PIXELPLAY Controller

User Manual

(PLEASE READ THIS MANUAL THOROUGHLY BEFORE INSTALLATION AND USE)

Overview

This controller is designed for large-scale high-density pixel light engineering applications, such as matrix panel lights and architectural contour lighting. It supports xLight lighting profile decoding, outputs Artnet and E1.31 Ethernet protocol signals, and integrates multiple functions including Artnet/E1.31/DMX512 lighting effect recording, audio decoding/playback, and signal triggering. Equipped with a high-precision RTC clock, it ensures operational accuracy and stability. The software supports online upgrades, allowing its capabilities to be continuously expanded to meet the long-term operational needs of engineering projects.

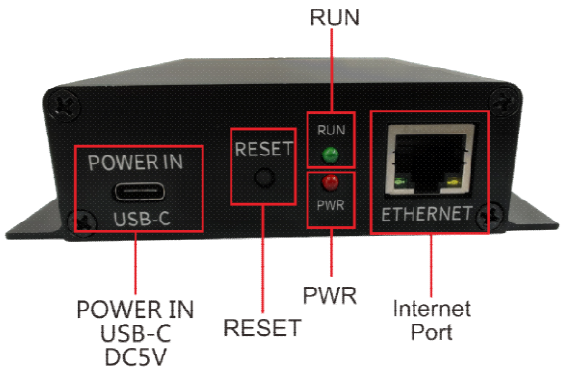
Performance Parameters

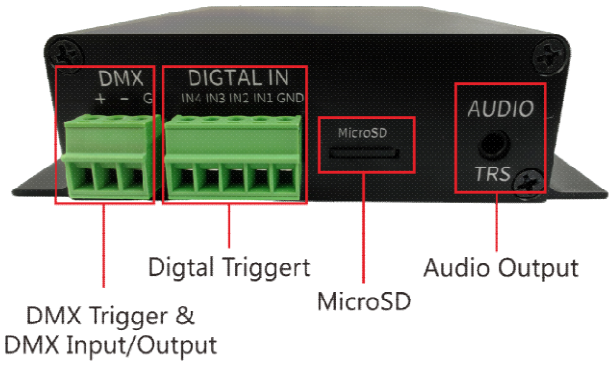
Operating Voltage	USB Type-C, 5V
Ethernet Protocols	Artnet, E1.31, Artnet-Broadcast (Output), E1.31-Multicast (Output)
Universe Range	0~65535 (Min Channel: 0, Max Channel: 8388608)
DMX512	One Port (1xChannel)
DIO	4 Ports
Interfaces	Ethernet (100Mbps), DMX512, Audio (stereo), MicroSD, Digital IO, USB Type-C
Operating Temperature	-20~55°C
Product Dimensions	104 × 103 × 28.3 mm
Product Weight	185g

Functions and Features

1. Built-in Web Server setup interface for simple and convenient operation.
2. Supports parsing and playing XLight FSEQ lighting effect files.
3. Supports decoding and playing common audio formats (mp3, aac, ogg, flac) with stereo output.
4. Supports output of Artnet, E1.31, Artnet-Broadcast, and E1.31-Multicast protocols.
5. Records Artnet-Unicast, E1.31-Unicast, and DMX512 lighting effects.
6. Supports DIO and DMX512 triggering functions, up to 32 Triggers.
7. Up to 16 Schedule tasks.
8. Redefinable output values and reconfigurable output brightness.
9. Supports online file management (upload, download, rename, etc.).
10. Supports editing playlists via the web page.
11. Supports one-click controller reset.
12. Supports online software upgrades.

Introduction to Interfaces and Ports





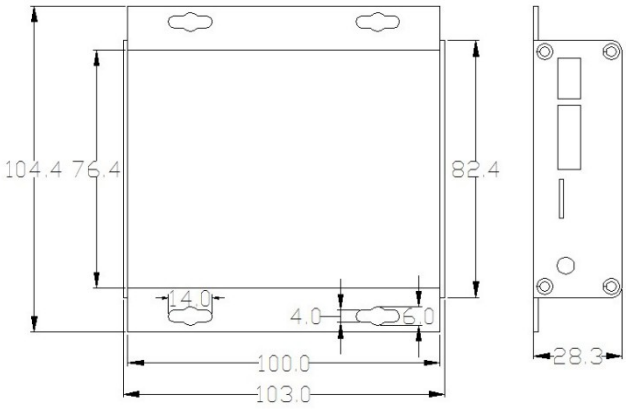
Safety Precautions for Use

1. To ensure safety and normal product operation, please read the user manual carefully before use.
2. Avoid installation in thunderstorm-prone areas, strong magnetic fields, and high-voltage environments.
3. Ensure correct and secure wiring to prevent short circuits that may damage components or cause fires.
4. Install the controller in a well-ventilated location to maintain an appropriate ambient temperature.
5. Use only a 5V power supply matching the controller. Before powering on, check that the input power supply meets the product requirements and that the power output voltage matches the

product specifications.

6. Do not wire under power! After confirming correct wiring and no short circuits, power on the device.
7. Do not attempt to repair the controller privately if a fault occurs. Contact the supplier for assistance.

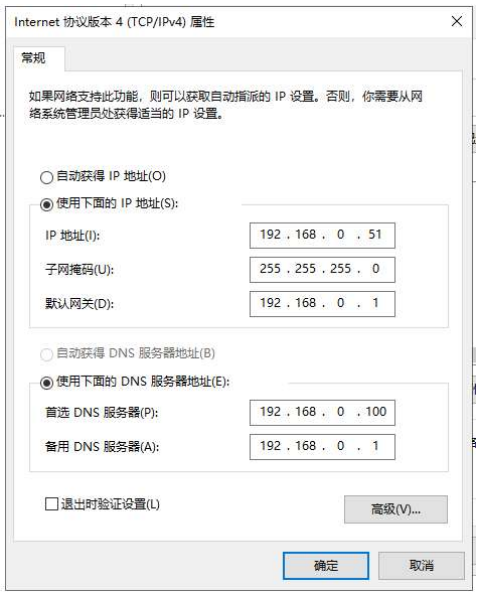
Dimensions



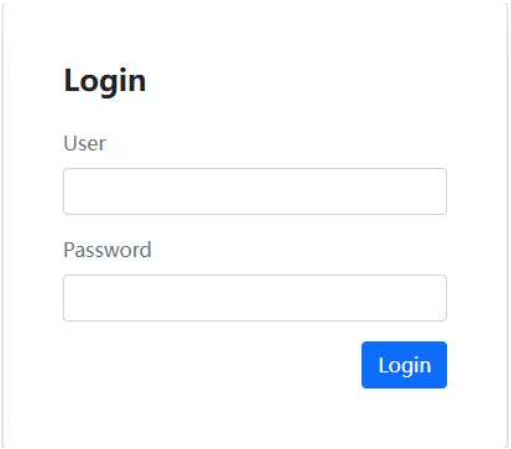
Operation Instructions

Controller Login Instructions

1. Connect the controller to a PC using an Ethernet twisted pair cable.
2. Set the PC's static IP address to [192.168.0.51] (see Figure 1 for configuration example).
3. After the controller's Ethernet port indicator flashes normally, access [192.168.0.50] (default IP after factory reset) via Chrome or Edge browser to enter the login interface (see Figure 2 for interface example).
4. Enter the default account information (Username: admin, Password: 123456). Ensure a FAT32-formatted SD card is installed.
5. After successful verification, you can log in to the Web management page.



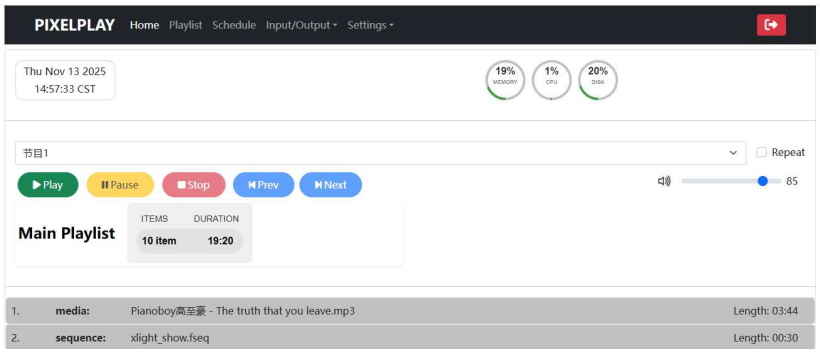
(picture1)



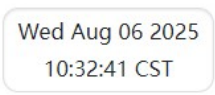
(picture2)

Player Main Interface Operation

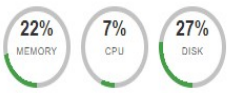
The main interface is shown below:



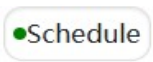
Widget Functions



Controller Real-Time



Resource

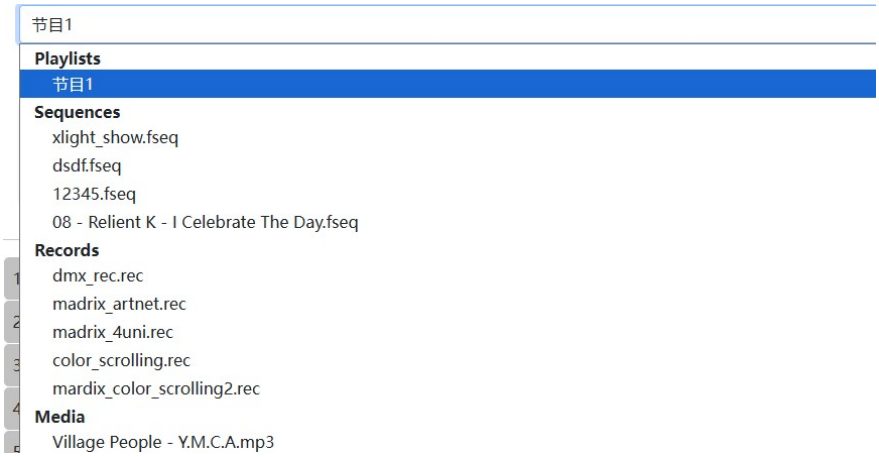


Trigger Type

Playback Controls

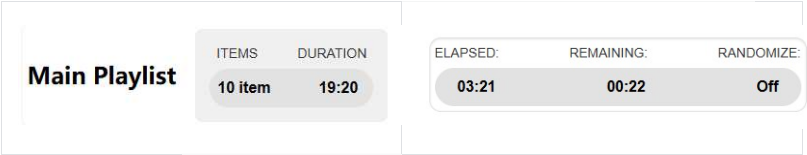
1. Click the drop-down selection box to list all supported files (see Figure 1).
2. Select a file and click the Play button to start playback.
3. Use Pause to pause playback, Stop to end the current playback task.
4. Prev Next buttons only work for playlists.
5. Check Repeat to loop the current task.

6. Adjust the volume slider 85 o control output volume when playing audio files.



(Figure 1)

Playlist Information Widgets



Playlist Status Indicators

- Green background: Currently playing item
- Blue background: Currently selected item (by mouse)
- Gray background: Unplayed and unselected items
- Click Play after selecting an item to start playback immediately.

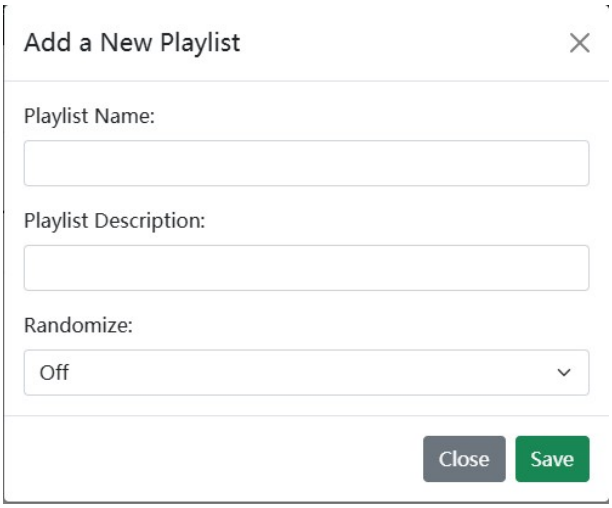
Playlist Instructions

The playlist interface is shown below:

Create a Playlist

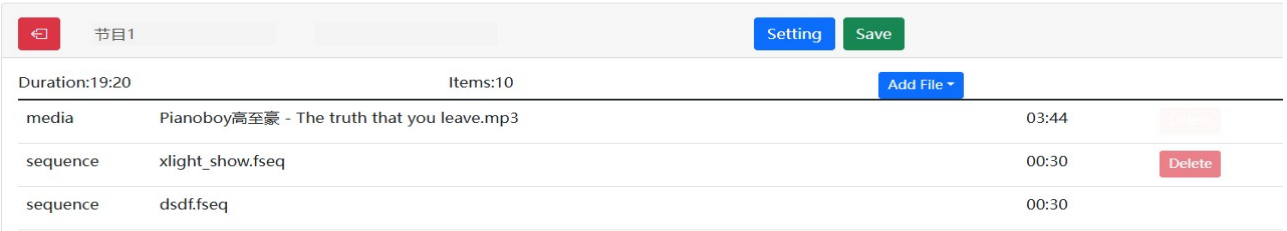
1. Click + New Playlist to open the configuration window (see below).

2. Enter:
   - Playlist Name (no special characters allowed)
   - Playlist Description (optional)
   - Randomize (Shuffle playlist: Off/On)
3. Click Save to complete creation.
4. Use the button to remove existing playlists if needed.

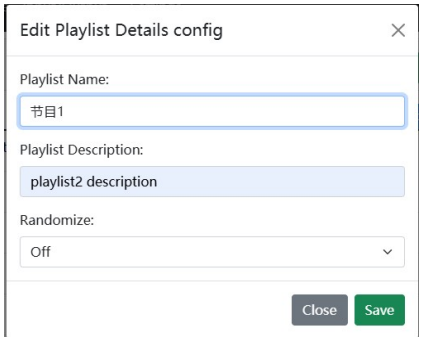


Edit a Playlist

The playlist details and editing page are shown below:



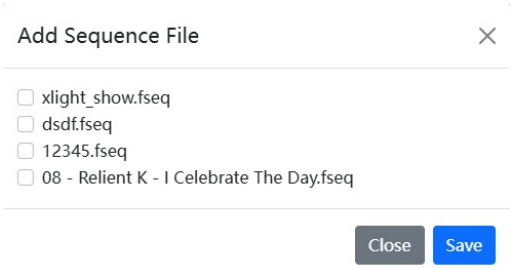
1. Click Setting to enter the playlist configuration page:
   - Modify Playlist Name and Description
   - Toggle Randomize (Off/On)
   - Click Save to apply changes.



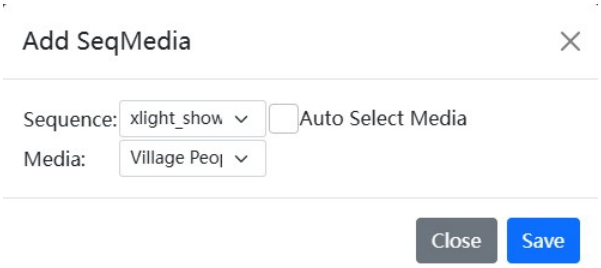
2. Add Files to Playlist:

   Click Add File and select the file type from the drop-down menu (see Figure 1):

   - Sequence/Record/Media: Click to open the file selection list, select target files, and click Save to add them in bulk.
   - SeqMedia/RecMedia: Click to open the edit window, select 1 Sequence/Record file and 1 Media file, then click Save to add the combined file (see Figure 2).
   - Note: "Auto Select Media" is exclusive to SeqMedia, which automatically selects the Media file specified during xLight effect editing by parsing the xLight file.



(Pic 1: Media/Record type – operation is similar)



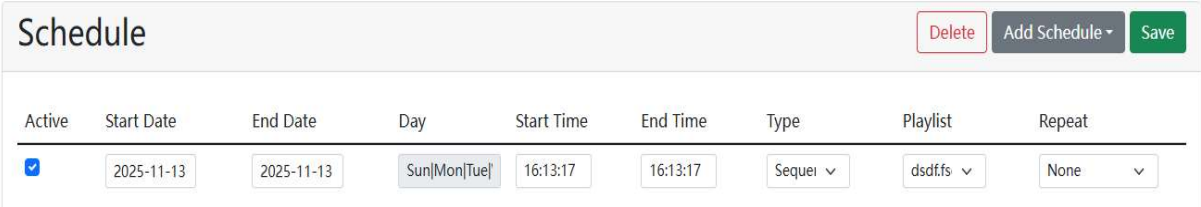
(Pic 2: RecMedia type – operation is similar)

3. Adjust Playback Order:

   Drag items in the list to reorder, then click Save to store the updated playlist.

Schedule Task Instructions

The schedule task editing interface is shown below:



Add a Schedule Task

1. Click Add Schedule and follow these steps:
   - Click "Start Date/End Date" to select the time range (see Figure 1).
   - Click "Day" to select the effective days (see Figure 2).
   - Click "Start Time/End Time" to set the effective time period (see Figure 3).
   - Select the file type in the "Type" drop-down list (see Figure 4), then choose the specific file in the "Playlist" drop-down list (see Figure 5).

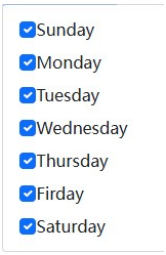
Repeat Function Explanation (Figure 6)

The Repeat function sets the interval for restarting playback after the first play within the

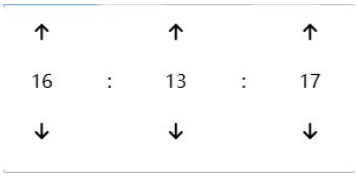
schedule's effective period:

- None: Play once only; stop after completion even if within the effective period.
- 0sec: Restart immediately after the first play (loop without interval).
- 1Min/5Min/10Min/etc.: Restart after the specified interval (e.g., 1 minute) after the first play.

（Pic1）

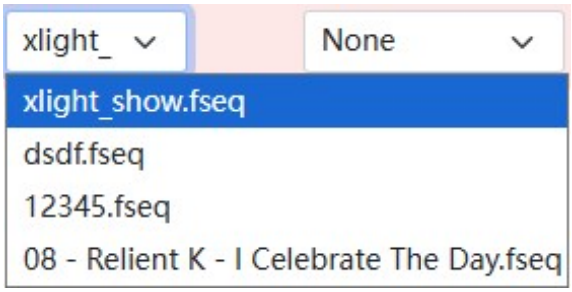


(Pic2)



（Pic3）

（Pic4）



（Pic5）

（Pic6）

Important Notes

When Repeat is set to interval modes (e.g., 1Min, 5Min), the program uses a scheduled time trigger mechanism:

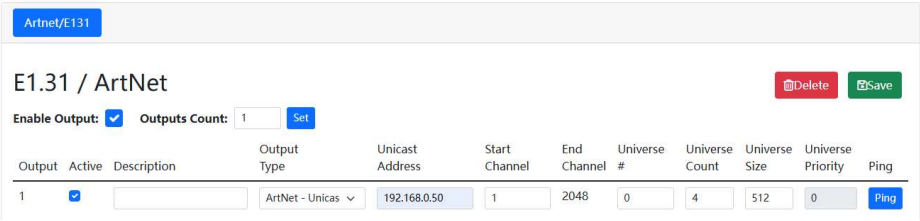
- Subsequent triggers are delayed by "item duration + Repeat interval" from the first trigger.
- Actual trigger times are not affected by higher-priority tasks.

Manage Schedule Tasks

- Toggle Active to enable/disable a schedule task.
- Select a task (or multiple tasks via Ctrl+Click) and click Delete to remove it.
- Click Save and to confirm all changes (add/delete/edit).

Artnet/E1.31 Protocol Output Configuration

The protocol output configuration page is shown below:



Configuration Operations

1. Global Output Control: Use Enable Output: ☑ to toggle all output configurations on/off.
2. Individual Output Control: Use the [Active] option to enable/disable a specific Output configuration.
3. Set Output Count:
   - Outputs Count: 1 Set It is recommended to configure 1 output first, fill in all parameters, then adjust to the desired count. The system will automatically copy and increment parameters from the first configuration.
4. Delete Configurations:
   - Select a single Output (or multiple via Ctrl+Click), then click Delete to remove selected configurations.
5. Save Changes: Click Save to store the final configuration after all operations.

Protocol Selection

In the "Output Type" drop-down list, select the output protocol:

- Supported protocols: Artnet, E1.31, Artnet-Broadcast, E1.31-Multicast
- Note: Artnet-Broadcast is recommended for networks with good link status to avoid network congestion.

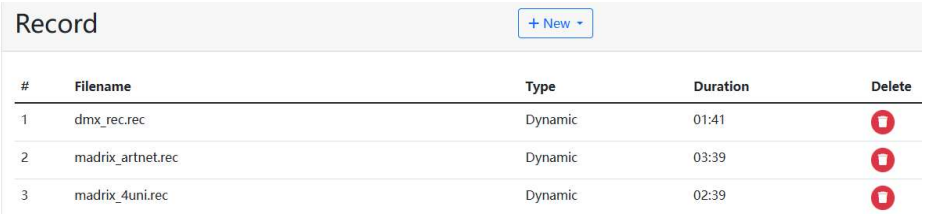
Network Connectivity Check

When the output protocol is set to Unicast:

- Use the Ping function at the end of the Output settings to verify the network connection between the PIXELPLAY controller and the decoder.
- A successful connection will return results (e.g., 4 packets transmitted, 4 received, 0% packet loss).

Lighting Effect Recording Instructions

The lighting effect list page is shown below:

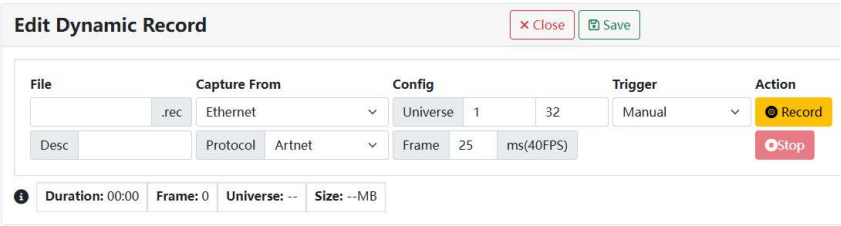


Manage Recording Files

1. Click a file to view details in the detail page.
2. Use the Delete button to remove a specific recording file.
3. In the detail page:
   - Edit the filename in the "Filename" field.
   - Adjust the Universe range to control the number of output domains.
4. Click Save and to store the modified configuration.

Create a New Recording

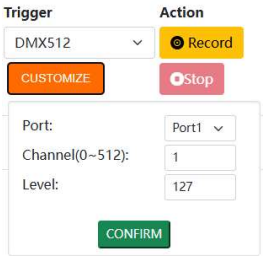
Click + New to enter the lighting recording page (see below):



Recording Configuration

1. File Settings:
   - Enter the filename and description in the "File" section.
2. Capture From Settings:
   - Select the recording port (e.g., Ethernet for Artnet/E1.31, DMX512 for DMX512 port).
   - Select the lighting protocol in the "Protocol" field.
3. Config Settings:
   - Universe: Set the recording domain range.
   - Frame: Set the recording frame interval (the corresponding frame rate will be displayed synchronously, e.g., 25ms = 40FPS).
4. Trigger Settings:

- Manual: Manually control start/stop of recording.
- DMX512/IO: Click [CUSTOMIZE] to set trigger conditions (e.g., Channel=1, Level=127: Start recording when DMX512 Channel 1 value ≥127; Pause when <127).



Action Instructions

- After configuring all parameters, click Record to send the recording request to PIXELPLAY. The system will enter a waiting state or start recording when the trigger condition is met.
- Click Stop to terminate the current recording.

Status Display

The status area Duration: 00:00 | Frame: 0 | Universe: -- | Size: --MB displays real-time recording duration and frame count. For DMX512 signal recording, "DMX512 Frame" is additionally displayed to monitor the number of recorded DMX512 frames.

Notes

- Maximum size of a single recording file: 4GB (recording stops automatically when exceeded).
- Ensure free disk space is at least twice the expected file size before recording.

Input/Output Processing Instructions

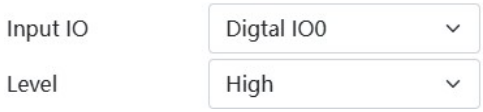
Input Processing Configuration

The input processing configuration page is shown below:

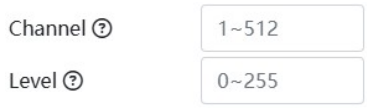
Click Add Trigger to create a trigger task:

1. Name: Trigger task name (cannot be duplicated).
2. Desc: Trigger task description (optional).
3. Type: Select IO or DMX512.
   - IO Trigger (see Figure 1): Select the trigger IO (Input IO) and effective level (High/Low).

- DMX512 Trigger (see Figure 2): Select the port (Port), trigger channel (Channel), and threshold value (Value: Trigger is effective when the channel value exceeds this value).



（Pic1）

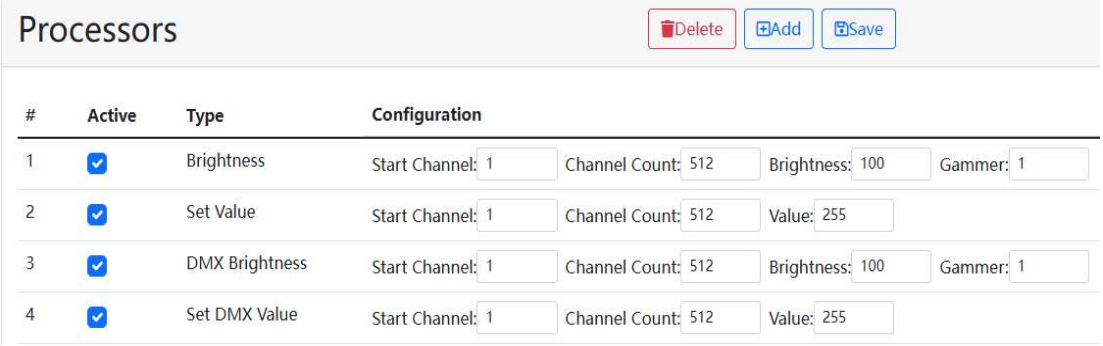


（Pic2）

4. Trigger Configuration:
   - Priority: Set trigger priority (0~31; lower value = higher priority). Low-priority tasks cannot interrupt running high-priority tasks.
   - Action: Operation to execute when triggered (options: Play List, Adjust Volume, Play, Pause, Stop, Prev, Next).
   - Enable: Toggle the trigger on/off.
5. Save/Delete:
   - Click Save to store changes.
   - Click to remove an existing trigger.
   - Click Save and to store the modified configuration.

Output Processing Configuration

The output processing page is shown below:



1. Add Configuration: Click Add to create a new output processing configuration.
2. Delete Configuration: Select one or multiple configurations (via Ctrl+Click) and click Delete to remove them.
3. Save Configuration: Click Save to store the final configuration.
4. Select Processing Type: Choose the target type from the "Select a Type" drop-down list:
   - Brightness: Adjust brightness for Ethernet output ports (see Figure 1):
     - Start Channel: Starting channel for brightness adjustment.
     - Channel Count: Number of consecutive channels to process.
     - Brightness: Brightness percentage.
     - Gamma: Gamma curve coefficient.

- DMX Brightness: Same as above (for DMX512 ports).
- Set Value: Set a fixed value for consecutive channels (see Figure 2):
  - Start Channel: Starting channel.
  - Channel Count: Number of consecutive channels.
  - Value: Fixed output value (0-255).
- Set DMX Value: Same as above (for DMX512 ports).

（Pic1）

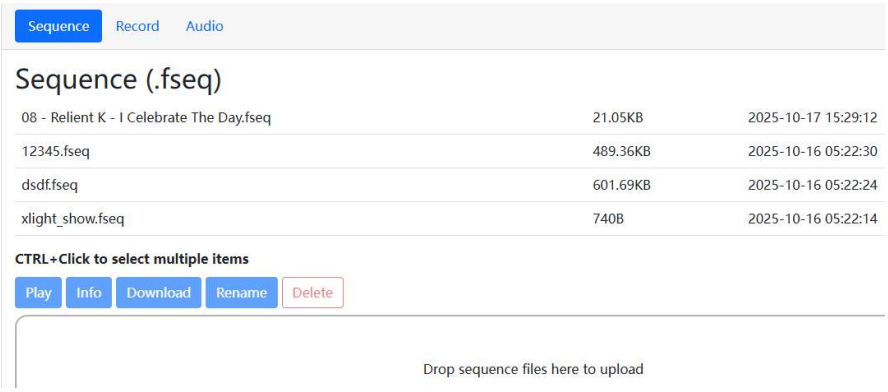
（Pic2）

Notes

- Brightness adjustments have a superimposed effect; avoid duplicate settings for the same channels.If multiple "Set Value" configurations conflict, the configuration with the highest sequence number takes effect.
- Click Save to store changes. Click Save and to store the modified configuration

File Management Instructions

The file management page is shown below:



Operations

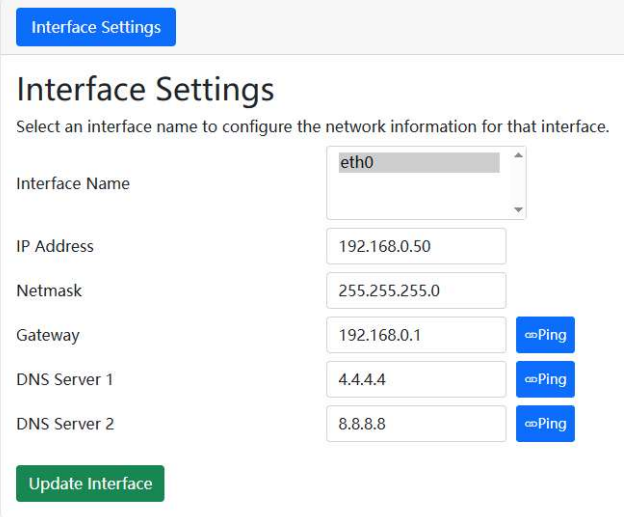
1. File Classification: Files are listed under three tabs (Sequence/Record/Audio).
2. Select Files: Click to select a single file or use Ctrl+Click to select multiple files.
3. Basic Operations:
   - Download: Click [Download] to save the file to the PC.

- Delete: Click [Delete] to remove the selected file(s).
- Play: Click [Play] to start playing the selected file (interrupts current playback).
- Info: Click [Info] to view file details.
- Rename: Click [Rename] to open the filename modification dialog.

4. Upload Files: Click the "Drop sequence files here to upload" area to upload files from the PC to PIXELPLAY.

Network Configuration Instructions

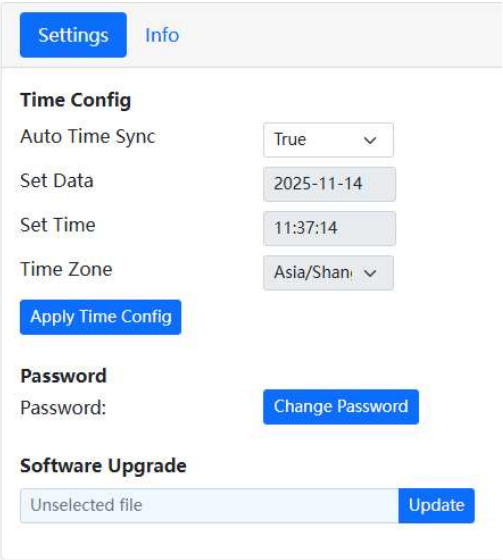
[Screenshot Description: Interface Settings - Interface Name (eth0), IP Address



Configuration Operations

1. View Current Configuration: The page displays the device's current IP configuration.
2. Modify Configuration: Edit the parameters (IP Address, Netmask, Gateway, DNS Servers) as needed.
3. Apply Changes: Click [Update Interface] to save the new network configuration. Access the new IP address via the browser to take effect.
4. Ping Tool:
   - Only available in static IP mode.
   - Enter the target IP in the Gateway field and click [Ping] to check if the IP is occupied.

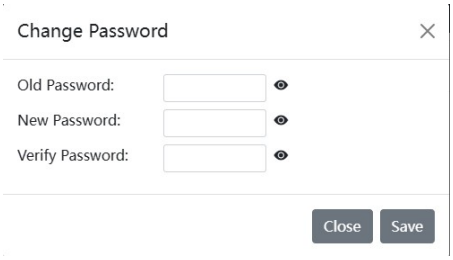
Controller Settings Instructions



Time Configuration

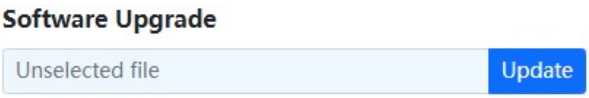
1. Auto Time Sync: Set to "True" to automatically sync time; set to "False" to manually configure.
2. Manual Configuration:
   - Set Date: Select the date (e.g., 2025-11-14).
   - Set Time: Enter the time (e.g., 11:37:14).
   - Time Zone: Select the time zone (e.g., Asia/Shanghai).
3. Apply Changes: Click Apply Time Config to save the time settings.

Change Password



1. Enter the current password in "Old Password".
2. Enter the new password in "New Password" and "Verify Password".
3. Click [Save] to apply the new password.

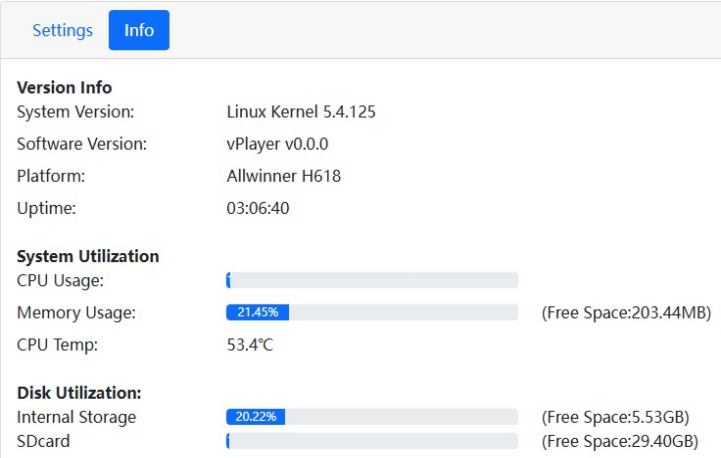
Software Upgrade



Upgrade Process

1. Click the file selection field to choose the upgrade package, then click [Update] to upload it to the controller.
2. A prompt "Refresh the web page after the controller restarts" indicates successful upload.
3. Power off the controller, restart it, and check the software version (version number change confirms successful upgrade).
4. If the upgrade fails, the system will automatically roll back to the previous version.

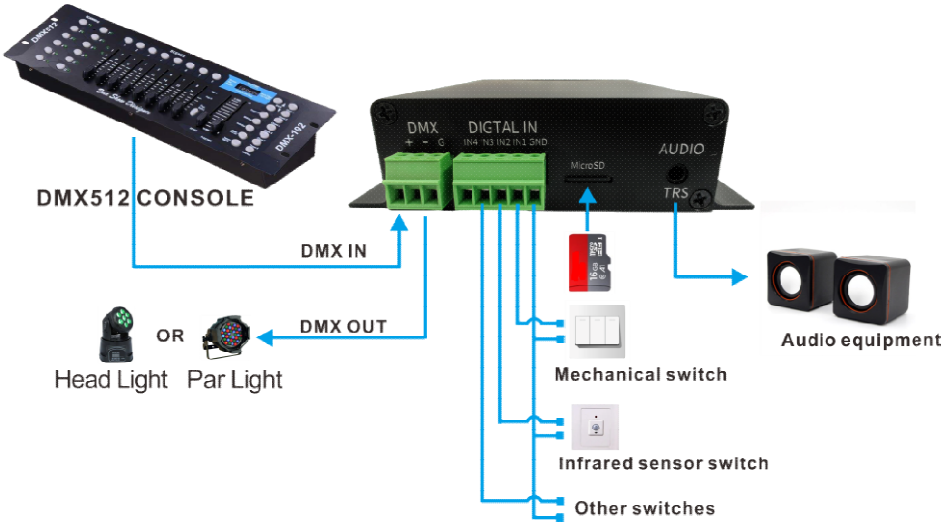
Info Page

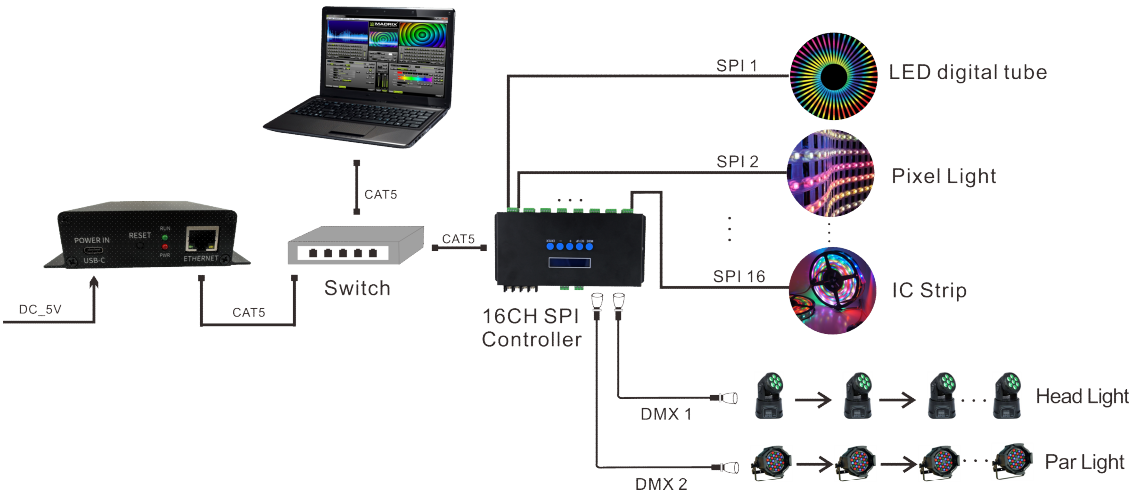


Displays the following information:

- Software version (System Version, Software Version)
- Hardware information (Platform)
- System status (CPU usage, memory usage, CPU temperature, disk usage, uptime)
- Verify upgrade success by checking the software version after upgrade.

System Connection Diagram





After-Sales Service

1. Warranty Period: 3 years from the date of purchase.
2. Warranty Coverage: Free repair or replacement is provided for quality issues arising from normal use in accordance with the operation manual.
3. Exclusions (No Warranty Coverage):
   - Damage caused by incorrect operation (not following the manual).
   - Damage caused by inappropriate power supply or excessive voltage.
   - Damage caused by unauthorized disassembly, repair, circuit modification, incorrect wiring, or chip replacement.
   - Damage caused by transportation, shock, dropping, or water ingress after purchase.
   - Damage caused by natural disasters (earthquake, fire, flood, lightning) or environmental pollution.
   - Damage caused by improper storage (high temperature, humidity, proximity to harmful chemicals).