CODE ®

Master 2500

Lighting Console

User Manual

Ver. 5.6.6

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Contents

Contents

Contents

Welcome to use Master 2500

For your convenient usage, the manual divided into 9 chapters. Important contents are highlighted by shading and sample explanations are added when necessary for the sake of your better understanding.

In the manual, a square symbolizes a key, such as **Enter**. While a square brackets symbolizes soft-keys on the touch screen, such as **[Playback Parameters]**.
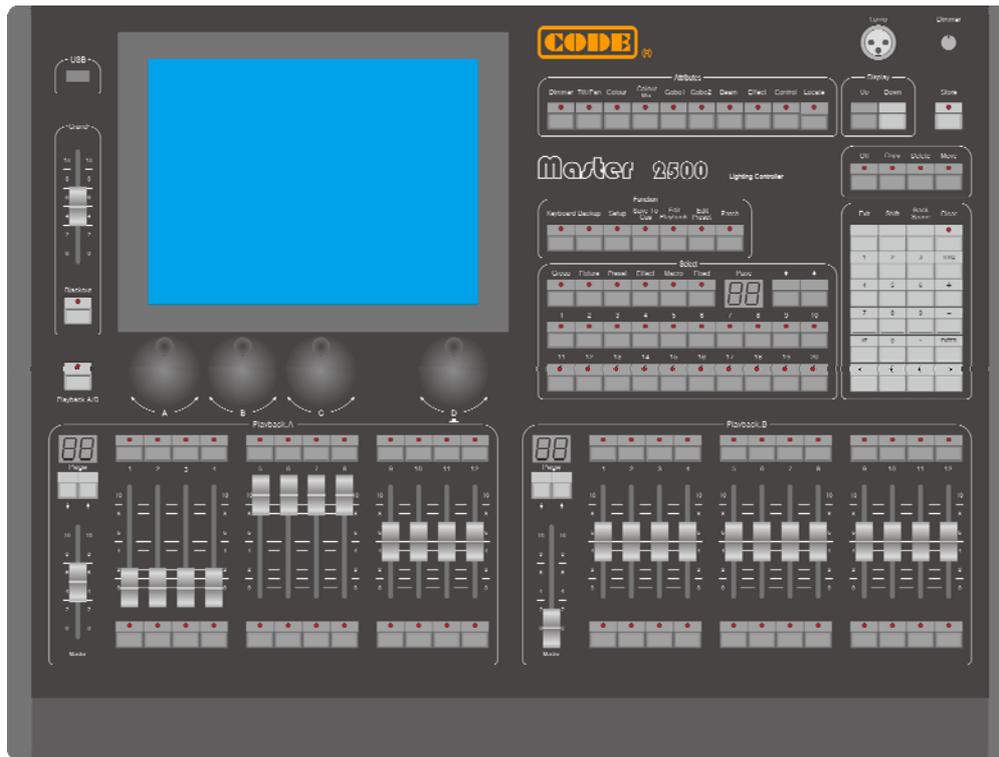
1. Setting up Master 2500

1.1. Front Panel of Master 2500

1.1.1. Attribute keys

There are 9 attribute and 1 Locate keys in this area. Press the same attribute key can turn to page 2 which display other channels. Each page can display 3 channels at most. Users can control fixtures by using the different attribute keys with corresponding Wheels A, B and C.

Press Locate twice rapidly or press Locate once and select **[Locate Fixture]** to turn on all selecting fixtures and set all channels to default value, such as set Pan and Tilt to 128.

1.1.2. External Display Keys

There are Up and Down keys, for switching display details which shows on the external monitor.
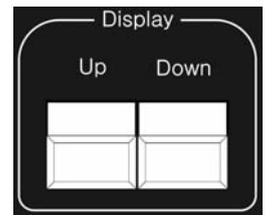
1.1.3. Quick Record Key

Users can quick record the programs and setting by press Store twice rapidly.

1.1.4. Function Keys
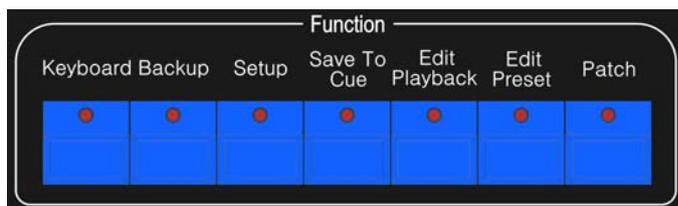
Keyboard —Master2500 offers users a soft-keyboard to input character;

Backup — Backup programs and data;

Setup — Setup the console;

Save to Cue — Save Cue playbacks;

Edit Playback — Create or edit Cue-lists playbacks;

Edit Preset — Create or edit presets;
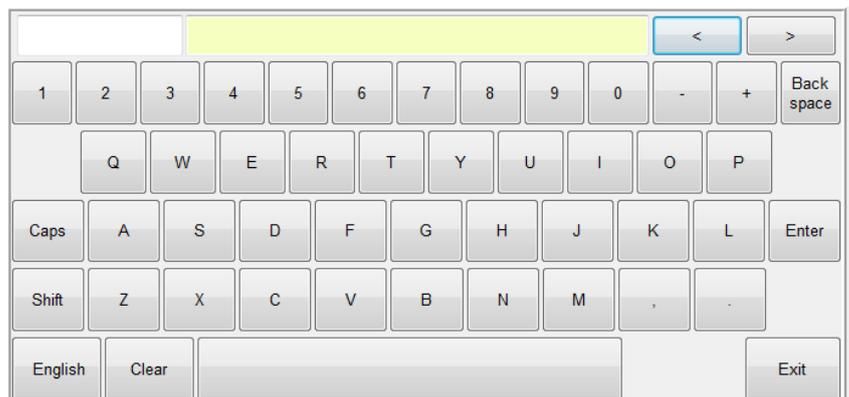
Patch — Patch fixtures.

Off — off function;

Copy — copy function;

Delete — delete function;

Move — move function;
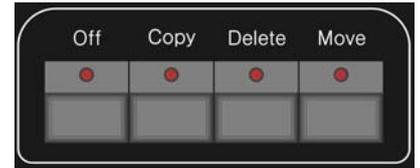
The functions of the keys will be introduced in their relevant chapters.

1.1.5. Selection keys

The selection part includes options of **Group**, **Fixture**, **Preset**, **Effect**, **Macro** and **Fixed**, together with page switch keys. Each kind of options has 20 pages, and 20 keys for each page.

The option details will be shown on the external monitor.
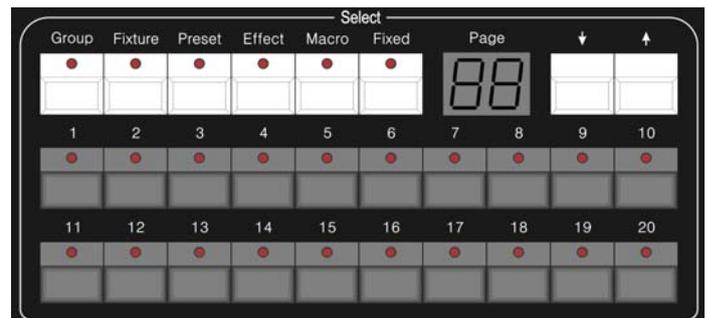
1.1.6. Numeric keypad

There are 24 keys in the Numeric keypad. The functions will be introduced in the relevant chapter.

1.1.7. Grand Master

It contains with a master fader and a **Blackout** key.

1.1.8. Playback Section

Playback section is composed of switch key **Playback A/B**, page switch keys, playback keys, playback faders, and playback master faders.

There are 30 playback pages in Master 2500, each page with 24 faders for editing playbacks, thus 720 playbacks can be saved totally. Users can turn pages by keys ⬆ or ⬇, while indicator led displays the page number.

The playback section can be divided into two parts as playback A and playback B by turn on **Playback A/B**. Each part with 12 faders can run playbacks in their own page separately.
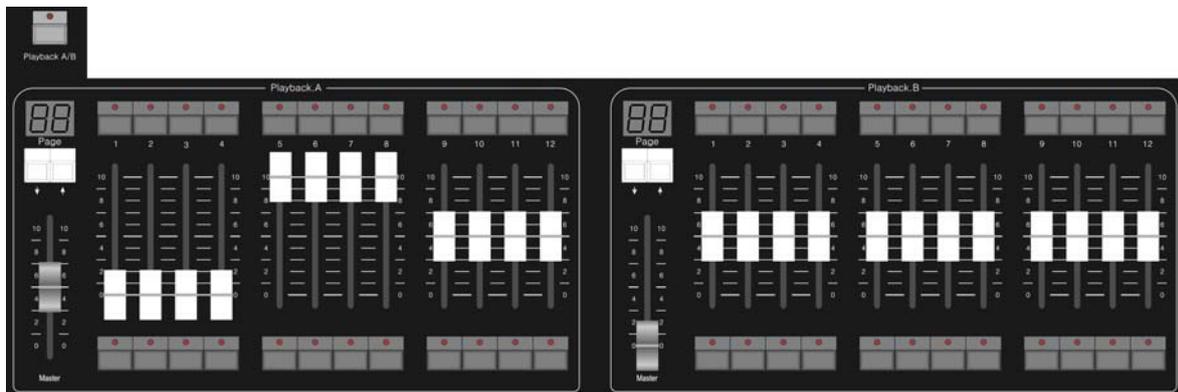
There are keys upon and under each playback faders. Their functions will be introduced in the relevant chapter.

1.1.9. Control Wheels

Control wheels A, B and C are used for setting attributes of the fixtures or the parameters of movement effect.

Wheel D takes with a key which use for setting control values of options, and setting cue-lists velocity. The key in wheel D can be used as **Enter** or save key when setting options.
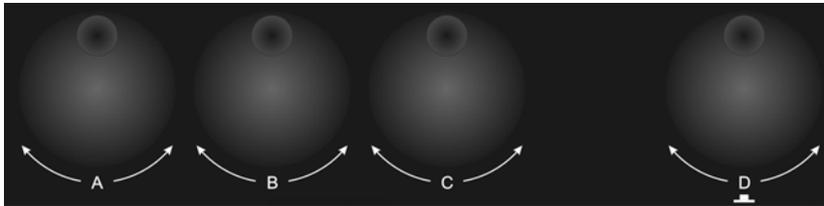
1.1.10. Touch Screen

There is a 10.4″ TFT LCD touch screen offers soft-keys for operating. Such as selecting fixtures, groups, presets and menu options.

1.1.11. USB Interface

Users can use the USB driver to backup the shows or upgrade system version and fixture libraries.

1.1.12. Other Devices

Master 2500 has a 12V DC working lamp interface on the top right of the front panel, beside which is a knob for dimming.

1.2. Rear Panel of Master 2500
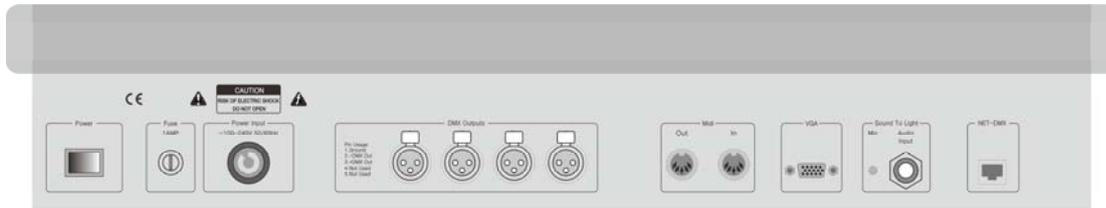
DMX universes

Master 2500 can output up to 4 universes DMX signal, each of which can output 512 control channels.

The console has 4 physical DMX outputs with optical isolated. The console can send DMX directly to fixtures over A, B, C and D output interfaces, each of which outputs signals from 001~512

Art-Net Interface

Master 2500 offers network sockets allow users to output by network cable. It depends on the Ethernet protocol to transmit DMX signals over an Art-Net to DMX convertor.

VGA Interface

There is a VGA interface which allows users to connect a monitor to Master 2500. Users can get more operate information from the external display.

Audio Input

Master 2500 can pick up the bass and rhythm of the audio signal to trigger Cue-lists, so that Cue-lists can auto run by the bass rhythm of audio. There are two ways to input the audio signals: one is via a 1/4 inch stereo interface; another one is by the microphone of console. After the stereo jack is connected, the console will use the audio signals from the stereo cable. Otherwise, it will use the microphone to pick up the sound.

MIDI Interface

Master 2500 not only can be controlled by MIDI signals, but also can send out MIDI signal to control another one. Please refer to the relevant chapter for further control instruction.

Power Supper

Master 2500 adapts to 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.

1.3. Clear All Data

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

1> Press **Backup** to entry **'BACKUP MENU'**;
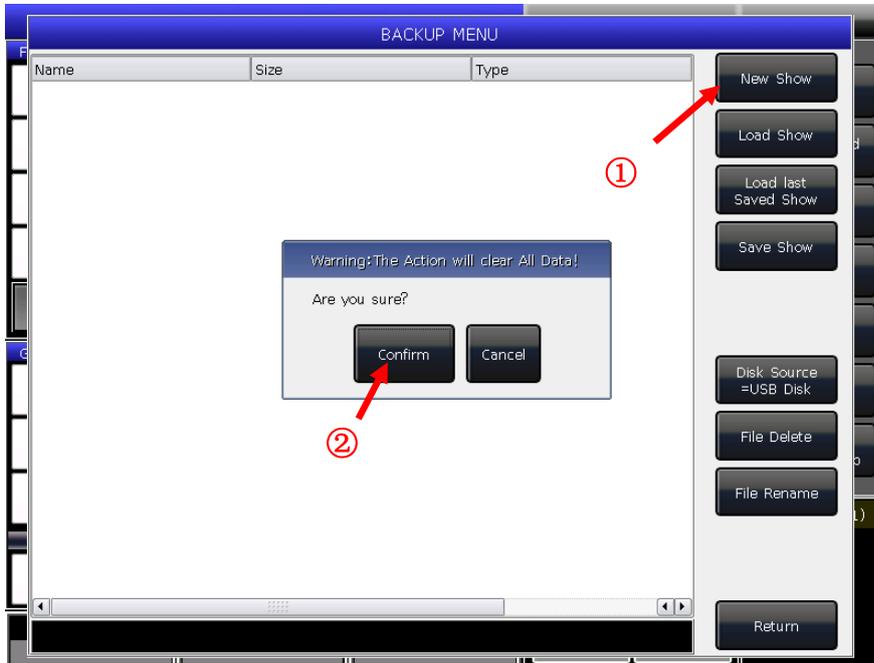
2> Press **[New Show]**;

3> Press **[Confirm]** will clear all data and return to **'LIVE SHOW'** automatic.

Note: All data created by users will be deleted (including the patched fixtures, presets and playbacks). But the system libraries and user libraries will be saved.

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

1.4. Backup and Load Show

Master 2500 runs closed to a Windows-based operating system internally, so you need to backup your show after programmed. You can turn off the console by the power switch on the rear panel and will not damage the system. But those program operations without backup will be lost when turned off the console.

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

You can backup the Show by press **Store** for a quick save. The show file will be saved into the internal RAM By this operation, the files will be saved as 'defaultShow_0', 'defaultShow_1' , 'defaultShow_2' and 'defaultShow_3' by turns.

Users can also define the name of backup file;

1> Press **Backup** to entry **'BACKUP MENU'**;

2> If you had inserted a USB driver, press **[disk Source]** can switch the directory path between **[Internal disk]** and **[USB disk]**;

3> Press **[Save Show]**;

4> Press **Keyboard** to recall the keyboard and **[Enter]** to input the name;

5> Press **[EXIT]** or **EXIT** to quit the keyboard;

6> Press **[OK]** or **ENTER** to save.
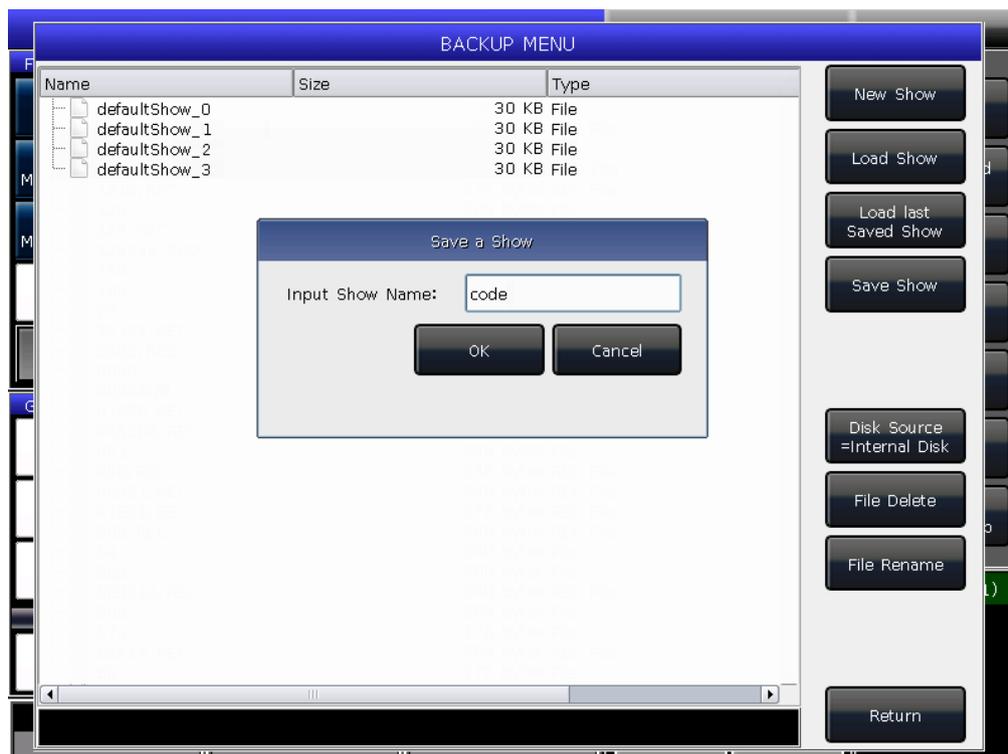
Whatever you save the backup files into the internal RAM or external USB driver. One of the 'defaultshow_x' files will be renewed.

We recommend that you backup frequently when programming, so that you will not lose any programs by accident.

We recommend that you save the backup in the internal RAM as well as USB driver. So that you can take with the backup files in USB driver, and use them in other Master 2500.

2. Patch

We will introduce how to patch and setup dimmer channels and fixtures in this chapter;

2.1. Assign fixture addresses

First of all, you have to patch all fixtures to tell the Master 2500 what kind of fixtures you want to control.

When you need to patch, the Master 2500 will offer a free DMX address automatically. You can patch all your fixtures first and check over their patching addresses before assign on the fixtures.

You can also assign the wanted DMX addresses on fixtures first, and then set the right addresses when patch.

2.2. Patch fixtures

To control the intelligent fixtures or dimmer channels, you should patch them on the fixture keys first. Master 2500 has 20 fixture pages, each of which has 20 fixture keys for patching fixtures. Thus, there are maximal 400 fixtures can be patched.

2.2.1. Patch Dimmers

Each fixture key can control single or multiple dimmer channels.

- Press **Patch** ;
- Press **[Patch New Fixture]**;
- Press **[Patch Dimmer]**. The patch window on the left will show the patched fixtures;
- Press **[A]** on **'Start DMX Address'** option, can find out other outputs (from A to D). Input Value 'xxx' to setup the initial DMX address on the blank; you can also use numeric keys or Wheel D to setup the value;
- Press Wheel D can switch the cursor to option **'Unit start number'**. Input value 'yyy' on the blank; (see photo 1 below)
- Press Wheel D can switch the cursor to option **'Quantity'**. Input value 'zzz' on the blank. 'zzz=1' means to patch a single dimmer channel on No.yyy unit key; and 'zzz>1' means to patch a sequence of dimmers each to its own key. The range of dimmers will be patched to sequential DMX addresses;
- Press **[Confirm]** to finish patching. The **'PATCH SETUP'** will be renewed;
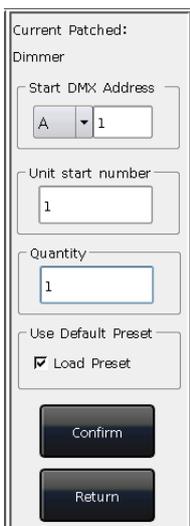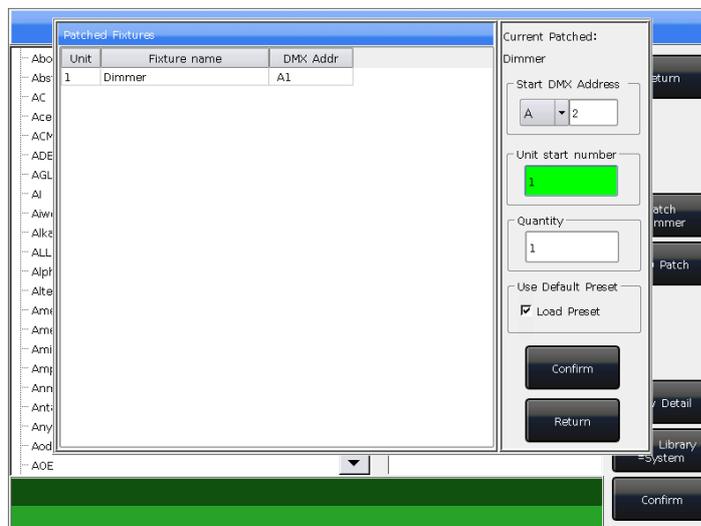
Photo 1   Photo 2

- You can also patch multiple dimmer channels on the same unit key. For example, you can set the same 'yyy' value on option **'Unit start number'** when patch dimmer. In that case, if the key which had been patched, the

blank will display in Green. The DMX address will increase one after patched. (see photo 2 above)

- Press **[Exit]** to quit to **'LIVE SHOW'**.

2.2.2. Patch Intelligent Fixtures

There is a bit different on patching between intelligent fixtures and dimmer channels. Because intelligent fixture has more attributes to control, such as Pan, Tilt, Colour and Gobo, but dimmer channel has only one attribute, intensity. To control the intelligent lighting, you must find out and patch its corresponding fixture in the library.

There are two kinds of fixture libraries for your choice in Master 2500.

1> **System library:** Master 2500 has its own system library inside. Users can download the latest library file for updating;

2> **User library:** If you can not find out your fixture in system library, Master 2500 offers you multi-way to create or edit your fixture. (We will introduce you how to create or edit the user fixture on chapter 8.3)

- Press **Patch**;

- Press **[Patch New Fixture]**;

- Press **[Used Library = System]**, can switch to **[Used Library = User]**;

1> When patch fixture you can use Wheel D or scroll bar to search the manufacture; or you can recall the soft-keyboard by **Keyboard**, and input the name of manufacture (You can input the first several words). Press **[ENTER]** on the soft-keyboard will select on the right option, press **[Exit]** to quit the soft-keyboard.
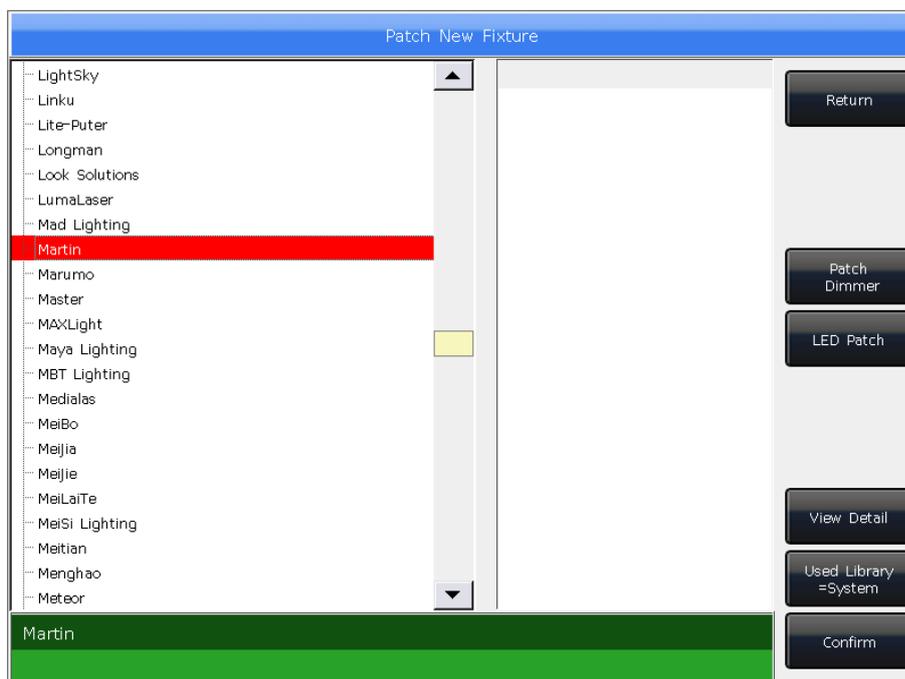
Press **[Confirm]** to entry the menu of manufacture and search the needed fixture as the same way above and press **[Confirm]**. (Channels details will be listed when the model is selected.)
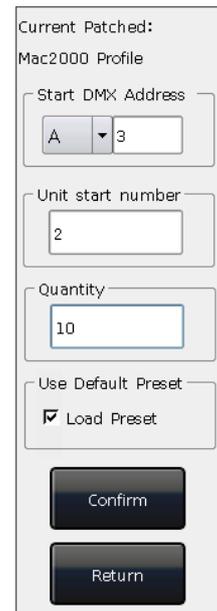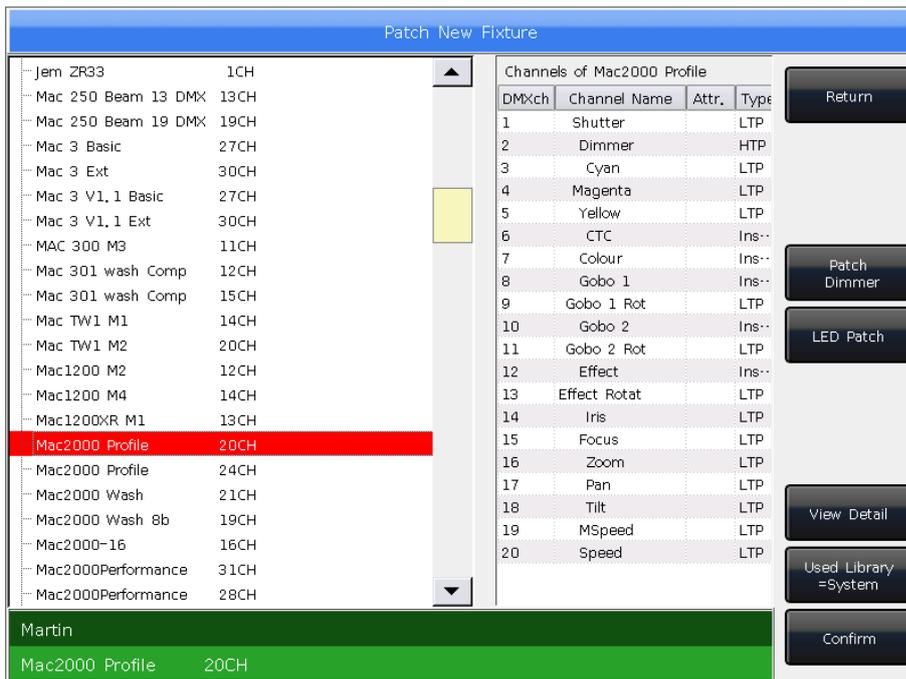
2> Users can select the model directly on touch screen or Wheel D When patch user fixture.

● Press **[A]** on **'Start DMX Address'** option, can find out other output options (from A to D). Input Value 'xxx' to setup the initial DMX address on the blank;

● Press Wheel D can switch the cursor to option **'Unit start number'**. Input value 'yyy' on the blank;

● Press Wheel D can switch the cursor to option **'Quantity'**. Input value 'zzz' on the blank.

● Press **[Confirm]** to finish patching, the **'PATCH SETUP'** will be renewed automatically;

● Press **[Return]** and quit to **'LIVE SHOW'**.
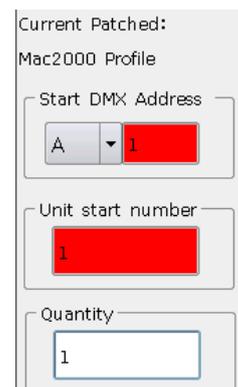
Note: The blank will turn RED if the DMX address or unit number was used when setting the 'initial DMX address' or 'Unit start number'.

After patched, the soft-key on touch screen will turn to dark blue, and the model name will be shown on the soft-key.

2.3. Check and Setup the Patch

Users can press **Patch** to entry **'PATCH SETUP'** to check the DMX address or other information of the patched fixtures.

2.3.1. Delete patched Fixtures

On **'PATCH SETUP'** menu, users may select multiple patched fixtures and select **[Unpatch]** to delete all fixtures you do not need.

2.3.2. Setting moving light

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

Press **Patch** to entry **'PATCH SETUP'** can setup the channels of moving lights:

- **[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 lights will be inverted if invert the Dimmer channel.

PATCH SETUP							
Unit	Fixture name	DMX Addr	Swap P/T	Inv. Tilt	Inv. Pan	Inv. Dim	
1	Dimmer	A1/A2...					
2	Mac2000 Profile	A3-22		YES	YES		
3	Mac2000 Profile	A23-42					
4	Mac2000 Profile	A43-62					
5	Mac2000 Profile	A63-82					
6	Mac2000 Profile	A83-102					
7	Mac2000 Profile	A103-122					
8	Mac2000 Profile	A123-142					
9	Mac2000 Profile	A143-162					
10	Mac2000 Profile	A163-182					
11	Mac2000 Profile	A183-202					

Return

Patch New Fixture

Unpatch

Alignment
Swap PAN/TILT
Invert TILT
Invert PAN
Invert Dimmer

3. Manual Control Fixtures

We will introduce how to manually control fixtures, set attributes, save groups in this chapter.

3.1. Check output values of the Console

Master 2500 has a VGA interface on the rear. Users can connect an external VGA computer monitor and check up the DMX outputs or running information by press **Up** or **Down**.

You can press **[External Display setup]** and press option **[Monitor DMX Port A]** to switch if you want to check up different outputs.

When you had run a playback or more, on the bottom right corner of touch screen will display the latest playback and its dimming level and speed rate. You may change different playback to present display by key **Shift** with the playback button. Playbacks in different mode will show in different status.

3.2. Select Fixtures

Master 2500 offers several ways for users to select the fixtures:

1> Touch Screen --- users can select the fixtures on the touch screen directly.

2> Selection keys --- when the indicator led is on **Fixture** of **'Select'** area, press keys from 1 to 20 can select the needed fixtures. If you want to select a serial of fixtures, you can hold the first key and then press the last one. A serial of fixtures will be selected after released.

3> Numeric select --- on **'LIVE SHOW'**, when the indicator led is on **Fixture** of **'Select'** area，input the number can select those fixtures. For example:

If you want to select fixtures 1 to 9, you can press keys orderly as **1**, **THRU**, **9**. The top right of touch screen will display '1～9'. Then press **ENTER** will select those fixtures;

If you want to select fixtures of 1,3,5,7, you can press keys orderly as **1**, **+**, **3**, **+**, **5**, **+**, **7**.The touch screen will display '1+3+5+7'. Then press **ENTER** will select those fixtures;

If you want to select a serial of fixtures but without any in it, such as select 1,2,4,5, you can press keys orderly as **1**, **THRU**, **5**, **-**, **3**. The touch screen will display '1～5-3', Then press **ENTER** will select those fixtures;

- Those fixtures being selected display in gray blue on touch screen, while the indicator led of the keys in **Fixture** of **'Select'** will turn on.
- If press the selecting keys again, the soft-keys will change from gray blue to light blue. It means they had ever selected.
- If you had set the channels on the fixtures, select new fixtures will turn off the selected fixtures. The soft-keys of fixtures had been set will display in light blue. It means they had ever selected or edited. The new selecting ones will display in gray blue, means they are being selected.

3.3. Manual Control fixtures

3.3.1. Light up the fixtures

Press **[Fixture Open/Full]** to light up the selected fixtures in open white and move them to a central position. Users can also press Locate and select **[Locate Fixture]** to light up fixtures. All attributes will be defaulted.

If you do not want to default other attributes, you can hold Locate and press attribute key. The channel attributes on that key will be defaulted, but attributes on other keys will keep their latest values. For example: hold Locate, and press Tilt/Pan. Pan and Tilt of the selecting fixtures will be set to 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 dimmer with 10% change.

3.3.2. Change attributes of fixtures

Select the fixtures and attribute key and change their value by using Wheels A, B or C.

After selected the attribute key, users can also input the value by numeric keys and then tap on the channel name on the touch screen. So that can reach the channel value directly.

3.3.3. Special control of attributes

There is an absolute color-mix system in Master 2500. If the selected fixtures with tricolor channel, select Colour Mix and press the attributes names on touch screen can call out a palette. Users can select your needed color on the palette directly, the system will auto-mix your color.

Master 2500 can read the channels range data from R20 files. For example, when users selected fixtures and attribute Colour, press the name on touch screen can call out a channel range table. You can select the range value by Wheel D or touch the options directly.
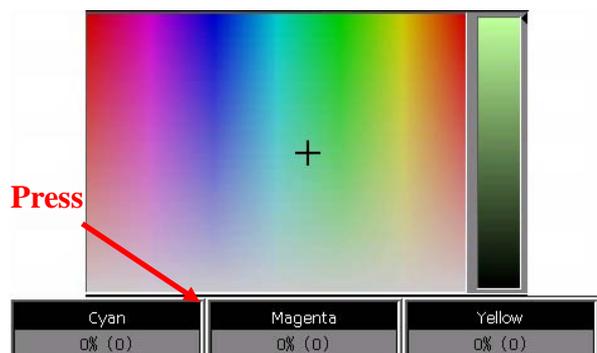
Note: 1. The function can only be used in fixtures which patched with R20 file.

2. Users should notice whether the channel range table with focus on before using Wheel D to select range value. Otherwise, you may change the speed of the running cue-lists. Focus on displays in a yellow frame.

3.3.4. Seriatim light up fixtures

Users can select and control the fixtures from a series of selected fixtures one by one.

After located a group of fixtures, users can press key → or ← to lamp on one of the fixtures one by one and change its attributes. Users can press soft-key **[Find Mode]** to re-select all fixtures in the group.

3.3.5. Other Locate Functions

Press Locate, users can select other options for more functions except lighting up.

3.3.5.1. Locate Without Pan/Tilt

Users can locate the fixtures except Pan and Tilt channels.

3.3.5.2. Run Macro

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

1. Select the fixtures;
2. Press Locate;
3. Press [Macro function]. The screen will display macro functions if the fixture has;
4. Press the soft-key to select the macro you want. The key will show in gray blue when macro is running, and will resume when it is over.

3.3.6. 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 mix a rainbow by fan effect.

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

1. Select the fixtures;
2. Select attribute key, like Tilt/Pan;
3. Press **[Fixture Open/Full]**;
4. Press **[Fixture Align=Off]**;
   There are several modes for fixture align:

- **Expand M0** ----- Fixtures align base on the middle fixtures which value with increasing change from middle to both side. Fixtures at both side change oppositely;
- **Expand M1** ----- Fixtures align base on the middle fixtures which value with increasing change from middle to both side. Fixtures at both side change in the same way;
- **Expand M2** ----- Fixtures align base on the middle fixtures which value with reducing change from middle to both side, Fixtures at both side change in the same way;
- **Left** ----- Fixtures align base on the leftmost fixtures;
- **Right** ----- Fixtures align base on the rightmost fixtures.
5. Set the fan effect by the Wheel A, B or C.

3.3.7. Clear Options

After finished operated on the fixtures, you can press Clear to clear manual operation. It can clear the upload preset or manual operation when running playbacks.

When using clear operation, you can hold Clear and select the options on touch screen to change different modes;

1. **[Clear All Fixtures]** ----- all manual operations will be cleared;

2. **[Clear Selected Fixtures]** ----- Manual operations of the selecting fixtures will be cleared.

3. **[Clear All Presets]** ----- all added presets will be cleared and fixtures will keep in selecting status;

4. **[Clear All Effects]** ----- all added user effects will be cleared and fixtures will keep in selecting status.

3.4. Groups

One or more fixtures can be grouped for quick selection.

The group soft-key will turn brown when it is edited. The group number and name will be shown on the relevant soft-key.
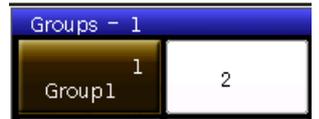
3.4.1. How to Create a Group

1> Press **[Group]** on **'LIVE SHOW'**;

2> Press **[Save Group]**;

3> Select the fixtures;

4> Select a soft-key on **'Groups'** section. If there was a group in the soft-key, it will remind whether you want to overwrite or not;

5> If you want to create or edit more groups, you can repeat from steps 3 to 4;

6> Press **[Return]** or Exit to quit.

3.4.2. Group manage

1> Press **[Group]** to entry **'Group Program'**;

2> Press **[Group manage]**;

3> Select the group you want to edit. It will list all the fixtures in the selected group;

4> You will find the fixture order as when you selected them.

Fixture order 1 to 5 is not exactly the same as order 5 to 1. The order is important when applying effects and overlap functions which will be distributed along the order.

Users are allowed to change the fixture order in the group. So that the fixtures will run in the order when use this group again.

① Select **[Fixture Order]** and call out the **'Fixture order setup'** window;

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

③ Select one or more Fixtures for the step number; Please note that the big RED numbers on fixtures soft-key indicate the running order, while the right bottom WHITE numbers indicate the fixtures unit numbers;

④ Repeat steps ② and ③ until finished setting;

⑤ Press key **[Exit]** and confirm to save the fixture order.

5> You may rename the group by **[Attribute Setup]** or **[Delete Group]** by the right options. (You can also rename the group by **[Legend Manage]** in **'LIVE SHOW'**)

3.4.3. Select groups

Master 2500 offers several ways for users to select the groups:

1> Touch Screen --- users can select the groups on the touch screen directly.

2> Selection keys --- when the indicator led is on `Group` of **'Select'** area. If you need to select a serial of groups, you can hold the first key and then press the last one, a serial of groups will be selected after released.

3> Numeric select --- on the **'LIVE SHOW'**, when the indicator led is on `Group` of **'Select'** area，input the number can select those groups. For example:

If you want to select groups 2 to 5, you can press keys orderly as `2`, `THRU`, `5`. The top right of touch screen will display '2~5'. Then press `ENTER` will select those groups;

If you want to select groups of 2,4,6,8, you can press keys orderly as `2`, `+`, `4`, `+`, `6`, `+`, `8`. The touch screen will display '2+4+6+8'. Then press `ENTER` will select those groups;

If you want to select a serial of groups but without any in it, such as select 1,2,4,5, you can press keys orderly as `1`, `THRU`, `5`, `-`, `3`. The touch screen will display '1~5-3'，Then press `ENTER` will select those groups;

Those groups being selecting display in yellow on touch screen, while the indicator LED of the keys in `Group` of **'Select'** will turn on.

4. Preset

Users always need to adjust different attributes, such as color, gobo and so on during programming or live show. In that case, users can entry one or more attributes of fixtures to the preset keys in advance. So that you can change attributes rapidly when you are programming or live show.

4.1. Edit Preset

Although all attributes of fixture 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, etc.

1> Select the fixtures;

2> Use the attribute keys and attribute wheels to set the needed effect;

3> Press **Edit Preset** to entry **'Preset Edit Menu'**;

   There are 3 different Save Modes for your chosen:
   - **Current Attr.**: all channels value in the current attribute key of selecting fixtures will be saved.
   - **All Attribute**: all channels value of selecting fixtures will be saved.
   - **Changed Attr.**: all channels had been edited of selecting fixtures will be saved.

   There are 2 different Preset Modes for your chosen:
   - **Normal**: the preset can only be used by the selected fixtures when creating;
   - **Global**: users may select one of the fixtures to create and save the preset, but it can be used by all the fixtures of the same model.

4> Select a soft-key on preset section;

- If there is nothing on the soft-key, users can name the preset and set the fade in time. Press **[Confirm]** to save, the soft-key will turn to dark green. There will be a 'G' marks on the left top corner if the preset is saved by Global mode.

- Users are allowed to rename and set the fade in time for the preset if there was something in the soft-key. Then select **[Merge]**、**[Replace]** or **[Cancel]** to finish operation.
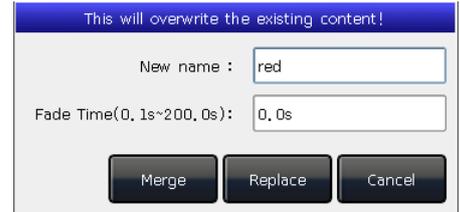
  Note: Fade in time only for LTP channels.

5> Press **[Return]** to quit.

4.2. Preset manage

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

1> Press Edit Preset;

2> Press **[Preset Manage]**;

3> Select the preset want to edit. It will list all fixtures which allow using the preset;

Preset Manage Menu					
Preset List			**Current Preset:1 included:**		
Num	Name	Fade Tim	Unit	Name	
1	red	0.0 s	2	Mac2000 Profile	Attribute Setup
			3	Mac2000 Profile	
			4	Mac2000 Profile	Delete Preset
			5	Mac2000 Profile	
			6	Mac2000 Profile	
			7	Mac2000 Profile	
			8	Mac2000 Profile	
			9	Mac2000 Profile	
			10	Mac2000 Profile	
			11	Mac2000 Profile	

4> Preset **[Attribute Setup]**. You can edit the name and fade in time of the preset;

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

6> Press **[Return]** to quit.

4.3. Use Preset

Master 2500 provides several ways for users to recall the presets. The soft-key of latest selected preset displays in gray green.

1> **Select fixtures and recall**: users can recall the preset after selected fixtures, those fixtures without selected will not be added in the preset.

2> **Non select fixtures and recall**: users can recall the preset directly. In this case, all fixtures which can use the preset will be added in the preset.

To recall the preset, if you had set the fade in time, it will use the time to fade in the preset; if you had not set any time (default time is 0s), it will recall the preset immediately.

However, if you entry a value 0.0~200.0 (seconds) before recall the preset, it will use this temporary time to fade in the preset.

① Input value by numeric keys in **'LIVE SHOW'**, such as 5;

② Select a preset on touch screen, such as a color mixed by RGB or a location;

③ Then you will find the preset is recalled with fade in 5s.

You may also recall the preset by the number keys when you are selecting **Preset** key on selection section. The information of the number keys will be shown on the external monitor.

Besides, you may also recall a preset by its number by typing the number on the numeric keypad.

① Select **Preset** key on selection section;

② Type in the number of the preset you want to recall by numeric keypad;

③ Press **Enter** key.

You can only use its own fade in time by this operation. There is no way for you to entry the value of temporary fade in time.

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

For example the cue 2 on playback 1 and cue 5 on playback 10 were recorded by preset 1 (red color). Users may modify the preset 1 into yellow color with prism opened. After updated, the cue 2 on playback 1 and cue 5 on playback 10 will change into the effect of yellow color with prism opened.

5. Shape Effects

Master 2500 offers an effect generator for users to quickly create exciting light shows with the minimum of programming.

5.1. How Effect Generator Works

Effect is a series of sequenced repeated movement of preprogram. 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 present setup. If the effect is applied to pan and tilt attribute of the fixtures, the center of effect will depend on the present location of pan and tilt. By changing 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 colours, gobos, irises, and many other changes. Each effect can be used to produce a regular change for one attribute.

5.2. Using Effect

1. Select the fixtures and light up;
2. Press **[Effect]**;
3. Select effects on soft-keys. When you want to select effect, you can search by their types. Default option is **[All Effects]**. You can get other options by press the soft-key. Those selecting effects will be displayed in **'Current Load Effects'**, for your convenient editing later;
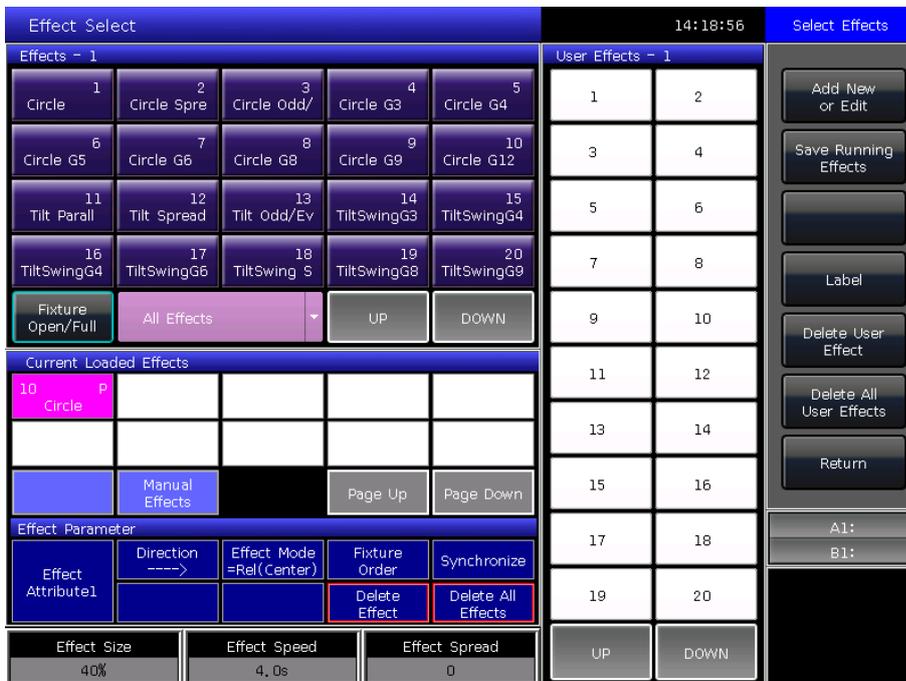
- The selecting effects will be listed on **'Current Loaded Effects'** window, which the quantity of selecting fixtures shows on left top and the attribute type of effect shows on right top.

Those different attribute types of effects include Intensity (I), Position (P), Colour (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 effect.

- Each effect should work with its attribute. The type of effect can not be used if the fixtures do not have that attribute.

5.3. Effect Parameters

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

If there are several effects in running, you can select the names listed on **'Current Load Effects'** and edit them one by one.

5.3.1. Effect Size, Speed and Spread

When you are selecting an effect, **[Effect attribute 1]** offers parameters of 'Effect Size', 'Effect Speed' and 'Effect Spread' for your setting.

Effect Size	Effect Speed	Effect Spread
40%	4.0s	0

- The minimum size or 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 display by tap the frame of 'Effect Speed'.

- Spread can make the effects more impressive.

5.3.2. Speed Group, Block Group and Width

Press **[Effect attribute 1]** can switch to **[Effect attribute 2]**, which offers 'Speed Group', 'Block Group' and 'Width' for your setting.

Speed Group	Block Group	Width
0	0	100%

- The 'Speed Group' can divide the selecting fixtures into 'n' groups. Each group of fixtures runs in the same velocity. After set the 'Speed Group', the 'Spread' will be disabled.

- There is nothing change on the effect if 'Block Group' value is in 0 or 1. The 'Block Group' can set the close several fixtures with the setting value to run in the same velocity.

- The 'Width' controls how much time should occupy of a full cycle. If the 'Width' is 50% then the effect only occupies the first half of the cycle.

5.3.3. Start Offset and Stop Offset

Press **[Effect attribute 2]** can switch to **[Effect attribute 3]**, which offers 'Start Offset' and 'Stop Offset' for your setting.

	Start Offset	Stop Offset
	0	Never

- The 'Start Offset' allows users to set the origin of the effect. (Range from 0~360)
- The 'Stop Offset' allows users to set how many loop to execute the effect and where to be the stop point. The option defaults in 'Never'.

5.3.4. Effect Direction

Users can use **[Effect Direction]** to set fixtures run the effect in different directions, '---->', '<----', '-->·<--' or '<--·-->'.

```
Direction
---->
```

5.3.5. Effect Mode

There are 4 running modes for Effect,

1. **Rel(Center)** ------- effect in relative mode which runs around the center;

2. **Rel(Up)** ------- effect in relative mode which runs on up-going;

3. **Rel(Down)** ------- effect in relative mode which runs on down-going;

4. **Absolute** ------- effect in absolute mode which runs on absolute value.

5.3.6. Fixture Order

Fixture order option allows users to realign the group of fixtures' running order on the selecting effect. The setting of **[Fixture Order]** please refer to the introduction on chapter 3.3.2.

5.3.7. Delete Effect

Users can delete the useless effect from the selected effects:

1. **[Delete Effect]** --- you can choose and delete any one from the selecting effects, others will keep running.

2. **[Delete All Effect]** --- delete all the selecting effects.

5.4. User Effect

The user effect system offers effect forms for users to build user-define effects. Besides, you may load in system effects and save them in **'User Effects'** for quick recall in future.

5.4.1. Create a User Effect

1. Press the option **[Add New or Edit]** and start to create the user effect.

2. After selected a user effect number (e.g. Number 1), you will call out a window for selecting attributes of the effect.
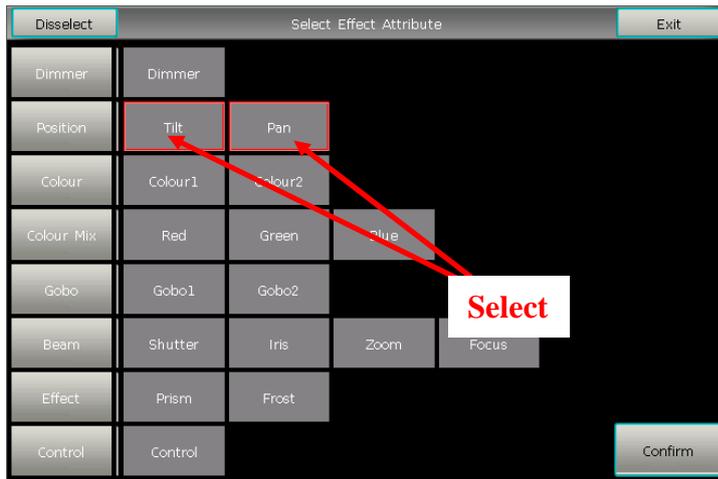
3. After selected the attributes and **[Confirm]**. You may select one of the attributes and press **[Select Effect Form]**. Then you will call out a window for selecting the effect forms.
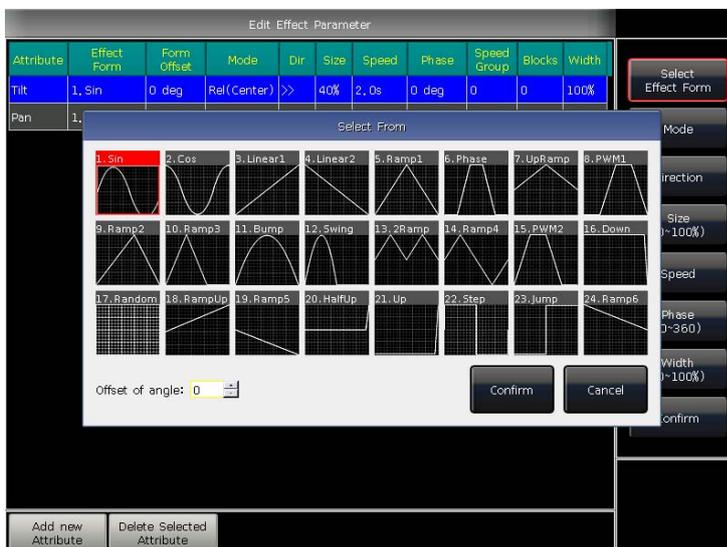
4. Each attribute can match to one form. You may adjust all necessary options (Mode, Direction, Size, Speed, Phase and Width) in the toolbar. But you may also set them on **'Effect Parameter'** with the wheels.
   For instance, if we want to make a circle movement effect we may select the forms Sin for Tilt and Cos for Pan. (Or select Cos for Tilt and Sin for Pan.)

5. Press **[Confirm]** after finished all attributes may return to window **'Effect Select'**. You will find there is a new user-define effect list on **'User Effects'**. The attribute-type of effect will be shown on the left top of the user effect soft-key.

6. After selected the user effect again, those effects with different attributes will be listed on the **'Current Loaded Effects'**. You may adjust their parameters one by one.

   After finished adjusting all the effects, you may press **[Synchronize]** to make those several user effects to run at the same start time.
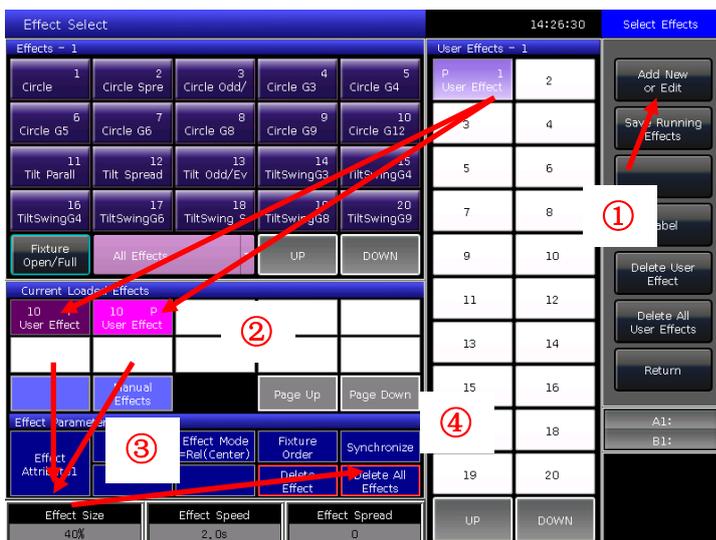
7. You may rename the user effect by option **[Label]**.
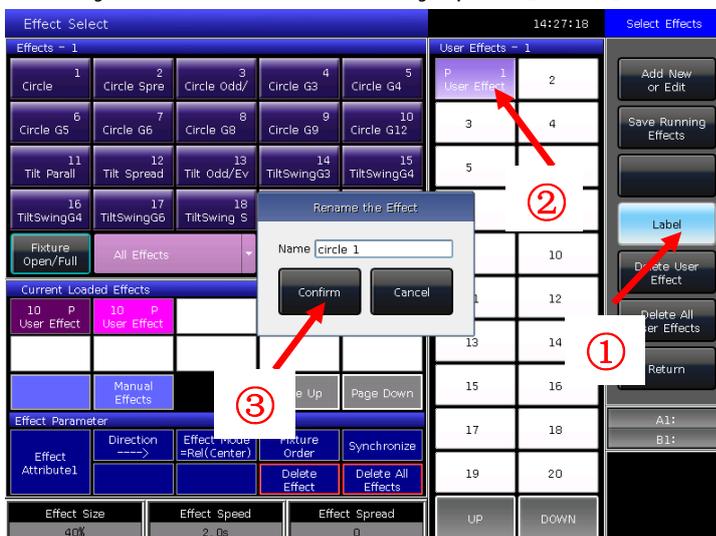
5.4.2. Save User Effects

1. Select system Effects and adjust necessary parameters;

2. Select **[Save Running Effects]**;

3. Select a soft-key on **'User Effects'**;

4. Entry the name for the effect and **[Confirm]**;

5. Press **[Return]** to exit edit.
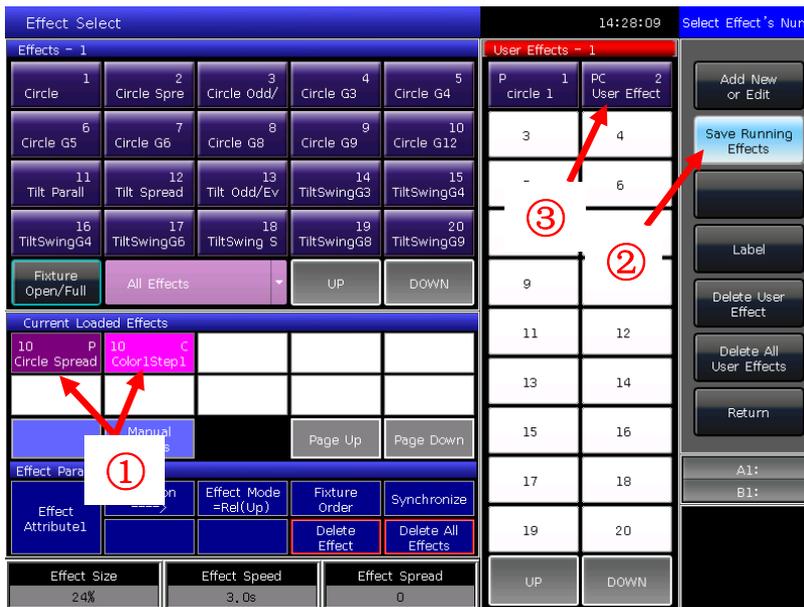
5.4.3. Delete User Effects

Select **[Delete User Effect]** can delete one of the user effects if you need.

Select **[Delete All User Effects]** can delete all the user effects you had saved.

Note: If you want to delete one of the user effects, you can use Delete function and select the right key on the Effect on selection part.

6. Playback

We will introduce how to save and edit Playbacks in this chapter.

6.1. Playbacks and Playback Pages

Playbacks on Master 2500 have two playback modes: Cue and Cue-lists. At the meanwhile, Cue-lists divide into 2 modes, Cue-lists and Chase.

Master 2500 has 24 playback faders with 30 playback pages for programming, thus totally 720 playbacks can be saved. Those Playback faders can be divided into two parts (Playback A and B) when the key **Playback A/B** is on. It allows users to run 24 Playbacks at the same time in this section. Playbacks in the same fader in different pages can not run at the same time.

There is a **Fixed** part for playbacks on **'Select'** section. It has 20 keys with 20 pages for programming, thus totally 400 playbacks can be saved. Playbacks can be output by the same key in different pages. But maximum output 20 playbacks at the same time.

6.2. Playback Edit Menu

Users can press **Edit Playback** to entry **'Playback Edit Menu'** to find out those saved playbacks 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 'PxA/y', 'PxB/y' and 'FPx/z'. Hereinto, A and B means the sections of Playback A or Playback B. 'Px' means playback page number; while 'y' means fader number; and 'z' means **Fixed** key number.

Page/Fade	Type	Cues	Priority	Link	Trigger	SkipFirst	Effect	PageLock	Name	
P1A/1	Cue	1	Normal	A···					PlayBack001	Edit Playback
P1A/2	CueLists	4	Normal	A···					PlayBack002	
P1A/3	CueLists	5	Normal	A···					PlayBack003	Edit Time
P1B/1	Cue	1	Normal	A···					PlayBack013	Playback Legend
P1B/2	Cue	1	Normal	A···					PlayBack014	
FP1/1	Cue	1	Normal	A···					FixedPB 001	
FP1/2	CueLists	3	Normal	A···					FixedPB 002	Delete Playback

Playback Edit Menu — 14:12:16 — Select a PlayBack!

Buttons: Return, A1:, B1:

Bottom menu: Playback Priority | Link Mode | Trigger Mode | Skip start run time | Effect By Fader | Lock Page for Fader | Chase mode

6.3. Cue

6.3.1. Save mode of Cue

- Record All Stage ----- All fixtures in stage will be saved whatever they are being selected or not.
- Record Mode = Fixture ----- All attributes of 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 can be run synchronously.

6.3.2. 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 fader position.

- Mode=Fader --- Disable any times. Values of HTP and LTP channels depend on fader position.

6.3.3. Save Cue

① Select the fixtures;

② Adjust the attributes to create a Scene or an effect;

③ Press **Save to Cue** in **'LIVE SHOW'**;

④ Select record mode and run mode you want, select **[Playback type=Cue]**;

⑤ Press a key upon playback fader or on **Fixed** to record.

> **Note: If the fader had programmed, users will have options 'Replace', 'Merge' or 'Save to Last Step' as needed.**

6.4. Cue-lists

The Cue-lists has two modes, Cue-lists and Chase. Cue-lists is allowed to set different times for each steps while Chase has the same time for every steps.

6.4.1. Create a Cue-lists

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

② Press a key upon playback fader (or a key on **Fixed**);

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 other mode;

- Rec. Mode = Fixture ----- all attributes of fixtures will be saved.

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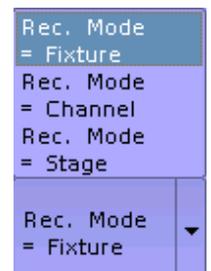
- Rec. Mode = Stage ----- all fixtures in stage (all the patched fixtures) will be saved whatever they are being selected.

⑥ Press the twinkling playback key for saving step (or press **[Save Step]**);

⑦ Repeat steps from ③ to ⑥ till the end. Press Edit Playback to exit.

Besides, users can create cue-lists by cue mode.

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

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

③ Press a key upon playback fader. The top right of touch screen will display 'Current PLBK=n' ('n' means the number of playback fader);

④ Select the fixtures and set a scene by attribute keys and wheels;

⑤ Press the playback key which indicator led is on again to record, the top right of touch screen will display 'Total Steps=1';

⑥ Repeat steps from ④ to ⑤ till the end. Press Edit Playback or Save to Cue to quit.
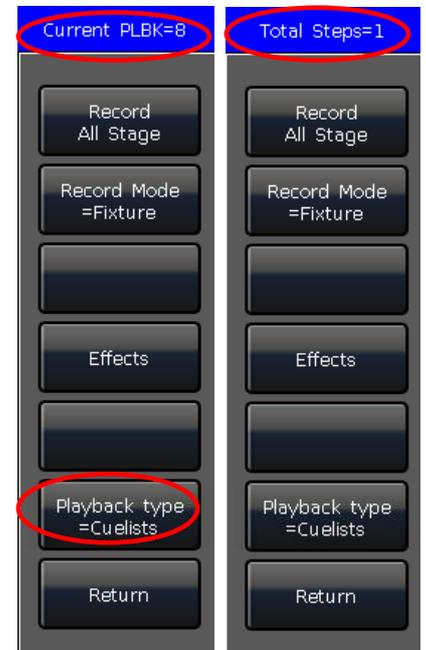
6.4.2. Edit Cue-lists

6.4.2.1. Edit Cue-lists step

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

② Select a Cue-lists you want to edit;

③ Select the fixtures and set a new scene;

④ Select the Cue-lists step needs to be edited;

⑤ Select the record mode you want;

⑥ Press **[Save Step]**. Press **[Overwrite Step]** to take place the old step; Press **[Merge Step]** can add it into the original step; Press **[Save to last step]** will add a new step;

⑦   Press **Edit Playback** to quit when finished.

6.4.2.2. Edit Effect

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

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

②   Select a Cue-lists you want to edit;
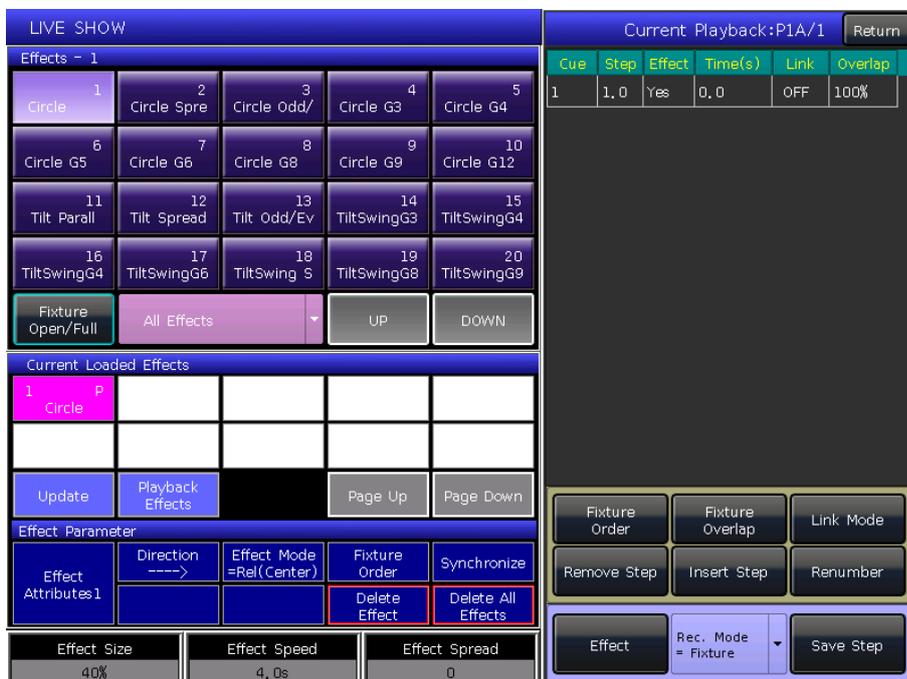
③   Press **[Effect]** and entry the effects menu;

④   Fade in the fader which corresponding to the step with effect;

⑤   Select the effect needs to be adjusted;

⑥   Press **[Update]** after adjusted the effect parameters;

⑦   Press **Edit Playback** to quit when finished.
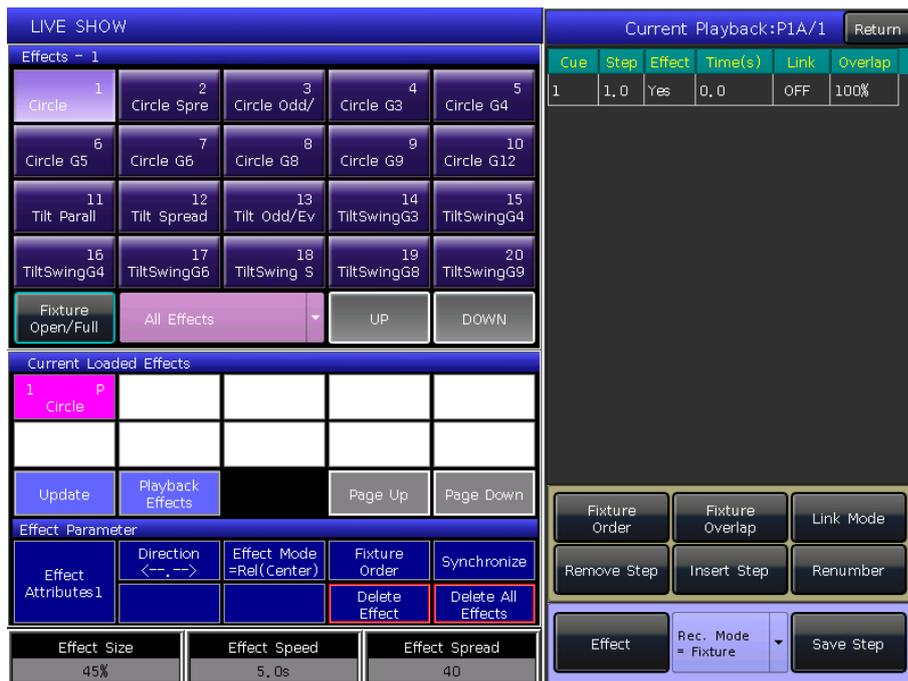
6.4.2.3. Insert a cue-lists step

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

② Select a Cue-lists to be edited;

③ Select the needed fixtures;

④ Set a scene by attribute keys and wheels;

⑤ Select a step you want to insert. For example, if you want to insert into 2nd step, then select step 2;

⑥ Press **[Insert Step]**, then the serial number of step displays in 1.5;

⑦ Press **[Renumber]** to realign the number;

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

6.4.2.4. Fixture Overlap

The 'Fixture 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 half way (50%) through fading. The fixtures running order follows to the setting of fixture order.

The running time will be divided equally for each fixture. That means, if there are 5 pieces of fixtures run in 10 second for the step. After set the fixture overlap, each fixture uses 2 seconds to finish its effect.
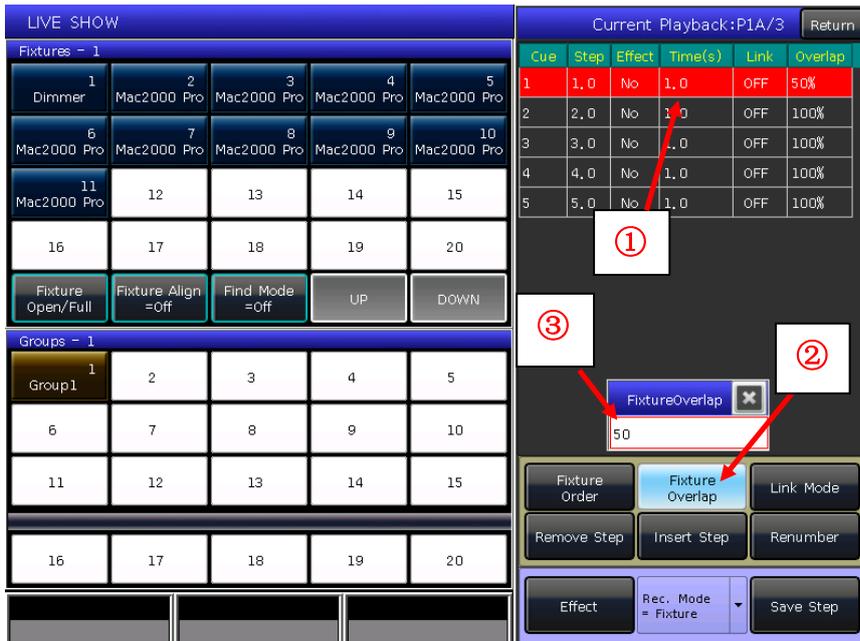
6.4.2.5. Fixture Order

The 'Fixture Order' in cue-lists should run with 'Fixture Overlap'. You cannot find the effects if you did not setup fixture overlap in advance.

The way of setup 'Fixture Order' please refers to chapter 3.4.2.

However, you may close some of fixtures if you don't want them 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 last fixture(s) ended.
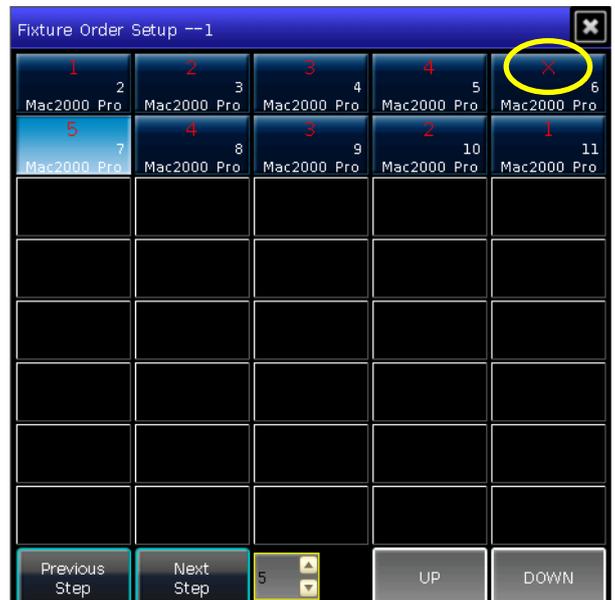
6.4.2.6. Delete a step

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.

6.5. 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. At the meanwhile, there are 3 kinds of global times for each Cue playback: delay in, fade in and fade out. Besides, the playbacks offer individual attribute times and the Snap percentage of instant channels for your setting.

We may also set fixture order and fixture order direction for each step on this menu.

6.5.1. Set the global times

◆ The times for cue-lists are run as following graphic.
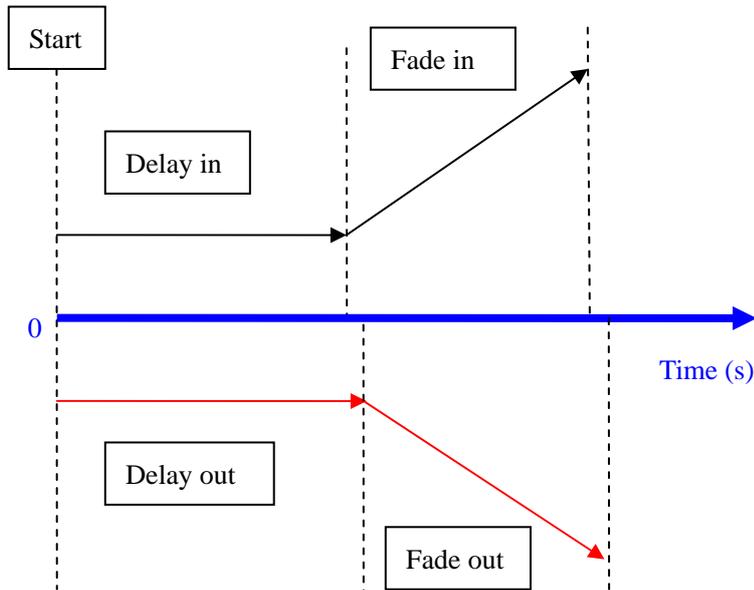
Delay in and delay out times will start together. Fade in time starts after delay in finished, while fade out time starts after delay out finished.

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

◆ The times for cue playback are run as following graphic.
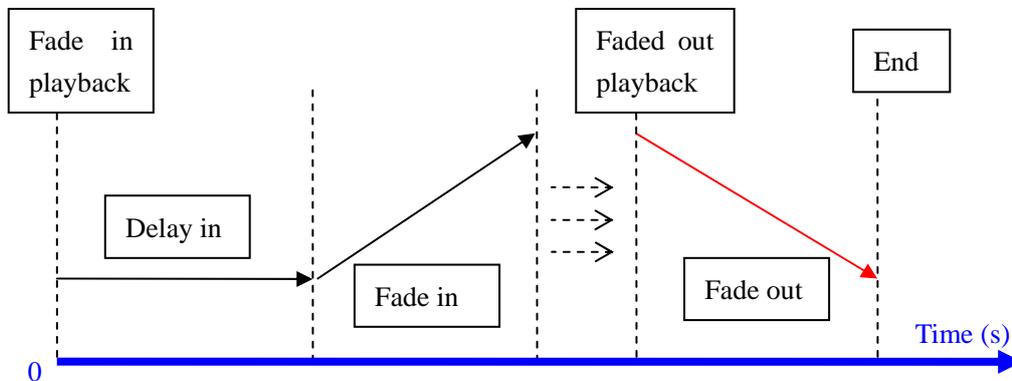
There is no delay out time if it is a cue playback.

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

6.5.2. Set Individual Attribute Times

The attributes times have only delay in and fade in times. Users can switch to other attributes by pressing attribute keys.

After set the attribute times, those attributes will not use global times unless you press **[Use Global]** again.

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

6.5.3. Time for Cue-lists in Chase mode

The global times and attribute times are unavailable for the cue-lists in chase mode.

Times for chase mode can only be set by wheel D, while the cross set by key **Shift** with wheel D.

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

Speed=1.0s means every step in the chase runs in 1.0 second.
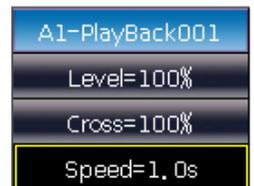
6.5.4. Snap Percentage

[Snap Percent] allows users to control when the instant channels should be occurred. It defaults in 0%.

If snap percent is 0% the channel occurs at the beginning of the cue fade in.

If snap percent is 100% the channel occurs at the end of the cue.

If snap percent is 50% the channel occurs in the middle of the cue.

6.5.5. Manually control Speed of Cue-lists

Users can also set the speed when running the Cue-lists. When fade in a cue-lists, users can use the 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:

① Roll the Wheel D to set the speed percentage of the Cue-lists, on the bottom right corner will displays as: 'Speed=100%'(adjust range at 10%~500%)

② Input value by numeric keys and press the speed frame to set the value (input range at 10~500);

③ Press the speed frame to make it turn 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 system will calculate a speed by the time slot between start mark and end mark (range at 10~500). Press the speed frame again to quit setting.

<table>
<tr><td>A1-PlayBack001</td><td>A1-PlayBack001</td><td>A1-PlayBack001</td></tr>
<tr><td>Level=100%</td><td>Level=100%</td><td>Level=100%</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>1> Speed=100%</td><td>2> Speed=100%</td><td>3> Speed=403%</td></tr>
</table>

Speed of Cue-lists in chase mode shows in second instead of percentage.

6.6. Link Mode of Cue-lists

Users can set the link state of each cue-lists step. When 'Link =ON', it means it will go on running after the end of this step. However, when 'Link=OFF', the step will stop, until the next running instruction.

There are 3 link modes for Cue-lists: 'Internal', 'Auto' and 'Manual';

● Inside ---- Cue-lists steps run by link setting of each steps.

● Auto ---- No matter what the link setting is, cue-lists steps will keep running automatic.

● Manual ---- No matter what the link setting is, cue-lists will pause on each step until get the next running instruction.

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

6.7. Senior setting of Playbacks

There are many options for users to edit playback parameters for each playback in **'Playback Edit Menu'**.

Page/Fade	Type	Cues	Priority	Link	Trigger	SkipFirst	Effect	PageLock	Name		
P1A/1	Cue	1	Normal	A···			Size+S···		PlayBack001	Edit Playback	
P1A/2	Chase	4	Normal	A···		Fade+Delay			PlayBack002		
P1A/3	CueLists	5	Normal	Ma···					PlayBack003	Edit Time	
P1B/1	Cue	1	High	A···					PlayBack013	Playback Legend	
P1B/2	Cue	1	Normal	A···					PlayBack014		
FP1/1	Cue	1	Normal	A···					circle 2g		
FP1/2	CueLists	3	Normal	A···					FixedPB 002	Delete Playback	

Buttons: Edit Playback, Edit Time, Playback Legend, Delete Playback, Return, A1:, B1:

Bottom row: Playback Priority | Link Mode | Trigger Mode | Skip start run time | Effect By Fader | Lock Page for Fader | Chase mode

Top bar: Playback Edit Menu   14:14:09   Select a PlayBack!

6.7.1. Playback Priority

[Playback Priority] option allows users to set the running priority level of different playbacks. The option can be set into options such as very low, low, normal, high and very high. Each new playback is defaulted in normal.

The function is very useful for performing. When some of fixtures are running in a playback, run 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 new playback is lower than the first one, the first playback will not be changed.

6.7.2. Set Link Mode for Cue-lists

Press soft-key **[Link Mode]** can switch the cue-lists link mode between auto, manual or inside.

6.7.3. Music Trigger Function

[Trigger Mode] option allows users to run the cue-lists follow the bass rhythm.

6.7.4. Playback start time

If you ever 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 then start to run the cue-lists each time.

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

6.7.5. Effect Control by fader

If there is a Cue saved with shape effects, users can set the fader trigger with 4 modes by option **[Effect By Fader]** as 'Size By Fader', 'Speed By Fader' or 'Size+Speed By Fader'.

6.7.6. Lock faders

Users can lock the playback by option **[Lock Page For Fader]**. Once select the option, the playback will be locked in the page where locates in. You can run the same program by the same fader even though in other pages.

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

6.7.7. Rename the Playback

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

The name of the playback will be displayed on the bottom right corner when fade in the playback. The name can be displayed in the external monitor too.

We strongly recommend you to connect with a monitor when performing. So that more running details can be read on.

6.8. Run Playback

It's easy to run a Playback. Select the Playback page, and fade in the Playback. When running several playbacks, on the bottom right corner of touch screen will display the latest playback which had been faded in. You can switch the running playback to present state by press Shift along with the key upon playback fader or the Fixed key. The speed of cue-lists at present state can be adjusted by Wheel D.

Running details in the page(s) of playbacks can be displayed if you had connected with an external monitor.

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

1> Keys upon playback faders can be used as blackout or pause.

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

You may also hold the key upon the fader and fade in the playback. The program will start to run with lamp off. Once you release the key, the fixtures will lamp on immediately.

If you had faded in a playback, the key upon is used for pause function. The fixtures will stop at the present position when you press pause.

2> Keys under playback faders can be used as flash or manual control.

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

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

Note: In order to use manual control function, the setting of 'Playback GO+/GO-' in 'Console Manage' should be in [Enable], and the cue-lists steps should be set as Inside with Link Off or Manual.

6.9. Playback Parameters

In **'LIVE SHOW'**, users can also edit the playbacks by option **[Playback Parameters]**.

6.9.1. Reload a Cue

The console allows users to reload the attributes values of fixtures from one of the whole cues.

Users may load in the needed attributes values 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.

Users can select the playback needs to be reloaded.

If there is a cue playback, the fixtures include in the cue will be selected automatic.

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 include in the cue will be selected automatic.

6.9.2. Other options

After pressed **[Playback Parameters]** and select the playback. There are some other options can be setting. Most of functions are the same as **'Playback Edit Menu'** so that we will introduce other functions in this part.

6.9.2.1. Release Mode

Users can set the release mode for playback as follow:

- **[Freeze All Attribute]** ---- All attribute channels will be hold 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 HTP channel

Release Mode: Freeze All Attribute	Release Mode: Freeze All Attribute
Link Mode =Manual	
Effect SizeSpeed static	Effect SizeSpeed static
Direction =Forward	Run Mode Mode=Time
Loop run	
Priority =Normal	Priority =Normal
Use Delay and Fade time	Use Delay and Fade time

Cue-lists   Cue

6.9.2.2. Direction

If there is a Cue-lists playback, press **[Direction]** option can set the cue-lists runs 'Forward' or 'Backward'.

6.9.2.3. Run Mode

If there is a Cue playback, you may switch the different modes here.

6.9.2.4. Loop run

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

7. Senior Function

We will introduce the senior functions such as Off, Copy, Delete, Move, Legend and Record show in this part.

7.1. Off Function

Press Off in **'LIVE SHOW'** to entry off function.

- **[Off effects]** --- close the shape effect on the selecting fixtures, those ones not being selected will not be affected;
- **[Off all effects]** --- the shape effect will be closed no matter the fixtures are selected;
- **[Off selected Fixtures]** --- lamp off and stop the selecting fixtures;
- **[Release All Playbacks]** --- release all running playbacks.

Besides, when Off is on, you can release a single playback by press the key under playback fader. But you have to fade in again if you want it runs again.

7.2. Copy Function

Copy function can be used in groups, presets and playbacks. Press Copy and select a root, then select a target:

1. If it is an empty plaster target, you can achieve the simple function of copy and plaster;
2. If there is something in the plaster target, you can select **[Overwrite it]** or **[Merge]**;
3. If the copy and plaster root and target are playbacks, there is an added option **[Copy to Last Step]**. The function makes you more convenient to compose several cues to be one cue-lists playback.

7.3. Delete Function

You can delete the data edited on Master 2500. Press Delete to entry delete function.

1. **Delete All Data** --- It can delete all edited data on Console. The operation equal to system clearance.
2. **Delete All Preset** --- It can delete all presets you edited.
3. **Delete All Playbacks** --- It can delete all playbacks you programmed.
4. **Delete All Group** --- It can delete all groups you edited.

Besides, you can delete a single fixture, group, preset, user effect, macros show or playback by delete function. The function should be operated by keys.

1. Select the option Group, Fixture, Preset, Effect, Macro or Fixed at selection, you can delete a single fixture, group or preset etc by press the key twice.
2. If you want to delete a playback, you can press the key upon the fader twice directly.

7.4. Move Function

It is easy to move the group, preset or playback to other position on Master 2500. Press Move and select a root, then select a target:

1. If it is an empty move target, you can achieve the move function;
2. If there is something in the move target, you can select **[Overwrite it]** or **[Swap].**

7.5. Lock the Console

If you want to leave away for a moment, you can input the console with password in numbers or letters in **'LIVE SHOW'**, and then press **[Lock Console]**. When the console is locked, any operation is uselessness before input the right password.

> **Note: Restart can unlock the console.**

7.6. Record Macro Show

Macro show is a function base on time code which for users to record and replay the operation on the playback output. When recording the show, users can select different mode of time code as needed. Master 2500 offers two kinds of time code modes for your choice.

① External MIDI ---- This mode needs a MIDI device to offer the time code to trigger the show record. Please set the console in to 'Slave Mode' before using this mode.

② Internal Clock ---- This mode should record and trigger the show record by the clock base on the console.
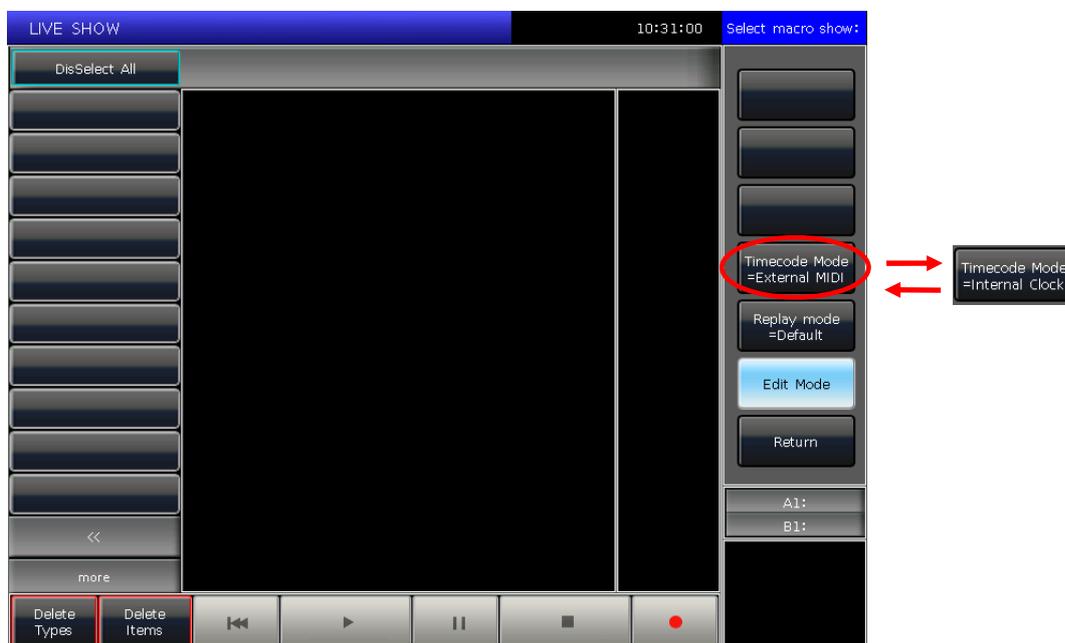
Users can replay the outputs of playbacks and presets by recall the macro show. When it is replaying, the outputs of playbacks and presets are completed followed the operations when making the macro show.

Press **[Show Record Mode]** on touch screen and select the mode of time code. At this time, the option on selection part will switch to **Macro**. Then select a key for recording. The gray bar upon the window shows where the record is in.

7.6.1. External Midi

In this mode, you should connect the console with external MIDI equipment via the MIDI cable first. And the console should be set to 'Slave mode'.

1. Select **[Time code Mode = External MIDI]** and select a record key on **Macro**;

2. Press the soft-key   , it will turn red what means start to record   .
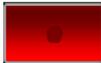
   Play the music on external equipment. At this moment, the internal clock will change into the audio time code. It shows as followed.
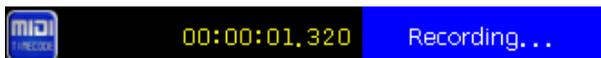
3. Execute the playbacks or presets follow the music as you need. The playbacks can be the ones from faders and fixed buttons. If there is a cue-lists playback, you may use the function of GOTO to record.

4. Fade out all playbacks when the music finished. And press the soft-key to stop and save show record. Press **[confirm]** to save.

5. After saved, the window will list all the used playbacks and presets as well as the operations.

6. The location of macro show and its record mode will be shown on top of the window.

7. Users may press the soft-key on record window when need to run the macro show. But can also press the corresponding key on ⬛Macro⬛ section to run the macro if had exited the window. *The macro show is in ready state after selected the soft-key, and wait for the MIDI signal to play.* (Shown as photo below.) At the moment, the time bar still show in internal clock.

8. Users may play the music on external equipment again. The macro show will run the playbacks or presets follow the time code as when recording. The internal clock will change into midi time code when begin playing the music. The operation state will be shown on the touch screen if it is in record window.
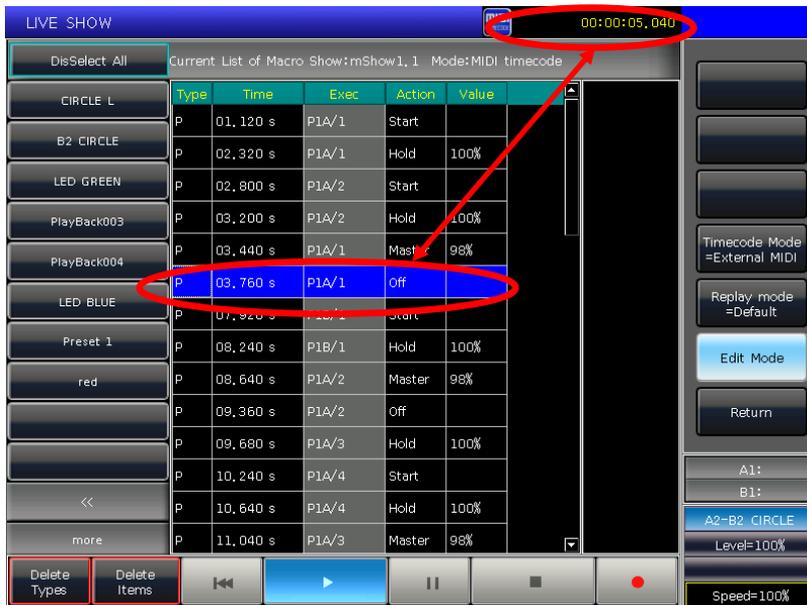
9. The macro show will stop automatic when finished playing.

7.6.2. Internal Clock

This mode can be used in the situation when users do not have the midi cable or midi device.

1. Select **[Time code Mode = Internal Clock]** and select a record key on **Macro**;

2. Press the soft-key [●], it will turn red means start to record [●].
   The macro show begins to record once this soft-key turns red. The time code is based on the internal clock which shows as follow.

3. Execute the playbacks or presets follow the music as you need. The playbacks can be the ones from faders and fixed buttons. If there is a cue-lists playback, you may use the GOTO function to record.

4. Fade out all playbacks when the music finished. And press the soft-key [●] to stop and save show record. Press **[confirm]** to save.

5. After saved, the window will list all the used playbacks and presets as well as the operations.
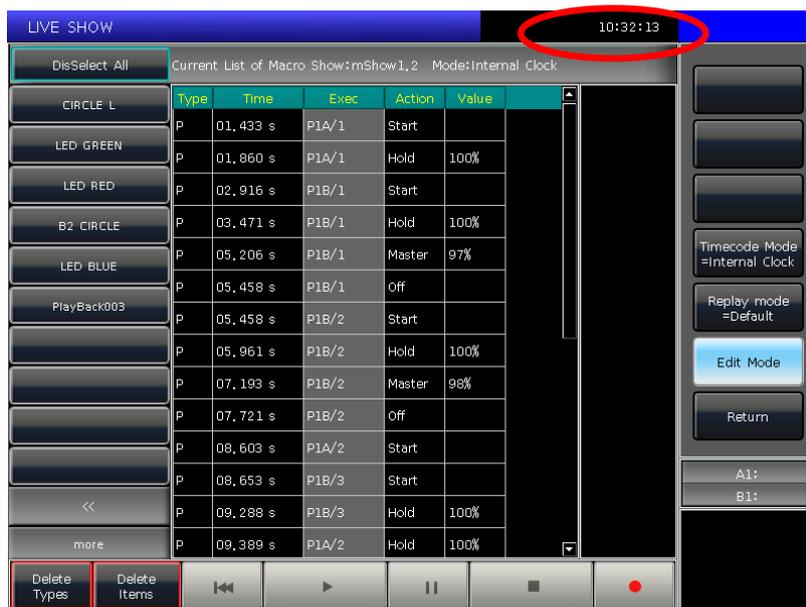
6. The location of macro show and its record mode will be shown on top of the window.

7. Users may press the soft-key on record window when need to run the macro show. But users can also press the corresponding key on **Macro** section to play the macro if had exited the record window.

8. ***The macro show begins to run immediately once select the play soft-key.***

9. The macro show will stop automatic when finished playing.

Note: The macro show begins to record once press the record key. If there is a time slot without any operation at the beginning, it will run out as the fact when you begin to run the macro show. You may skip it on console setting if you do not need the time slot.

7.6.3. Edit Macro Show

Users are allowed to revise the macro show after created.

1. For example, you may add in some needed playback to the saved macro show record.

①   Entry the show record needs to be edited;

②   Press the record key and play the music again;

③   Put out the playback or preset at the right time;
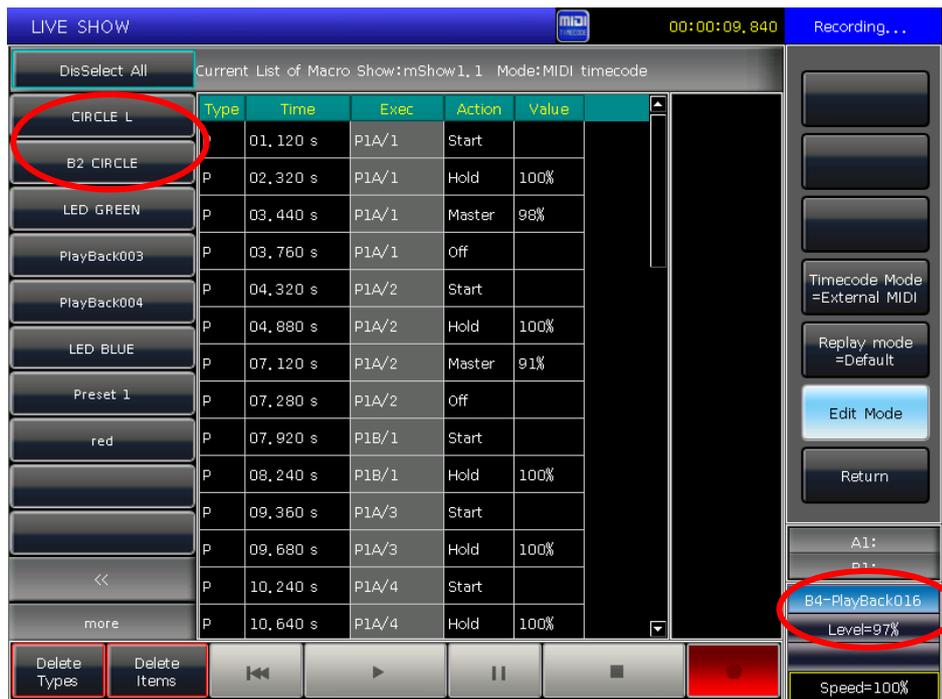
④ Fade out all playback or preset and press the record key again and select **[Merge]** on the call out window;

⑤ You will find the new playback or preset is added in and lists on the left bar.
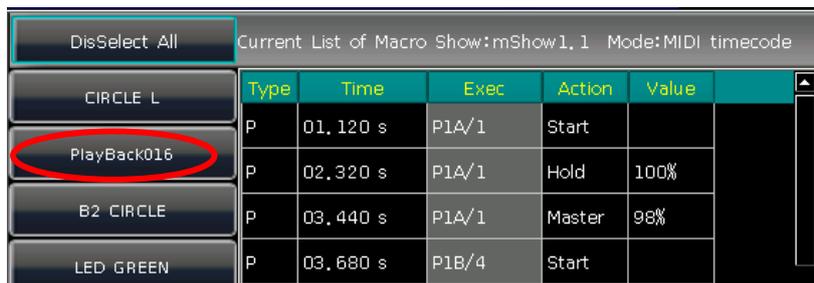
2. If you may find one or several operations do not match to the rhythm when play the macro show again after created. At this time, you may entry the show record again and correct the time of operations.

① Entry the show record needs to be edited;

② Select the operation needs to be edited;

③ Press key ENTER or press wheel D;
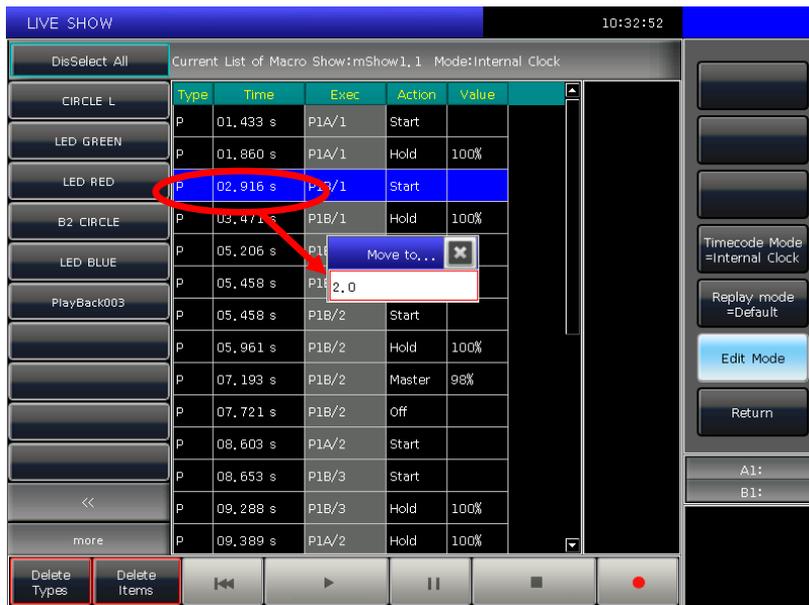
④ Entry the new time for the operation which can match to the rhythm;

⑤ Press **ENTER** or wheel D again to change the time.
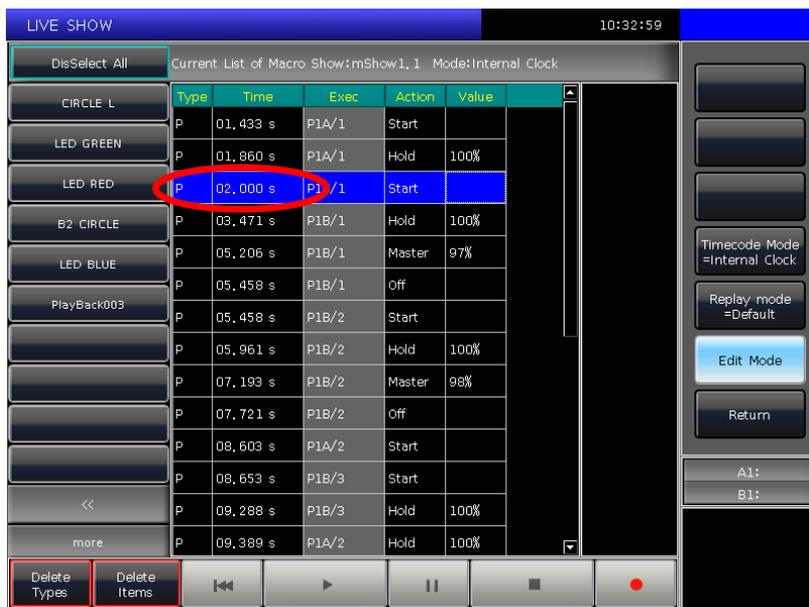
3. Edit macro show details;

① All the operation status of the playback or preset will be listed when you select the names on the left bar.

② You may delete all the operations from the selecting playback or preset by option **[Delete Types]**.

③ You may delete some of operations selected by option **[Delete Items]**.
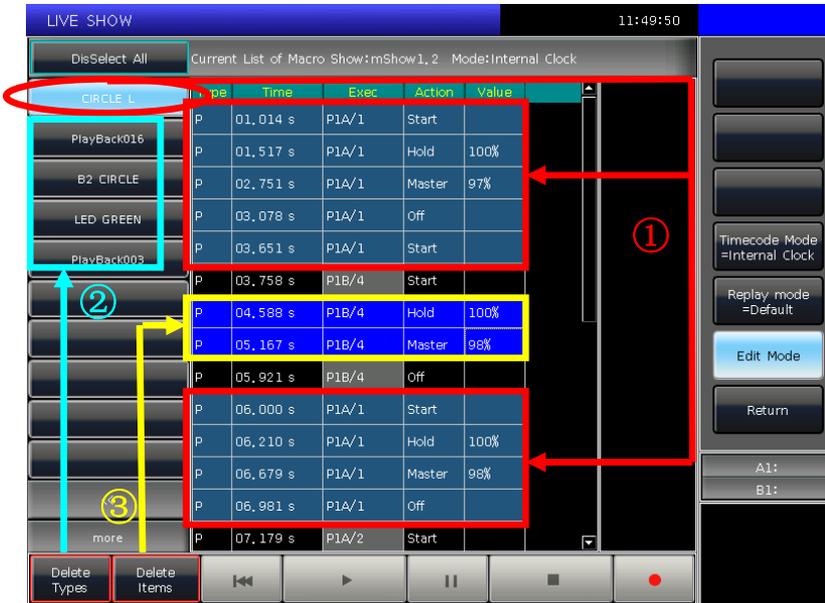
7.7. Legend Manage

Users can rename all the selection options on touch screen. Press **[Legend Manage]** and select the soft-key on **'Fixtures'**, **'Groups'** or **'Presets'** section on touch screen. Then entry the name and press ENTER.

8. Setup the Console

Press **Setup**, users can entry the **'SETUP MENU'**.

8.1. User options

8.1.1. Console Manage

You can setup the run mode by pressing **[Console Manage]**:
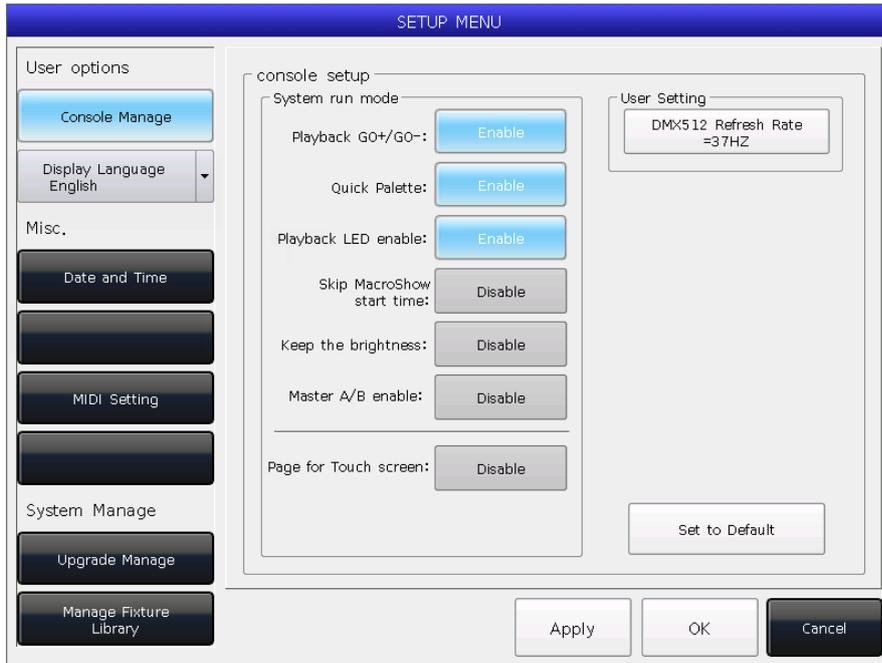
Playback GO+/GO- --- The option defaults in **[Enable]**. When cue-lists link mode is set as manual or 'Link=Off', the key under playback fader can be used as GOTO function (Go+ or Go- depends on the direction setting of cue-lists).

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]**. Users can recall presets even though without select 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]**, indicator of the key upon Playback fader keeps on if you had saved a program on.

If the option in **[Disable]**, indicator of the key upon playback fader will not turns on whatever if it has any program in the playback.

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

Keep the brightness --- The option defaults in **[Disable]**. The group of fixtures will be switched light up one by one from function of 'Seriatim light up fixtures'. (Refer to chapter 3.3.4) If the option in **[Enable]**, the fixtures will keep on after lighted up.

Master A/B enable --- The option defaults in **[Disable]**. The master faders of playback A and B control the intensity of playbacks. After switched into **[Enable]**, the master faders of playback A and B control the intensity together with outputs of the playbacks on each part.

Users can fade in and stand by the whole part of playbacks and fast switch two parts of playbacks by each master fader by this function.

Page for Touch Screen --- The option defaults in **[Disable]**. You can turn pages on selection part while the option on touch screen will stay at its own page so that you may select them in different pages at the same time. While the option in **[Enable]**, the option on touch screen will turn pages together when you turn pages on selection part.

On **'User setting'**, you can change the output refresh rate (26~37HZ) to match some of special fixtures.

Users can reset all items in **'console setup'** by option **[Set to Default].**

8.1.2. Select Language

Users can set display language of the console in Chinese or English.

8.2. Misc. Setting

8.2.1. Date and Time

Users can set the local time which displays on top of touch screen.

8.2.2. MIDI Setting

① MIDI Channel: setting range from 0-15.

② MIDI mode: You can set the console in **[Master Mode]**, **[Slave Mode]** or **[MIDI Disable]**. Default setting is in disable.
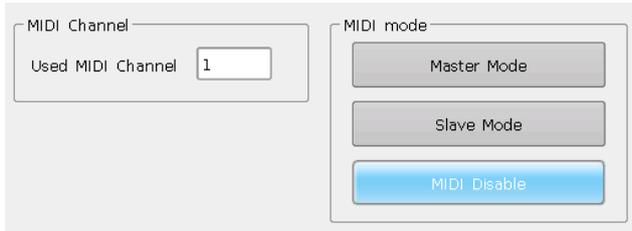
When in **[Master Mode]**, the console is the master device which can control the slave one; and while in **[Slave Mode]**, console as the slave device which can be controlled by the master device.

MIDI COMMAND:

Users may input the midi command on other midi device to trigger the playbacks of the console.

The character **'n'** (o 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 console.

> **MIDI command can not trigger the playbacks on "Fixed" section.**
>
> **All numbers for the commands should be in hexadecimal notation.**

- **The midi Command for switching playback (PB) pages. (0 to 29)**

1) Playback A pages: **$Bn + PB page + 0**

2) Playback B pages: **$Bn + PB page + 1**

- **The midi Command for running a playback (PB). (0 to 23)**

  Command: **$9n + pp + ll**

  pp = playback number (decimal: 0 – 23)
  ll = playback levels (decimal: 0-127)

Example: the midi channel on the console is 1.

a) If you want to switch playback A page to page 3. Command: **B0 02 00**

b) If you want to switch playback B page to page 28. Command: **B0 1B 01**

c) If you want to run the playback 1 fully. Command: **90 00 7F**

d) If you want to run the playback 18 with level 50%. Command: **90 11 3F**

8.3. System Manage

8.3.1. Upgrade Manage

The option provides users to upgrade the system or fixture library. You can upgrade system or fixture library via USB driver when you get the file.

You can check up the system version and date of fixture library here.

8.3.2. Manage Fixture Library

If you can not find the fixture library from system, you can create or edit user fixture on the console.

When entered the option, it will list all loaded or created user libraries on the left. Select any one will list its channel details, you can edit it again.

8.3.2.1. Create new fixture

① Press **[Add New Fixture]**;

② Input the **'Fixture Name'**, **'Manufacture'** and **'DMX channels'**, then press **[Confirm]**;

③ The fixture information will list on the left. And will list all channels when you select the fixture name. The number of rows equal to your setting of DMX channels;

④ Select channel number and press **[Channels Attributes]**;

⑤ The call out window will list different kinds of attribute names on the left which is relevant to attribute keys. You will find many attribute names in each of them. Then you can select the channel name, set DMX channel (fine channel or not), set locate value and set the key pages and wheels to control;
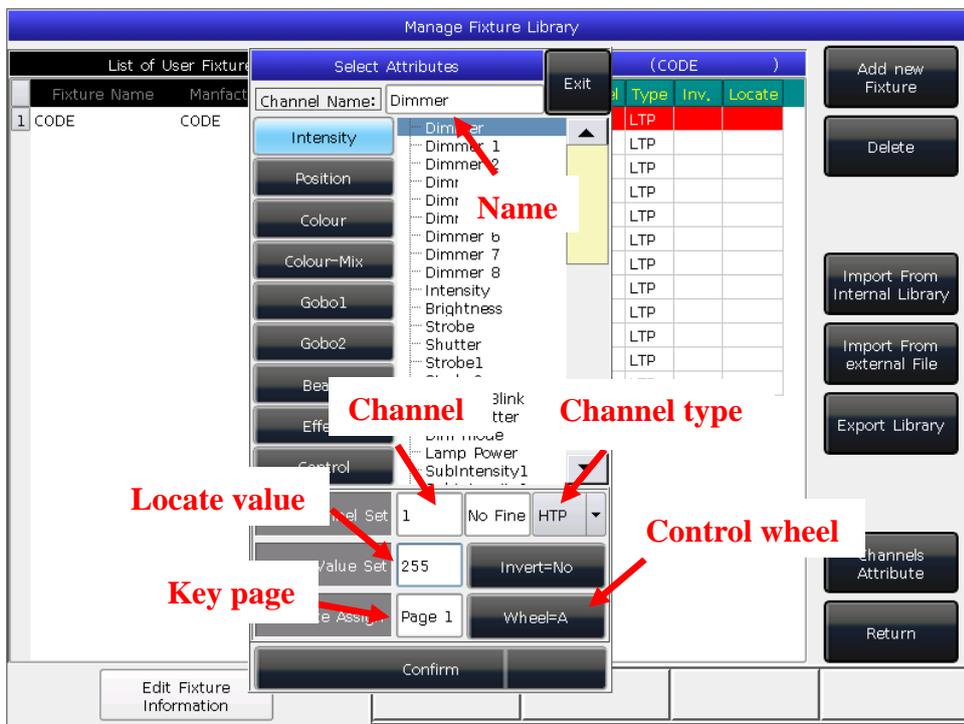
⑥ Press **[Confirm]** to finish setting on that channel;

⑦ Repeat steps from ④ to ⑥ until finish all the channel list;

⑧ Press **[Return]** and select **[Confirm]** to save your setting.

8.3.2.2. Delete User fixture

The option can only delete user fixture.

① Select the name list on left;

② Press **[Delete]** to delete.

8.3.2.3. Export Library

Users can export all the user libraries to USB driver. You can backup the user libraries which may use in other consoles in the same series. Default name of backup file is 'codeusrlib.bin'.

8.3.2.4. Import and edit fixture from system

If there is a system fixture which can be used, but something should be adjusted. You can import the system fixture and adjust it for actual using. (Note: The revisions on import fixture will not change the initial fixture in system. But those pre-setting functions in system fixture will be deleted after adjusted.)

① Press **[Import From Internal Library]**;

② The window will list all manufacture names from system fixture on left;

③ Search and select the manufacture, all libraries of the manufacture will be list on right;
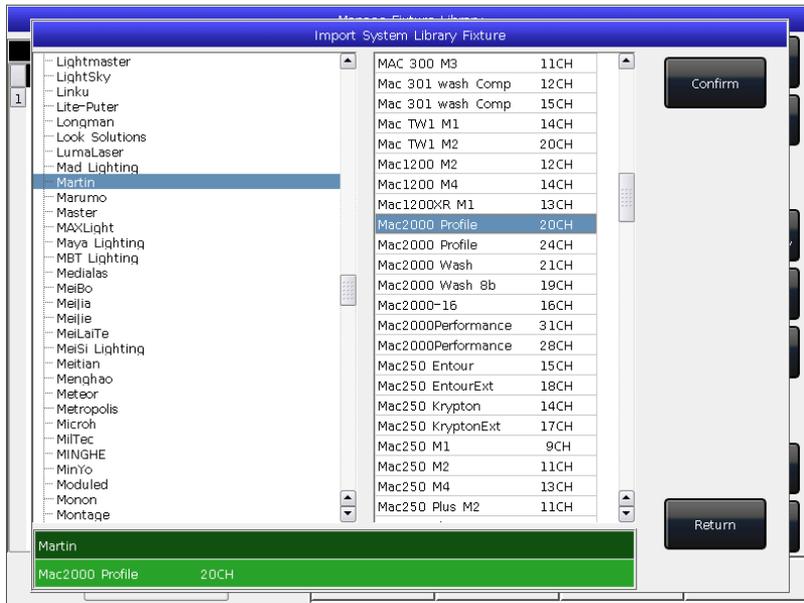
④ Select the fixture then press **[Confirm]**;

⑤ The import fixture will be listed on **'List of User Fixtures'**;

⑥ Select the import fixture and select the needed channel;

⑦ Press **[Channels Attribute]** and amend the information of the channel;
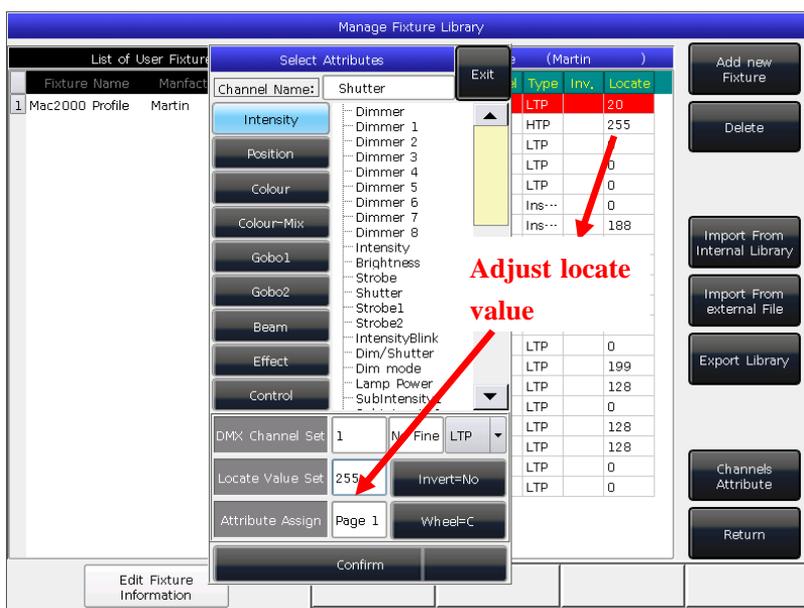

⑧ Press **[Return]** and **[Confirm]** to save.

Note: All preset, range table and macro details will be delete after edited the fixture.

8.3.2.5. Import external library File

Users can import the user library 'codeusrlib.bin' or R20 file to the console.

① Put in the fixture file to USB driver;

② Press **[Import From external File]**;

③ System will read USB driver automatic and the window will list all files in your USB driver; (Press **[disk Source]** can switch to read Internal disk)

④ Select the file you want;

● Press **[Import whole User Library]** if you want to import the user fixture;

Note: All user libraries in the list will be replaced if you import whole User Library.
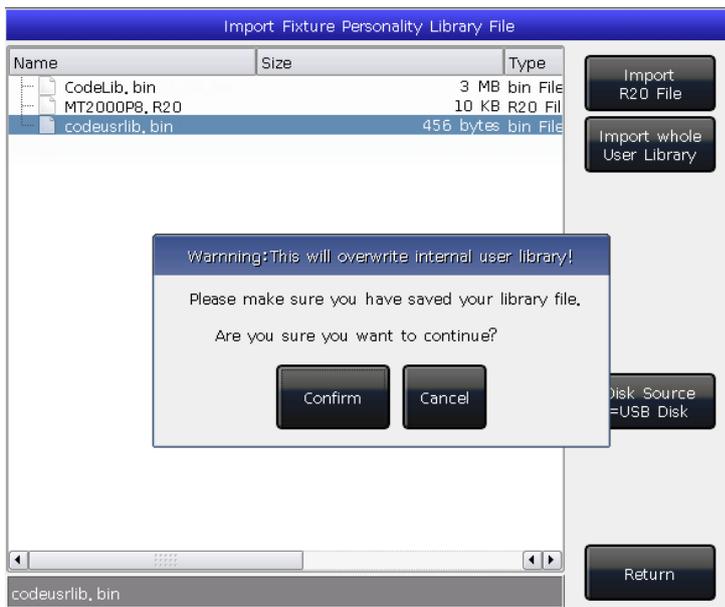
● Press **[Import R20 File]** if you want to import fixture file in R20 format. (The info area at the bottom will turn green if R20 file is selected.)
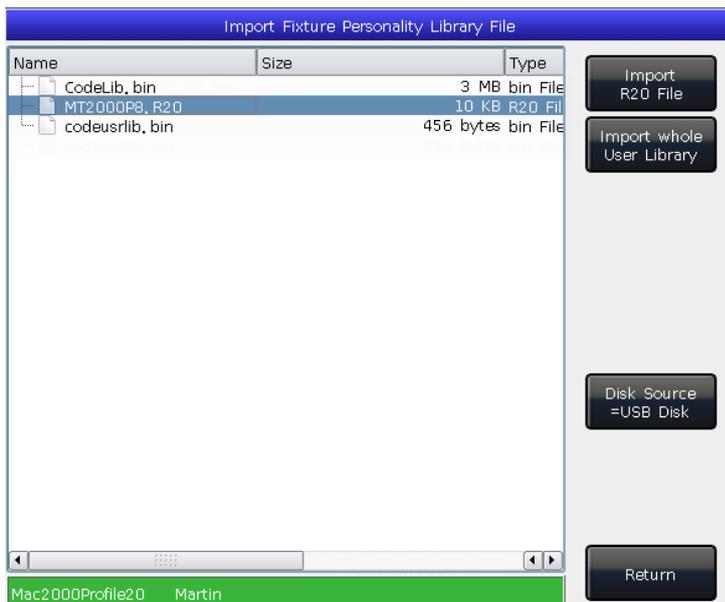
⑤ Press **[Return]** and quit to **'List of User Fixtures'**.

9. Touch Options

There are three default options for users selecting on touch screen which are Fixtures, Presets and Groups.

Users can set other options on **'Select'** part to touch screen for more convenient selecting.

For example, we can hold the key `Macro` and select **'Fixtures'** on blue bar of touch screen. And hold the key `Fixed` and select **'Presets'** on blue bar of touch screen.

10. Technological Specification

- Total 2048 channels with 4 individual optical isolated DMX outputs.
- Maximum 400 Units for patching all kinds of Fixtures.
- 10.4"TFT-LCD touch screen for operating.
- Offers a VGA interface for external monitor to display more edited information.
- Up to 1120 playbacks can be programmed which controlled by 24 playback faders × 30 pages together with 20 playback keys × 20 pages. Totally 44 playbacks can be run simultaneous.
- Offers 4 optical encoders for details setting.
- Up to 400 Groups.
- Up to 400 Presets.
- Up to 400 Macro Shows can be saved which allow to be triggered by external MIDI time code or internal clock.
- Up to 400 user-defined shape effects.
- Shortcut area provides a quick way for selecting Fixtures, Groups, Presets, Custom Shape Effects, Macro Shows or Fixed Playbacks.
- Color-mix system provides a color palette for users to control fixtures with RGB or CMY channels more conveniently.
- Shape Generator provides various effects which can be modified with different parameters. Offer effect forms for users creating User-defined shape effects.
- Provides 5 levels of precedence for playbacks.
- Playbacks can be divided into two sections as, Playback A and Playback B. Allows playbacks on Playback A or B stand by output.
- New time system. Offer attributes times for playbacks.
- Provide over 8000 fixtures in system library. Enable users to edit system fixtures or create custom fixtures.
- Support multiple DMX network protocols. DMX 512 signal can be transmitted over network.
- Freely download upgrade version and system fixture Library.
- An internal electronic disk allows user to backup show data.
- USB interface allows users to backup shows in external disk.
- Provide MIDI in and out interfaces to connect and work with other consoles.
- Option: 12V auxiliary light.
- Power supply: AC100-240V, 50-60Hz.
- Size: 650mm × 490mm × 130mm.
- Net weight: 13Kg approx.