

# A 24

*DMX Lighting Console*

## User's Manual

Ver 1.01

CODE Electronic Co., Ltd.



## Introduction

CODE A24 is a universal DMX lighting console. It is able to control any dimmer directly, which follows the same protocol, to build up a digital lighting system. It can save light scene and edit chase programs. Internal chase programs, which were set in CODE A24 by manufacturer, can be used directly. 1 manual scene, 14 submaster scenes and 1 chase program can be performed at the same time. CODE A24 is suitable for small TV studio as well as small show, small dancery, taproom and so on.

## Functions and Specifications

- DMX512/1990 standard.
- 24 dimmer channels.
- 24 channels slider.
- 14 submaster sliders.
- 28 scenes capability.
- 28 chases up to 80 steps in a chase program.
- Chase speed can be controlled manually (0.3s~10s/step) or triggered by music rhythm.
- Cross control of brightness gradual change.
- Music signal can be inputted from audio line (-10~+10dB self adapted) or a internal microphone.
- 1 manual scene, 14 submaster scenes and 1 chase program can be performed at the same time.
- Flash control for submaster.
- Page control.
- DMX output module with optical isolated.
- DMX signal output connector: XLR-D3F.
- Music input: 1/4" unbalanced mono jack for audio in.
- Power: AC 90~250V, 50-60Hz, 6W.
- Size: 482mm X 310mm X 95mm
- Weight: 5.2Kg

## Cautions for safety

- A24 lighting console must be connected to the earth line to ensure the safety.
- When A24 lighting console and dimmer are working, don't plug in or pull out DMX512 data cable.
- Do not expose it to a humid environment. Do not let any liquid splash to the lighting console.
- The lighting console is precision electric equipment. Please pay attention to moistureproof protection and dustproof protection.

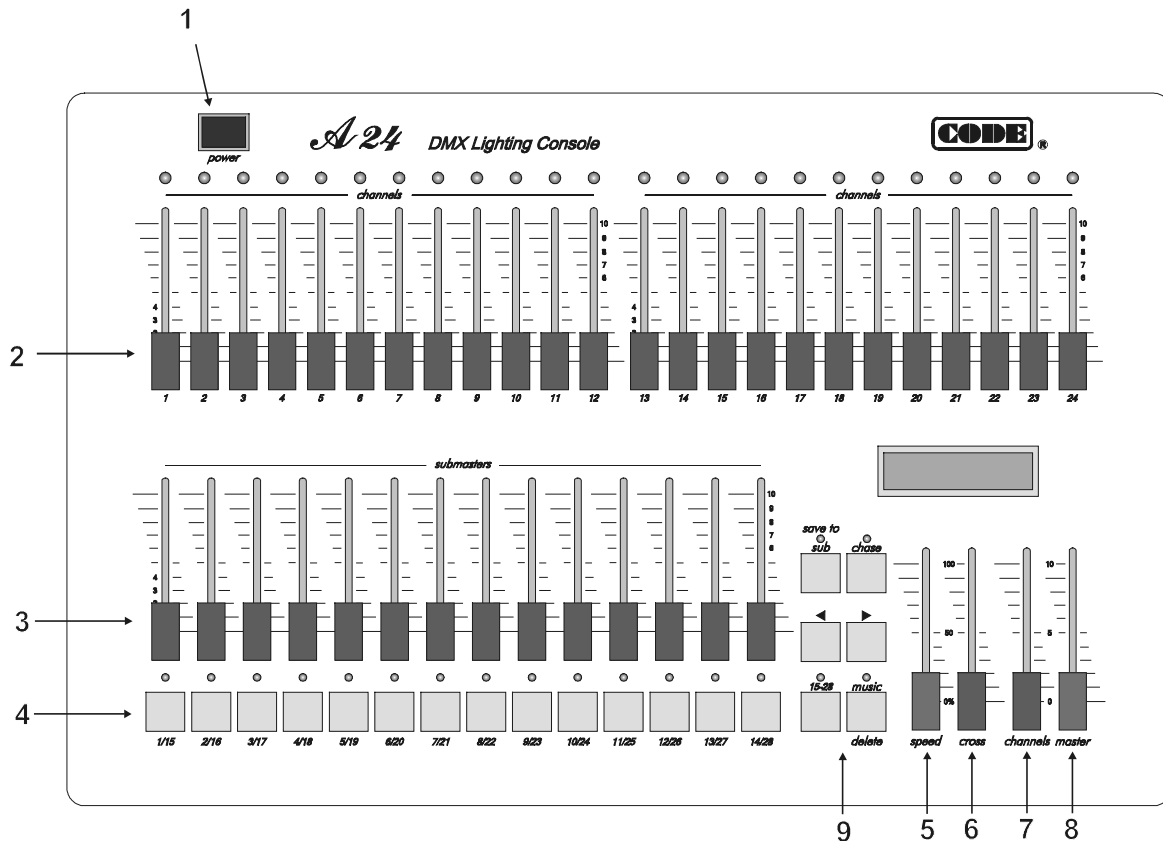
## Installation

Contents in the package of A24 lighting console:

- A24 lighting console 1
- Power supply line 1
- Certification of QC 1
- User's Manual 1

A24 lighting console adopts international standard 19" 4U installing structure. It can be embedded in operation board or directly installed in 19" shelf or cabinet. Before the power supply is connected, please check whether the voltage is in normal range and whether the power supply socket is connected to the earth line.

## Panel of A24



### 1. Power switch

Turn off or turn on the power of A24 lighting console. The console can remember the last state automatically and run it continually next time.

### 2. Channel slider

Use Ch1~Ch24 slider to control the brightness of different channel.

### 3. Submaster slider

Light scene is the collection of brightness value of each channel.

Each submaster slider can save a light scene. Move the slider can change the level of light scene.

The brightness ratio of light scene1-14 can be controlled directly by submaster slider1-14. Submaster slider 1-14 can be switched to slider 15-28 by using page key.

#### 4. Number key

It can perform output of flash control or chase program.

When Chase key is in different states, these number keys have different functions.

- When LED of Chase key is off, number key output flash control.  
Pressing a number key made the corresponding submaster slider to the maximum. Releasing the number key will resume the brightness set by the corresponding submaster slider.  
If LED of a number is blinking, the corresponding chase program is running.
- When LED of Chase key is on, number key output chase program.  
Pressing a number key will output the corresponding chase program.

#### 5. Speed slider

Move speed slider to control chase speed.

#### 6. Cross slider

Move Cross slider to control gradual change effects.

#### 7. Channels slider

It is general control of brightness ratio of Ch1~Ch24 slider.

#### 8. Master slider

General output level control, used to adjust the overall level of all submaster sliders and all channels.

#### 9. Function key

- **15~28 page key**  
It is page control of submaster sliders and number keys. When its LED is off, selection from 1-14.  
When it is on, selection from 15-28.
- **Music/Delete key**  
Press music key to make its LED on, chase program is triggered by music rhythm. Press music key again to make its LED off, chase speed is controlled by speed slider.  
In chase program edit state, pressing the key can delete the current step.
- **Direction key**  
In chase program running state, pressing direction key can change the direction of chase program. In chase program editing state, pressing direction key can change the step number in current chase program. If current step is the last one, pressing right direction key can add a new step.
- **Save to Sub key**  
Save the current brightness values of every channel to submaster slider set by user.

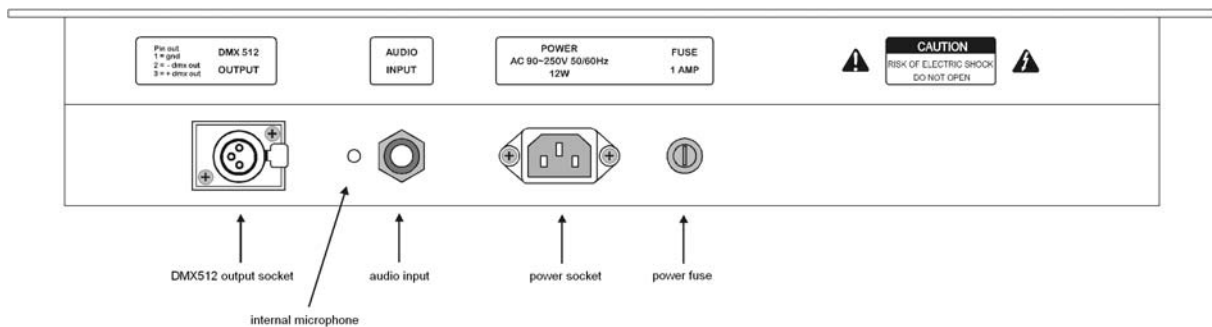
- **Chase key**

The key has three functions:

- 1) Pressing chase key quickly can switch between point submaster control and chase program.
- 2) Pressing chase key for more than 2 seconds can make the console into chase program edit state.
- 3) When LED of chase key is in different states, number key 1-14 has different functions.

LED state	Illumination
○	When it is off, number key has flash control function. Pressing a number key made the corresponding submaster slider to the maximum. Releasing the number key will resume the brightness set by the corresponding slider.
●	When LED of <b>Chase</b> key is on, number key output chase program function.
☀	When LED of <b>Chase</b> key is blinking, the console is in chase program edit state.

## Rear of A24



## Connection of power supply

Power supply line has a three-foot plug, which follows the standard of P. R. China. The power supply socket must be connected to the earth line to ensure the safety.

The power of A24 lighting console has steady voltage output in so wide range of power supply voltage that it is adapted to the power supply of different countries. Before the power supply is connected, please check whether the voltage is in normal range of A24 to ensure the safety.

## Power fuse

When fuse needs to be replaced, please use one with same current capacity signed on the rear.

## Audio signal input

There are a 1/4" mono audio socket and an internal microphone in A24 lighting console. When audio input line is plugged into audio socket, rhythm of input music is used as trigger signal of chase program. When audio input line is pulled out from audio socket, rhythm of environment sound picked up by internal microphone is used as trigger signal of chase program.

## DMX signal output

There is a XLR-3 output socket on the rear of A24. Please connect plug of DMX as following:

Foot of socket/plug	Illustration
1	Earth line of DMX
2	Signal -
3	Signal +

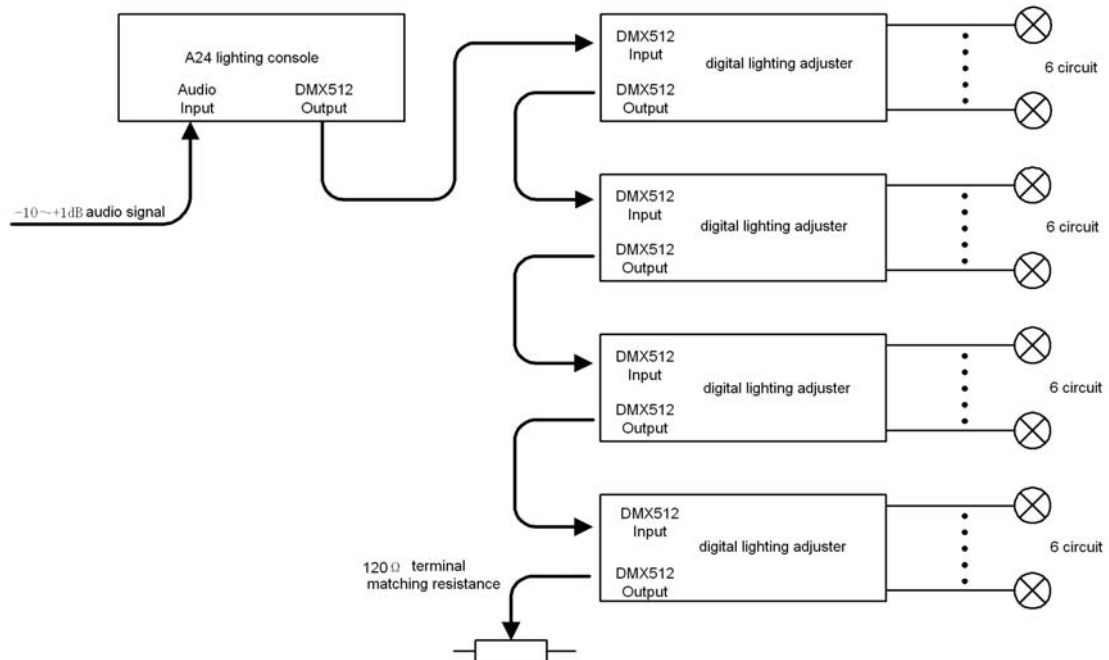
## DMX512 signal cable

According to DMX512 protocol, DMX signal cable must be screened twist cable with impedance of  $120\Omega$ . The length of cable should not be over 250m. PIN 2 and PIN 3 of the plug cannot be confused, please distinguish two lines of twist cable by different colors.

## Connection of DMX512 signal

The connection between DMX512 signal and other equipment is a “chrysanthemum chain” mode. DMX512 signal is sent from A24 lighting console output to DMX512 input of the first dimmer. Then it is sent from DMX512 output of the first dimmer to DMX512 input of the second dimmer and goes on like this.

An  $120\Omega$  terminal matching resistance must be connected to the last equipment to prevent reflection and aberration of signal. The operation is as following: connect a  $120\Omega$  resistance to foot 2 and foot 3 of a plug then plug it to the output of the last scanner equipment.



## Address distribution of DMX512

A24 lighting console uses 1-24 channels dimmer of DMX512 protocol. If four 6-channel dimmers are connected, the receiving address setting as follow. The first dimmer is set to “1”, the second one is set to “7”, the third is set to “13”, and the fourth is set to “19”.

## Running of lighting console

### Manual control

1. Push Master slider and Channels slider to the maximum.
2. Use Ch1~Ch24 slider to control the brightness of different channel.
3. Use Channels slider to control the brightness ratio.

### Submaster control

Each submaster slider can control the brightness ratio of a scene. Push up a submaster slider to run the corresponding scene. Use page key to switch to submaster slider15-28, which can control scene15-28.

### Chase program

When LED of chase key is on, 1-14 number key corresponds to chase program. For example, pressing 3 will output chase program 3. Use page key to switch to chase program 15-28. The chase speed can control by Speed slider.

Chase program runs from step 1 to the last step and then goes back to step 1 to start a new cycle. For example, if there are 4 steps in a chase program, it will start from step 1 until step 4. After step 4 is finished, this chase program will go back to step 1 to start a new cycle. When chase program is running, direction key can be used to change the running direction of chase program, namely chase program runs with step number increasing or decreasing.

### Speed control

When LED of music key is off, moving speed slider can change the speed of running chase program.

### Music trigger

When music key is pressed, its LED is on. Chase program is triggered by low frequency of music. When audio input line is connected, rhythm of input music is used as trigger signal of chase program. Otherwise, rhythm of environment sound picked up by internal microphone is used as trigger signal of chase program.

## Program edit

### Program edit of submaster control

1. Push Master slider and Channels slider to the maximum.
2. Use Ch1~Ch24 slider to control the brightness of different channel to compose a light scene.
3. Press Save to Sub key to make its LED blinking. Then press the number key corresponding to the submaster slider to save the scene. (For example, if current scene will be saved to submaster slider 1, press Save to Sub key first, then press number key 1.)
4. If current scene will be saved to submaster slider 15-28, press page key to make its LED on. Then submaster slider 15-28 can be used.

### **Edit of chase program**

1. Press Chase key for about 2 seconds to make LED blinking. It is in chase program edit state.
2. Choose chase program number. Number key 1-28 can be chosen with page key.  
For example, if chase program 1 will be edited, press number key 1. Its LED will be blinking.
3. Use direction key to choose the chase step number. If current step is the last one (with \* mark) or chase program is empty, press right direction key to add a new step.
4. Use Ch1~Ch24 slider to control the brightness of different channel.
5. Repeat step 3-4 to set the brightness of next chase step.
6. In program edit process, use direction key to check the scene effect of every chase step.
7. Repeat step 2-6 to edit other chase program.
8. Press Chase key for about 2 seconds to quit from program edit state.



# MEMO

**CODE Electronic Co., Ltd.**

---

Addr: 23 Fenjiangbei Road, Foshan, Guangdong, P. R. China

Zip Code: 528000

Tel: 86-757-82837500 / 82837511

Fax: 86-757-82837522

<http://www.codelight.com> e-mail: [main@codelight.com](mailto:main@codelight.com)