LM501 Manual
1. Overview:

1.1 LM501

- Support on-line and off-line control
- Software: ‘MADRIX’ (ART-NET protocol) OR vison (SPI protocol)
- 4 Outputs, it support MAX512 pixels per ports
- It support MAX 31pcs of slave controllers, MAX65536 pixels
- LCD display
- Input: AC100~220V 50/60Hz;
- EMC

1.2 LM501 parameter

<table>
<thead>
<tr>
<th>Size</th>
<th>260<em>154</em>45mm</th>
<th>signal</th>
<th>TTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>1085g</td>
<td>Off-line</td>
<td>SD card</td>
</tr>
<tr>
<td>IC</td>
<td>TM1804, TM1829, UCS1903, TLS3001, TLS3008; DMX512, P9813, LPD6803, LPD8806, SM16716, WS2801, MBI6021, MBI6024, MY9221</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.3 Construction
① : LCD
② : ▲ adding key
③ : MENU
④ : ▼ - lessen key
⑤ : CFM – enter key
⑥ : SD card
⑦ : mode
⑧ : AC100-220V
⑨ : switch
⑩ : cable in/out
11: FH red indication light: Power on
12: TR green indication light: flashing means playing effects
13: Output
1.4 LM501 size

260mm

45mm

154mm

45mm

275mm

288mm
2. Connection

2.1 PC to LM501

2.2 Net cable—RJ45

Net cable to connect

2.3 Output signal

<table>
<thead>
<tr>
<th>SPI</th>
<th>DMX</th>
</tr>
</thead>
<tbody>
<tr>
<td>一线 (GND)</td>
<td>一线-GND</td>
</tr>
<tr>
<td>二线 (DAT)</td>
<td>二线-D+</td>
</tr>
<tr>
<td>三线 (CLK)</td>
<td>三线-D-</td>
</tr>
<tr>
<td>四线-(STB)</td>
<td></td>
</tr>
<tr>
<td>五线- (OE)</td>
<td></td>
</tr>
</tbody>
</table>
3. Function

3.1 Language setting

Chinese: press ▼ over 3 seconds  
English: press ▲ over 3 seconds

3.2 LCD display

Row one: Subnet, Universe and Slave (s)/Master(m)  
Row two: IP setting

3.3 Modes setting

1) Press MENU to:

Press CFM to set:

2) press ▲/▼ to choose modes  
3) press CFM  
4) press MENU back to menu

Notice: this function available only at off-line control mode.

3.4 Speed setting

1) press MENU key, then press ▲ to enter speed adjust menu

info@pixel-leds.com
2) press CFM to start set
3) press ▲/▼ to adjust the speed
4) press CFM to set
5) press MENU to get back

**Notice**: this function available only at off-line control mode.

### 3.5 Brightness adjust.

1) Press MENU, then press ▲ twice
2) Press CFM to start brightness set
3) ▲/▼ adjust
4) Press CFM to save
5) Press MENU to get back

**Notice**: this function available only at off-line control mode.

### 3.6 CLK setting

1) Press MENU, then press ▲ three times,
2) Press CFM to start set
3) ▲/▼ to set
4) Press CFM to save
5) Press MENU to get back

**Notice**: this function available only at off-line control mode.

### 3.7 IP setting

IP address (IP1.IP2.IP3.IP4) such as: 192.168.1.1. It decides the communication between software and controller.
1) Press MENU, then press ▲ four times;
2) Press CFM to start set;
3) Press ▲/▼ set IP1;
4) Press CFM to save IP1, and start to set IP2;
5) Press ▲/▼ to set IP2;
6) Press CFM to save IP2, and start to set IP3;
7) Press ▲/▼ to set IP3;
8) Press CFM to IP3, and start to set IP4;
9) Press ▲/▼ to set IP4;
10) Press CFM to save IP4;
11) Press MENU to get back

3.8 Multi-controller setting

Set one LM501 as master controller, the rest as slave controller.

1) Press MENU, press ▲ five times
2) Press CFM to start
3) Press ▲/▼ to adjust
4) Press CFM to save
5) Press MENU to get back

3.9 ART-NET

① Subnet: 0-15
1) Press MENU, and then press ▲ 6 times
2) Press CFM to start subnet setting
3) Press ▲/▼
4) Press CFM to save
5) Press MENU to get back

② **Universe**: 0-15.

1) Press MEN, and then press ▲ 6 times
2) Press CFM times to start the Universe setting
3) Press ▲/▼
4) Press CFM to save
5) Press MENU to get back

4. On-line control setting

4.1 Ymvison

1) IP setting;
2) Running ledplayer to get this:
MADRIX setting direction ------

LM501 and slave controller

1. LM501 setting:
   1). IP setting, must be different from PC;
   2). ART-NET setting;
      - Universe: choose 1;
      - Output: setting according to your application;
        1- Univ. Per output can drive MAX 170 pixels(RGB)(recommend);
        2- Univ. Per output can drive MAX 341 pixels(RGB);
        3- Univ. Per output can drive MAX 512 pixels(RGB);
   3)Slaves:
      1-univ: under this mode, it support MAX 11 slave controllers;
      2-univ: under this mode, it support MAX 5 slave controllers;
      3-univ: under this mode, it support MAX 3 slave controllers;
      - Driver: choose IC type;
      - Lamp: color sequence adjust.

2. MADRIX setting:
   1. Connect to PC via net cable, IP setting, such as 192.168.1.90; choose universe1, Output=3-univ; Slaves=1; Driver=P9813; Lamp=RGB.

   2. Run MADRIX on PC. Choose Preferences→DeviceManager.., or press key F4, you will get the following tips:
Choose Art-Net:

Click ‘Find Auto’ to search devices, you will get:

Total 24 Universe,(output=3-Univ, 4 * 2 *3=24), Matchup like this:

<table>
<thead>
<tr>
<th>PORT</th>
<th>Universe</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM501 Port1</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>LM501 Port2</td>
<td>4, 5, 6</td>
</tr>
<tr>
<td>LM501 Port3</td>
<td>7, 8, 9</td>
</tr>
<tr>
<td>LM501 Port4</td>
<td>10, 11, 12</td>
</tr>
<tr>
<td>Slave Port1</td>
<td>13, 14, 15</td>
</tr>
<tr>
<td>Slave Port2</td>
<td>16, 17, 18</td>
</tr>
<tr>
<td>Slave Port3</td>
<td>19, 20, 21</td>
</tr>
</tbody>
</table>
Setting data transmission method, double click "LM501", change 'Send Direct:' to 'Send Broadcast'; Like this:

![Art-Net Device Configuration window](image)

Click 'OK', do this step again to reset all 'LM501' to 'Send Broadcast'.
synchronization method setting. Click ‘Sync…’, like the picture showing below:

Click ‘OK’ and back to last step, choose ‘DMX Devices’ like this:
Run DMX device, left click on all ‘LM501’, then click on “Enable” to turn them all on. Like this:
Clike 'ok' to get back to MADRIX menu, we suggest to choose 'File'→'Save'→'Setup' to save all setting, bring easy for next time using.

Generally speaking, we choose Output=1-univ when setting, then each port (controller) can drive MAX 512 channels, that means about 170 RGB pixels, and 1pcs of mater controller support MAX 11pcs of slave controller, so total 12*4*512=24 576 channels.