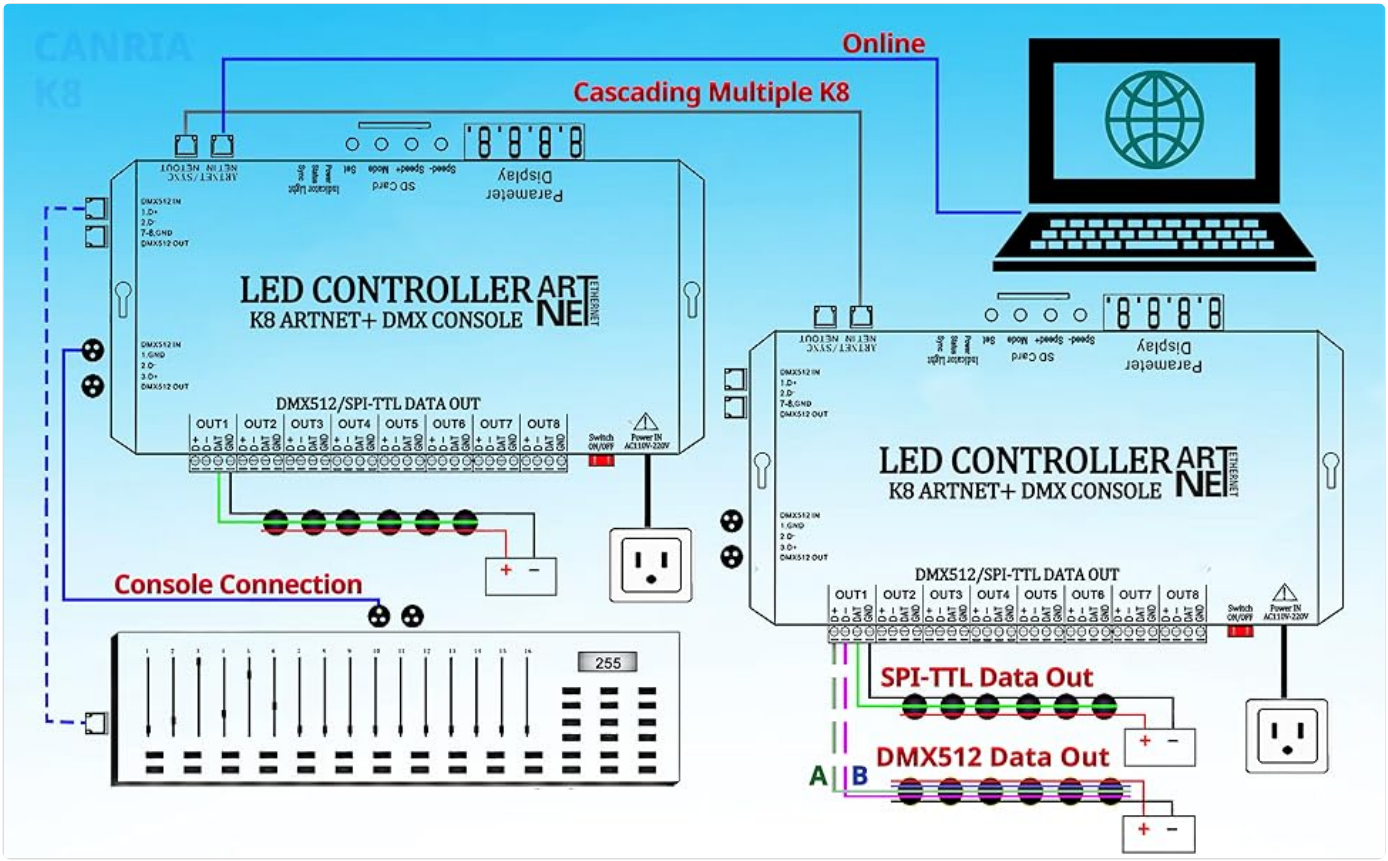

Image: Diagram illustrating the two methods of connecting the K8 controller to a DMX512 console: via RJ45 DMX Socket or XLR-Socket, and outlining the 6 DMX channels controlled by the console.

3. Online Use (ArtNet Protocol)

For advanced control and integration with lighting software like Madrix, Resolume6, or Arkaos, connect the K8 controller to a computer via ArtNet.

1. Remove the SD card from the controller for online operation.
2. Connect your computer to the first K8 controller's "ARTNET NET IN" interface using an Ethernet cable.
3. **Set up your computer's network:**
    - Go to Network and Internet Settings > Advanced network settings > More network adapter options.
    - Right-click on your Ethernet adapter (e.g., "Ethernet controller") and select "Properties".
    - Select "Internet Protocol Version 4 (TCP/IPv4)" and click "Properties".
    - Choose "Use the following IP address" and manually enter an IP address that does not conflict with other devices on your network (e.g., 192.168.1.100 if your controller is 192.168.1.X).
4. **Setting Controller Parameters (Firmware Settings):**
   Only the first controller connected to the computer needs to be configured. Long press **"Set"** and power on the controller simultaneously to enter the setting interface (display shows HXXX).
    - Press **"Mode"** to switch between HXXX, FXXX, CXXX, dXXX. Use **"Speed+"** and **"Speed-"** to set specific parameters.
    - **HXXX (Pixels per port):** Up to 1024 pixels. Options: H170, H340, H510, H680, H850, HA20 (corresponding to 170, 340, 510, 680, 850, 1020 pixels). H680 occupies 4 universes per port.
    - **FXXX (Universes allocated):** Up to 256 universes. Options: F008, F016, F032, F64, F096, F128, F192, F256. A network card can hold 256 universes (170x256=43520 pixels).
    - **CXXX (Controller IP segment):** The last segment of the IP for K8. Set to avoid conflicts.
    - **dXXX (Data transfer format):** Compatible with LED lighting software. Options: d510, d512, dA24. Select based on your control software (e.g., Madrix for d510, Resolume6 for d512, Arkaos for dA24).

After setting, press **"Set"** to save and exit the interface.

5. Connect the controller and computer (ArtNet).
6. Run your lighting software (e.g., Madrix) and make settings according to its manual. Typically, this involves enabling ArtNet, checking ArtSync, and configuring universe sorting.
7. Create or import maps and program effects within your software.

Display	Press "Mode" to switch between 4 items. Press "Speed+" and "Speed-" to adjust each item parameters.
H680 (HXXX)	I The pixels per port. Up to 1024 pixels.
	II 6 Options: H170, H340, H510, H680, H850, HA20 corresponding to 170, 340, 510, 680, 850, 1020 pixels. Known that 170 pixels occupy 1 universe, when set to H680, each port is 680 pixels, occupying 4 universes, and 8 ports occupy 32 spaces.
	III Each K8 can hold on max 8192 pixels (1024pixels*8), if you need more pixels, please cascade more K8.
F256 (FXXX)	I The universes allocated to K8 connected through series interfaces. Up to 256 universes.
	II 8 Options: F008, F016, F032, F64, F096, F128, F192, F256, corresponding to 8, 16, 32, 64, 96,128, 192, 256 universes. A network card can hold on 256 universes, that is 170×256=43520 pixels. The total universe of the controllers in series cannot be greater than this setting, if exceeding this limit, you need to add a network card.
	III When each port is set to 680 pixels (H680: 680*8=5440) and the total universe is set to 256 (F256: 256*170=43520), the network card can cascade 8 K8 (43520/5440=8).
C192 (CXXX)	I Display the last segment IP address of the online controller. The first three segments are the same as the host by default.
	II Set not to conflict with other network devices.
d510 (dXXX)	I Supported data transfer formats. Compatible with the LED lighting software that supports the Art-Net protocol.
	II 3 Options: d510, d512, dA24, corresponding to 510, 512, 1024.
	III According to the actual requirements of the control software, such as Madrix can select d510, Resolume6 can select d512, and Arkaos can select dA24.
Press "Set" to save the current settings and exit the setting interface.	

Image: Guide for online operation, using Madrix as an example, showing steps for firmware settings (HXXX, FXXX, CXXX, dXXX) and software configuration.

Maintenance

- Keep the controller clean and free from dust. Use a soft, dry cloth for cleaning.
- Ensure proper ventilation around the device to prevent overheating.
- Store the controller in a dry, cool environment when not in use.
- Regularly check all cable connections for secure fit.

Troubleshooting

Problem	Possible Cause	Solution
Controller does not power on.	No power supply; faulty power cable; power switch off.	Check power connection; replace power cable; ensure power switch is ON.
LED lights not responding in Offline mode.	SD card not inserted or corrupted; incorrect IC type selected; wrong wiring.	Ensure SD card is properly inserted; verify IC type setting; check lamp wiring (GND, DAT/D+/D-).

Problem	Possible Cause	Solution
LED lights not responding in Online (ArtNet) mode.	SD card still inserted; incorrect network settings on PC; software configuration error; controller parameters not set.	Remove SD card; verify PC IP address and network settings; check ArtNet settings in lighting software; ensure controller HXXX, FXXX, CXXX, dXXX parameters are correct.
DMX512 console not controlling the K8.	Incorrect DMX cable connection; wrong DMX address set on console or K8.	Verify DMX cable (RJ45 or XLR) connection; ensure DMX addresses match and K8 is in DMX console mode (dXXX display).
Programs not changing or playing correctly.	SD card issues; incorrect program selection; pixel count mismatch.	Reformat SD card and re-upload programs; ensure correct program (P-XX or A-01) is selected; verify pixel count settings match lamps.

Specifications

Feature	Detail
Model	K8 ARTNET+DMX
Brand	CANRIA
Input Voltage	AC 110V-220V
Rated Power	4 W
Working Temperature	-10°C to 45°C
Product Dimensions	11 x 5 x 1.5 inches (28 x 15 x 4.5 cm)
Item Weight	3.01 pounds (1.36 kg)
Output Ports	8 (DMX512/SPI-TTL Data Out)
Max Pixels per Port (SPI/TTL)	1-1024 pixels
Max Pixels per Port (DMX512)	1-256 pixels
Total Controller Pixels	Up to 8192 pixels (SPI/TTL)
SD Card Capacity	1G (with 96 program modes)
Supported IC Types	UCS1903, 1912, 2903, 2909, 2912, TM1803, 1804, 1809, 1812, 1814, 1914, 1934, SM16703, 16716, WS2811, 2812, 2822, GS8205, 8206, DMX512, 9813, 5109, 8109, 2801, etc.
Connectivity	ArtNet (RJ45), DMX512 (RJ45, XLR)

Warranty Information

CANRIA products are manufactured to the highest quality standards. This product is covered by a standard manufacturer's warranty against defects in materials and workmanship from the date of purchase. Please retain your proof of purchase for warranty claims. The warranty does not cover damage caused by improper installation, misuse, unauthorized modifications, or natural disasters. For specific warranty terms and conditions, please refer to the official CANRIA website or contact customer support.

Support

For technical assistance, troubleshooting, or general inquiries regarding your CANRIA K8 ARTNET+DMX Console LED Controller, please visit the official CANRIA website or contact their customer support team. You may find additional resources, FAQs, and software downloads on their support page.

CANRIA Store Link: Visit the CANRIA Store on Amazon