

CLAIR LIGHTING PEARL 1024 CONTROLLER USER'S MANUAL



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1 Introduction

1.1 Controller description

Mini Pearl 1024Pro is latest lighting controller with 1024 channels,
High Efficient channel without delay output dmx signal 。 Up to 120 fixtures can be controlled simultaneously, built-in library editor , User library can be written on the console。 150 quick built-in shape effects,
It is compatible with the library in Avolite Pearl R20 format and featured with built-in shape effects of pan/tilt circle, RGB rainbow, beam dimming wave, etc.10 scenes can be output simultaneously 、 Use the push rod to run the scene and adjust the scene output.Support internal/external time code recording automatic program to achieve sound and light synchronization; Up to 10 automatic programs can be stored, and each automatic program can be recorded for up to 3 hours.

1.2 Specification parameter

1	Channel	1024
2	Fixture	120
3	Scene	60
4	material	60
5	Maximum number of scenarios that can run simultaneously	10
6	Maximum number of steps that can be saved in each multi-step scenario	200
7	Fixture are reconfigured with the address	support
8	Reversed channel output	support
9	Re-patched Fixture address	support
10	Cross fade modification	support
11	Each fixture can be controlled by a maximum of channels	40
12	Library format	R20
13	Built-in library editor	support
14	Time control of the scene	fade in, fade out, LTP slide
15	Shape generator	Shapes of Dimmer, Pan/Tilt, RGB, CMY, Color, Gobo, Iris and Focus
16	Shape parameter adjustment	yes
17	Maximum number of graphics that can be stored for each one-step scene	5
18	Internal time code/External time code Sound and optical synchronization	yes
19	Scene and dimmer by slider	yes
20	Point control	yes
21	Master slider	Global, playback, fixture

22	Real time blackout	yes
23	Dimmer by slider	yes
24	USB Memory	FAT32 supported
25	USB driver backup and restore controller data	yes
26	Input voltage	AC110V~240V
27	Size	590X430X120 MM
28	Weight	
29		

2 Installation

2.1 equipment & attachments

2.2 List of items in the product packing box :

- Mini Pearl 1024Pro :1pc
- Manual :1pc
- Power cable : 1pc

Patch:

- Flight case
- USB

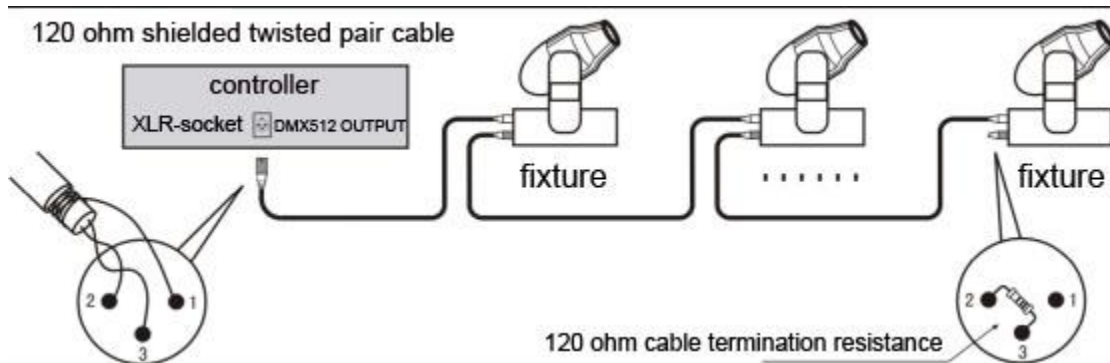
2.3 matters needing attention

- Fixture console must be connected with a PGND cable to ensure safe use.
- Do not sprinkle water on the fixture control controller.
- Controller is precision equipment, please pay attention to moisture and dust.

2.4 matters needing attention

- There are 4 DMX512 output signal XLR sockets on the rear side panel of the console. Pin 1 of the XLR connector is the signal ground, pin 2 is the negative signal terminal, and pin 3 is the positive signal terminal.
- The DMX512 connection cable adopts shielded twisted pair cable. Both ends of the cable need to be welded to the XLR plug by yourself. The shielded network is connected to pin 1 of the XLR plug. The twisted pairs (identified by different colors) are connected to pins

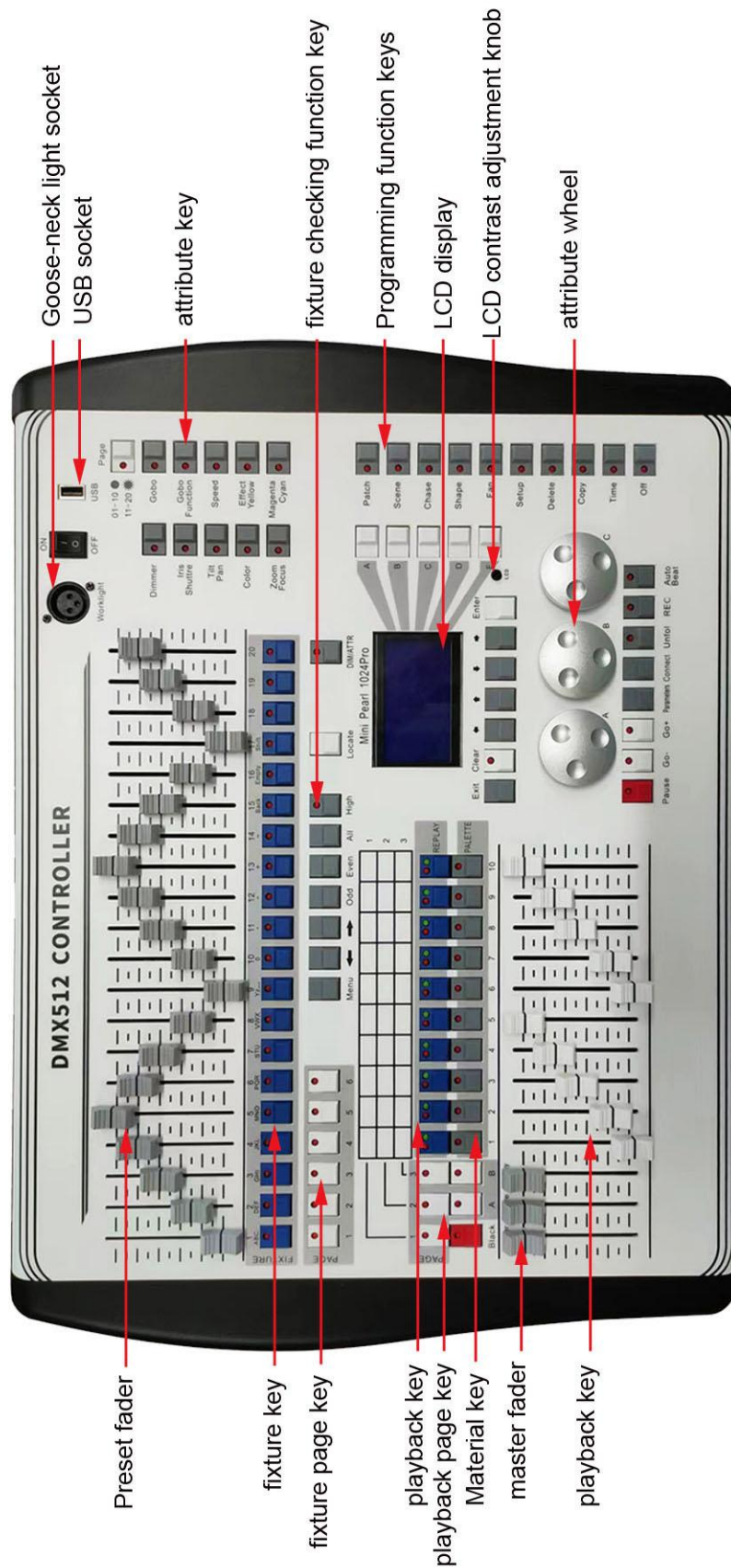
2 and 3 of the XLR plug respectively. Do not connect them reversely.

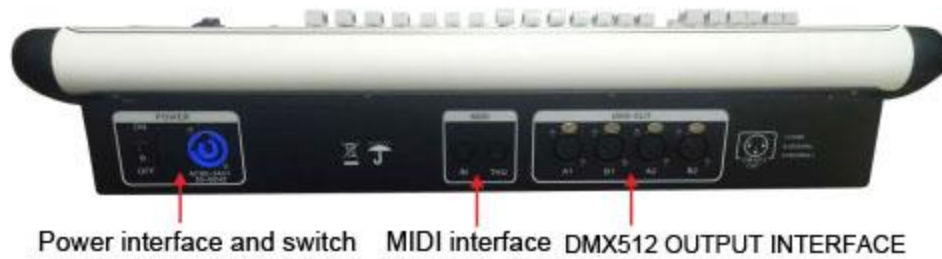


socket lead-in pin	Cable
1	Shielding network layer
2	Signal negative terminal
3	Signal positive terminal

3 Panel function description

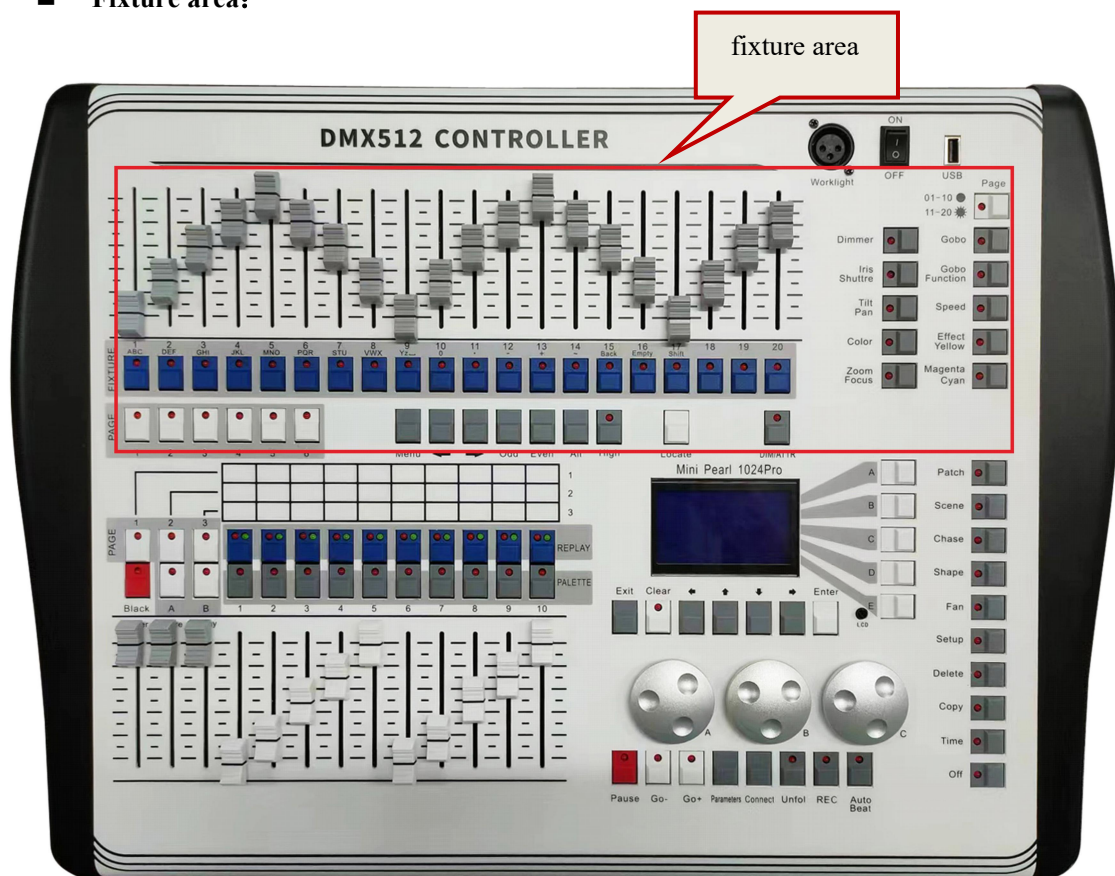
3.1 summarize Panel and chassis side panel





The console is mainly composed of several areas.

■ **Fixture area:**



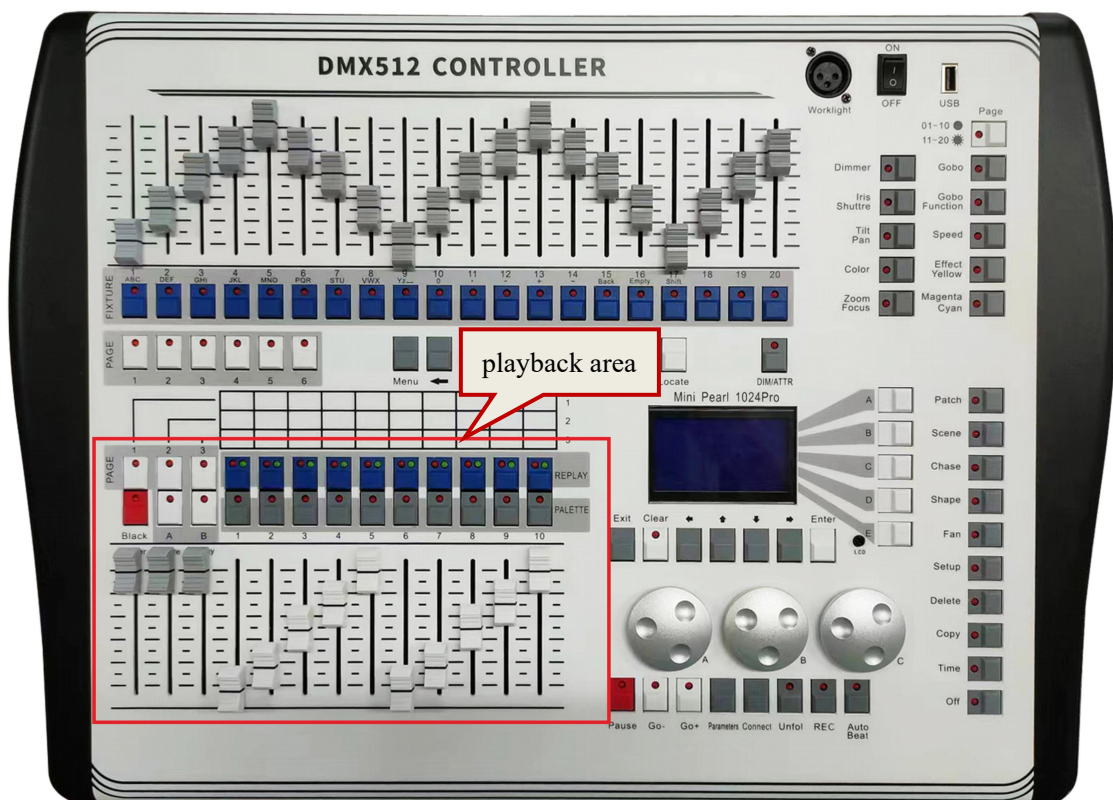
It is mainly composed of 20 fixtures, 20 preset faders and 6 page keys. Can be connected to up to 120 computer lights

- ✧ **Fixture key:** Mainly used for patch fixtures, select fixture, and input numbers and letters.
- ✧ **Page key :** fixture page key , total 6 pages .
- ✧ **Preset slider :** Can dim the fixture corresponding to the fixture key below , when **【DIM/ATTR】** When activated, the slider is associated with the attribute in the attribute key.
- ✧ **Attribute key :** There are 10 keys in total. Each attribute key contains two attributes and has a second page; When the attribute page key is activated and the red light is on , it

indicates that it is in the second page state.40 attributes in total.The attributes are controlled by the wheel A and the wheel B respectively.Each fixture has up to 40 attributes, and these 40 attributes are set by the fixture library.

- ✧ **【Menu】**: The menu interface has multiple shortcut functions for editing lighting effects.
- ✧ **Checking fixture key**: There are 6 keys in total, used to search for fixtures one by one or select fixtures in odd or even numbers.
- ✧ **【Locate】**: Used to quickly turn on beam of the fixture, click in the original position to emit light, double-click to center the light.
- ✧ **【DIM/ATTR】**: Preset slider mode keys, When this key is inactive, the preset slider is associated with the dimming channel of the corresponding fixture key below ,When this key is activated, the preset sliders are sequentially associated with the attribute values within the attribute key.

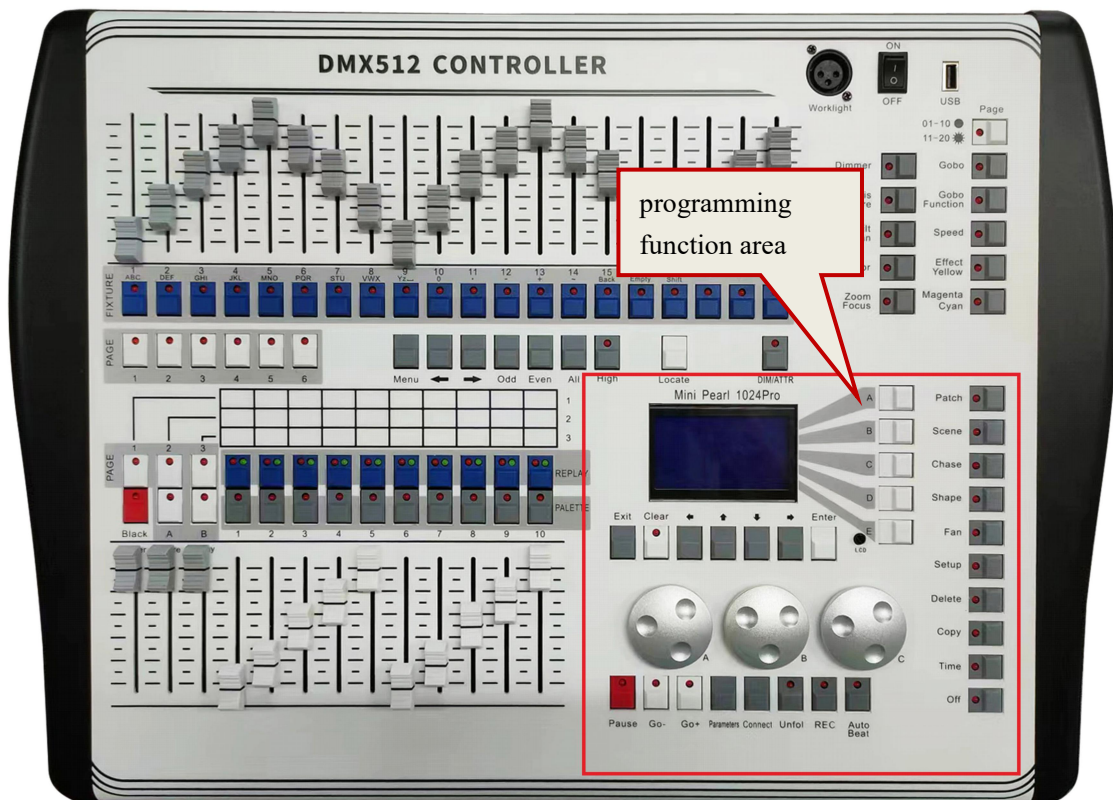
■ Playback control area:



Mainly composed of 10 playback key and 10 playback sliders,playback page turning 6 pages in total , A total of 60 scenes can be stored .There is a corresponding scene key above each playback fader.

- ✧ **Controller Master slider(Master)**: Used to control the brightness of all fixtures (Output dimming value) , Including the output brightness of the fixture area and the playback area.When the fader is set to 0, the values of the dimming channels output by the console are all 0.Under normal circumstances, this putter must be pushed to the top.If it is not reached the top, the light of the black button will flash continuously.
- ✧ **Controller Master slider(Fixture)**: Used to control the brightness of all fixtures when editing lighting effects (Output dimming value) But does not include the brightness of the replay run

- ✧ **Controller Master slider(Replay):** Used to control the brightness of the playback run (Output dimming value) But it does not include the brightness of all fixtures when editing lighting effects.
- ✧ **Playback slider :** for running scene .If there is a scene stored in the current slider . Pushing it up will run the scene, And the dimming output of this scene is controlled by the slider.Each playback fader can only control one scene at a time , Therefore, this console can run up to 10 scenes at the same time.
- ✧ **scene key:** Mainly used to save or run scenes, the automatic recording program can be run when the [Auto/Beat] key is activated.
- ✧ **Material key :** Mainly used to save or run materials
- ✧ **Page key:** playback & material page, but does not include automated programs. Automatic programs can store up to 15pcs , and no page turning.
- ✧ **【Black】 :** Used to quickly turn off all fixtures, the red light flashes when the black key is pressed, The data output by the controller are all 0 ,output resumes after releasing the button.
- **Programming function area:**



Mainly composed of 26 programming function keys

- ✧ **【Patch】 :** patch conventional fixtures, fixture, And view the fixture information and modify some characteristics of the fixture.
- ✧ **【Scene】 :** Perform single-step save function of scenes and materials
- ✧ **【Chase】 :** Perform the save function of multi-step scenes.
- ✧ **【Shape】 :** Built-in shapes can be called (such as circle drawing,beam dimming wave etc.), Modify shapes parameters.
- ✧ **【Fan】 :** Generally used on the X/Y attribute to make a row of fixtures expand or gather

like a fan.

- ✧ **【Setup】** : Perform data erasure, data backup and restore, language selection, fixture library management, and more.
- ✧ **【Delete】** : Used to delete saved scenes or materials under the start menu, used to delete patched fixtures under the patching menu, Used under the shapes menu to delete the selected shapes, used to delete steps under the menu of multi-step scenes .
- ✧ **【Copy】** : used to copy single-step/multi-step scenes.
- ✧ **【Time】** : For editing scene time parameters
- ✧ **【Off】** : Cancel the attributes of a fixture in the programming area, so that it is not recorded in the scene or materials, or remove it from scenes and materials .
- ✧ **【Exit】** : perform functions such as exit and cancel
- ✧ **【↑】【↓】【←】【→】** : Arrow key, used to display menu items for page turning or data modification.
- ✧ **【Enter】** : Perform functions such as save or confirm.
- ✧ **【Clear】** : When we select the fixture operation, its data will enter the programming area, the data in the programming area is output first. so when we replay the scene, we need to clear the data in the programming area, and this key is to perform this function (click to clear only the dimming value of the fixture, double-click to clear all channel values except XY)
- ✧ **【A】【B】【C】【D】【E】** : Display item selection key, perform operations such as modifying or selecting options in conjunction with other functions
- ✧ **【Unfol】** : Used to expand multi-step scenes to facilitate step editing.
- ✧ **【REC】** : Used to record automatic programs and achieve sound and fixture synchronization. See Chapter 10 for details.
- ✧ **【Auto/Beat】** : When this key is activated, automatic programs existing on the scene key can be run.
- ✧ **【Connect】** : Multi-step scene link key. used to link multi-step scene running status display, you can then use wheel A and B to adjust the speed and slope rate. when there are multi-step scene connections, the second line of the menu's initial page displays the number of the currently connected multi scenes
- ✧ **【Parameter】** : Multi-step scene parameter key, when multi-step scene status is displayed, can save the temporary speed of the current multi-step scene (speed adjusted with A/B wheel), run direction and modify other running parameters.
- ✧ **【Pause】** : multi-step scene pause button, the pause key can pause the running of the current multi-step scene.
- ✧ **【GO-】** : multi-step scene backward running key. when the current multi-step scene is paused, you can use this key to continue running the scene, but it will run in reverse.
- ✧ **【GO+】** : multi-step scene forward running key. when the current multi-step scene is paused, you can use this key to continue running the scene, it is running in the forward direction.
- ✧ **Wheel A/B** : used to perform modifications to fixture properties or modifications to multi-step scene speeds and slope rate. when using the A/B wheel to modify the 16-bit vertical and horizontal attribute values, press simultaneously **【↑】【↓】** to switch the sensitivity of the wheel, but it is invalid for 8bit.
- ✧ **Wheel V** : mainly used to modify time and shapes parameters.

3.2 Introduction to common vocabulary

- ✧ DMX512: Communication protocol for stage lights
- ✧ Channel: DMX has 512 channels in the communication protocol, and one channel can control one fixture function.
- ✧ Attributes: Generally the attributes on the console are a name for the function of the fixture in the library file.
- ✧ Single step scene: A scene of lighting effects on the stage is saved as data on a playback key
- ✧ Multi-step scene: Multiple lighting effects on the stage are saved as data on one playback key.
- ✧ Playback : Generally refers to the collective name of single-step scenes and multi-step scenes.
- ✧ HTP : The channel type with the highest value is output first, usually the dimming channel.
- ✧ LTP: The channel type that gives priority to the final output is usually other channels except the dimming channel.
- ✧ Fade in : The lighting slowly changes from dark to bright
- ✧ Fade out: The lighting slowly changes from bright to dark
- ✧ cross fade: The horizontal/vertical channel data of the fixture slowly changes
- ✧ Using fixtures as storage units: This is the most commonly used mode of Mini Pear 11024 Pro, When you change any attribute value of the fixtures, All attributes of the fixtures will be saved to the scene when saving the scene. That is to say, when you only change the X/Y of the fixture , when saving the scene, all other attributes such as the color wheel, gobo wheel, dimming effects, etc. will be saved.
- ✧ Use channel as storage unit : when saving the scene, only the attribute values you modified will be saved. that is to say, when you only change the X/Y of the fixture , When saving the scene, only the X/Y values of the fixtures are saved. when you run the scene, only the X/Y channel values will be output. This means you can use scenes to change the position of fixtures while retaining gobo, colors, dimming, etc. from other scenes. This makes your performance more varied . This is a powerful feature, but it can also easily lead to confusion. So you need to determine which attributes you need to store and the effect you want to show. When you are a beginner, it is best to use lamps as storage units.

4 Patch

The main function of patching is to patch DMX512 channels to fixture keys so that the fixture keys occupy the designated channels.

4.1 Patch conventional lights

Conventional lights usually only have one channel. The following is an example of connecting

a conventional lights

Steps :

-
- 1) Press **【Patch】** Enter patch menu;
 - 2) Press **【A】** select **< Patch Dimmer >**;
 - 3) Set DMX address and output route
 - 4) Press an empty fixture key
 - 5) Press **【Patch】** exit
-

- ✧ If you want to connect multiple conventional lights of the same model, batch patching method can be used. For example, to connect 5 fixtures, during the patch process, press and hold the first fixture key. Press the fifth fixture key again to complete the patch of 5 fixture keys at one time.
- ✧ Users can patch multiple conventional lights to one fixtures button, adjust to the next address code through wheel V and then press the same fixture button again.

4.2 patch fixtures

fixtures are much more complex than conventional fixtures because they have more functional attributes to control, Such as brightness, position, color, gobo, etc. Conventional fixtures usually only have one attribute: brightness. when patch a fixtures, it occupies a DMX address instead of one. Patch fixtures requires a library file corresponding to the fixture, whose content is mainly the functional attributes of the fixture. library files can be written through computer software or on the controller.

The following takes a connected computer light as an example; the operation steps are:

-
- 1) Press **【Patch】** Enter patch menu
 - 2) Then press **【B】** select **<Patch Fixture>** (If a USB is inserted, the library in the USB will be read. If not, the library in the controller memory will be read.)
 - 3) Select library
 - 4) Set DMX starting address and output route
 - 5) Press an empty fixture key
 - 6) Press **【Patch】** exit
-

- ✧ **Precautions: Do not place the library file in a folder, but directly on the catalog of USB. At the same time, please also pay attention to whether the format of the library is correct. The correct mode is XX.R20.**
- ✧ Different with patch fixtures, you cannot patch more than one fixture to the same fixture key. if the fixture key is already in use, patching cannot proceed successfully. Only other fixture keys can be used.
- ✧ When you choose to use the library in the USB and connect it, the selected library will be automatically added to the controller's memory.

4.3 checking patching information

After completing the patching, if you need to check the patching information, you can check it in two ways. The first is to press and hold a light fixture button on the initial interface. check the

patching information of the fixture key. The second is to check the patching information according to the following steps.

-
- 1) **Press 【Patch】 enter patch menu;**
 - 2) **press 【E】 select<Patch Information>** to enter fixture information menu
 - 3) The menu will display the key number, device name and address code of the fixture. Press the up and down keys at the bottom of the screen to turn pages to check more fixture information. Press the fixture key to jump directly to the fixture information.
-

4.4 Re-Patch the fixtures address

Users can re-patch a fixture key with other DMX address and signal output ports.

Steps:

-
- 1) **press 【Patch】 enter patch menu;**
 - 2) **Press 【C】 select <Re-Patch Fixture >;**
 - 3) Set DMX address and output route
 - 4) Press the button of the fixture that needs to be re-patched
 - 5) **press 【Enter】 finished editing**
-

4.5 delete patch

Delete the patch fixture key.

steps:

-
- 1) **press 【Patch】 enter patch menu ;**
 - 2) **Press 【Delete】 ;**
 - 3) Press the keys of a patched fixture
 - 4) **Press 【Enter】 delete**
-

- ✧ For conventional fixtures, individual DMX channels can be removed , after input channel number (DMX address)
- ✧ **press 【Enter】 enter delete** .this is very useful when multiple conventional fixtures are patched to the same fixture key and you want to delete a conventional fixtures from them. When using this method, be careful not to delete other fixtures by mistake.

4.6 Patch options

The controller can adjust some attributes and functions of the connected fixtures .

- **Set channel reverse mode:** inverts an attribute of the fixture so that when the attribute value is set to zero the output is the highest value. An attribute of the inverse fixtures , so that when the attribute value is set to zero, the output is the highest value, and when the attribute value is set to the highest value, the output is 0. All properties can be inverted;

Steps:

- 1) press **【Patch】** enter patch menu;
 - 2) Press **【D】** select <Patch Utilities>;
 - 3) Press **【B】** select <Set Invert> ;
 - 4) Select the lamp and press the attribute key to select the required attribute, then press **【B】** or **【C】** modify
-

- Set channel immediate mode: There are two ways to change the LTP channel value: One is to accumulate 1 until it reaches the set value, which is called a gradient. another value reaches the set value directly, which is called immediate. These two modes can be switched by the following operations.
-

- 1) press **【Patch】** enter patch menu;
 - 2) press **【D】** select <Patch Utilities> ;
 - 3) press **【C】** select <Set Instant Mode>;
 - 4) Select the fixture and press the attribute key to select the desired attribute.then press **【B】** or **【C】** to modify
-

- swap horizontal vertical : If some fixtures are installed sideways, it is useful to swap the vertical and horizontal channels.
-

- 1) Press **【Patch】** enter patch menu;
 - 2) Press **【D】** select <Patch Utilities>
 - 3) press **【D】** select <Swap P/T>
 - 4) Use the menu up and down keys to check the horizontal and vertical swap information of the fixture, and use the corresponding option keys on the right side of the display to modify it.
-

5 control fixture

5.1 select fixture

Press the fixture keys to select the fixture to be controlled.

- ✧ Single choice: Press a fixture key, and the red light of the fixture key lights up to indicate that the fixture has been selected.
- ✧ Multiple choice: Press and hold the first fixture key and then press the last fixture key.
- ✧ Cancel a fixture selected , just press the fixture key again., or press **【Clear】**cancel the fixtures selected

5.2 Modify the attribute values of fixtures

fixtures attributes refer to the channel function of the fixture, such as Horizontal, vertical, color, dimming etc . the output value of the attribute can be modified through the controller, thereby changing the lighting effect of the fixture .the available attributes depend on the type of fixture.

Regular lights only have dimming attributes.

One key corresponds to two attribute channels, which can be modified on the A/B wheel.

Steps:

-
- 1) select fixture ;
 - 2) Press the attribute key you want to modify;
 - 3) Rotate the wheel A/B to modify attribute values;
 - 4) Click other attribute keys and repeat steps 2 and 3 to modify other attributes.
-

- ✧ The attribute key can select the first 20 attributes.press **【Page】** The other 20 attributes are obtained
- ✧ **click 【Locate】** , The selected fixtures are turned on in original position , double click **【Locate】** , The selected fixtures is turned on in the center

5.3 check fixture

Sometimes we want to check the fixture corresponding to the fixture key. We can do this in the following ways:

-
- 1) Select a row of fixture and light on **【High】**
 - 2) **Double click 【Locate】 to emit light** ;
 - 3) Press the arrow keys **【←】** or **【→】** You can select one fixture one after another. The selected fixture will emit light. In fact, the unselected fixture will not emit light;
-

- ✧ press **【All】 to check** , Then all the fixtures that were selected at the beginning will be selected.

5.4 Align function and reverse function

The alignment function can align the attribute values of multiple fixtures with the attribute values of the specified fixture. This is very useful, for example, during the programming process, multiple fixture of the same model have different colors or other attributes, so that a row of lamps with different orientations point to the same direction. Or copy a color from one fixture to another.

For example, if there are multiple beam lights with different colors in programming, and if we want all the beam lights to be the same color, we can follow the following steps:

-
- 1) Press the attribute key for the color;
 - 2) Press a fixture key as a reference;
 - 3) Press a fixture key as a reference;
 - 4) **press 【Menu】** , then press **【B】 perform <Align Attribute>**;
-

- ✧ Align all attributes of fixtures, press **【A】 perform <Align Fixtures>**

The reversal function is mainly used for the horizontal and vertical functions of the moving head light. Quickly point the beam in opposite directions on the X/Y axis during lighting programming.

steps:

-
- 1) Select fixture keys to invert;
 - 2) **press 【Menu】** ;
 - 3) **press 【C】** 。
-

5.5 fan mode

fan mode is generally used on XY attributes. Make the beams of multiple fixture appear in a "fan" shape.

steps:

-
- 1) Select two or more lamps to light up in the center;
 - 2) Make the Y beam present a 45 -degree angle
 - 3) **press 【Fan】** its indicator light will flash, indicates fan mode;
 - 4) Use the wheel to modify the value of the X attribute;
 - 5) **press 【Fan】 to exit from fan mode**
-

- ✧ The fan mode requires at least 2 fixtures to see the effect.if there is an odd number of fixtures, the middle fixture will not change.
- ✧ When using the fan function to achieve the desired effect, be sure to remember to exit the fan function state to avoid disturbing subsequent operations.
- ✧ The order in which the fixtures are selected will affect the effect of the fan shape.

5.6 advanced options

- ✧ **Align fixtures/attributes:** described in Chapter 5.4
- ✧ **Rotate horizontal vertical:** described in Chapter 5.4
- ✧ Unselect fixtures: Cancel the selected fixtures, but do not clear the programming area.
- ✧ Macro command: used to light up light bulbs or self-test fixtures, etc. This function needs to be preset in the library.

6 material

When programming you will find that certain locations are used frequently , color etc .The controller allows users to store these attribute data and quickly recall them by pressing a button without having to use the wheel to find them every time.

Public material: Can be used for all fixtures in the same fixture library but the fixture must be selected.

Personal material: can only be used for limited fixtures, and can be called even if the fixture is not selected.

6.1 save materials

■ save a public material, steps:

-
- 1) Select any fixture key and emit light on the position (only one fixture key can be selected);
 - 2) Edit lighting effects using attribute keys and wheels;
 - 3) **press 【Scene】** ;
 - 4) Press a material key to complete saving .
-

✧ When saving materials, only the modified attributes will be saved and the unmodified attributes will not be saved . Therefore, when programming, remember not to modify attributes that do not need to be saved.

■ Save a individual material , steps :

-
- 1) Select more fixtures and emit light on the position
 - 2) Use the attributes keys and wheels to edit lighting effects;
 - 3) **press 【Scene】** ;
 - 4) Press a material key to complete saving
-

6.2 Calling materials

Call a material , steps :

-
- 1) select fixture key;
 - 2) Press the key where the material is saved.
-

✧ You can call individual materials without selecting the fixtures .

6.3 delete a material

Steps :

-
- 1) **Press 【Delete】** ;
 - 2) Then press the key of the material you want to delete twice to delete it.
-

7 shape generator

The controller's built-in shapes generator allows users to quickly create colorful lighting effects in a short time .Built-in shape apply a set of regularly changing data to the attribute of fixture.For example, the "circle" effect applies horizontal and vertical attributes to make the light beam of the fixture draw a circle.And can set the center, radius and moving speed of the circle.

There are a large number of built-in graphics available in the controller.Built-in shape are defined for specified attributes , such as color , dimming , focus .Some built-in shape cannot be

used with certain types of fixtures: for example, the "rainbow effect" can only be applied to LED lights or three-color moving head lights, but not to other fixture .

When more than one fixture uses a built-in shape, the built-in shape can be applied to all fixtures simultaneously, or offset to each fixture so that the built-in shape runs along them, creating a wave or rising and falling effect. This is called the built-in shape waveform.

7.1 use shape

Using a built-in shape is very similar to selecting a material. When a built-in shape is selected, it will be applied to all selected fixtures.

steps:

-
- 1) Select fixture and emit light ;
 - 2) **Press 【Shape】** ;
 - 3) **Press 【A】** to **<Replay a shape >** ;
 - 4) Select shape type;
 - 5) Select shape
-

- ✧ Most built-in shape are based on the fixture's current settings, so a circular motion will move around centered on the fixture's current horizontal/vertical point.
- ✧ If the description of the built-in shape includes "odd and even" or "average", it means the effect of the waveform. The corresponding parameters can be modified at any time in the future.
- ✧ The base point of the built-in shape can be modified by using the wheel to modify the attributes. The amplitude can be reduced to zero to help you check the actual base point value.
- ✧ When multiple built-in shapes are running at the same time, select **<Select a shape>** under the built-in shape menu, then select the shape you want to edit and modify it in the shape parameters.
- ✧ If you apply the same built-in shape to two different sets of fixtures, the built-in shape will appear twice on the list. Different directions, speeds, etc. can be edited separately for the two built-in shapes.
- ✧ Each built-in shapes works on a specified property; if the fixture does not have this attribute , the built-in shape will not be applied to the fixture.

7.2 Modify parameters of built-in shape

After selecting the built-in shape, it is very easy to modify the amplitude and speed. To maximize the impact of built-in shape, multiple lighting fixtures need to be applied. The MiniPearl1024Pro console has powerful waveform function, allowing the built-in shape to display different wave effects in the lighting fixtures.

Operating Steps:

-
- 1) Press **【C】** key to perform **<Shape Parameters>**;
 - 2) Use the corresponding option keys to highlight the shape that need to be edited, and then use the wheel V to adjust the data
-

- ✧ Amplitude: The fluctuation range of channel data. The shape pauses when the data is 0.

- ✧ Speed: The running speed of the shape. The shape pauses when the data is 0.
- ✧ Spacing (angle): The angle at which the difference between lighting fixtures during the operation of a pattern is 360 ° in one cycle.
- ✧ Waves: mainly used for horizontal/vertical swing of shape, adjusting this parameter can make the beams of multiple fixtures swing like waves.
- ✧ If there are multiple built-in shape running, you can use the [Edit Shape] function to select the built-in shape that need to be edited, and then adjust the shape parameters.

7.3 Delete a Shape

Operating Steps:

-
- 1) Press **【Shape】** key;
 - 2) Press **【Delete】** key;
 - 3) Use the corresponding option keys to highlight the shape that need to be deleted;
 - 4) Press **【Enter】** key to finish delete.
-

7.4 Built-in drawings with and without reference points

Some built-in shape are executed based on the current lighting fixture settings: for example, "drawing a circle" revolves around the current horizontal and vertical positions. This is a built-in drawing with reference points. If the horizontal and vertical position of the lighting fixture is changed, the entire built-in shape will also follow the movement.

All built-in shape with "custom" positions (i.e. X/Y) and names are built-in shape with reference points.

Other built-in shape always run around a fixed value; For example, the current color of an LED that uses the "rainbow effect" has no effect on this effect.

- ✧ Non positional built-in effects (color, pattern, focusing, dimming, aperture) are usually built-in graphics without reference points. Built-in drawing names without reference points will not have 'custom'.
- ✧ If you run a single step scene containing built-in shape, the built-in shape will also stop when the scene is closed

7.5 Shape replay parameters

Used to set built-in effect parameters stored in the scene. When a scene fades in, it can be determined whether the built-in effect starts immediately with the maximum amplitude and speed (fixed), or follows the fade in with the same amplitude and speed (gradually changing over time).

-
- 1) Press **【Shape】** key;
 - 2) Press **【E】** key to Execute<**Replay Parameters**>, Set the scene key for shape parameters as needed;
 - 3) Press **【A】** Set the amplitude to fixed or time-varying;
 - 4) Press **【B】** Set speed to fixed or time-varying;
-

- 5) Press **【C】** Set whether to remove the offset caused by built-in effects when the scene ends.
-

8 Single step scene

Using various functions on the console to edit a complex lighting scene, the most basic one is a single step scene, where only one lighting scene is saved on a replay key.

This console can store up to 60 replays, which can be used to store single step scenes, multi-step scenes, and automatic programs. Use the push rod and button control in the replay area to run the replay.

There is a special built-in memory called the "programming area" inside the console. As long as any attribute of the lamp is modified, the modified content will enter the programming area. When saving a single step scenario, the content of the programming area will be stored in the single step scene. Any other output from the console will not be saved.

The MiniPearl1024Pro console has two storage modes for single step scenarios: "fixture as storage unit" and "Channel as storage unit". The storage mode can be modified under the display menu when the **【Scene】** key is pressed to light up. The difference between the two:

- **Using fixtures as storage units** : When modifying any attributes of the fixture, all other attributes of the fixture are also placed in the programming area. When saving the scene, all attribute values of the lighting fixtures are saved.
- **Storage unit in channels** : Only modified fixture attributes are placed in the programming area. When saving the scene, only the modified attribute values of the lighting fixtures will be saved.

Press the **【Clear】** button to clear all lamp data from the programmer. Before editing a single step scene, it is important to develop the habit of pressing the **【Clear】** button, otherwise it may result in saving unnecessary lighting data. After completing the programming, you also need to press the **【Clear】** key, as any numerical output in the programming area will take precedence over the values in the scene.

8.1 Create a single step scene

- 1) Press **【Clear】** key to clear programming area;
 - 2) Select lighting fixtures to edit lighting effects;
 - 3) Press **【Scene】** key;
 - 4) Click on one of the empty replay keys to complete the save.
-

- ✧ Press the option key **【C】<Record Stage>** to save the entire output of the console (not just the content in the programming area). When Save Stage is selected, this option will be highlighted. This option is generally not used.
- ✧ The empty space above the scene key is divided into many small pieces, corresponding to each replay button and replay push rod below; Stick a label tape and write the name of the program

on it with a pen. This will make it easier for you to understand the program you have compiled

8.2 Using built-in shape in single step scene

As expected, any built-in shape edited can be stored as part of a single step scene. If you choose to save the drawing scene in units of lighting fixtures, both the drawing and reference points will be saved. If you choose to save the shape scene in "channels as storage units", only the shape will be saved but not the reference points. When running the scene, the built-in shape will run the graphics with the current position of the lighting fixture as the reference value.

8.3 HTP and LTP channels

Mini Pearl 1024Pro, There are two ways to store control channels:

- ✧ The working principle of the HTP channel is "highest takes priority". If multiple different single step scenarios have HTP channels open, the highest numerical value will be output. When the program push rod is pulled down, the HTP channel fades out accordingly.
- ✧ The working principle of the LTP channel is "last takes priority". The last output channel value between multiple replays replaces the previous output channel value, so the last running single step program will cover the previous running single step scenario. When the program putter is pulled down, the HTP channel value will fade out with the putter value, while the LTP channel will not fade out with the putter value until the next scene value covers it.

The light library file tells the MiniPearl1024Pro console which channels of a lamp are HTP and which are LTP. Usually, only the dimming channel is HTP, while the other channels are LTP. It is best to have a brightness control channel for a lamp to ensure that the lamp will go black after a scene is turned off.

8.4 Run a single step scenario

Operating Steps:

-
- 1) Press **【Clear】** ;
 - 2) Push up a push rod with a single step scene or press and hold the corresponding button.
-
- ✧ Press the **【Clear】** key before running the scene to ensure that there is no data in the programming area, as anything in the programmer will hinder the normal operation of the scene.
 - ✧ All HTP channels (brightness) in a single step scene fade in and out with the push rod. The LTP channel (action) quickly opens when the push rod value is not zero. (If the single step scene is modified to Mode 1 or Mode 2, the LTP channel also runs like this, unless the channel is set to no sliding step when writing the light library).

8.5 Modify a single step scene

You can modify any part of a saved single step scene by simply making the changes and saving it.

Operating Steps:

-
- 1) Press **【Clear】** key to clear programming area;
 - 2) Run a single step scene you want to edit using a replay putter so that you can see the work being done;
 - 3) Select the lamp you want to modify and make the necessary changes;
 - 4) Press **【Scene】** key;
 - 5) Press the replay key of the single step scene being edited;
 - 6) press **【A】 / 【B】** complete modifying
-

- ✧ If it is in the "Lamp as Storage Unit" mode, all attributes of any modified lamp will be saved to the single step scene with the current settings. If you only want to save certain properties of a lamp, you need to use the "channel as storage unit" mode.
- ✧ Use the option key **[B]<Replace Scene>** to overwrite the original single step scene. This will delete the replay and save the current programming area content as a new single step scenario.

8.6 Remove

The **【Off】** button can remove an attribute that has been stored in a single step scene, just like it has never been recorded before. For example, you have saved a single step scene, with the position marked somewhere and the color set to red. Later on, I didn't want to use colors in this scene, so I needed to use the **【Off】** button to remove the colors from the scene. You can also use the **【Off】** button to remove lighting fixtures from a single step scene

Using the **【Off】** button does not record a property as zero. It is equivalent to completely not recording attributes.

-
- 1) Push up a single step scene you want to edit so you can see the work done;
 - 2) Select the lamp you want to modify;
 - 3) Press the **【Off】** key to enter the cancel programming menu;
 - 4) To cancel all programming data for the selected lamp, press the **【B】** key to execute **<OFF Selectd Fixture >**. To cancel the programming data of the selected attribute, press the relevant attribute key, and then use the **【C】** and **【D】** keys to cancel the programming of each attribute;
 - 5) Press **【Scene】** key;
 - 6) Press the replay key of the scene being edited to save the modifications. Unchanged information is not affected.
-

8.7 Copy a single step scene

Operating Steps:

-
- 1) Press **【Copy】** key;
 - 2) Press the replay key of a saved single step scene to copy;
 - 3) Press the unsaved replay key to perform pasting.
-

8.8 Delete a single step scene

Operating Steps:

- 1) Press **【Delete】** key;
- 2) Press the replay key you want to delete;
- 3) Press the replay button again to confirm deletion.

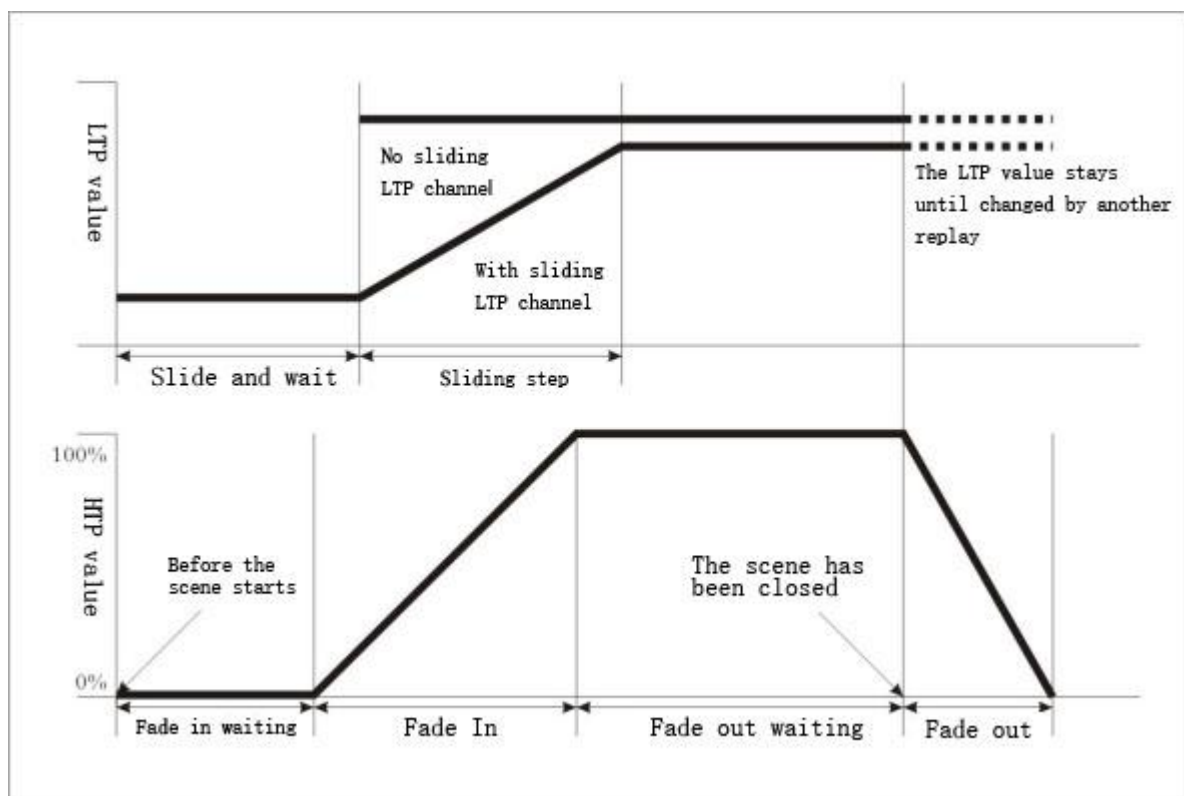
8.9 Time

You can independently set the fade in and fade out times for each single step scene. The push rod only works on the HTP (brightness) channel. A separate LTP timer allows you to set the action time.

Operating Steps:

- 1) Press **【Time】** key;
- 2) Press the scene key you want to edit to enter the set time menu;
- 3) The menu has two pages, which can be flipped using the up and down buttons at the bottom of the screen. After selecting the option, use the **wheel V** to modify the data;
- 4) Press the **【Enter】** key twice to save and leave, and press the **【Exit】** key twice to cancel the save and leave.

The specific description of time is shown in the following figure:



The gradient time you enter is also affected by the running mode of the single step scenario:

- ✧ **Mode 0 :** All times are zero. The speed of HTP channel value change follows the replay of the putter value
- ✧ **Mode1:** The speed of changes in HTP and LTP channel values is related to time parameters. If the time is set for a single step scene in mode 0, this scene will automatically be modified to mode 1.
- ✧ **Mode2:** The only difference from Mode 1 is that after pulling down the replay push rod, the LTP channel value will return to the value before the push up.

9 Multi step scenario

A multi-step scene is a replay key that saves multiple light scenes, and gradually outputs multiple light scenes at set time intervals during runtime. A multi-step scene can save up to 200 steps.

9.1 Create a multi-step scene

Operating Steps:

-
- 1) Press **【Chase】** key;
 - 2) Select a replay key to save multiple scenes;
 - 3) Editing Light Effects;
 - 4) Press the replay key to save multiple steps again to save the steps (the number of saved steps can be viewed on the display screen);
 - 5) Repeat steps 3-4 to save more steps;
 - 6) Finally, press the **【Chase】** button to exit.
-

- ✧ A multi-step scene can store up to 200 steps.

9.2 Run a multi-step scenario

Operating Steps:

Pushing up or holding down the replay button allows you to run a multi-step scene.

- ✧ It is best to press the clear key before running a single or multi-step scenario to avoid the data left by previous programming operations affecting the correct output of the replay.
- ✧ Multiple step scenarios that can run more than one at a time.
- ✧ All HTPs (brightness) in multi-step scenes are controlled by a push rod. The LTP (action) channel executes program actions according to the sliding time after the push rod leaves zero.

9.3 Link a multi-step scene to the console

When running a multi-step scene, replay control is automatically connected to the scene. If running the second scenario, replay control is connected to the new scenario

Users can choose which scene to link to the replay control by pressing the **【Connect】** button and then pressing the replay button of the multi-step scene they want to control

9.4 Set speed and slip ratio, direction

After running a multi-step scenario, wheel A/B is usually used to control speed and slip ratio. The **【GO+】** and **【GO-】** keys are used to control the direction

Save speed and slip ratio:

-
- 1) Use **wheel A** to modify the speed and **wheel B** to modify the slip ratio;
 - 2) Press **【Parameter】** key;
 - 3) Press **【A】** Execute<Save Speed>.
-

- ✧ **Speed :** The time between steps, but this time is the global time. If a step is set with an independent time, it will follow its own time.
- ✧ **Slip ratio:** It is the ratio of waiting time to sliding time within the time interval between steps. The three sets of data displayed on the display screen are the fade in slide ratio, fade out slide ratio, and LTP slide ratio. FF represents sliding time throughout the entire time, while the waiting time is 0; When the data is 70, 70% of the total time is sliding time, the rest is waiting time, and so on.
- ✧ **Waiting time:** For example, when the lamp needs to go from point A to point B. When the waiting time is set to 3 seconds, the lamp will stay at point A for 3 seconds before moving towards point B during operation

Hold for 3 seconds before starting towards point B.

- ✧ **Sliding time:** For example, when the lamp needs to go from point A to point B. When the sliding time is set to 3 seconds, the lamp will move from point A to point B at the beginning of operation, and the entire journey is exactly 3 seconds.
- ✧ If a multi-step scene is running and a wheel is used to do other things (such as manually controlling the position of some lights), switch the wheel mode by pressing the **【Connect】** key and then pressing the **【E】** key to execute the<Change Wh A/B Mode>Switch Wheel Mode.
- ✧ Set the speed of multi-step scene recovery to programming, press the**【Connect】** key, and then press **【D】** to execute<Clear Tem Speed>.

The direction of the multi-step scene is controlled by the **【Go+】** and **【Go-】** keys.

- ✧ Multi step scenarios can save the direction and start running in this direction in the future: press the **【Parameter】** key, then press **【B】** to execute<Save Direction>

9.5 Manually controlling the operation of multi-step scenarios

Operating Steps:

-
- 1) Press **【Time】** key;
 - 2) Press a replay key to set a multi-step scene;
-

- 3) Press **【↓】** to turn the page and see that the display screen has a < Link = On > option;
 - 4) Press the **【D】** key to set the < link=off >;
 - 5) Press the **【Enter】** key to save and exit;
 - 6) Pushing up and running the pushrod with the set multi-step scene;
 - 7) Press the **【GO+】** and **【GO-】** keys to manually run steps in a multi-step scenario step by step
-

9.6 Expand multi-step scene for editing

The Mini Pearl 1024Pro console has a powerful multi-step scene editing system. The **【Unfol】** button can expand the steps of a multi-step scene onto the replay button, turning each step into a single step scene that can be run and edited separately. The first 10 steps of a multi-step scene are automatically loaded onto the replay keys 1-10, or the steps after the 10th step can be loaded onto the replay key by pressing the up and down arrow keys.

-
- 1) Press **【Unfol】** key;
 - 2) Press the replay key of the multi-step scene you want to edit;
 - 3) Refer to the scenario below for item editing steps;
 - 4) Press the **【Unfol】** key to exit;
-
- ✧ Adjust the time of the step: Press the **【Time】** key, then press the corresponding replay key of the step, set the time, and press **【Enter】** to save the time.
 - ✧ Insert a new step: First create a new lighting effect, then press the corresponding replay key to insert the new step. The new step is inserted into the key pressed, and the inserted step automatically moves back.
 - ✧ Delete Step: Press the **【Delete】** key, then press the replay key that you want to delete the corresponding step, and press the **【Enter】** key to delete it.
 - ✧ Copy a step: first press the **【C】** key to clear the programming area, then press the replay key corresponding to the step you want to copy, import its data into the programming area, and then save it.

9.7 Delete multi-step scenarios

Deleting a multi-step scene is the same as deleting a single step scene. Press the **【Delete】** key, and then press the replay key twice to delete the multi-step scene.

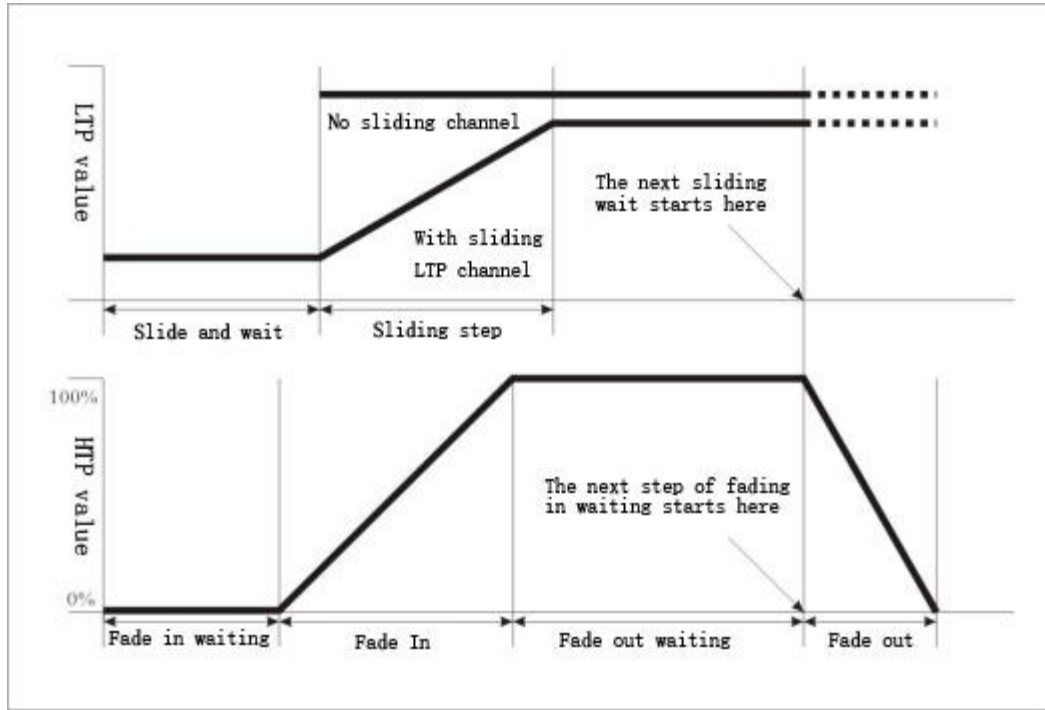
9.8 Global time for multi-step scenarios

Set global time for a multi-step scene:

-
- 1) Press **【Time】** key, Then press the replay button for the multi-step scene;
 - 2) Use the up and down keys at the bottom of the screen to turn pages, use the option keys **【A】** - **【E】** to select options, and use the wheel V to modify the values;
 - 3) The second page of the time menu has the option of 'Connect'. If the link is set to on, the
-

multi-step scenario will automatically run step by step. If the link is set to off, you need to manually run the step by pressing the **【Go+】** / **【Go-】** keys;

- 4) After completion, press the **【Enter】** button twice to save and exit, or press the **【Exit】** button to exit without saving.



Time settings include:

- ✧ < **Wait In** >-- Delay of HTP channel before fading in
- ✧ < **Fade In** >-- HTP channel fade in time
- ✧ < **Wait Out** >-- Delay of HTP channel before fading out
- ✧ < **Fade out** >-- HTP channel fade out time
- ✧ < **LTP Wait** >-- Delay before LTP channel starts moving
- ✧ < **LTP Fade** >--LTP channel gradient time
- ✧ < **Link** >- If you close the link, the replay will be paused when running to this step, and you need to press the **【Go+】** / **【Go-】** keys to continue the replay.

9.9 Advanced Control Options

Each multi-step scenario has some options for running settings. Press the **【Parameter】** key to enter the options menu, but at this point, multiple scenarios must be linked

- ✧ < **Save Speed** >- Saves the speed of the current multi-step scene, which can be adjusted by the A/B wheel
- ✧ < **Save Direction** >- Save the direction of the multi-step scene, executed by **【Go+】** / **【Go-】**
- ✧ < **Loop Playback** >- Causes a multi-step scenario to cycle or stop at the last step. After stopping, you need to press **【Go+】** / **【Go-】** to continue running.
- ✧ < **Skip first Wait Time Press** >- allows you to ignore the waiting time or sliding time for the first step in multi-step scenarios. This allows the push rod to run directly as soon as it is pushed up.
 - Skip the waiting time for the first step: When running a multi-step scenario for the first time, ignore the waiting time for the first step.

- Skip all times of the first step: When running a multi-step scenario for the first time, ignore all times of the first step.
- Run all times: The running scenario will execute all waiting and sliding times.

10 Record Automatic Program

The Mini Pearl 1024Pro console can record automatic programs that are run and replayed by internal/external time codes, achieving sound and light synchronization, greatly reducing the workload of lighting engineers during performances. Before recording, prepare a single or multi-step scene in advance. Up to 10 automatic programs can be stored, and the first automatic program can be recorded for up to 3 hours.

10.1 Store an automatic program

Operating Steps:

-
- 1) Select the time code playback source in the settings, usually selected as internal time.
 - 2) Press the **【REC】** key;
 - 3) Press a replay key;
 - 4) Enter the number of nodes using the lighting button and press OK twice to enter the recording interface;
 - 5) Press the **【Auto/Beat】** button for the first time to start the internal timer, and press the **【Auto/Beat】** button after the second time to record the time nodes, and so on to record more time nodes;
 - 6) Move the arrow keys to C00 at the first time node, push and run the replay push rod with saved scenes, press **【Enter】** to record the push rod, and so on to record the push rods at other time nodes;
 - 7) Save and exit when pressing **【REC】** again.
-
- ✧ After pressing the **【REC】** key, if the time code source is selected as an external time code, the timing is not controlled by the control station, but by an external device; If the internal time code is selected, the internal time code will start counting from 00:00:00 from the moment the **【Auto/Beat】** key is first pressed.
 - ✧ When the push rod is recorded, C00 becomes C01.

10.2 Modify the time node of the automatic program

Operating Steps:

-
- 1) Press the **【REC】** key,
 - 2) Select an automatic program to modify.
 - 3) Use the arrow keys to move the cursor and modify the time parameters on the wheel;
-

- 4) Press **【REC】** to complete the modification.
-

10.3 Run an automatic program

Operating Steps:

-
- 1) Set interface to select time code playback source;
 - 2) Press **【Auto/Beat】** .
 - 3) Press a key with stored automatic programs.
-

Only one automatic program can be run at a time

10.4 Delete an automatic program

Operating Steps:

-
- 1) Press **【Auto/Beat】** .
 - 2) Press **【Delete】** .
 - 3) Double click on the automatic program key to delete.
-

11 Set up

Press the **【Setup】** key to enter the setup menu. Mainly perform settings such as saving (backup) and loading (recovery) of console data, clearing console data, switching console language, and managing light libraries.

11.1 Console data backup

Used to save and read data (backup and recovery of console data). For the compiled console program, we must remember to backup it, whether it is to prevent console data loss or to transfer data to another console, this is necessary.

Operating Steps:

-
- 1) Insert USB drive.
 - 2) Press **【Setup】** key.
 - 3) Select<U-Disk>.
 - 4) Select< Save Data >.
 - 5) Name backup file name.
 - 6) Press the **【Enter】** key to save the backup file
-

✧ It is best not to run a replay during backup to avoid errors in the saved data.

11.2 Console data recovery

Operating Steps:

-
- 1) Insert USB drive.
 - 2) Press **【Setup】** key。
 - 3) Select<U-Disk>.
 - 4) Select<Read Data>.
 - 5) Select a backup file.
 - 6) Press the **【Enter】** key to restore
-

11.3 Wipe console data

Operating Steps:

-
- 1) Press **【Setup】** key。
 - 2) Select<Wipe>。
 - 3) Select data to wipe.
 - 4) Press **【Enter】** to enter.
-

✧ <**Wipe Replay**>: Only the data in the replay area will be wiped and all other information will be retained.

✧ <**Wipe Palette**>: Only the data in the material area will be wiped, and all other information will be retained.

✧ <**Wipe All**>: The number of replays, materials, and connection information will be wiped, but the light library file will be retained.

11.4 Language switching

Operating Steps:

-
- 1) Press **【Setup】** key。
 - 2) Select< **English /中文**>。
 - 3) Select a language。
 - 4) Exit.
-

11.5 Lamp Warehouse Management

The Mini Pearl 1024Pro console can import a light library from a USB flash drive or write a new light library on the console, making it convenient for users to write the required light library in an environment without a computer. The console can store up to 32 light libraries. If there are already 32 light libraries stored and we need to add new light libraries, we need to delete those that are not needed Mini Pearl1024Pro.

■ Delete the light library

Operating Steps:

-
- 1) Enter the Delete Lamp Library menu.
 - 2) If there are more than 5 light libraries, use the up and down keys at the bottom of the screen to

turn pages.

- 3) Use the corresponding option keys to select the light library that needs to be deleted.
- 4) Press **【Enter】** to confirm deletion

✧ Delete all light libraries: The console will delete all data, including the light library.

■ Add light library

Operating Steps:

-
- 1) Insert the USB drive. Press the **【D】** key in the settings menu. The console starts reading the information of the light library in the USB flash drive.
 - 2) Use the buttons on the right side of the screen to select the light library you want to update or add. After the update, the display of this line will be highlighted.

■ Create a new light library

Operating Steps:

-
- 1) Press **【Setup】** into the settings menu.
 - 2) Press **【D】** to select<Personality Manage>.
 - 3) Press **【E】** to select<Edit Personality>.
 - 4) Using the V-wheel to name the light library.
 - 5) Press **【Enter】** , into next step.
 - 6) Enter the total number of channels and press **【Enter】** to enter channel attribute editing.
 - 7) After editing the channel attributes, press **【→】** to enter the attribute parameter settings
 - 8) Press **【→】** into next step.
 - 9) Press **【Enter】** Save Light Library Editing.
 - 10) Press **【Exit】** to finish the edit.

✧ When editing a new light library, you can write a light library based on the channel table provided by the lamp manufacturer's manual.

✧ Users can also modify and edit the existing light library.

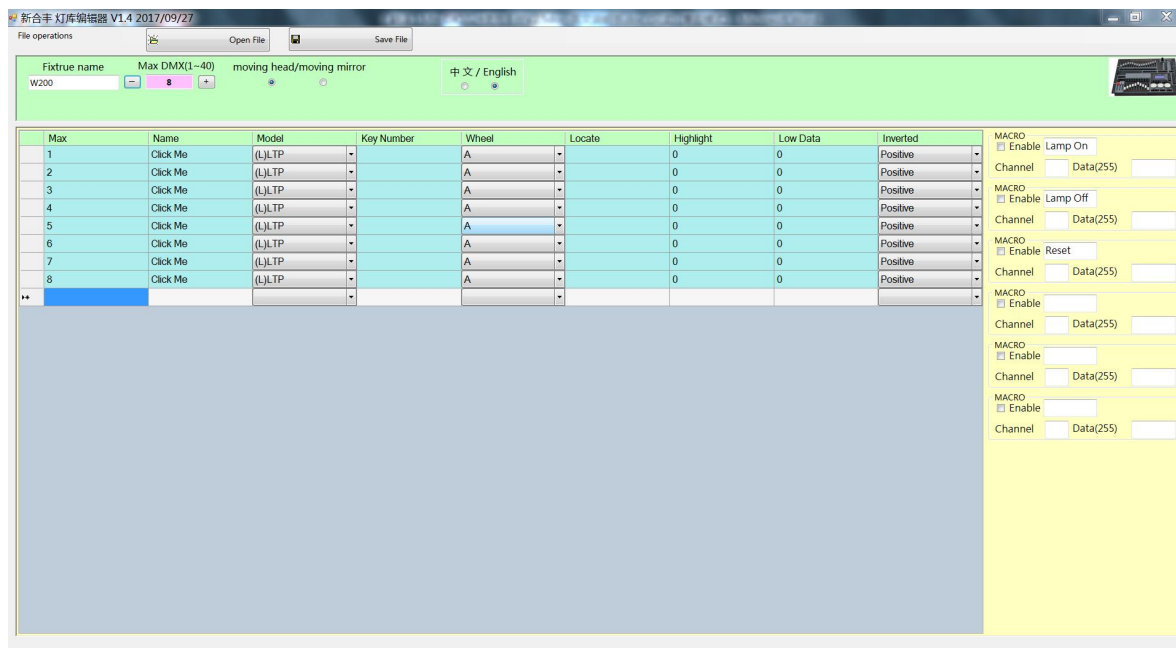
12 Upgradation

Operating Steps:

-
- 1) Close console。
 - 2) Copy the upgrade file into the USB drive and plug it into the USB port on the console.
 - 3) Press and hold the **【 ←】** and **【 → 】** buttons simultaneously to turn on the computer, and release them after the console prompts to find the upgrade file.
 - 4) Press **【Enter】** to perform the upgrade. After the upgrade is completed, the console will automatically restart

13 Light Library Editor

Mini Pearl1024Pro can not only write user light libraries on the console (see Chapter 12.5 for details), but also import R20 light libraries written through computer software to the console for use. Our company provides a software for writing light libraries for free, which comes with a USB flash drive and can be installed on a computer for users to use (supports Win XP/7 system).



■ New key for a light library

- 1) First, select the desired language.
 - 2) Press<File>to select<New Light Library File>.
 - 3) Fill in the lamp name column with the lamp name. (Limited to 12 characters; one letter or number for one character, and one Chinese character for two characters)
 - 4) Choose the type of lighting fixture (shaking head lamp or scanning lamp; the main difference is that the default value for strobe positioning of shaking head lamp is 255, and the scanning lamp is 0)
 - 5) Set the total number of channels.
 - 6) Set the channel attributes according to the channel table provided by the lamp manufacturer (included in the lamp manual)
 - 7) Assign attribute buttons and rotation (common attributes can be assigned without changing by default)
 - 8) Set macro commands, skip this step if not needed
 - 9) Press' Generate Lamp Library File 'to save the lamp library
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14 Novice Chapter - Basic Operations Easy Tutorial

Note: **【】** represents a button, and<>represents a display item. Up/down keys to view items, A/B/C/D/E keys to select items

14.1 Patch a conventional light

Press the **【Patch】** key → press the **【A】** key → rotate the wheel V to modify the DMA value, select the output line **【C】** → press a lamp key → press the **【Patch】** key to exit

14.2 Patch a computer light

Press the **【Patch】** key → **【B】**→ select the light library (if there is no light library in the console, insert a USB flash drive with a light library) → rotate the wheel V to modify the DMA value, select the output line **【C】** → press an empty light button → press the **【Patch】** key again to exit.

14.3 Control fixtures

Select the lamp (press the button for an already connected lamp) → press **【Locate】** → press the attribute key to be modified → rotate the A/B wheel to modify the attribute value.

14.4 Calling a built-in shape

Select lamp → **【Locate】** → Adjust lamp orientation → Press **【Shape】** → Select<Replay a Shape>→ Select graphic type → Select graphic effect → Exit graphic interface.

14.5 Store a single step scene

Control the lighting fixtures to bring up the lighting effect you want to save → Press **【Scene】** → Click an empty replay button to save.

14.6 Storing a multi-step scene

Control the lighting fixtures to set the first scene to be saved → Press **【Chase】** → Press an empty replay key → Repeat the replay key to save the first step → Set the second scene to be saved → Repeat the replay key to save the second step, and so on to save more steps → Press **【Chase】** to exit.

14.7 Run a single or multi-step scenario

First press **【Exit】** + **【Clear】** several times to ensure it is in the initial interface → push up a push rod with a single or multi-step scene, or press and hold the scene key to control the operation.

15 Novice Chapter - Control a computer light without a light library

Operating Steps:

- 1、Connect the computer light with a signal cable to the output port of console A and set the computer light address code to 001.
 - 2、Erase all on the console settings interface.
 - 3、Press the **【Patch】** key and select<Patch Dimmer>.
 - 4、Set the DMX address code to 001, line A.
 - 5、Press the 1~20 lamp keys in sequence (with each lamp key pressed, the DMX address code will automatically increase, indicating successful connection. Don't worry here).
 - 6、Press **【Patch】** to finish
 - 7、Select 1 to 20 lamp keys in sequence (the lamp key indicator light illuminates to indicate selection)
 - 8、At this point, you can push the preset push rod (corresponding to the lamp key) to control the lamp and edit the desired lighting effect. It should be noted that the **DIM/ATTR】** key light needs to be in the off state.
 - 9、If you want to save the edited lighting effect, you can press the **【Scene】** button, press the **【D】**
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button next to the display screen to switch to<**Record Mode=Fixture**>, and then press an empty play button.

- 10、 The last step is to run a single step scenario. Press the **【Clear】** button and push the push rod below the save play button to run it.

16 Novice Chapter - Equipped with a Light Warehouse to Control a Computer

Light

Operating Steps:

- 1、 Connect the computer light with a signal cable to the output port of console A and set the computer light address code to 001.
- 2、 Wipe all on the console settings interface.
- 3、 Insert the USB flash drive with the computer light library onto the console.
- 4、 Press the **【Patch】** key and select<**Patch Fixture**>.
- 5、 Set the DMX address code to 001, line A.
- 6、 Press any one lamp button (with each lamp button pressed, the DMX address code will automatically increase, indicating a successful connection, and there is no need to pay attention here)
- 7、 Press **【Patch】** to finish.
- 8、 Select the lamp key that was just connected (the lamp key indicator light lights up to indicate selection).
- 9、 Press the **【Locate】** button to turn on the computer light.
- 10、 Press the attribute key **【Tilt/Pan】** on the top right of the console, use the A/B wheel to adjust the position of the beam, and you can also select other attribute keys to bring up the desired lighting effect.
- 11、 If you want to save the edited lighting effect, you can press the **【Scene】**button, press the **【D】** button next to the display screen to switch to<**Record Mode=Fixture**>, and then press an empty replay button
- 12、 The last step is to run a single step scenario. Press the **【Clear】** button and push the push rod below the save replay button to run it.

17 Antic

- 1、 Click the **【Locate】** button to light up the lamp in place, and double click the **【Locate】** button to center the lamp to light up.
- 2、 Click the **【Clear】** button to reset only the dimming value of the lamp, and double click the **【Clear】** button to reset all attribute values of the lamp except for X/Y.
- 3、 When using the A/B wheel to adjust the X/Y axis, press the **【↑】【↓】** keys simultaneously to switch between coarse and fine adjustments (X/Y must be 16bit to be effective).

