

ArtNet Multi PixxControl

User Manual



**ART
NET**
ETHERNET

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DMX®
4
ALL

Description

The **ArtNet Multi PixxControl** has an Ethernet-Input for an Artnet-Network connection. The output is designed for controlling several pixel stripes and screens.

In total the **ArtNet Multi PixxControl** uses 16 ArtNET-Ports (DMX-universes), each of them controls 170 RGB-Pixel. All in all up to 2720 Pixel can be controlled individually with the 16 ArtNet-Ports.

Supports the ArtNet-specification 3 (downward compatible).

A user-friendly configuration with a web browser enables a fast and uncomplicated set up of all parameters.

We advise the software MADRIX[®] – LED Lighting Control Solutions for a simple and optimal controlling via ArtNet.

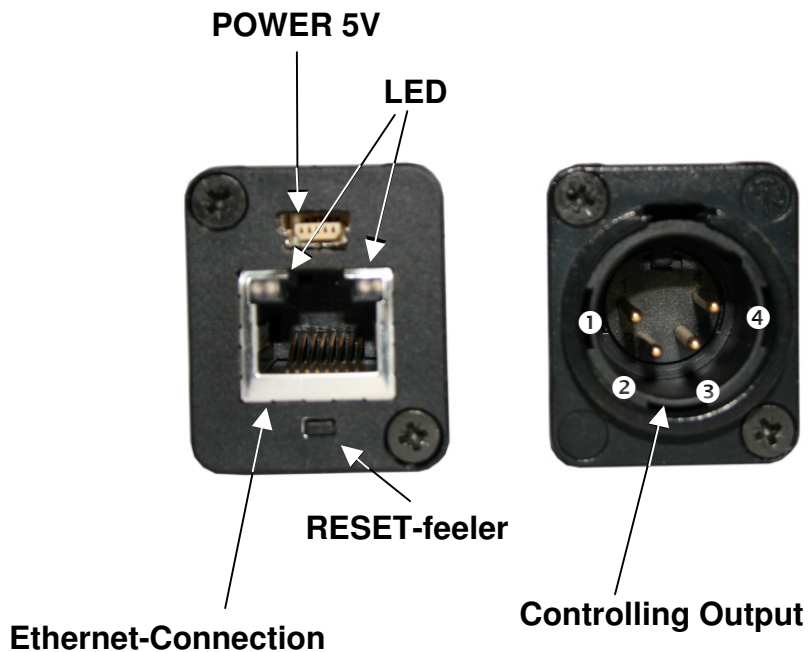
Technical Data (Firmware Version 2.15)

Power Supply:	5V DC included in delivery
Connections:	RJ45 Ethernet / Art-Net™ 4 pin Neutrik XLR USB Mini-B only for power supply connection
Output Report:	MagiarLED II flex, MagiarLED III flex max. 2720 Pixel TM1804, TM1812, TM1829, WS2801, LPD8803, DycoLED, UCS1903, WS2811, APA-101 (SuperLED), LPD1886 8Bit, LPD1886 12Bit, WS2812, WS2812B, LPD6803 max. 1360 Pixel UCS9812 (8Bit Ctrl), UCS9812 (16Bit Ctrl) max. 850 Pixel DMX512, DMX1024
Color sequence:	Adjustable
Pixel groups:	1 to 10 pixel
Gamma correction:	Selectable for LPD1886 12Bit, UCS9812 (8Bit Ctrl)
Dimensions:	75 x 26 x 35 mm

Included in delivery

- 1x ArtNet Multi PixxControl
- 1x 5V Power supply
- 1x 1m RJ45 Network cable 1:1
- 1x User Manual (German)

Connection

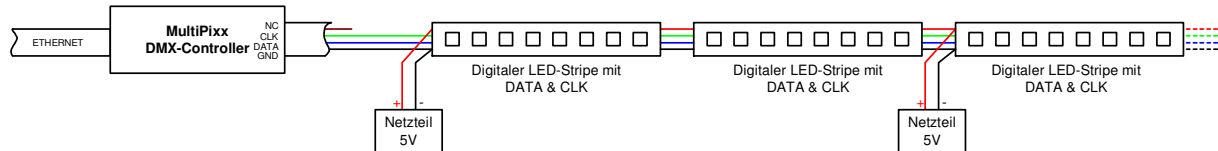


Controlling output assignment:

MODE	PIN1	PIN2	PIN3	PIN4
MagiarLED III	NC	CLK	GND	DATA
MagiarLED II	NC	CLK	GND	DATA
TM1804	NC		GND	DATA
TM1812	NC		GND	DATA
TM1829	NC		GND	DATA
WS2801	NC	CLK	GND	DATA
WS2811	NC		GND	DATA
WS2812 (B)	NC		GND	DATA
LPD8803	NC	CLK	GND	DATA
Dyco LED	NC	CLK	GND	DATA
UCS1903	NC		GND	DATA
UCS9812	NC		GND	DATA
APA-101	NC	CLK	GND	DATA
LPD1886	NC		GND	DATA
LPD6803	NC	CLK	GND	DATA
DMX512	NC	DMX-	GND	DMX+
DMX1024	NC	DMX-	GND	DMX+

Connection examples for stripes with 2 signals (CLK+DATA)

Digital LED stripes with 2 control signals DATA, CLK and GND must be connected, e.g. for the WS2801 / MagiarLED flex

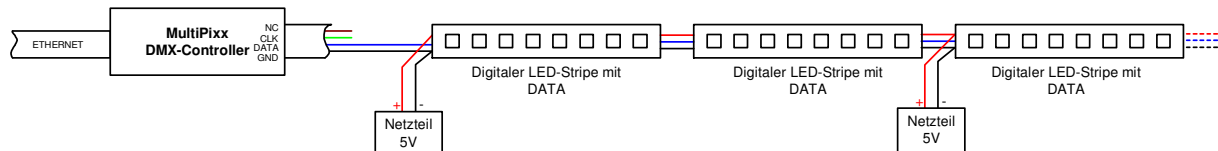


Recommended connection cable:

- PixxControl Kabel MagiarLED
- PixxControl Kabel Open-End

Connection examples for stripes with 1 signal (DATA)

Digital LED stripes with only 1 control signals DATA and GND must be connected, e.g. for the WS2811 / TM1804



Recommended connection cable:

- PixxControl Kabel TYP-3
- PixxControl Kabel Open-End

Display (LED)

LED green

The green LED lights up if an Ethernet-connection exists.

LED yellow

The yellow LED lights up as soon as data will be received.

Configuration

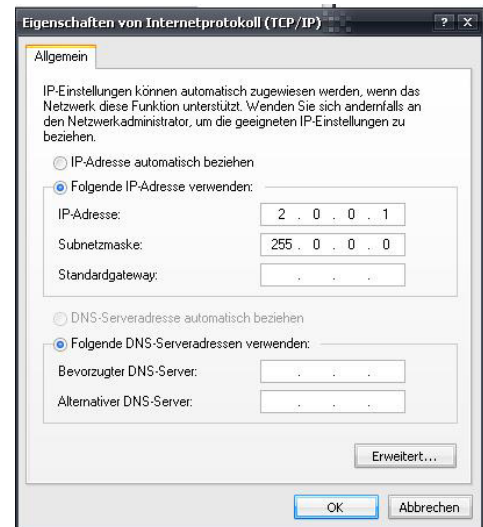
The configuration of the **ArtNet Multi PixxControl** happens via a web-interface which will be called about an arbitrary web-browser.

In the delivery condition the assigned **IP-Adresse** is **2.0.0.10** which can be used for the web-interface and the ArtNet.



The network setting of the computer has to set up to the **IP-Adresse 2.0.0.1** and the **Subnet mask 255.0.0.0**.

Please take further details from the ArtNet-specifications.



The **ArtNet Multi PixxControl** has 4 ArtNet nodes (A-D) which can be configured separately.

For a better distinction you can give every node a arbitrary name.

The **Short-name** is limited to 18 marks and the **Long-name** is limited to 64 marks.

The **subnet-mask** is to leave in accordance to the ArtNet-specification 255.0.0.0 .

Please set up the **Output Settings** according to the connected LED-stripes.

The **Factory Settings** will be rebuilt with the entry of the number 7319.

SAVE restores the configuration respectively rebuilt the Factory Settings.



Each node needs an own **IP-Address** so the assignment can occur clearly. Use in accordance to the ArtNet-specifications the IP-Address 2.x.x.x or 10.x.x.x

Any other IP-Address can also be used e.g. 192.168.1.10 . In this case the net-mask has to be fitted to 255.255.255.0 !

Call up the IP 2.0.0.10 in the addressing list of the web browser to get the following configuration site:



ArtNet Multi PixxControl
Version 2.06 - MAC ID: 00-60-35-72-03-00

The ArtNet Multi PixxControl is an ArtNet interface with a control output for different digital LED stripes.

The device provides four ArtNet Nodes with each 4 ports.

You can give each node an own IP address, shortname and longname to differ the node in the network. Please use in one ArtNet network the IP address 2.x.x.x or 10.x.x.x with the Netmask 255.0.0.0. Other IP addresses like 192.168.1.x with Netmask 255.255.255.0 are also possible.

To control the pixel the channels 1-510 of the ports are used. Each pixel is controlled by 3 channels so each port controll 170 pixel.
The MagiarLED III flex and MagiarLED II flex control output is working up to 2720 pixel.

EXTENSION SETUP
The extension setup allows you to set the ArtNet parameters for SubNet,Net and Port. Please set Net always to 0 if you don't use ArtNet3!

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SETUP

Node A
IP Address:
Short Name:
Long Name:

Node B
IP Address:
Short Name:
Long Name:

Node C
IP Address:
Short Name:
Long Name:

Node D
IP Address:
Short Name:
Long Name:

Subnetmask
Netmask:

Output Settings
Pixel:
Color:
Mode:

- ☒ MagiarLED III flex
- ☐ MagiarLED II flex
- ☐ DycoLED (max. 1360 Pixel)
- ☐ WS2801 (max. 1360 Pixel)
- ☐ LPD8806 (max. 1360 Pixel)
- ☐ TM1804 (max. 1360 Pixel)
- ☐ TM1812 (max. 1360 Pixel)
- ☐ UCS1903 (max. 1360 Pixel)
- ☐ APA-101 (max. 1360 Pixel)
- ☐ LPD1886 8Bit (max. 1360 Pixel)
- ☐ LPD1886 12Bit (max. 1360 Pixel)
- ☐ WS2811 (max. 680 Pixel)
- ☐ DMX-LED-Stripe (DMX512)
- ☐ DMX-LED-Stripe (DMX1024)

Factory Defaults
 Enter **7319** to set the ArtNet-Interface to factory defaults.

Extension Setup

In the **Extension Setup** the ArtNet parameters Net, SubNet and Port can be adjusted for every node.



ArtNet Multi PixxControl
Version 2.06 - MAC ID: 00-60-35-72-03-00

The ArtNet Multi PixxControl is an ArtNet interface with a control MagiarLED II flex or MagiarLED III flex control output.

The device provides four ArtNet Nodes with each 4 ports.

You can give each node an own IP address, shortname and longname to differ the node in the network. Please use in one network the IP address 2.x.x.x or 10.x.x.x

The MagiarLED III flex control output is working up to 2720 pixel. To control the pixel the channels 1-510 of the ports are used. Each pixel is controlled by 3 channels so each port controll 170 pixel.

EXTENSION SETUP
The extension setup allows you to set the ArtNet parameters for SubNet, Net and Port. Please set Net always to 0 if you don't use ArtNet3!

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EXTENSION SETUP

Node A

SubNet:

Net: Value 0-127

Port 1: Pixel 1-170

Port 2: Pixel 171-340

Port 3: Pixel 341-510

Port 4: Pixel 511-680

Node B

SubNet:

Net: Value 0-127

Port 1: Pixel 681-850

Port 2: Pixel 851-1020

Port 3: Pixel 1021-1190

Port 4: Pixel 1191-1360

Node C

SubNet:

Net: Value 0-127

Port 1: Pixel 1361-1530

Port 2: Pixel 1531-1700

Port 3: Pixel 1701-1870

Port 4: Pixel 1871-2040

Node D

SubNet:

Net: Value 0-127

Port 1: Pixel 2041-2210

Port 2: Pixel 2211-2380

Port 3: Pixel 2381-2550

Port 4: Pixel 2551-2720

Output config

Freq.Factor:

Sync Options

Enable Sync: ☒

Firmware Update

Main Setup

Save

LED-Protocol

The **ArtNet Multi PixxControl** can output several LED-protocols.

LED-Protocol	max. Pixel	Updates / Hz (680 Pixel)	Updates / Hz (1360 Pixel)	Updates / Hz (2720 Pixel)
MagiarLED III	2720	80	42	22
MagiarLED II	2720	120	60	30
Dyco LED	1360	72	36	
TM1804	1360	23	11	
TM1812	1360	27	13	
TM1829	1360	30	15	
WS2801	1360	50	25	
LPD8803	1360	50	25	
LPD6803	1360	72	36	
UCS1903	1360	19	9	
APA-101	1360	78	42	
LPD1886 8Bit	1360	50	27	
LPD1886 12Bit	1360	36	20	
LPD1886 12Bit SingleColor	1360	30	18	
WS2811	1360	32	16	
WS2812 / WS2812B	1360	32	16	
UCS9812 (8Bit Ctrl.)	850	22	18 (850Pixel)	
UCS9812 (16Bit Ctrl.)	850	24	19 (850Pixel)	

Firmware Version: 2.14

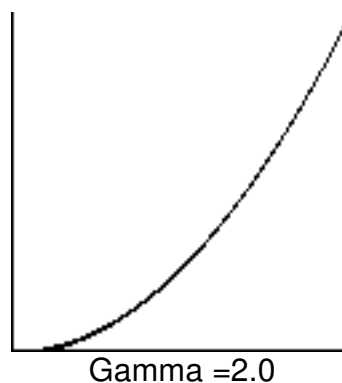
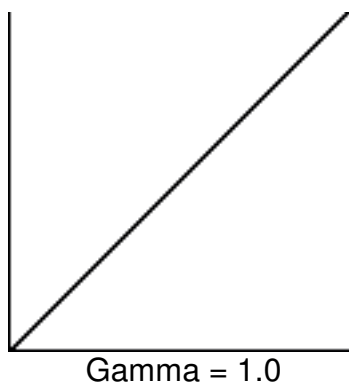
(Group = 1 / PixelFaktor = 1.0)

Gamma correction

For the LPD1886 with 12Bit and UCS9812 (8 Bit Ctrl) there is a Gamma correction available. Possible are the values 1,0 / 1,2 / 1,4 / 1,8 / 2,0 / 2,2 which can be selected in the Extension Setup.



The higher the gamma value, the more curved the output characteristics:

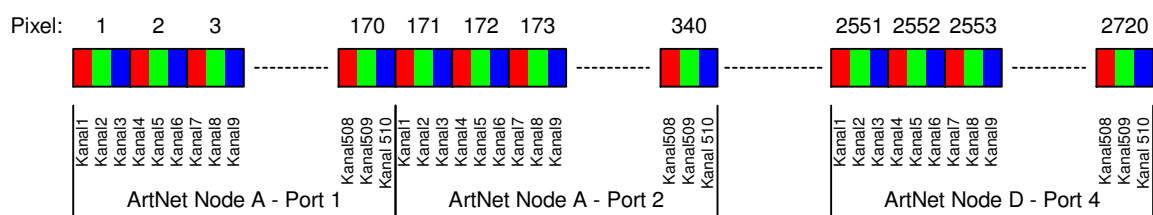


Pixel-assignment

8-Bit Control

The **ArtNet Multi PixxControl** controls up to 2720 RGB-Pixel. Therefore 16 ArtNet ports will be used per 170 RGB-Pixel. At the 8-bit control one channel ist used for R, G and B. This means each port (universe) can control 170 RGB pixels.

The single pixel are assigned to the ArtNet-Ports as follows:

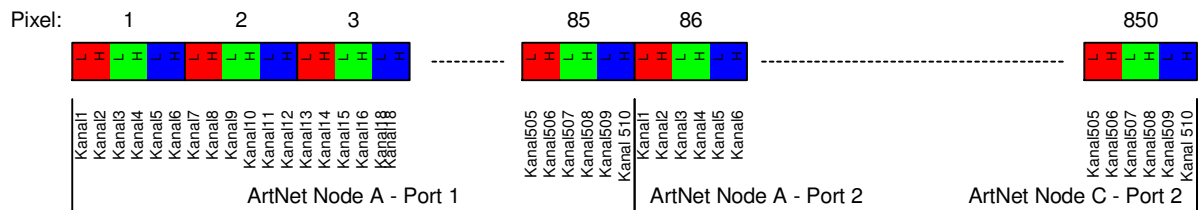


<u>ArtNet-Port</u>	<u>Pixel</u>
Node A1	1-170
Node A2	171-340
Node A3	341-510
Node A4	511-680
Node B1	681-850
Node B2	851-1020
Node B3	1021-1190
Node B4	1191-1360
Node C1	1361-1530
Node C2	1531-1700
Node C3	1701-1870
Node C4	1871-2040
Node D1	2041-2210
Node D2	2211-2380
Node D3	2381-2550
Node D4	2551-2720

16-Bit Control

The digital LED stripe UCS9812 can be used with 16-bit control for each color. For this stripe the **ArtNet Multi PixxControl** has the option UCS9812 (16-Bit Ctrl) what means that each color of a pixel is controlled by 2 channels. In this case one port (universe) can control 85 RGB pixels.

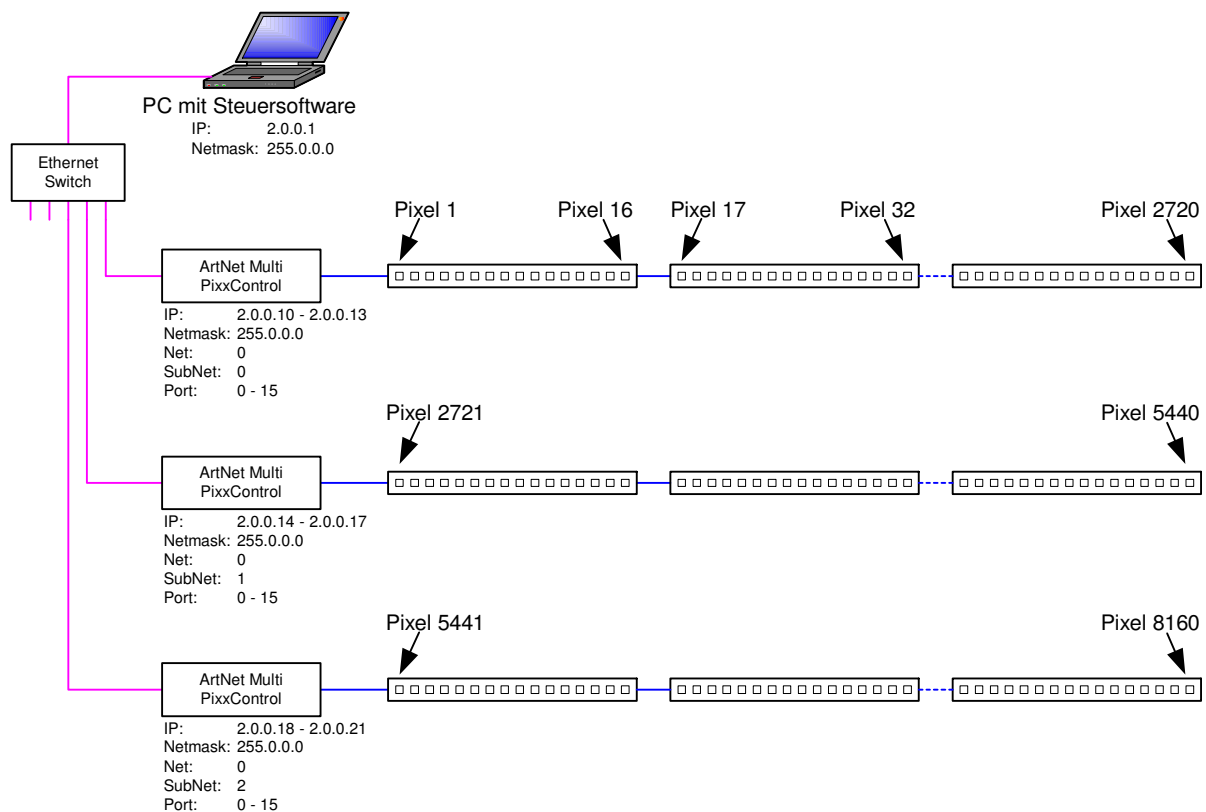
The single pixel are assigned to the ArtNet-Ports as follows:



<u>ArtNet-Port</u>	<u>Pixel</u>
Node A1	1-85
Node A2	86-170
Node A3	171-255
Node A4	256-340
Node B1	341-425
Node B2	426-510
Node B3	511-595
Node B4	596-680
Node C1	681-765
Node C2	766-850

Pixel mapping with multiple ArtNet Multi PixxControl

For systems with a pixel count of above the maximum from one **ArtNet Multi PixxControl** it is necessary to use two or more **ArtNet Multi PixxControl** and divide the pixels to the single **ArtNet Multi PixxControl**. In this case the Ethernet signal must be distribute over Ethernet switches.



For a unique pixel mapping, it is necessary to configure each ArtNet Multi PixxControl.

Based on this configuration on the one hand is the ArtNet specification (Net / Subnet / port) and the other, the network specification (IP / Netmask).

A ArtNet Multi PixxControl has 16 ports capable of driving each 170 pixels. The ports are assigned to the connected pixels as described above.

Each port gets a port number from 0 to 15.

If the port numbers 0 to 15 are assigned, the Subnet number must be increased. The Subnet number again used the range of values 0 to 15.

After the Subnet number the Net number is incremented. For Net is a range of values from 0 to 127 are available.

Furthermore, the network settings for the IP and the netmask must be made. ArtNet provides that an IP range to be used 2.xxx or 10.xxx. In this case the netmask is 255.0.0.0 .

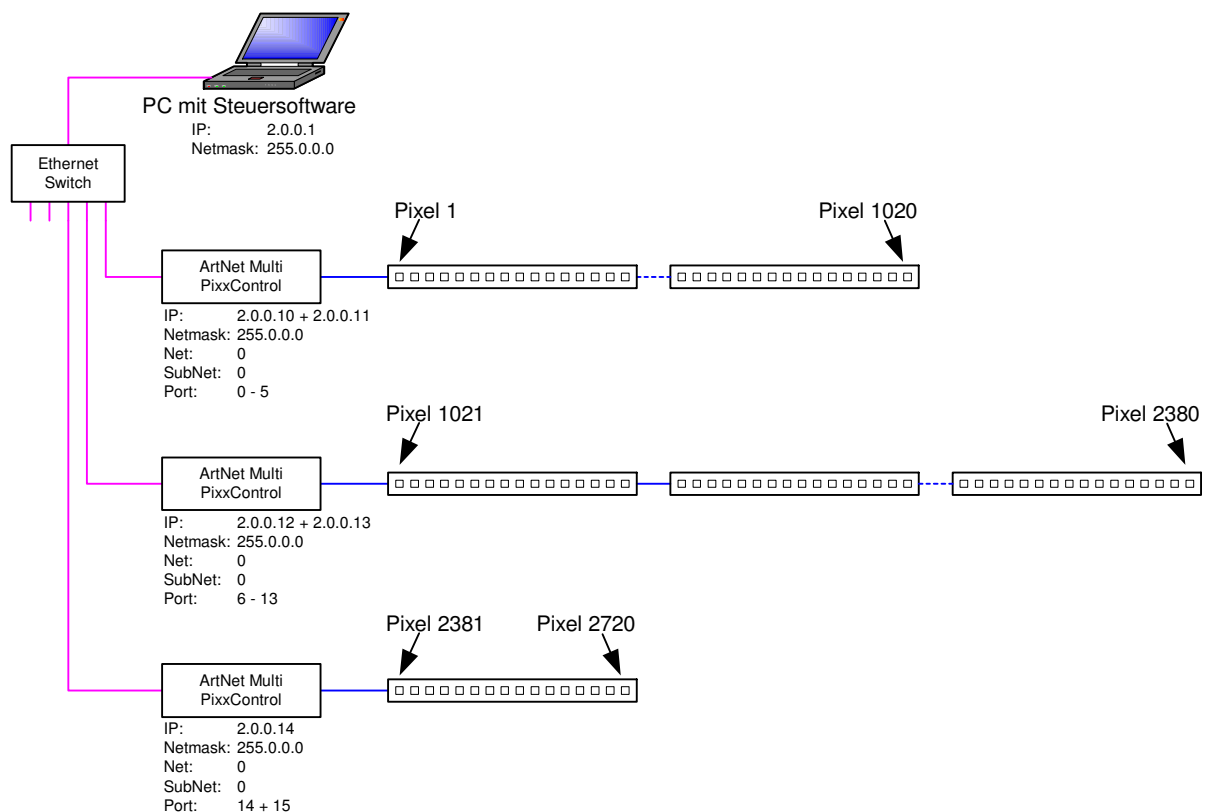
Each different IP address may also be used, such as 192.168.1.10. In this case, the netmask must be adapted to 255.255.255.0!



Due to the ArtNet specification up to 4 ports can be present in one node. Each node must be configured with its own IP address.

Since the ArtNet Multi PixxControl has 16 ports one device need IP addresses.

When not fully exploited ArtNet Multi PixxControl can be "skipped" the Nodes / unused ports.



Universe assignment with MADRIX[®]

The software MADRIX[®] automatically set the universes when using *Find Auto* :

$$\text{Universum} = (\text{Net} * 128) + (\text{SubNet} * 16) + \text{Port} + 1$$

Factory Reset

The **ArtNet Multi PixxControl** interface can be reset into the delivery conditions with the RJ45-connection feeler.

Proceed as follows:

- Turn off the device
- Push feeler and hold
- Turn on the device
- Yellow LED flashes
- Release button
- Push button again and hold
- Green and yellow LED flash ca 10 seconds alternately
- Meanwhile release button
- Now, the reset will be executed and the LEDs lights up 3 times simultaneously for confirmation

Alternatively, you can restore the factory settings via the Web browser:

- Open the Main Settings inside the Webbrowser
- Enter in the input field the code „7319“ for Factory Defaults
- Klick *Save*
- Wait minimum 10 seconds

Update execute

The **ArtNet Multi PixxControl** Interface has an update-function which enables transferring prospective firmware-versions.

Proceed as follows:

- Turn off the device
- Push button and hold
- Turn on the device
- Yellow LED flashes
- Release button
- Generate a network connection to PC
- Start the update-software **DMX4ALL LAN-Updater**
- Select from the list ArtNet Multi PixxControl Interface
- Click *Firmware-Update*
- Select and confirm Firmware-data (.bin)
- Please wait until the update has finished



If an error occurs you can begin from the start anytime

Alternatively, you can activate the firmware update through the web browser:

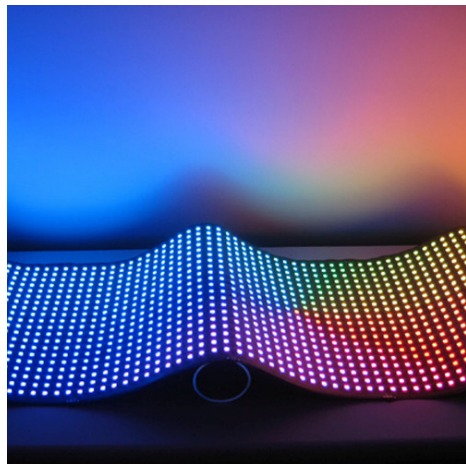
- Open the Extension Settings inside the Webbrowser
- Click Firmware Update
- Enter the code „1379“ inside the input field and klick *Send*
- Start the update-software **DMX4ALL LAN-Updater**
- Select from the list ArtNet Multi PixxControl Interface
- Click *Firmware-Update*
- Select and confirm Firmware-data (.bin)
- Please wait until the update has finished
- Click *Back to Mainpage* inside the Webbrowser

Equipment

MagiarLED III flex Stripe



MagiarLED III flex Screen



Multi PixxControl Connection cable



Risk-Notes

You purchased a technical product. Conformable to the best available technology the following risks should not be excluded:

Failure risk: The device can drop out partially or completely at any time without warning. To reduce the probability of a failure a redundant system structure is necessary.

Initiation risk: For the installation of the board, the board must be connected and adjusted to foreign components according to the device paperwork. This work can only be done by qualified personnel, which read the full device paperwork and understand it.

Operating risk: The Change or the operation under special conditions of the installed systems/components could as well as hidden defects cause to breakdown within the running time.

Misusage risk: Any nonstandard use could cause incalculable risks and is not allowed.

Warning: It is not allowed to use the device in an operation, where the safety of persons depend on this device.





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