

H802SE INSTRUCTIONS



1. Introduction

H802SE can drive a variety of single or double line chips, control maximum 6144 pixels with four output ports, the maximum clock frequency is 2.5 MHZ, and has infrared remote control and nixie tube display functions.

2. Controllable Driver Chips

H802SE can drive the following chips: LPD6803, LPD8806, LPD6813, LPD1882, LPD1889, LPD6812, LPD1883, LPD1886, DMX512, APA102, UCS6909, UCS6912, UCS1903, UCS1909, UCS1912, WS2811, WS2812, TM1803, TM1804, TM1809, TM1812, TM1829, TA9912, TM1913, TM1914, TM1926, WS2801, WS2803, DZ2809, P9813, P9816, SM16716, LD151x, LD153x, MBI6021,

MBI6023, MBI6024, INK1003, LX1003, LX2003, LX2006, TLS3001, TLS3002, etc.

The type of LED driver chip must be set in software, the same-timing sequence driver chips share an option.

For LPD6813 and P9813, H802SE drives maximum 4608 pixels, for other chips, H802SE drives maximum 6144 pixels.

3. Clock Settings

Clock frequency can be set in software as well as in controller.

The following single-line driver chips: UCS1903, UCS1909, UCS1912, WS2811, TM1812, TM1809, TM1804, TM1803, APA104, P9823, INK1003 and LX1003 share the same timing sequence option and you must choose **TM1812** when setting the IC type in software. The clock frequency of chips mentioned above is separated into two kinds: the high frequency is **0.8MHZ**; the low frequency is 0.4MHZ.

For LPD1882 and LPD1889, choose LPD1882 when setting the IC type in software and clock frequency is 0.8MHZ.

Clock frequency of TLS3001 is recommended less than 0.8MHZ.

Clock frequency of DMX512 is fixed at 250KHZ.

If the lamp is blinking, flicking or uncontrolled, please decrease the clock frequency. However, you can increase the clock frequency to get smooth visual effect.

4. Performance

- (1). H802SE has four output ports, each port drives maximum 1536 pixels
- (2). Input voltage is 5 to 24 volts DC.
- (3). SD card supports FAT32 and FAT16, the maximum capacity is 32G bytes, stores up to 64 DAT files.
- (4). The adjustable playing speed ranges from 1 to 200 frames per second, the adjustable clock frequency ranges from 0.1MHZ to 2.5MHZ.
- (5). H802SE has infrared remote control and nixie tube display functions.

5. Remote Control Operation

- (1). Switch DAT file:

After power-on, press “File” to enter file mode, nixie tube will display DAT file sequence number, you can press '-' or '+' to switch DAT files. Or, you can press the sequence number of DAT file on number button and then press “Confirmation” to switch files.

- (2). Set clock frequency:

Press “Clock”, nixie tube will display the current clock frequency, unit is MHZ. You can press '-' or '+' to change it, or you can press “Confirmation” after entering clock frequency with number button.

- (3). Set playing speed:

Range is 1—200 frames per second, press speed value with number button and press “Confirmation” to save the value. Or, you can press '-' or '+' to change speed.

(4). Choose playing mode:

Default playing mode is playing all DAT files in a continuous loop.

“All playback” is playing all DAT files in a continuous loop.

“Select playback” is playing single DAT file. In this mode, press “File” after pressing sequence number of DAT file, controller will automatically save the sequence number, next time when you power on controller, it will play the saved sequence number of DAT file.

(5). Color modulation

Press “Selection” to enter color modulation mode. In this mode, press “Selection” to modulate blue, press “Select playback” to modulate green, press “All playback” to modulate red. LPD6803, LPD8806, LPD6813, P9813 don't support color modulation function.

6. Button Operation

(1). Four buttons are “SET”, “MOD”, “-” , “+”.

(2). “MOD” is a mode switching button, there are three modes: file mode, speed mode and clock mode. In file mode, nixie tube displays “F” and file sequence number, press '-' or '+' to switch files; in speed mode, nixie tube displays “P” and playing speed, press '-' or '+' to adjust the speed; in clock mode, nixie tube displays “C” and clock frequency and the unit is MHz, press '-' or '+' to adjust the frequency.

(3). Press “SET” button to save speed, playing file sequence number and clock frequency.

7. Operation Manual

(1). After power-on, nixie tube displays "SE". If you didn't insert the SD card, nixie tube will keep flashing "Sd". If controller reads SD card successfully, the nixie tube will display DAT file sequence number "F01"; "FE" means the controller type of DAT file is incorrect or pixels number is too much; "RE" means reading SD card failed, controller will retry automatically; "F0" means no valid DAT files in SD card.

(2). Press "SET" on controller to save the parameters.

(3). SD card needs to be formatted into FAT32 or FAT16 before first time usage or after many times deletions. SD card supports SDHC (High Capacity SD card); the maximum capacity is 32G bytes. SD card can store maximum 64 DAT files, which are played based on the file name in alphabetical order.

(4). In "LED Build Software", you must choose "SE" in controller type, port number is fixed at four.

(5). IC type must be chose correctly, 1MHz is recommended as the clock frequency.

(6). You can use buttons to switch files, set speed, change clock frequency and save parameters. To set loop playback or single playback, you must use the remote control.

(7). LD151x and LD153x only support 8-bits mode.

8. Ports Definition

port1			port2		port3			port4	
DAT1	CLK1	GND	CLK2	DAT2	DAT3	CLK3	GND	CLK4	DAT4
D+	D-	GND	D-	D+	D+	D-	GND	D-	D+

Note: due to the limitation of jacket width, two output ports share a GND. Single line driver chip only need to connect GND and DAT.

9. Specifications

Input Voltage	DC 5-24V
Power Consumption	1W
Control Pixels	6144
Weigh	75g
Working Temperature	-20C°--85C°
Dimension	L132 x W71 x H24
Installation Hole Distance	119mm
Carton Size	L150 x W82 x H38