# ArtNet-SPI-1
# ArtNet-SPI Converter


FC CE RoHS warranty 5 years ISO9001:2008

ArtNet-SPI converter is the Ethernet Control System based on the ArtNet protocol, used to convert the ArtNet network data package into SPI(TTL) digital signal, adopting high-speed processor, stable and reliable working. Following ArtNet standard protocol, it supports RJ45 network interface and green terminal output interface.

ArtNet-SPI-1 can control LED lighting with compatible driving IC, such as TM1804/1809, D705, LPD6803/1101, UCS1903/1909/1912/2903/2909/2912/6909/6912, WS2811/2812/2801/2803, P9813, etc.

It is compatible with all the effects lighting control software which support ArtNet protocol, widely used in the LED dot matrix and the stage lighting.



ArtNet-SPI-1 ArtNet-SPI Converter

## 1. Technical specs

ArtNet-SPI-1

| | | | |
|---|---|---|---|
| Power input: | 12Vdc (with a power adaptor) | IP: | Indoor use only |
| Input signal: | ArtNet | Working temp.: | -30°C~65°C |
| Output signal: | SPI(TTL) digital signal | Dimension: | L120×W73×H45mm |
| Current: | 30mA@12Vdc | Package size: | L198×W78×H50mm |
| Network connection: | RJ45 | Weight (G.W): | 360g |
| Isolation Ethernet port: | Total isolation | | |
| Isolation power input: | Total isolation | | |

## 2. Performance features

2.1 Based on ArtNet protocol network data communication, accept network DMX data, output one set SPI data.

2.2 IP address is bound to SubNet, no need to reset, plug and play.

2.3 Manage ArtNet on broadcast mode or unicast mode.

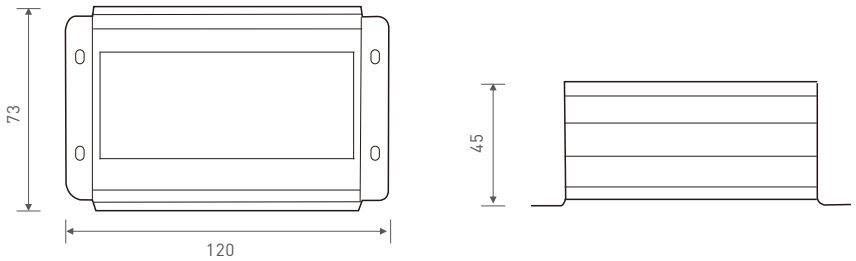
2.4 Compatible with the light software based on ArtNet protocol, control LED lighting.

2.5 Connect up to 256 DMX universes to one network.

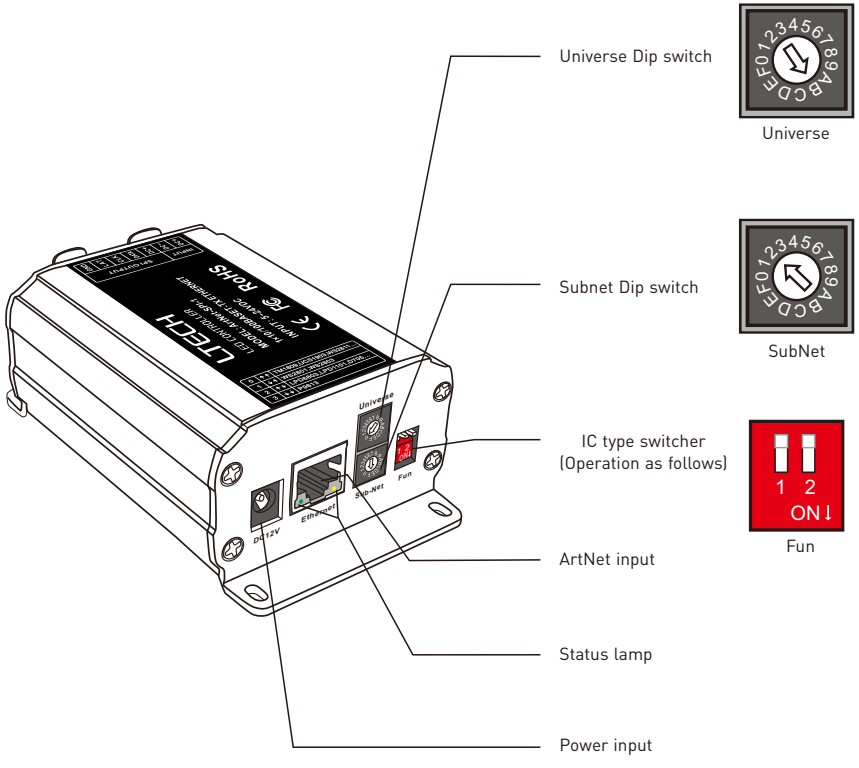
2.6 10/100Mb/s Ethernet port.

2.7 Firmware can be updated via the network.

## 3. Product dimension:



## 4. Interface instruction:

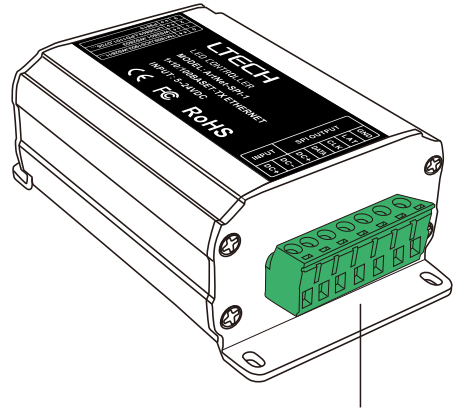



Switching IC type operation instruction:

| 1 | 2 | Diagrams | IC type |
|---|---|---|---|
| OFF | OFF |  | TM1804/TM1809/UCS1903/UCS1909/UCS1912/UCS2903/UCS2909/UCS2912<br>WS2811/WS2812/GS8206(BGR)/SM16703 |
| OFF | ON |  | LPD6803/1101, D705, UCS6909/6912 |
| ON | OFF |  | WS2801,WS2803 |
| ON | ON |  | P9813 |







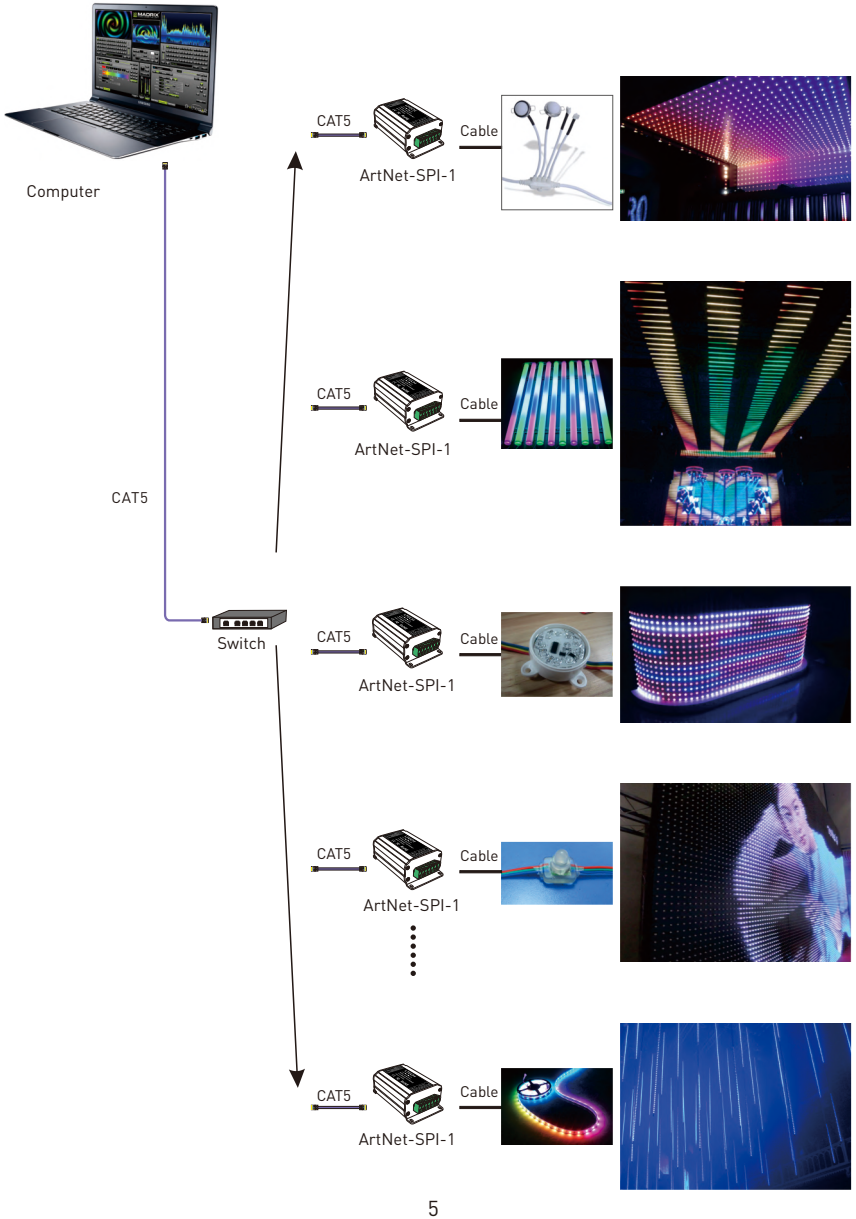

Address setting instruction:

| Universe/SubNet Dip switch | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Value | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

Calculating method:
Group address = Subnet×16 + Universe, IP Address = 2.xx.xx.group address,
MAC address = 44-4d-58-2d-31-group address (xx is the random number generated by the factory)

For example:
Subnet: 2, universe: B, group address = 2×16 + 11 = 43, so the DMX output group address is 43,
corresponding IP address is 2.xx.xx.43, MAC address is 44-4d-58-2d-31-43.

## 5. Conjunction diagram








## 6. Connect ArtNet-SPI-1 to the computer

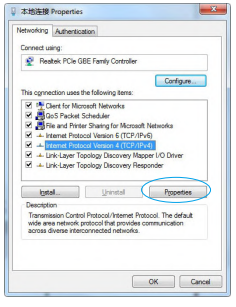
This product is compatible with all the ArtNet software in the market, here take MADRIX as an example:

6.1 Install the Madrix 3 software in the computer, the icon on the desktop : MADRIX 3

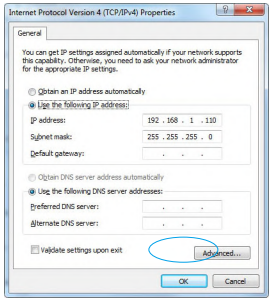
6.2 Use the equipped adapter to power ArtNet-SPI-1.

6.3 Connect ArtNet-SPI-1 and computer via the cable.

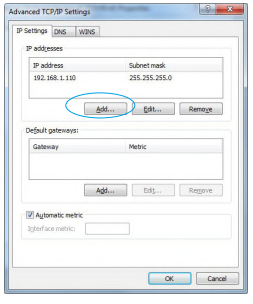
6.4 IP setting: this control system is compatible with random network segment. According to the ArtNet protocol, 2.X.X.X can be added in the computer ( X means arbitrary value), methods as below:



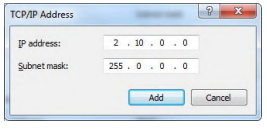
6.4.1 Open the Network, click "Properties" button of the TCP/IPv4 protocol.



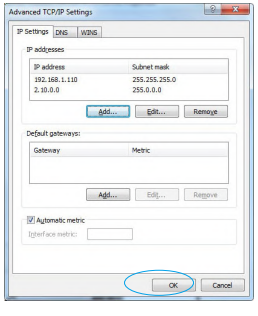
6.4.2 Click " Advanced".



6.4.3 Click " Add".

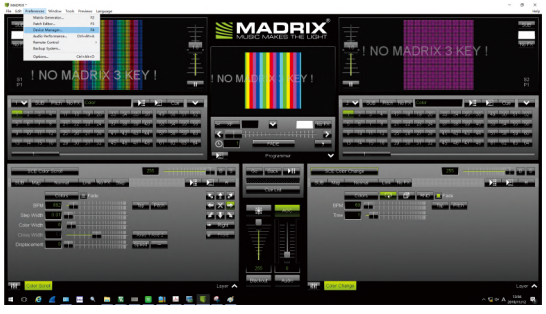



6.4.4 Add the IP address 2.X.X.X (X could be arbitrary value).

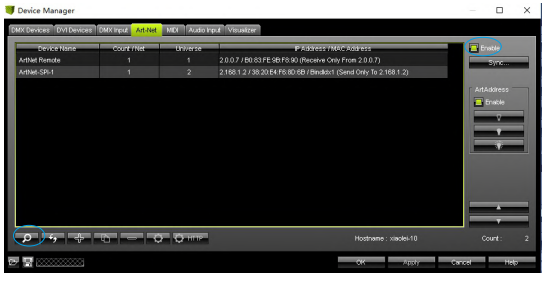


6.4.5 Interface of adding successful, click "OK" and exit.

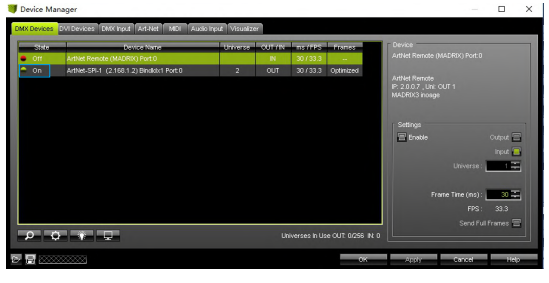
6.5 Open Madrix 3 software, choose"preferences">" device manager" from menu.




6.6 In "device manager" dialog, choose "ArtNet" tab, tick "enable" and click search  . Artnet-SPI-1 will be searched.




6.7 Click the tab of "DMX devices", set port status to "ON" if connected successfully. Now, you can use computer to control lamps via ArtNet-SPI-1.




∗ MADRIX® is registered trademarks of Inoage GMbH Co., Inc. in Germany.



ArtNet-SPI-1 ArtNet-SPI Converter

## 7. Attention

7.1 The product shall be installed and serviced by the qualified person.

7.2 This product is non-waterproof. Please avoid the sun and rain. When installed outdoors, please ensure it is mounted in a water proof enclosure.

7.3 Good heat dissipation will prolong the working life of the controller. Please ensure good ventilation.

7.4 Please check if the output voltage of the LED power supply used comply with the working voltage of the product.

7.5 Please ensure that adequate sized cable is used from the controller to the LED lights to carry the current. Please also ensure that the cable is secured tightly in the connector.

7.6 Ensure all wire connections and polarities are correct before applying power to avoid any damages to the LED lights.

7.7 If a fault occurs please return the product to your supplier. Do not attempt to fix this product by yourself.

## 8. Warranty agreement

8.1 We provide lifelong technical assistance with this product:

- A 5-year warranty is given from the date of purchase. The warranty is for free repair or replacement if cover manufacturing faults only.
- For faults beyond the 5-year warranty, we reserve the right to charge for time and parts.

8.2 Warranty exclusions below:

- Any man-made damages caused from improper operation, or connecting to excess voltage and overloading.
- The product appears to have excessive physical damage.
- Damage due to natural disasters and force majeure.
- Warranty label, fragile label and unique barcode label have been damaged.
- The product has been replaced by a brand new product.

8.3 Repair or replacement as provided under this warranty is the exclusive remedy to the customer. We shall not be liable for any incidental or consequential damages for breach of any stipulation in this warranty.

8.4 Any amendment or adjustment to this warranty must be approved in writing by our company only.

∗ No further notice if any changes in the manual.
Product function depends on the goods.
Please feel free to contact your supplier if any question.

# ArtNet-SPI-1
# ArtNet-SPI 转换器


FC CE RoHS 质保5年 ISO9001:2008

ArtNet-SPI转换器是基于ArtNet协议的以太网络控制系统，它能将网络上ArtNet协议中的网络数据包转换为SPI（TTL）数字信号，采用高速处理器，工作稳定可靠，遵循标准的ArtNet协议，提供RJ45网络输入接口以及绿色端子输出接口。

ArtNet-SPI-1控制基于TM1804/1809, WS2811/2812/2801/2803, D705, LPD6803/1101, P9813, UCS1903/1909/1912/2903/2909/2912/6909/6912, 等相兼容的LED驱动IC的LED灯具。

与兼容ArtNet协议的灯光控制软件配合使用，广泛用于控制市面上的LED数码灯具和LED显示光源。



LTECH雷特 ArtNet-SPI-1 ArtNet-SPI 转换器

## 1、性能参数:

ArtNet-SPI-1

| | | | |
|---|---|---|---|
| 电源输入： | 12Vdc (配套电源适配器) | 隔离电源输入： | 全隔离 |
| 接收信号： | ArtNet | IP防护等级： | 只能用于室内 |
| 输出信号： | SPI(TTL)数字信号 | 工作温度： | -30°C~65°C |
| 电流进入： | 30mA@12Vdc | 产品尺寸： | L120×W73×H45mm |
| 网络连接： | RJ45 | 包装尺寸： | L198×W78×H50mm |
| 隔离网络口： | 全隔离 | 重量（毛重）： | 360克 |

## 2、产品特点:

2.1 基于ArtNet协议网络数据通信，可接收网络DMX数据，输出一组SPI数据；

2.2 IP地址与Subnet绑定，不需要用户再另外设置，可即插即用；

2.3 可以在广播或单播模式下管理ArtNet;

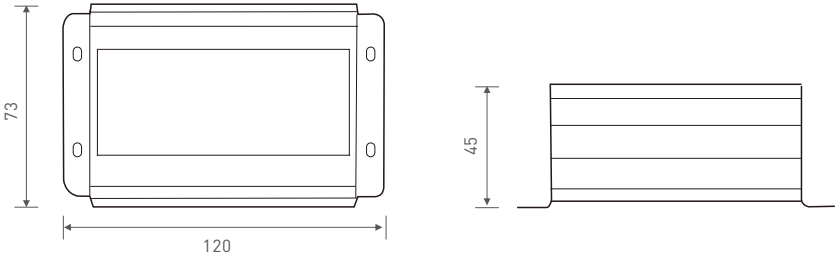
2.4 兼容ArtNet协议的灯光软件，输出控制LED灯光。

2.5 一个网络最大可连接256 DMX Universes

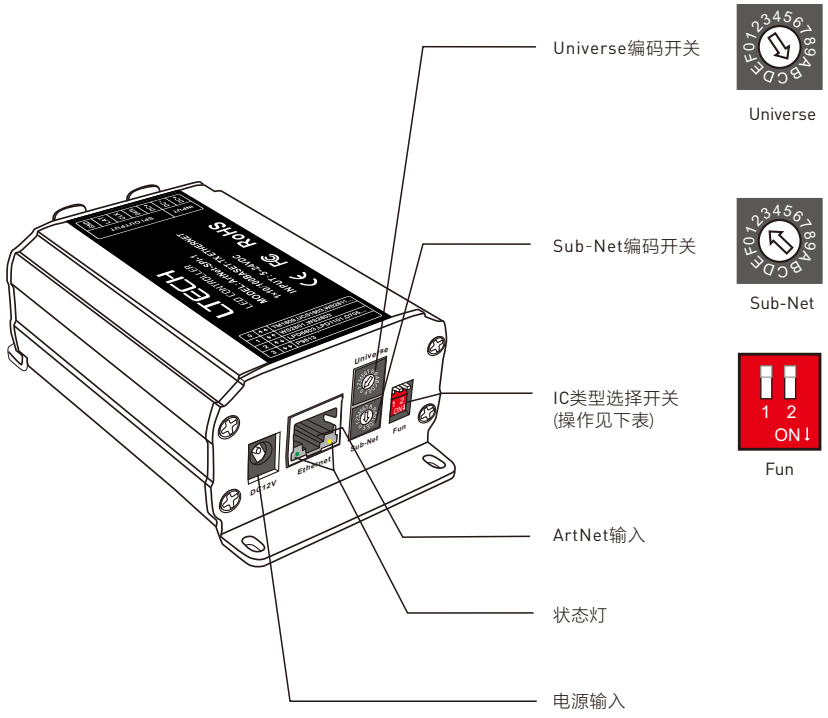
2.6 10/100 Mb自适应网络接口

2.7 可通过网络更新固件

## 3、尺寸图:



4、接口说明:

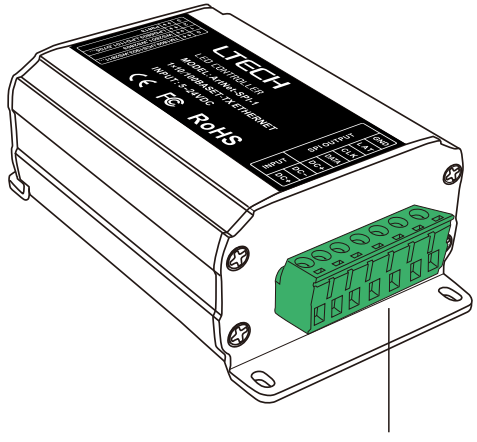



切换模式开关操作说明:

| 1 | 2 | 图示 | IC类型 |
|---|---|---|---|
| OFF | OFF |  | TM1804/TM1809/UCS1903/UCS1909/UCS1912/UCS2903/UCS2909/UCS2912 WS2811/WS2812/GS8206(BGR)/SM16703 |
| OFF | ON |  | LPD6803/1101, D705, UCS6909/6912 |
| ON | OFF |  | WS2801,WS2803 |
| ON | ON |  | P9813 |







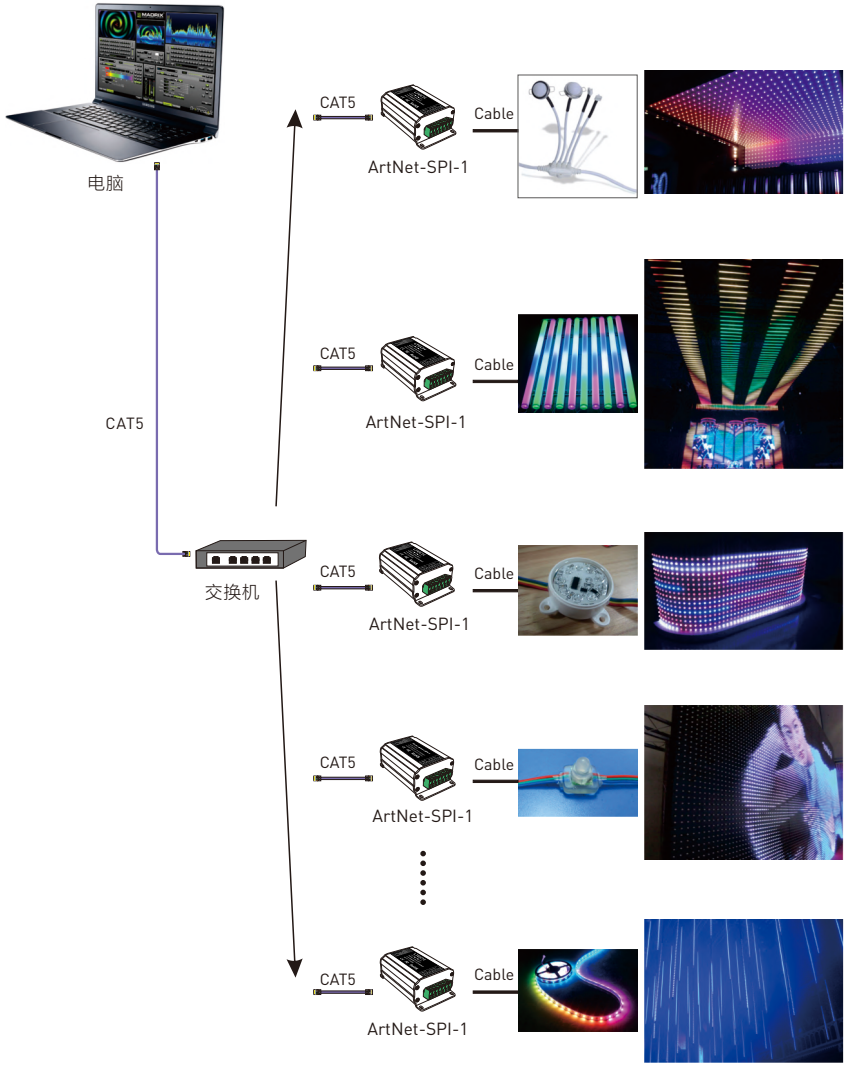

编码开关设置说明:

| Universe/Sub-Net编码开关 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 值 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

说明：组地址Address = Subnet值×16 + Universe值, IP地址=2.xx.xx.组地址Address,
MAC地址=44-4d-58-2d-31-组地址Address（ xx为产品出厂时生成的随机数 ）

例如：Subnet编码为2, Universe编码为B, 组地址Address = 2×16 + 11 = 43, 所以DMX输出组地址Address为43, 对应的IP地址为2.xx.xx.43 ，MAC地址为 44-4d-58-2d-31-43。

## 5、连接示意图:






LTECH雷特 ArtNet-SPI-1 ArtNet-SPI 转换器

## 6、ARTNET-SPI-1连接电脑:

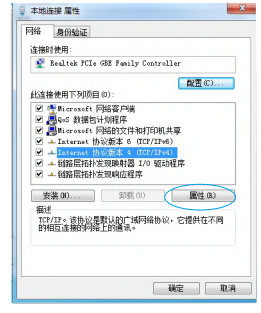
本产品支持市面上所有的ArtNet软件，下面以MADRIX为例进行说明:

6.1 安装操作软件:电脑上安装MADRIX 3软件，装好后图标显示为: MADRIX 3

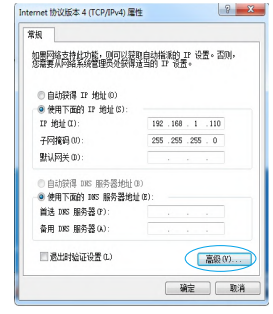
6.2 用配备的电源适配器连接ArtNet-SPI-1至电源；

6.3 用网线将ArtNet-SPI-1和电脑连接好；

6.4 IP设置:本转换器支持任意网段的设置。根据Artnet协议建议，请在电脑添加2.X.X.X网段(X表示任意数值)，方法如下:



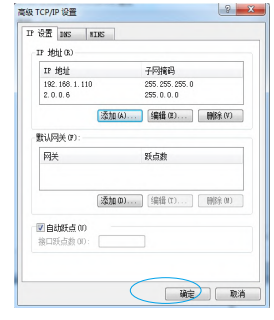
(1)打开网络，点击TCP/IPv4协议的"属性"按钮



(2)点击"高级"按钮

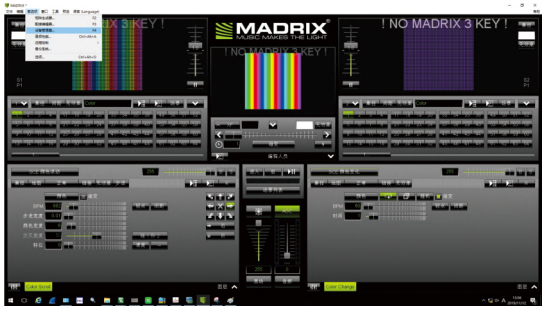
(3)点击"添加"按钮

(4)添加2.X.X.X的IP地址(X为任意数值)



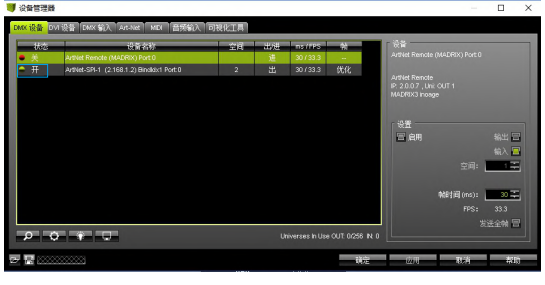
(5)添加成功后的界面，确定退出

6.5 打开MADRIX 3软件，在菜单上选择"首选项"/"设备管理器"；




6.6 在"设备管理器"对话框中，选择"ArtNet"选项卡，勾选"启用"，并点击搜索  ；电脑将搜索到 ArtNet-SPI-1


6.7 切换至"DMX设备"选项卡，连接成功，将端口状态设置为"开"。现在可以实现电脑通过 ArtNet-SPI-1 控制灯具了.




✻ MADRIX®为德国 inoage GmbH公司的注册商标。



LTECH雷特 ArtNet-SPI-1 ArtNet-SPI 转换器

## 7、注意事项:

7.1 本产品请由具有专业资格的人员进行调试安装。

7.2 本产品不能防水，需避免日晒雨淋，如安装在户外，请用防水箱。

7.3 良好的散热条件会延长LED控制器的使用寿命，请把产品安装在通风良好的环境。

7.4 请检查使用的LED电源输出电压是否符合产品电压范围要求。

7.5 使用的电线直径大小必须能足够负载连接的LED灯具，并确保接线牢固。

7.6 通电调试前，应确保所有接线正确，以避免因接线错误而导致灯具损坏。

7.7 如果发生故障，请勿私自维修；如果有疑问，请联系供应商。

## 8、保修协议:

8.1 购买雷特LED控制器产品享受终身技术支持和保修服务：

- 免费保修：自购买之日起五年内出现产品质量问题雷特将给予免费修理或更换服务。
- 有偿保修：超过免费保修期的产品收取适当的维修材料成本费用。

8.2 以下情况不在免费保修或更换服务范围之内：

- 过高电压、超负载、操作不当等人为造成的损坏；
- 产品外形严重损坏或变形；
- 自然灾害以及人力不可抗拒原因造成的损坏；
- 产品保修标签和产品唯一条形码损坏。
- 产品已经更新换代。

8.3 修理或更换是雷特对客户的唯一补救措施。雷特不承担任何附带引起的损害赔偿责任。

8.4 只有雷特享有修正或调整本保修条款的权利，并以书面形式发布认定为准。

✻ 本说明书的内容如有变更，恕不另行通知。
若内容与您使用的功能有所不同，则以实物为准。
如有疑问，请与供应商联系。