

H801SB User Manual



1. Introduction

The H801SB is a simple controller with single-port output. It has three modes and can control a variety of single and dual-line driver chips, up to 2048 points. The supporting software is "LED Programming Software" V4.0 and above.

2. Support IC

LPD6803、LPD8806、LPD1882、LPD1889、LPD6812、LPD1883、LPD1886、DMX512、HDMX、APA102、MY9221、UCS1903、UCS1909、UCS1912、UCS8904、WS2801、WS2803、WS2811、WS2812、TM1803、TM1804、TM1809、TM1812、TM1829、TA9912、TM1913、TM1914、TM1926、TM1814、INK1003、LX1003、LX2003、LX2006、TLS3001、P9813、P9816、SM16711、SM16716、LD151x、LD153x、MBI6021、MBI6023、MBI6024、QED3110、SK9816 etc.

Note: The controller controls up to 2048 pixels. The controller can output 2048 points of data. Whether the actual signal can be reliably transmitted to the end depends on the performance of the luminaire, the EMI of the switching power supply, and the overall interference at the engineering site.

3. Performance Characteristics

- 1, an output port, up to 2048 pixels.
 2. The SD card supports FAT32 and FAT16 formats, and the maximum capacity is 32G bytes and above. A maximum of 64 DAT files are allowed, and the playback order is that the file names are sorted alphabetically.
 3. Three control modes: SD card control mode, internal control mode, and DMX weight mode.
 4. Multiple synchronous playback functions are realized through differential signal lines.
 - 5, two voltage input, DC5V or DC9-24V.
 - 6, through the button to switch files, adjust the playback speed, set the full broadcast or
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unicast.

7, can be DMX chip TM512, UCS512 address.

4. the button operation

The parameters are automatically saved after the button is stopped for three seconds.

1. "ALL/SINGLE": Full-cast/unicast switching. When the whole broadcast is in progress, the green indicator light is on, and the green indicator is off during unicast.
2. "FILE": Switch to the next DAT file. If it is the last file, skip to the first file.
- 3, "SPEED-" and "SPEED+": set the playback speed, the maximum speed is 100, the minimum speed is 1, except for 1, the others are multiples of 5, such as: 5, 10, 15, 20, 25....
3. "ALL/SINGLE"+"SPEED+": Press "ALL/SINGLE" first, then press "SPEED+" to encode the DMX chip TM512 and UCS512. Please wait patiently for a few seconds, the light will turn white first, then turn green (monochrome), address 800 points at a time, will be updated after re-powering the address. During the address editing, the red indicator light is off and the green indicator light is on.

5. SD card control mode

1. The SD card must be inserted first and then powered on.
2. The SD card needs to be formatted into FAT32 or FAT16 format after being used for the first time or after being deleted multiple times. Full support for SD4, SD6, SD10, the maximum capacity of more than 32G bytes. The SD card can store up to 64 DAT files, and the controller sorts and plays according to the file name.
- 3, an output port, up to 2048 pixels.
4. In the setting of "LED Programming Software", select one line and one sub-control (here, one controller), controller type select SB, choose good driver chip type and clock, single-line driver chip clock is generally 0.8M, double The line driver chip's clock can be set to 1.5MHz, 0.75MHz and 0.37MHz.
5. Playback speed, file selection and full/selection mode are set on the controller with buttons.
6. The driver chip with gray level exceeding 256 level has been processed by Gamma on the controller. For example: LPD6812, MBI6021 is 1024 gray scale, LPD1886, TLS3001 is 4096 gray scale, MBI6024, UCS8904, MY9221, LD151x, LD153x are 65535 gray scale.
7. The LD1510, LD1512, LD1530, and LD1532 support only 8-bit and 16-mode.

6. differential synchronization function

In the SD card control mode, it has a differential synchronization function. However, the following requirements must be met:

1. The controlled luminaire is not a DMX luminaire. The luminaire is connected to CLK and DAT. All D801 of H801SB are connected together, and all D+ must also be connected.
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2. The file name length cannot exceed 8, and the underscore plus the number ends. The underlined '_' indicates the use of the differential synchronization function, the file name '_' followed by 1 indicates synchronous transmission, and the '_' followed by 1 indicates synchronous reception.

If all controllers are modeled together, add controllers in the “Multi-Controller Settings” and the software will automatically be named according to this rule, such as: HCX_1.DAT, HCX_2.DAT, ..., the file name length does not include the extension.



3. When using synchronous reception, it is also possible to connect several H801SBs to H806SB, and H806SB as synchronous transmission, to realize synchronous control of H806SB+H801SB by mobile phone.



7. internal control mode

If the SD card is not inserted during power-on, enter the internal control mode. A total of 18 effects can be selected by the “FILE” button; “ALL/SINGLE” can be used to determine whether to play a single effect or to play all; you can also set the playback speed with “SPEED-” and “SPEED+”.

The chip type, clock, and control points that are controlled are obtained from the DAT file on the SD that was inserted last time. Therefore, to change the control in the luminaire, you must first use the SD card to control it.

8 DMX weight code mode

If the SD card is not inserted during power-on, D- and D+ are connected to the DMX512 console and enter the DMX control driver chip mode.

The driver chips supported by this mode are: LPD6803、LPD8806、LPD1882、LPD1889、LPD1883、UCS6909、UCS6912、UCS1903、UCS1909、UCS1912、WS2801、WS2811、WS2812、TM1803、TM1804、TM1809、TM1812、TM1913、TM1914、TM1926、TM1814、INK1003、LX1003、LX2003、LX2006、TLS3001、P9813、P9816、SM16711 etc.

The input clock must be 250KHz and control up to 512 channels.

The control chip type and clock are obtained from the last inserted SD DAT file. The control output is from the start channel address to 512 channels, and the actual number of connected lamps can be less than the control output. When the total number of channels of input data is less than the starting channel address, the controller has no output.

Note that the channel address is used here, not the point address.

The DMX address is set by the TXT file name. Open the SD card root directory, right-click the mouse -> New -> Text document, and change the file name to the DMX address to be set. For example, the address 1 file name is 1.TXT, and the address 16 file name is 16.txt.



9. DMX file change function

If the SD card is inserted and the file name does not have _, that is, the differential synchronization function is not used, D- and D+ are connected to the DMX512 console, and the file can be switched by the DMX console. The channel value 0-3 corresponds to the first file, 4- 7 corresponds to the second file, and so on.

The DMX address is set by the TXT file name. Open the SD card root directory, right-click the mouse -> New -> Text document, and change the file name to the DMX address to be set. For example, the address 1 file name is 1.TXT, and the address 16 file name is 16.txt.



10. DMX lighting address

The H801SB can address the Tianwei TM512 and the Licensing UCS512A. Connect the GND, D-, and D+ of the luminaire to the GND, D-, and D+ of the controller. The addressing line of the luminaire is connected to CLK or DAT on the controller.

Press "ALL/SINGLE" first, then "SPEED+", then release. Please wait patiently for a few seconds, the lights will turn white first, then turn green (monochrome), once address 1024 points, the lights will be updated after the power-on address. During the address editing, the red indicator light is off and the green indicator light is on.

11. Controller interface definition

Connect GND, DAT when controlling single-line driver IC

Connect GND, CLK, DAT when controlling the two-wire driver IC

Connect GND, D-, D+ when controlling DMX512

12. Main Specification

Input Voltage	DC5V or DV9-24V
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Power consumption	0.3W
Support IC QTY	2048 pixel
weight	0.1Kg
Working Temperature	-20C°--75C°
Size	L150 x W82 x H38mm
