

ST802RA Instructions



1. Abstract

ST802RA is a four ports controller that transmit data based on Ethernet protocol and supports Art-Net protocol. It supports multiple kinds of LED driver chips and can address for DMX512 driver chips. The input network interface can be connected to master controller or computer.

Online software are “LED Studio” and “MADRIX”, offline software is “LED Build”.

2. Supported Driver Chips

DMX512, HDMX, LPD6803, LPD8806, LPD1882, LPD1889, LPD1883, LPD1886, TM1812, TM1809, TM1804, TM1803, TM512, TM1926, TM1913, TM1914, TM1814, UCS6909, UCS6912, UCS1903, UCS1909, UCS1912, UCS512, UCS8904, APA102, APA104, P9813, WS2801, WS2803, WS2811, WS2812, WS2821, SM16716, SM16711, INK1003, LX1003, MY9221, MBI6021, MBI6024, LD1510, LD1512, LD1530, LD1532, etc.

For UCS8904, ST802RA controls maximum 3200 pixels.

For other chips, ST802RA controls maximum 4096 pixels.

3. Features

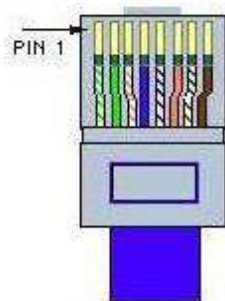
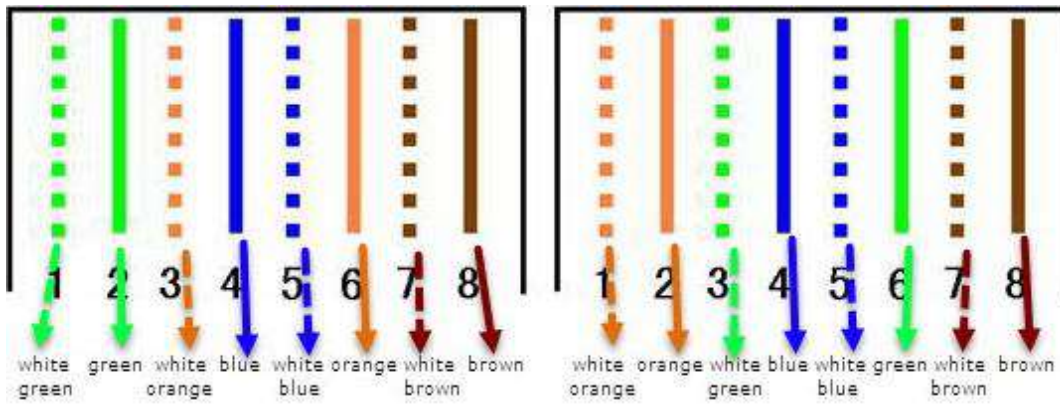
- (1). Four ports, drive maximum 4096 pixels.
- (2). Support Art-Net protocol, so ST802RA can work with MADRIX.
- (3). Address for the TM and UCS DMX512 driver chips, such as TM512, UCS512.
- (4). Configured as repeater or amplifier by LED Studio.
- (5). Work with master controller or computer.
- (6). Distance between two controllers can be up to 100 meters.

4. Controller Configuration

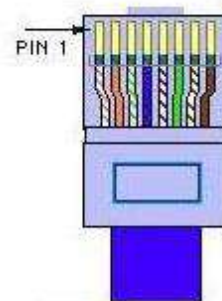
- (1). Connect to master controller, software is LED Build.



The blue line is crossover cable(one side is T568A, the other side is T568B), the following images show the color sequence.



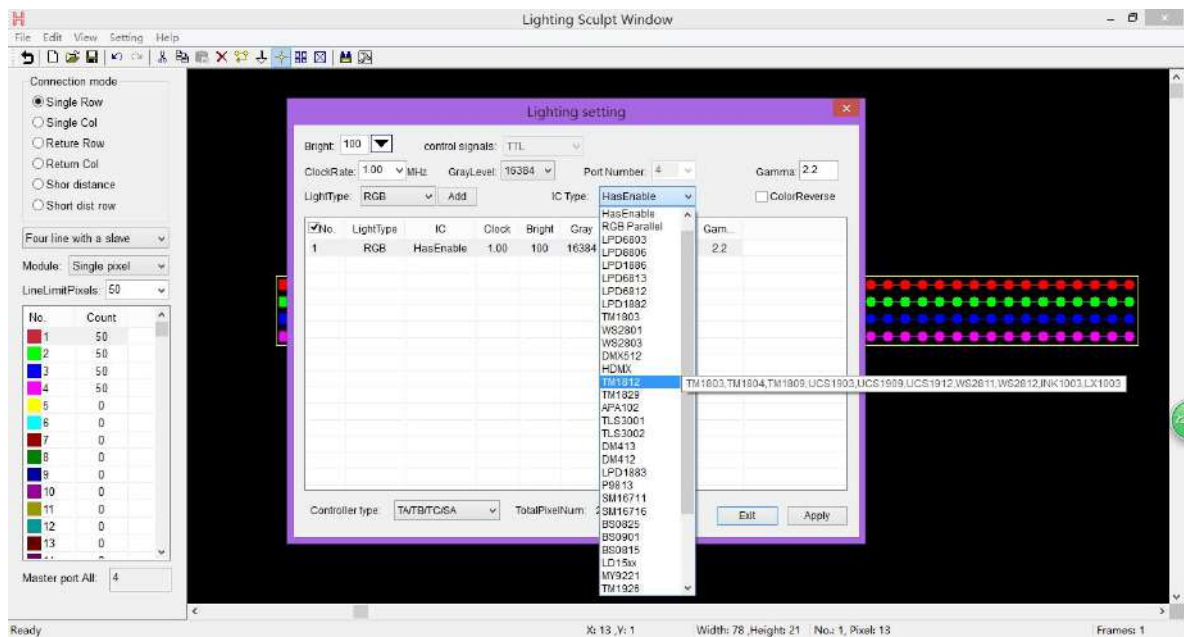
568A Male



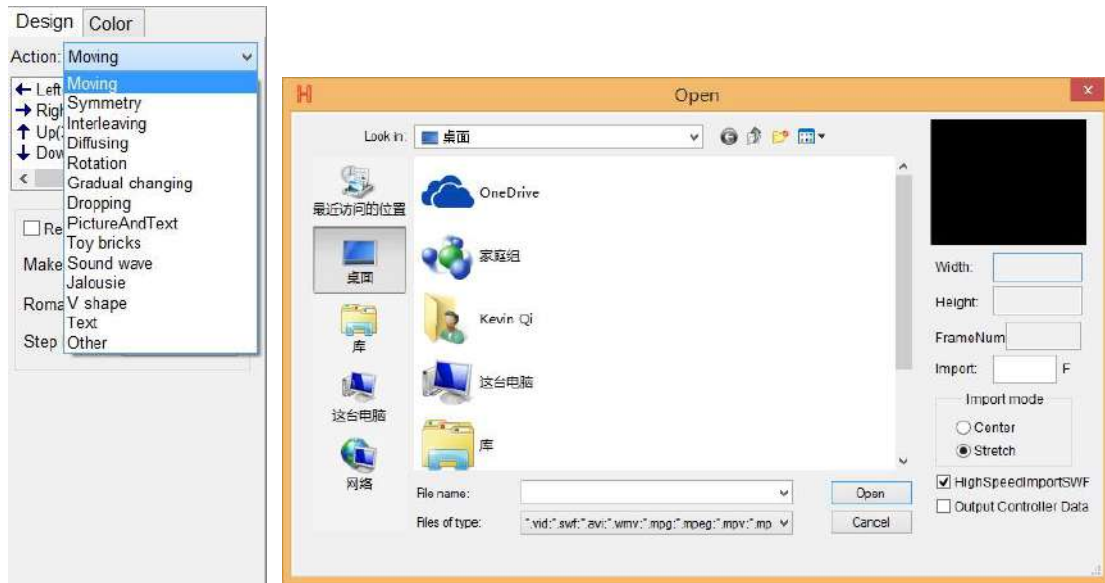
568B Male



Support dozens of driver chips.



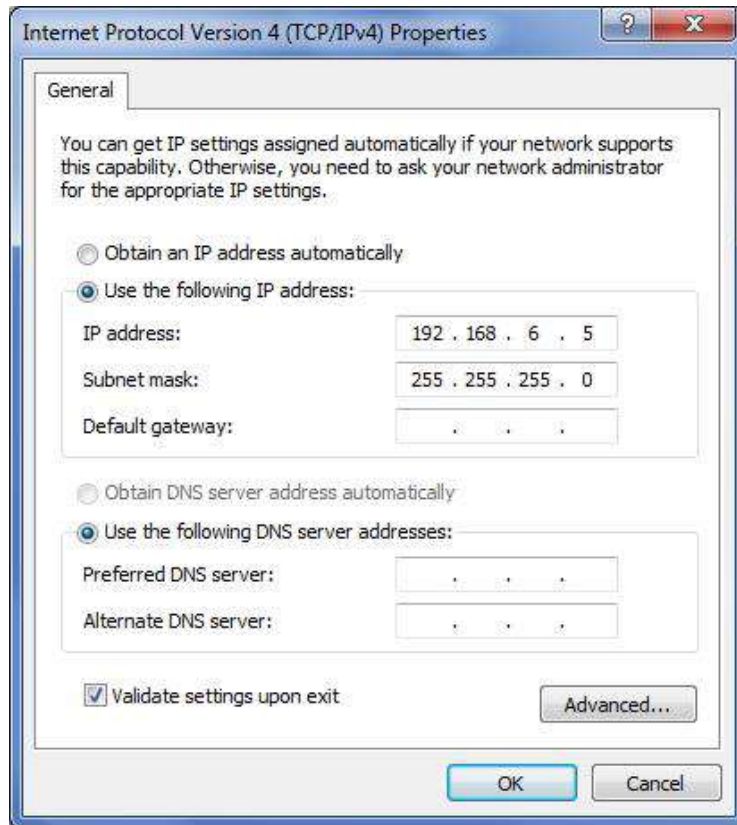
Built-in dozens of effects and support importing various formats of video files.



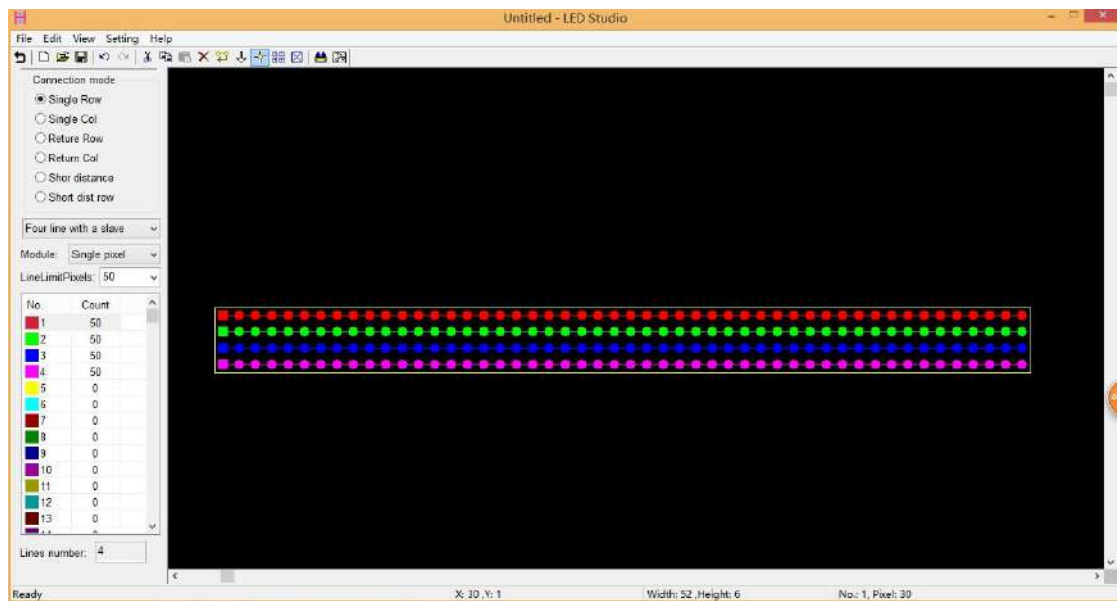
(2). Connect to computer, software is LED Studio or Madrix.



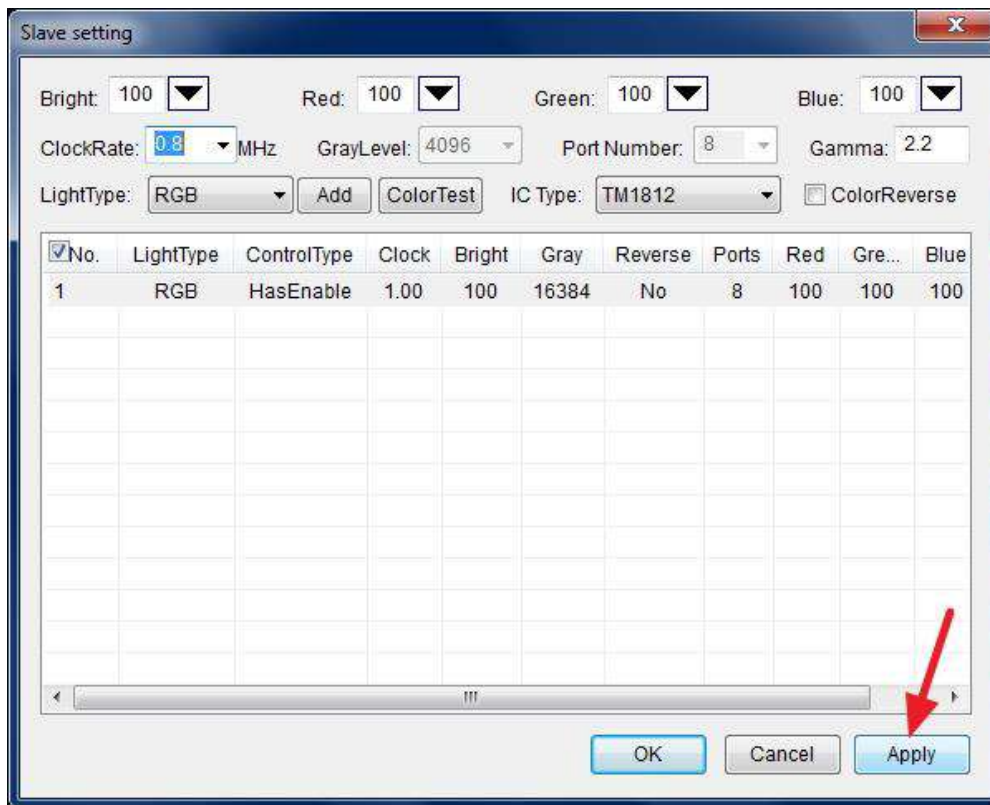
Distribute an IP address for ST802RA



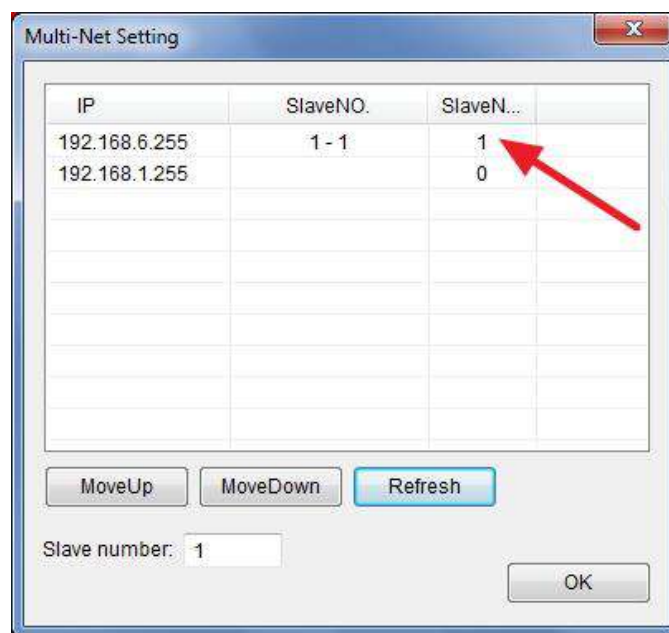
Setting sculpt



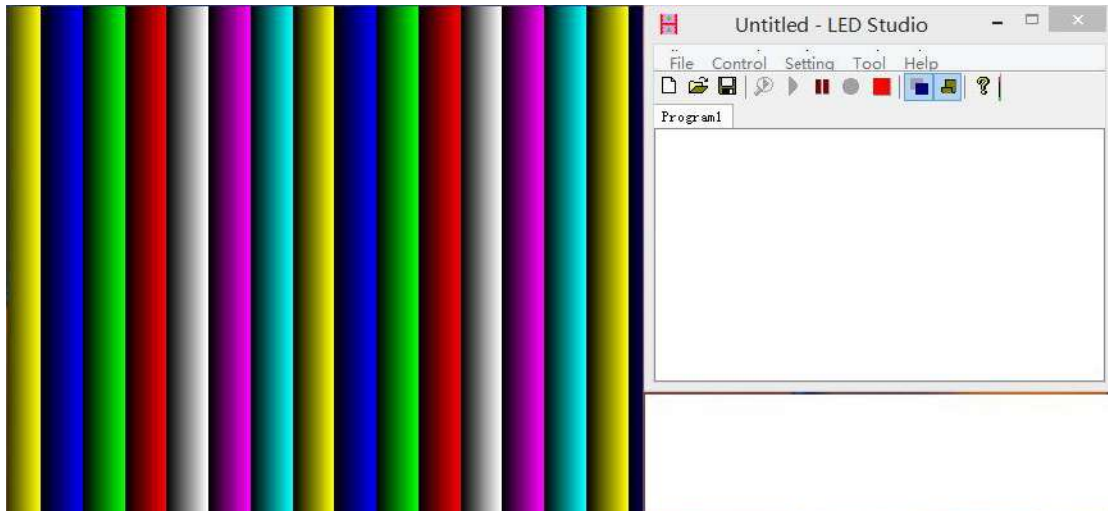
Slave setting



Distribute controller for the specified IP address.

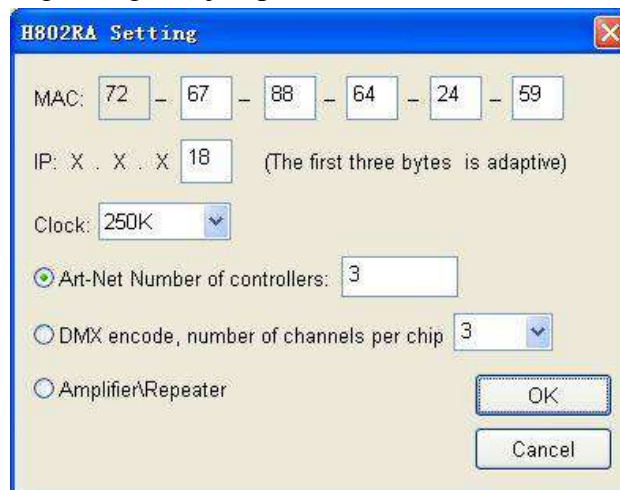


Effects make



5. Other Functions

Connect ST802RA to computer, open LED Studio, click “setting” -- “ST802RA setting”, the following dialog box jumps out.



Normally, you don't need to set the MAC and IP, these numbers will appear after an IP address is distributed to ST802RA.

The “Clock” has 250K, 500K, 750K three options, it only works when you are using Madrix.

“Art-Net Number of controllers” is used to set how many ST802RA you want to connect to PC when using Madrix.

“DMX encode, number of channels per chip” is used to address for the TM or UCS DMX512 driver chips. Choose the channel number of each chip and then click “OK”, you can address maximum 1024 pixels(1 pixel includes 3 or 4 channels) one time. Connection method: Connect GND, D-, D+, PI(addressing line) to GND, D-, D+, CLK on controller, then click “OK”, after a few seconds, lights will change from white to green. Re-power the lights, address will be updated.

Choose “Amplifier/Repeater” and click “OK”, ST802RA will be configured as an amplifier or repeater.

6. Madrix setup

- (1). Connect ST802RA to computer, distribute an IP address for it.

(2). Open LED Studio. Click “Setting” -- “ST802RA setting”, choose “Art-Net Number of controllers” and enter a number, for example 3, then click “OK”.

(3). Open Madrix, press “F4”, pops up “Device Manager” window, choose the “Art-Net” label, click “Find Auto” to find Art-Net device, check the “Enable” option, then click “Apply”.



Click “DMX Devices” label, choose all universes of ST802RA, check the “Enable” option on the right side and click “Apply” to enable DMX output.



7. Ports definition

GND CLK DAT D- D+

For double-line chips, connect GND, CLK, DAT

For single-line chips, connect GND, DAT

For DMX512, connect GND, D-, D+, addressing line to CLK
For TM1926, TM1913, TM1914, TM1814, connect GND, D+

8. Specifications

Input Voltage	AC220V
Consumption	1.3W
Drive pixels number	4096
Weight	1Kg
Working Temperature	-40C°--85C°
Dimension	L163 x W155 x H54
Carton Size	L205 x W168 x H69
PCB Size	L119 x W47 x H21