

TC809 Art-Net Controller User Manual



 \star Please read this manual carefully before installing and using this product \star

1. Product introduction

This TC-809 controller is a controller with LCD digital interface display, which converts Art-Net signals into various pixel lamp chip signals. It adopts standard Ethernet transmission and additionally accepts DMX512 signal control. Eight output ports, can control a variety of LED driver chips, support automatic addressing function, convenient for users to access different types of lamps, and realize unified control of different lamps in the project. The input network port can be directly connected to the computer network card, and can also be connected to the computer network card via a switch or photoelectric converter. Widely used in buildings, municipal lighting, stage scenery, entertainment venue decoration, etc.; it can achieve various running changes such as horse racing, running water, trailing, coloring, scanning, raindrops, etc., and has the advantages of convenient wiring and simple use; Single unit can be used in cascade connection.

2. Dimensions & Technical Parameters



TC809 Art-Net Controller Dimensions



TC809 Art-Net Controller Front View



Technical Parameters

Name	Description & Parameters
Operating Voltage	DC5-24V
Input Signal	Art-Net / DMX512
Output Signal	DMX512 / SPI (TTL)
Refresh Rate	30(ms)
Control Pixels	RGB 1020pixels*8Ports / RGBW 765pixels*8Ports (MAX)
Cascades QTY	170pixels*8Port / 128pcs 340pixels*8Port / 64pcs
	510pixels*8Port / 42pcs 680pixels*8Port / 32pcs
	850pixels*8Port / 25pcs 1020pixels*8Port / 21pcs
Operating temperature	-20°C ~55°C
Protection level	IP20
Accessories	8G Memory Card * 1 / 3P terminal * 8 / 2P terminal * 1
Dimensions	L212 x W138 x H30 mm
Packing Size	25 x16.5 x4 cm
Product weight	0.73 kg

3. Functions and features

- 3.1 Provide LCD screen display, which can display the model, ID, and working status of the controller.
- 3.2 Have 8 ports output, each port can Control to 170/340/510/680/850/1020 pixels (depending on the number of different loaded chips).
- 3.3 The port outputs two signal protocols: ①DMX512/1990 international standard protocol and DMX512 extended protocol (RS-485 differential signal); ②TTL serial protocol (level signal).



- 3.4 Support a variety of pixel control ICs, flexible control methods.
- 3.5 Controller network IP online/manual setting function.
- 3.6 With DMX512 write address function, single port or all ports load DMX512 IC write address.
- 3.7 It can be directly connected to the computer network card when online, or it can be connected to the computer network card via a switch or photoelectric converter.
- 3.8 It can be used as a single unit, or multiple units can be cascaded to use, supporting multiple connections of switches.
- 3.9 Support DMX512, online and offline integrated control, online priority is the highest, automatically switch to offline playback when there is no 2 online and DMX51 signal, online can be connected to MADRIX, offline can be connected to DMX512 console.
- 3.10 The SD card stores offline effect files and supports the download of effect files through Art-Net network, no need to insert or pull out the SD card.
- 3.11 It can be used as the main control (with SD card inserted) or as a sub-controller (without SD card) when it is online.
- 3.12 The sub-control cascade can be interchanged at will, and it has strong adaptability to lighting engineering.
- 3.13 The communication adopts the international standard TCP/IP network protocol, the optional transmission rate supports 100M/Gigabit adaptive, the transmission speed is more stable and fast, and the nominal transmission distance between each two controllers can reach 100 meters.
- 3.14 The network interface with indicator light is adopted, and the T568B line sequence protocol is adopted.
- 3.15 Port ESD protection design.
- 3.16 Power input interface reverse connection protection design.
- 4. LED Lights Wiring Instructions



When outputting DMX512/HDMX/TM512/UCS512/SM16512 control signals (differential), 3-wires are required. When outputting control signals (TTL) such as WS2811/UCS1912/UCS1903/GS8206, 2-wires are required.

LED Lights Wiring Definition

3P Terminal	DMX512 Signal	TTL Signal		
A	D+	(NULL)		
GND	GND	GND		
B/DO	D-	DATA		



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5. Control IC Type

IC Type	IC Model NO.	Color
2811	TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, UCS2919, WS2811, WS2812, GS8206, SM16703	RGB
1914	ТМ1914	RGB
5603	UCS5603	RGB
512	DMX512, HDMX, TM512, UCS512, SM16512	RGB
2904	UCS2904B	RGBW

6. Set the IP address of the computer network card

Correctly select the network card connected to the controller and set the corresponding IP address for it.

以太网 属性	X
749+	Internet 协议版本 4 (TCP/IPv4) 屋性
路 共享	常规
连接时使用:	
Realtek PCIe GBE Family Controller	如果网络支持此功能,则可以获取自动指派的 IP 设置。否则,你需要从网络系统管理员处获得适当的 IP 设置。
配置(C) 此连接使用下列项目(O):	○ 自动获得 IP 地址(O)
☑ Microsoft 网络客户端 ^	- @ 使用下面的 IP 地址(S):
☑ 望 Microsoft 网络的文件和打印机共享 ☑ 望 QoS 数据包计划程序	IP 地址(I): 192.168.1 .45
✓ Internet 协议版本 4 (TCP/IPv4)	子网掩码(U): 255.255.255.0
□ _ Microsoft 网络适配器多路传送器协议 ☑ _ Microsoft LLDP 协议驱动程序	默认网关(D): 192.168.1.1
✓ Realtek RealWoW Driver ✓ Internet 协议版本 6 (TCP/IPv6)	○ 自动获得 DNS 服务器地址(B)
<	④ 使用下面的 DNS 服务器地址(E):
安装(N) 卸载(U) 属性(R)	
描述	备用 DNS 服务器(A):
传输控制协议/Internet 协议。该协议是默认的广域网络协议,用 于在不同的相互连接的网络上通信。	
	□退出时验证设置(L) 高级(V)
講定 取消	講定 取消

Selection (TPC/IPv4)-Properties- Manually set the IP address information

IP address: 192.168.1.X (Unoccupied IP address) Subnet mask: 255.255.255.0 Default gateway: 192.168.1.1 This step is very important !!! It may cause the software to fail to search the controller correctly.

- 7. Art-Net Setting Software- LEDForShow
 - 7.1 LEDForShow Software interface introduction



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Select Networ	k 192.168.1.	45-Realtek PCIe G	BE Family Controlle	r-0	~					Update	2	Abou	ıt
教设置						-							
IP	Mask	Number Of Controller	Start Universe	IC Protocol	Number Of Pixels	Used Por	s Original MAC	New MAC	Firmware Version	DMX Add		X Encoding Addre ed channels	222
192, 168, 1, 16	255.255.255.0	2	1	UCS512	340 (20)	🗠 use 8 Por	ts 🞽 54-05-DB-A7-3	54-05-DB-A7-3	TC809-V5	1	1		
											Sta	art channel	
					2						1	_	
												Encoding Addr	ess
												Send To Control	ller
												Search Control	ller
est Mode		Rff	ect Record							Lavout		Search Control	ller
	• 8 Ports	Bff	ect Record Effect Place	Effect Name	Duration(Sec)	Check Cycle	Od Parts	8 Porte		Layout Global Col	lor	Search Control	ller
4 Ports				Effect Name	Duration(Sec)	Check Cycle Frame	0 4 Forts Number Of Controller	• 8 Ports		and the second se	lor ~	Search Control	
)4 Ports Port 1 Po	rt 2 🗌 Port 3	Port 4		Effect Name	Duration(Sec)	Check Cycle Frame	○ 4 Ports Number Of Controller) 8 Ports	÷	Global Col			
)4 Ports Port 1 Po		Port 4		Effect Name	Duration(Sec)	Check Cycle Frame	Number Of Controller IC Protocol	1		Global Col		Local Color	
)4 Ports]Port 1Po]Port 5Po	rt 2 Port 3 rt 6 Port 7	Port 4		Effect Name	Duration(Sec)	Check Cycle Frame	Number Of Controller IC Protocol	 8 Ports 1 DMX512-600K 		Global Col	✓ Auto La	Local Color	
)4 Ports]Port 1Po]Port 5Po umber Of Pixels	rt 2 Port 3 rt 6 Port 7	Port 4		Effect Name	Duration(Sec)	Check Cycle Frame	Number Of Controller IC Protocol	1		Global Col RGB Light	✓ Auto La Manual L	Local Color	
	rt 2 Port 3 rt 6 Port 7	Port 4		Effect Name	Duration(Sec)	Cheok Cycle Frame	Number Of Controller IC Protocol	1 DMX512-500K 170 (1U)	bps 🗸	Global Col	✓ Auto La Manual L	Local Color	
)4 Ports]Port 1Po]Port 5Po umber Of Pixels	rt 2 Port 3 rt 6 Port 7 4 Controller	Port 4 Port 8		Effect Nume	Duration(Sec)	Check Cycle Frame	Number Of Controller	1 DMX512-500K 170 (1U)	bps 🗸	Global Col RGB Light	✓ Auto La Manual L	Local Color	
) 4 Ports] Port 1 Po] Port 5 Po umber Of Pixels 70(10)	rt 2 Port 3 rt 6 Port 7 4	Port 4 Port 8		Effect Nume	Duration(Seo)	Check Cycle Frame	Number Of Controller IC Protocol Sumber Of Pixels Select Madrix Version MADRIX 3	1 DMX512-500K 170(1U)) MADRIX 5	Global Col RGB Light	Auto La Manual L	Loosl Color	
4 Ports Port 1 Port Port 5 Port Port 0f Pixels 70(10)	rt 2 Port 3 rt 6 Port 7 4 Controller	Port 4 Port 8		Effect Nume	Duration(Sec)	Check Cycle Frame	Number Of Controller IC Protocol Sumber Of Pixels Select Madrix Version	1 DMX512-500K 170(1U)	bps ~	Global Col RGB Light	✓ Auto La Manual L	Loosl Color	
4 Ports Port 1 Port Port 5 Po amber Of Pixels 70(10) ontroller ID	rt 2 Port 3 rt 6 Port 7 4 Controller 255.255.255 el Color Cham	Fort 4		Effect Name	Duration(Sec)	Cheob Cycle Frame	Number Of Controller IC Protocol Sumber Of Pixels Select Madrix Version MADRIX 3	1 10000512-50010 170(10) n Record A	 MADRIX 5 artnet Data 	Global Col RGB Light	Auto La Manual L	Loosl Color	
) 4 Ports] Port 1 Po] Port 5 Po umber Of Pixels 70(10)	rt 2 Port 3 rt 6 Port 7 4 Controller 255.255.255	Port 4		Effect Name	Duration(Sec)	Check Cycle Frae	Number Of Controller IC Protocol Kunber Of Pixels Select Madrix Version MADRIX 3 Add Row	1 10000512-50010 170(10) n Record A) MADRIX 5	Global Col RGB Light	Auto La Manual L	Local Color Syout Pert	

- 1- Select Network Card
- 2- Controller parameter setting module
- 3- DMX512 online address code, controller parameter sending, controller search
- 4- Controller port test module
- 5- MADRIX effect recording module
- 6- Lighting layout conversion module

7.2 Open the controller setting software

-													
C LEDForShow V	/er1.0.2										-		×
Select Networl	k 192.168.1.	45-Realtek PCIe G	BE Family Controlle	r-0	\sim					Update		About	
参数设置													
IP	Mask	Number Of Controller	Start Universe	IC Protocol	Number Of Pixels	Used Port	s Original MAC	New MAC	Firmware Version	IMX Address	-DMX Encoding Used channels		
192, 168, 1, 16	255.255.255.0	2	1	UCS512	340 (20)	∼ use 8 Port	s 🗡 54-05-DB-A7-3	. 54-05-DB-A7-3	TC809-V5	1	1		÷
											Start channel		
											1		\$
											Encoding	Address	
											Send To C	ontroller	r
											Search Co	ntroller	e -
Test Mode		Eff	fect Record							Layout			
🔾 4 Ports	● 8 Ports		Effect Place	Effect Name	Duration(Sec)	Check Cycle Frame	O 4 Ports	8 Ports		Global Color RGB Light			
Port 1 Por	rt 2 🗌 Port 3	Port 4					Number Of Controller	1	÷	NGD L1ght	~ Local	Color	
Port 5 Por	rt 6 🗌 Port 7	Port 8											
							IC Protocol	DMX512-500Kb	ps 🗸	Au			
Number Of Pixels 170(1V)		×					Number Of Pixels	170(10)	~	Man	ual Layout		
110(10)		_					Select Madrix Versio			DXF Convert			
Controller ID	Controller	TP					MADRIX 3	on	• MADRIX 5				
1	255.255.255						U ARDIER 3		C ADDILLA 5				
							Add Row	Record Ar	tnet Data	DXF	Convert		
Loctation Of Pixe							Insert Row	Saraansha	ot Capture				
1	Сн1	~					Insert A0w	Dor censito	it ouprate	HC	X-DXF		
Start Test	Bridge	Connect					Delete Row	Trans	fer				



7.2.1 Select Network > Select the network card connected to the controller

7.2.2 Click the "Search Controller" button on the right, and when the controller is searched, you can set the parameters of the controller.

7.3 Controller parameter setting

C LEDForShow Ver1.0.2

数设置						
IP	Mask	Number Of Controller	Start Universe	IC Protocol	Number Of Pixels	Used Ports
92.168.1.16	255.255.255.0	2	1	UCS512	340(20)	use 8 Ports

Name	Description	Remark	
IP	Set a fixed IP address for the controller,	On the same network segment as the computer	
IF	Set to 192.168.1.X (Unoccupied IP address)	On the same network segment as the computer	
Mask	Set to 255.255.255.0	The same as the computer settings	
Number of Controller	Number of connectable sub-controllers	Set according to project usage	
Start Universe	Virtual space in the first output port MADRIX		
Start Universe	software		
IP Protocol	Loaded IC model for part output	The same as the loaded IC signal protocol on the	
	Loaded IC model for port output	connected Lights	
Number of Pixels	Set the MAX loading pixels of the controller port ;	DMX512 MAX 510pixels/3U	
NUTIBEL OF PIXELS	170pixels/1U Max 1020pixels/U	SPI/TTL MAX 1020pixels/6U	
Licod Dorte	Lice 4 Ports / Lice 8 Ports	When set to "Use 4 Ports", there is no signal	
Used Ports	Use 4 Ports / Use 8 Ports	output from the "5-8" ports of each controller	

Double-click the corresponding number box, after the number is selected, you can change it as needed, and set the controller's IP address, sub-control number, starting space, etc.

The controller connected to the network card in the cascade mode will only display the IP address of the first controller, and only need to set the corresponding number of sub-control cascades.

192. 168. 1. 🔟	255. 255. 255. 0	2	1	DMX512-500Kbps	-
192. 168. 1. 11	255. 255. 255. 0	15	1	WS2811	-

Note: The above is the grouping of the controller to the switch. When the controller is directly connected to the computer, only one IP address will appear.



1	TM1804/1809/1812 -	170 (10)	use 4 Ports 🗠 🗠
1	DMX512-500Kbps A DMX512-250Kbps	170 (10)	use 4 Ports 🗸 🗸
1	0301303/1303/1312/23	170 (10)	use 4 Ports 🗠 🗠
	WS2811 E SM16703		
	TM512		
	SM16512		
	UCS512		
	TM1914 -		

Click the "IP Protocol " box arrow to pop up a drop-down menu to select the LED lights chip.

DMX512-250Kbps 🗠	1020(6U) -	use 4 Ports 🗠	20-66-56-88-dd-ff
DMX512-250Kbps 🛛 🗠	170(1U)	use 4 Ports 🗠	20-66-56-88-dd-ff
DMX512-250Kbps 🗠	340(2U) 510(3U)	use 4 Ports 🗠 🗠	20-66-56-88-dd-ff
	680(4U)		
	850(5U)		
	1020(6U)		

Click the "Number of Pixels " box arrow to pop up a drop-down menu to select port loading.

DMX512-250Kbps	∠ 170(1V)	~	use 8 Ports	-	20-66-56-88-dd-ff
DMX512-250Kbps	∠ 170(1V)	~	use 4 Ports		20-66-56-88-dd-ff
DMX512-250Kbps	≤ 170(1V)		use 8 Ports		20-66-56-88-dd-ff

Click the "Used Ports " box arrow to pop up a drop-down menu to select the port mode, and you can choose "4" or "8" output.

Original MAC	New MAC	Firmware Version	DMX Address
54-05-DB-A7-3	54-05-DB-A7-3	TC809-V5	1

When the controller is connected to the LAN and conflicts with the MAC address of other devices in the LAN, click the number in the "New MAC" box. After the number is selected, you can change it as needed. **After setting each parameter, click** "*Send to Controller*" to save the parameters to the controller.

7.4 IP address and controller arrangement

IP: 192.168.1.11 IP: 192.168.1.11 IP: 192.168.1.11 Computer III: 001 III: 002 III: 003

Direct Connection Mode

Note: Only the #001 controller need an SD card.





Switch Mode

Note: Only the #001 controller need an SD card.

Note: When using multiple controllers in series, after setting the IP address using LEDForShow software, the controller identification method is: IP+ID, such as 192.168.1.10: ID001, and the following controllers are automatically arranged as 192.168.1.10: ID002, 192.168 .1.10: ID003.....

8. DMX Address Code Online & Controller Test

	lest mode	
	• 4 Ports	🔘 8 Ports
DMX Encoding Address	🗹 Port 1 🗹 Port 2	🗹 Port 3 🗹 Port 4
Used channels 24	Port 5 Port 6	Port 7 Port 8
Start channel	Number Of Pixels	
1	340 (20)	~
Encoding Address	Controller ID	Controller IP 192.168.1.10
Send To Controller	Loctation Of Pixel	Color Channel
Search Controller	Start Test	CH1 CH2 CH3 ALL

8.1 Set and store the controller parameters, and then correctly connect the DMX512 lamp signal to the controller. Fill in the value of "Used Channels" and "Start Channels" in the LEDforShow software, and click "Encoding Address" to write the address code for DMX512 Lights.



8.2 Controller test method:

1> Fill in the IP address of the corresponding controller
2>Fill in the ID number of the corresponding controller
3>Fill in the port of the corresponding controller to control the number of pixels.
4>Select the test port of the corresponding controller
5>Select test channel
6>Select the corresponding pixel to test directly.

9. MADRIX Effect Record Module

		Effect Place	Effect Name	Duration(Sec)	Check Cycle Frame	O 4 Ports	🖲 8 Ports
	1	1	effect-1	20	\checkmark	Number Of Controller	2
	2	2	effect-2	10			
	3	3	effect-3	15	\checkmark	IC Protocol	VCS512 ×
•	4	4	effect-4	15]		Number Of Pixels	340(2V)
						Select Madrix Version	
						• MADRIX 3	○ MADRIX 5
						Add Row	Record Artnet Data
						Insert Row	Screenshot Capture

This module is to record the set lighting effects from MADRIX software, the steps are as follows:

- 1> Set the parameters of the corresponding controller, including the number of ports, the number of controllers, the IC protocol, the number of pixels to be controlled, and the version of MADRIX.
- 2> Make MADRIX lighting effects, return to the LEDForShow software, add a Row or more, and set the recording duration(Sec) for the effect, then click the "Record Artnet Data" button to finish and save the file.(Note: "Check Cycle Frame" is to automatically detect the Madrix effect loop. If this is selected, the manual setting of the duration is invalid.)
- 3> The "Transfer" button is to send the program to the controller.

TransferFiles			-		×
C:\Users\ASUS\] C:\Users\ASUS\] C:\Users\ASUS\]	Desktop\artnet\Program\000_effd Desktop\artnet\Program\001_eff Desktop\artnet\Program\002_effd Desktop\artnet\Program\003_effd Desktop\artnet\Program\004_effd	ect=2. dat ect=3. dat ect=4. dat			
Controller IP	192. 168. 1. 16	Rewrite	() App	end	
	Transfer Now	Cancel			





10. Online Application-MADRIX

10.1. MADRIX connection settings

Run the MADRIX software, click "**Preferences**" **menu**, select "**Device Manager**" from the drop-down menu or press the "F4" key to pop up the Device Manager menu, and select the "**Art-Net**" tab.

Edit P	references Window To		Language	
	Matrix Generator	F2	*****	
SÜE	Patch Editor	F3		
	Device Manager	F4		
	Audio Performance	Ctrl+Alt+A		_
No F	Remote Control	,		
NUT	Backup System			1.
	Options	Ctrl+Alt+O		1
84				
S1				
P1				

10.2. Art-Net Settings

10.2.1. Select the "Art-Net" tab, check the "Enable" checkbox in the upper right corner, click the search button to search for the port of the controller, and click "Apply" below to enable Ethernet output.

Device Name	Count / Net	Universe	IP Address / MAC Address	En En	able	
rtNet Remote	1		192.168.101.125 / 18:5E:0F:D9:5E:22 (Receive Only From 192.168.101.125)	⊂ ArtA	Sync ddress inable V V V	
<mark>)</mark> 4, 4		У Ф НТТР	Hostname : Cslamp		ount :	

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X Devices DVI Devices		MIDI Audio Inp	ut Visualizer	
Device Name	Count / Net	Universe	IP Address / MAC Address	Enable
ArtNet Remote	1	1	192.168.101.125 / 18:5E:0F:D9:5E:22 (Receive Only From 192.168.101.125)	Sync
C809-V5_001	4	1, 2, 3, 4	192.168.1.16 / 54:05:DB:A7:30:78 (Send Only To 192.168.1.16)	2.
C809-V5_002	4 / 0x1	29, 30, 31, 32	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx7 (Send Only To 192.168.1.16)	⊂ ArtAddress —
C809-V5_002	4 / 0x1	25, 26, 27, 28	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx6 (Send Only To 192.168.1.16)	Enable
C809-V5_002	4 / 0x1	21, 22, 23, 24	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx5 (Send Only To 192.168.1.16)	
C809-V5_002	4 / 0x1	17, 18, 19, 20	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx4 (Send Only To 192.168.1.16)	♥
C809-V5_001	4	13, 14, 15, 16	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx3 (Send Only To 192.168.1.16)	
C809-V5_001	4	9, 10, 11, 12	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx2 (Send Only To 192.168.1.16)	
C809-V5_001	4	5, 6, 7, 8	192.168.1.16 / 54:05:DB:A7:30:78 / Bindldx1 (Send Only To 192.168.1.16)	
k				
₽ + ₽		Э Ф нттр	Hostname : Cslamp	Count :

10.2.2 Select "ArtNET Remote", click "Sync" in the upper right corner, and in the pop-up "Sync Mode" dialog box, double-click the IP option of the same network segment as the controller to open the synchronization, and set the "Pre-Sync" and " Post-Sync", click on the two checkboxes;

Click "OK" below to activate "Sync". And return to the device management interface.

👹 Device Manager						— 🗆 X
DMX Devices DVI Device	es DMX Input Art-Net MID) Audio Input Visualiz	er			
Device Name ArtNet Remote	🔰 Sync Mode				– o ×	Enable
TC809-V5_001 TC809-V5_002 TC809-V5_002	network! Or else, the frame ra	nc, make sure that all activ ate of Art-Net might drop. do not enable any sync mo	vated Art-Net devices are a ide.	wailable in your		ArtAddress
TC809-V5_002 TC809-V5_002	Sync	Network	Subnet Mask	Speed	🔚 Enable	
TC809-V5_002	On	192.168.1.0	255.255.255.0	100 MBit/s		
TC809-V5_001	🚔 Off	192.168.101.0	255.255.255.0			
TC809-V5_001						
	Pre-Sync		Post-Sync			
				<mark></mark> ⊳∝	Cancel	
₽ + 4		Q-HTTP		Hostnar	me : Cslamp	Count : 9
				ок	Apply	Cancel Help

10.2.3. Double-click "ArtNET Remote" to change **the IP address to "127.0.0.1"** in the pop-up "Sync Mode" dialog box.



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	Art-Net Device Configuration	×	
🔰 Device Manager	Manufacturer : inoage Product : MADRIX3 Firmware: v3.6		🗆 🗙
DMX Devices DVI Devic			
Device Name ArtNet Remote	ESTA: 0x4941 - inoage GmbH Short Name : ArtNet Remote Manual ID : 0		Enable Sync
TC809-V5_001	Long Name : ArtNet Remote, to remote control MADRIX via ArtNet		
TC809-V5_002 TC809-V5 002	Port Count : 1		ArtAddress
TC809-V5_002	State : Port 1 : Disabled		Enable
TC809-V5_002	Universe		- V
TC809-V5_001	Universe Port OUT : 1 (0x00)		
TC809-V5_001	Universe Port IN :		
TC809-V5_001	MAC Address : 18:5E:0F:D9:5E:22		
	Style Code : (0x00) node		
	Port Address : 6454 0x1936		
	Direct IP Mode : 🔚 Receive Only From IP Address 192.168.101.125 And Universe 0x0		
	IP Address : 127 , 0 , 0 , 1 📜 MAC To IP		
₽ 1 , 4	Broadcast Mode : 🔚 Receive From All Addresses And Universe 0x0		Count: 9
			ncel Help
	OK Apply Cancel		

Click "OK" below to complete the settings and return to the device management interface.

10.3. DMX device settings

Select the "DMX Devices" tab, select all devices, activate the "Enable" check box on the right, and click "Apply" below to enable DMX output.

State	Device Name	Universe	OUT / IN	ms / FPS	Frames 🔥	Device
On	ArtNet Remote (MADRIX) Port:0		IN	33/30.3		ArtNet Remote (MADRIX) Port:0
On 😽	TC809-V5_001 (192,168,1,16) Bindldx1 Port:0	5	OUT	33/30.3	Optimized	
On	TC809-V5_001 (192.168.1.16) Bindldx1 Port.1	6	OUT	33/30.3	Optimized	ArtNet Remote (sync) IP: 127.0.0.1, Uni: OUT 1
On	TC809-V5_001 (192.168.1.16) Bindldx1 Port:2	7	OUT	33/30.3	Optimized	MADRIX3 incage
On	TC809-V5_001 (192.168.1.16) Bindldx1 Port:3	8	OUT	33/30.3	Optimized	
On	TC809-V5_001 (192.168.1.16) Bindldx2 Port:0	9	OUT	33/30.3	Optimized	Colline of
On	TC809-V5_001 (192.168.1.16) Bindldx2 Port.1	10	OUT	33/30.3	Optimized	Settings
On	TC809-V5_001 (192.168.1.16) Bindldx2 Port:2	11	OUT	33/30.3	Optimized	Enable Output
On	TC809-V5_001 (192.168.1.16) Bindldx2 Port:3	12	OUT	33/30.3	Optimized	Input 🧧
On	TC809-V5_001 (192,168,1,16) Bindldx3 Port:0	13	OUT	33/30.3	Optimized	Universe : 👥 1 🛱
On	TC809-V5_001 (192.168.1.16) Bindldx3 Port.1	14	OUT	33/30.3	Optimized	
On	TC809-V5_001 (192.168.1.16) Bindldx3 Port:2	15	OUT	33/30.3	Optimized	Frame Time (ms) : 🗾 33 罩
On	TC809-V5_001 (192.168.1.16) Bindldx3 Port.3	16	OUT	33/30.3	Optimized	
On	TC809-V5_001 (192.168.1.16) Port:0	1	OUT	33/30.3	Optimized	FPS: 30.3
р 0 0			and the second			Send Full Frames



10.4. DMX input settings

1> Select the "DMX Input" tab, select the list item whose space is "1", and select the "ArtNet Remote (MADRIX) Port:0" option in the "DMX-IN device" option box.

🔰 Device Mai	nager					- 🗆	×
DMX Devices I	DVI Devices	MX Input Art-Net MIDI Audio Input Visualizer					
State	Universe	Device Name		Mapping	Remote Control	Mapping	
Off	1			Off	Off	Remote	
Off	2			Off	Off		
😑 Off	3			Off	Off		
🗧 Off	4			Off	Off		
😑 Off	5			Off	Off		
🗢 Off	6			Off	Off		
😑 Off	7			Off	Off		
🗢 Off	8			Off	Off		
L ⊺ Device			_ Remote	Control			L
Denice	DMX-IN Dev	ice :			6	Edit.	
Mapping —	Channels From :	ArtNet f mote (MADRIX) Port:0			Start Address :	1 📮	
map	To Universe :	1 🗐 Start At Channel : 1 🗐					
		Use HTP			E	Watch Universe	
-				OK	Apply C	ancel Ha	elp

2> Activate the "Remote" checkbox in the upper right corner, and select the "Simple 4 Channels" option in the "Remote Control" option box.

				1			
State	Universe	Device Name		Mapping	Remote Control	🔤 Mappin <u>c</u>	
On	1	ArtNet Remote (MADRIX) Port:0		Off	None 0 CH	E Remote	
Off	2			Off	Off		
Off	3			Off	Off		
🗧 Off	4			Off	Off		
🚔 Off	5			Off	Off		
🗧 Off	6			Off	Off		
🚔 Off	7			Off	Off		
🗧 Off	8			Off	Off		
Device			Remote	e Control			
	DMX-IN Device : 🔺	rtNet Remote (MADRIX) Port:0	. 6	None 0 Channel	s	🔽 🛃 Edit.	
Mapping				None 0 Channel		1	
	Channels From :	1 ∓ To: 512 🚍	╸╵└───	Simple 4 Channel: General 25 Channel:			
wap				Advanced 167 Channel			
	To Universe :	1 Start At Channel : 1			- s User Configuration		
		e HTP				The second s	

Click "OK" below to complete the settings and return to the main interface.

Note: The "Mapping" checkbox in the upper right corner should be kept in a dormant state.

Tips: The 10.2.2, 10.2.3 and 10.4 settings in MADRIX above are mainly for "MADRIX effect recording" service.



10.5. MADRIX effect recording

10.5.1. Debug the lighting effect program on MADRIX.



10.5.2. Controller setting software "Effect Recording" setting box port mode, number of controllers, chip type and port loaded pixels are set to be consistent with the parameters of the main controller (the first controller connected to the computer)

Select Networ	192.168.1.	45-Realtek PCIe (BE Family Controll	er=0	\sim					Update	Abor	ut
参数设置 IP	Mask	Number Of	Start	IC Protocol	Number Of Pixels	Used Ports	Original MAC	New MAC	Firmware	DMX Addr	-DMX Encoding Addr	ess
		Controller	Universe				-		Version		Used channels	
192.168.1.16	255. 255. 255. 0	2	1	UCS512	340(20)	use 8 Ports	54-05-DB-A7-3	. 54-05-DB-A7-3	TC809-V5	1		
			<				\mathbf{X}				Start channel	
						\mathbf{X}	\sim				1	
				_			\sim					
							\sim				Encoding Addr	ess
						$\setminus \setminus$	\sim				Send To Contro	11.00
						\sim		X			Send to contro	JITEI
								\mathbf{X}				
								$\langle \rangle$			Search Control	ller
						~					Search Control	ller
		Ef	fect Record	_		Chuck Curls				Layout		ller
4 Ports	• 8 Ports		fect Record Effect Place		Duration(Sec)		0 4 Ports	© 8 Ports		Global Col	or	
)4 Ports Port 1 Po	ort 2 Port 3	🗌 Port 4 🕨		Effect Name effect-1	Duration(Sec) 20) 4 Ports Number Of Controller	© 8 Ports 2	¢			
)4 Ports Port 1 Po		🗌 Port 4 🕨	Effect Place			I	Number Of Controller	2		Global Col	or	
) 4 Ports Port 1 Po Port 5 Po	ort 2 Port 3 ort 6 Port 7	🗌 Port 4 🕨	Effect Place			I			÷	Global Col	or Local Colo Auto Layout	
) 4 Ports Port 1 Po Port 5 Po umber Of Pixels	ort 2 Port 3 ort 6 Port 7	🗌 Port 4 🕨	Effect Place			.	Number Of Controller	2		Global Col	or V Local Colo	
	ort 2 Port 3 ort 6 Port 7	Port 4	Effect Place				Number Of Controller IC Protocol	2 UCS512 340(20)	~	Global Col	or Local Colo Auto Layout Manual Layout	
) 4 Ports Port 1 Po Port 5 Po Port 5 Po	ort 2 Port 3 ort 6 Port 7 : Controller	Port 4	Effect Place			≥ 1	Number Of Controller IC Protocol Number Of Pixels	2 UCS512 340(20)	~	Global Colo RGB Light	or Local Colo Auto Layout Manual Layout	
A Ports Port 1 □ Po Port 5 □ Po umber Of Pixels 70(1V)	ort 2 Port 3 ort 6 Port 7	Port 4	Effect Place			≥ 1	Number Of Controller IC Frotocol Number Of Fixels Select Madrix Versio MADRIX 3	2 UCS512 340(20)	✓ ○ MADRIX 5	Global Colo RGB Light	or Local Colo Auto Layout Manual Layout	
) 4 Ports Port 1 Port Port 5 Port To(10) ontroller ID	Controller	Port 4	Effect Place			≥ 1	Number Of Controller IC Protocol Number Of Pixels Select Madrix Versio	2 UCS512 340(20)	×	Global Colo RGB Light	or Local Colo Auto Layout Manual Layout	
) 4 Ports Port 1 Pr Port 5 Pr umber Of Pixels 70(10) ontroller ID	ort 2 Port 3 ort 6 Port 7 Controller 255.255.255 el Color Cham	Port 4	Effect Place			≥ 1	Number Of Controller IC Frotocol Number Of Fixels Select Madrix Versio MADRIX 3	2 UC5512 340(20) n	✓ ○ MADRIX 5	Global Colo RGB Light	or Local Colo Auto Layout Manual Layout	
4 Ports Port 1 Port Port 5 Port Imber Of Pixels 170(1V)	Controller	Port 4	Effect Place			≥ 1	Number Of Controller IC Protocol Number Of Fixels Select Madrix Versio MADRIX 3 Add Row	2 UC5512 340(20) n	V MADRIX 5 rtnet Data	Global Colo RGB Light	or Local Colo Auto Layout Manual Layout	

10.5.3. The number of rows in the effect list under the effect recording is added according to the lighting effect program debugged by MADRIX. Click "Add a row" or "Insert a row" once, and the effect list will increase by one row accordingly. Click "Data Recording", MADRIX automatically jumps to the first effect program to play, and the software also records in the first line at the same time.





<u>http://www.cslamp.com</u>

MADRIX* File Edit Preferences Window Tools Previews Language								0	-					7	о > н
	C LEDForShow \			\mathcal{W}	M	AL	DRI	X					- 0	×	SUB
NOFX	Select Network	192.168.1.	45-Realtek P	CIe GBE F	wily Controll	+2-0	~					Update	About		No FX
	参数设置		Number Of		Stert		Number Of				Firmware		DMCX Encoding Addres		
	IP	Mask	Controller	r 1	Iniverse	IC Protocol	Pixels	Used Port	-	New MAC	Version	IMX Address	Vzed channelz		
7 1. YEAR . M	192.168.1.16	255.255.255.0	2		1	UCS512		use 8 Port	ts 🗡 54-05-DB-A7-3	54-05-DB-A7-3	TC809-V5	1	1	•	
													Start channel		S2 P1
													-	•	
1 V SUB Pitch No FX Color													Encoding Addres	5	×
													Send To Controll	er 5	1 52
5 6 7 8 21 22 23 24 37 38 39 9 10 11 12 25 26 27 28 41 42 43													Search Controll	ar D	5 56 9 60
13 14 15 16 29 30 31 32 45 46 47	Test Node	• 8 Ports		Effect		-	(= -)	Check Cycle				Layout Global Color			3 64
Training and successing and successing	○ 4 Ports □ Port 1 □ Pos			1	Effect Place	Effect Name	Duration(Sec)	Frane	0 4 Forts Number Of Controller	8 Forts		RGB Light	- Local Color.		
	Port 5 Por			2	2	effect-2	10		Sumber Of Controller	2	•		Lotal ottal.		
				3	3	effect-3	15		IC Protocol	VCS512					
SCE Video	Number Of Pixels 170(10)			4	4	effect-4	40		Number Of Pixels						B
SUB Map Normal Link No FX Step	1/0(10)			▶ 5	5	effect-6	10		Select Madrix Version	340(20)		DXF Convert			R
Filter 255 255 255 255	Controller ID	Controller							MADRIX 3		O NADRIX 5				
									Add Row	Cancel	L Record	DXP	Convert		
Position 0 0 0	Loctation Of Pixe	color Chan	nel ~			43			Insert Row	Screenzb	ot Capture	ŀ	CX-DXF		
Plauback Pate 1	Start Test	Bridge	Connect						Delete Row	Tran	sfer				
Extrusion 100	00:00:06	None		le nless trix	25	55	118						-		
Video			La	ayer 🖍	Blac	kout A	udio	lili Colo	pr.						Layer

After the effect is recorded, the file save window pops up, select the save path, and click "OK" to save.

10.5.5. The function of downloading to the controller can download the recorded effect program to the SD card of the controller through the Art-Net network without plugging or unplugging the SD.

			== - 🔟 (
修改日期	类型	大小	
2021/11/1 11:44	DAT 文件	9,233 KB	
2021/11/1 11:44	DAT 文件	4,385 KB	
2021/11/1 11:44	DAT 文件	6,817 KB	
2021/11/1 11:44	DAT 文件	18,929 KB	
2021/11/1 11:44	DAT 文件	4,385 KB	
	2021/11/1 11:44 2021/11/1 11:44 2021/11/1 11:44 2021/11/1 11:44	2021/11/1 11:44 DAT 文件 2021/11/1 11:44 DAT 文件 2021/11/1 11:44 DAT 文件 2021/11/1 11:44 DAT 文件	2021/11/1 11:44 DAT 文件 9,233 KB 2021/11/1 11:44 DAT 文件 4,385 KB 2021/11/1 11:44 DAT 文件 6,817 KB 2021/11/1 11:44 DAT 文件 18,929 KB

When multiple effect program files are stored in the SD card, the naming of each file must start from "000" and be named in an increasing manner of "001, 002, 003...010, 011...". There must be no missing in the middle.

Click "Transfer" to pop up a file browsing window, find the save path of the effect file, select all the effect files (.dat), click "Open", and a download window will pop up.



C:\Users\ASUS\ C:\Users\ASUS\ C:\Users\ASUS\	Desktop\artnet\Program\000_eff Desktop\artnet\Program\001_eff Desktop\artnet\Program\002_eff Desktop\artnet\Program\003_eff Desktop\artnet\Program\004_eff	ect=2. dat ect=3. dat ect=4. dat		×
ontroller IP	192. 168. 1. 16	• Rewrite) Append	
	Transfer Now	Cancel		

Keep the controller IP address input box as the default or enter the file you want to download to Click "Rewrite" or "Append" to set the IP address of the controller, click "Transfer Now" to download the effect file.

Note:Rewrite: The controller formats the SD card first, and then downloads the effect file.Append: The controller does not format the SD card first, and directly downloads the effect file.When there are the same files, the new effect file will overwrite the old one.And you can also use a card reader to copy the effect file directly to the SD card.

Please watch the detailed video tutorial for specific operation https://www.youtube.com/watch?v=dLiyfutyoq4

11. DMX512 Application

11.1. DMX channel table

Each controller occupies 8 DMX channels, the channel description is as follows:

	•		•
CHANNEL	DMX Value	Function	illustrate
Channel 1	0-255	Effect switching	SD card effect file switching
Channel 2	0-255	Speed adjustment	Effect playback speed adjustment, from slow to fast
Channel 3	0-255	R dimming	R dimming, linear dimming, from dark to bright
Channel 4	0-255	G dimming	G dimming, linear dimming, from dark to bright
Channel 5	0-255	B dimming	B dimming, linear dimming, from dark to bright
Channel 6	0-255	Total dimming	R, G, B, total dimming, linear dimming, from dark to bright
Channel 7	0-255	Effect reversal	Change direction switch
Channel 8	0-255	Total strobe	R, G, B, total strobe, from slow to fast

11.2. Master-Slave System

11.2.1. Synchronous playback of multiple controllers

In practical applications where multiple controllers are required to play simultaneously, one of the controllers is set as the master (with SD card inserted), and the others are set as slaves (without SD card).

11.2.2. Cascade mode



Through Art-Net signal cascade, that is, the NET-OUT of the master is connected to the NET-IN of the No. 1 slave, the NET-OUT of the No. 1 slave is connected to the NET-IN of the No. 2 slave, and so on.

11.2.3. Slave arrangement

The sub-controller connected to the master is the No. 1 slave, the sub-controller connected to the No. 1 slave is the No. 2 slave, and the sub-controller connected to the No. 2 slave is the No. 3 slave, and so on. When the position of the slave is changed, the sequence will also change automatically. For example, the No. 2 slave and the No. 4 slave are interchanged. After accessing the network, the original No. 4 slave will be automatically recognized as the No. 2 slave, and the original No. 2 slave will be recognized. It is the No. 4 slave and does not need to be reset.

____OVER_____