SUNNY 512 CONSOLE

Full-featured, reliable and operationally stable console

USER MANUAL

REV 1.0 - 24

English Version

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Caution!

Be careful with your operations. With a dangerous voltage you can suffer a dangerous electric

For your own safety, please read this user manual carefully before you initial start-up. Follow operating safety precautions and pay attention to warning signs methods and equipment on the user manual.

Indoor use only! To prevent risk of fire or shock, do not expose this product to rain or moisture. IP 20 rating.

The ambient temperature must be maintained between -5° C and +45° C at all times.

Every person involved with the installation, operation and maintenance of this device has to

- be qualified
- follow the instructions of this manual
- consider this manual to be part of the total product
- keep this manual for the entire service life of the product
- pass this manual on to every further owner or user of the product
- download the latest version of the user manual from the Internet

Introduction

The Sunny 512 console is a full-featured, reliable and stable operation console. It is specially designed for controlling the operation of various computer lights, adopting multi-CPU synergistic processing and precise mathematical operation with high-speed microprocessor chip, which can control up to 32 sets of 16-channel computer lights with 16Bit X/Y high-precision control. It can realize multi-scene, multi-walking light program running at the same time and lifting light operation. Equipped with two DMX512 signal outputs. With a very wide voltage adaptability, the machine has an extremely convenient and flexible editing mode and running mode, easy to learn and use, suitable for cultural performances, theaters, dance performances, TV studios and other occasions.

Unpack your item. Before you initial start-up, please make sure that there is no damage caused by transportation. Should there be any, consult your dealer and do not use the device.

Safety instructions

This device has left our premises in absolutely perfect condition. In order to maintain this condition and to ensure a safe operation, it is absolutely necessary for the user to follow the safety instructions and warning notes written in this user manual. Always disconnect from the mains, when the device is not in use or before cleaning it. Keep away children and amateurs from the device! There are no serviceable parts inside the device. Maintenance and service operations are only to be carried out by authorized dealers.

1. The console must be connected to a safe earth wire.
2. Avoid plugging and unplugging the communication cable with electricity.

3. Power on sequence: Please turn on the power of all controlled computer lights first, and then turn on the power of the controller, otherwise it is easy to damage the controller.

4. Pay attention to moisture-proof, water-proof, dust-proof, anti-static, regular maintenance and cleaning.

Functional Characteristics

1.DMX512/USITT1990 standard, 512 DMX control channels.

2.2 Road with optical isolation of independent output drive out port has the ability to resist 1500VDC electrical strike, independent plug board structure, easy to replace. Optional infrared IR interface, safe, convenient and efficient connection without any electrical interference.

3. 32 sets of 16-channel computer lights can be controlled.

4. Large LCD display with backlight for displaying various operating parameters.

5. 16 channel pushbuttons, 1 speed control lever.

6.1600 walking light program step storage capacity. 48 walking light programs, each program up to 100 steps, each step speed, gradient parameters are set independently. Optional music synchronization or manual speed control.

7. Under the cooperation of walking light rate pusher, the time range of program step can be from 0.03s-180s.

8.48 computerized light scenes that can be called up directly.

9. Can run 8 walking lights program, 48 scenes at the same time, and at the same time on the 32 computer lights for manual operation, (lifting lights), manual operation, (lifting lights), with the channel release function.

10. Different kinds of computer lights X / Y by the data wheel unified control, can also be controlled by the fader.

11.16bit computerized lamp X/Y control precision.

12.15 environment keys, quickly call different scenes, walking lights, manual running combinations.

13. Music trigger signal source can be taken from the audio line input or built-in from the microphone pickup.

14. Easy to learn and use, more efficient operation.

15. Shutdown data retention.

16. Built-in high-performance green switching power supply, with very low power harmonic distortion and very wide voltage adaptation range, in line with the power requirements of countries around the world (90v-240v).

Presentation rules

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

Use xxx to indicate a key, e.g. HOLD

When a parameter of the display is surrounded by [ ], such as [012], it means this parameter is

the current selection item.

Pressing the【xx】+【yy】indicates that you first hold down the【XX】and then press the【 YY 】.

The X/Y control of the computer light is also referred to as Pan/Tilt, which is uniformly referred to as X/Y in this manual, i.e., X-axis Y control.

When the key indicator light is on, it means that the key is pressed, selected or the function it represents is valid.

Blinking of the indicator light:

BLACKOUT, Edit Function Keys - The blinking status increases its warning nature.

【SCENE ZONE 】and 【WALKING LIGHT PROGRAM ZONE 】- Indicates that when a multi-scene, multi-walking light program is running, it indicates that there is a scene or walking light program running in that zone.

Panel Introduction

SCANNER-Computer light selection key area

【CLEAR】Clear key：Clear all states chosen by scanner keys and quit manual operation.

【1-16】Section key：When the indicating light is on, 1-16 scanner can be chosen from number keyboard.

【17-32】Section key：When the indicating light is on, 17-32 scanner can be chosen from number keyboard.

【HOLO】Scanner hold key：

When the indicating light is on, it is a scanner hold state. Multi scanner can be manual operated.

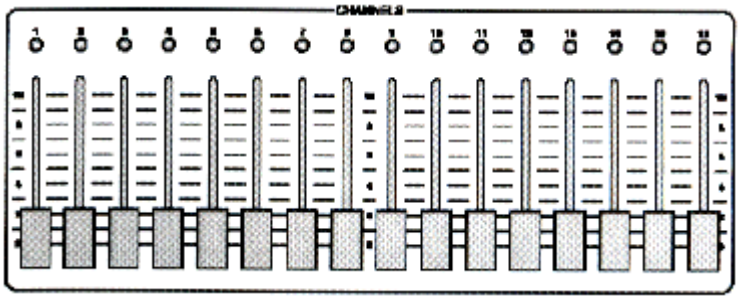
【1-16】Scanner number key：

After pressing these keys, the indicator corresponding to the key is on, indicating that this number of computer lights in the manual operation state, and then press when the indicator corresponding to the key does not light up, the number of computer lights are not controlled by the manual fader, to maintain the original set data, press CLEAR can be cleared to manually set the data state, all the computer lights are in the reset state.

CHANNELS-Channel putter area

Computerized lamp 16 channel value setting faders. Individual channel values can be set for selected computer lights during manual operation.
The CHANNELS channel fader zone must be used in conjunction with the SCANNER computerized lamp zone.

SUNNY 512 CONSOLE



SCENE-scene area

Sunny512 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 and indicates that the section 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 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, the current section only can run a scenes.

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】, single scene or multi scenes can be operated.

CHASE-Walking light program area

The Sunny512 console can store a total of 48 light-walking programs, stored in 3 zones, each zone has 16 light-walking programs, can run 4 light-walking programs at the same time, according to the principle of first-in-first-out, and only run the last 4 light-walking programs.

【A/B/C】partition key

When the key is pressed, the corresponding indicating light is on and indicates that the section is current section. If current section is A, press scene number key and A01-A16 chase can be operated. If the indicating light of not current section is on, it indicates thatthere are chases are running in that section.

【SINGLE】single travel light key

The key is used to switch the following states:

When SINGLE light is on, the current section only can run a chase.

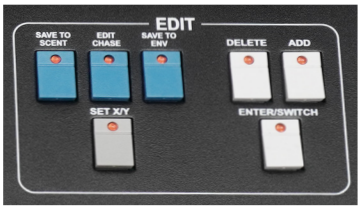
When SINGLE light is off, the current section can run up to 4 chases at the same time.

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.

Editing and Functional Areas



【SAVE TO SCENE 】Scene save key

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

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. The 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 is off. The edit result is saved and the edit state is quitted.

【SAVE TO ENV】Environment save key

Press the key, then press environment number key, the environment is saved to the number of environment.

【DELETE】Delete key: When the chase is edited, press the key to delete the current chase step.

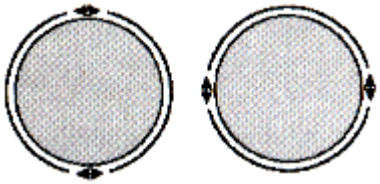
【ADD】 Add key

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 are copied

automatically to the new added chase step.

ENTER/SWITCH



In scene edit and environment edit, it is ENTER key.

In chase edit, it is SWITCH key.

←→、▲▼（MODULATION WHEEL）

In edit chase, ←→ is used to change edit item, ▲▼ is used to set the value of the item.

In manual operation mode, ←→ is used to set the X position of a scanner, ▲▼ is used to set the Y position.

Other

【MUSIC】Music trigger key

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

When the indicating light is off, chase follows the set time multiplying the speed percentage set by SPEED slider.

【BLACKOUT】

When the indicating light is blink, console run an inside black scene automatically.

When the indicating light is off, console is in the normal state.

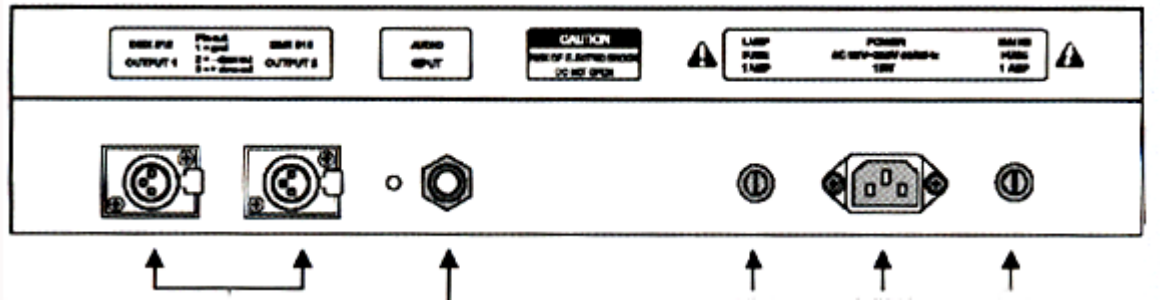
【SPEED】Chase speed slider

Push the slider to FAST, chase runs faster. Push the slider to SLOW, chase runs slower.chase step Time x SPEED percentage = the actual running time of the current chase step The changeable range is 300%-30%. When SPEED is 100%, chase step runs on the set time and the set cross time. When the higher speed is needed, SPEED should be adjusted to smaller than 100%. The fast is 1/3 of the standard speed when SPEED is 30%. When the slower speed is needed, SPEED should be adjusted to larger than100%. The slowest is one third of the standard speed when the SPEED is 300%.

【LAMP】： 12V work lamp socket. The power of the lamp is smaller than 6W.

【POWER】： POWER: Power switch of the whole equipment.

Introduction to the rear



DMX512 output　Audio signal input　Work lamp fuse　Power input　Power fuse

Setting operation of X/Y

From the User's Manual of the scanner, whether the scanner is 8Bit X/Y or 16Bit X/Y and the attribute of the corresponding channel can be known.

1. Press SET【X/Y】key, the indicating light is on. It is in setting scanner's X/Y state.
2. Use scanner keyboard to choose scanner.
3. Use modulation wheel ← → to choose 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 scanners.
6. Press SET【X/Y 】key to quit the edit state.

Manual operation of single scanner

1. Press【HOLD】to make the indicating light off.
2. Choose scanner: press scanner number key (cooperate with 【1-16 】and【17-32】), the indicating
light is on.
3. Use CHANNELS sliders to set the channel values, use modulation wheel ← → and ▲ ▼ to adjust X/Y
position.

Manual operation of the same kind multi scanners

1.Press 【HOLD】 to make the indicating light off.
2. Choose scanner: according to the 2 step of Manual operation of single scanner, multi scanners can be
chosen. (Note: only the scanners with the same X/Y channel can be chosen at the same time.)
3. Use CHANNELS sliders to set the 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
scanners at the same time.

Channel release for manual operation

1. Press the 【HOLD】so that the indicator light is on and in the release state;
2. Push the CHANNELS lever to release the corresponding channel, which is no longer under manual control, but under scene, program and environment control.

Canceling manual movement of computerized lights

Press 【CLEAR】 to cancel the manual movement, and the channel values of each computer light are not retained.

Steps for scene editing

1. Press MANUAL RUN mode, select the computerized light and set each channel value and X/Y position.
2. Press [SAVE TO SCENE], press the scene partition key and scene number key, and then press [ENTER/SWITCH] to confirm saving.

Example: To save the current running status of the computer light as A13 scene: Press [SAVE TO SCENE], press [A] of [SCENE], press [13], and then press [ENTER/SWITCH].

Cue:

Scene editing can be done at any time, after setting up the artistic composition you want to achieve using any operating means for multiple computer lights, you can save the current operating status of all the computer lights as a scene number as long as you perform the step 2 above, for example, run the B02 and C07 scenes at the same time as a base, and then extract the 3 computer lights by manual operation, adjust the beams to a certain position, and then save the combination of those for C01 scene. If you run the C01 scene later, you can reproduce this combination of light art composition.

Copying Scenes

Example: Copying Scene A01 to Scene C10.

1. Press [A] of [SCENE], then press [1], at this time the console runs the A01 scene.
2. Press [SAVE TO SCENE], press [C] of [SCENE], press [10], and then press [ENTER/SWITCH] to confirm.

Tip:

It is also possible to run a number of Scenes at the same time to form a new art composition and then save it as another new Scene.

Lighting Program Editor

The Sunny512 console can store up to 48 light walking programs.

A Walkaround program consists of several program steps, which are similar in concept to Scenes. Each program step consists of a set of control values for each channel of each computer light, as well as the Time value and Cross Fade value parameters for that step.

The total capacity of the program step is 1600 steps, each walking light program can be up to 100 steps, each program of each step of the Time dwell time value and Cross fade time value can be set independently. After setting the dwell time and cross time for each step, the standard running speed of the light walking program is set.

The SPEED fader can be used to adjust the running speed by ±3 times on the speed base.

Time dwell time value for light walking program step

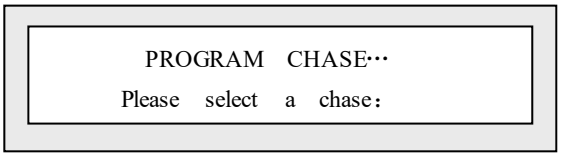
This value defines the interval dwell time between the current and next step. The unit is 0.1, and the Time can be adjusted from 1-255, i.e. the minimum time for each step is 0.1 seconds and the maximum time is 25.5 seconds.

Cross Fade Time Value for Walking Light Program Steps

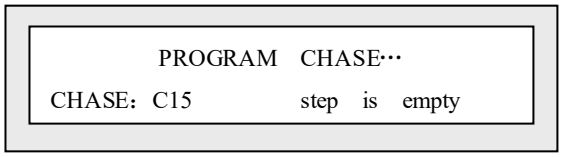
This value defines the time between two crosswalk steps, the range is 0-255, i.e. the shortest crosswalk time is 0.1 seconds, the longest is 25.5 seconds.

Editing steps for the light walking program:

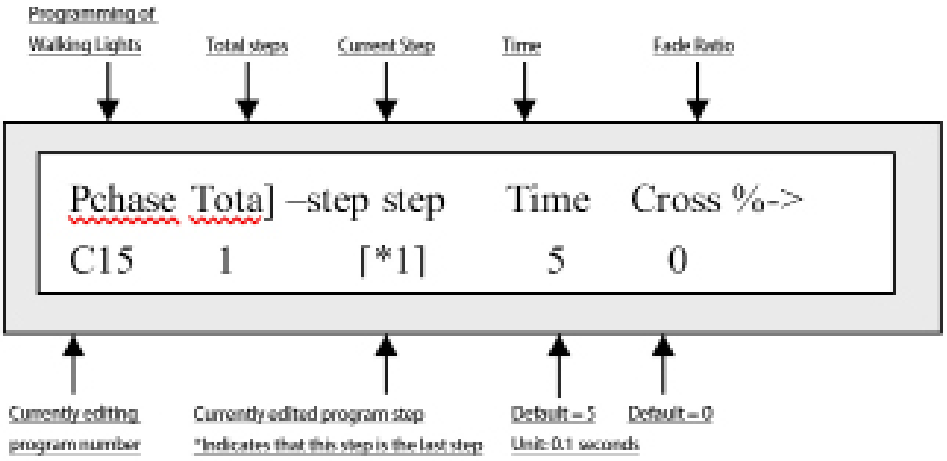
1.Press【EDIT CHASE】:



2. Select the Walkaround program number to be edited. Example: For example, to edit the light walking program C15, press 【C】 of 【CHASE】and then press 【15】, if the program is empty, it will be displayed:



3. Press【ADD】to add a step:



4. Switch the setting items STEP, TIME and CROSS with the data wheel, and the data wheel sets the value under the current item.
Adjustment range of TIME time value: 1-255, unit is 0.1 second, the time value defines the dwell time from this program step to the next program step.
Adjustment range of CROSS fade time: 0-255. this fade time describes how much time is used to complete the fade processing.
5. Use the manual running method to set each channel value of each computer light of the current program step, and use 【ENTER/SWITCH】to switch the setting state of the walking light program step and the setting state of each channel value and X/Y value of the computer light of the manual running.

6. Repeat step 3-5 to edit next chase step.

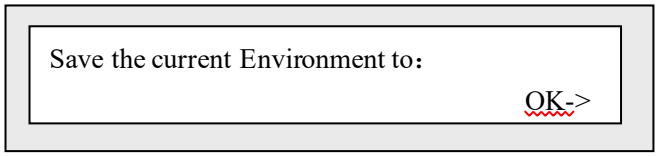
7. Press【EDIT CHASE】to end edit.

Tip:
When you press 【ADD】 to add a program step, it will automatically copy all the computer light channels as well as TIME and CROSS setting values of the previous step to the newly added program step, so that new contents will be generated by modifying only certain items, such as the current light walking program is empty, it will automatically set all the computer light's various channel values to 0.

During the editing process, 【ENTER/SWITCH】 can be used to switch between the setup state of the light walking program step and the setup state of each channel value and X/Y value of the manually operated computer lights. In different states, the data wheel control object is different, in the program step setting state, using the data wheel to change the current step, you can repeatedly check the spatial composition effect produced by each program step, and you can immediately modify the channel value of some computer lights in the current program step.
Press 【DELETE】to delete the current program step.
Pressing and holding 【DELETE】 for more than 3 seconds will delete the entire program.

Environment Program Editor

The current manual running state, scene running state and light walking program running state is the current running environment, saving the current environment as an environment program can provide great convenience for quickly reproducing the environment in the future.
It is possible to run an environment program + a number of walking light program + a number of scenes + a number of manual operation (lamp) such a complex operating environment saved as an environment program. When saving, you can either overwrite the original environment program number or save it as another numbered environment program.
The New Sunny 512 console can store up to 15 environment programs, which can be run directly from the keyboard. In order to prevent accidental touching of the keyboard, you need to press the 【SELECT】 and then press the environment program number key when calling up an environment program to run.
Editing steps:
1. The following running methods can be selected at the same time as needed:
（a) Computer light manual run;
（b) Scene running (multiple scenes can be run at the same time);
（c) Walking light program run (up to 8 can be run at the same time);
After pressing SAVE TO ENV, key, the screen displays as shown:



3.Press【SELECT】;
4.Press【1~15】;
5.Press【ENTER/SWITCH】to conform.;
Tips: To save the environment, it is not needed to press 【SELECT】first.
To run environment, it is needed to press 【SELECT】 first and then press number key.

Running

Running scene

Example 1:
Single running scene A01.
1. Close running scene B and C one by one.
2. Press【A】 to choose A as the current district.
3. Press 【SINGLE 】to make SINGLE indicating light on. A district is in the single scene running mode.
4. Press【 1 】to run scene A01.
Example 2:
Run A02, A10, B15, C07 scenes at the same time.

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

Now, the above scenes are running simultaneously.

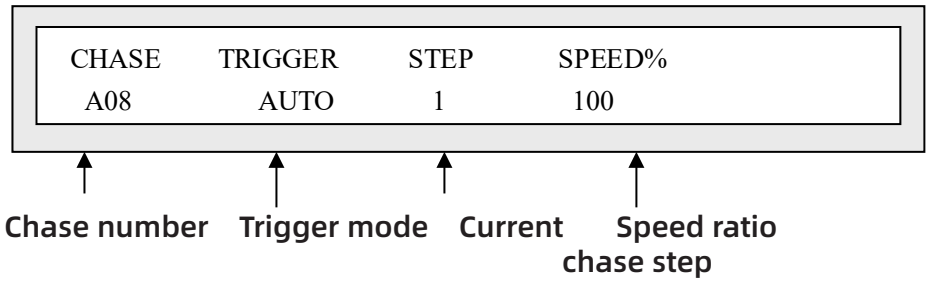
Tips

In the step 3 of example 2, if press 【SINGLE 】to make SINGLE indicating light on, perform step 4

to run scene A10 and scene A02 will close automatically.

Running chase

Running chase, the screen will display:



Example 3:

Running chase A08.

1. Press【SINGLE】of CHASE to make SINGLE indicating light on. it is in the single chase running mode.
2. Press【A】to choose A as the current district.
3. Press【8】 to run chase A08.

Example 4:

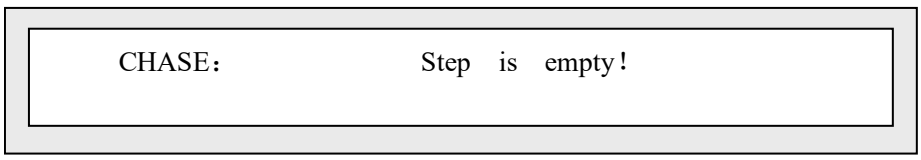
Run A04, A13, B07, C10 chases at the same time.

1. Press【SINGLE】of CHASE to make SINGLE indicating light off. It is in the multi chase running mode.
2. Press 【A】 to choose A as the current district.
3. Press 【4 】 to run chase A04.
4. Press 【13】 to run chase A13.
5. Press 【B】to choose B as the current district.
6. Press 【7】to run chase B07.
7. Press 【C】to choose C as the current district.
8. Press 【10】 to run chase C10.

Now, the above 4 chases are running simultaneously.

Tips

If the chosen chase is empty (without chase step), the screen will display:



Adjusting the Walking Light Program Running Rate

Adjusting the SPEED rate fader changes the run rate of the light walking program number.

Program step time value x SPEED rate value = actual run time value of the current program step

Music Synchronization Trigger for Walkaround Programs

Press the MUSIC key to make the MUSIC indicator light up, then the light walking program is in the state of music synchronization triggering, in this state, the time value of each program step of the light walking program will not work, and the gradual change of the role of the Cross is effective.

Running environment program

Press the SELECT key first, then press the number keys 1-15, the corresponding indicator will light up, at this time, the light walking program, scene and manual running state contained in the environment program will be automatically reproduced.

Example 5:Run environment program #1.

1. Press【SELECT】;
2. press 【1】.

Press 【SELECT】 again, and press the number key that is already lit to turn off the running of the environment program.

If you run the environment program with the addition of simultaneous running of the light walking program, scene and computer light hand operation, the added running content will continue to run after closing the environment program.

Appendice

Display content	Content explanation
Scanner	Computer light
SIT XY CHANNEL	Setting the X/Y channel
X-H	Coarse adjustment channel for X-axis (high 8-bit channel)
X-L	Fine adjustment channel for X-axis (low 8-bit channel)
Y-H	Coarse adjustment channel for Y-axis (high 8-bit channel)
Y-L	Fine adjustment channel for Y-axis (low 8-bit channel)
No	For an 8-bit computerized lamp, only the X/Y coarse adjustment channels are used, and both X/Y micro channels must be set to [no].
CH	Abbreviation of channel CHANNEL
*	The light program marked with * is the last step of the current program.
->	Indicates that the display can be switched with the ENTER/ SWITCH key.
[ ]	Parameters in parentheses are current adjustments and can be changed with the data wheel.
SELECT CHASES	Selection of the Walkaround Program
PROGRAN CHASE...	Edit status of the Walkaround Program
Please select a chase:	Please select a program...
CHASE: xxx Step is empty!	The light walking program with this number is an empty program! (light walk program number is replaced by xxx)
Please select a number!	Please select an environment program number
Save the Current Scene to	Save current scene to...
Save the Current Environment to	Save current environment to...
MEMORY IS OVERFLOW!	Storage space has been used up.
Delete unused chases to free memory	Delete unused Walkman programs to free up storage space.

SUNNY 512 CONSOLE

Technical Parameters

Digital control mode	DMX512/1990
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	2
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 chase steps in a chase	100
Chase step time	0.1s-60s
Chase gradual change ratio Cross	0-100%
Total capability of chase steps	1600
Chase amount of simultaneous running scanners	4
Music in-phase chase	-10 ~ +10dB audio line input/inbuilt microphone
Channel sliders	16
Speed slider	1
The ratio range of chase speed	30%-300%
MODULATION WHEEL	2
Environment	15
Computerized light scene duplication	√
Unified control of all PC light X/Y channels with data wheel	√
Power off and power off data retention	√
DMX signal output connector	XLR-D3F×2
Audio signal input connector	1/4" mono socket
Power supply range	AC90V-250V,50-60HZ
Power consumption	15W
Operating Temperature Range	0-40C°
Operating Environment Requirements	waterproof and dustproof
Dimension	483 ㎜ ×400 ㎜ ×105 ㎜
Weight	8kg