H802TB Instructions

1. Abstract

H802TB is an offline master controller that reads data from SD card to control multiple slave controllers. Two network interfaces connect maximum 48 slave controllers and control maximum 30720 pixels.

Auxiliary slave controllers are H801RA, H801RC and H802RA. Auxiliary software is "LED Build Software".

2. Performance

(1). H802TB controls maximum 30702 pixels. Two ports connect maximum 48 slave controllers.

(2). SD card supports FAT32, FAT16 format, maximum capacity is more than 64G bytes, stores up to 64 DAT files.

(3). Achieve encryption function by limiting the number of power-on times.

(4). Support single file playback and all files playback

(5). Playing speed adjustable range is 1—100 frames per second, brightness adjustable range is 1—15.

(6). Transmit data based on Ethernet protocol, nominal transmission

distance is 100 meters. Transmission distance can reach to 25 kilometers by using photoelectric converter.

(7). High anti-interference ability, master controller and slave controller, slave controller and slave controller are separated to prevent static electrify and lighting.

(8). Flexible engineering configuration. Each slave controller can control diverse lamps, ports number and clock frequency could be different.

3. Operation Instructions

(1). LCD screen can display model of controller and setting information. Press "MODE" button, LCD screen will display version number in the upper right corner of the brightness interface.

(2). SD card must be formatted into FAT16 or FAT32 format after many times of adding or deleting files. H802TB supports SDHC (High Capacity SD card) with maximum capacity of 64G bytes. Maximum 64 files are allowed in SD card, and they are played based on the file name in alphabetical order.

(3). After self-checking passed, the first row of LCD screen displays controller model, the second row displays the parameters.

(4). Port1 can output to switch, photoelectric converter or slave controller. When set Net2StartNo. to 1, port2 has the same function with port1, otherwise it can only output to slave controller directly, but it can connect to switch or photoelectric by IP converter.

(5). Three buttons are "mode", "−" and "+". You can choose to adjust brightness, control playing speed and invert the color. You can switch among these functions by pressing "mode" button and LCD will show some tips for you. Press "−" or "+" to set. Long press for 0.6 second is to press again. Eight seconds after stop pressing the button, LCD will go back to show the file name. Three seconds after stopping pressing the button, parameters will be updated immediately and saved in the controller automatically.

(1)File X:

X is the serial number and refers to the playing DAT file name. Press "+" to jump to the next file, press "−" to jump to the front file.

(2)Bright:

Brightness setting: range is 0-15. You can adjust the brightness on the premise of not inverting the color in "LED Control Software", otherwise the brightness must be set to 15. Specifically, brightness must be set to 15 for P9813 and LPD6812.

(3)Speed：

Playing speed ranges from 1 to 100 frames per second

(4)Invert Colors:

Do invert color in controller; otherwise brightness setting function is not working if you invert color in the software.

(5)Cycle Mode:

"All": Play all files, "Single": Play one file

(6)Net2StartNo:

Start number of port2. For example: There are 40 slave controllers, if you set Net2StartNo to 31 in software, then port1 will output data to the first 30 slave controllers and port2 will output data to the last 10 slave controllers. If you set Net2StartNo to 1, then two ports will output same data to all slave controllers.

(6). Saved parameters include brightness, playing speed, color inverse, cycle mode, Net2StartNo. And it will save file number when "Cycle Mode" is single.

(7). Control type、clock frequency and other parameters must be properly set in "LED Control Software". Each slave controller can control diverse lamps, control different chips. So the parameters could be different.

(8). Playing speed of H803TC refers to the number of frames that the port can send in one second. Maximum playing speed=100M×(80%)/(number of all pixels×24), 100M is network bandwidth (100M=100000000bit), 80% is the approximate efficiency of network transmission, one pixel occupies 24bit, so (number of all pixels×24) is the number of bit that one image requires. The calculated result of this formula is a theoretical value, if the playing speed we set is greater than the maximum playing speed, it plays as the maximum playing speed and the synchronization function fails at this moment, so the playing speed we set must be less than the

maximum playing speed. Playing speed of master controller only limited by the network transmission.

Specifically, each pixel of P9813 and LPD6813 occupies 32 bits, so the playing speed and the number of all pixels should be multiplied by three quarters.

(9). H802TB controls maximum 30720 pixels, connect to maximum 48 slave controllers. Each slave controller controls maximum 3412 pixels, up to 4 output ports, each port maximum controls 3412 divided by number of using ports pixels.

(10). When set up modeling in "LED Control Software", each slave controller contains 1 – 4 ports. The two connection methods are as follows:

(1) A port of a line. Choose a few lines to share a slave controller on the need of a few ports of a slave controller. For example, we need three ports, then select "three lines of one slave controller" in modeling window of software.

(2)Choose a line of a slave controller; connect all pixels of all using ports. If three ports of a slave controller are occupied, connect the pixels of first port, then connect the pixels of second port, finally connect the pixels of third port. Then length up other two ports with the longest one.

Select any of the two methods, connect pixels of all slave controllers and set all parameters properly in the brightness settings.

(11). Set password. In model setting windows of "LED Control Software", click menu "setup" – "controller password", pop up the encryption dialog box, the method is to limit the number of power-on times. It supports seven times of continuous encryption, the last option of "encryption times" is "remove the password". When continues to encryption or remove the password, the password we enter must be consistent with the password we set for the first time.
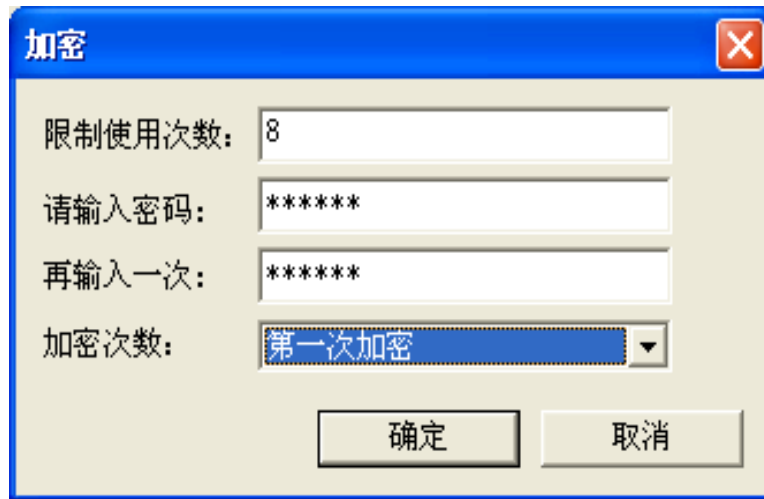
4. Specifications

Input Voltage	AC220V
Power Consumption	3W
Control Pixels	30720

Controlled Slave Controllers	48
Weight	0.88Kg
Working Temperature	-20C°--75C°
Dimension	L187 x W117 x H40
Installation Hole Distance	100mm
Carton Size	L205 x W168 x H69

5. Network and optical fiber connection diagram

(1). Commonly use the following connecting method, start number of port2 can be set; can also use one port. (The blue line is cable)

(2). The use of optical fiber, make further transmission distance. You can connect port1 to slave controller with optical fiber. If you want to connect port2 to slave controller, connect slave controller to slave controller with optical fiber, an IP converter is needed.