



# **Designer 2048**

## **Lighting Controller**

### **User Manual**

**FOS Technologies LTD.**  
<https://www.fos-lighting.eu>



<b>1. Introduction</b> .....	1
<b>1.1. The Front Panel</b> .....	1
<b>1.2. The Rear Panel</b> .....	4
<b>2. Initialization and Backup</b> .....	5
<b>2.1. Clear All Data</b> .....	5
<b>2.2. Backup and Load Show</b> .....	5
<b>3. Patching</b> .....	6
<b>3.1. Patching Fixtures</b> .....	6
<b>3.2. Patch Selected Type</b> .....	8
<b>3.3. Unpatch</b> .....	8
<b>3.4. Repatch</b> .....	8
<b>3.5. Setup RDM Devices</b> .....	9
<b>3.6. Fixture Parameter</b> .....	10
<b>4. Controlling Fixtures and Dimmers</b> .....	11
<b>4.1. Setup Fixture Layout</b> .....	11
<b>4.2. Select Fixtures</b> .....	12
<b>4.3. Manual Control Fixtures</b> .....	13
<b>4.4. Groups</b> .....	16
<b>5. Presets</b> .....	18
<b>5.1. Edit Preset</b> .....	18
<b>5.2. Preset Management</b> .....	18
<b>5.3. Using Presets</b> .....	19
<b>6. Shape Effects</b> .....	20
<b>6.1. How Effect Generator Works</b> .....	20
<b>6.2. Using Effect</b> .....	20
<b>6.3. Effect Parameters</b> .....	20
<b>6.4. User Effect</b> .....	22
<b>7. Playback</b> .....	24
<b>7.1. Playback Modes</b> .....	24
<b>7.2. Playback Edit Menu</b> .....	24
<b>7.3. Cue</b> .....	24
<b>7.4. Cue-lists</b> .....	24
<b>7.5. Run Playback</b> .....	27
<b>7.6. Time for Playback</b> .....	28
<b>7.7. Playback Parameters and Advanced Settings</b> .....	29
<b>7.8. Reload a Cue</b> .....	31
<b>8. Advanced Functions</b> .....	32
<b>8.1. Copy Function</b> .....	32
<b>8.2. Delete Function</b> .....	32
<b>8.3. Move Function</b> .....	32
<b>8.4. Lock the Controller</b> .....	32
<b>8.5. Legend Manage</b> .....	32
<b>9. Macro Show</b> .....	34
<b>9.1. The Built-in Music Player</b> .....	34
<b>9.2. Record a Macro Show</b> .....	34
<b>10. Controller Setup Management</b> .....	37
<b>10.1. Controller Options</b> .....	37
<b>10.2. System Manage</b> .....	39
<b>10.3. DMX/Network Setting</b> .....	41
<b>11. Technological Specification</b> .....	42

## PRODUCT SAFETY INFORMATION



Please read these instructions carefully. They include important information about the installation, usage and maintenance of this product.

### ENVIRONMENTAL MAXIMUMS

- Do not operate the consoles if the humidity and ambient temperature cause condensation on the product; allow the product to dry first before connecting to the mains.
- DO not operate at ambient temperatures higher than 104°F (40°C).

### ELECTRICAL SAFETY

- The controller must be connected to protective earth (PE) when energized.
- Do not use the product if the mains inlet is damaged.
- Do not expose the product to rain or moisture.
- ALWAYS disconnect from the power before servicing or replacing the fuse. Replace it with the same fuse size and type.
- Do not use the product if the mains system is not in accordance with the below information.
- Do not open the product while connected to mains unless qualified to do so.

### POWER CONSUMPTION

Power Consumption: 85W

Currents Input: 100-240VAC, 2.5A

Frequency: 50-60Hz

### Button Cell BATTERY

The product motherboard contains a Lithium-Ion button cell (CR2032) for time data retention.

This battery is used to maintain time data when the product is not powered, this battery will need to be replaced at least every five years. If the product is mostly off for long periods or in cold environments, then it may need an earlier replacement.

Recycle the CMOS battery in accordance with local law.

Please be aware that Lithium-Ion button cells are a particular danger to small children.

### TOUCH SENSOR GLASS SAFETY

Do not operate the console if the touch sensor is broken as glass particles may be released by the sensor.

### ***Caution!***

There are no user-serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your local dealer.

### ***Suggestion for Power Supply***

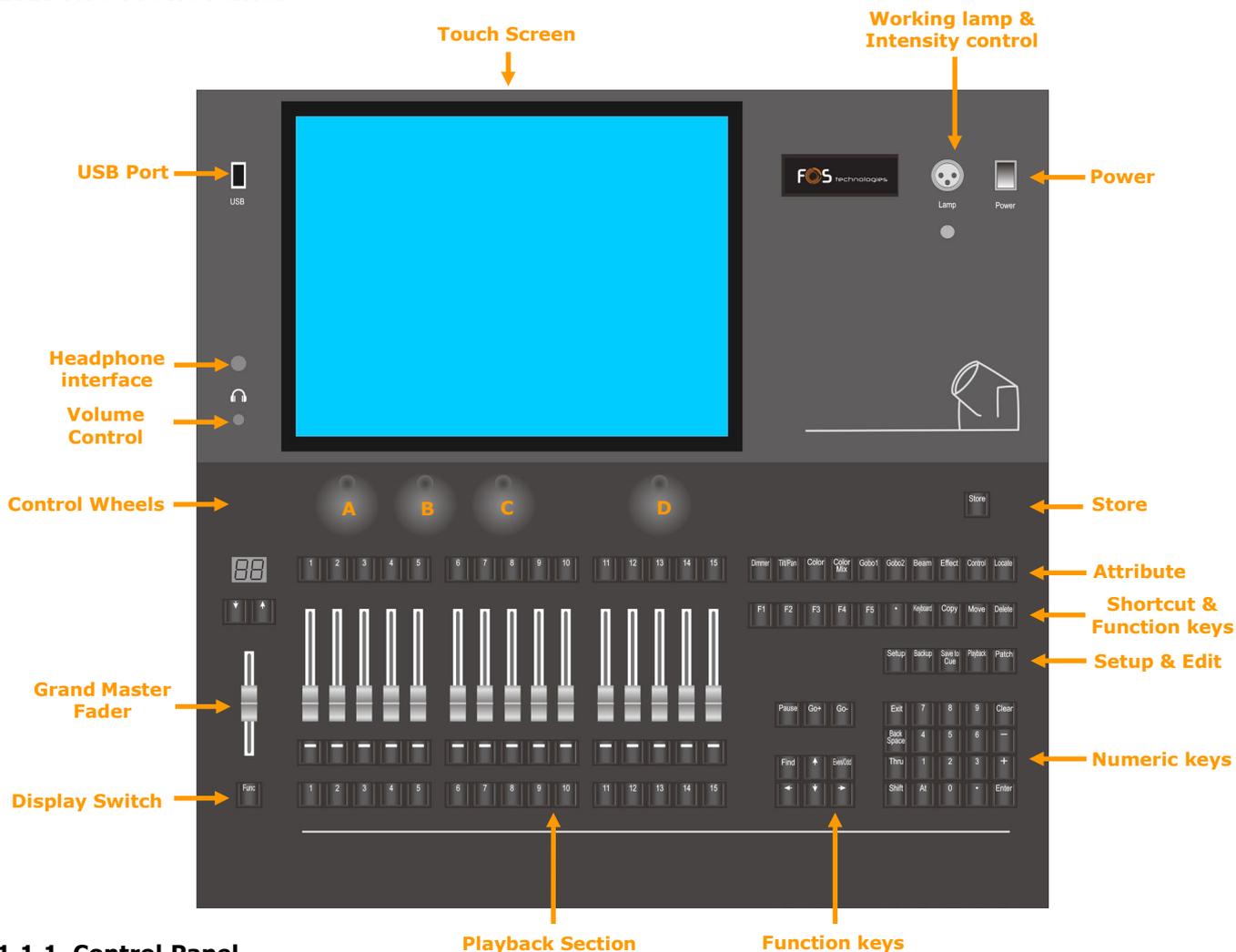
We strongly suggest you connect with the UPS power supply to avoid any power cut accident during programming.

# 1. Introduction

Welcome to **FOS Designer 2048** lighting controller users manual.

The manual is a guide to all the functions of the controller. Attention points will be highlighted by **shading**. The words with a square represent a physical key, such as the **Enter** button. While words with square brackets represent the virtual soft keys found on the LCD touch screen, such as **[Playback Parameters]**. Menu name or option name will be marked with quotation marks, such as **'LIVE SHOW'**.

## 1.1. The Front Panel



### 1.1.1. Control Panel

There are 3 colors for the key backlighting (red, green, and yellow). You can change the combination of color brightness as needed. Press the **Shift** and **Thru** keys to change the color, and then use the **Shift** key along with **+** or **-** to adjust the backlight brightness. Of course, you can set it under the **[Key Backlight]** function in the **'Setup menu'**.

#### 1.1.1.1. Quick Record Key

You can quickly save backup copies of your show with a single press of the **Store** button.



#### 1.1.1.2. Control Wheels

The 3 wheels on left, A, B, and C are used for setting fixture attributes, or effect parameters.

The one on right, Wheel D is used for scrolling the page on selected option windows and setting Cue-lists velocity. The key in Wheel D can be used as an Enter button or a save key when pressed down while setting options.

### 1.1.1.3. Attribute Keys

There are 9 attribute keys and 1 **Locate** key in this area. Each attribute key allows displaying 3 channels at most on each page. The selected attribute key shows with high light color. Press the selected attribute key again can turn to the next page, displaying more channels. You can control fixtures by using the different attribute keys with the corresponding wheels A, B, and C.



### 1.1.1.4. Shortcut & Function Keys

The keys **F1** to **F5** are the shortcut keys for the soft keys on the lower right at the touch screen.



Function buttons are distributed in multiple areas, providing soft-keyboard, copy, move, delete, fixtures odd/even selection, fixtures finding.



Note: The functions of **Pause**, **Go+** and **Go-** are not available in the edition yet.



### 1.1.1.5. Setup & Programming Keys

The keys are used for setting up the controller and editing playbacks.



### 1.1.1.6. Numeric Keypad Keys

You can use the numeric keypad to input numerical commands to change the running state of the playback. Their functions will be introduced in a later chapter.



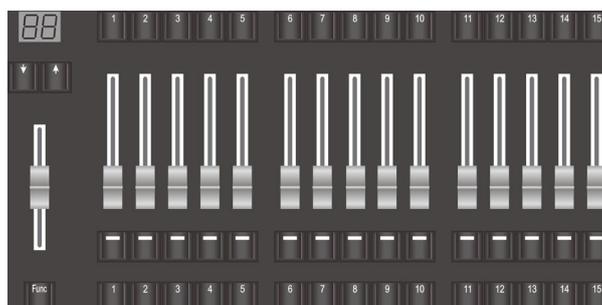
### 1.1.1.7. Playback Section

The fader backlight in the playback section can be set in the **'Setup'** menu.

According to the 3 different states of the playback, you can set the backlight to display in different colors. The 3 playback fader states are: no saved playback, saved playback but no running, and the playback is running.

The playback section is composed of master faders, page keys, fader-playbacks with their faders and function keys, key-playback keys.

There are 80 playback pages; each page has 15 faders and 15 keys for saving playbacks. You can turn pages by using the **↑** or **↓** keys, and the indicator LED display will show the page number.



You can press the **Func** key under the master fader to switch the display of attribute setting and shortcut function to the display of the key-playback name.

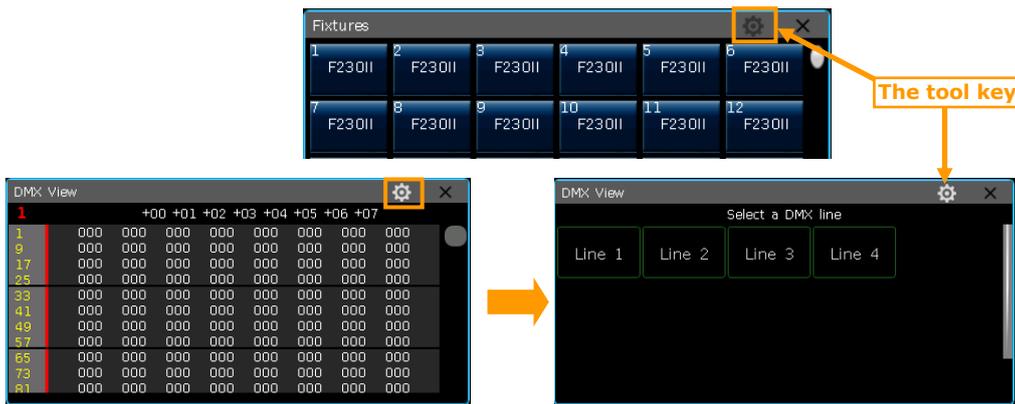
### 1.1.2. Touch Screen

The controller offers a 15-inch LCD capacitive touch screen for operating.

The operating options are on the right side of the touch screen. Most of the operations are worked on the touch screen. Different working windows can be selected and displayed on the touch screen according to the needed.



There is a tool key in the upper right corner of each working window. When it is dark, it means there is no other option. But there will be other options while it is white, then you can press the tool key for other functions.



#### 1.1.2.1. Setting Up Working Windows

The position and size of the operation window are not fixed. You can hold the top bar of the window and then slide your finger to change its position. You can adjust the size of the window as operations below:

- Hold the **bottom right corner** of the window, and slide your finger after the frame turned in RED, then release at the wanted position to confirm the size.



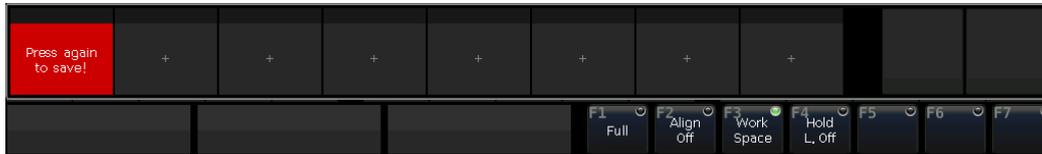
- Hold the **upper left corner** of the window and slide your finger after the frame turned in RED, then release at the wanted position to confirm the size.



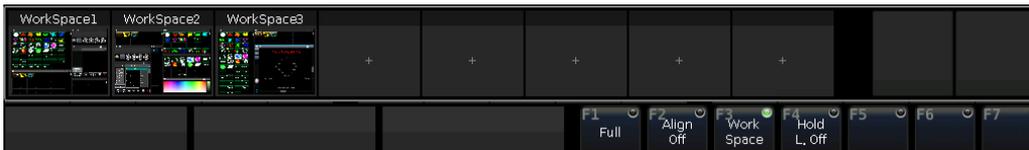
### 1.1.2.2. Setting Up Work Space

You can use the **[Work Space]** function to save different combinations for working windows, which can be switched quickly when using.

- 1> Press key **[Work Space]** when finished setting up windows combinations on the screen;
- 2> Select an empty grid in the pop-up window;

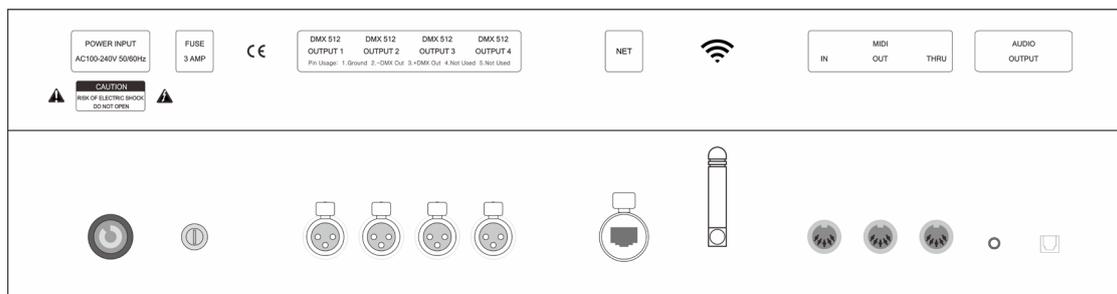


- 3> Select the grid with highlight words **'Press again to save'**, to save the combination of workspace windows;
- 4> Press the saved backup to easily switch between different combinations of workspace windows.



Note: Please use the **Delete** key to delete the old backup first if you want to renew the backup of the workspace.

## 1.2. The Rear Panel



**Audio Output** --- one 3.5mm audio interface and one audio-optical interface allow you to connect with the audio device.

**MIDI Interface** --- there are 3 MIDI interfaces, the **'In'**, **'Out'**, and **'Thru'** for connecting with other MIDI devices.

**Art-Net Interface** --- offers network function to transmit maximums 2048 DMX channels under Ethernet protocol over the Art-Net/DMX converter.

**Wireless antenna** --- provides WiFi signal for connecting App on mobile or tablet.

**DMX Universes** --- there are 4 DMX universes that sending out 512 DMX channels per output.

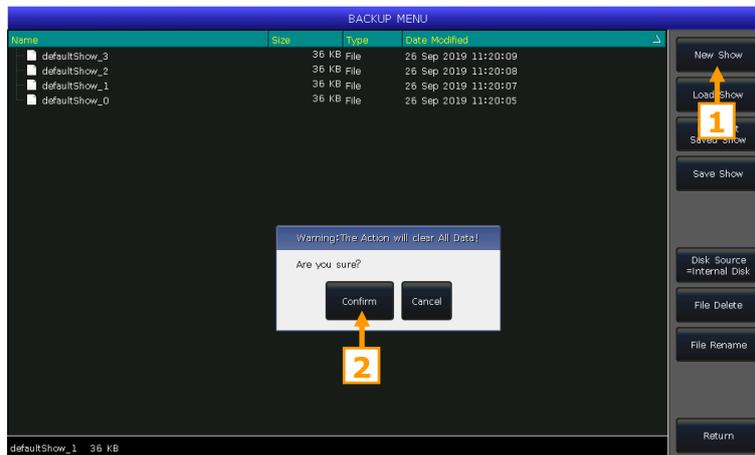
**Power Supply** --- the power supply offers quite a wide voltage range (100-240V AC, 50-60Hz). Thus, it can be used worldwide. If you need to change the fuse, please cut off the power supply for safety operation.

## 2. Initialization and Backup

### 2.1. Clear All Data

We strongly recommend you clear all data on the new controller, so that you can avoid the unpredictable errors when programming.

- 1> Press Backup to entry '**BACKUP MENU**';
- 2> Press **[New Show]**;
- 3> Press **[Confirm]** will clear all data and return to '**LIVE SHOW**' automatic.



Note: All data created will be deleted (including the setup, patching, presets and programs). But the system fixtures and user fixtures will be saved.

You can also press **Delete** and press **[Delete All Data]** twice and **[Confirm]** to clear all data.

### 2.2. Backup and Load Show

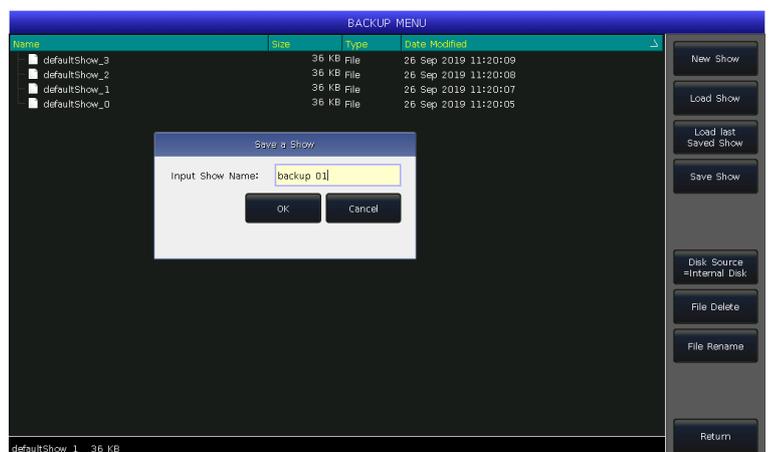
Note: Though turning off the controller by the power switch will not damage the system, any unsaved program operations will be lost if the controller is turned off without backing up.

The backup show files can be saved into the internal RAM or external USB disk.

You can back up the Show by pressing the **Store** key for a quick save. The show file will be saved into the internal RAM. By this operation, the files will be cyclic saved or covered as '**defaultShow\_0**', '**defaultShow\_1**', '**defaultShow\_2**' and '**defaultShow\_3**' by turns.

You can also define the name of backup file. If a USB driver is inserted, press **[Disk Source]** can switch the source path between **[Internal Disk]** or **[USB Disk]**.

- 1> Press **Backup** to entry '**BACKUP MENU**';
- 2> Press **[Save Show]**;
- 3> Press **Keyboard**, input the file name and **[Enter]** on soft keyboard;
- 4> Press **[OK]** to save.



When you save these backup files to the either drive, the default file names will be renewed.

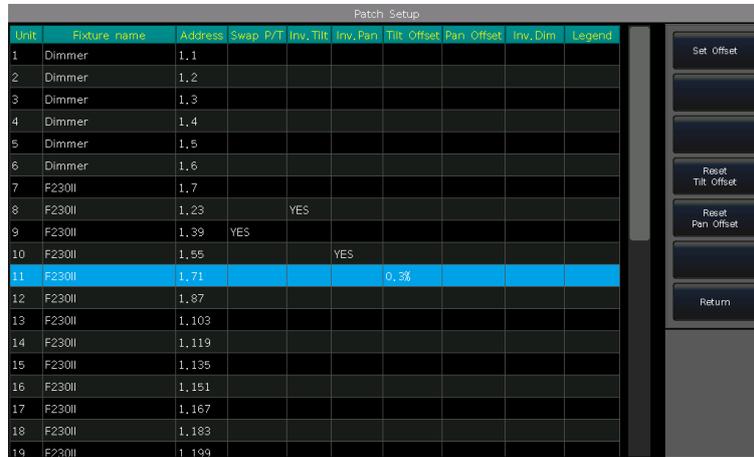
Note: We recommend that you back up frequently when programming, so that you will not lose any programs by accident.

### 3. Patching

We have to patch fixtures to tell the controller what kinds of fixtures need to be controlled.

When patching, the controller offers a free initial DMX address automatically for each line. We can patch all fixtures first then check over their DMX addresses before assigning on the fixtures. We may also assign the wanted DMX addresses on fixtures first then set the right addresses when patching.

If the fixtures are RDM equipped, the controller can help the fixtures to change the setting of DMX address and channel mode.



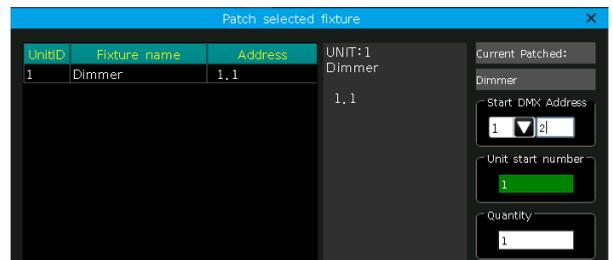
Unit	Fixture name	Address	Swap	P/T	Inv. Tilt	Inv. Pan	Tilt Offset	Pan Offset	Inv. Dim	Legend
1	Dimmer	1,1								
2	Dimmer	1,2								
3	Dimmer	1,3								
4	Dimmer	1,4								
5	Dimmer	1,5								
6	Dimmer	1,6								
7	F230II	1,7								
8	F230II	1,23		YES						
9	F230II	1,39	YES							
10	F230II	1,55			YES					
11	F230II	1,71				0,3%				
12	F230II	1,87								
13	F230II	1,103								
14	F230II	1,119								
15	F230II	1,135								
16	F230II	1,151								
17	F230II	1,167								
18	F230II	1,183								
19	F230II	1,199								

#### 3.1. Patching Fixtures

To control the dimmer channels or intelligent fixtures, you should patch each of them to the unit keys in 'Fixtures' window. A maximum 1000 fixtures can be patched.

##### 3.1.1. Patch Dimmers

Each unit key can control single or multiple dimmer channels.



- 1> Press **Patch**;
- 2> Press **[Patch New Fixture]**;
- 3> Press **[Patch Dimmer]**.
- 4> Press **[▼]** on 'Start DMX Address' option can find out other DMX lines (from 1 to 4). The number behind shows the initial free address can be patched; you can enter a new number by numeric keypad or use the Wheel D to change;
- 5> The option 'Unit start number' shows the initial unit ID to be patched;
- 6> We can enter a value on the column of 'Quantity' to set the patching quantity. Enter 1 means to patch a single dimmer channel on a unit ID; while value more than 1 means to patch a sequence of dimmer channels on a sequence unit ID. The range of dimmers will be patched to sequential DMX addresses;
- 7> Press **[Confirm]** to patch, the list of 'Patch selected fixture' will be updated;
- 8> You can also patch multiple dimmer channels on a same unit ID. For example, after we patched one dimmer channel on a unit ID, the field of 'Unit start number' will display in Green. The DMX address will increase one after patched. If we press **[Confirm]** again, the new DMX address will be patched onto the same unit ID. Those dimmer channels had been patched on the same unit will be controlled together;

##### 3.1.2. Patch Intelligent Fixtures

There is a slight difference between patching intelligent fixtures and dimmer channels. This is because intelligent fixtures may have more attributes to control such as pan, tilt, color, or gobos; while dimmer channels only have one attribute, which is intensity. To control intelligent fixtures, you need to select its fixture profile from your fixture library.

The console offers two types of fixture libraries to choose from,

- ◆ **System fixture:** the controller has its own fixtures in system library;
- ◆ **User fixture:** if you cannot find out your fixture in system library, the controller offers you multi-way to create or edit your fixture. (We will introduce you how to create or edit the user fixture on other chapter)

1> Press **[Patch]**;

2> Press **[Patch New Fixture]**;

3> Press **[Used Library = System]** can switch to **[Used Library = User]**;

- When patching system fixture you can use the Wheel D or scroll bar to search the manufacture; or you can recall the soft-keyboard by Keyboard and input the first letter of manufacturer name to search. Select the manufacturer and **[Confirm]** to enter; you can select the fixture from the list.
- You can select the fixture directly on touch screen if patch from user library list.

Note: The channels details will be listed on the right bar after a fixture is selected.

Basic		Channels of F230II		
Channel Offset	Name	Locate		
1	Colour Func	0		
2	Shutter	255		
3	Dimmer	255		
4	Gobo Func	0		
5	Gobo	0		
6	Prism Rot	0		
7	Prism Macro	0		
8	Frost	0		
9	Focus	127		
10, 11	Pan	32767		
12, 13	Tilt	32767		
14	Reserved	0		
15	Reset	0		
16	Lamp	0		

4> Select the fixture about to be patched and select **[Confirm]** to call out the patching menu;

5> Press **[▼]** on **'Start DMX Address'** for other DMX lines (from 1 to 4). And enter the number by numeric keypad or use Wheel D to set the start address;

6> Set the unit ID on **'Unit start number'**;

7> Enter the quantity number would like to patch on the column of **'Quantity'**;

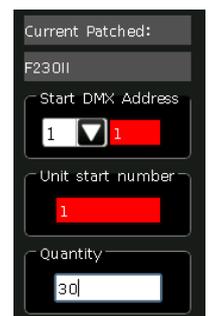
8> Press **[Confirm]** to patch, the list of **'Patch selected fixture'** will be updated;

UnitID	Fixture name	Address	UNIT:7 F230II	Current Patched: F230II
1	Dimmer	1, 1		
2	Dimmer	1, 2		
3	Dimmer	1, 3		
4	Dimmer	1, 4		
5	Dimmer	1, 5		
6	Dimmer	1, 6		
7	F230II	1, 7	Start:1,7	Start DMX Address: 1 487
8	F230II	1, 23	End:1,23	Unit start number: 37
9	F230II	1, 39		Quantity: 30
10	F230II	1, 55		<input checked="" type="checkbox"/> Load Preset
11	F230II	1, 71		<input checked="" type="checkbox"/> Auto Group
12	F230II	1, 87		Confirm
13	F230II	1, 103		Return
14	F230II	1, 119		
15	F230II	1, 135		
16	F230II	1, 151		
17	F230II	1, 167		
18	F230II	1, 183		

If the field is shown in **RED** when you set the **'Start DMX address'** or **'Unit start number'** during patching, it means the number of the DMX address or unit ID has been used. It will not allow you to continue patching on.

If the option **'Load Preset'** is selected, the controller will help to load in the presets which had written in the fixture profile automatically.

If the option **'Auto Group'** is selected, the controller will help to group up all same model fixtures.



### 3.2. Patch Selected Type

The function allows you to patch more same type fixtures you have selected without search from the fixtures pool again.

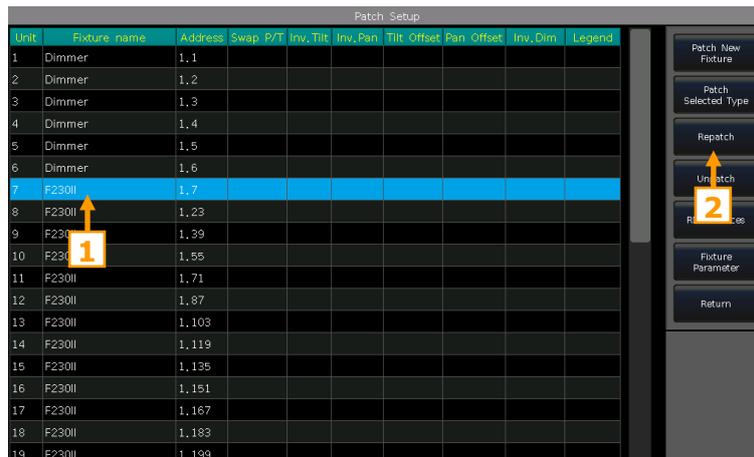
### 3.3. Unpatch

You can select and delete one or more consecutive patched fixtures by pressing option **[Unpatch]**.

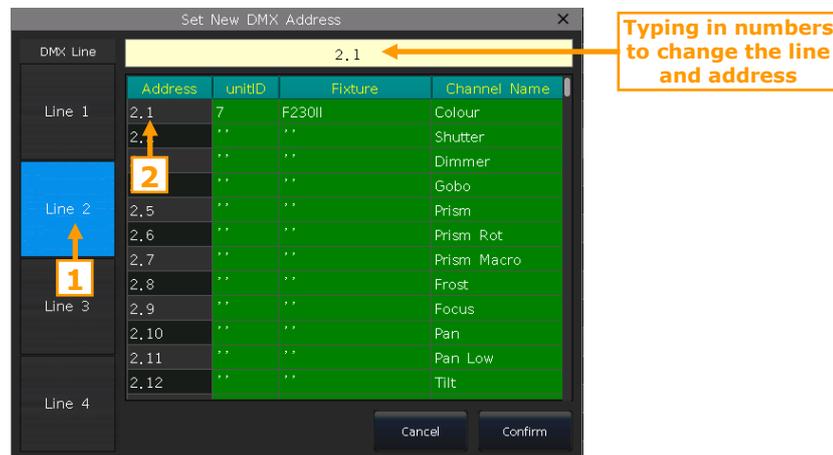
### 3.4. Repatch

The function allows you to change the address and/or the line of the patched fixtures.

- 1> Select the fixture need to be changed;
- 2> Press **[Repatch]**;



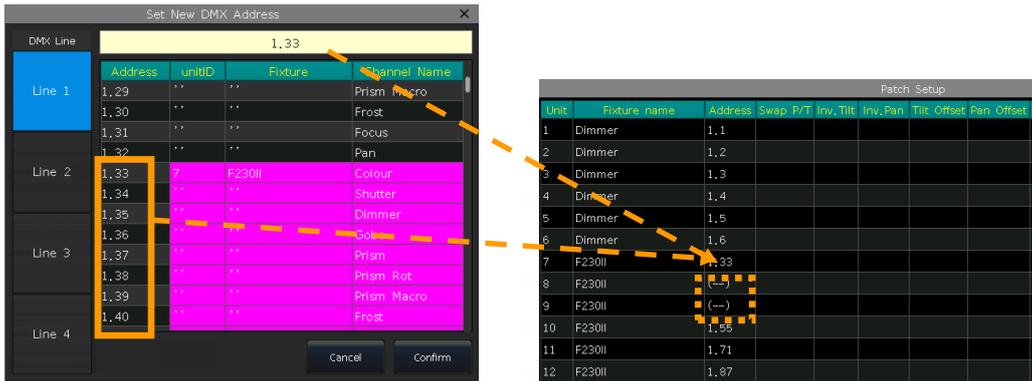
- 3> Select the DMX line and start address on the menu by touch. Or you may change them by typing the line and address number on the top bar;



- 4> Press **[Confirm]** to change the address and/or DMX line.

Note: Unit ID will not be changed after re-patched.

The selected addresses will show in pink if they had been used. If you continue to press **[Confirm]** in this case or input the used number of DMX line and address, the address of the selected fixture can be changed successfully but the fixtures that previously used/included those addresses will be suspended. You have to patch them again.



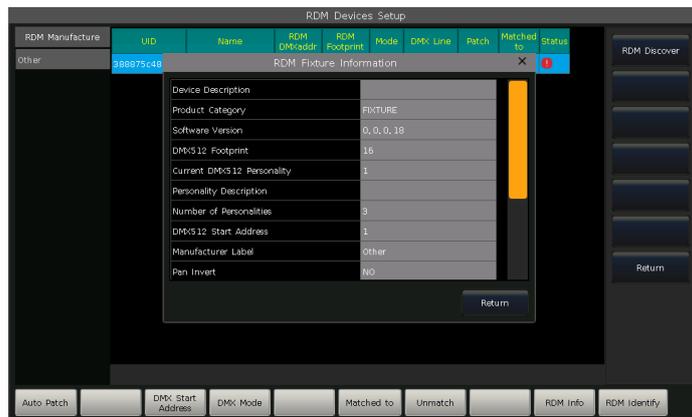
### 3.5. Setup RDM Devices

The function allows the controller to interrogate the practical fixtures. Then it can patch itself to match the existing DMX addresses. You can also remotely change the modes and other settings on the practical fixtures.

Note: Fixtures must be equipped with RDM for the function to work.

If you have connected with DMX buffers or splitters, they must be RDM enabled. Otherwise they will block the information being sent back to the controller.

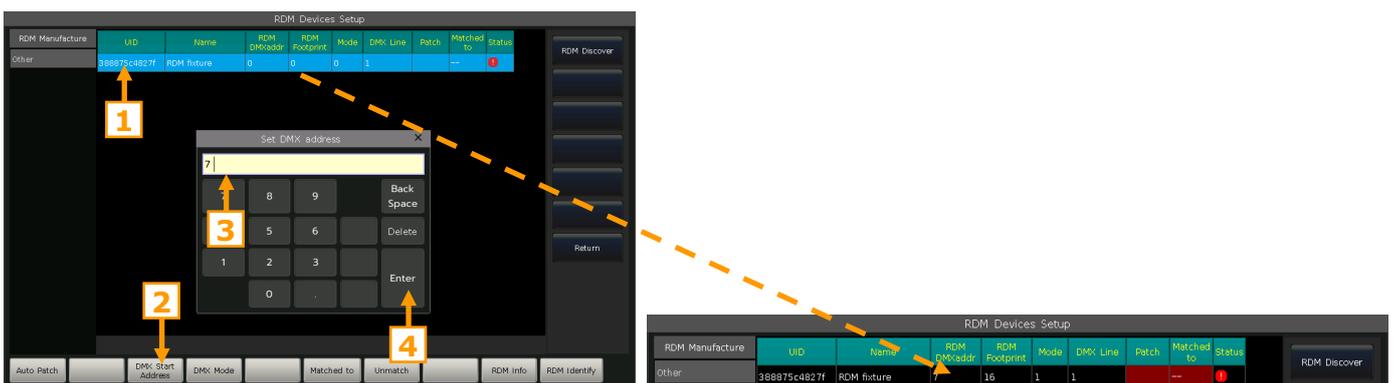
Press **[RDM Discover]** to start searching. All RDM supported fixtures will be listed here. Select the fixture and press **[RDM Info]** to look over its details.



#### 3.5.1. Remotely Setup Devices

We can also remotely change the address on the practical fixture.

- 1> Select the fixture on the list;
- 2> Press **[DMX Start Address]**;
- 3> Enter the number of the DMX address to be changed, then press **[Enter]**;

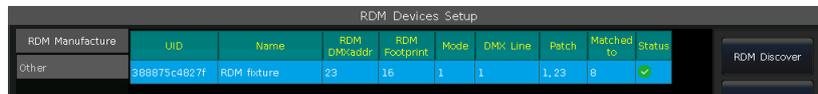


### 3.5.2. Match RDM Devices

- 1> Select the fixture on the list;
- 2> Press **[Matched to]**;



- 3> Select the patched fixture from the list of **'RDM Match Fixture'**, then press **[Match]**;



Press **[Unmatch]** if you do not want to match it to the patched fixture any more.

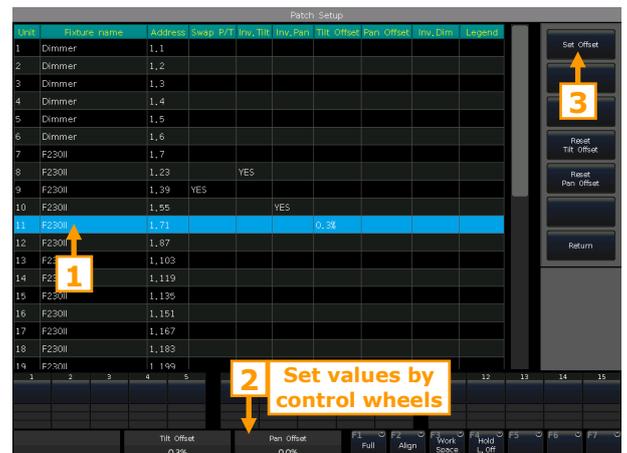
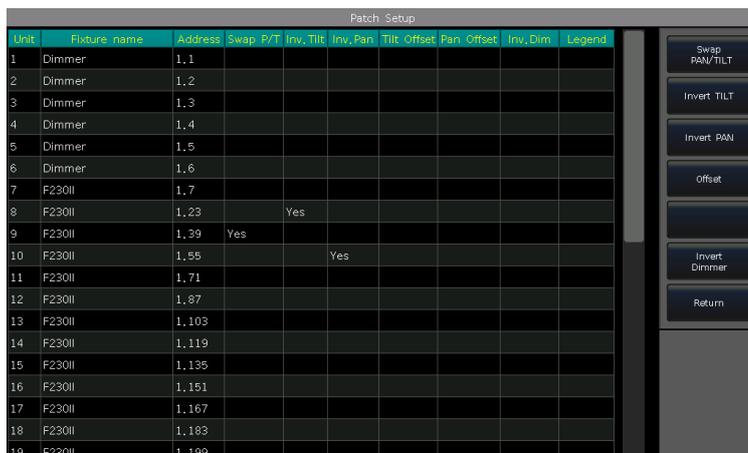
### 3.6. Fixture Parameter

You are allowed to swap or invert Pan and Tilt of the fixtures on the controller. So that you can control the moving lights to run as mirror movement more conveniently. Dimmer channels can be inverted as well.

Press **[Fixture Parameter]** on **'PATCH SETUP'** menu;

- **[Swap PAN/TILT]** ----- to swap the controlling of Pan and Tilt channels;
- **[Invert TILT]** ----- to invert the controlling of Tilt channel;
- **[Invert PAN]** ----- to invert the controlling of Pan channel;
- **[Invert Dimmer]** ----- to invert the controlling of Dimmer channel;

Note: All the same model of fixtures will be inverted if select **[Invert Dimmer]**.



- **[Offset]** ----- to offset the locate value of Pan and/or Tilt for the practical fixtures which without perfectly placed. Offset values shown in percentage which are set by control wheels. We can cancel the offset setting by **[Reset Tilt Offset]** or **[Reset Pan Offset]**.

## 4. Controlling Fixtures and Dimmers

We will find the patched fixtures in the **'Fixtures'** window. If the **'Load Preset'** and **'Auto Group'** options are selected during patching, the corresponding option windows will be attached with the data.

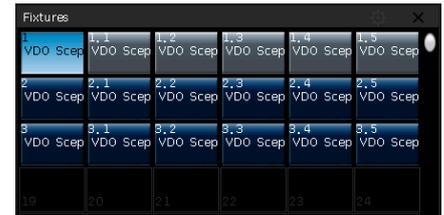
The patched fixtures show in dark blue, while selected ones are shown in pale blue, and those fixtures that have been selected are shown in gray.

Attributes of the fixtures are set by the control wheels and the channel names are shown on the bottom of the screen.



If a fixture has multiple cells of control and its personality supports it, you can select and control the fixture either as a whole or as independent cells. This is particularly useful when using Shapes.

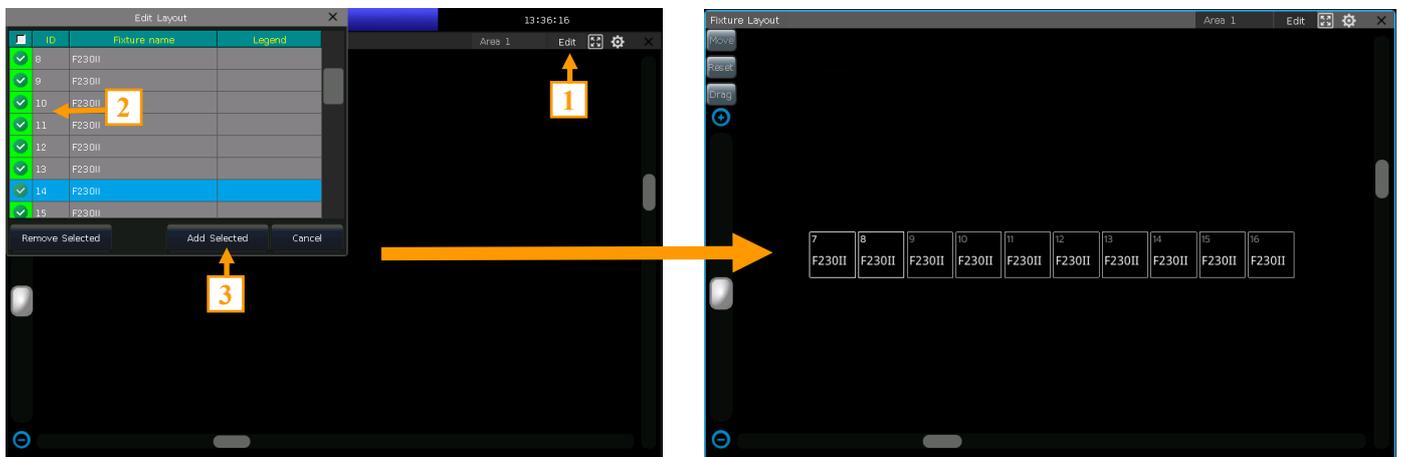
The patched sub fixtures occupy multiple consecutive fixture grids on the **'Fixtures'** window. It will be shown as a master unit ID and its series cell IDs.



### 4.1. Setup Fixture Layout

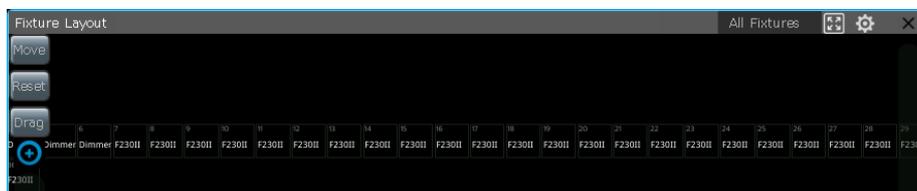
All patched fixtures will be listed in the **'Fixtures'** window, but we can also find them from the **'Fixture Layout'** window.

The **'Fixture Layout'** window offers 7 display areas, the area **'All Fixtures'** and the areas 1 to 6. Areas 1 to 6 do not display any fixtures by default.

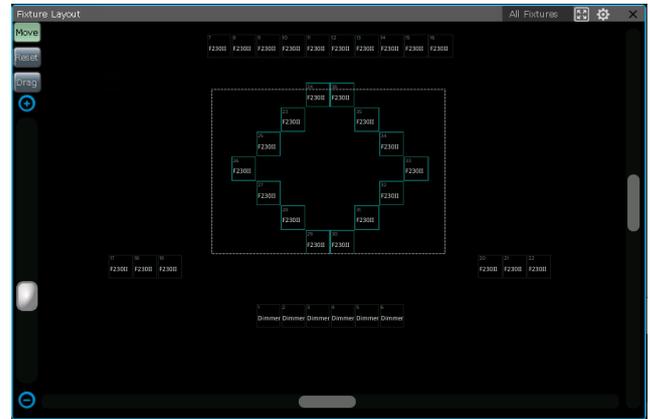


- Select **[All Fixtures]** and set it to another area (Any of area 1 to 6);
- Select **[Edit]** and select the fixtures to be displayed on the area;
- Press **[Add Selected]** to display the selected fixtures, or **[Remove Selected]** to remove the selected fixtures; Press the small frame on left top corner can help to select/unselect all fixtures.

The fixtures in the **'Fixture Layout'** window will be initially listed in lines, each of which with 32 units. You can edit a 2D position layout which to display the fixtures approximately as their actual physical location.



- Press the soft-key **[Move]**, you can reposition the fixtures to anywhere in **'Fixture Layout'** by selecting and dragging them. You can select the fixture by touching the unit one by one, or slide the finger to draw a selection box to select a range of them. The frames of selected fixtures will show in blue.



- You can use the scroll bar on the bottom and on the right to change the display center. Pressing **[Reset]** can reset the fixture of unit ID 1 to the center. You can also change the display position by using **[Drag]** and dragging the window. The function key  in the upper right corner of the window can help to re-center and maximize display all fixtures.

Note: When using the **[Drag]** function, the fixtures are not allowed to be selected.

- You can use the scroll bar on the left or the Wheel D to zoom in or out the display window.

Pressing the tool key, you can set the display to show the running states of the dimming or RGB channels.



## 4.2. Select Fixtures

There are several ways to select the fixtures:

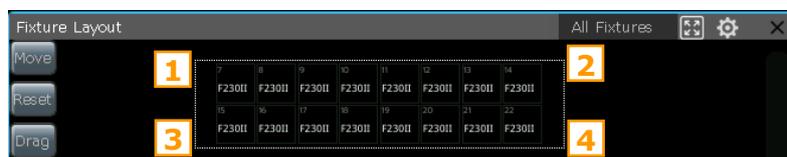
### Touch Screen

1> **'Fixtures'** window --- you can select the fixtures one by one by pressing the unit ID, the fixture order depends on the sequence in which you select. Besides, you may slide the finger across the unit keys to draw a selection box to select a range of fixtures. The fixture order starts from the smaller unit ID number.

Note: The fixture order selected by drawing the selection box from 1 to 2 is the same as drawing from 2 to 1.



2> **'Fixture Layout'** window --- you can select the fixtures in the **'Fixture Layout'** window directly too.



There are 8 different ways for selecting fixtures by drawing the selection box. For example:

- If a group of fixtures is selected by drawing a selection box from **1** to **2** to **4**, the fixture order is from left to right, and then top to bottom.
- If the selection box is drawn from **1** to **3** to **4**, the fixture order is from top to bottom, and then left to right.
- If the selection box is drawn from **4** to **3** to **1**, the fixture order is from right to left, and then bottom to top.

## Numeric keypad

In 'LIVE SHOW', typing in the command by numeric keys to select fixtures.

- If you want to select a fixture, type in the unit number and press **Enter**.
- If you want to select more than one fixture, use '+' between each number. For example, press keys **1**, **+**, **3**, **+**, **5**, **+**, **7** in sequence and press **ENTER** will select fixtures 1, 3, 5, and 7.
- If you want to select a range of fixtures, use the key **THRU**. For example, press keys **1**, **THRU**, **9** and press **ENTER** will select fixtures from 1 to 9.
- We can use the '-' to not select any from a range of fixtures. For example, press keys **1**, **THRU**, **5**, **-**, **3** in sequence and press **ENTER** will select fixtures 1,2,4, and 5.

Note: For the sub fixtures, the command selection can only help to select the master unit IDs.

The function key **Even/Odd** --- after selected a group of fixtures that can be non-sequential, press the key **Even/Odd** can help you easier to select the even or odd units under the group.

## 4.3. Manual Control Fixtures

### 4.3.1. Light Up the Fixtures

You can double-tap the key **Locate** or press **F1** / **[Full]** to light up the selected fixtures in open white and move them to a central position, you can also press the key **Locate** and select **[Locate Fixture]** to light up the fixtures. All attributes will be set to default.

If you want to locate the fixtures without re-center the position, press the key **Locate** and select **[Locate Fixture No PAN/TILT]** to light up the fixtures. All attributes except Pan and Tilt will be set to default.

If you do not want to default other attributes, you can hold down the key **Locate** and press attribute key. The channel attributes on that key will be set to default, but attributes on other keys will keep their latest values. **For example:** hold down the key **Locate**, and press **Tilt/Pan**. Pan and Tilt of the selecting fixtures will be set to the central position, but other channels will keep in their own value.

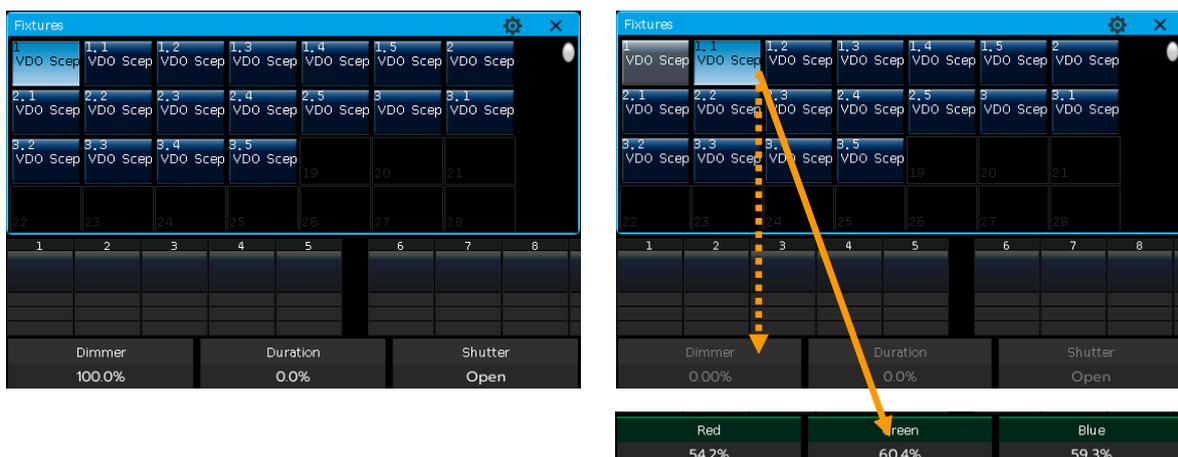
The operation of double-tap the key **AT** can set dimmer channel into value 255. Double-tap the key **.** can set dimmer into 0. Besides, double-tap the key **+** or **-** can increase or reduce the brightness by 10%.

### 4.3.2. Change Attributes of Fixtures

Select the fixtures and attribute key, then change the values by using the control wheels.

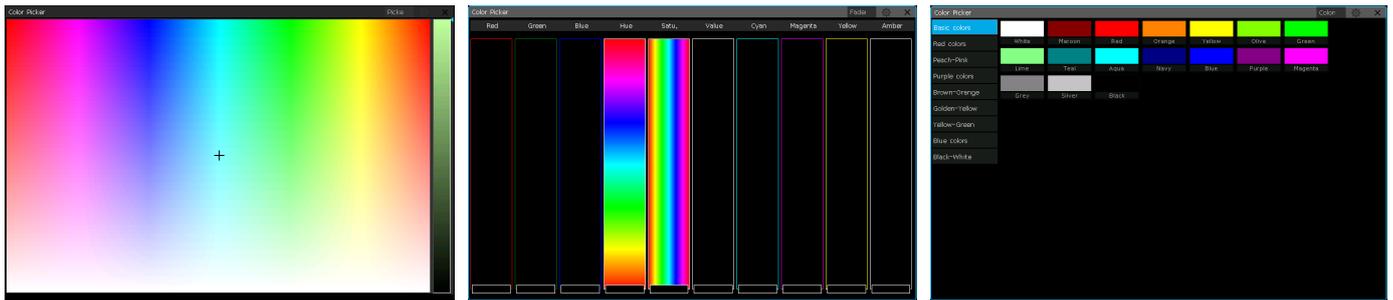
Select the attribute key, and then you can enter the value by numeric keys and tap on the channel name on the touch screen. So that it can be set to the value directly.

For the sub fixture (for example the LED fixture with multiple RGB channels), select the master unit ID that can control the whole fixture, all cell channels will be controlled together. However, the master channels are not allowed to be set under the cell ID, you can only control its cell channels individually.



### 4.3.3. Special Control of Attributes

You can call out the 'Color Picker' window from the 'Select Area' box. Fixtures with RGB/CMY channels can be easily mixing by the color picker. There are 3 color mixing modes for selection.



The controller can read the channels range preset from the personality.

For example, select the fixtures and attribute key **Color**, press the attribute name 'Color' on the touch screen can call out a list for channel range. You can select the range options on the list directly. You can also enter the value by numeric keys.



### 4.3.4. Find Fixture Function

After locating a group of selected fixtures, you can use the key  $\leftarrow$  or  $\rightarrow$  to lamp one of the selected fixtures one by one and change its attributes. It can help to find out where the fixture is.

You can also change the function as select the fixtures one by one but keep the brightness by setting the option **[F4]** to **[Hold L. On]**, or setting **[Keep the brightness]** in the setup menu. It is useful if we want to set all fixtures to the same position.

You can press the **Find** key to re-select all fixtures in the group after finished setting.

### 4.3.5. Macro Function of Fixtures

Macro is a sequence of fixtures program, which run with time parameter. Some of the fixtures can run special operations, such as Reset, Lamp on or off. After patched, the macro function from the fixture library will be loaded. If you want to check whether the fixtures have a macro or to run the macro, please do as follow;

- 1> Select the fixtures;
- 2> Press **Locate**;
- 3> Press **[Macro function]**. All macro functions created in the library are displayed on the right menu bar;
- 4> Select the macro name to run. The soft-key shows in pale blue when the macro is running.

### 4.3.6. Fan Mode

The fan mode is widely used on Pan or Tilt attributes, but it can also be applied to other attributes, such as color-mix. If the fixtures with tricolor channels, you can also mix a rainbow by fan mode.

We kindly suggest you not to use less than 4 fixtures in order to get a better effect.

#### 4.3.6.1. Fan Align

- 1> Select the fixtures and locate them;
- 2> Select the attribute key, for example the **Tilt/Pan**;
- 3> Press the **[Align Off]**;
- 4> Select one of the align modes;

There are several modes for fixtures align:

- [**<**] ----- Fixtures align based on the rightmost fixtures.
- [**>**] ----- Fixtures align based on the leftmost fixtures;
- [**><**] ----- Fixtures align based on the middle fixtures. The value increases changing from the middle to both sides. The fixtures on both sides change in opposite directions;
- [**<|>**] ----- Fixtures align based on the middle fixtures. The value increases changing from the middle to both sides. The fixtures on both sides change in the same direction;
- [**<||>**] ----- Fixtures align based on the middle fixtures. The value increases changing from both sides to the middle. The fixtures on both sides change in the same way;
- [**Wings**] ----- It divides the fixtures into two groups from the middle. When it works with other align setting, two groups of fixtures run exactly the same.

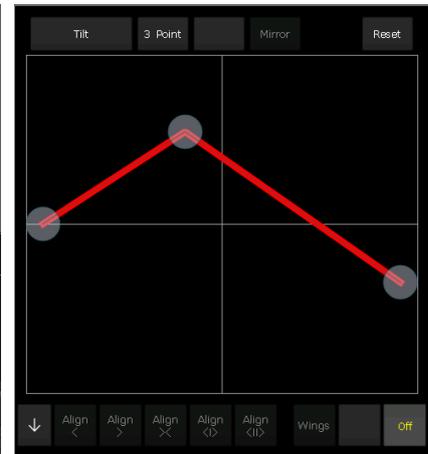
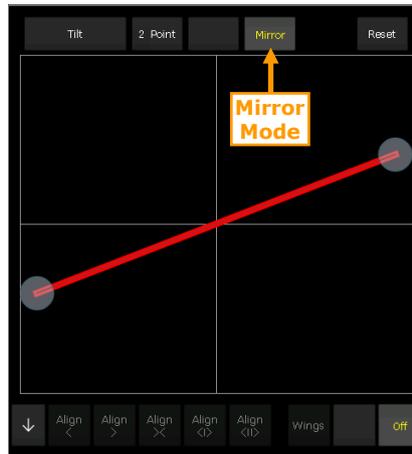
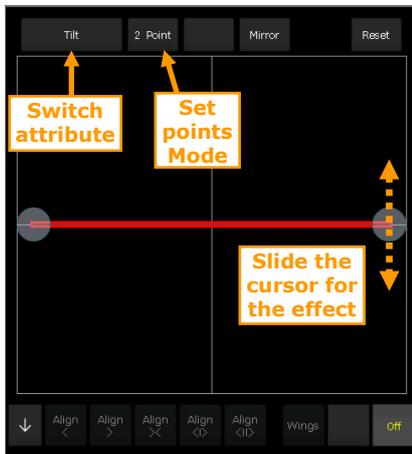


e.g. Tilt changes by [**<|>**] and [**Wings**]

5> Set the Fan effect by the Wheel A, B or C.

#### 4.3.6.2. Fan Align by Curves

- 1> Select fixtures and locate;
- 2> Press [**Align Off**];
- 3> Press [**↑**] to call out fan curve menu;
- 4> Press attribute key can switch to other attribute. Press the attribute name on the curve menu can switch into other attributes in current attribute key;
- 5> Press [**2 Points**] can switch to [**3 Points**] mode; [**Mirror**] function can only be used on 2 Point mode.



6> Slide the cursors to set fan align.

Note: You can re-center the value of current attribute by pressing [**Reset**].

#### 4.3.7. Clear Options

After finished editing, pressing the key **Clear** can deselect all fixtures.

However, you can hold it down to find more other clear options;

- [**Clear All Fixtures**] ----- clear all fixtures from the programmer; press the option can switch to [**Clear Selected Fixtures**] ----- only currently selected fixtures will be cleared.
- [**Clear All Presets**] ----- clear all using presets from the programmer.
- [**Clear All Effects**] ----- clear all running user effects from the programmer.
- [**Clear Mode = Normal**] ----- clear fixtures and all channels except intensity will keep the last values; press the option can switch to [**Clear Mode = Default**] ----- clear fixtures and all channels except intensity will resume to default values.

## 4.4. Groups

One or more fixtures can be grouped for easier selection. The grid of group soft-key will turn brown after saved. The group name and ID number will be displayed on the grid in the **'Groups'** window.

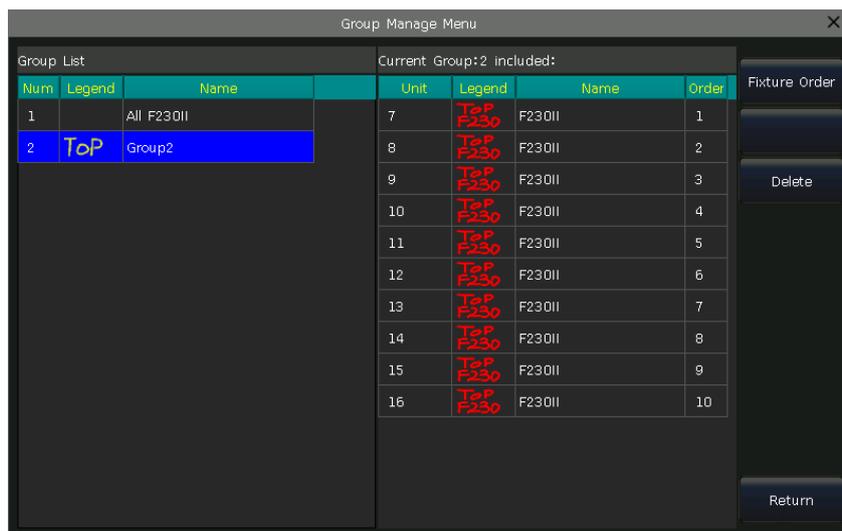


### 4.4.1. Create a Group

- 1> Open the **'Groups'** window if it is not visible on **'LIVE SHOW'**;
- 2> Press **[Group]**;
- 3> Press **[Save Group]**;
- 4> Select the fixtures for the group. they can be the same type or different type of fixtures;
- 5> Select a grid in the **'Groups'** window. If there was a group in the grid, it will remind whether you want to overwrite or not;
- 6> If you want to create more groups, you can repeat the steps from **3** to **5**;
- 7> Press **[Return]** or **[Exit]** to quit.

### 4.4.2. Group Management

- 1> Press **[Group]** to entry **'Group Program'**;
- 2> Press **[Group Manage]**;
- 3> Select the group name can find all the fixtures included;



- 4> You will find details of included fixtures of the current group, such as the fixture unit ID, fixture name, picture legend, and the sequence number.

#### 4.4.2.1. Setting Fixture Order in Group

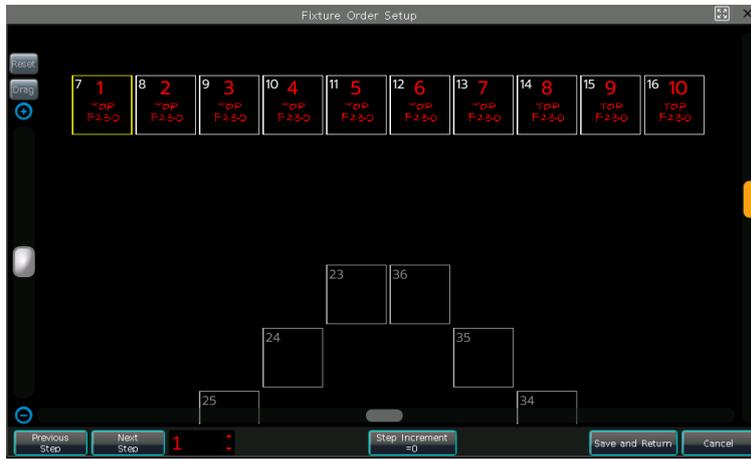
Fixtures in a group are stored with a selection order. Each fixture has its sequence ID. Different fixtures can have the same or different sequence IDs.

The order is important when applying fans, shape effects, and overlap functions which will be distributed along with the sequence.

You can change the fixture order in the group so that the fixtures will run in the sequence every time using this group.

- 1> Select **[Fixture Order]**, the fixtures will be listed as the layout in **'Fixture Order Setup'** window.

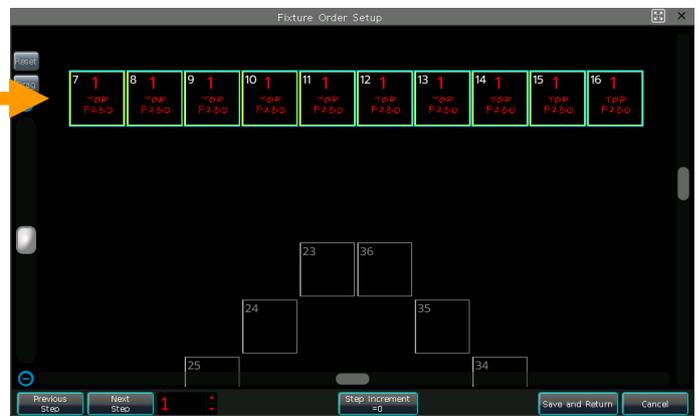
Note: Only the group of fixtures can be set, other fixtures will be displayed as the empty frames with the unit ID. The big **RED** number means the fixture order, while the **WHITE** number shows the fixture unit ID.



2> Set the sequence number by pressing soft-key **[Previous Step]** or **[Next Step]**;

3> Select one or more fixtures for the sequence. You can draw a selection box to select multiple fixtures;

- When **[Step Increment=0]**, draw a selection box to select fixtures can set them all in the same sequence number;



- When **[Step Increment=1]**, the sequence number of the fixtures selected by drawing a selection box increase 1 automatically. The sequence number increases according to the drawing way of the selection box;



4> Repeat the steps 2> and 3> until finished setting;

5> Press the key **[Save and Return]** to save and exit.

## 5. Presets

You always need to change different attributes, such as color, gobo, and so on during programming or a live show. In that case, you can enter one or more attributes of fixtures to the preset keys in advance.

Although all attributes can be saved on the same attribute key, it's more convenient to change the attributes during the live show if you create different presets with only color or gobo, and etc.

You can call out different types of '**Presets**' windows at the same time. Different presets can be saved into their own type of window, so that you can change attributes rapidly when programming, or during a live show.



### 5.1. Edit Preset

**There are 3 different Save Modes:**

- **Current Attr.:** All channel values of selected fixtures in the current attribute key will be saved.
- **All Attribute:** All channel values of selected fixtures will be saved.
- **Changed Attr.:** All channel values of selected fixtures that have been edited will be saved.

**There are 2 different Preset Modes:**

- **Normal:** The preset can only be used by the selected fixtures when creating;
- **Global:** You may select one of the fixtures to create and save the preset, and it can be used by all the fixtures of the same model.

- 1> Select the fixtures;
- 2> Use the attribute keys and wheels to set up your desired effects;
- 3> Press key **[Edit Preset]** to enter '**Preset Edit Menu**';
- 4> Select a soft key in '**Preset**' window to save;

- If there is nothing on the grid, you can input the preset name and the fade in time directly. Press **[Confirm]** to save, the grid will turn to dark green. There will be a '**G**' mark on the left bottom corner if the preset saved by **Global** mode.
- You can rename (named by keypad only) and update the fade in time for the preset if there is something in the grid. Then select **[Merge]**, **[Replace]**, or **[Cancel]** to finish operation.

### 5.2. Preset Management

You can rename and set the fade-in time of the preset in the '**Preset Manage Menu**'.

- 1> Press **[Edit Preset]**;
- 2> Press **[Preset Manage]**;

3> The '**Preset List**' will show all saved presets with their information. The fixtures used for creating the preset will be listed when you select the preset on the '**Preset List**'.

- Preset [**Setup**]. You can edit the preset name and its fade in time of the preset;



- Press [**Delete Preset**] can delete the selected preset;

4> Press [**Return**] to exit.

### 5.3. Using Presets

The controller provides multiple ways for you to recall the presets. The soft-key of the latest selected preset is displayed in light green.

- **Select fixtures and recall:** you can recall the preset after selected fixtures; those non-selected fixtures will not be added in the preset.
- **Non-select fixtures and recall:** you can recall the preset directly. In this case, all fixtures which can use the preset will be added to the preset. You should first enable the option [**Quick Palette**] in the setup menu for this feature.

If you recall a preset where the fade-in time is already set, it will use the time to fade in the preset; if you have not set any time (default time is 0s), it will recall the preset immediately.

However, if you enter a value ranging from 0.0~200.0 (seconds) before recalling the preset, it will temporarily use this time to fade in the preset.

- 1> Input value by numeric keys under '**LIVE SHOW**', such as 5;
- 2> Select a preset on the touch screen, such as an RGB mixed color or a location;
- 3> Then you will find the preset is recalled and fading in with 5s.

If some of the playbacks are made by recalling the presets. You may modify and update the recalled presets so that the playbacks will be updated automatically.

For example, if Cue 2 on Playback 1, and Cue 5 on Playback 10 were recorded on Preset 1 (red color). You may modify Preset 1 to be yellow in color with the prism opened. And then changes would take effect upon updating.

## 6. Shape Effects

The controller offers an effect generator for you to quickly create exciting light shows with the minimum of programming.

### 6.1. How Effect Generator Works

The effect is a series of sequenced repeated movements of preprogramming. The representative effects are circle, square, spiral and etc. they are the non-repeat random effects. For example, lighting beams move in a round route on the stage. When you run an effect, the fixtures will work according to the present setup. If the effect is applied to the pan and tilt attribute of the fixtures, the center of effect will depend on the present location of the pan and tilt. By changing the pan and tilt position, the overall effect will show on the stage.

Effect generator can also be applied to other attributes of fixtures. You can use the effect generator to create various colors, gobos, irises, and many other changes. Each effect can be used to produce a regular change for one attribute.

### 6.2. Using Effect

- 1> Select the fixtures and light them up;
- 2> Press **[Effect]**;
- 3> Select effects using the soft keys. The default selection type is **[All Effects]**, but you can also find more specific types of effects by using the effect type drop-down list. For your convenience, any presently selected effects will display in the **'Current Loaded Effects'** section.



- The running effects will be listed on the **'Current Loaded Effects'** window, in which the quantity of selecting fixtures shows on the left top and the attribute type of effect shows on the right top.
- Those attribute types of effects include Intensity (I), Position (P), Color (C), and Beam (B) Effects.
- The basic point of effect can be modulated. By changing its attribute, to set the size or speed to **'0'** can get the basic position of the effect.
- Each of the built-in effects is designed to work with a specific attribute type, but will only work if the fixtures themselves have the attributes needed to accomplish the effect. For example, the fixtures should have R, G, B or C, M, Y channels to run the **'Rainbow'** effects. Otherwise, you should use the **'Color'** effects for the fixtures with the color channel.

### 6.3. Effect Parameters

Each shape effect has its own parameters with default values. You can modify the parameters to achieve various effects.

If multiple effects are running, you can select any of them on **'Current Loaded Effects'**, and then edit their attributes one by one.

### 6.3.1. Effect Size, Speed and Spread

When an effect is running, the [Effect attribute 1] will offer you the 'Effect Size', 'Effect Speed', and 'Effect Spread' parameter settings that you can adjust.

Effect Size 40%	Effect Speed 4.0s	Effect Spread 25
--------------------	----------------------	---------------------

- The minimum 'Effect Size' or 'Effect Speed' is 0. It can stop the fixtures, however, the effect is still active.
- 'Effect speed' can be shown in **second** or **BPM**. You may change the feature by tapping on the name of 'Effect Speed'.
- The 'Effect Spread' allows you to set the offset between the selected fixtures to make your effects more impressive.

### 6.3.2. Speed Group, Block Group and Width

Pressing [Effect attribute 1] can switch to [Effect attribute 2], which offers 'Speed Group', 'Block Group', and 'Width' settings.

Speed Group 0	Block Group 0	Width 100%
------------------	------------------	---------------

- The 'Speed Group' can divide the selected fixtures into 'n' groups. Each group of fixtures runs with the same velocity. After setting the 'Speed Group', the 'Effect Spread' will be disabled.
- There is nothing change on the effect if the 'Block Group' value is 0 or 1. The 'Block Group' can divide selected fixtures into groups based on an input number, with each group moving together as one. However, you'll first need to adjust the 'fixture spread' or they will continue moving as a single group.
- The 'Width' controls the time a full cycle occupies. If the 'Width' is set at 50%, the cycle will occupy only the first half.

### 6.3.3. Active Area Offset, Start Offset and Stop Offset

Pressing [Effect attribute 2] again will switch to [Effect attribute 3], which offers 'Active Area Offset', 'Start Offset', and 'Stop Offset' settings.

Active Area Offset 0	Start Offset 0	Stop Offset Never
-------------------------	-------------------	----------------------

- The 'Active Area Offset' allows you to set the starting offset of the effective waveform of the shape effect.
- The 'Start Offset' allows you to set the origin of the effect. (Range from 0~360)
- The 'Stop Offset' allows you to set how many loops to execute the effect and where to stop. The option defaults in 'Never'.

### 6.3.4. Effect Direction

The [Effect Direction] can run the effect in different directions, '---->', '<----', '--> - <--' or '<-- - ->'.

### 6.3.5. Effect Mode

There are 4 effect running modes.

- **Rel(Center)** ----- effect in the relative mode which runs around the center;
- **Rel(Up)** ----- effect in the relative mode which runs in an upward direction;
- **Rel(Down)** ----- effect in the relative mode which runs in a downward direction;
- **Absolute** ----- effect in the absolute mode which runs on an absolute value.

### 6.3.6. Fixture Order

The **[Fixture Order]** allows you to realign the group of fixtures' running sequence on the selected effect.

If a group of fixtures is running two or more different types of effects at the same time, each effect can be run in its own fixture order.

The way of setting up fixture order please refers to [chapter 4.4.2.1](#).

### 6.3.7. Synchronize

The **[Synchronize]** allows you to restart all running effects to see how they will interact.

### 6.3.8. Loop Mode

The mode allows you to set whether the effect runs a return cycle.

### 6.3.9. Delete Effect

You can delete the useless effects from the running effects:

- **[Delete Effect]** --- You can select and delete any effect from the running effects, others will keep running.
- **[Delete All Effect]** --- You can delete all running effects.

## 6.4. User Effect

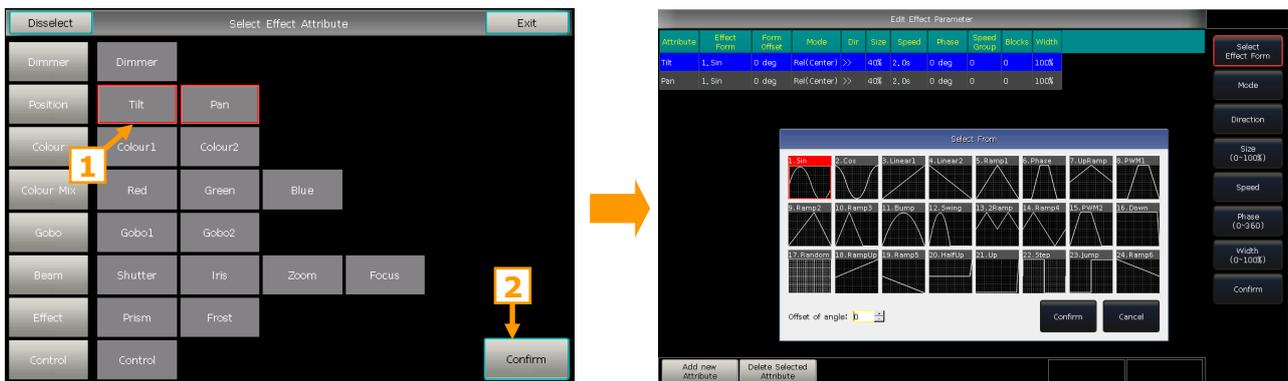
The user effect system allows you to create user-defined effects by effect forms. Besides, you may save a combined effect in 'User Effects' for quick recall in the future.

### 6.4.1. Create a User Effect

- 1> Press the **[Add New or Edit]** to start creating the user effect.
- 2> Select a soft-key in 'user effect' (e.g. No. 1); you will call out a window for selecting attributes of the effect.



- 3> Select one or more attributes, then press **[Confirm]** to edit effect parameters.



- 4> Select one of the attributes in 'Edit Effect Parameter', and press **[Select Effect Form]**. Then you will call out a window for selecting the effect forms.

- 5> Each attribute can match one form. You may adjust all necessary options (Mode, Direction, Size, Speed, Phase, and Width) in the toolbar. But you may also set them on 'Effect Parameter' with the wheels.

- 6> For example, if we want to make a circular movement effect we may select the form 'Sin' for Tilt, and form 'Cos' for Pan. (Or select form 'Cos' for Tilt and form 'Sin' for Pan.)

7> Press **[Confirm]** after finished setting all parameters. You can find the new user-defined effect from **'User Effects'**. The attribute types (IPCGBES) of the effect will be listed on the left top corner of the user effect grid.

User Effects - 1		
P 1 User Effect	2	3
4	5	6

8> When running a user effect, all attributes included will be listed separately on the **'Current Loaded Effects'**. You may set up their parameters individually.



### 6.4.2. Save Running Effects

The option allows you to save the running effects as a user effect.

You can recall the user effect for other fixtures to get the same effect. However, all parameters are based on the number of running fixtures. You can modify the parameters if the quantity is different.

### 6.4.3. Label

You may rename the user effect by the option **[Label]**.

### 6.4.4. Delete User Effects

- Select **[Delete User Effect]** can delete one of the user effects.
- Select **[Delete All User Effects]** can delete all the user effects.

Note: If you want to delete one of the user effects, you can also use the **Delete** key then select the effect shows in the **'Effects'** window.

## 7. Playback

### 7.1. Playback Modes

The Playback has two types: Cue and Cue-lists. Meanwhile, the Cue-lists has 2 modes: Cue-lists and Chase.

### 7.2. Playback Edit Menu

You can press the key **Edit Playback** to enter **'Playback Edit Menu'** to find out those saved playback details from the list. Besides, you can find functions of playback type (Cue-lists Mode), priority level, link mode, effect control mode, and so on from this menu.

The number of Playback display in **'PX/Y'** and **'FPX/Y'**. Hereinto, **'P'** means fader playback and **'FP'** means key-playback, **'X'** shows playback page number, and **'Y'** shows the playback number.

Playback Edit Menu										16:33:44	
Page/Fader	Num.	Type	Cues	Priority	Link	SkipFirst	Effect	PageLock	Flash	Name	Legend
P1/1	P1	Cue	1	Normal	Auto					PlayBack 001	
P1/2	P2	Cue--	4	Normal	Auto					PlayBack 002	⚠⚠⚠
FP1/1	FP1	Chase	3	Normal	Auto	Delay+Fade				dim all on	⚠⚠⚠

### 7.3. Cue

#### 7.3.1. Save Mode of Cue

- **[Record All Stage]** ----- All fixtures in the stage will be saved whatever they were selected.
- **[Record Mode = Fixture]** ----- All attributes of the selecting fixtures will be saved.
- **[Record Mode = Changed Attr.]** ----- Only the changed attributes of selecting fixtures will be saved. This function makes cues in different attributes that can be run synchronously.



#### 7.3.2. Run Mode of Cue

- **[Mode=Time]** --- Enable both HTP and LTP times. If the times are set to 0, value of HTP channel depends on the fader position.
- **[Mode=Fader]** --- Disable any times. Values of HTP and LTP channels depend on fader position.

#### 7.3.3. Save Cue

- 1> Select the fixtures;
- 2> Create a Scene or an effect;
- 3> Press **Save to Cue** when in **'LIVE SHOW'**;
- 4> Select the record mode and run mode as needed, select **[Playback type=Cue]**;
- 5> Press a key upon playback fader or a key-playback key to record.



Note: If the fader has been programmed, you can select the option **'Replace'**, **'Merge'**, or **'Save to Last Step'** as needed.

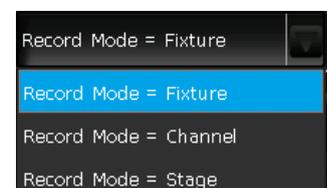
### 7.4. Cue-lists

The Cue-lists has two modes, Cue-lists, and Chase. The Cue-lists playback allows you to set different times for each step, while the Chase playback has only the same time for every step.



#### 7.4.1. Create a Cue-lists

- 1> Press **Edit Playback** when in **'LIVE SHOW'**;
- 2> Select a key upon the fader playback or a key-playback key;
- 3> Select the fixtures;
- 4> Set a scene by attribute keys and wheels;

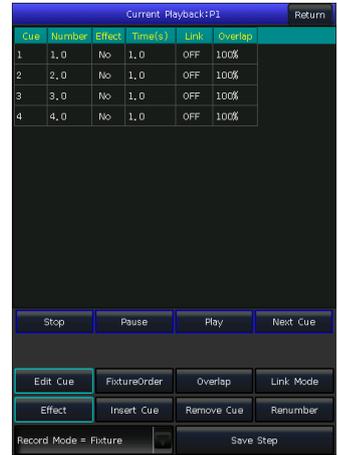


5> The record mode defaults in '**Fixture**'. Press **[Rec. Mode]** if you want to record by another mode;

- **Record Mode = Fixture** ----- all attributes of fixtures will be saved.
- **Record Mode = Channel** ----- only the changed attributes of fixtures will be saved. This function makes fixtures in different attributes can be run synchronously.
- **Record Mode = Stage** ----- all fixtures in stage (all the patched fixtures) will be saved whatever they are being selected.

6> Press the playback key or press **[Save Step]** to save the step;

7> Repeat the steps from **3** to **6** until the end. Press **Edit Playback** to exit.



Besides, you can also create the Cue-lists playback under cue mode.

1> Press **Save to Cue** in '**LIVE SHOW**';

2> Select record and run mode you want, select as **[Playback type=Cuelists]**; (At the moment, the indicator led of **Edit Playback** will flash.)

3> Select the fixtures and set a scene by the attribute keys and wheels;

4> Select a playback key for the Cue-lists. The top of the menu bar on the touch screen will display as '**Current PLBK=n**' (n means the number of playback fader);

5> Set a scene by the attribute keys and wheels;

6> Press again the playback key which indicator led keeping on to record, the top of the menu bar on the touch screen will display as '**Total Steps=1**';

7> Repeat the steps from **3** to **6** until the end. Press **Edit Playback** or **Save to Cue** to exit when finished.



## 7.4.2. Edit Cue-lists

### 7.4.2.1. Edit Cue-lists Steps

1> Press **Edit Playback** in '**LIVE SHOW**';

2> Select a Cue-lists to be edited;

3> Select a cue from the Cue-lists;

4> Select **[Edit Cue]**, the scene will be loaded with the used fixtures;

5> You can edit the scene directly or select other fixtures for a new scene;

6> Press **[Save Step]**;



7> Select **[Overwrite Step]** to take place the old step; Select **[Merge Step]** can add it into the original step; Select **[Save to last step]** will save as a new step;

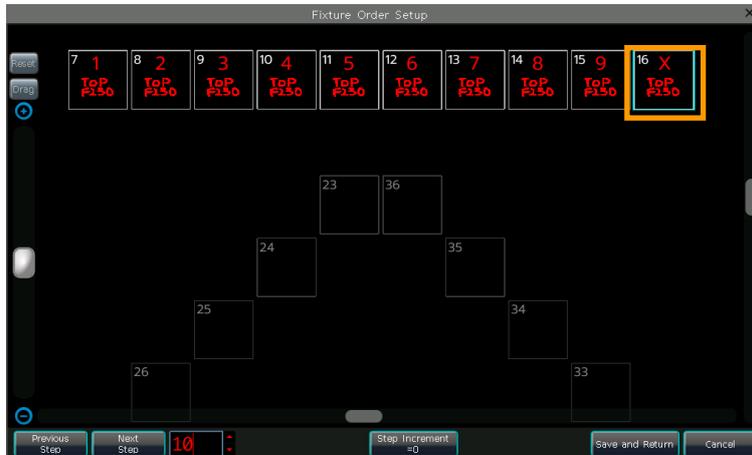
Note: If the newly added scene contains the fixtures used in the original cue, those fixtures will be covered when using the merge function.

8> Press **Edit Playback** to quit when finished.

### 7.4.2.2. Fixture Order

The **[Fixture Order]** in Cue-lists should run with **'Fixture Overlap'**. You cannot find the effects if you did not set up fixture overlap in advance. The way of setting **'Fixture Order'** please refers to chapter 4.4.2.1.

However, you may close some of the fixtures if you don't want them to run with fixture overlap. The closed fixture(s) will start to run as soon as the first fixture(s) begin, and finish at the same time as the last fixture(s) ended.



### 7.4.2.3. Fixture Overlap

The **[Overlap]** allows you to run a series of fixtures with chasing effect in one step. The range of overlap is from 0%~100%.

When overlap=100%, all fixtures will change together. If overlap=50%, the second fixture will not start until the first fixture is halfway (50%) through fading. The running sequence of fixtures follows the setting of the fixture order.



The running time will be divided equally for each fixture. That means if there are 5 fixtures run in 10s for the step. After setting the fixture overlap, each fixture uses 2s to finish its effect.

### 7.4.2.4. Link Mode of Cue-lists

You can set the link mode to each cue in the playback. To run this function, you should set the **[Link Mode]** as **'inside'** from **'Playback Edit Menu'**.

- When the Link is **'OFF'**, the cue will stop at the last scene unless getting the instruction to run the next cue.
- When the Link is **'ON'**, the cue will go to the next cue after it is finished.

### 7.4.2.5. Edit Effect

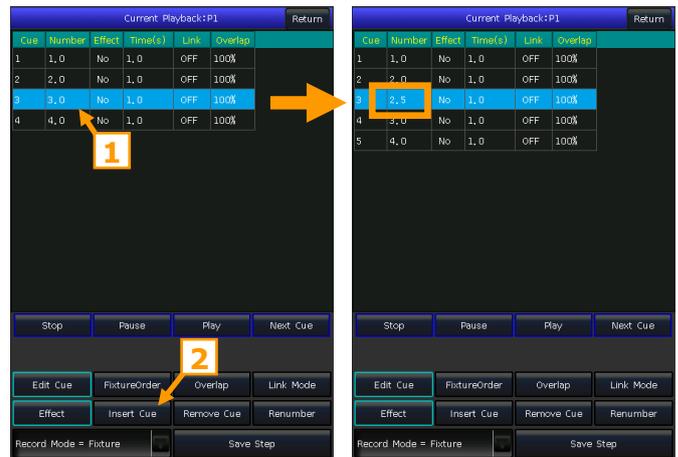
You are allowed to adjust the effect which had been saved as playback.

- 1> Press **Edit Playback** in **'LIVE SHOW'**;
- 2> Select the playback to be edited;
- 3> Select the cue to be edited then select **[Effect]** to enter the effects menu;

- 4> Select **[Play]** to load in the data; all the included effects will be listed on **'Current Loaded Effects'**;
- 5> Select the effect that needs to be adjusted and modify the parameters by control wheels;
- 6> Press **[Update]** after adjusted the effect parameters;
- 7> Repeat the steps from **3** to **6** until the end. Press **Edit Playback** to quit when finished.

#### 7.4.2.6. Insert a Cue to Playback

- 1> Press **Edit Playback** in **'LIVE SHOW'**;
- 2> Select a Cue-lists to be edited;
- 3> Select the needed fixtures;
- 4> Set a new scene by attribute keys and wheels;
- 5> Select a step to be inserted. For example, if you want to insert a step between 2 and 3, then select step 3;
- 6> Press **[Insert Cue]**, then the **'Number'** of inserted step shows in 2.5;
- 7> Press **[Renumber]** to realign the number;
- 8> Press **Edit Playback** to quit when finished.



#### 7.4.2.7. Delete a Step

- 1> Press **Edit Playback** in **'LIVE SHOW'**;
- 2> Select a Cue-lists to be edited;
- 3> Select a step to be deleted;
- 4> Press **[Remove Step]**;
- 5> Press **[Renumber]** to realign the number;
- 6> Press **Edit Playback** to quit.

### 7.5. Run Playback

It's easy to run a Playback. Select the Playback page, and fade in the Playback. When running several playbacks, the bottom right corner of the touch screen will display the latest faded in playback. You can switch the running playback by pressing **Shift** along with the key of the playback fader, or the key-playback key. The velocity of the Cue-lists in its present state can be adjusted by Wheel D.

The keys above or under playback faders have different functions for the running playbacks.

- **Keys above playback faders can be used as prelocate or pause.**

The keys can be used as prelocate function before the playback is faded in. Press the key above the fader. All channels of fixtures will be set to the value on the first scene of playback with the lamp off. Once you fade in the playback, the program will start to run immediately.

If a playback is faded in, the key above the fader is used as a pause function. The fixtures will stop at the current position when you press the key.

- **Keys under playback faders can be used as flash or manual control.**

The keys under playback faders can be used as a flash if the playback is not faded in. Press and hold the key can keep the playback running the same as a fully faded in the fader. Once the key is released, the playback will stop.

If there is a Cue-lists playback had faded in, these keys can be used as manual control. Pressing the key once means to run one step of the Cue-lists.

Note: To use the manual control function, the setting of **'Playback GO+ /GO-'** in **'Controller Manage'** should be set to **[Enable]**, and the link mode of Cue-lists steps should be set as **'Inside'** with **'Link Off'** or **'Manual'**.

## 7.6. Time for Playback

Each playback has its own running time. There are 4 kinds of global times for each Cue-lists playback: delay in, fade in, delay out and fade out. Meanwhile, there are 3 kinds of global times for each Cue playback: delay in, fade in and fade out. Besides, you may set some of the functions, such as fixture overlap, individual attribute times, fixture order and etc. at the menu.

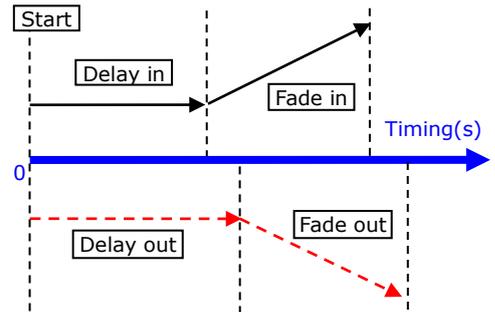
Cue Number	Delay In	Fade In	Out Delay	Out Fade	Trigger	MRB	Fixture Overlap	Snap Percent	Order Direction	Dimmer Delay	Dimmer Fade	Shutter Delay	Shutter Fade	Tilt Delay	Tilt Fade
1	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward	-	-	-	-	-	-
2	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward	-	-	-	-	-	-
3	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward	-	-	-	-	-	-
4	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward	-	-	-	-	-	-
5	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward	-	-	-	-	-	-

### 7.6.1. Set Global Times

- The times for Cue-lists playbacks are illustrated in the graphic on the right.

Delay in and delay out times will start together. Fade in time starts after delay in finished, while fade out time starts after delay out finished.

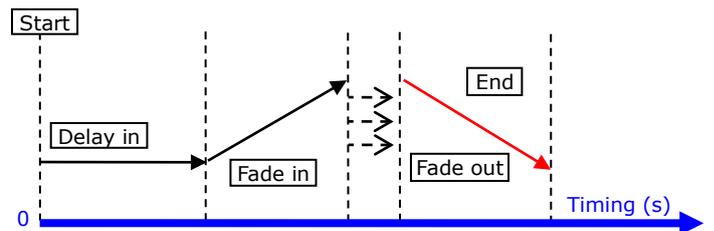
Fade out is only used on dimming channels. Fade out time will be used as delay out between the steps if the coming step does not have a dim off effect.



- The times for Cue playbacks are illustrated in the graphic below.

There is no delay out time if it is a cue playback.

When fading in the playback, the fade in time starts to run after the delay in is finished. When fading out the playback, the fade out time starts to run immediately.



### 7.6.2. Set Individual Attribute Times

The attribute time system allows you to set different running times for different attribute channels to achieve complex changes with minimal editing.

The attributes times have only delay in and fade in times. When editing attribute times, you can switch to other attributes by pressing attribute keys.

Cue Number	MRB	Fixture Overlap	Snap Percent	Order Direction	Dimmer Delay	Dimmer Fade	Shutter Delay	Shutter Fade	Tilt Delay	Tilt Fade	Pan Delay	Pan Fade	Color Delay	Color Fade	Color Del
1		100%	0	Forward	-	-	-	-	-	3, 0s	3, 0s	2, 0s	-	-	-
2		100%	0	Forward	-	-	-	-	-	-	-	-	-	-	-
3		100%	0	Forward	-	-	-	-	-	-	-	-	-	-	-
4		100%	0	Forward	-	-	-	-	-	-	-	-	-	-	-
5		100%	0	Forward	-	-	-	-	-	-	-	-	-	-	-

After set the attribute times, those attributes will not use global times unless you press **[Use Global]** again. Those attributes did not being set to keep running global times.

- Press **[Use Global]** if you want the edited attribute times to resume to global times.
- Press **[Attribute Time Use Global]** if you want all attribute times to resume to global times.

### 7.6.3. Snap Percentage

The **[Snap Percent]** allows you to control when instant channels should occur. It defaults in 0%.  
 If the snap percent is 0% the channel occurs at the beginning of the cue fades in.  
 If the snap percent is 100% the channel occurs at the end of the cue.  
 If the snap percent is 50% the channel occurs in the middle of the cue.

### 7.6.4. Time for Cue-lists in Chase mode

Global and attribute times are unavailable for Cue-lists in chase mode. The time for chase mode can only be set by using Wheel D, while the **'Cross'** is set by using the **[Shift]** key with Wheel D.

- Cross=100% means steps will use the time to fade in the next step.
- Cross=0% means steps will not have a fade in time. The time is used as delay in for each step.

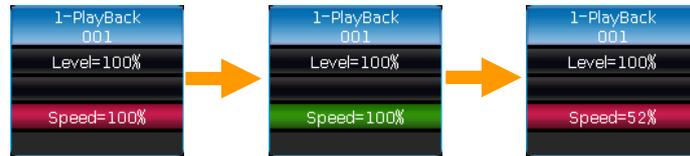
Speed=2.0s means every step in the chase runs in 2.0 seconds.



### 7.6.5. Manually control Speed of Cue-lists

After faded in a cue-list, you can use Wheel D to adjust the speed directly. If you need to adjust other Cue-lists speed, then you have to hold **[Shift]** and press the needed playback key to set the Cue-lists at current:

- Roll the Wheel D to set the speed percentage of the Cue-lists, on the bottom right corner will display as: **'Speed=100%'**(range at 10~500%).
- Press the speed frame to make it turns red, then press Wheel D to make it turn green (it is the start mark of setting speed). Press Wheel D again and the frame turn red again (it is the end mark of setting speed). Then the system will calculate a speed by the time slot between the start mark and end mark (range at 10~500%). Press the speed frame again to quit setting.

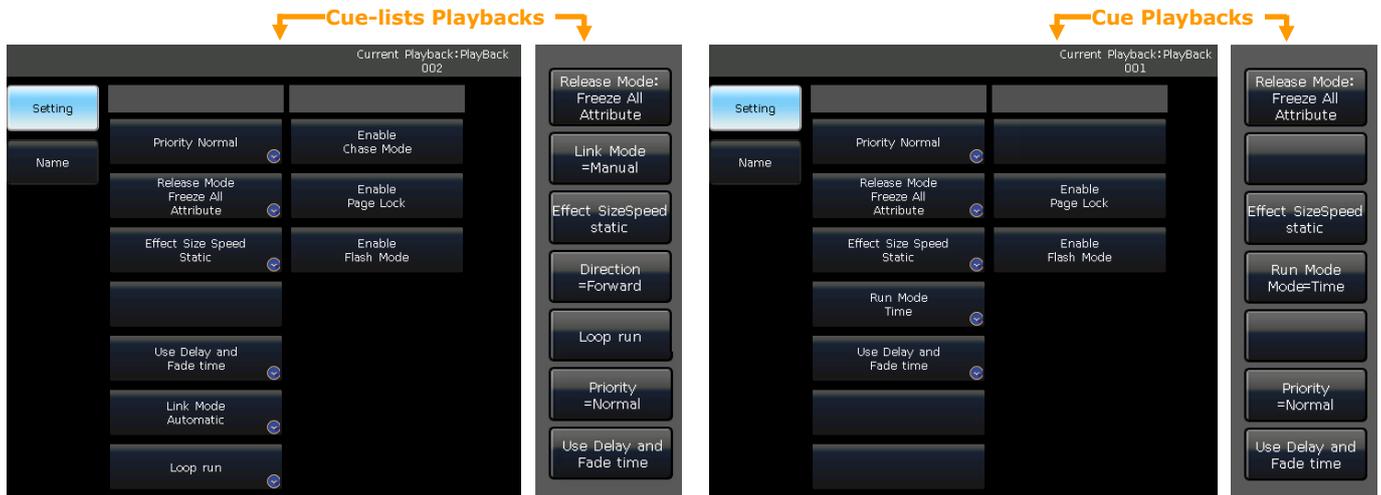


## 7.7. Playback Parameters and Advanced Settings

There are many options for you to edit playback parameters for each playback in **'Playback Edit Menu'**. You may also find the settings by pressing **[Playback Parameters]** and then select the playback number.

Besides, hold down the **[SHIFT]** key and select the playback name on touch screen can also call out the parameter setting menu.





### 7.7.1. Playback Priority

The **[Playback Priority]** option allows you to set the running priority level of different playbacks. The option can be set as options such as very low, low, normal, high, and very high. Each new playback defaults as normal.

The function is very useful while performing. When some fixtures are running a playback, running a new playback with the same fixtures will change the old one if the new one is in the same or higher priority. However, if the priority of the new playback is lower than the first one, the first playback will not be changed.

### 7.7.2. Link Mode of Cue-lists

There are 3 link modes for Cue-lists: **'Inside'**, **'Auto'**, and **'Manual'**:

- Inside ---- Cue-lists steps run by the link settings of each step.
- Auto ---- No matter what the link setting is; the Cue-lists steps will keep running automatically.
- Manual ---- No matter what the link setting is, the Cue-lists will pause on each step until getting the next instructions.

If link mode is **'Manual'** or **'Inside'** with **'Link=OFF'**. The key under playback fader can be used as a GOTO function after the playback has faded in. Pressing it once means to run one step.

### 7.7.3. Playback Start Time

If you had set the running time on the Cue-lists, the time may affect the first step at the beginning. For example, if you had set the delay in or fade in time, the fixtures will use the times to move from the last position to the first step, and start to run the Cue-lists each time.

You can skip the time by pressing the option **[Skip start run time]** for **'Fade'**, **'Delay'**, or **'Fade + Delay'**.

### 7.7.4. Effect Control by Fader

If there is a Cue saved with shape effects, you can set the fader trigger using the options under **[Effect By Fader]**. These options include: **'Size By Fader'**, **'Speed By Fader'**, or **'Size + Speed By Fader'**.

Note: Once the function is set, the fader can not be used for controlling the HTP channel.

### 7.7.5. Lock the Playback

The function is only used for fader-playbacks. You can lock the playback by option **[Lock Page For Fader]**. Once the option is selected, the playback will be locked on the page where it is, although you can still run the program on other pages.

Note: Once the playback was locked, the playbacks on the same fader in other pages will be unavailable.

### 7.7.6. Chase Mode

You can switch the Cue-lists playback between Cue-lists mode or chase mode by pressing **[Chase Mode]**.

### 7.7.7. Flash Mode

The function is only used for key-playbacks. The playback key will be used as a flash when you open the function.

### 7.7.8. Rename the Playback

Select a playback in the list can rename the playback by option **[Playback Legend]**.

The name of the playback will be shown at the bottom of the screen. You can press the **[Func]** key to switch display the key-playback name or attribute name on the screen.

### 7.7.9. Release Mode

You can set the release mode for playback as follow:

- **[Freeze All Attribute]** ---- All attribute channels will be held except HTP channel;
- **[Release All Attribute]** ---- Resume all attributes to the beginning state;
- **[Release Only Pan/Tilt]** ---- Resume Pan and Tilt to beginning state and hold other attribute channels except for HTP channel.

### 7.7.10. Direction

If it is a Cue-lists playback, press **[Direction]** can set the Cue-lists direction to **'forward'** or **'backward'**.

### 7.7.11. Run Mode

If there is a Cue playback, you can select one of the modes:

- **Mode=Time** ---- Enable both HTP and LTP times. If the times are set to 0, the value of the HTP channel depends on the fader position.
- **Mode=Fader** ---- Disables any set times. The values of HTP and LTP channels depend on the fader position.

### 7.7.12. Release Mode

If there is a Cue-lists playback, press **[Loop run]** option can change the run mode into **[Stop in Last Step]**.

## 7.8. Reload a Cue

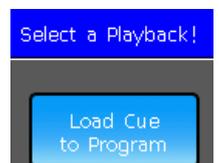
The controller allows you to reload the attribute values of fixtures from one of the whole Cue-lists.

You may load in the values of the needed attributes from one of the cues by option **[Load Cue to Program]** after selected **[Playback Parameters]**.

At this time, you may find all indicators of attribute keys are on. You may press the attribute keys to cancel selected so that the non-selected attributes will not be loaded in.

You can select the playback that needs to be reloaded.

- If there is a cue playback, the fixtures include in the cue will be selected automatically.
- If there is a Cue-lists playback, you may select one of the cues from the Cue-lists and select **[Load Selected Cue]**. It will return to **'LIVE SHOW'** and fixtures included in the cue will be selected automatically.



Cue Number	Delay In	Fade In	Out Delay	Out Fade	Trigger	MIB	Fixture Overlap	Snap Percent	Order Direction
1	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward
2	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward
3	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward
4	0, 0s	1, 0s	0, 0s	1, 0s			100%	0	Forward

## 8. Advanced Functions

We will introduce the senior functions such as Copy, Delete, Move, Rename, and so on in this part.

### 8.1. Copy Function

The copy function can be used in Groups, Presets, and Playbacks. Press the **Copy** and select a root, then select a target:

- If it is an empty target, you can simply achieve the copy and paste functions;
- If there is something in the target, you can select **[Overwrite it]** or **[Merge]**;
- If both the copied and pasted targets are playbacks, there will be an added option **[Copy to Last Step]**. The function makes it more convenient to compose several cues to be a Cue-lists playback.

### 8.2. Delete Function

You can delete the data edited on the controller. Press **Delete** to enter the delete function.

- **Delete All Data** --- It can delete all edited data on Controller. The operation equal to system clear.
- **Delete All Preset** --- It can delete all saved presets.
- **Delete All Playbacks** --- It can delete all playbacks you programmed.
- **Delete All Group** --- It can delete all saved groups.



Besides, you can delete a single fixture, group, preset, user effect, macros show, or playback by delete function.

- Select the units from each workspace window, such as **'Group'**, **'Fixture'**, **'Preset'**, **'Effect'**, **'Macro'** and etc. You can delete a single item by pressing the unit twice.
- If you want to delete a playback, you can press the playback key twice directly.

### 8.3. Move Function

It is easy to move the group, preset, or playback to another position on the controller. Press **Move** and select a root, then select a target:

- If it is an empty move target, you can achieve the move function;
- If there is something already in the moving target, those two sources will be swapped.

### 8.4. Lock the Controller

If you want to step away for a moment, you can input the password using numbers or letters in **'LIVE SHOW'**, and then press **[Lock Controller]**. When locked, all operations are disabled until you input the correct password.

Note: Restarting the system will also unlock the controller. But any unsaved program operations will be lost.

### 8.5. Legend Manage

For easier understanding of the edited contents, you can use the legend function to rename groups, fixtures, presets, playbacks, macro shows, and etc.

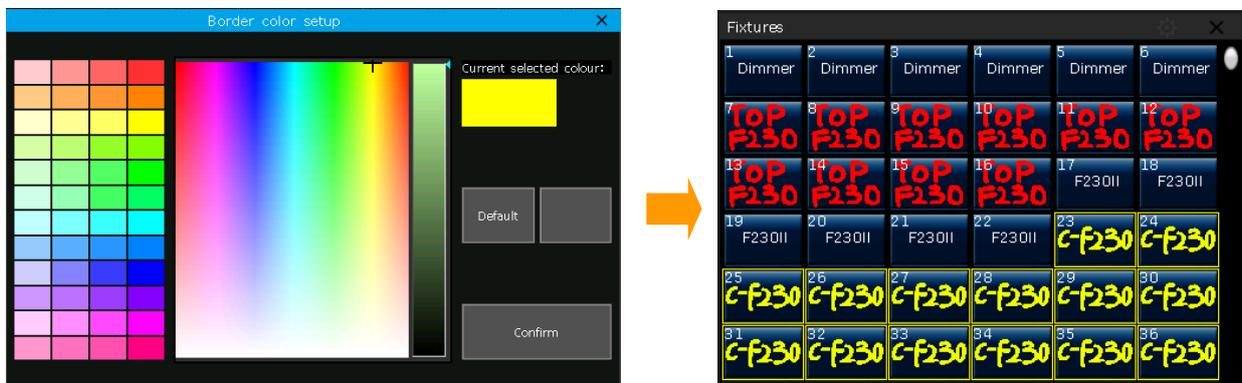
- 1> Press **[Legend Manage]** on the menu bar;
- 2> Select the source to be renamed;
- 3> Select different rename options from the menu bar on right;

There are two rename ways for your selection,

- **Legend:** You may call out the keypad by keyboard and typing in the letters.
- **Picture:** You can draw a picture as the name. The pen color and width can be changed accordingly.



Besides, you may change the frame color of the unit by the option **[Border]**. It helps you to discriminate different units according to their functions.



4> Press **[Enter]** / **[Confirm]** to finish legend.



## 9. Macro Show

The macro show is a function based on the time code, which allows you to record and replay a sequence of the playback output. When recording the show, you can select different modes of time code as needed.

The controller offers 3 kinds of time code modes:

- 1> **Internal Clock** ---- record and trigger the show recording by using the internal clock.
- 2> **MIDI MTC** ---- it requests an external MIDI device to offer the time code to trigger recording. Please set the controller to '**Slave Mode**' before using this mode.
- 3> **Internal Music** ---- play music by the built-in music player and use its time code to trigger the macro show.

You can replay the operations of playbacks and presets by recall the macro show. When it is replaying, the outputs of playbacks and presets are completed followed by the operations when making the macro show.

### 9.1. The Built-in Music Player

The controller has a built-in music player, which can directly play the music files on the USB disk. The supported formats are: **mp3/aac/m4a/wav/wma/flac/ape**.

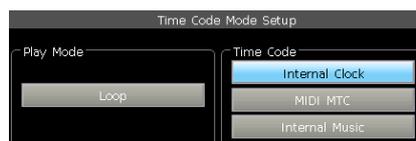


### 9.2. Record a Macro Show

- 1> Open the '**Time Code**' window on '**LIVE SHOW**';
- 2> Select **[New]** to open a new record. The record number and its mode will be listed on the top;



- 3> Select the **[Mode]** to find other time code modes and the **[Loop]** can set whether the record replays cyclically;



- If the time code mode is **Internal Clock**, the record starts directly. The timeline will be the relative time from the beginning to the end of the recording.
- If the time code mode is **MIDI MTC**, the timeline starts from when you start playing on the external device. The system clock will change into the display of the time code which comes from the external device.



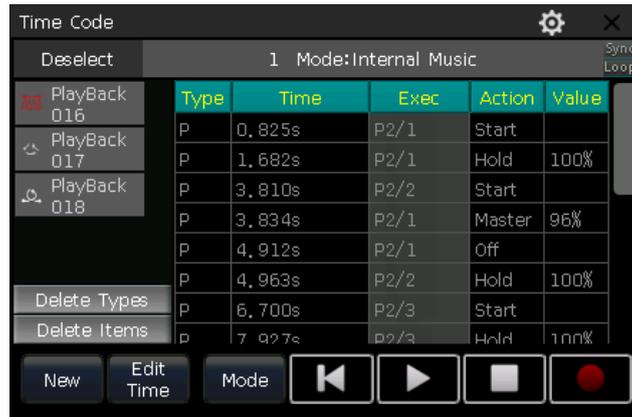
- If the time code mode is **Internal Music**, the built-in music player will offer the time code for recording. The timeline starts when you pressing play on the music player.



- 4> Select **[Apply]** to confirm the time code mode;
- 5> Press the record key, the macro show starts to record when its frame turns red.
- 6> Execute or close the playbacks or presets according to the music. If there is a Cue-lists playback, you may use the GOTO function to record.

7> Release all playbacks and presets when finished recording. Press the record key again, then **[confirm]** to save the macro show.

8> After saved, all used playbacks and presets as well as the operations will be listed in the **'Time Code'** window.



9> You can replay the macro show on the window directly.

- If the macro show saved by **Internal Clock**, the macro show starts to replay once you pressing play on the time code window.

Note: If there is a time slot without any operation at the beginning, it will run out as when recording. You may skip the time slot by the option **[Skip Macro Show start time]** in **'Controller Setup'**.

- If the macro show saved by **MIDI MTC**, the macro show will be standing by when pressing the show record in the **'Macro Shows'** window. The show starts to play once you pressing play on the external device.
- If the macro show saved by **Internal Music**, the macro show starts to play once you select the show record on the **'Macro Shows'**, and the music which used for saving the record will be played automatically.



10> The macro show will stop automatically when it finished.

Note: When the macro show is finished we should stop playing music on the external device manually if the record is saved by **MIDI MTC**.

### 9.2.1. Edit Macro Show

You are allowed to revise the saved macro shows after created. We can call out the **'Macro Show'** window and select the show record to switch displaying its operations in the **'Time Code'** window.

#### 9.2.1.1. Insert New Operations

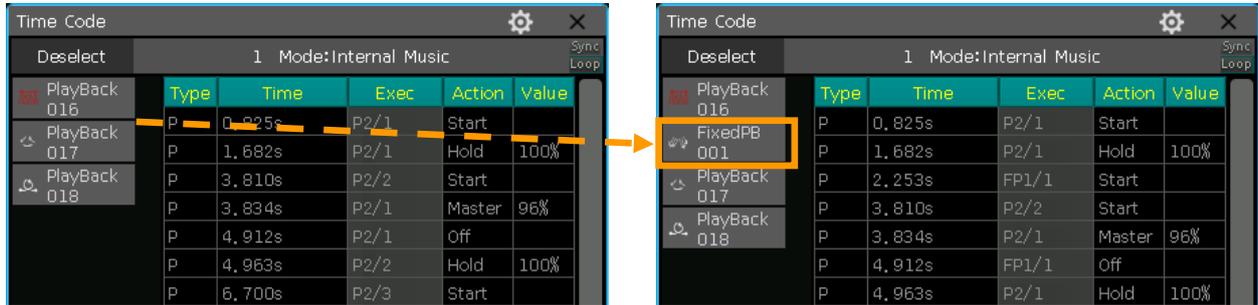
You are allowed to add new operations into a saved macro show

- 1> Select the macro show to be edited;
- 2> Press the record key in the **'Time Code'** window and play the music again to start record;

- 3> Execute playbacks or presets at the point of the timeline where would like to add in;
- 4> Close the running playbacks and presets, then press the record key again;
- 5> Select option **[Merge]** at the call out menu;

Note: Select **[Overwrite]** will take place of the original contents.

- 6> The added playbacks and presets will be listed at the left bar of the 'Time Code' window.



### 9.2.1.2. Delete Operations

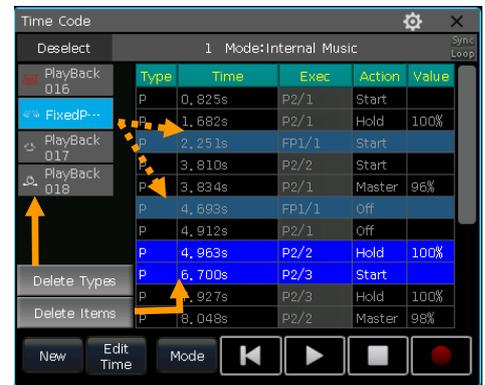
You can delete some useless operations from the macro show. There are two different options for deleting the contents.

- **[Delete Types]**

- 1> Select the playback or preset name on the list. All operations using that playback or preset will be highlighted.
- 2> Press **[Delete Types]** to delete the selected playback or preset.

- **[Delete Items]**

- 1> Select one or sequential operations to be deleted.
- 2> Press **[Delete Items]** to delete the selected operations.

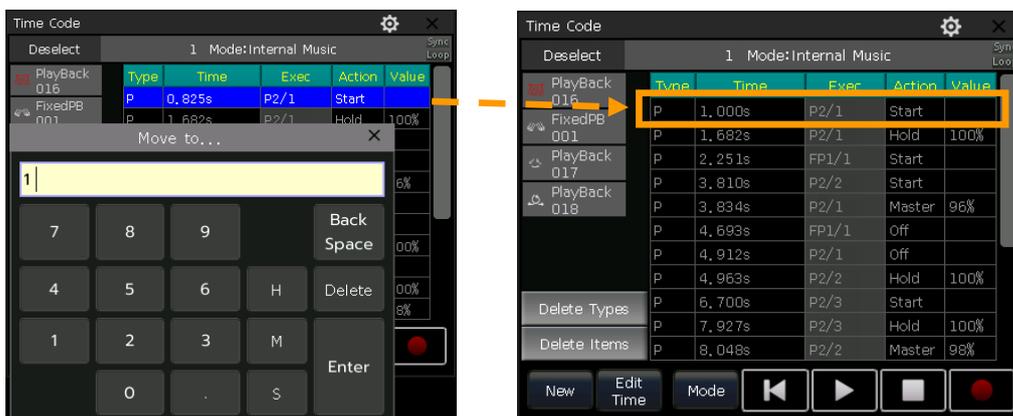


### 9.2.1.3. Edit Timing of Macro Show

While replaying the macro show, you may find one or several operations do not match the rhythm. At this time, you may correct their timing in the 'Time Code' window.

A playback or preset at the saved macro show has at least two operation statuses, 'Start' and 'Off'. Furthermore, you will have statuses 'Hold' and 'Master' for fader playbacks if there were dimming value changes when recording the macro show.

- 1> Select the operation that needs to be edited;
- 2> Press key **[ENTER]** or **[Edit Time]** at the 'Time Code' window;
- 3> Entry the correct time at the 'Move to...' window. The entered value defaults to second, but we can select **[H]** to set it to hour or **[M]** to minute;
- 4> Press **[ENTER]** confirm to modify the timing.



## 10. Controller Setup Management

Press the **Setup** key, you can enter the 'Setup' menu for different controller setup options.



### 10.1. Controller Options

#### 10.1.1. Controller Manage

You can setup different system run modes in [**Console Manage**].

**Playback GO+ /GO-** --- The option defaults in [**Enable**]. When Cue-lists link mode is manual or 'Link=Off', the key under playback fader can be used as a GOTO function (Go+ or Go- depends on the direction setting of Cue-lists). If the option in [**Disable**], if the playback fader is not fully output, the keys under the faders can be used as intensity flash output.

**Quick Palette** --- The option defaults in [**Enable**]. You can recall presets without selecting fixtures. If the option in [**Disable**], you have to select the fixtures before recalling presets. If you do not select any, the presets can not be recalled.

**Playback LED enable** --- The option defaults in [**Enable**], the key upon Playback fader will be highlighted if it had a program. If the option in [**Disable**], the key upon playback fader will show in backlight color whatever if it has a program in the playback.

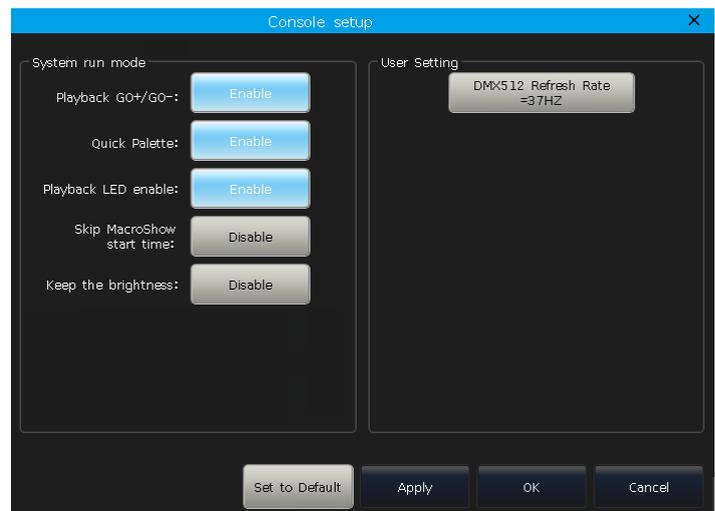
**Skip Macro Show start time** --- The option defaults in [**Disable**]. It is used for the macro show which recorded with the internal clock. The start time slot of the macro show will be canceled if the option in [**Enable**].

**Keep the brightness** --- The option defaults in [**Disable**]. The group of fixtures will be lightened up orderly from function of 'Seriatim light up fixtures'. If the option in [**Enable**], the fixtures will always keep on.

In the 'User Setting' section, you can change the refresh rate output ranging from 26~37Hz to match the rate of any special fixtures being used. You can also reset all options here by pressing [**Set to Default**].

#### 10.1.2. Setup Date and Time

You can set the local time which displays on top of touch screen. When power on, the controller reads the latest 'defaultshow' file which according to the backup date and time.



### 10.1.3. MIDI Setting

- MIDI Channel: setting range from 0-15.
- MIDI mode: You can set the controller in **[Master Mode]**, **[Slave Mode]** or **[MIDI Disable]**. The default setting is in disable.

When in **[Master Mode]**, the controller is the master device that can control the slave one; and while in **[Slave Mode]**, the controller is the slave device that can be controlled by the master device.

#### **MIDI COMMAND:**

You may input the midi command on other midi devices to trigger the playbacks of the controller.

The character 'n' (0 to 15) below means the midi channel number (n=0 means channel=1). The midi channel number should be the same as the setting on the controller.

Note: MIDI command can not trigger the key-playbacks.  
All input numbers for the commands should be in hexadecimal notation.

- The midi Command for switching playback (PB) pages. (pages from 0 to 79): **Bn + PB page + 0**
- The midi Command for running a playback (PB): **9n + pp + ll**  
pp = playback number (decimal: 0 - 14)  
ll = playback levels (decimal: 0-127)

**Example:** the midi channel on the controller is 1.

- If you want to switch the playback page to page 3. Command: **B0 02 00**
- If you want to run playback 1 in full. Command: **90 00 7F**
- If you want to run playback 15 with a 50% level. Command: **90 0E 3F**

### 10.1.4. Touch Calibration

You can use the option **[Touch Calibrate]** to calibrate the touch screen. Besides, using **[←] + [→] + [Setup]** keys can also enter the touch screen calibration.

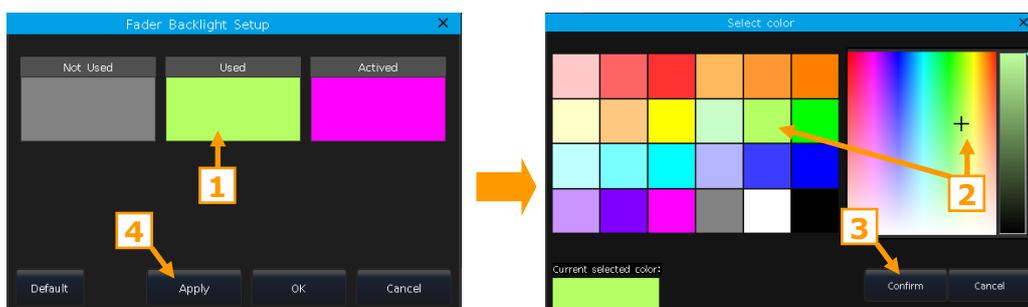
### 10.1.5. Setup Key Backlight

The keys on the controller offer three backlight colors. You may change the combination of backlight and highlight colors, or set up the intensity of the backlight. Besides, you can also use the combination keys **[Shift] + [Thru]** to change the backlight color or keys **[Shift] + [+]** or **[Shift] + [-]** to set intensity.



### 10.1.6. Setup Fader Backlight

The faders on the controller take with backlights. You can change the backlight colors according to the functions of the faders.



### 10.1.7. Set Language

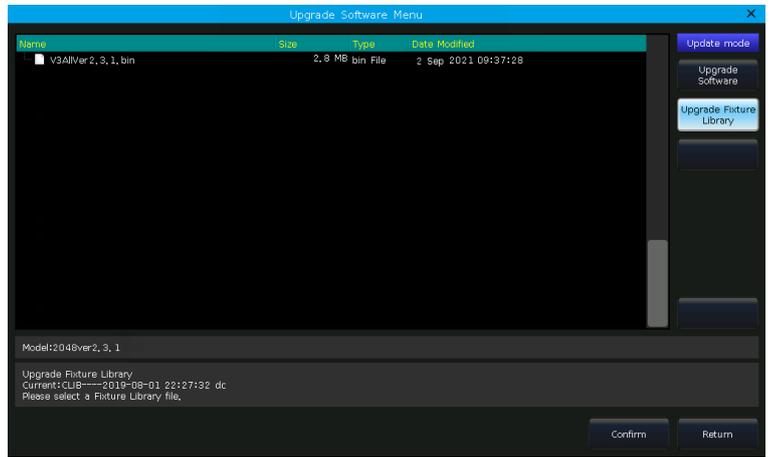
The language of the controller can be switched between Chinese or English.

## 10.2. System Manage

### 10.2.1. Upgrade Manage

You can upgrade the firmware or system library in this option. The current version of firmware and the updated date of the system library can be shown on the bottom of the upgrade menu.

You can put the latest firmware file and/or library file into the USB disk, and upgrade the firmware or system library by the corresponding option in this menu.

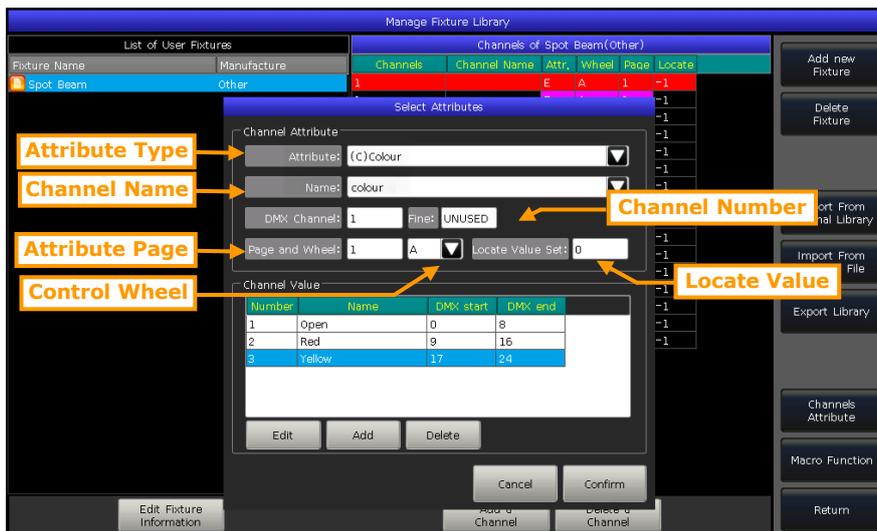
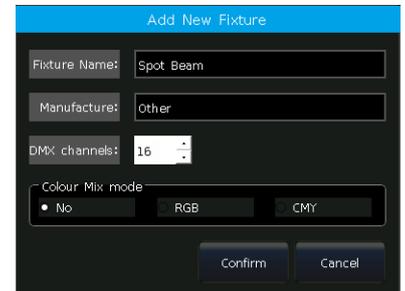


### 10.2.2. Manage Fixture Library

If you can not find the fixture library from the system, you can create or edit the user fixture on the controller. When entered the option, it will list all loaded or created user fixtures on the left. Select any of them that will show its channel details, then you can edit it again.

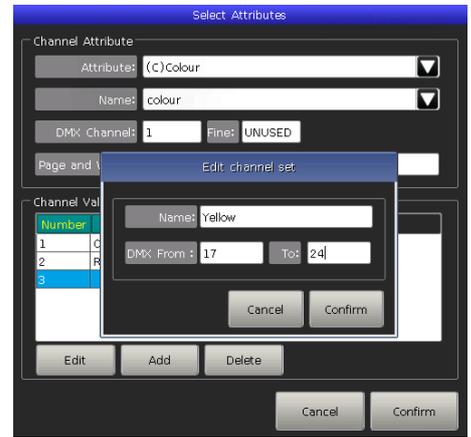
#### 10.2.2.1. Create New Fixture

- 1> Press **[Add New Fixture]**;
- 2> Fill in the information of the fixture, such as **'Fixture Name'**, **'Manufacture'**, **'DMX channels'**, and select **'Color Mix Mode'**;
- 3> Select the channel row to be edited and then press **[Channels Attribute]**;
- 4> At the **'Select Attribute'** menu, you can set up the attribute type and its name (you may type in the name by the soft keyboard); set up whether it has a fine channel; select the position of the control wheel and its page; set up the locate value;



Besides, you may set or edit channel values on each attribute if needed.

- Press **[Add]** at 'Channel Value';
  - Select the row to be edited and press **[Edit]**;
  - Enter the name, start and end values;
  - Press **[Confirm]** when finished.
- 5> Press **[Confirm]** to finish setting the attribute;
- 6> Repeat the steps **3** to **5** until the whole list finished;
- 7> Press **[Return]** and then **[Confirm]** to save.



### 10.2.2.2. Delete User Fixture

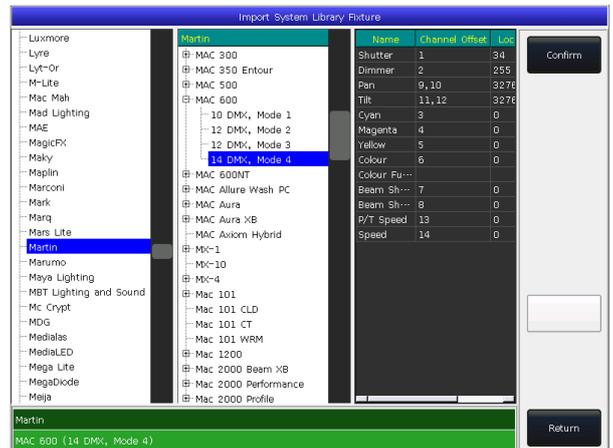
The option allows you to delete the user-defined fixtures. However, the system fixtures are not allowed to be deleted.

- 1> Select the fixture to be deleted on the list on the left side.
- 2> Press **[Delete Fixture]** to delete the selected fixture.

### 10.2.2.3. Import System Fixture

You can export the fixtures from the system library, and edit the fixtures according to the physical lightings. The edited user-defined fixtures will not affect the system fixtures.

- 1> Press **[Import From Internal Library]**;
- 2> Select the manufacturer name listed on the left side of the menu;
- 3> Select the fixture model and its channel mode under the manufacturer. The channel details will be listed on the right frame.
- 4> Press **[Confirm]** to load in the selected fixture;
- 5> The exported fixture is listed on the 'List of User Fixtures' as the user-defined fixture. Select the channel to be edited;
- 6> Select **[Channels Attribute]** and modify the details, for example, change the locate value;

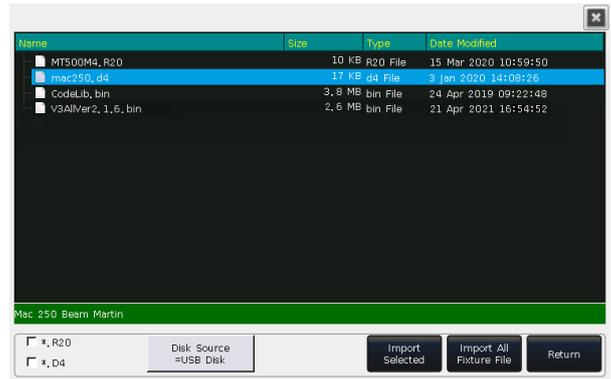


- 7> Press **[Confirm]** after finished editing;
- 8> Press **[Return]** and **[Confirm]** to save the change.

### 10.2.2.4. Import From external File

You can load in the user library file **'codeusrlib.bin'** which was exported from the same series controller, R20, or D4 format library files into the controller.

- 1> Put the needed files into the USB disk;
- 2> Press key **[Import From external File]**;
- 3> All files in the USB disk will be listed at the callout window;
- 4> When an R20 or D4 format is selected, the information bar will display in green color as well as the fixture information.



- If you need to load in the whole user fixture library that exported from another controller, select the file **'codeusrlib.bin'**;
  - Select the option **'\*.R20'** can help to show only all the R20 format files;
  - Select the option **'\*.D4'** can help to show only all the D4 format files;
- 5> Press **[Import Selected]** to load the fixture into the user list.

All fixtures in the **'List of User Fixtures'** will be overwritten after loaded the **'codeusrlib.bin'** file.

### 10.2.2.5. Export Library

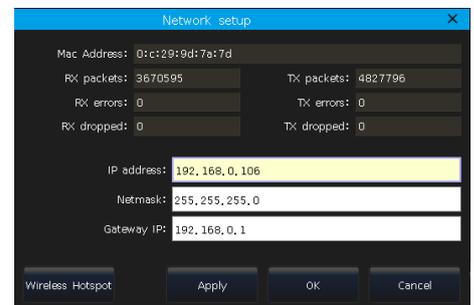
You can export all the user libraries to the USB driver. You can backup the user libraries which may use in other controllers in the same series. The default name of the backup file is **'codeusrlib.bin'**.

## 10.3. DMX/Network Setting

### 10.3.1. Network Setting

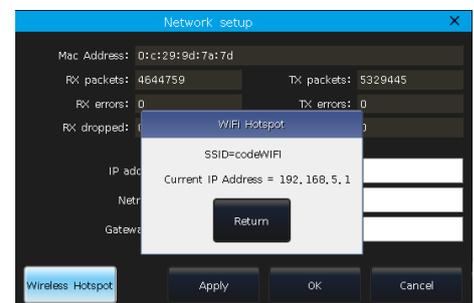
The function offers options such as **'IP address'**, **'Net mask'** and **'Gateway IP'** for your setting up. The IP address is **192.168.0.231** by default.

Note: If the remote device connects to the console via the WIFI router, the IP address on the App should be the same as the one on the WIFI router.



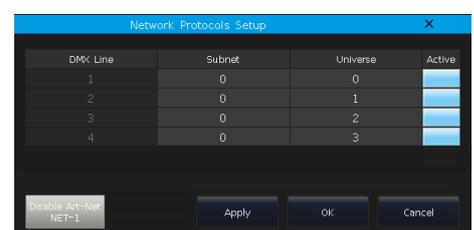
There is a **[Wireless Hotspot]** option allows you to open the WIFI signal to connect with the App on remote devices. The SSID from the console is **'codeWIFI'** and the WIFI password is **'87654321'** by default.

Note: If the remote device is connected to **'codeWIFI'** directly, the IP address on the App should be set to **'192.168.5.1'**.



### 10.3.2. Network Protocols

You can set up whether to use Art-net output or setting up whether one or more DMX lines to be active under Art-net.



## 11. Technological Specification

- Total 2048 DMX channels. Offers 4 individual optical isolated DMX interfaces and 1 Art-Net interface.
- One high-resolution 15 inches capacitive LCD touch screen.
- 15 playback faders and 15 playback keys run with 80 pages.
- 4 backlit optical encoders for data settings.
- The key backlit offers three color options and adjustable brightness.
- Playback faders with backlit which can be set to different colors for 3 different states.
- Individual keys for flash and pause functions for playbacks.
- Provide midi In, Out and Thru interfaces to connect and work with other devices. Accept midi time code signal.
- WiFi antenna provides WiFi signal for connecting App on mobile or tablet.
- USB 2.0 interface allows you to backup shows on the external disk.
- Offer one 3.5mm stereo audio interface, one audio optical interface, and a headphone interface.
- 1 working lamp interface with luminance regulator.
- Power supply: AC100-240V, 50-60Hz.
- Size: 665mm × 580mm × 205mm.
- Net weight: 15Kg approx.