Pknight CR021R DMX 1024 Ethernet Lighting Controller Interface User Guide

CR021R
(Art-Net-DMX512 Network Converter)

Ver1.0

Contents

Introduction

CR021R is standard Art-Net Node. Because of this, you can use the device with any application, console, or controller that supports Art-Net to distribute Art-Net data via Ethernet network. Commonly the CR021R can be used to extend the DMX output ports of tiger touch and MA2.

Parameters

Type	Parameters	Modify yes/ not	Configuration methods
Art-Net Equipment Name	CR021R	?	DMXWorkShop
Default IP Address	10.201.6.100	?	LCD Menu
Art-Net Broadcast Address	10.255.255.255	?	LCD Menu
Subnet Mask	255.0.0.0	?	LCD Menu
MAC address	d-4d-48-c9-06-64	?	LCD Menu
Support Art-Net Protocol	Art-Net I, Art-Net II, Art-Net III	?	
DMX512 Port Address	Net: 0, Subnet: 0, Universe: 0-15	?	LCD Menu
NIC Speed	100Mbps	?	
DMX512 output	2 universe	?	
DMX512 Channels	2 x 512	?	
LED(R-G-B)Pixels	2x 170		
Power Supply 1	AC90-240V/50-60Hz		
Power Supply 2	International POE,DC48V		
DMXWorkShop	PC Software	?	

Panel Introduction

NO.	Type	Function
1	Power Indicator: White LED	Show the power connection state
2	DMX512 signal indicator: Blue LED	DMX512 data running state
3	Art-Net data running indicator: White LED	data running state
4	Art-Net Connector Indicator: White LED	Physical link state
5	Menu button	Into set up state and set up selection
6	Up button	Parameter input
7	Down button	Parameter input
8	Enter button	Parameter change(short press) and save(long press)
9	LCD display	Through the LCD menus to manually set the system parameters, If LCD backlight has not button operation, automatic shut down after 5 minutes.
10	2pcs 3-XLR	Output DMX 512 signal

Introduction of the lower side plate

Number	Type	Function
1	AC220V Power Supply Socket	AC90-240V/50-60Hz
2	Internet RJ45 port	Art-Net input, International POE, 48V input

Introduction of upper plate(Installation 1)

Hook mounting holes(M10Screw hole)

The effect of hook installation

Introduction of both side(Installation 2)

screw mounting holes on both sides, which can be fixed with screws

Configuring System Parameters

Table 1 – Button instruction

Key				
Function	Menu (cancel)	UP	Down	Enter (save)

Table 2 – The steps for setting the parameters
The buttons operation steps for setting each Art-Net parameter, as follows:

steps	instruction
1	Press the **[MENU]** to choose and switch the parameter menu;
2	Press the **[ENTER]** to edit the parameter menu (then Appears blinking cursor)
3	Press the **[ENTER]**, can switch the specific parameter (the parameter at the blinking cursor wasthe one already choose)
4	Press **[UP] or [DOWN]** can modify the current parameters; Long press **[UP]or [DOWN] for** 1S to quickly modify the current parameters
5	Long press the**[ENTER] for more than 1S** system will save the modified parameters . If the info was wrong, it will not be saved, then press **[ENTER]** to clear the wrong info, also can enter the values follow the presentation and save again.

Table 3 – The menu presentation for output mode the form contents to factory default values

Menu	DMX output mode		Default values
1	IP address	<Local IP >	10.201.6.100
2	Subnet Mask	<Subnet Mask>	255. 000. 000.000
3	Output Port universe	<Port universe>	OUT01~OUT02 00-01
4	Output Port net	< Port Net>	Net: 000
5	Output Port subnet	< Port Sub-Net>	SubNet: 00
6	Ethernet MAC	<Ethernet MAC>	d-4d-48-c9-06-64
7	Default Set	<Default Set>	No Yes

Table 4 – Sets the error information table

Menu item	LCD display the error info	The instruction for the error info
Set the local IP & subnet mask	!!Local IP: hosted can't is 0!!	Local IP host number is not 0
	! Local IP hosted can't all is 1!	Local IP host number is not 1
Set the input route	!!Port Universe can't be same!!	The different DMX input ports must be only
Set the transmit mode	"!!NO AD4 KEY!!"	Didn't get to the correct encryption information

Table 5 – Recommended network settings:

IP Address	Subnet Mask	Broadcast Address
2.x.x.x	255.0.0.0	2.255.255.255
10.x.x.x	255.0.0.0	10. 255.255.255
192.168.x.x	255.255.255.0	192.168.x.255

Table 6 – Art-Net Network working conditions

1	Network devices have the same subnet mask	255.x.x.x
2	Network devices have the same network segment and unique IP address	2.x.x.x 10.x.x.x 192.168.x.x
3	Correct port address: Net+Sub-Net+Universe	000 + 00 + (**0…15**)
4	Network device has a unique MAC address	d-4d-48-c9-06-64
5	Network equipment is used with crossed cable, router, switchboard, and connect multiple network devices	crossed cable, router

Table 7 -Port addresses definition

Port addresses	Net	Subnet	Line
Port Address	Net (0-127)	Subnet (0-15)	Universe (0-15)

Table 8 -Attention about setting parameters

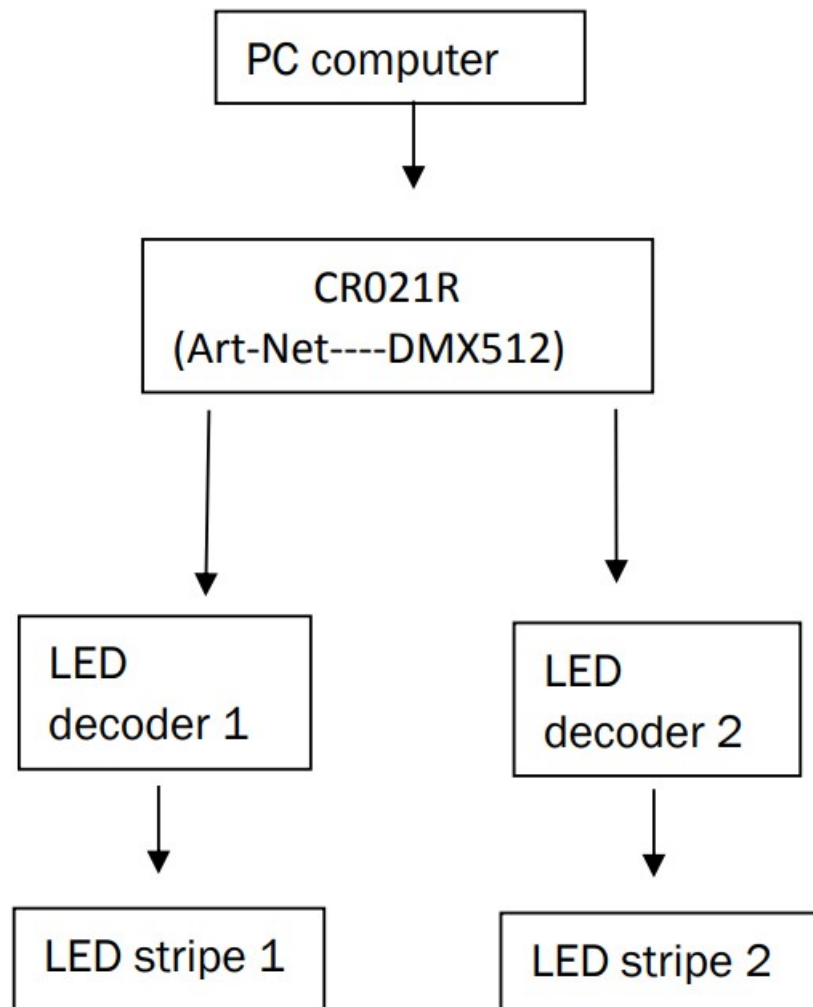| NO.	Menu item	Pay attention to the items
1	Setting IP address	Each network set must have a unique IP address (not Other network equipment occupancy) and the same subnet mask, otherwise will cause the network does not work.
2	Setting subnet mask	The subnet mask is 255.x.y.z, do not need to modify x, y, z one by one, we provide the subnet mask from menu table, there are 23 subnet mask which may be used, select the subnet mask that you want to set code on it.
3	Setting port of subnet address	Each network (Net) of Art-Net includes 16 (universe) The range is 0-15.
4	Setting port of network address	Each network (Net) of Art-Net includes 256 route (universe), Settings range from 0-127,
5	Setting the NIC's MAC address	Each network device have a network card, each card must have Unique MAC address d-00-22-a8-00-64, and the last 3 values of this card's MAC address already have been binding with the last 3 values of IP address, can effectively prevent the collision about the MAC address. If there is NIC conflict, the user can modify the second, the third bytes of the MAC address.
6	default set	CR051R support default set, If you want to reset, all the parameters which have been kept before, will modify the original parameters, include the transmission mode , input mode also will be converted to output mode, and the network parameter, Port addresses will be initialized to default values.

Application 1 LED matrix screen driver

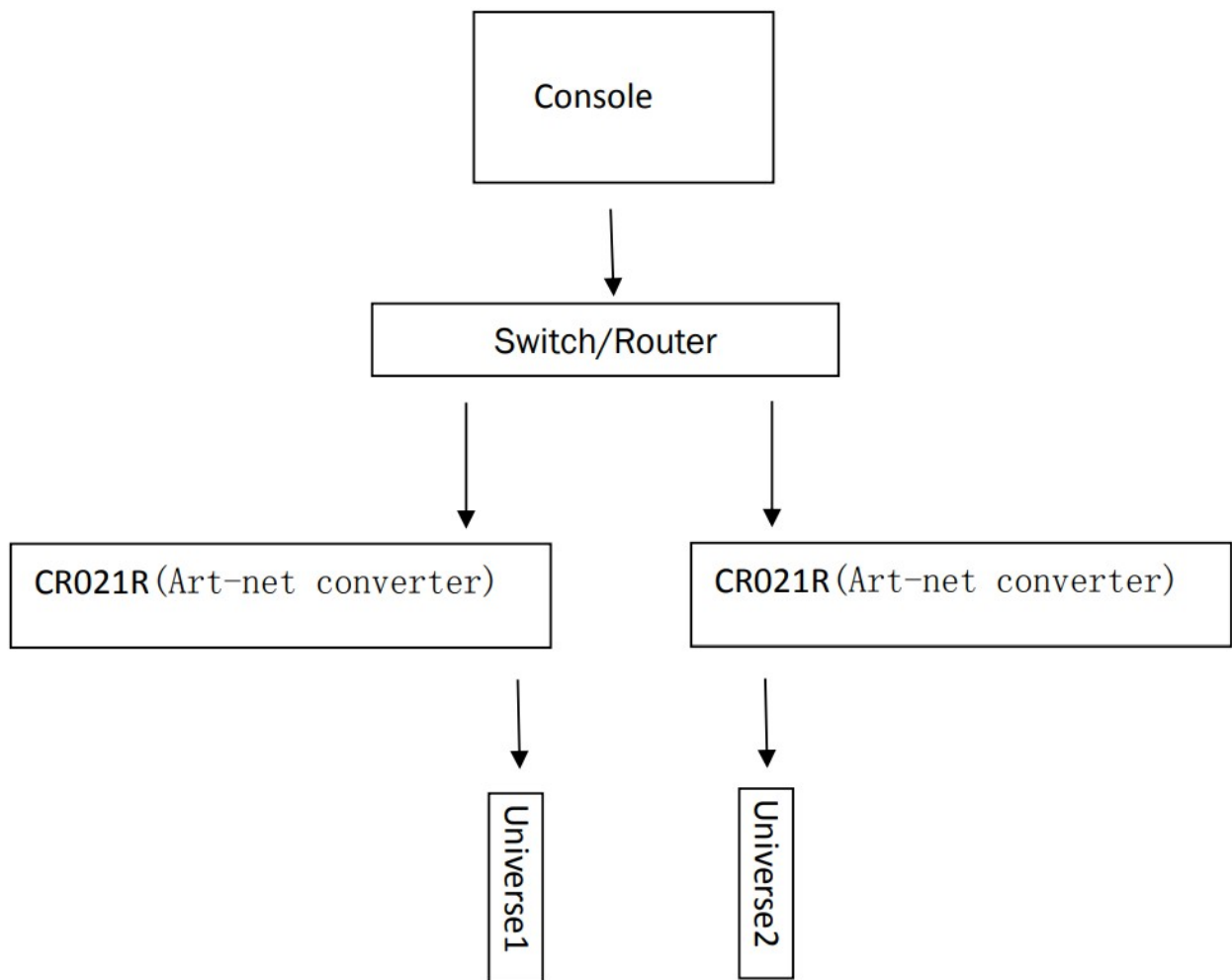| Equipment	Function
PC computer	Running Jinx!-LED Matrix Control
CR041R internet converter	Convert the Art-Net to 2ways DMX 512
Dmx512 Decoder(LED Decoder)	Convert the DMX512 to the signal of RGB LED strip
RGB LED trip(Assemble to the Matrix screen)	300pcs dot ,R,G,B ,3 channels
Size of the Matrix	20 x 17
Switch power (support power to the RGB LED trip)	5V – 40A -200W

Equipment connection blocks diagrams:

```
        ┌─────────────────┐
        │   PC computer   │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │     CR021R      │
        │ (Art-Net----DMX512) │
        └─────────────────┘
           │            │
           ▼            ▼
      ┌─────────┐   ┌─────────┐
      │  LED    │   │  LED    │
      │ decoder 1│  │ decoder 2│
      └─────────┘   └─────────┘
           │            │
           ▼            ▼
    ┌──────────┐   ┌──────────┐
    │LED stripe 1│ │LED stripe 2│
    └──────────┘   └──────────┘
```

Application 2 The control lighting system from the Art-Net port to control the Dmx 512 lighting equipment

Equipment	Function
Art-Net lighting controller equipment	Running Jinx!-LED Matrix Control
CR021R internet converter	Convert the Art-Net to 2 ways DMX 512
Dmx512 lighting equipment	Receive the DMX512 signal to show the lighting effect

Equipment connection blocks diagrams:

Documents / Resources

CR021R (Art-Net-DMX512 Network Converter) Ver1.0	**Pknight CR021R DMX 1024 Ethernet Lighting Controller Interface** [pdf] User Guide CR021R DMX 1024 Ethernet Lighting Controller Interface, CR021R, DMX 1024 Ethernet Lighting Controller Interface, Ethernet Lighting Controller Interface, Lighting Controller Interface, Controller Interface