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

Size	260*154*45mm	signal	TTL		
Weight	1085g	Off-line	SD card		
	TM1804、TM1829、UCS1903、TLS3001、TLS3008;				
IC	DMX512、P9813、LPD6803、LPD8806、SM16716、WS2801、				
	MBI6021、MBI6024、MY9221				

1.3 Construction



- 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



2. Connection

2.1 PC to LM501



2.2 Net cable—RJ45

Net cable to connect



2.3 Output signal

SPI	DMX
一线 (GND)	一线-GND
二线 (DAT)	二线-D+
三线 (CLK)	三线-D-
四线 -(STB)	
五线 - (OE)	



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 $\blacktriangle/ \blacksquare$ 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 \blacktriangle to enter speed adjust menu

info@pixel-leds.com

- 2) press CFM to start set
- 3) press $\blacktriangle/ \blacksquare$ 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 \blacktriangle 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 \blacktriangle three times,
- 2) Press CFM to start set
- 3) Press $\blacktriangle/ \blacksquare$ 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;
- Press ▲/▼ set IP1;
- 4) Press CFM to save IP1, and start to set IP2;
- 5) Press $\blacktriangle/ \blacksquare$ to set IP2;
- 6) Press CFM to save IP2, and start to set IP3;
- 7) Press $\blacktriangle/ \blacksquare$ to set IP3;
- 8) Press CFM to IP3, and start to set IP4;
- 9) Press $\blacktriangle/ \blacksquare$ 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 MEN, 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 \blacktriangle 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 \bigstar 6 times
- 2) Press CFM times to start the Universe setting
- 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:

联机脱机两用控制器设置	
☑ 当前控制器为联机脱机两用控制器◎ 联机模式 ○ 脱机模式	
IP地址 192 . 168 . 1 . 93 设置	

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:

	Device Manager									
ſ	DMX Devic	es DVI Devices DMX Inpu	t Art-Net MIDI .	Audio Input	Visualizer					
l	State	Name		Universe	OUT / IN	ms / FPS	Frames	Device		
	🗧 Off	ArtNet Remote (MADRIX)	Port:0		IN	25/40.0		ArtNet Remote (MADRIX) Po	rt:0	
								ArtNet Remote (sync) IP: 192.168.1.11 , Uni: out 1 MADRIX 3.x incage		
								Settings		
								Enable Ou	utput 🗖	
									nput 📃	
								Universe :	1	
								Frame Time (ms) :	25 💷	
								FPS: 4	40.0	
								Full Frames : 🚍		
								Configure Device		
	Rescar	For Devices Highlight	Device VVatci	1 Universe	Unive	erses in use C	JUT: 07256 IN: 0			
	6 🛛 🖉						ок	Apply Gancel	Help	

info@pixel-leds.com



🔰 Device Manager	L F			
DMX Devices DVI Devices	DMX Input	Art-Net MIDI	Audio Input Visualizer	
Name	Count/Net	Universe	IP / MAC	Enable
ArtNet Remote			192.168.1.11 / 74:D0:2B:1A:9E:24 (receive only from 192.168.1	Sync
				Refresh
				New
				Сору
				Edit
				Config By Web
Find Auto			Hostname : X450C-PC Count :	1 Delete
			OK Apply	Cancel Help

Click 'Find Auto' to search devices, you will get:

J	Device Manager				
D	MX Devices DVI Devices	DMX Input	Art-Net MIDI	Audio Input Visualizer	
	Name	Count/Net	Universe	IP / MAC	Enable
	ArtNet Remote	1		192.168.1.11 / 74:D0:2B:1A:9E:24 (receive only from 192.168.1	Sync
	YM-LM501	4 / 0x1	21, 22, 23, 24	192.168.1.95 / 20:6A:C0:A8:01:5F (send only to 192.168.1.95)	
	YM-LM501	4 / 0x1	17, 18, 19, 20	192.168.1.94 / 20:6A:C0:A8:01:5E (send only to 192.168.1.94)	
	YM-LM501	4	13, 14, 15, 16	192.168.1.93 / 20:6A:C0:A8:01:5D (send only to 192.168.1.93)	
	YM-LM501	4	9,10,11,12	192.168.1.92 / 20:6A:C0:A8:01:5C (send only to 192.168.1.92)	
	YM-LM501	4	5, 6, 7, 8	192.168.1.91 / 20:6A:C0:A8:01:5B (send only to 192.168.1.91)	
	YM-LM501	4	1, 2, 3, 4	192.168.1.90 / 20:6A:C0:A8:01:5A (send only to 192.168.1.90)	
					Refresh
					New
					Conv
					Copy
					Config By Web
	Find Auto			Hostname : X450C-PC Count :	7 Delete
e				OK Apply	Gancel Help

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

PORT	Universe
LM501 Port1	1, 2, 3
LM501 Port2	4, 5, 6
LM501 Port3	7, 8, 9
LM501 Port4	10, 11, 12
Slave Port1	13, 14, 15
Slave Port2	16, 17, 18
Slave Port3	19, 20, 21

Setting data transmission method, double click "LM501", change 'Send Direct:' to 'Send Broadcast'; Like this:

Art-Net Device Configuration
Manufacturer : unknown
Product : developer Firmware: v240.254
OEM Code : 0×00FF
Esta : 0x0000 - ESTA- PLASA
Short Name : YM-LM501
Long Name : Artnet to TM1804L
Port Count : 4 Sub Switch : 2 (0x1)
State : Port 1: Disabled Port 2: Disabled Port 3: Disabled Port 4: Disabled
Subswitch / Universe Subswitch / Universe Subswitch / Universe Subswitch / Universe
Universe Port OUT : 21 (0x1 / 0x 🕶 22 (0x1 / 0x 🕶 23 (0x1 / 0x 🕶 24 (0x1 / 0x 🕶
Port IN :
MAC : 20:6A:C0:A8:01:5F
Style Code : node
Port : 6454
Send Direct : 🔚 Send Data Only To Address 192.168.1.95
IP: 192 . 168 . 1 . 95
Send Broadcast : 🤤 Send Data To "Directed Broadcast Address" 192.168.1.255
Network : 192.168.1.11 255.255.255.0 74:D0:2B:1A:9E:24 100 MBit/s
OK Apply Cancel

Click 'OK', do this step again to reset all 'LM501' to 'Send Broadcast".

IJ	Device Manager	L ÷			
	DMX Devices DVI Devices	DMX Input	Art-Net MIDI	Audio Input Visualizer	
	Name	Count/Net	Universe	IP / MAC	Enable
L	ArtNet Remote			192.168.1.11 / 74:D0:2B:1A:9E:24 (receive only from 192.168.1	Sync
	YM-LM501	4 / 0x1	21, 22, 23, 24	192.168.1.95 * / 20:6A:C0:A8:01:5F (send to "directed broadcast	
I	YM-LM501	4 / 0x1	17, 18, 19, 20	192.168.1.94 */ 20:6A:C0:A8:01:5E (send to "directed broadcas	
L	YM-LM501	4	13, 14, 15, 16	192.168.1.93 * / 20:6A:C0:A8:01:5D (send to "directed broadcas	
L	YM-LM501	4	9,10,11,12	192.168.1.92 */ 20:6A:C0:A8:01:5C (send to "directed broadcas	
	YM-LM501	4	5, 6, 7, 8	192.168.1.91 */ 20:6A:C0:A8:01:5B (send to "directed broadcas	
	YM-LM501	4	1, 2, 3, 4	192.168.1.90 * / 20:6A:C0:A8:01:5A (send to "directed broadcast	
					Patrash
					Keiresn
					New
					Сору
					Edit
					Config By Web
	Find Auto			Hostname : X450C-PC Count :	7 Delete
E	> 🔒 📖			OK Apply	Cancel Help

synchronization method setting. Click 'Sync...', like the picture showing below:

	J Art-	Net Sync	Options			X			
Before activating sync, make sure that all activated Art-Net devices are available in your network! Else, the frame rate of Art-Net might drop. If you are not sure, do not enable any sync mode.									
		Sync	Network	Mask	Speed	🔲 Enable			
		😑 On	192.168.1.0	255.255.255.0					
		🗧 Off	192.168.1.0	255.255.255.0	100 MBit/s				
		🔲 Pre Sy	nc	🔳 Po	est Sync				
	ок					Cancel			

Click 'OK' and back to last step, choose 'DMX Devices' like this:

	D	evice	Manager	_				
	DM	X Devi	ces DVI Devices DMX Input Art-Net MIDI	Audio Input	Visualizer			
I	F	State	Name	Universe	OUT / IN	ms / FPS	Frames	[Device
		Off	ArtNet Remote (MADRIX) Port:0		IN	25/40.0		
		Off	YM-LM501 (192.168.1.90) Port:0	1	OUT	25/40.0	Optimized	
н		Off	YM-LM501 (192.168.1.90) Port:1	2	OUT	25/40.0	Optimized	
П		Off	YM-LM501 (192.168.1.90) Port:2	3	OUT	25/40.0	Optimized	
I		Off	YM-LM501 (192.168.1.90) Port:3	4	OUT	25/40.0	Optimized	Settings
П		Off	YM-LM501 (192.168.1.91) Port:0	5	OUT	25/40.0	Optimized	Enable Output
		Off	YM-LM501 (192.168.1.91) Port:1	6	OUT	25/40.0	Optimized	
		Off	YM-LM501 (192.168.1.91) Port:2	7	OUT	25/40.0	Optimized	
		Off	YM-LM501 (192.168.1.91) Port:3	8	OUT	25/40.0	Optimized	Universe :
	ŀ	Off	YM-LM501 (192.168.1.92) Port:0	9	OUT	25/40.0	Optimized	
	Ŀ	Off	YM-LM501 (192.168.1.92) Port:1	10	OUT	25/40.0	Optimized	Frame Time (ms) : 🗾 30 📮
	ŀ	Off	YM-LM501 (192.168.1.92) Port:2	11	OUT	25/40.0	Optimized	FPS: 40.0
	Ŀ	Off	YM-LM501 (192.168.1.92) Port:3	12	OUT	25/40.0	Optimized	Full Fremes -
	ŀ	Off	YM-LM501 (192.168.1.93) Port:0	13	OUT	25/40.0	Optimized	
	Ŀ	Off	YM-LM501 (192.168.1.93) Port:1	14	OUT	25/40.0	Optimized	
	ŀ	Off	YM-LM501 (192.168.1.93) Port:2	15	OUT	25/40.0	Optimized	
	Ŀ	Off	YM-LM501 (192.168.1.93) Port:3	16	OUT	25/40.0	Optimized	
	Ŀ	Off	YM-LM501 (192.168.1.94) Port:0	17	OUT	25/40.0	Optimized	
	Ŀ	Off	YM-LM501 (192.168.1.94) Port:1	18	OUT	25/40.0	Optimized	
	Ŀ	Off	YM-LM501 (192.168.1.94) Port:2	19	OUT	25/40.0	Optimized	
		Off	YM-LM501 (192.168.1.94) Port:3	20	OUT	25/40.0	Optimized	
		Off	YM-LM501 (192.168.1.95) Port:0	21	OUT	25/40.0	Optimized	
E		Off	YM-LM501 (192.168.1.95) Port:1	22	OUT	25/40.0	Optimized	
	•	Off	YM-LM501 (192.168.1.95) Port:2	23	OUT	25/40.0	Optimized	
		Off	YM-LM501 (192.168.1.95) Port:3	24	OUT	25/40.0	Optimized	
		Resear	n For Devices Highlight Device DM	X Watcher	Univ	rerses in use	OUT: 0/256 IN: 0	Configure Device
E								
	2			X Watcher	Univ	rerses in use	OUT: 0/256	K Apply Cancel Help

Run DMX device, left click on all 'LM501', then click on "Enable" to turn them all on. Like this:

U Device Manager							
DMX Devices DVI Devices DMX Input Art-Net MIDI Audio Input Visualizer							
	State	Name	Universe	OUT / IN	ms / FPS	Frames	Device
	🗧 Off	ArtNet Remote (MADRIX) Port:0		IN	25/40.0		YM-LM501 (192.168.1.90) Port:0
	🛎 On	YM-LM501 (192.168.1.90) Port:0	1	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.90) Port:1	2	OUT	25/40.0	Optimized	YM-LM501 (sync) IP: 192.168.1.90 *, Uni: out 1
	🛢 On	YM-LM501 (192.168.1.90) Port:2	3	OUT	25/40.0	Optimized	developer unknown
	🛢 On	YM-LM501 (192.168.1.90) Port:3	4	OUT	25/40.0	Optimized	Settings
	😑 On	YM-LM501 (192.168.1.91) Port:0	5	OUT	25/40.0	Optimized	
	😑 On	YM-LM501 (192.168.1.91) Port:1	6	OUT	25/40.0	Optimized	
	🗧 On	YM-LM501 (192.168.1.91) Port:2	7	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.91) Port:3	8	OUT	25/40.0	Optimized	Universe :
	😑 On	YM-LM501 (192.168.1.92) Port:0	9	OUT	25/40.0	Optimized	
	😑 On	YM-LM501 (192.168.1.92) Port:1	10	OUT	25/40.0	Optimized	Frame Time (ms) : 25 📮
	😑 On	YM-LM501 (192.168.1.92) Port:2	11	OUT	25/40.0	Optimized	FPS: 40.0
	😑 On	YM-LM501 (192.168.1.92) Port:3	12	OUT	25/40.0	Optimized	E. II Frances a
	🛢 On	YM-LM501 (192.168.1.93) Port:0	13	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.93) Port:1	14	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.93) Port:2	15	OUT	25/40.0	Optimized	
	😑 On	YM-LM501 (192.168.1.93) Port:3	16	OUT	25/40.0	Optimized	
	😑 On	YM-LM501 (192.168.1.94) Port:0	17	OUT	25/40.0	Optimized	
	= On	YM-LM501 (192.168.1.94) Port:1	18	OUT	25/40.0	Optimized	
	😑 On	YM-LM501 (192.168.1.94) Port:2	19	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.94) Port:3	20	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.95) Port:0	21	OUT	25/40.0	Optimized	
E.	🛢 On	YM-LM501 (192.168.1.95) Port:1	22	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.95) Port:2	23	OUT	25/40.0	Optimized	
	🛢 On	YM-LM501 (192.168.1.95) Port:3	24	OUT	25/40.0	Optimized	
	Configure Device						
DMX Watcher Universes in use OUT: 0/266 OK Apply Cancer Help							

Clike 'ok' to get back to MADRIX menu, we suggest to choose 'File' \rightarrow '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.