



Skyrocket 18/36
Lighting controller

User Manual

Ver 1.2

CODE Electronic Co., Ltd.

<http://www.codelight.com>

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1 The resume

Welcome to use CODE Skyrocket 18/36 pro SCAN and lighting control desk. CODE Skyrocket 18/36 pro SCAN and lighting control desk is designed in order to provide control signal to the controllable silicon dimmer and SCAN to compose the lighting control system of digit format. CODE Skyrocket 18/36 pro SCAN and lighting control desk adopts DMX512/1990 communication protocol that is universal in international. Therefore, it can use safely credibly to Match with digit format dimmer and SCAN that adopt DMX512 communication protocol standard.

Because CODE Skyrocket 18/36 pro adopts advanced micro-computer control technique, its function is mighty and to use easily; it can control not only lighting but also SCAN. It can be used to the circumstances that need the lighting control as the minitype art performance community, fashion show, and discotheque, etc.

It is 36 that the lighting channel of CODE Skyrocket 36 pro SCAN and lighting control desk; but it is 18 that the lighting channel of CODE Skyrocket 18 pro SCAN and lighting control desk. There is a [19 ~36] press key on CODE Skyrocket 36 pro SCAN and lighting control desk, but a [STOP] press key is set on CODE Skyrocket 18 pro SCAN and lighting control desk. The [STOP] press key can let chasing program and SCAN program and music flash lamp and so on to pause at any moment. Except these, the function of two SCAN and lighting control desk is same.

It is main that the introduction of CODE Skyrocket 36 pro SCAN and lighting control desk in the user guide. The mentioned quantity is that chasing program and lighting scene and SCAN program and group control etc in the handbook, but it is modified to 18 on CODE Skyrocket 18 pro SCAN and lighting control desk

1.1 Device feature

- It can control simultaneously 18 import or export SCAN that adopt DMX512 communication protocol standard;
- The lighting control of 36 channels;
- the output of DMX512/1990 communication protocol standard;
- LCD display the operating mode of every channel;
- It can storage 36 SCAN program;
- It can storage 470 SCAN scene;
- It can storage 36 lighting scene;
- It can storage 36 chase programs, a program is not more than 100 steps;
- It can storage 36 flash control editing group;
- It can output simultaneously 3 chase programs and 2 music flash lamp programs and dimmer scene and SCAN program and manual dimmer and manual control flash and locked output;
- The regulation range of lighting scene cross time of 0~10 minutes;
- The regulation range of SCAN scene cross time of 0~10 minutes;
- The regulation range of lighting chase speed is 0.06 second to 10 minutes per step;
- The regulation range of SCAN program run speed of 0.06 second to 10 minutes per step;
- Bass/mid-low/mid-high/high is 4 music synchronism selections of selected frequency band;
- The data is held when to close the control desk.

1.2 Technical parameter

Digit output format:	DMX512/1990
DMX channel	252
Lighting output channel	36, DMX 1~36
SCAN output channel	216, DMX 37~252
SCAN control:	18, not more than 12 control channels
SCAN scene:	470
SCAN program:	36
Lighting scene:	36
Chase program:	36, not more than 100 steps in a program
Manual group control storage:	36
Manual flash controller:	1
Music flash lamp controller:	2
Chase output controller:	3
Manual dimmer controller:	1
Dimmer scene controller:	1
SCAN controller:	1
Cross time:	0~10 minutes (corresponding display is 99%~0%)
Chase speed:	0.06 second~10minutes per step (corresponding display is 99%~0%)
Music synchronism:	Bass/mid-low/mid-high/high is 4 music synchronism selections of selected frequency band
Music synchronism signal:	L/R tone channel,0dB/50KΩ,unbalance, RCA plug
Supply and Power consumption:	DC 9 V, 8W
Operating temperature:	0~40℃
Work environment:	No erosive flammability gas, natural draft place
volume:	483mm(length) x 178mm(width) x 47mm(height)
weight:	1.8Kg

1.3 User's manual explaining

It is divided into 8 parts that user handbook of CODE Skyrocket 36 pro SCAN and lighting control desk:

- The part of first is resume, it includes device feature and technical parameter and user handbook declaration etc;
- The part of second is the environment of device use, it includes the environment of device use and supply safety etc;
- The part of third is device resume, it includes the panel device and rear gate device and function structure etc;
- The part of forth is erection, it includes opening box to check, erecting structure, supply power, the connection of the digital cable, the tone frequency cable etc;
- The part of fifth is the operation method and to introduce all kinds of operation function and usage method;
- The part of sixth is the editing method of lighting control program and the introduction of the editing method of lighting control program;
- The part of seventh is the editing method of SCAN control program and the introduction of the editing method of SCAN control program;

- The part of eighth is quantity guarantee and technical support.

The [XXX] express key name in the user handbook.

2 Use environment of the device

In order that user use rightly safely the CODE Skyrocket 36 pro SCAN and lighting control desk, please read this chapter content before using device.

2.1 Use environment of the device

CODE Skyrocket 36 pro SCAN and lighting control desk is exactitude precision electron device, the erection court should assume the condition of no erosive gas and little dust and aeration-drying etc.

2.2 Supply power

It is DC9V that the supply power of CODE Skyrocket 36 pro SCAN and lighting control desk. CODE Skyrocket TC182 can supply directly it. If it connected with other model digit format dimmer, it is supplied by itself providing rectification supply. Please check the local supply voltage and the exactitude of DC9V connection polarity before using device.

2.3 Supply safety

There is no safety device in the match supply transformer, therefore, must use AC outlet with safety device to connect. The low-pressure supply safety fuse (1A) is set in the device; it protects the device to safe operation.

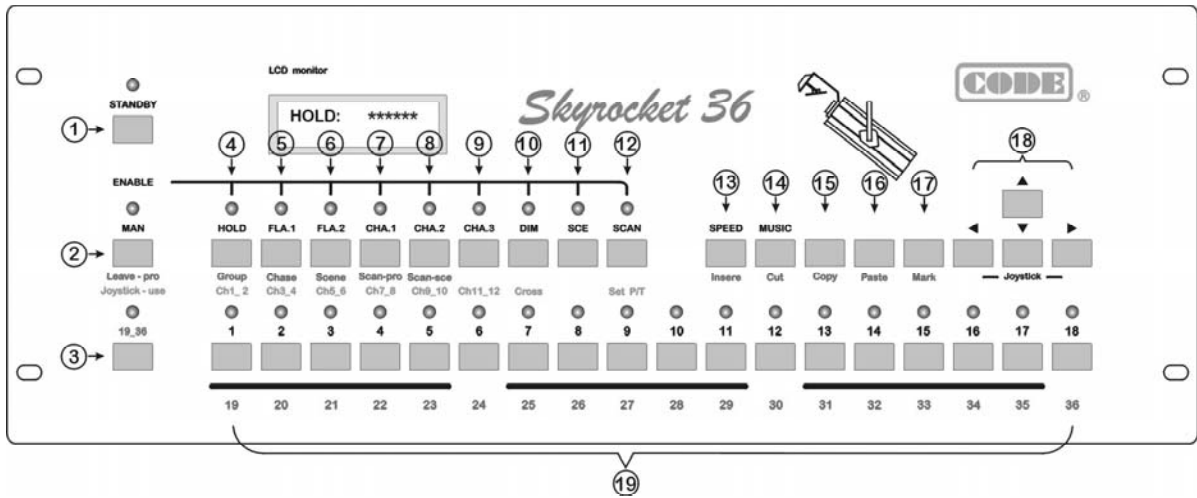
3 Product resume

When user use CODE Skyrocket 36 pro SCAN and lighting control desk, please understanding all kinds of functions of use and usefulness in detail, so that to use fully the control function of the device.

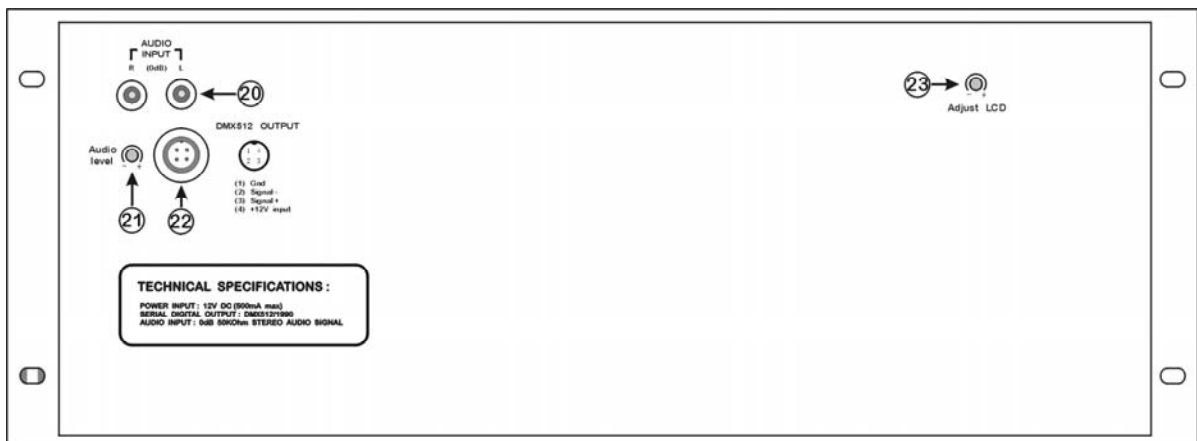
3.1 Literal exposition

Every key on the panel is marked with the English. The part of key is marked with few colors literal: the white literal is the function of being operating; the blue literal is the function of being programming lighting program; the red literal is the function of being programming SCAN program.

3.2 Installing the panel



3.3 Installing the rear gate



3.4 The namely and function of the panel and back plate

Table2: The namely and function of the panel and back plate

Jumbe	Contraposition of the namely and function					
	Operation state		Lighting program		SCAN program	
1	STAND BY		-	-	-	-
2	MAN	Manual flash control	Leave-pro	Exiting edit	Joystick-use	PAN and TILT control
3	19-36	1~18/19~36 channel switch over	-	-	-	-
4	HOLD	Locked controller	Group	Group edit	Ch1_2	Scan control channel 1,2
5	FLA.1	Music flash lamp controller 1	Chase	Chase edit	Ch3_4	Scan control channel 3,4
6	FLA.2	Music flash lamp controller 2	Scene	Scene edit	Ch5_6	Scan control channel 5,6
7	CHA.1	Chase controller 1	Scan-pro	Scan program edit	Ch7_8	Scan control channel 7,8
8	CHA.2	Chase controller 2	Scan-sce	Scan scene edit	Ch9_10	Scan control channel 9,10
9	CHA.3	Chase controller 3	-	-	Ch11_12	Scan control channel 11,12
10	DIM	Dimmer controller	-	-	Cross	Scan scene and cross time
11	SCE	Dimmer scene controller	-	-	-	-
12	SCAN	SCAN controller	-	-	Set P/T	
13	SPEED		Insert		-	-
14	MUSIC		Cut		-	-
15	-	-	Copy		-	-
16	-	-	Paste		-	-
17	-	-	Mark		-	-
18	Direction key		Direction key		Direction key	
19	Number key		Number key		Number key	
20	Input interface of voice-frequency signal					
21	Input level adjusting of voice-frequency signal					
22	DMX512 numerical signal interface					

3.5 function structure

The CODE Skyrocket 36 pro SCAN and lighting control desk is composed with all kinds of hardware and software as LCD and control key and others helping control and so on. So that it can realize to output simultaneously many functions (manual flash control/locked/music flash lamp/chase/manual dimmer/scene and SCAN control), all of them are set by corresponding operating mode display.

The micro-computer of the CODE Skyrocket 36 pro SCAN and lighting control desk may store the user program data, and it don't drop-out after close the control desk.

There are nine lighting controller and a SCAN controller that are constituted of software in the internal of the CODE Skyrocket 36 pro SCAN and lighting control desk, they can control 36 circuits lighting and 18 SCANS:

- one manual flash controller (MAN)
- one locked controller (HOLD)
- two music flash lamp controllers (FAL.1, FAL.2)
- three chase controllers (CHA.1, CHA.2, CHA.3)
- one dimmer controller (DIM)
- one scene controller (SCE)
- one SCAN controller (SCAN)

4 Setup

4.1 Opening box to check

There is a CODE Skyrocket 36 pro SCAN and lighting control desk and a user handbook and a production maintenance cord in the production package box. The attachment includes a supply power and a DMX512 signal connecting wire.

4.2 Installing structure

The panel of the device is 19"4U standard, it may be embedded on desktop or put on the frame or cabinet. Must leave off the place depth that is greater than 10cm to connect the cable of the back plate.

4.3 Supply power

The device may be supplied directly by CODE Skyrocket TC182, or use the matching supply transformer and private cable to supply. The device don't set power switch, When to closed it, need shut down the supply of the supply transformer and CODE Skyrocket TC 182.

4.4 Connecting the DMX digital cable

When it adopts the matching supply transformer to supply, the four-cores plug of the incidental cable connect with the four-cores socket of back plate of CODE Skyrocket 36 pro SCAN and lighting control desk. then the plug (F) of another connect with the plug (M) of another data cable (use for lengthening) that come from digital dimmer.

If it match to use directly the CODE Skyrocket TC182 that is product of our company, can adopt the four-cores plug to connect it and Skyrocket TC182, it is supplied directly by the dimmer.

The connection mode of plug and socket is in table 3.

Table 3: connecting digit signal plug

Signal	Four cartridges plug	XLR plug
Ground/communal end	1	1
Signal negative end	2	2
Signal positive end	3	3
+9V supply power	4	

4.5 Connecting the tone frequency cable

CODE Skyrocket 36 pro SCAN and lighting control desk use two RCA sockets to input the voice-frequency signal of L/R tone channel that use for chase synchronism. To adopt two tone frequency cable to connect the control desk and tone source device, the tone frequency cable must be the single core or twin cores speaker cable with screening net, one end adopt RCA plug, another end is select according to output interface of the tone source device.

Table 4: Audio input

Audio input	
Plug	RCA x 2
Mode	Stereo
Level	0dB
Impedance	50KΩ / imbalance

5 The use method

The chapter introduces all kinds of the use methods of CODE Skyrocket 36 pro SCAN and lighting control desk.

First, to connect the digit output cable and the tone signal cable. Second, to set DMX512 signal initial access destination of every digit dimmer and DMX512 signal initial access destination of every SCAN (Please read 7.3 part: the setting of DMX512 address code of SCAN). Last, to turn on the supply switch of CODE Skyrocket TC182 or switch on the supply of supply transformer. It is on that the LCD of CODE Skyrocket 36 pro SCAN and lighting control desk.

All kinds of operation that is related in this chapter only involve in the key function that is marked of the white literal.

5.1 Commonality operation

This paragraph relates some versatile operation methods that are often used.

5.1.1 STAND BY

To press [STAND BY] key, the LED of STAND BY is on or off. The control desk stop to output the lighting control signal and the SCAN control signal when the LED is on, and it stop to control all of lighting device. The control desk recover to output all kinds of control signal when the output monitor LED is off, and it conduct instantly to control all of lighting device.

5.1.2 The output of every function controller

CODE Skyrocket 36 pro SCAN and lighting control desk use software to generate 9 lighting controller and 1 SCAN controller. Every controller assume a press key and the output monitor LED: HOLD、FLA.1、FLA.2、CHA.1、CHA.2、CHA.3、DIM、SCE、SCAN controller correspond to the yellow LED, MAN controller correspond to the green LED. When these LEDS is on, this means corresponding controller is outputting, When these LEDS is off, this means corresponding controller stop to output.

If it is the controller with yellow LED, first to press [MAN] key and don't let it go, the LED is on, this means the output of the controller is valid. Again identically operate, the LED is off, this means the output of the controller is invalid.

Exemplify:

- Let CHA.1 and CHA.2 to output simultaneously: again press the key of [CHA.1] and [CHA.2] controller, the output monitor LED is on, this means the [CHA.1] and [CHA.2] controller is valid.
- To close CHA.2, only let CHA.1 to output: first to press [MAN] key and don't let it go, again press the key of CHA.2 controller, corresponding LED is off, this means the output of CHA.2 controller is closed. The LED of CHA.1 is on, it indicate CHA.1 continue to output.

To MAN controller with green LED, the manual flash operation is valid after [MAN] key. When again press [MAN] key, can not cancel the valid state of the manual flash output. If to want to cancel the valid state of the manual flash output, please press solely any key of the controller that is corresponding with the yellow LED, the manual flash operation is invalid when MAN LED is off.

Because there are 36 lighting control channels in the CODE Skyrocket 36 pro SCAN and lighting control desk, but there are only 18 number key on it, therefore, to set [19~36] key in order to subsection switch to control the number key board. It control the switch over of 1-18/19-36 channel by pressing [19-36] key, the green LED is also on or off. The number keyboard is 1~18 channel level when the green LED is off; The number keyboard is 19~36 channel status when the green LED is on.

5.1.3 Looking up the status of every function controller

Press the key of every function controller, LCD display instantly every setting status and control parameter of the controller.

When the green MAN LED is on (The manual flash output is valid), the red LED corresponding the number keyboard display every status of the output channel when present all of controllers output simultaneously.

When all of controllers output simultaneously, the max of them automatically as present output value.

5.1.4 Using direction key

It is divided into two lines that the display content of LCD, the showing content is different under different function statuses. The first line is the display line of the control term info. It displays as follows information: present function of use, the status, the control term, the control mode, etc. The second line is the display line of the control value info, it display all kinds of control values corresponding the control term of the first line. The control value in the [] indicate that it can be modified.

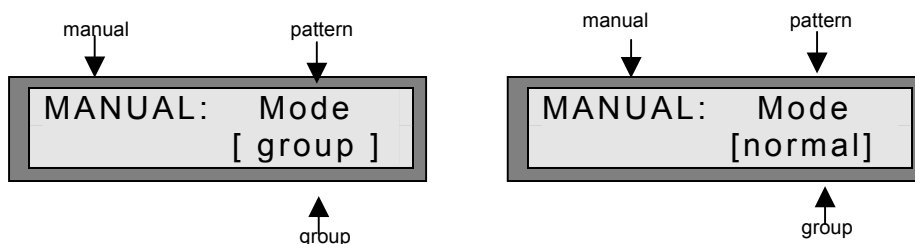
Many operation of this device involve in using [◀] / [▶] / [▲] / [▼] key, the use method of these direction key is as follows:

- To displace the [] to the control value of corresponding the control term by [◀] and [▶] key;
- To set or modify the control value by [▲] and [▼] key.

The content of this paragraph is also valid for as follows: the operation of this chapter; lighting program operation of sixth chapter, SCAN program operation of seventh chapter.

5.2 Manual flash controller

There are two kinds of modes in the manual flash controller-the normal and the group. Press [MAN] key, the function of the manual flash controller is valid when the green MAN monitor LED is on, LCD display present control mode in the time: the normal is single control mode; the group is group control mode; the control mode may be changed by direction key.



- **The normal mode**

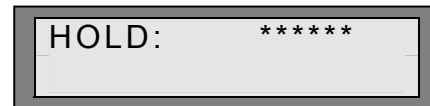
When LCD display normal mode and press number the key [1~18 or 19~36], there are output in homologous output channel, and the red output monitor LED is on. After release the key, there aren't output in homologous output channel, and the red output monitor LED is off.

- **The group mode**

it is a manual flash marshalling that the switching combining of 36 lighting output channels. CODE Skyrocket 36 pro SCAN and lighting control desk can be edited by user and it store 36 manual flash group (1~36) . When LCD display group mode, press number the key [1~18 or 19~36], in other words, calling the manual flash marshalling of the number key number, there are output in every output channel that is controlled by the marshalling, and the red output monitor LED is on. After release the key, there aren't output in every output channel that is controlled by the marshalling, and the red output monitor LED is off.

5.3 HOLD (locking controller)

When the yellow LED of HOLD is on, the locking controller output of HOLD is valid. LCD display as the right graph. The output channel press key under the mode has self-locking function: press number the key [1~18 or 19~36], there are output in the output channel, and the red output monitor LED is on. After release the key, the output level of the output channel is kept up; when again press the number key of the channel, the red output monitor LED is off, there aren't output in the output channel.

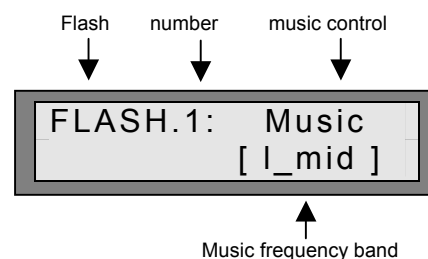


5.4 FLA (music flash lamp controller)

There are two music flash lamp controllers in CODE Skyrocket 36 pro SCAN and lighting control desk. Can set some lighting output channels to flash with music signal. Every controller select separately respective flash lamp output channel with music and select different music frequency band signal as the excitation signal source of the music flash lamp.

CODE Skyrocket 36 pro SCAN and lighting control desk the set of music flash lamp controller:

1. Press [FLA.1] or [FLA.2] key to select the music flash lamp controller 1 or 2. The FLASH.1 that is displayed by LCD express music flash lamp controller 1 (FAL.1), the FLASH.2 express music flash lamp controller 2(FAL.2).
2. Use the number key [1~18 or 19~36] to select the output channel that is the controlled by the music flash lamp controller.
3. Use the direction key to set the frequency band of the music excitation signal.
4. Press [MAN] key at all time, at the same time, press [FLA.1] or [FLA.2] key, the yellow LED of FLA.1 or FLA.2 is on, the output channel that is controlled by corresponding controller of the music flash lamp will flash to output with the music excitation signal.
5. Repeat the forth operation, the yellow LED of the music flash lamp controller is off, and stop to output the flash lamp signal.



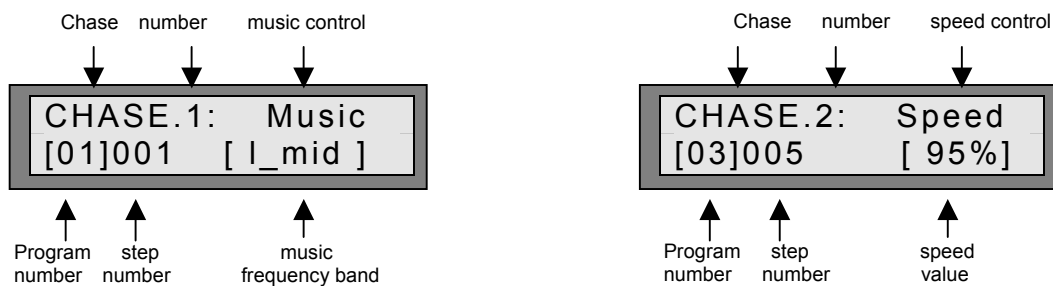
5.5 CHA (chase controller)

CODE Skyrocket 36 pro SCAN and lighting control desk can edit and store 36 chase program, there are three chase controllers that is constituted by software inside, it can call simultaneously three chase programs to output. Every program is constituted of 100 chase steps at most; every chase step is constituted of the value of 36 output channels; and all of the 36 Chase programs can be edited by the user.

There are two chase control patterns, as follows: speed control mode, music sync control mode. When it is set up speed control mode, its scope is from fastest 0.06 seconds per step (Speed=99%) to slowest 10 minutes per step (Speed=0%). When it is set up music sync control mode, can select any of the below as chase sync control signal source: Low/L-mid/H-mid/High frequency band.

Set of the chase controller:

1. Press [CHA.1] / [CHA.2] / [CHA.3] key, select 1 or 2 or 3. The CHA.1 that is displayed by LCD express chase controller 1; The CHA.2 that is displayed by LCD express chase controller 2; The CHA.3 that is displayed by LCD express chase controller 3.
2. Use the number key [1~18 or 19~36] or direction key to select the chase program number that is called chase controller (01~36).
3. Use [SPEED] key or [MUSIC] key to set the control mode.
4. Under speed control mode, the speed that is set when programming the chase program is tacit Chase speed. At this time, the program step number is performed sequentially according to the speed value of screen display, the red LED of channel output displays the channel output state of all program steps of chase program. To use the direction key adjust temporarily chase speed. At this time, it performs sequentially chase program step according to the set temporarily speed.
5. Under the music sync control mode, the chase program step is performed sequentially with excitation of the music sync control signal. To use the direction key to select music sync frequency band.
6. Press [MAN] key at all time, at the same time, press [CHA.1] / [CHA.2] / [CHA.3] key, the yellow output monitor LED is on, the output of the chase controller is valid.
7. Repeat the sixth operation, the yellow output monitor LED is off, the output of the chase controller is invalid.

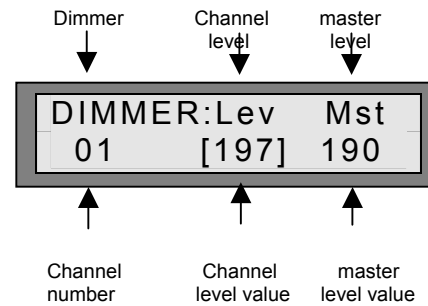


5.6 DIM (manual dimmer controller)

There is a manual dimmer controller in CODE Skyrocket 36 pro SCAN and lighting control desk. The design purpose of the manual dimmer controller is in order to facilitate some provisionality dimmer control. It can adjust solely some output channel (1~36), and change the level output of the channel (Lev=0~255), and adjust the output value of master control (Mst=0~255). The level value, 000=darkest, 255=lightest.

DIM set:

1. Press [DIM] key, LCD display present dimmer channel number of the dimmer controller and the level value and the master level value.
2. Use the number key [1~18 or 19~36] or the direction key to select the dimmer channel.
3. Use the direction key adjust the channel level value (000~255).
4. Use the direction key adjust the master level value (000~255).
5. Press [MAN] key at all time, at the same time, press [DIM] key, the yellow output monitor LED is on, the output of DIM is valid.
6. Repeat the fifth operation, the yellow output monitor LED is off, the output of DIM is invalid.



5.7 SCE (lighting scene controller)

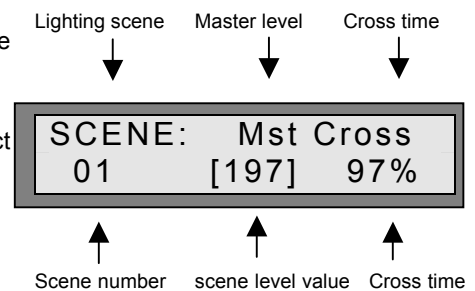
When CODE Skyrocket 36 pro SCAN and lighting control desk is used with the DM62/ DM63/DM65 of CODE producing and other digit dimmer DIMMER desk that adopt DMX512/1990 communication protocol standard, it can realize dimmer control. In order to convenience operation, use the lighting scene controller output the lighting scene of the pre-edition and store.

It is a lighting scene that combining of the output value of 36 dimmer output channel. CODE Skyrocket 36 pro SCAN and lighting control desk can storage 36 lighting scenes, all of lighting scenes can be edited by user.

The scene cross control provide the automatic control means for the intercross of two scenes, it can be done perfectly that the process from the first scene fade-out to the second scene fade-in. The switch over time of scene cross is set by Cross, its scope is from the fastest 0 second (Cross=99%) to the slowest 10 minutes (Cross=0%).

Set of the lighting scene controller:

1. Press SCE] key, LCD displays the parameter as present scene number and scene master level and cross time and so on.
2. Use the number key [1~18 or 19~36] or direction key to select the scene number.
3. Use the direction key to set the scene level value (000~255).
4. Use the direction key to set the scene cross time (00%~99%).
5. Press [MAN] key at all time, at the same time, press [SCE] key, the yellow output monitor LED is on, the output of the scene controller is valid.
6. Repeat the fifth operation, the yellow output monitor LED is off, the output of the scene controller is invalid.



5.8 SCAN

CODE Skyrocket 36 pro SCAN and lighting control desk may control 18 import or home-grown SCAN that adopt DMX512 communication protocol standard, and every SCAN may use 12 control channels at most.

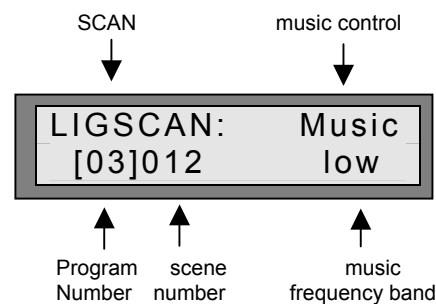
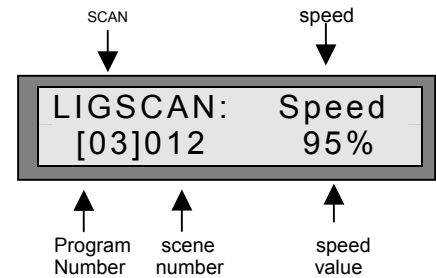
To store the control parameter of 18 SCAN performing in the same time as follows: the PAN or TILT site of the beam reflector, the beam brightness, color and GOBO, etc, and give a numeral numbering to it, thus a SCAN scene is composed. CODE Skyrocket 36 pro SCAN and lighting control desk can edit and storage 470 SCAN scene (1~470).

A scene of SCAN is a program step (At most there are 470 program steps), to perform sequentially many steps according to the SCAN scene numbering sequence of program step. It composes a SCAN program. CODE Skyrocket 36 pro SCAN and lighting control desk may edit and store 36 SCAN program.

The action of SCAN controller is calling one of 36 SCAN programs to output. In SCAN controller, Can change the number of calling program at any moment, and there are two control modes - speed control mode and music control mode. Under the speed control mode, can change the performing speed at any moment, the scope is from the slowest 10 minutes per step (Speed=0%) to the fastest 0.06 seconds per step (Speed=99%). Under the speed control mode, can select any of the below as chase sync control signal source: Low/L-mid/H-mid/High frequency band.

The set of SCAN controller:

1. Press [SCAN] key, LCD displays is the below information the called SCAN program number, present performing SCAN scene number, speed or music control mode, its control parameter etc.
2. Use the number key [1~18 or 19~36] or direction key to select the program number.
3. Use [SPEED] key or [MUSIC] key to set the control mode.
4. Under the speed control mode, use the number key to set speed value (00%~99%). At this time, it performs sequentially SCAN scene according to the set speed value.
5. Under the music sync control mode, To use the direction key to select music sync frequency band (Low/L_mid/H_mid/High). At this time, the SCAN scene is performed sequentially with excitation of the music sync control signal.
6. Press [MAN] key at all time, at the same time, press [SCAN] key, corresponding yellow LED is on, the output of the SCAN controller is valid.
7. Repeat step 6, the yellow LED is off, the output of the SCAN controller is invalid.



6 Editing method of the lighting control program

In this chapter, will introduce the editing method of various lighting control programs of CODE Skyrocket 36 pro SCAN and lighting control desk. There are some keys with many use functions on the panel, when the lighting control program is in editing mode, to use the function of keys that are marked by the blue literal. All kinds of operations that are narrated in this chapter involve in the function of keys that are marked by the blue literal.

There are five keys that are marked by the blue literal in the keyboard region, they correspond with the yellow LED. The [MAN] key is also marked by the blue literal:

- Leave-pro
- Group
- Chase
- Scene
- Scan-pro
- Scan-sce

Group and Chase and Scene are three editing methods that involve in the lighting control program, they will be introduced in this chapter. But Scan-pro and Scan-sce are two editing methods that involve in the SCAN control program, so they will be introduced in the seventh chapter.

In editing operation, can make use of the high-level editing function to reduce the editing works, so that the editing speed is quickened. There are four high-level editing keys on this desk, and they are also marked by the blue literal:

- Insert
- Cut
- Copy
- Paste

It is in table 5 that the validity of the high-level editing keys under different editing mode, the “√” express validity.

Table 5

Editing operation	Insert	Cut	Copy	Paste
Group	-	-	√	√
Chase	√	√	√	√
Scene	-	-	√	√

6.1 The commonality operation

6.1.1 Get into the editing mode

Select the function key to be edited (Group、Chase、Scene、Scan-pro or Scan-sce), to press the key up to about five second so as to get into the function editing mode, at first LCD display: ** In program **, after a while, LCD display the content of the function editing mode. The first bit character is blink on the screen, it means to have been get into the function editing mode. Under this mode, other editing function key is invalid.

6.1.2 Exit the programming state

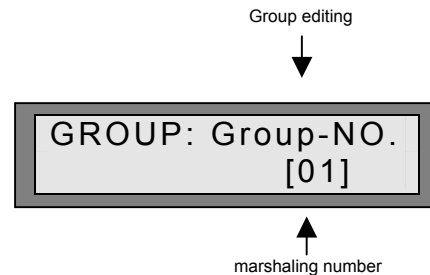
Under the programming mode, press [Leave-pro] key up to about five second so as to exit the programming mode, LCD recover the message display of the normal operation status. When exit the programming mode, the various positing is credibly preserved.

6.2 GROUP

6.2.1 The foundational editing operation

Operation purpose: to edit the new group or to modify the old group.

1. Get into the group editing
press [Group] key up to about five seconds so as to the group editing mode, the first character is shimmer in this time. LCD display relevant information in the mode of group and present marshaling number.
2. Select the marshaling number:
Use the direction key to Select the marshaling number (01~36).
3. Edit the output channel state:
Use the number key [1~18 or 19~36] to select the output channel that accept this marshaling control, the red output monitor LED is on.
4. Edit other group:
Repeat the 2-3.
5. Exit programming:
Press [Leave-pro] key up to about five second so as to exit the programming mode.



6.2.2 Copy group

Operation purpose: to select a group to copy it to other numbering group.

1. Get into the group editing.
2. Use the method of selecting marshaling number to select the marshaling number as the copying source.
3. Copy:
press [Copy] key, LCD display: Copy Group , after one second, the screen recover the old content.
4. Use the method of selecting marshaling number to select the marshaling number as the pasting goal.
5. Paste:
press [Paste] key, LCD display: Paste Group. LCD recovers the old showing content after one second. The level of the source group output channel has been pasted to the goal group, their output channel levels are the same. Repeat 4-5 to paste more goal groups.
6. Use the method of editing output channel to edit every output channel level of the goal group.
7. Exit the programming mode.

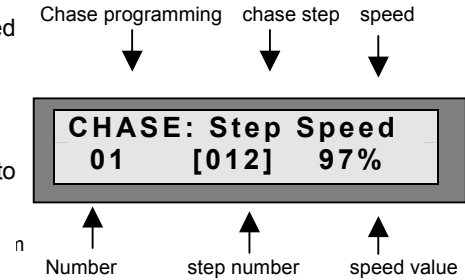
6.3 CHASE

6.3.1 The foundational editing operation

Operation purpose: to edit new chase program or to modify old chase program.

1. Get into the editing of chase program:

press [Chase] key up to about five seconds so as to the chase program editing status, the first character is blink in this time. LCD display the below information: present editing chase program number, chase program step, the speed and music control mode and their control parameter etc.



2. Select the number of chase program:

use the number key [1~18 or 19~36] or the direction key to select the number of chase program.

3. Select the chase program step:

Use direction key to select the program step number(001~100) of wanting to edit.

4. Set the output channel status:

Use number key [1~18 or 19~36] to set the switch status of every output channel, the red output monitor LED is on or off.

5. Set other chase step: Repeat 3-4 to set other chase step.

6. Set the return mark of looping:

Use [Mark] key to set the looping mark site of the chase program, LCD display "*" mark to means the chase program return the first step to repeat execution when it meet the mark. Example: if you wish that the chase program only loop to execute from 1st to 65th program step, then press [Mark] key after programming 65th step, the chase program automatically return to the first step to loop execute after it executed 65th step.

7. Set tacit chase speed:

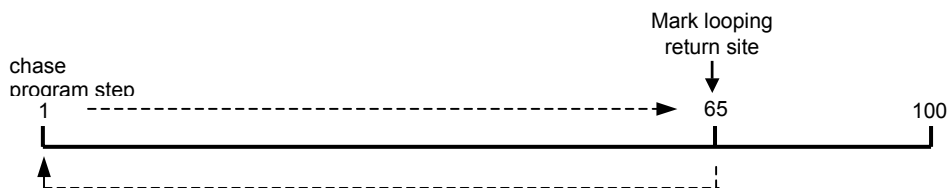
use the direction key to set tacit speed of the chase program (00%~99%). When [] displace to the speed site from the SCAN scene number site, the chase program execute instantly from the first step beginning from small to big according to the value of the display speed, when it meet the loop mark with * (Can observe it from the LCD), the chase program return the first step to execute. The red LED corresponding to the number key displays the level of every output-channel that is controlled by every program step.

8. Edit other chase program:

Repeat the 2-7 to Edit other chase program.

9. Exit programming:

Press [Leave-pro] key up to about five seconds so as to exit the programming mode.



6.3.2 Copy chase program

Operation purpose: to select a chase program to copy it to other numbering chase program.

1. Get into the editing chase program mode.
2. Use the method of selecting chase program number to select the chase program number as the copying source.
3. Copy:
press [Copy] key, LCD display: Copy CHA_pro , after one second, the screen recover the old content.
4. Use the method of selecting chase program number to select the chase program number as the pasting goal.
5. paste:
press [Paste] key, LCD display: Paste CHA_pro. LCD recovers the old content after one second. All of the program steps of the source chase program have been pasted to the goal chase program, two chase programs are the same. Repeat 4-5 to paste more goal chase programs.
6. Use the method of selecting chase program number and setting the output channel statuses to set every output channel status of every chase program step.
7. Exit the programming mode.

6.3.3 Copy chase program step

Operation purpose: to select a program step in the chase program to copy it to the program step of the other chase program.

1. Get into the chase program editing.
2. Use the method of selecting chase program to select the chase program number of the program step as the copying source.
3. Use the method of selecting chase program step to select the chase program number as the copying source.
4. paste:
press [Paste] key, LCD display: Copy CHA_step, LCD recovers the old content after one second.
5. First use the method of selecting chase program to select the chase program number of the program step as the pasting goal.
6. Use the method of selecting chase program step to select the chase program number as the pasting goal.
7. paste:
press [Paste] key, LCD display: Paste CHA_pro, LCD recovers the old content after one second. Every output channel status of the source chase program step have been pasted to the goal program step, the output channel statuses of two chase program steps are the same. Repeat 5-7 to paste more goal chase program steps.
8. Use the method of setting the output channel status to set every output channel status of the goal chase program step.
9. Exit the programming mode.

6.3.4 Insert chase program step

Operation purpose: to insert a pan-empty program step in the chase program.

1. Get into the chase program editing.
2. Use the method of selecting chase program to select the chase program number that need insert program step.
3. Use the method of selecting chase program step to select the inserted site program step. After finish the inserted operation, the inserted site and the number of the above program step will automatically add 1(include the program step with mark), it is automatically deleted that the program step that is greater than 100 after adding 1 (include the program step with mark).
4. insert:
Press [Insert] key, the screen display: Insert CHA_step, LCD recovers the old content after one second. The program step of the inserted site that is just selected is already a pan-empty program step.
5. Can repeat 3-4 to insert more pan-empty program steps.
6. Use the method of setting output channel status to set every output channel status of the inserted chase program step.
7. Repeat 2-6 to insert the chase steps in other chase program.
8. Exit the programming mode.

6.3.5 Cut chase program step

Operation purpose: to cut a chase program step.

1. Get into the chase program editing.
2. Use the method of selecting chase program to select the chase program number to be cut.
3. Use the method of selecting chase program step to select the program step to be cut. After finish the cutting operation, all of the program step numbers that are greater than the number of the cutting site will automatically subtract 1(include the program step with mark),
4. Cut:
Press [Cut] key, the screen display: Cut CHA_step, LCD recovers the old content after five seconds.
5. Repeat 3-4 to cut other program step.
6. Repeat 2-5 to cut the program step of other chase program.
7. Exit the programming mode.

Annotation: The chase program step that is cut is already deleted form the chase program, but it is in the reservoir of computer, and can use the method of the paste to paste it to other program step.

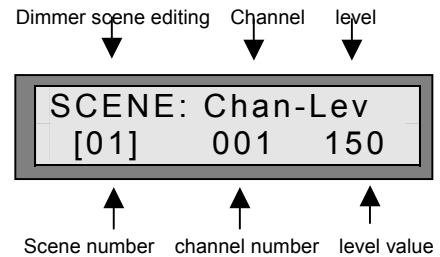
6.4 SCENE

6.4.1 The foundational editing function

Operation purpose: edit new lighting scene or modify old lighting scene.

1. Get into the lighting scene editing:

Press [Scene] key up to about five seconds so as to the group editing mode, the first character is blink in this time. LCD display the scene number of present editing (1~36), and output channel number (1~36) and the output level value (000~255, 000=darkest, 255=lightest).



2. Select the lighting scene number:

Use the number key [1~18 or 19~36] or the direction key to select the scene number (01~36).

3. Select the output channel number:

Use direction key to select the output channel number to be edited (01~36).

4. Set the level value of the output channel:

Use direction key to set the level value of the output channel (000~255).

5. Set the level value of other output channel:

Repeat 3-4 to set the level value of other output channel of the lighting scene.

6. Set other lighting scene:

Repeat 2-5 to set other lighting scene.

7. Exit programming:

Press [Leave-pro] key up to about five seconds so as to exit the programming mode.

6.4.2 Copy lighting scene

Operation purpose: To select a lighting scene, copy it to other a numbering lighting scene.

1. Get into the lighting scene editing.

2. Use the method of selecting lighting scene number to select the lighting scene number as the copy source.

3. Copy:

Press [Copy] key, the screen display: Copy Scene, LCD recovers the old content after one second.

4. Use the method of selecting lighting scene number to select the lighting scene number as the paste goal.

5. Paste:

Press [Paste] key, the screen display: Paste Scene, LCD recovers the old content after one second. Every output channel levels of the source lighting scene have been pasted to the goal lighting scene, the output channel levels of two lighting scenes are the same. Repeat 4-5 for pasting more goal lighting scene.

6. Use the method of setting the level value of the output channel to set the level value of every output channel of the goal lighting scene.

7. Exit the programming mode.

6.4.3 Copy the output channel

Operation purpose: to select a output channel of the lighting scene to copy it to other a output channel of the other lighting scene.

1. Get into the lighting scene editing.
2. Use the method of selecting lighting scene to select the scene number of the output channel to be as the copy source.
3. Use the method of selecting output channel number to select the output channel as the copy source.
4. Copy:
Press [Copy] key, LCD display: Copy Channel, LCD recovers the old content after a second.
5. First use the method of selecting lighting scene to select the lighting scene number of the output channel as the paste goal.
6. Then use the method of selecting output channel number to select the output channel as the paste goal.
7. Paste:
Press [Paste] key, the screen display: Paste Channel, LCD recovers the old content after one second. The value of the source output channel has been pasted to the goal output channel, their output values are the same. Can repeat 5-7 for pasting more goal output channels.
8. Exit the lighting scene programming mode.

7 The editing method of SCAN program

In this chapter, it is introduced that the editing method of SCAN programs of CODE Skyrocket 36 pro SCAN and lighting control desk. There are some keys with many use functions on the panel, when it is in editing mode of the lighting control program, to use the function of keys that are marked by the blue literal. All kinds of operations that are narrated in this chapter involve in the function of keys that are marked by the red literal and part of keys that are marked by the blue literal.

There are five keys that are marked by the blue literal in the keyboard region corresponding to the yellow LED, the [MAN] key isn't marked by the blue literal, but marked by the red literal:

- Leave-pro
- Scan-pro
- Scan-sce
- Ch1_2
- Ch3_4
- Ch5_6
- Ch7_8
- Ch9_10
- Ch11_12
- Cross
- Set P/T
- Joystick-use

In the editing operation, can make use of the high-level editing function to reduce the editing works, so that the editing speed is quickened. There are 4 high-level editing keys on this desk, and they are also marked by the blue literal:

- Insert
- Cut
- Copy
- Paste

When use the desk, SCAN controller calls a SCAN program and output the run parameter of it to control the run of every SCAN. But the SCAN program is constituted with many SCAN scenes. Therefore, first edit every SCAN scene before editing every SCAN program.

Every control channel of the SCAN represents all kinds of control type, and its channel control value represents the different control statuses. Because there is a received control standard protocol about SCAN, you must use the control channels and the control value that are provided in the operation instruction of the SCAN as the editing reference standard. Example: all of the channel control consents of Martin pro-218 (Mode1) are as follows: Channel 1 - Shutter; Channel 2 - Dimmer; Channel 3 - Color; Channel 4 – Gobo, Channel 5 – Pan, Channel 6 - Tilt.

The cross time of SCAN scene provides the automatic control means for the transition between two SCAN scenes, it can do perfectly that the engagement from the first scene to the second scene. The cross time value of SCAN scene is set by Cross, its scope is from the fastest 0 second (Cross=99%) to the slowest 10 minutes (Cross=0%).

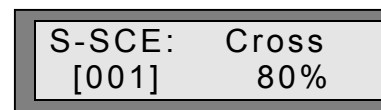
7.1 SCAN-SCE

7.1.1 The foundational editing operation

Operation purpose: to edit new SCAN scene or to modify old SCAN scene.

1. Get into the editing of SCAN scene:

Press [Scan-sce] key up to about five seconds so as to the SCAN scene editing mode, the first character is shimmer in this time. LCD display the present editing scene number (1~470) and the control value of the scene cross time (0~99%).



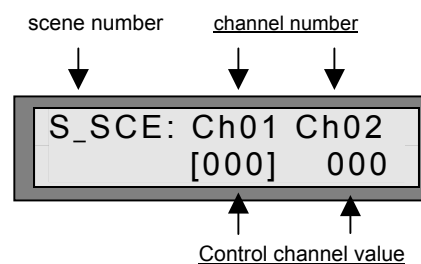
2. Select the number of SCAN scene:

press [Cross] key, LCD display the SCAN scene number and the scene cross time, use [◀] key to displace [] to SCAN scene number; use [▲] or [▼] key to select the SCAN scene number (001~470) to be edited.

3. Select the controlled SCAN:

press number key [1~18] to select the controlled SCAN (1~18), the red output monitor LED is on, LCD display the control value of every control channel of this SCAN (it Only displays two channels, according to the method of the next step to look up the control value of others). If you wish many SCANS run simultaneously the identical control value, please press the number keys corresponding multi SCANS, the red output monitor LEDs are on, and LCD display the channel control value of the SCAN that the digit numbering is minimal.

4. Select the control channel of SCAN:
 press [Ch1_2] / [Ch3_4] / [Ch5_6] / [Ch7_8] / [Ch9_10] / [Ch11_12] key and direction key [◀] or [▶] to displace [] to the control channel number that need be edited. About the control type of every channel, please look up the operation instruction of SCAN.



5. Set the control value:
 use the direction key [▲] or [▼] to set the control value (000~255). Use the same method to set the control value of other control channel. About the control consent of the channel value, please look up the operation instruction of SCAN.

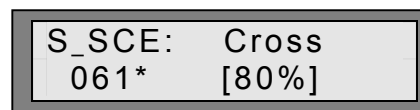
6. Setting the control value of other control channel:
 repeat 4-5 for setting the control value of other control channel.

7. Setting other SCAN:
 repeat 3-6 for setting the control value of every control channel of other SCAN.

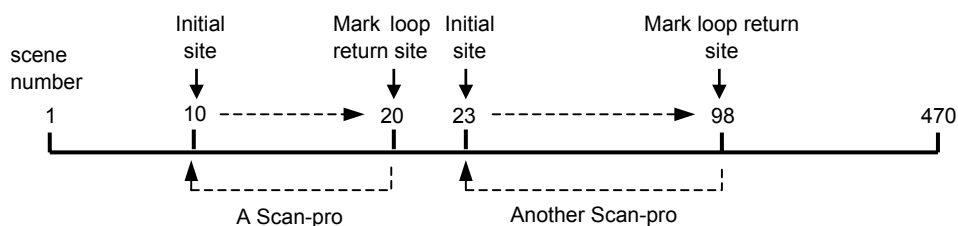
8. Setting the cross time of SCAN scene:
 press [Cross] key, LCD display the SCAN scene number and the scene cross time, use [▶] key to displace [] to [Cross]; use [▲] or [▼] key to set the cross time value (00%~99%).

9. Repeat 2-8 for editing the scene number of other SCAN.

10. Setting the looping mark:
 use [mark] key to set the mark in the SCAN scene that is as the looping return, there is a "*" in side of the SCAN scene of LCD. Can mark for looping in multi SCAN scene.



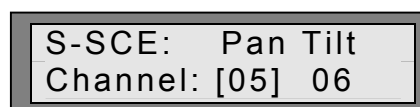
11. Press [Leave-pro] key up to about five seconds so as to exit the programming mode.



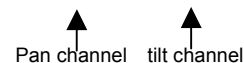
7.1.2 The control skill of PAN and TILT

In order to facilitate the editing operation, can use the direction key to control the positions of PAN and TILT of the SCAN reflector:

1. Under the editing mode of the SCAN scene, press [Set P/T] key get into the set mode of PAN and TILT moving control of SCAN.



2. According to the operation instruction of SCAN to look up the control channel number that corresponding the horizontal movement (Pan) of reflector.



3. Use the direction key to set the Pan channel to the Pan control channel number that is provided by the factory for producing SCAN.
4. According to the operation instruction of SCAN to look up the control channel number that corresponding the vertical movement (Tilt) of reflector.
5. Use the direction key to set the Tilt channel to the Tilt control channel number that is provided by the factory for producing SCAN.
6. Press [Joystick-use] key, LCD is showed in right graph. Can use directly the LEFT key or the RIGHT key to control the Pan position, and use directly the UP key or the DOWN key to control the Tilt position.



7.1.3 Copying SCAN scene

Operation purpose: to select a SCAN scene to copy it to other a numbering SCAN scene.

1. Get into the SCAN scene editing.
2. Use the method of selecting SCAN scene number to select the SCAN scene number as the copy source.
3. Copy:
Press [Copy] key, the screen display: Copy Scan-step, LCD recovers the old content after one second.
4. Use the method of selecting output channel number to select the output channel number as the paste goal.
5. Paste:
press [Paste] key, the screen display: Paste Channel, LCD recovers the old content after one second. The value of the source output channel has been pasted to the goal output channel, the output values of two output channels are the same. Repeat 4-5 for pasting more goal SCAN scene number.
6. Use the method of setting the control value and selecting the SCAN output channel to set every output channel value of the goal SCAN scene.
7. Exit the programming mode.

7.1.4 Inserting SCAN scene

Operation purpose: to select a SCAN scene number and to insert other a SCAN scene on its site.

1. Get into the SCAN scene editing.
2. Use the method of selecting SCAN scene to select the SCAN scene number of the inserting site. After finish the inserted operation, the inserted site and the number of the above SCAN scene will automatically add 1(include the scene number with mark), it is automatically deleted that the scene number that is greater than 470 after add 1 (Include the scene number with mark).
3. insert:
press [Insert] key, the screen display: Insert SCAN_step, LCD recovers the old content after five seconds, and to copy the SCAN scene content of the old inserted site to the SCAN scene that is the new inserted SCAN scene.
4. Use the method of setting the control value and selecting the SCAN output channel to set the control value of every output channel level in the inserted output channel.

5. Repeat 2-5 for inserting the scene in other SCAN scene.
6. Exit the programming mode.

7.1.5 Cutting SCAN scene

Operation purpose: To cut a SCAN scene number.

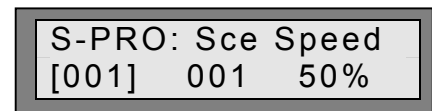
1. Get into the SCAN scene editing.
2. Use the method of selecting SCAN scene number to select the scene number to be cut. After to cut, all of the scene numbers that are greater than the number of the cutting site will automatically subtract 1(include the scene number with mark).
3. cut:
Press [Cut] key, the screen display: Cut SCAN_step, LCD recovers the old content after five seconds.
4. Repeat 2-3 for cutting other SCAN scene.
5. Exit the programming mode.

Annotation: the cut SCAN scene is already deleted form the serial numbering of SCAN scene, but it is in the reservoir of computer, and can use the method of the paste to paste it to other numbering SCAN scene.

7.2 SCAN-PRO

Press [Scan-pro] key up to about five seconds so as to turn in the editing SCAN program mode, the first character is shimmer in this time. LCD display the below information: the relevant info under the SCAN program editing mode and the present editing program number (1~36); the initial performing scene number of present program (1~470); tacit speed (00%~99%); etc.

Program editing scene number speed



Program number Scene number speed value

1. Select the number of SCAN program:
Use number key [1~18 or 19~36] or direction key to Select the number of SCAN program. The red output monitor LED is on.
2. Select the scene number that is first performed:
Use the direction key to select the scene number that is first performed in the program (001~470).
3. Set the value of tacit speed:
use direction key to set tacit speed of the program (00%~99%). When use the direction key to displace [] to the speed site from the SCAN scene number site, the program will instantly execute from the second step beginning according to the value of the display speed (from the small to the big). When the program meets the first scene number that is marked and bigger than initial scene number (Can observe it from the LCD). It returns automatically initial scene number to cyclically perform after it finishes the output of this scene. Under the editing mode, you can use the direction key [◀] to return the second step to change the initial scene number. If the initial scene number is the scene number that is marked, the SCAN program will continuously perform the initial scene.
4. Edit other SCAN program:
Repeat 1-3 for editing other SCAN program.

5. Exit programming:

Press [Leave-pro] key up to about five seconds so as to exit the programming mode.

7.3 Setting DMX512 address code of SCAN

In the inside of CODE Aurora 246 SCAN and lighting control desk, DMX512 digital signal is arranged as follows.

- The lighting control channel is 1st ~36th (add up to 36 channels) ;
- The SCAN control channel is 37th ~252th (add up to 216 channels), at most 12 channels is used by a SCAN.

If all of SCAN DIP address switches are shutdown state (00000000), it only receive data of the first channel of DMX512. Can adopt the setting method in table six.(As Trackspot etc.)

If all of SCAN DIP address switch are shutdown state (10000000), it only receive data of the first channel of DMX512. Can adopt the setting method in table seven. (As Martin Roboscan and FAL ITALSCAN etc.)

Table 6: setting SCAN DIP address switch

Number of SCAN	DMX address	Switch value of address 123456789
1	1	000000000
2	13	001100000
3	25	000110000
4	37	001001000
5	49	000011000
6	61	001111000
7	73	000100100
8	85	001010100
9	97	000001100
10	109	001101100
11	121	000111100
12	133	001000010
13	145	000010010
14	157	001110010
15	169	000101010
16	181	001011010
17	193	000000110
18	205	001100110

Table 7: setting SCAN DIP address switch

Number of SCAN	DMX address	Switch value of address 123456789
1	1	100000000
2	13	101100000
3	25	100110000
4	37	101001000
5	49	100011000
6	61	101111000
7	73	100100100
8	85	101010100
9	97	100001100
10	109	101101100
11	121	100111100
12	133	101000010
13	145	100010010
14	157	101110010
15	169	100101010
16	181	101011010
17	193	100000110
18	205	101100110

Annotation: 0=OFF, 1=ON

7.4 The control channel data of part of input SCAN

The model of input SCAN	channel	Control type
CLAY PAKY GOLDEN SCAN HPE	1	IRIS
	2	Color Disc1
	3	Color Disc2
	4	Dimmer / Strobe
	5	PAN
	6	TILT
	7	Frost and Effect
	8	Prism Rotation
	9	FOCUS
	10	Fixed Gobo Select
	11	Rotation Gobo Select
	12	Gobo Rotation
SGM GALILEO II	1	IRIS
	2	Color Select
	3	Gobo Select disk1 / disk2
	4	Shutter Strobe
	5	PAN
	6	TILT
	7	Gobo Rotation
	8	DIMMER
SGM GALILEO	1	IRIS
	2	Color Select
	3	Gobo Select disk1 / disk2
	4	Shutter Strobe
	5	PAN
	6	TILT
Trackspot	1	PAN
	2	TILT
	3	Color
	4	Gobo
	5	Shutter
	6	Dimmer
	7	Motor Speed
Martin Roboscan Pro 1200 XR (Protocol 1)	1	Strobe, Fan Speed, Lamp on / off, Reset Fixture
	2	Intensity
	3	Color
	4	Gobo 1 / Fixed Gobos
	5	Rotating Gobo selection
	6	Rotating Gobo Index/Continuous Rotation
	7	Focus
	8	Iris
	9	Prism
	10	Pan
	11	Tilt
Martin Roboscan Pro 518 (Mode 3)	1	Strobe, Fan Speed, Lamp on/off, Reset fixture
	2	Dimmer
	3	Color
	4	Rotating Gobo
	5	Effect Wheel
	6	Pan
	8	Tilt
	7	Shutter / Strobe / SA /Reset fixture
Martin Roboscan Pro 218 (Mode 3)	2	Dimmer
	3	Color
	4	Gobo
	5	Pan
	7	Tilt
	1	-
	FAL ITALSCAN HMI 1200	2
3		Gobo
4		Strobe
5		Pan
6		Tilt

MEMO