Action 96

Scanner Console

User's Manual

Ver 1.02

CODE ELECTRONIC CO., LTD.

CODE Action 96 scanner console adopts international universal DMX512 digital format. It can control scanners and other equipment with the same digital format. Its functions are compact. Its convenient and flexible characteristics made it be handled very easily. Action 96 is the best suit for various danceries, bar, and small art show.

Technical specification

Output signal	DMX512
DMX control channel amount	1-96
Control scanner amount	12
Maximum control channel amount of a scanner	8
Scanner chase	12
Maximum chase steps in a chase	50
Total chase steps	600
Chase step time	0.25-60s/step
Chase gradual change ratio Cross	0-100%
Display mode	Backlight LCD screen and LED indicator
DMX signal output connector	XLR-D3F
Other functions	Data auto-saves, Values auto save for various chase speed and gradual change
Power supply	AC 100-240V, 50-60Hz
Size	482mm x 177mm x 65mm
Weight	2.9Kg

Cautions for safe use

● Action 96 scanner console must be connected to the earth line to ensure the safety.

● When Action 96 scanner console and scanners are working, don't plug or pull out DMX512 data cable. This will destroy the port electric components of the console.

● Don't splash any liquid to the scanner console. This will shatter the inside components of the console and make functions failure.

● Scanner console is precision electric equipment. Please pay attention to moisture-proof protection and dust-proof protection. And please clean the control panel in schedule.

Installation of the console

Contents in Action 96 scanner console package:

● Action 96 scanner console

● Power adapter and DMX output (XLR-D3F)

● User's Manual

Action 96 scanner console adopts international standard 19" 4U installing structure. It can be infixed in operation board or directly installed in 19" shelf or cabinet.

When the power supply is connected, please check the voltage whether is in normal range. Otherwise, steady voltage equipment may be needed.

Connect to scanner

According to DMX512 standard, 120Ω screened twist cable must be chosen as data cable between every equipment. In practical engineering installation, if the whole length of the cable is short, the cable may be replaced by high quality screened two-core microphone cable.

When the cable is joined to the XLR port, No. 1 connection of the XLR port is connected to the screen net of
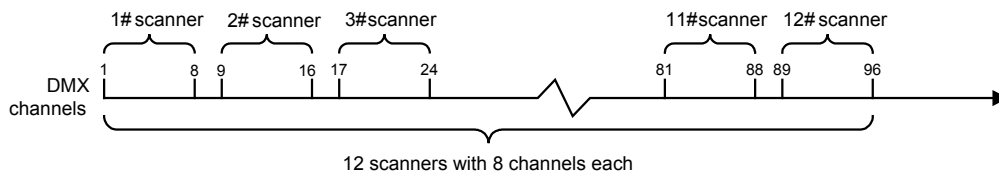
the cable. Twist lines (distinguished by different colors) are connected to No. 2 and 3 connections. No. 3 connection is connected to the positive of signal. No. 2 connection is connected to the negative of signal. Don't connect a port in reverse.

In DMX signal transmission, a 120Ω terminal matching resister must be connected in the last equipment. This can absorb the signal reflection at the end of cable. The operation is as following: connect a 120Ω resister to No. 2 and 3 connections of XLR port and then plug the port to the last scanner (or the socket of other equipment).
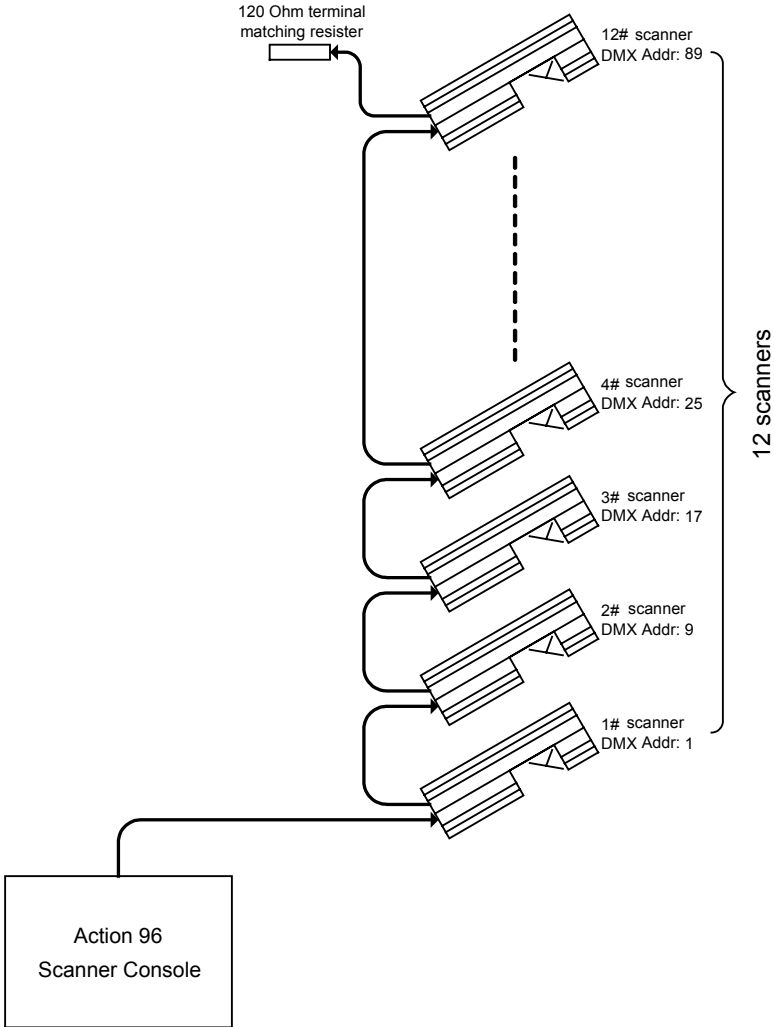
Distribution of DMX512 address

Action 96 scanner console uses 1-96 channels of DMX512 to transmit the control signals to various scanners. Each scanner is distributed with 8 control channels.
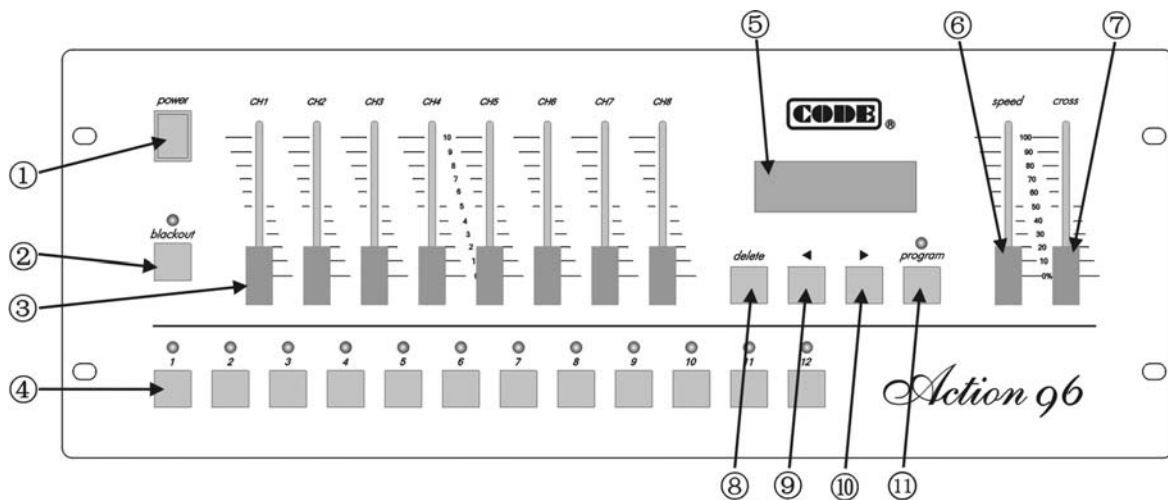
Scanner No	First DMX address of scanner	
	Decimal Code	Switch bit of scanner address 123456789
1	1	100000000
2	9	100100000
3	17	100010000
4	25	100110000
5	37	100001000
6	41	100101000
7	49	100011000
8	57	100111000
9	65	100000100
10	73	100100100
11	81	100010100
12	89	100001100

12 scanners with 8 channels each

Sketch map of system connection

120 Ohm terminal matching resister

12# scanner
DMX Addr: 89

4# scanner
DMX Addr: 25

3# scanner
DMX Addr: 17

2# scanner
DMX Addr: 9

1# scanner
DMX Addr: 1

12 scanners

Action 96
Scanner Console

Introduction of the panel

No.	Name	Functions and purposes
1	Power	Switch of AC power of the controller.
2	Blackout	The key state is indicated by the red light above: ♦ Red light on, console is in standby state (blackout); ♦ Red light off, console is in running state.
3	Channels Level	In program state, move the slider can change the corresponding channel value of specified scanner.
4	Number keys	The number key group has multi functions: ♦ In program state, use it to choose editing program number and scanner. ♦ In running state, use it to choose running program number.
5	LCD	Display the console state and setting values.
6	Speed	Adjust running speed of a chase step.
7	Cross	Adjust the gradual change cross time between chase steps. 0=slowest, 100%=fastest.
8	Delete	Used in program state: ♦ Press the key briefly to delete the current chase step. ♦ Press the key over 2 seconds to delete the current chase step continually.
9	◄ Direction key	In program state, use it to check the chase step backwards.
10	► Direction key	In program state, use it to check the chase step forwards. If the current step is the last one (with *), press the key to add a step and copy the contents of the last step to new step.
11	Program	♦ Press the key over 1 second, red light above blink. Console is in program state; ♦ Press the key over 1 second again, red light off. Console is in running state.

Rear of Action 96

DMX signal output socket   power socket   power fuse
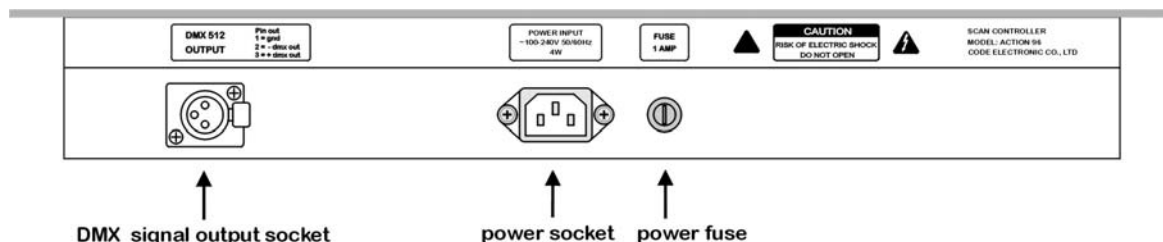
Information of LCD display

| Display contents	Detail explanation
[Standby]	Press Standby key, red light on. It is standby state (blackout).
[On line]	Press Standby key, red light off. It is running state.
Select Chase	Please select program chase to run.
Chase：xxx	The number of current chase.
Step：[xx]	The number of current chase step.
Speed [xxx%]	Display when the Speed slider is adjusted. Xxx range: 000%-100%，000%=slowest，100%=fastest.
Cross [xxx%]	Display when the Cross slider is adjusted. Xxx range: 000%-100%，000%=slowest，100%=fastest.
Step is empty!	Current chase has no content. It is empty.
==PROGRAM== Select chase:	After pressing Program key over 1 second to program state, please select a program chase number.
PROG CHASE: XXX	The number of current editing program chase.
Step：[xxx]*	* indicates the step is the last one.

Note: xxx is number.

Control scanner running

1. Just use ①, ⑤,⑥, ⑦ parts of panel to control scanner running.
2. Press 1-12 number key to select the number of scanner program chase.
3. If the program chase of corresponding number has not been edited, press the number key and the green light is not on.
4. Use Speed slider to control the running speed of current chase, the console will keep the running speed of every chase. 0%=slowest，100%=fastest.
5. Use Cross slider to control the gradual change cross time, the console will keep the cross time of every chase. 0%=slowest，100%=fastest.
6. Two states of Standby key:
    ♦ When red light is on, console is in standby state (blackout).
    ♦ When red light is off, console is in running state.

Action 96 scanner console has data auto-save function. When the console is turned off or the power supply is broken off, it can save the last running state. When it is turned on or the power supply is normal, it runs from stop point.

Scanner chase edit
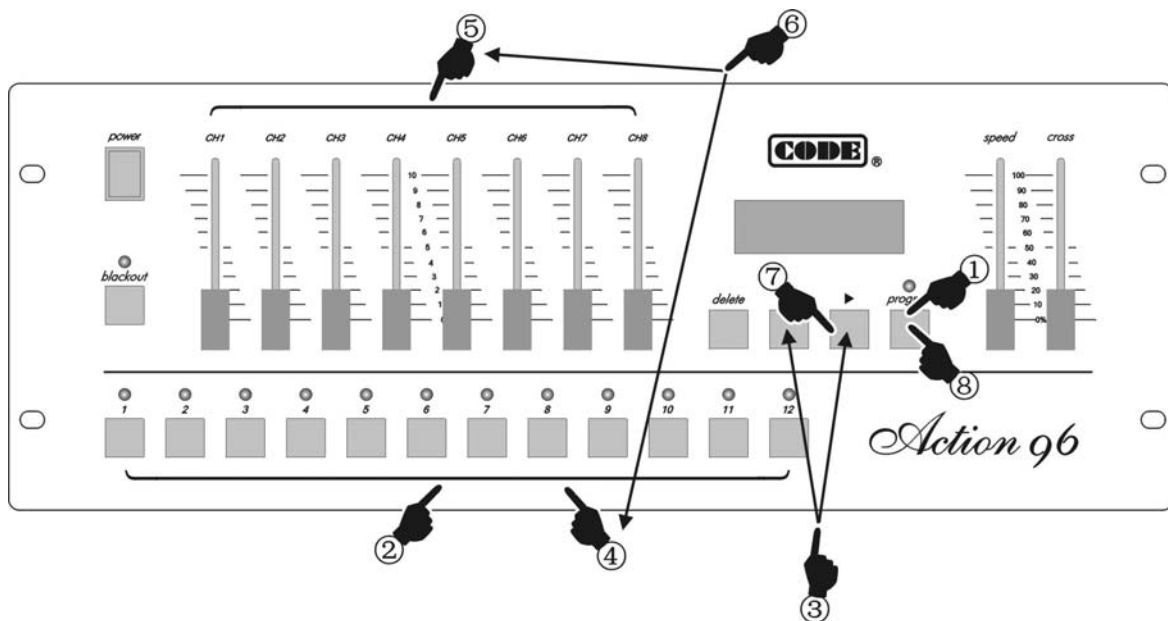
1. Press Program key over 1 second, the console is in program state.
2. Use number key to select editing chase number.
3. Use ►, ◄ key change the current chase step. If the current step is the last one, it has a * on the screen.
4. Use number key to select editing scanner number.
5. Adjust CH1-CH8 slider to set various channel value of scanner.
6. Repeat 4-5 steps to set channel value of other scanner.
7. Use ► key to next chase step. If the current step is the last one (with *), it copy the contents of current step to the new one automatically.
   Repeat 4-6 steps to edit other steps.
8. Press Program key over 1 second, quit from the program state.
   Repeat 1-8 steps to edit other chases.

Functions of ►, ◄ keys

They can only be used in program state.

1. Use ►, ◄ key to check the light effect of edited chase step.
2. Insert and copy functions of ► key (with example):
   - ♦ If current chase has not been edited, LCD screen will display "Step is empty!" when the console go into program state. Press ► key to insert a new step, the screen display "Step [001] *". It indicates the number of current step=001 and it is the last step.
   - ♦ After setting various channel values of every scanner in "Step [001]", press ► key. A new chase step 002 is inserted and the screen display "Step [002] *". It indicates that step 002 is the last one and the contents of step 001 has been copied to step 002 automatically.
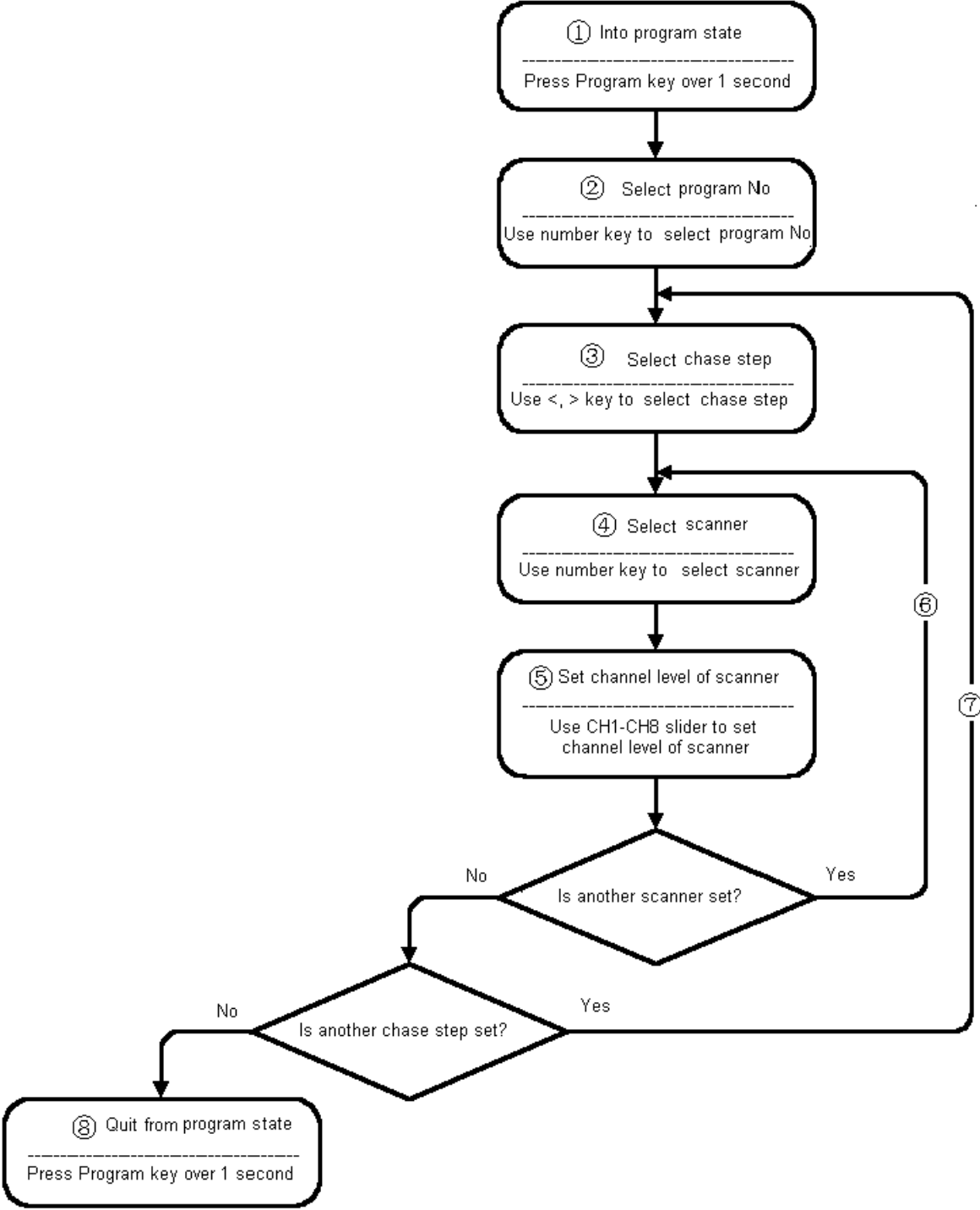
Functions of Delete key

The key can only be used in program state:

- ♦ Press the key briefly, the editing chase step is deleted.
- ♦ Press the key over 2 seconds, the current chase step is deleted quickly. When all the chase steps are deleted, the current chase is empty.

Tips of program

- ♦ After finishing current program, quit from the program state. Then go into program state again to edit another program.
- ♦ Pay attention to the use of ► key and understand how to use it correctly. Otherwise unwanted, useless or black chase step is appended.
- ♦ A program just with one step can be edited to use as scanner fixed scene.
- ♦ In program state, Speed and Cross are not need to set. They are set directly in program running state and saved automatically.

Sketch map of program operation

① Into program state

Press Program key over 1 second

② Select program No

Use number key to select program No

③ Select chase step

Use <, > key to select chase step

④ Select scanner

Use number key to select scanner

⑤ Set channel level of scanner

Use CH1-CH8 slider to set
channel level of scanner

No   Is another scanner set?   Yes

⑥

⑦

No   Is another chase step set?   Yes

⑧ Quit from program state

Press Program key over 1 second

MEMO