H801RA Instructions

1. Introduction

H801RA is a salve controller that transmits data based on Ethernet protocol, the input interface is used for receiving data and output interface is used for sending data, controls LED lamp with four output ports. Input interface can be directly connected to both computer network card and master controller (H802TA, H802TB, H801TC, H802TC, H803TC, H804TC, H805TC, H801TV, and H802TV), and can also be connected to the switch and photoelectric converter.

Auxiliary online software is "LED Studio software" and auxiliary offline software is "LED Build Software".

At present, H801RA can drive the following chips： LPD6803, LPD8806, LPD6813, LPD1882, LPD1889, LPD6812, LPD1886; DMX512, HDMX, APA102, P9813, DZ2809, SM16716; UCS6909, UCS6912, UCS1903, UCS1909, UCS1912; WS2801, WS2803, WS2811, INK1003; TM1812, TM1809, TM1804, TM1803; BS0901, BS0902, BS0815, LY6620, BS0825; LD1510, LD1512; TLS3001, TLS3002;

DM413, DM114, DM115, DM13C, DM134, DM135, DM136; MBI5001, MBI5168, MBI5016, MBI5026, MBI5027, 74HC595, 6B595, TB62726, TB62706, ST2221A, ST2221C, XLT5026, ZQL9712, ZQL9712HV, HEF4094, A8012 etc.

LPD6813 and P9813 control maximum 2560 pixels.

LPD1886, TLS3001, BS0901, BS0815 is 4096 levels grayscale; LPD6812, LPD6813 is 1024 levels grayscale.

2. Performance

(1) Four output ports control a maximum of 3412 pixels. Each port can control maximum 3412 divided by the number of using ports pixels.

(2) H801RA can work online or offline, can be directly connected to computer network card, so it can not only save the costs, but also more convenient to us. It can also be connected to master controller (H802TA, H802TB, H801TC, H802TC, H803TC, H804TC, H805TC, H801TV and H802TV), the switch and photoelectric converter.

(3) High synchronization performance, the transmission of adjacent slave controller delays within 200 ns, that is to say a cascade of 200 slave controllers' delay within 40 microseconds and the image has no tearing or mosaic phenomenon.

(4) Using flexibly. The maximum number of pixels that a port can control increases with the decrease of the number of output ports. Slave controllers can be interchanged and have a strong adaptability to lighting

engineering.

(5) Good control affect. Using a special algorithm to control the disable lamp to reach 256 levels grayscale and can control the enable lamp to reach 65536 (64K) levels grayscale.
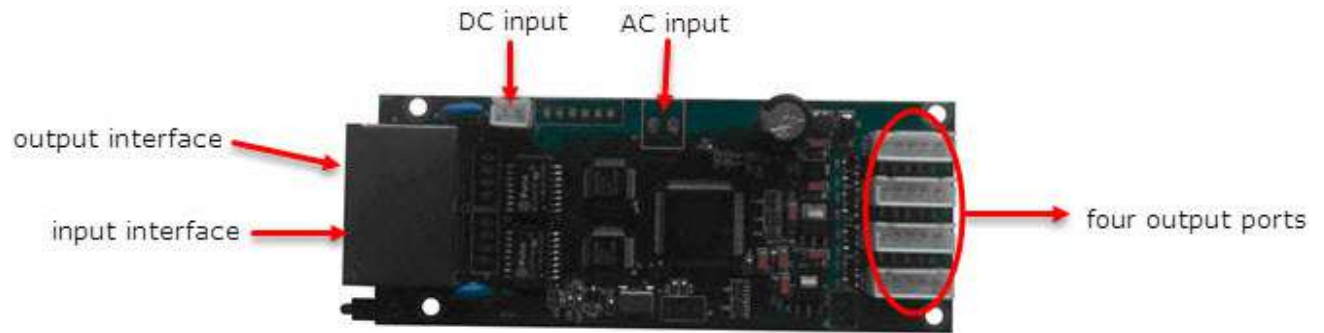
(6) Far transmission distance. Signal transmitted according to standard Ethernet protocol and the nominal transmission distance is 100 meters. Both slave controller and network repeater can be used as repeater. And the transmission distance can reach to more than 25 kilometers by photoelectric converter.

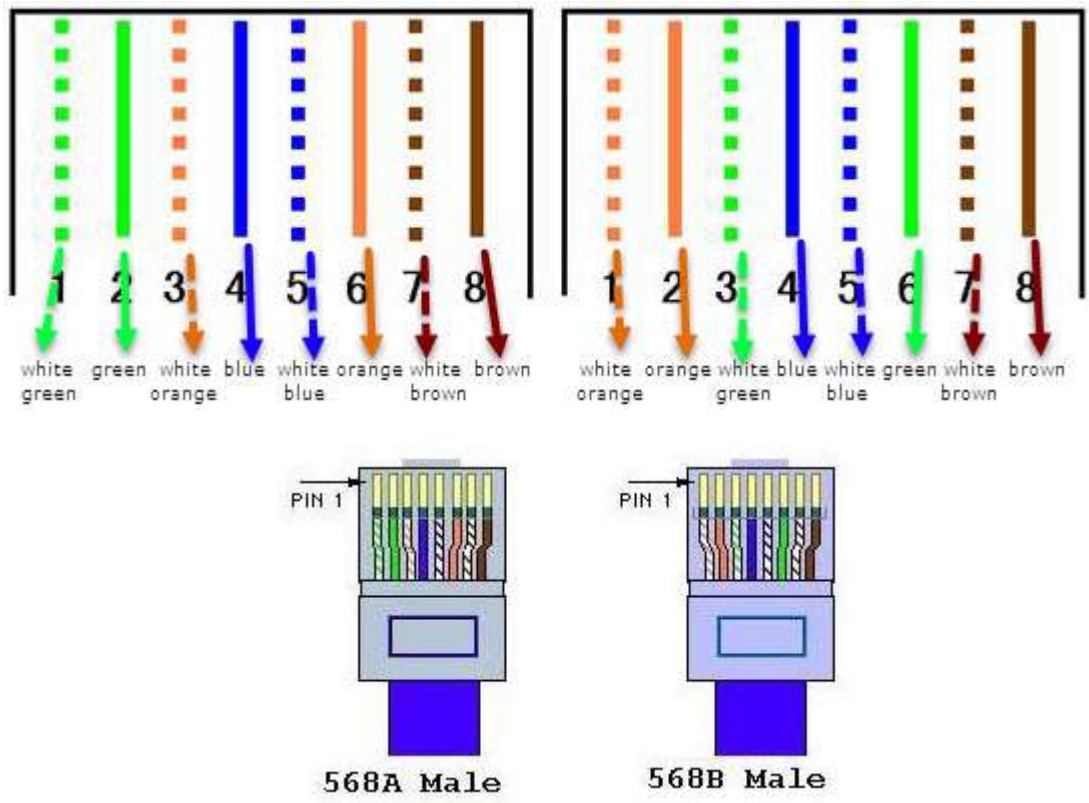(7) The clock scanning frequency is adjustable within 100K to 50M Hz.

(8) Using grayscale and inverse gamma correction technology to make actual displaying effect more consistent with human physiological sensation; Self-adaptive interlacing scanning technology according to the motion of pixels effectively eliminate the tooth angle generated by moving lines in video show and obtains smooth and natural picture.

3. Instructions

（1）. Connect the network card of computer (or master controller) to the input interface of slave controller with network cable, then connect the output interface to the input interface of next slave controller.

(2). Both Crossover and parallel cables are available for the slave controller that PCB is marked with 2.0 or higher version and the slave controller with lower version PCB must use crossover cable. Parallel cable refers to both ends of the cable are connected as T568A and crossover cable refers to one end is connected as T568A and the other end is connected as T568B. Crossover cable is suggested.

Connection of Crossover Cable

(3). When set the model, line number can be one, two, three, four. Line number is the number of actual using ports. Select "a line a controller", each port controls a maximum of 3412 pixels; Select "two lines a controller", each port controls a maximum of 1706 pixels, port3, 4 output the same data with port1, 2; select "three lines one controller", each port controls a maximum of 1128 pixels; select "four lines one controller", each port controls a maximum of 850 pixels. Actual controlled pixels are associated with the lamps and the transmission capability of chips.

| Three line with a slave |

(4). The DC input voltage is 6-24V, the AC input voltage is 9V, and the input voltage is 220V with housing outside and 9V transformer inside.
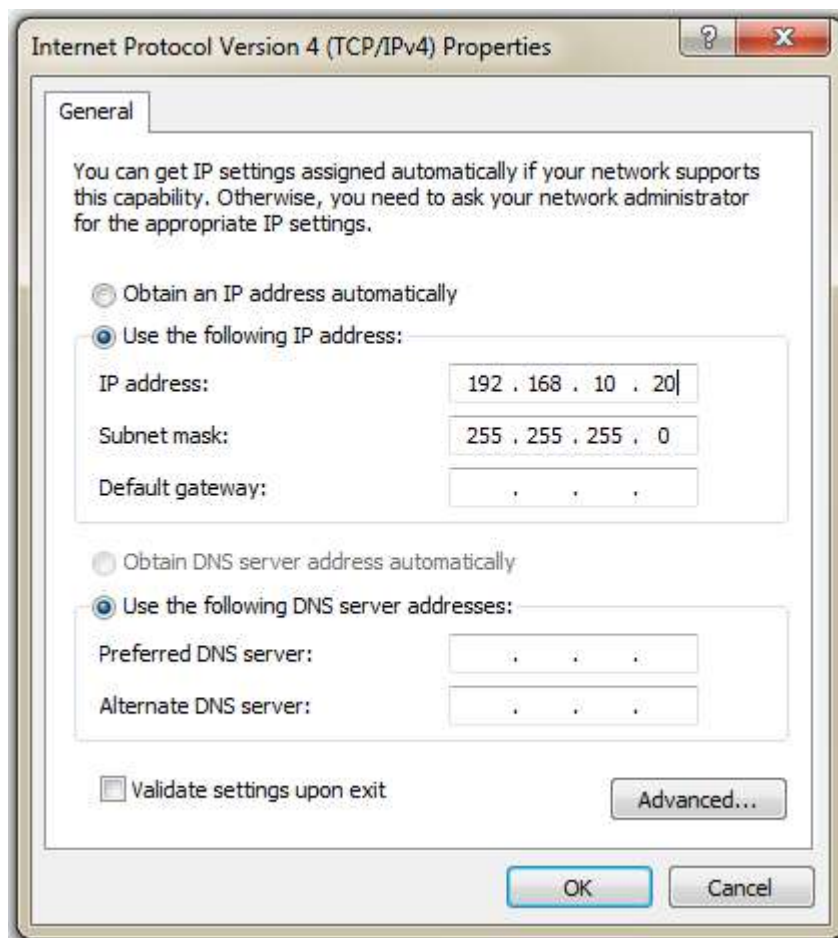
(5). There are two indicator lights beside the port. The green light above indicates power supply and the red light below indicates signal. If red light does not work ,which means slave controller does not receive data, check whether the network cable is plugged in and whether the master controller send data. If the red indicator light works, that means the data receiving is normal. If the lamp is not controlled, please check whether the lamp is connected properly to controller.

（6）. When H801RA is working online, for the LED screen that the resolution is higher than the monitor's, you must select playing in background, remember that background playing does not support multiple windows. Click menu "control" — "playing in background" is

OK.

（7）. When H801RA is working online, don't select "obtain an IP address automatically" but specify a fixed IP address, subnet mask is 255.255.255.0 and don't set other items.

The first three bytes of IP address must be different if computer has more than one network cards, the last byte value ranges from 1 to 254.

（8）. The clock frequency of DMX512 is fixed at 250 KHz, if you need to change the DMX clock frequency, select HDMX in the IC type.

4. Port definitions

From left to right, port 1 to port 4, there are four output ports.

Each port connection defined as follows:

GND CLK DAT LAT EN

When control DMX512, CLK as D-, DAT as D+.

When control single or double line chips, connection set as follows:

GND   CLK   DAT   CLK-   DAT-

Double line can connect GND   CLK   DAT

Single line can connect GND   DAT

CLK- and DAT- can be used only when the differential signal is needed

5. Specifications

Input Voltage	AC220V
Power Consumption	1.2W
Control pixels	3412
Weight	1Kg
Working Temperature	-20C°--75C°
Dimension	L163 x W155 x H54
Installation Hole Distance	100mm
Carton Size	L205 x W168 x H69