

## H807SA



### I. Introduction

H807SA has 8 outputs, supports maximum 8192 pixels, it Support Art-Net protocol and can work with DMX console or set address for DMX chips .H807SA also can add or delete DAT files through the LAN.

### II. Supported Driver Chips

DMX512, HDMX, DMX512\_RDM, APA102, APA102-65536, WS2801, WS2811, WS2812, WS2813, TM1812, TM1809, TM1804, TM1923, TM1934, TM1925D, TM1926D, TM1803, TM1814, TM1913, TM1914, TM1926, UCSUCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, UCS8904, UCS5603, SK9816, SK6812, SM16716, SM16703, SM16709, SM16712, SM16704, LPD6803, LPD8806, LPD1882, LPD1889, LPD1883, INK1003, APA104, P943, LC8812, GW6205, QED3110, D9866E, D9866B,

D9865C、D9865E、D9865F、D9864B、D9864C etc.

### III. Features

1. Eight output ports, controls maximum 4096 pixels, each port controls maximum 1024 pixels.
2. The SD card supports FAT32 and FAT16 formats and allows up to 64 DAT files.
3. It can be synchronously controlled by LAN, and can switch files by sending UDP
4. It can be connected to the control console of DMX, supports RGBW, can change files, adjust speed and brightness, and has fast response speed.
5. It supports art net protocol, and can directly use software supporting art net such as madrix and jinx.
6. Support the encryption function of limiting power on times.
7. Support the address of the DMX chip, with the function of counting points and internal control test.
8. It can be connected or disconnected. It can be directly connected to the computer network card, router, or the main controller.
9. Support online firmware upgrade.
10. Setting sculpt of DAT can support DAT files with different shapes.
11. W can be inserted.
12. Tm1812 and simultaneous sequence chip can output 16 ports.

### IV. Operating instructions

1. After power on, the file menu (file01) is displayed, followed by the file serial number, and the file name is displayed in the second line.



2. Press the menu key to switch to the speed menu s in the range of 1 – 100 frames per second. When the power supply is synchronized, the speed of each controller must be the same.



3. The next menu is bright, with a range of 0-16.



4. The fourth menu is play mode: all, single and timed playback. When receiving the signal from the DMX console, it will be automatically locked to play a single file.



5. The fifth menu is net2 working mode, generally select (net2 input). When LAN synchronization is required, one of the controllers must be set to (net2 send sync) and the other to (net2 input).



6. The sixth menu is to set the IP address (IP), the first three bytes adaptive. The

same IP address cannot be found in the same LAN.



7. The seventh menu is IC type. If do not select is not specified, the chip type specified in dat file is used to control. If do not select is specified, the chip type in dat file is invalid. In art-net control, if the chip model is not specified, the chip model of the first sub control will be used for control, otherwise, the one set by yourself will prevail.

8. The eighth menu is to select the port out mode, 245 or 485.

9. The ninth menu is the initial channel address of the dmx. The range is 1-512.

When the number of color components is 4, each controller occupies 8 channels.

Otherwise, each controller occupies 7 channels.

The starting address is 1 by default, that is, it occupies channels 1-7. If the starting address is 2, it occupies channels 2-8.



The first channel is brightness, brightness channel values 0-3 corresponding to 0 (not bright), 4-7 corresponding to 1, 8-11 corresponding to 2 252-255 corresponds to 63.

The second channel is the red component.

The third channel is the green component.

Channel 4 is the blue component.

When the number of color components is less than 4, 7 channels are occupied

The fifth channel is dat file serial number. The relationship between DMX512 console channel values and files is that four values correspond to one file, that is, 0-3 corresponds to the first file, 4-7 corresponds to the second file 252-255 corresponds to the 64th file.

The sixth channel is the playback speed. The relationship between the corresponding speed is (speed set by key) multiplied by (speed channel value) and then divided by 255, that is, the maximum value 255 of the console corresponds to the speed set by key.

Channel 7 is the direction, 0-127 is the forward direction, and other values are the reverse direction.

When the number of color components is equal to 4, 8 channels are occupied

Channel 5 is the white component.

The sixth channel is dat file serial number. The relationship between DMX512 console channel values and files is that four values correspond to one file, that is, 0-3 corresponds to the first file, 4-7 corresponds to the second file 252-255 corresponds to the 64th file.

The seventh channel is the playback speed. The relationship between the corresponding speed is (speed set by key) multiplied by (speed channel value) and then divided by 255, that is, the maximum value 255 of the console corresponds to the speed set by key.

Channel 8 is the direction, 0-127 is the forward, other values ar

10. Set the number of pixel channels, set the number of color components of a point, the default is 3, that is RGB. The range is 1-4.

11. The eleventh menu is a folded menu. Press the {} key to select the change

menu. Press OK to enter the submenu. After entering the submenu, continue to press menu to switch the submenu.

12. (1) , addressing menu

13. I. select the type of the DMX IC.

14. II. Number of light channels, set the number of channels occupied by a lamp or transcoding board. In the case of point light, this value is the same as the number of color components.

15. III. some DMX chips need to set the color value when they are powered on, including red, green and blue (poweron R, poweron g, poweron b), and some chips do not need to set it.

16. IV. some DMX chips need to set current gain in the range of 1-64.

17. V. some DMX chips need to set the output format ( Output:RZ or Output:DMX512 ).

18. Vi. initial channel (address), input the initial channel and press OK key. Please wait patiently for a few seconds before coding.

19. (2) Internal control of counting points

20. I. count the points, press and hold to accelerate.

21. II. Internal control

22. (3) , artnet setting menu

23. The chip model is selected from the seventh menu on the controller. The first sub control can also be set by computer software. The following sub control should be selected (do not choose). If you choose your own chip, use your own one, otherwise use

the one selected by the first sub control.

- I. set the starting space.



- II. Set how many channels a port carries.



- III. set the artnet sub control number, how many sub controls are connected in this way.



(4) , timing clock setting, you need to weld the cylindrical crystal oscillator and battery to have this function, the format is month, day, hour, minute and second (201026 09:30:01), the year only input the last two digits, you must press the OK key to save.

- (5) Other settings

I. slave number. When a router or switch is used to form a multi branch network, the slave number should be set. When the number is 1, please select auto. Cascade in the back of the sub control can be set to automatic, factory default is automatic.

Second, insert w (insert w), through the RGB format of insert w to control the RGBW lamps, including no (no), w in front (front), w in back (back).

III. output 16 ports (tm1812 8Port - > 16). When using tm1812 and simultaneous sequence chip to control 8 ports, set "yes" here. The first half of DAT output of each port

and the second half of DAT output are changed from CLK output to 16 port output. This feature works online, offline and artnet.

If the number of ports is not 8, this function is invalid.

If this function is enabled during modeling, the port length is 1024 points by default, 1-512 points are output by DAT, and 513-1024 points are output by CLK.

IV. whether the dat file in SD card corresponds to the same sculpt of DAT, the same means the same sculpt, not the same means different sculpts.

V. press the + key to restore the factory settings (+ - > reset).

## V. LAN synchronization

1. Several h807sa, through the router and switch to form a LAN, pay attention to the IP address should be set in the same network segment. (for controllers supporting this function, different models can be mixed and synchronized. Only one transmission is required, but the number of DAT files and the number of frames of each dat file must be the same.).

2. One h807sa is set to "net2 send sync", and the other h807sa is set to "net2 input", which can be synchronized when offline.



3. If the computer is connected to this LAN, it can be connected or disconnected.

4. Programmers who understand UDP can switch files through UDP protocol. The UDP port of h807sa is 8216 (0x2018).

Send: 0xa8, 0x20, file three byte content, file is the program serial number, starting

from 0.

Re: 0xa8, 0x21, file

See the figure below: in red box 1 and 2, select hex, in red box 3, set the IP and port of h806sa, send hexadecimal a82000 to switch to program 1.

To query the serial number of h806sa's current program, Send: 0xa8, 0x30

H806sa reply: 0xa8,0x31, file, file is the program serial number, starting from 0, that is, 0 means program 1, 1 means program 2.



## VI. Firmware update

Put the upgrade package into the SD card, press and hold the "menu" key, and then power on. The controller will upgrade automatically. After the upgrade, it will restart automatically, and the version number will change.

#### VII. Controller interface definition

GND↕ CLK1↕ DAT1↕	GND↕ CLK2↕ DAT2↕	GND↕ CLK3↕ DAT3↕	GND↕ CLK4↕ DAT4↕	GND↕ CLK5↕ DAT5↕	GND↕ CLK6↕ DAT6↕	GND↕ CLK7↕ DAT7↕	GND↕ CLK8↕ DAT8↕
GND↕ D-1↕ D+1↕	GND↕ D-2↕ D+2↕	GND↕ D-3↕ D+3↕	GND↕ D-4↕ D+4↕	GND↕ D-5↕ D+5↕	GND↕ D-6↕ D+6↕	GND↕ D-7↕ D+7↕	GND↕ D-8↕ D+8↕

#### VIII. Specification parameters

输入电压↕	AC220V↕
功耗↕	? W↕
带载点数↕	8192 点↕
重量↕	? Kg↕
工作温度↕	-20C°--85C°↕
外形尺寸↕	L? x W? x H? ↕
纸箱尺寸↕	L? x W? x H? ↕