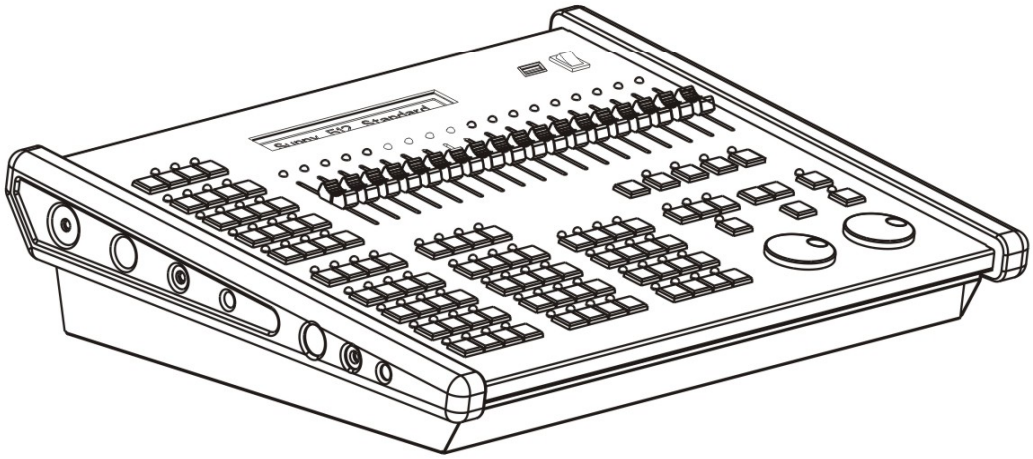
DMX 512 CONTROLLER SERIES



NEMO-16

ADERTECH

Version:1.1 12 MAR 2015

User Manual

This product manual contains important information about the safe installation and use of this product. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

Summary

DMX 512 console is specially designed to control various lighting fixtures. Dual CPU works in coordination. High speed MCPU offer precise control to achieve 16Bit X/Y movement. Up to 32 lighting fixtures with a maximum of 16 channels each. Multi scenes and multi chase programs can be operated at the same time, and 32 lighting fixtures can be selected simultaneously. It is designed with two groups of DMX 512 signals and it is adapted for wide range of input power voltage. The edit mode and running mode of the console are convenient and flexible. So, it is easy to edit and to handle. DMX 512 is the best suit for art show, theater, dancing and acting.

Features

DMX512/1990 standard, 512 DMX channels

4 separate optical protection outputs. Independent slot structure is easy to change.

Up to 32 lighting fixtures with a maximum of 16 channels each.

Large blue/white LCD display to show operation parameters.

16 sliders for channel, 1 slider each for SPEED & CROSS control.

1600 chase steps, 48 chases, up to 100 steps each. Each step contains its speed and cross time, can be set respectively. Music /manual control.

Combine with chase SPEED & CROSS slider, program step time can be changed from 0.01s to 25.5s. The running speed will be total amount of SPEED & CROSS slider.

48 lighting fixture scenes can be used directly.

8 chases and 48 scenes can be operated at the same time. Maximum 32 lighting fixtures can be selected simultaneously.

Up to 50 SHAPE generators. SHAPE track control is provided to control such effects as circles, lines and shapes like 8, etc.

The X/Y channels of different lighting fixtures can be controlled by modulation wheel together.

16Bit controllable for fine movement.

15 environment programs to output the combination are composed of different scenes, chases and manual output quickly.

The music trigger source can be selected between audio line input and internal microphone.

Easy to edit and handle.

Data auto-saves.

High performance switching power supply, with extremely low power harmonious distortion and wide range of voltage, suit for the requirement of different country.

Explanation for Reading

For reading convenience, some signs and usual displays are specially defined as following:

* XXX expresses a button like RELEASE.

* When the parameter is inside [ ] on display like [012] the parameter is current choice.

* Press xx + yy expresses press xx key first and hold then press yy key.

* X/Y control is named Pan/Tilt too. In the Manual, it is X/Y, the control of Pan/Tilt.

* When the button indicating light is on, it indicates that the key has been pressed, chosen or the function is effective.

* When the indicating light is blinking:

BLACKOUT, EDIT function key--emphasizes the function.

Scene section key and chase section key--indicate that when multi scenes and multi chases are running, there are scene or chase running on the section.

Cautions

Caution: Don't open the equipment. There is no any part could be repaired by the user.

The power adaptor must be connected to the earth line to ensure the safety during operation of this fixture.

When console and lighting fixture are working, don't plug or pull out DMX 512 data cable with the power on to avoid damage those electric parts nearby data output.

This will destroy the port electric components of the console.

Don't splash any liquid to the lighting fixture console. This will break the inside components of the console and cause malfunctions failure.

Lighting fixture console is precision electric equipment. Please pay attention to moisture-proof protection and dustproof protection. And please clean the control panel in schedule with non-chemical cleanser.

Contents

Contents in the package:

DMX 512 console	1PCS
User Manual	1PCS
Power Adaptor	1PCS

Connect to lighting fixture

DMX 512 console has 2 optical isolated DMX 512 signal independent drive device. So, there are 2 DMX 512 XLR-D3F. The connection of the output socket and the data cable as following:

Pin No.	Data cable
1	Shield/Ground
2	Signal -
3	Signal +

In the end of DMX 512 data cable, a 120ohm resister must be connected to the +, - end of the cable to improve the signal transmission quality.

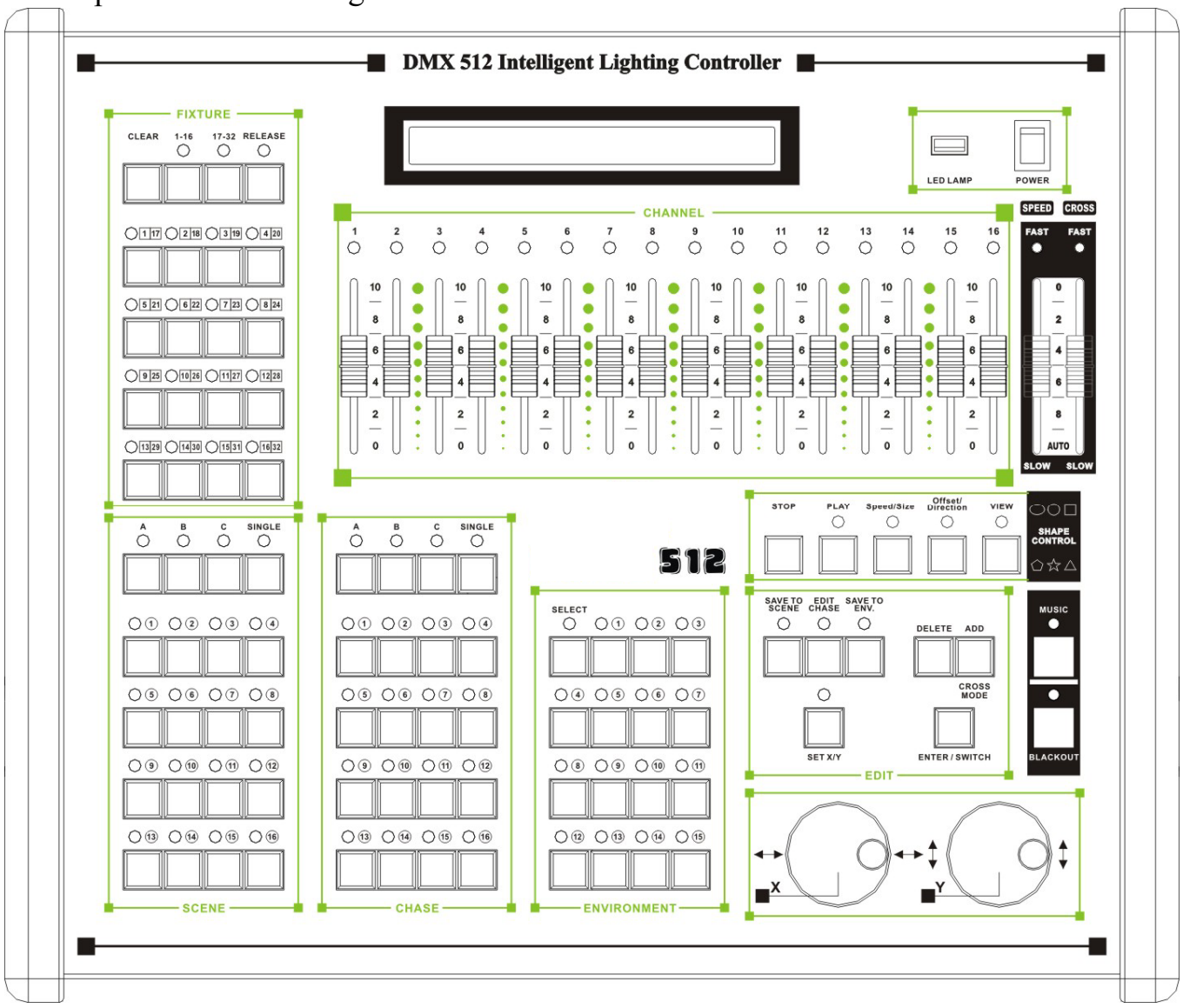
The set of the lighting fixture address

DMX 512 console distributes the DMX 512 address of various lighting fixtures with the fixed space of 16 channels. The reference is as following:

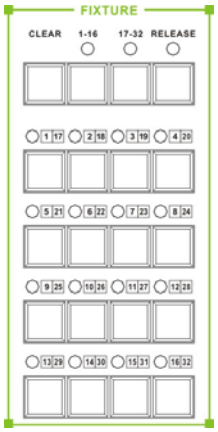
No. of scanner	Decimal system	Value of switch
1	1	1 ON
2	17	1 ,5 ON
3	33	1 ,6 ON
4	49	1 ,5,6 ON
5	65	1 ,7 ON
6	81	1 ,5,7 ON
7	97	1 ,6,7 ON
8	113	1 ,5,6,7 ON
9	129	1,8 ON
10	145	1 ,5,8 ON
11	161	1 ,6,8 ON
12	177	1,5,6,8 ON
13	193	1,7,8 ON
14	209	1,5,7,8 ON
15	225	1,6,7,8 ON
16	241	1,5,6,7,8 ON
17	257	1,9 ON
18	273	1,5,9 ON
19	289	1,6,9 ON
20	305	1,5,6,9 ON
21	321	1,7,9 ON
22	337	1,5,7,9 ON
23	353	1,6,7,9 ON
24	369	1,5,6,7,9 ON
25	385	1,8,9 ON
26	401	1,5,8,9 ON
27	417	1,6,8,9 ON
28	433	1,5,6,8,9 ON
29	449	1,7,8,9 ON
30	465	1,5,7,8,9 ON
31	481	1,6,7,8,9 ON
32	497	1,5,6,7,8,9 ON

Introduction of the panel

The panel is as following:



LIGHTING FIXTURE



CLEAR Clear button

Clear all states chosen by lighting fixture keys and quit manual operation.

1-16 Section key

When the indicating light is on, 1-16 lighting fixture can be chosen from number keyboard.

17-32 Section key

When the indicating light is on, 17-32 lighting fixture can be chosen from number keyboard.

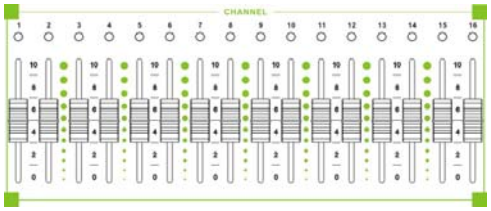
RELEASE Release channel key

When the indicating light is ON under manual mode, move slider or X/Y wheel, release this channel not be controlled manually and run as preset data automatic.

1 ~ 16 Lighting fixture number key:
Press these keys, the corresponding indicating lights are ON and indicate the lighting fixtures are in manual operating states.

CHANNEL

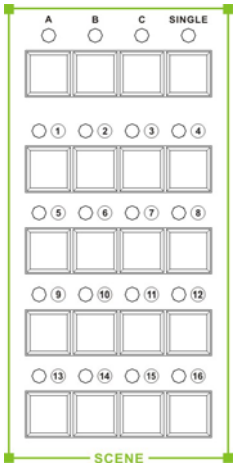
In manual state, 16 channel slides can set the channel value of the selected scanner.
CHANNEL must cooperate with FIXTURE.



SCENE

DMX 512 console can save 48 scenes in 3 saving section with 16 scenes each.

A / **B** / **C** Scene section key
When the key is pressed, the corresponding indicating light is ON to indicate it is current section. If current section is A, press scene number key and A01-A16 scene can be operated. If the indicating light of other section is on, it indicates that scenes are running in that section.



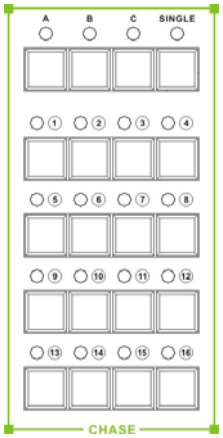
SINGLE Single scene key
Set for each section respectively. The key is used to switch the following states:
* When SINGLE light is ON, one scene of current section can run only.
* When SINGLE light is OFF, the current section can run multi scenes at the same time.

1 ~ 16 Scene number key
Cooperating with scene section key, 16 scene keys can operate A01-A16, B01-B16, C01-C16 (48 scenes).
Using SINGLE key to single scene or multi scenes.

CHASE

DMX 512 console can save 48 chases in 3 saving section with 16 chases each. 8 chases could be run at the same time.

A / B / C Scene section key
When the key is pressed, the corresponding indicating light is ON to indicate it is current section. If current section is A, press scene number key and A01-A16 scene can be operated. If the indicating light of not current section is on, it indicates that there are running scenes in that section.



SINGLE Single chase key

The key is used to switch the following states:

* When SINGLE light is ON, the current section only can run a chase.
* When SINGLE light is OFF, the current section can run up to 8 chases at the same time.

The key is effective for 3 chase sections.

1 ~ 16 Chase number key

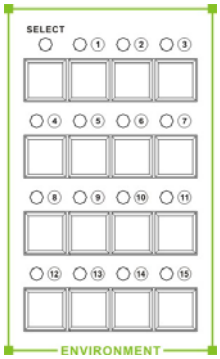
Cooperating with chase section key, 16 chase keys can operate A01-A16, B01-B16, C01-C16, (48 chases).

Using **SINGLE** key, single chase or multi chases can be operated.

ENVIRONMENT

SELECT Environment choice key

Press the key first, then press environment number key, the environment can be run or stopped.



1 ~ 15 Environment number key

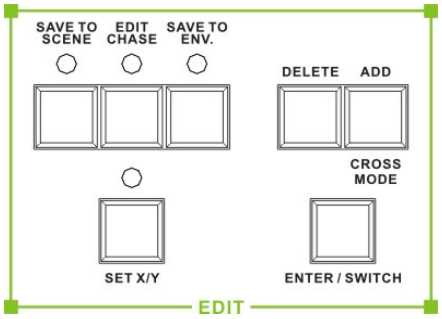
At anytime, only one environment can be chosen.

EDIT

SAVE TO SCENE Scene save key

Save the current channel values of the scanners to a scene with a number code.

Set the channel values of various scanners with manual operation, or add some scenes, then press the key first, and press scene section key and scene number key. Current channel values of the scanners are saved to the number of that section.



EDIT CHASE Chase edit key

Press the key, the indicating light blink. It is in the chase edit state.

Press the key again, the indicating light OFF. The edit result is saved to quit edit status.

SAVE TO ENV. Environment save key

Press the key, then press environment number key, the environment is saved to the number of environment and quit edit status.

SET X/Y X/Y set key

Edit the X/Y control channel number of various lighting fixtures to the console, then use modulation wheel to control the position of the various lighting fixtures.

DELETE Delete key

When the chase is edited, press the key to delete the current chase step or keep pressing it 2seconds to delete whole chase steps.

ADD Add key

When the chase is edited, press the key to add a new chase step after the current one. If the current chase step is the last one of the chase, the parameters of the current chase step will be copied automatically to the new added chase step.

CROSS MODE set cross mode

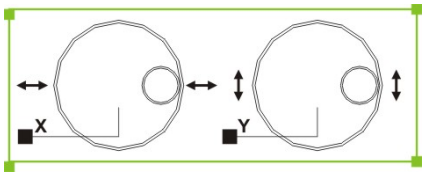
Set all channel mode or X/Y channel only mode with cross time (set with CROSS slider).

ENTER / SWITCH Enter/Switch key

In scene edit and environment edit, it is ENTER as confirmation button.

In chase edit, it is SWITCH key. (Switch data between edit chase and slider)

↔ ↕ Modulation wheel



In edit chase, ↕ is used to change edit parameters.

In manual operation mode, ↔ is used to set the X position of a lighting fixture, ↕ be used to set the Y position. In the edit of Shapes, Modulation wheel is used to adjustment the Shapes parameters.

MUSIC Music trigger key



When the indicating light is ON, chase follows the music rhythm.

When the indicating light is OFF, chase follows the preset time and SPEED & CROSS slider set time.

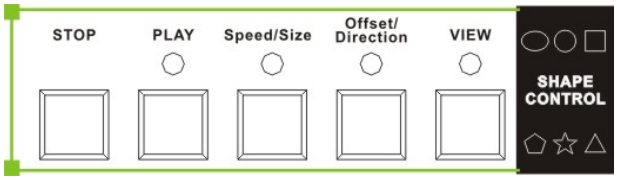
BLACKOUT Blackout key

When the indicating light is blink, console run one internal black scene automatically.

When the indicating light is OFF, console is in the normal running state.

SHAPES FUNCTION KEY AREA

- Press the STOP key to quit running state or edit state of SHAPE.



- Press the PLAY key one time until it's indicate light keep ON to run preset Shapes; Press PLAY two times until it's indicate light keep flick to edit shapes.

- Under edit status of SHAPE, press Speed/Size to set preset shapes speed (0-100) via X

wheel and size via Y wheel.

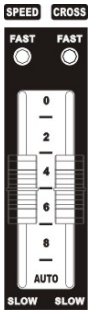
- Under edit status of SHAPE, press Offset/Direction to adjust position of shapes via X wheel and set shapes move direction by Y wheel (> <)
- Press VIEW to review current using shape No. (If display “01、12、45”， it means #1, 12, 45 shapes are being used)

SPEED & CROSS speed slider

SPEED slider: Adjust chase run speed and use it during program editing and running.

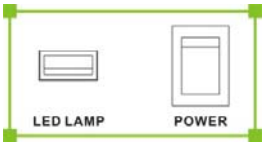
CROSS slider: Adjust chase cross time and use it during program editing and running.

The bottom part is AUTO area and chase will run as preset time and the upper part is free adjustment area for run and cross time.

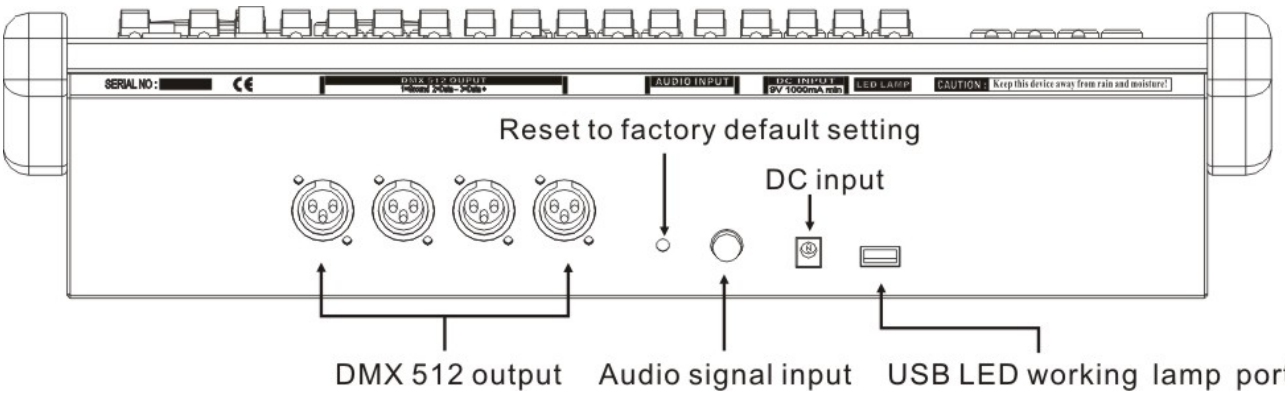


LAMP: USB led working lamp port

POWER: Power switch of the whole fixture.



Introduction of rear panel



Notes:

* There are 4 optical isolated DMX512 output sockets, which output same signal.
* Audio signal input socket is a ¼” mono socket with 0dB input level. When the plug is connected, music trigger signal comes from audio input signal. When the plug is pulled out, music trigger signal comes from the environment sound picked by the internal microphone.
* Keep pressing RESET button and switch ON console. Release RESET button when ** on right bottom of display. It means console have been reset to factory default setting.

Set X/Y channels for lighting fixtures

DMX 512 console can control lighting fixture with 8Bit or 16Bit X/Y resolution.

Before using modulation wheel to control the X/Y position of any DMX512 standard lighting fixture, the address of every lighting fixture must be set and the set control channel number of each lighting fixture must be written to the console one by one.

Both X and Y position of 16Bit resolution lighting fixture be controlled by two DMX channels separately. That's mean X and Y positions be controlled by 4 DMX channels in total: X coarse channel (high 8Bit), X fine channel (low 8Bit), Y coarse channel (high 8Bit), and Y axis fine channel (low 8Bit).

For 8Bit resolution lighting fixture, X and Y position be controlled by 2 DMX channels: X axis coarse channel and Y axis coarse channel,

The display instruction can be referred in append table 1.

Setting operation of X/Y:

User manual of lighting fixture will indicate it is 8Bit X/Y or 16Bit X/Y and the attribute of the corresponding channel.

1. Press SET X/Y key, the indicating light will ON to enter X/Y set state.
2. Use lighting fixture number plate to choose lighting fixture otherwise the setting will valid for all 32 groups lighting fixtures
3. Use modulation wheel ↔ to choose target edit item.
4. Use modulation wheel ↕ to choose the value of the corresponding channel, range: .1-16, no
5. Repeat step 2-4 to set X/Y of the other lighting fixture.
6. Press SET X/Y key to quit the edit state.

For example:

8Bit liighting fixture

X=5 ,Y=7

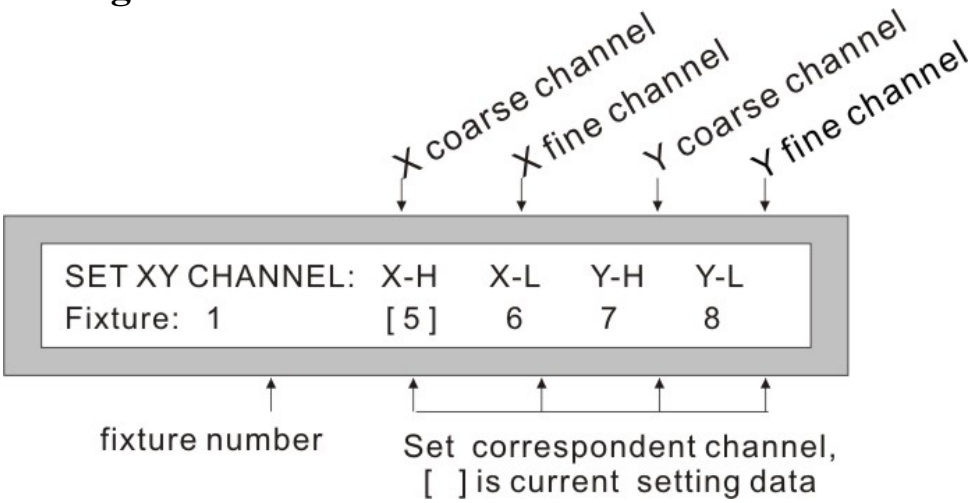
Channel	DMX Value
X-H	5
X-L	no
Y-H	7
Y-L	no

16Bit lighting fixture

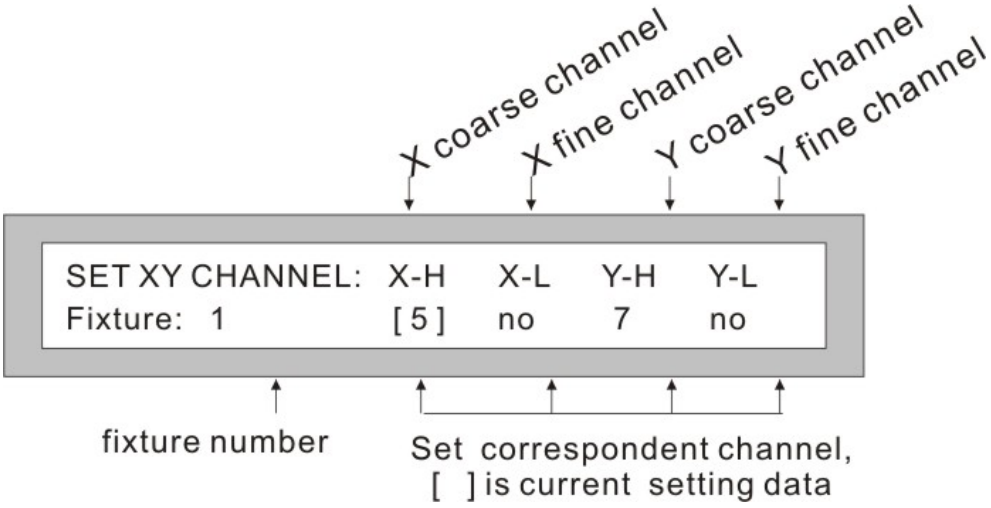
X coarse channel=5,
X fine chan =6,
Y coarse channel=7,
Y fine channel=8.

Channel	DMX Value
X-H	5
X-L	6
Y-H	7
Y-L	8

Setting of 16Bit fixture:



Setting of 8Bit fixture：



For 16Bit scanner, if the values of X-H, Y-H are set and the values of X-L, Y-L are set to [no], the 16Bit scanner will be running in 8Bit X/Y resolution. This will lose some characteristics of 16Bit scanner, such as high precision of X/Y orientation and the smoothness of the moving track.

Check the X/Y setting of fixtures:

1. Press SET X/Y key, the indicating light will ON to enter X/Y setting status.
2. Use fixture number plate to choose lighting fixture to check the X/Y setting.
3. Repeat step 2 to check X/Y setting of all lighting fixtures.
4. Press SET X/Y key to quit the edit state.

Manual mode

The fixture channel values such as intensity, gobo, X/Y, pattern and color can be set manually.

Usually, the control contents of each channel of various lighting fixtures are different. With the particular comprehension to the control contents of each channel of various lighting fixtures, the lighting fixtures connected to this console can be controlled with facility. The control contents of each channel of ordinary lighting fixtures can be seen in the append tables.

Under the edit state or running state, it can be operated manually.

Manual operation is the highest priority operation. The selected lighting fixture will be divorced from the running scene, chase and environment automatically. Manual operation is the basic operation. Manual operation, especially multi lighting fixtures manual operation, can be saved as scene be edit chase steps.

Combined with 1-16 and 17-32 keys, 1 ~ 16 keys of number plate can make choice up to 32 lighting fixtures.

When the number indicating light is ON, that lighting fixture is selected. It can be set by CHANNELS slider and modulation wheel.

CHANNELS 1-16 channel slider and modulation wheel

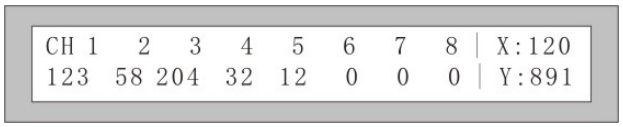
Each channel value of lighting fixture will be set by 1~16 channel slider. X channel of a lighting fixture is set by modulation wheel ↔. Y channel is set by modulation wheel ↕. The set range of a slider is 0-255. Whether 8bit or 16Bit X/Y lighting fixture, the set range of a modulation wheel is 0-999. It represents movement range of X axis or Y axis. For 16Bit

lighting fixture, modulation wheel ↔ controls X-H and X-L at the same time. Modulation wheel ↕ controls Y-H and Y-L together. For 8Bit lighting fixture, modulation wheel ↔ controls X-H only. Modulation wheel ↕ controls Y-H only.

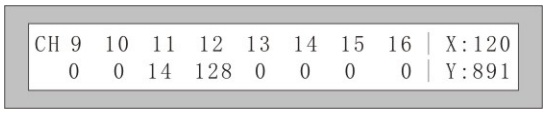
In the manual mode of a lighting fixture, slider and modulation wheel can change value of the corresponding channel. The LCD displays the value of these channels.

When the lighting fixture key is pressed, the X/Y current statues appears at the right part of the screen. Move modulation wheel, the values of X/Y will be changed.

Move 1-8 sliders, LCD display show as right picture.



Move 9-16 sliders, LCD display show as right picture.



Notes: the values of channel and X/Y depend on the slider position and X/Y modulation wheel value.

If sliders stop moving for a while, the value on display will disappear until next moving.

Manual operation of single lighting fixture

1. Choose lighting fixture: press lighting fixture number key (combine with 1-16 and 17-32 keys), the indicating light will ON.

2. Use CHANNEL sliders to set the channel values, use modulation wheel ↔ and ↕ to adjust X/Y position.

Manual operation of the same series multi lighting fixtures

1. Choose lighting fixture: Do as step1of Manual operation of single lighting fixture to select multi lighting fixtures. (Note: Only those lighting fixtures with the same X/Y channel can be selected at the same time.)

2. Use channel sliders to set DMX channel values. Use modulation wheel ↔ to adjust X position. Use modulation wheel ↕ to adjust Y position. And the adjusted channel values are set to all chosen lighting fixtures at the same time.

Manual operation of different series of multi lighting fixtures

For the manual operation of different series of lighting fixtures, set one kind of lighting fixtures first and make other lighting fixtures in the hold state. Then choose another kind of the lighting fixtures to set. This is the usual operation method to set one scene as well.

The lighting fixture at hold state can be changed to the selected state by pressing its key to make the indicating light ON.

1. Choose lighting fixture: Do as step1of Manual operation of single lighting fixture to select multi lighting fixtures. (Note: Only those lighting fixtures with the same X/Y channel can be selected at the same time.)

2. Use channel sliders to set DMX channel values. Use modulation wheel ↔ to adjust X position. Use modulation wheel ↕ to adjust Y position.

3. Press number key of selected lighting fixture to make all DMX value of it in HOLD state.

4. Repeat 1-3 steps to set other lighting fixtures manually.

Cancel the manual operation setting of lighting fixture

Press CLEAR key, the manual operation setting will be canceled and the set values of lighting fixtures will not be saved.

Shape track generator

The Shape generator can produces Shape tracks of different Shapes, various sizes and speeds for intelligent fixtures. The controller has several individual generators can work alone and at the same time. Each generator can run several intelligent fixtures, producing pattern effects of several lights phase excursion. The currently version of system's software offers 50 generators as follows:

- 12 circles (circle)
- 8 fader circle (fader&c)
- 5 circles ranged in triangle shape (thr&c)
- 5 8-shape (eight)
- 5 Xline (Xline)
- 5 Yline (Yline)
- 5 squares (square)
- 5 triangles (tri)

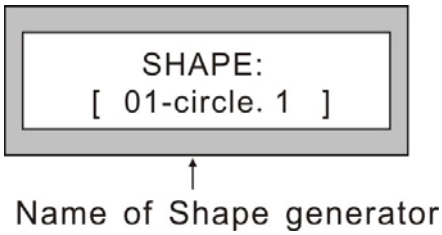


Tips:

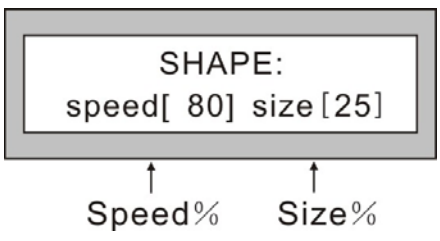
The mechanical difference of intelligent fixtures may cause changes of shapes when the fixture is doing vertical movement. The responding speed of some intelligent fixtures is slow so that it could not display shapes perfectly. An intelligent Fixture with faster responding speed can get better shapes.

Edit of shapes

1. Select target intelligent Fixture under Manual mode.
2. Set the X/Y original position (the position of a Shape center) of each intelligent Fixture.



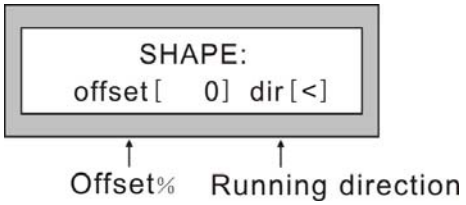
3. Press PLAY button two times under Shape edit mode to active Shape EDOT state, the LED flashing （Then, use X/Y wheel to select target Shape generator. When the name of the Shape generator is 0—NULL, it's an empty setting of Shape .This can be used to delete other set Shapes）.
4. Press Speed/Size until indicate led ON.
   - Use X wheel to adjust speed%, use Y wheel to adjust size%
   - Speed% is the speed of running Shapes. Higher value, larger speed.



   - Size% is the size of Shapes, for example: how large a circle is; how far the beam

should move, etc

5. Press Offset/Dir until indicate led ON.
   - Use X wheel to change Offset %, use Y wheel to change direction



   - Offset% is offset of a Shape to set different positions of different intelligent Fixture in a Shape. For example, when a circle of 50% offset is set, Fixture 1 will be the beginner, Fixture 2 will be in the semi-circle behind it, and Fixture 3 will be in the position of Fixture 1. When a circle of 25% offset is set, Fixture 1 will be the beginner , Fixture 2 in the quart-circle behind it, Fixture 3 in the quart-circle behind Fixture 2,Fixture 4 behind Fixture 3 and a Fixture 5 in the position of Fixture 1,etc.
   - DIR is the moving direction of Shapes
6. Repeat step 1-5 to edit other intelligent Fixture.
7. Press PLAY to quit from Shape EDIT state, the edited Shapes will be saved and run continuously. Indicator of PLAY ON (Note: Press the STOP button to quite from Shapes all state).

Tips:

- Shapes using must first set the X/Y of chosen Fixture to the X/Y wheel otherwise Shapes will no valid.
- Edit shapes such as adjusting speed or sizes will affect all Fixture be set with same Shapes, no matter the Fixture being selected or not. If you want to use a new circle generator when there are other Fixtures working of other direction or speed, you should set a new Shape for each change and use it in the corresponding Fixtures.
- Choose 0.Null shape generator to delete selected shape generator of lighting fixture.

Skills of using Shapes

Example 1: Use intelligent Fixture 1 to run a circle.

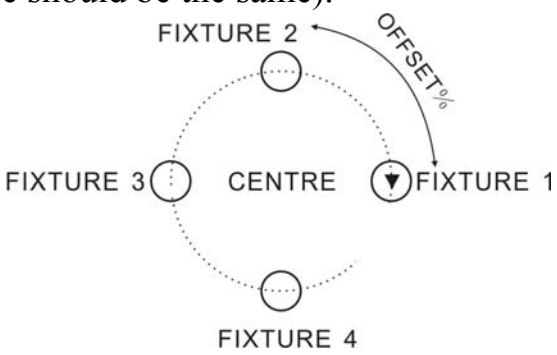
1. Select Fixture 1 under Manual mode.
2. Set the X/Y original position (the position of circle's centre).
3. Press PLAY to enter Shape edit state, indicate LED flicking.



4. Use X/Y wheel to select a Shape [01-circle.1].
5. Press Speed/Size key.
   - Use X wheel to change the value of Speed%,such as 40%;
   - Use Y wheel to change the value of Size%,such as 25%;
6. Press Offset/Dir key.
   - Use X wheel change the Offset%:Offset%=0;
   - Use Y wheel set direction;
7. Press PLAY to escape Shape EDIT state. (Press STOP to escape from all the Shape states.)

Example 2: Use 4 intelligent Fixtures to draw a circle.

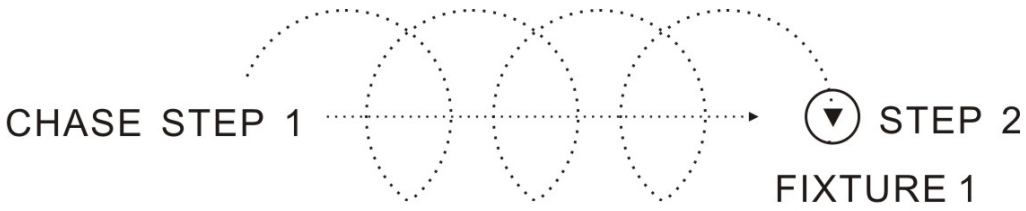
1. Select four intelligent fixtures under Manual mode (No need to select continuous numbers, but the install direction of the Fixture should be the same).
2. Set the X/Y of chosen fixtures, make all the luminous spots be at the same position. (Circle's centre)
3. Press PLAY button two times to enter Shape edit state, indicate LED flicking.



4. Use X/Y wheel to select a Shape [02.circle.2].
5. Press Speed/Size key.
   - Use X wheel to change the value of Speed%,such as 40%;
   - Use Y wheel to change the value of Size%,such as 25%;
6. Press Offset/Dir key.
   - Use X wheel change the Offset%:Offset%=25;
   - Use Y wheel select the DIR;
7. Press PLAY to escape from Shape EDIT status (Note: Press the STOP button to escape from all the Shape states).

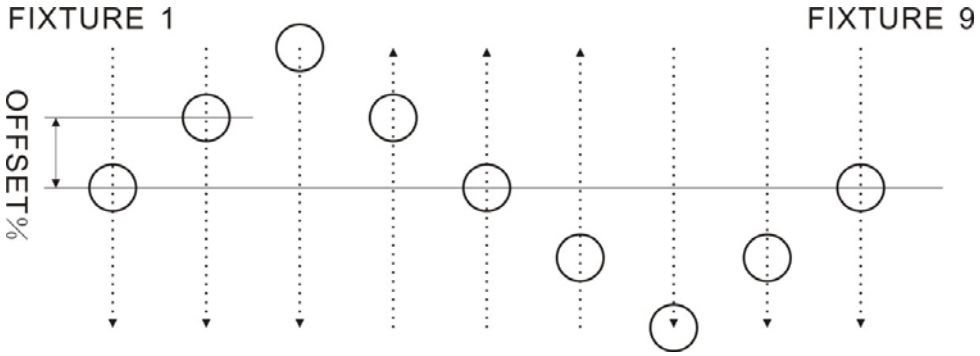
Example 3: Moving while drawing circle.

Select Shapes in Chase to realize this effect. Use 2 steps to move the centre of the circle, then edit the same circle generator in the 2 steps and specialize parameter as you like.



Example 4: Use several intelligent fixtures to produce an up/down waving effect.

1. Select nine intelligent fixtures under Manual mode (No need to select continuous numbers, but the install direction of the fixture should be the same).
2. Set the X/Y of chosen Fixture, range the luminous spots in a line.
3. Press PLAY button two times to enter Shape edit state, indicator flickers.
4. Use X/Y wheel to select a Shape [36.Yline.1].
5. Press Speed/Size key.
   - Use X wheel to change the value of Speed%,such as 40%;
   - Use Y wheel to change the value of Size%,such as 60%;
6. Press Offset/Dir key.
   - Use X wheel change the Offset%:Offset%=25;
   - Use Y wheel select the DIR;
7. Press PLAY to escape from Shape EDIT (Note: Press the STOP button to escape from all the Shape states).



Tips: If set Shape as horizontal line (X line), an effect of left-right movement of lights will be produced.

Scene Edit

The appropriate values of channels (such as color, intensity, pattern, X/Y, and so on) of various lighting fixture can make a needed light art pattern in the space. Each scene is an aggregate of the set channels of the various lighting fixtures. Sunny512 console can save 48 lighting fixture scenes. The saved scenes can be run freely.

Important tips

For the simultaneous running of the multi scenes and multi chases, the different values of the same channel are produced at the same time will be treated in HTP Technique method (follow highest value). So, following setting is proposed:

1. For all scenes just include pattern effect controls, such as color, pattern and so on. The values of X/Y, intensity, and so on are set to 0.

2. If chase include setting like X/Y, intensity and so on, the values of the other channels are set to 0.

Steps of scene edit:

1. Press **SAVE TO SCENE** key, enter the scene edit mode.

2. Press scene key and scene number key, choose lighting fixture and set various channel values and X/Y position.

3. ① Move CH1-16 sliders to get relative DMX value to select suitable target lighting fixture effect (If copy X/Y data to wheel, the wheel could be used to get data).

② If you want to use the Shape track generator, please refer to the edit of Shapes.

4. Press **ENTER / SWITCH** key to confirm the save.

5. Repeat 2-4 steps to edit other SCENE.

Example:

If you want to save the current lighting fixture running states to A13 scene, press **SAVE TO SCENE** key, then press A key in SCENE, and press 13 key. Then press **ENTER / SWITCH** key.

Tips:

Scene edit can be done at any un-edition time. After the various setting to multi lighting fixtures, if the art pattern is what you want, repeat above step 2. The running states of all lighting fixtures can be saved to same scene number. For example, using simultaneously running scene B02 and C07 as basic, choose 3 lighting fixtures manually and set the light beam to one position, then save the combination to scene C01. Then C01 can appear this light art pattern combination again easily.

Scene Copy

Example: Copy scene A01 to scene C10.

1. Press A key in SCENE area, then press 1 key. The console will run A01 scene.
2. Press SAVE TO SCENE key, press C key in SCENE area, then press 10 key and ENTER / SWITCH key.

Tips: Multi scenes could be run together to create a new scene

Chase Edit

DMX 512 console can save 48 chases.

A chase is built with some chase steps. The concept of chase step is very similar to the scene.

A chase step is made up of the aggregation of each channel value of various lighting fixtures, the step time and Cross time.

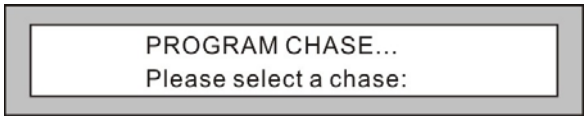
The total capability of the chase step is 1600. Each chase can have up to 100 steps. In each step of a chase, the step time and cross time can be set independently. The standard operating speed of a chase is decided by the step time and the gradual change parameter cross of a step. If slider of SPEED/CROSS at AUTO, chase will run at preset time. The slider at upper part of AUTO could change running time freely.

Step time value

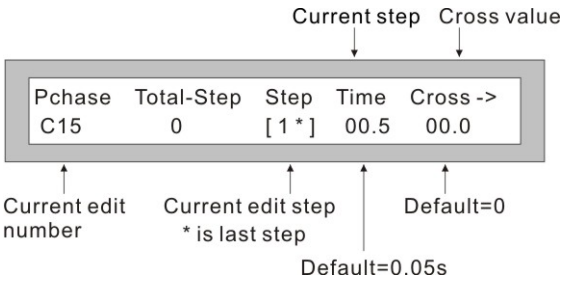
The value defines the interval time between the current to the next step.
The time unit is 0.1s. The changeable range of Time is 1-25.5. It means that the minimum time of a step is 0.1s and the maximum is 25.5s.

Chase edit step

1. Press EDIT CHASE key.



2. Choose the chase number will be edited. For example, if want to edit chase C15, press C key in CHASE area, then press 15 key.



3. Press lighting fixture number 1/17 – 16/32 to select target lighting fixture and it's indicate LED will ON. If the indicate LED is OFF, it not be selected and won't be effected by Step 4.

4. Move CH1-16 sliders to get relative DMX value to select suitable target lighting fixture effect (If copy X/Y data to wheel, the wheel could be used to get data).

5.If you want to use the Shape track generator, please refer to the edit of Shapes.

6. Repeat Step 3&4 to adjust other lighting fixtures to get your target effect.

7. Move slider of SPEED & CROSS to adjust running speed and cross speed.

8. Press ADD key to save the scene and enter next scene edition (Press DELETE key to delete current scene; Repeat Step 3, 4, 5&6 to edit new scene effect and then press ADD to

save).

9. Repeat Step 3-8 to edit other chase steps.
10. Repeat Step 2-9 to edit other chases.

Tips:

When ADD key is pressed to add a new chase step, the parameters of last step and TIME & CROSS set value to be copied to new added chase step automatically. Then, just change some parameters to create a new chase step easily. If current chase step is empty, all channel values of new chase step will set to 0.

In the edit state, use ENTER / SWITCH key to switch between the chase setting and manual setting state, which set the various channel values and X/Y values of lighting fixture. In different state, the control object of the wheel is different. In chase setting state, use wheel to change ↕ current step. This can check the space pattern effect of every chase step and the channel values of some lighting fixtures in the current chase step immediately.

Press DELETE key to delete current chase step.

Environment Edit

The current manual operating state, scene operating state and chase operating state are operating environment. If the current environment is saved, it is very convenient to reuse this environment.

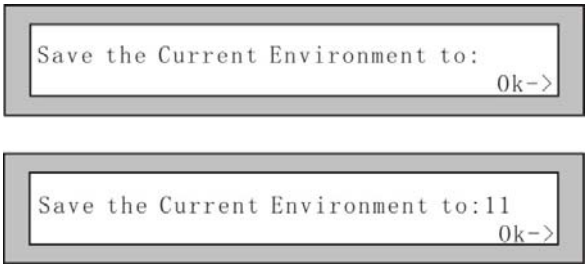
A complex environment, like an environment + some chases + some scenes + some manual operation, can be saved as an environment. It can be saved to cover the original environment number or saved as another environment number.

DMX 512 console can save 15 environments. The environment can be chosen by keyboard directly. To avoid mistake made by touching keyboard by accident, it is needed to press SELECT key first and then press the environment number key to choose the environment.

Edit Steps:

1. Base on the need to choose the following operating mode:
a) Lighting fixture manual operation.
b) Scene operation (multiple scenes running simultaneously)
c) Chase operation (up to 8 chases running simultaneously)

2. Press SAVE TO ENV key:



3. Press 1 ~ 15 key of environment area.

4. Press ENTER / SWITCH key to confirm.

Tips:

-- To save the environment, it is unnecessary to press SELECT key first.

-- To run environment, it is needed to press SELECT key first and then press number key.

Running

Running scene

Example 1:

Run single scene A01.

1. Close running scene B area and C area one by one.
2. Press A key to choose A as the current district.
3. Press SINGLE key to make SINGLE indicating light ON. Area A is in the single scene running mode.
4. Press 1 key to run scene A01.

Example 2:

Run A02, A10, B15, C07 scenes at the same time.

1. Press Scene A key to choose A as the current area.
2. Press SINGLE key to make SINGLE indicating light OFF. It is in the multi scene running mode.
3. Press 2 key to run scene A02.
4. Press 10 key to run scene A10.
5. Press B key, 15 key to run scene B15.
6. Press C key, 7 key to run scene C07.

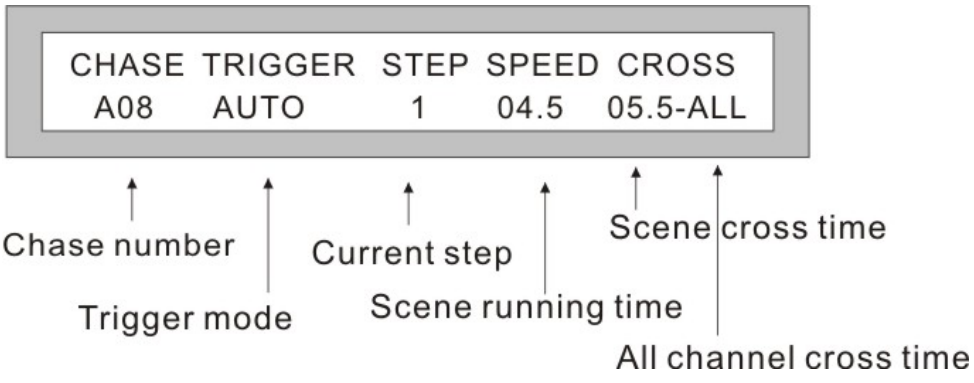
Now, the above scenes are running simultaneously.

Tips:

In the step 3 of example 2, if press SINGLE key to make SINGLE indicating light on, perform step 4 to run scene A10 and scene A02 will close automatically.

Running chase

Running chase, the LCD will display:



Example 3:

Run single chase A08.

1. Press SINGLE key of CHASE area to make SINGLE indicating light ON.
2. Press A key to choose A as the current running area.

3. Press 8 key to run chase A08.

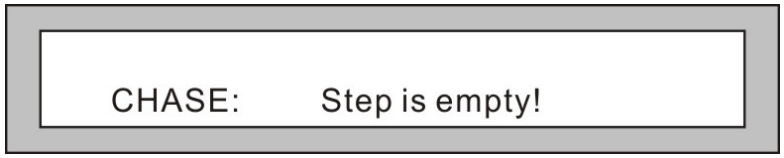
Example 4:
Run A04, A13, B07, C10 chases at the same time.
1. Press SINGLE key of CHASE to make SINGLE indicating light OFF. It is in the multi chase running mode.
2. Press A key to choose A as the current area.
3. Press 4 key to run chase A04.
4. Press 13 key to run chase A13.
5. Press B key to choose B as the current area.
6. Press 7 key to run chase B07.
7. Press C key to choose C as the current area.
8. Press 10 key to run chase C10.

Now, the above 4 chases are running simultaneously.

Tips:

Press CROSS MODE key to set all channel mode or X/Y channel only mode with cross time.

If the selected chase is empty (without chase step), the LCD will display:



Adjust chase speed

Move slider of SPEED & CROSS to change scene run time and cross speed. If slider at AUTO area, scene will run as preset run time and cross speed.

The music trigger of a chase

Press MUSIC key and MUSIC indicating light ON. It indicates that current chase will be triggered by music. In this state, the chase SPEED time will no effect but CROSS could change cross time simply.

Press CROSS MODE key to set all channel mode or X/Y channel only mode with cross time.

Run Environment

Press SELECT key, then press 1 - 15 number key to make the corresponding indicating light ON.

The chase, scene and manual operating be included in this environment will reappear. Every corresponding indicating light will ON.

Example 5

Run Environment 1.

1. Press SELECT key.
2. Press 1 number key.

Tips:
Press CROSS MODE to set all channel mode or X/Y channel only mode with cross time. Press SELECT key again, and press the number key which light is ON. The corresponding environment will be closed. Then the new added scene will continue run.

New Function:

- Running time and Cross time could be changed freely during program running period or run as preset time directly.
- Cross time of all channels mode or X/Y channel only mode could be switch easily during program running period.
- Manual,scene,chase, may at any time set computer lamp X/Y channel Shapes and special.

Appendix

Table 1:
LCD contents instruction

Display contents	Explanations
Fixture	Lighting fixture
X-H	X axis coarse channel (high 8Bit channel)
X-L	X axis fine channel (low 8Bit channel)
Y-H	Y axis coarse channel (high 8Bit channel)
Y-L	Y axis fine channel (low 8Bit channel)
NO	For 8Bit scanner, only X/Y coarse channel be used. So the X/Y fine channel must be set to [no].
CH	Abbreviation of CHANNEL
*	The chase step with * is the last step of the current chase.
->	Use ENTER / SWITCH key can switch the display contents.
[ ]	The parameter in the [ ] is the current adjustable item. Its value can be change by modulation wheel.
PROGRAM CHASE...	Chase edit state
CHASE: xxx Step is empty!	The chase with this number is empty! (Chase number is replaced by xxx)
MEMORYIS	There is no space in memory.

OVERFLOW!!	
0--NULL	It’s an empty/blank Shape
SHAPE	Edit Shapes

Technical specification

Digital control mode	DMX 512/1990
DMX control channel amount	512
Control scanner amount	32
Control channel distribution of a scanner	16
Control resolution of a scanner	16bit
Optical isolated independent digital output drive module	4
Electrical isolation of optical isolated independent digital output drive module	2000VDC
LCD backlight screen	40 character x 2 row
BLACKOUT function	√
Manual operation function	√
Simultaneous manual operation ability	32
Scanner scene	48
Scene amount of simultaneous running scanners	48
Scanner chase	48
Maximum step of each chase	100
Chase running time	0.1s～25.5s
Chase cross time	0.00s～25.5s
Maximum step	1600
Simultaneous running chase	8
Music trigger	0db input/internal microphone

Shape track generator	50
Channel sliders	16
Chase running speed adjust slider	1
Chase cross speed slider	1
MODULATION WHEEL	2
Environment	15
Scene copy	√
X/Y of all lighting fixture be controlled by wheel	√
Power OFF, Data save	√
DMX output	XLR – D3F x 2
Music input	1/4” mono socket
Electric	AC 100V-240V, 50-60 Hz, 9V 1000 mA
Power	5W
Working Temperature	0-40 ℃
Working environment	Anti water & dusty
Dimension	483mm x 400mm x105mm
Net weight	8kg