MADRIX LUNA

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Overview



MADRIX LUNA is an easy-to-use and reliable Art-Net node or DMX512 USB interface.

The MADRIX LUNA reliably distributes DMX512 data over long or short distances using Ethernet network or USB. The exclusive MADRIX Sync Mode makes sure that lighting effects look their best on the LEDs.

An additional MADRIX KEY [i.e., a software license] is required for usage with MADRIX.

3 versions are available:

- MADRIX LUNA 4
- MADRIX LUNA 8
- MADRIX LUNA 16

Operating Modes

You can mainly use 4 operating modes together with MADRIX:

- DMX-OUT Via Ethernet Network [Art-Net]
- DMX-OUT Via USB
- DMX-IN Via Ethernet Network [Art-Net Remote]
- DMX-IN Via USB

Notes:

- DMX-OUT and DMX-IN can be used at the same time.
- You always have 1 to 4/8/16 output ports available [DMX 1 4/8/16].
 - In total, 2048 DMX channels can be sent per LUNA 4 unit.
 - In total, 4096 DMX channels can be sent per LUNA 8 unit.
 - In total, 8192 DMX channels can be sent per LUNA 16 unit.
- You always have 1 DMX input port available per unit [DMX-IN].
 - In total, 512 DMX channels can be received per unit.

3rd-Party Controllers

MADRIX LUNA is a standard Art-Net node. Because of this, you can use the device with applications, consoles, desks, or controllers that are compatible with Art-Net to distribute Art-Net data via Ethernet network.

Important Note

 Make sure to read the provided MADRIX LUNA Quick Start Guide first! »help.madrix.com

DMX-OUT Via Ethernet Network [Art-Net]

Overview

You can connect the LUNA via Ethernet network to the network card of your computer that runs the MADRIX software. Data is sent to the LUNA via network [Ethernet] and distributed to the XLR output ports [DMX 1 - 4/8/16].

1] Initial Configuration

- Connect your LED controllers or fixtures to the XLR ports of MADRIX LUNA [DMX 1 4/8/16].
- Connect MADRIX LUNA to power.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer using network cabling.
- It is highly recommended to only use Gigabit Ethernet network components [network card, switches, etc.].

2] Windows Network Settings

Art-Net is a network-based protocol. MADRIX will use the network card of your computer to send data.

- It is required to set up the correct network settings in Windows, first.
- You must use these IP address and Subnet mask settings. Otherwise, Art-Net might not work!
- The IP addresses of your computer and your MADRIX LUNA devices need to be different.
- Set up an individual *IP address* in the following IP address range:
 - 2.0.0.1 ... 2.255.255.254 or
 - 10.0.0.1 ... 10.255.255.254
- Set up the corresponding Subnet mask
 255.0.0.0

[Via factory default settings, MADRIX LUNA devices will have an IP address in the 10.x.x.x network range, such as 10.206.224.100, for example].

- Restart MADRIX, if you have changed the network settings in Windows while MADRIX was running.
- Learn more »Tips [Microsoft Windows / Networks / USB]
- Example for PCs that are running MADRIX:

Internet Protocol Version 4 (TCP/IPv4)) Prope	rti	ies					?	X	
General										
You can get IP settings assigned auto this capability. Otherwise, you need t for the appropriate IP settings.	omatical to ask y	ly i ou	if yo r ne	tw	ne ork	ad	ork s Iminis	uppor strato	ts r	
 Obtain an IP address automatication Uge the following IP address: 	ally									
IP address:	10		0		0		1]		
Sybnet mask:	255		0		0		0]		
Default gateway:						•				
Obtain DNS server address auto	matical	y								
Use the following DNS server ad	dresses									
Preferred DNS server:										
Alternate DNS server:		•		•		•				
Validate settings upon exit					(4	\d <u>v</u> a	nced.]	
		C		Ok	(Car	cel	

3] Fixture Configuration In MADRIX

- Start MADRIX.
- Configure the virtual LED matrix using the <u>Matrix Generator</u> or <u>Patch Editor</u>

4] Activating Art-Net

- Go to *Preferences > Device Manager... > Art-Net* [Keyboard shortcut: *F4 > Art-Net*]
- Activate the checkbox *Enable* [in the upper, right corner].

J Device Manager					
DMX Devices DVI Devices	DMX input Art-Net	MIDI Audio Inp	ut Visualizer		
Device Name	Count / Net	Universe		IP Address / MAC Address	Enable
ArtNet Remote			10.0.0.1 /	(Receive Only From 10.0.0.1)	Sync
					ArtAddress Enable V V V
~ + +		У Ф нтр		Hostname :	Count: 1
e 📑				OK Apply	Cancel Help

MADRIX will automatically create the entry ArtNet Remote
 This device is used only for Remote Control. Learn more DMX-IN Via Ethernet Network [Art-Net Remote]

5] Adding Devices Automatically

MADRIX can automatically add your MADRIX LUNA devices.

Click

[MADRIX will automatically search the network for connected MADRIX LUNA devices. Devices that are found will appear in the list. A number of entries will be created in the list for each LUNA device.] [The Art-Net standards only supports a maximum of 4 output ports per device. Since LUNA 8 features 8 ports, 2 list items are created in MADRIX, for example. 1 entry will be shown for LUNA 4. 4 entries will be shown for LUNA 16.]

J Device Manager					
DMX Devices DVI Devices	DMX Input Art-Net	MDI Audio In	put Visualizer		
Device Name	Count / Net	Universe		IP Address / MAC Address	Enable
ArtNet Remote			10.0.0.1 /	(Receive Only From 10.0.0.1)	Sinc
10.206.224.13	4	5, 6, 7, 8	10.206.224.13/	/ Bindldx2 (Send Only To 10.206.224.13)	
10.206.224.13	4	1, 2, 3, 4	10.206.224.13 /	/ Bindidx1 (Send Only To 10.206.224.13)	r ArtAdrees
					Enable
₽ + +		C HTP		Hostname :	Count: 3
e 🗟				OK Apply C	ancel Help

6] Activating Devices

Each of your MADRIX LUNA devices and its ports need to be activated. By default, they are still deactivated. 4 ports will be shown for LUNA 4, 8 ports will be shown for LUNA 8, and 16 ports will be shown for LUNA 16.

State	Device Name	Universe	OUT / N	ms / FPS	Frames	Device	
Off	10.206.224.13 (10.206.224.13) Bindktx1 Port.0		OUT	30/33.3	Optimized		
Off	10.206.224.13 (10.206.224.13) Bindidx1 Port:1	2	OUT	30/33.3	Optimized		
Off	10.206.224.13 (10.206.224.13) Bindidx1 Port:2	3	OUT	30/33.3	Optimized		
Off	10.206.224.13 (10.206.224.13) Bindidx1 Port:3	4	OUT	30/33.3	Optimized		
Off	10.206.224.13 (10.206.224.13) Bindldx2 Port:0	5	OUT	30/33.3	Optimized		
Off	10.206.224.13 (10.206.224.13) Bindkbx2 Port:1	6	OUT	30/33.3	Optimized	· Settinge	
Off	10.206.224.13 (10.206.224.13) Bindidx2 Port 2	7	OUT	30/33.3	Optimized	Enable	o materia
Off	10.206.224.13 (10.206.224.13) Bindidx2 Port.3	8	OUT	30/33.3	Optimized	E chable	Control E
Off	ArtNet Remote (MADRIX) Port:0		N	30/33.3			Input [
							Universe : 1 📮
						Fr	ame Time (ms) : 🔜 🕄 🗮
							FPS: 33.3
							Send Full Frames

- Go to *Preferences > Device Manager... > DMX Devices* [Keyboard shortcut: *F4*]
- Select your devices and their ports in the list.
- Activate *Enable*

- Output is activated by default.
- Click Apply

	Device Manage	er					
	DMX Devices	VIDevices DMX Input Art-Net MIDI Audio Inp	ut Visualize	4			
I	State	Device Name	Universe	OUT / IN	ms / FPS	Frames	Device
П	 On 	10.206.224.13 (10.206.224.13) Bindldx1 Port:0	1	OUT	30/33.3	Optimized	10.206.224.13 (10.206.224.13) Bindidx1 Port.0
I	😑 On	10.206.224.13 (10.206.224.13) Bindldx1 Port:1	2	OUT		Optimized	10.000.001.10
	👄 On	10.206.224.13 (10.206.224.13) Bindidx1 Port:2	3	OUT		Optimized	10.205.224.13 IP: 10.205.224.13 Bindids: 1. Uni: OUT 1. IN
	🗕 On	10.206.224.13 (10.206.224.13) Bindidx1 Port:3	4	OUT		Optimized	258
	🗕 On	10.206.224.13 (10.206.224.13) Bindldx2 Port:0	5	OUT		Optimized	LUNA 8 incage
	🗕 On	10.206.224.13 (10.206.224.13) Bindldx2 Port:1	6	OUT		Optimized	
	🗕 On	10.206.224.13 (10.206.224.13) Bindldx2 Port 2	7	OUT		Optimized	Settings
	🗢 On	10.206.224.13 (10.206.224.13) Bindldx2 Port.3	8	OUT		Optimized	Enable Output
	e off	ArtNet Remote (MADRIX) Port:0		N	30/33.3		Input 🖂
							Universe : 1 🎞
							Frana Time (no): 20
							France Table (mis):
							FPS: 33.3
							Send Full Frames 🚍
				Unit	verses in Us	e OUT: 8/64 IN: 0	
	5 📑 📖	22223				OK	Apply Cancel Help

[In the screenshot above, one LUNA 8 is connected. If more devices are connected, please use the different IP addresses of different devices to identify them in the Device Manager. You can also click on *Device Name* as well as *Universe* or other columns to sort the list accordingly.]

7] Configuration Of DMX Output

- Make sure that your devices are still selected under Preferences > Device Manager... > DMX Devices
- Set up *Universe* Enter the specific DMX universe number.
- This setting assigns a specific DMX universe [of the Patch] to the device or the port of the device.
- Make sure the correct universe is assigned according to your requirements. Learn more »<u>Glossary</u>
- Click Apply
- By default, DMX universe 1 4/8/16 are assigned to the ports DMX 1 4/8/16 when using one MADRIX LUNA:

LUNA Output Port	Name under <i>Device Manager > DMX Devices</i>
DMX 1	BindIdx1 Port:0
DMX 2	BindIdx1 Port:1
DMX 3	BindIdx1 Port:2

MADRIX LUNA

DMX 4	BindIdx1 Port:3
DMX 5	BindIdx2 Port:0
DMX 6	BindIdx2 Port:1
DMX 7	BindIdx2 Port:2
DMX 8	BindIdx2 Port:3
DMX 9	BindIdx3 Port:0
DMX 10	BindIdx3 Port:1
DMX 11	BindIdx3 Port:2
DMX 12	BindIdx3 Port:3
DMX 13	BindIdx4 Port:0
DMX 14	BindIdx4 Port:1
DMX 15	BindIdx4 Port:2
DMX 16	BindIdx4 Port:3

8] Frame Time

- Make sure that your device is still selected under Preferences > Device Manager... > DMX Devices
- Set up Frame Time (ms)

- The Frame Time affects the Frame Rate. The Frame Rate specifies how fast data is sent to the device or received from it [Frames Per Second; FPS].

- Increase the Frame Time in order to decrease the Frame Rate [e.g., 40ms = 25 FPS].
- Decrease the Frame Time in order to increase the Frame Rate [e.g., 20ms = 50 FPS].
- The default value is 30 ms / 33.3 FPS.

- Some LED fixtures might have problems with a high Frame Rate. Then, it is recommended to increase the Frame Time / to decrease the Frame Rate.

- Click Apply
- [When using Art-Net, the Frame Time [ms] can be individually set for each port. But it cannot be set individually for each port, when Sync Mode is activated. Learn more below.]

9] Optimized Frames Or Full Frames

- Make sure that your device is still selected under Preferences > Device Manager... > DMX Devices
- Activate or deactivate Send Full Frames
 - Per DMX512 standard, MADRIX only sends the number of DMX channels that is configured. For example, if you

are using 312 DMX channels on a DMX universe, only 312 DMX channels will be sent with every single frame on this universe [Optimized Frames].

- Activate Send Full Frames if devices should always send full frames on a particular universe, instead of optimized frames. Sending full frames means that always the full 512 DMX channels of a DMX universe will be sent with every frame [even when you are using less than 512 channels].

- Activating Send Full Frames is recommended if problems with the data output on your LEDs occur.

- Click Apply
- In addition, you can activate Full Frames for the device and each MADRIX LUNA output port separately. Learn more <u>MADRIX Device Configuration</u>

Sync Mode

MADRIX LUNA can use the special sync mode of MADRIX.

- Large LED projects require dependable data distribution. The MADRIX software and LUNA hardware allow you to synchronize data output for all 4/8/16 DMX ports and even across multiple LUNA devices to get an optimal image on the LEDs.
- When MADRIX Sync mode is activated, MADRIX and MADRIX LUNA will automatically handle the synchronization of data.

MADRIX Sync Mode is highly recommended for MADRIX LUNA!

Sync...

Sync Mode - Allows you to activate or deactivate the usage of sync packages for Art-Net.

- 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.
- Go to *Preferences > Device Manager... > Art-Net* [Keyboard shortcut: *F4 > Art-Net*]
- Click Sync...
- A new window will open.
- Select the network for which you want to activate Sync Mode.
- Click *Enable* to activate the Sync Mode for the selected network.
- A] Choose *Pre-Sync* to send sync packages before Art-Net data.
- B] Choose *Post-Sync* to send sync packages after Art-Net data.
- Click OK

🔰 Sync Mode				
Before activating syn network! Or else, the frame rat If you are not sure, do	c, make sure that all activ e of Art-Net might drop.) not enable any sync mo	ated Art-Net devices are a de.	wailable in your	
Sync	Network	Subnet Mask	Speed	🛄 Enable
On	10.0.0	255.0.0.0	1 GBit/s	
Pre-Sync		Post-Sync		
			ок	Cancel

• To disable sync mode, click Sync... again, select the correct network, and deactivate Enable. Confirm with OK

Additional Art-Net Device Settings

It is very important to set up the correct settings for your devices!

Broadcast Mode Or Direct IP Mode

MADRIX can send Art-Net data in 2 ways to your Art-Net devices:

Broadcast Mode - Means that every packet sent from a single transmitter will be received by all recipients in the network. MADRIX will send data to all devices in the network.
 Advantage: The same data [e.g., DMX universe 1 and 2] can be made available for different points of your

- Advantage: The same data [e.g., DMX universe I and 2] can be made available for different points of your setup.

- Disadvantage: A potentially huge number of data packages will be sent over the network. This can reduce the overall network performance and cause data issues or instability.

• **Direct IP Mode** - Means that the specific data will only be sent to the specified recipient.

- Advantage: Data traffic is reduced immensely, which means that a larger number of Art-Net devices can be used in one network. Reduced network traffic increases the performance and stability.

- Disadvantage: The network settings of all devices need to be 100% correct.

Direct IP Mode is recommended in general.

- Go to *Preferences > Device Manager... > Art-Net* [Keyboard shortcut: *F4 > Art-Net*]
- Select your device in the list.

- Click
- A new window will open.
- A] Choose *Direct IP Mode* to activate Direct IP mode:

- Make sure to enter the correct *IP Address* of your device that should receive the Art-Net data. When MADRIX LUNA has been automatically found by MADRIX, the IP address will be pre-configured for you.

- MADRIX will send the corresponding data only to this device.
- B] Choose *Broadcast Mode* to activate Broadcast Mode:

- Make sure to select the correct **Network** card of your computer that should send the Art-Net data. When MADRIX LUNA has been automatically found by MADRIX, the correct network will be pre-configured for you.

- MADRIX will send data to the whole Art-Net network.
- Click Apply

More Information About Art-Net

Learn more »Art-Net [DMX Over Ethernet]

DMX-OUT Via USB

Overview

You can connect the LUNA directly via USB to the computer that runs the MADRIX software. Data is sent to the MADRIX LUNA via USB and distributed to the XLR output ports [DMX 1 - 4/8/16].

1] Initial Configuration

- Connect your LED controllers or fixtures to the XLR ports of MADRIX LUNA [DMX 1 4/8/16]
- Connect power to MADRIX LUNA.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer via USB. [Use the provided USB cable.]
- Make sure to check the power management options of Windows. Learn more »<u>PC Power Management</u>

2] Fixture Configuration In MADRIX

- Start MADRIX.
- Configure the virtual LED matrix using the »<u>Matrix Generator</u> or »<u>Patch Editor</u>

3] Enabling Drivers In MADRIX

Go to Preferences > Options... > Devices USB

[Keyboard shortcut: Ctrl+Alt+O > Devices USB]

- Activate MADRIX LUNA
- Click Apply
- Close the window with OK

Options	
Startup General Devices USB Devices Network User Interface Previews Performance	
Device Drivers	
E FTDI	Select Al
ConePort	Deselect All
MADRIX ID	
MADRIX LUNA	
MADRIX NEBULA	
MADRIX PLEXUS	
MADRIX STELLA	
MADRIX USB SMPTE	
MADRIX USBone / MADRIX NEO	
Nicolaudie (DasHard2006)	
E peperoni	
Soundlight USBOMX-ONE	
Soundight USBCMC-TWO	
OK Apply Can	cei Help

4] Activating Devices

- Go to *Preferences > Device Manager... > DMX Devices* [Keyboard shortcut: *F4*]
- Your LUNA devices and all of their ports [4/8/16 output ports, 1 input port] will appear in the list.
- If your devices are not in the list, click
 [In the screenshot below, one LUNA 8 is connected.]
- By default, all output ports are activated [State On].

State	Device Name	Universe	OUT / N	ms / FPS	Framas	Device
On	MADRIX LUNA 8 #LUNA000013 - DMX 01		out	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 02	2	out	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 03	3	out	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 04	4	out	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 05	5	out	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 06	6	out	30/33.3	Optimized	C Settions
On	MADRIX LUNA 8 #LUNA000013 - DMX 07	7	OUT	30/33.3	Optimized	Contraction Contract C
On	MADRIX LUNA 8 #LUNA000013 - DMX 08	8	OUT	30/33.3	Optimized	L Bracke Colput L
Off	MADRIX LUNA 8 #LUNA000013 - DMX-IN		N	30/33.3		Input in
						Universe : 1 📮
						Frame Time (ms) : 30 🗮
						FDC 13.3
						113. 333
						Send Full Frames

- If your device and ports are not activated, do the following:
- Select the device/port in the list.
- Activate *Enable*
- Activate Output
- Click Apply

5] Configuration Of DMX Output

- Make sure that your devices are still selected under Preferences > Device Manager... > DMX Devices
- Set up Universe

- Enter the specific DMX universe number.

- This setting assigns a specific DMX universe [of the Patch] to the device or the port of the device.
- By default, DMX universe 1 4/8/16 are assigned to the ports DMX 1 4/8/16 when using one MADRIX LUNA.
- Make sure the correct universe is assigned according to your requirements.
 Learn more »<u>Glossary</u>
- Click Apply

6] Frame Time

- Make sure that your device is still selected under Preferences > Device Manager... > DMX Devices
- Set up Frame Time (ms)

- The Frame Time affects the Frame Rate. The Frame Rate specifies how fast data is sent to the device or received from it [Frames Per Second; FPS].

- Increase the Frame Time in order to decrease the Frame Rate [e.g., 40ms = 25 FPS].
- Decrease the Frame Time in order to increase the Frame Rate [e.g., 20ms = 50 FPS].
- The default value is 30 ms / 33.3 FPS.

- Some LED fixtures might have problems with a high Frame Rate. Then, it is recommended to increase the Frame Time / to decrease the Frame Rate.

- Click Apply
- [When using USB, the Frame Time (ms) will be automatically set to the same value for all output ports.]

7] Optimized Frames Or Full Frames

- Make sure that your device is still selected under Preferences > Device Manager... > DMX Devices
- Activate or deactivate Send Full Frames

- Per DMX512 standard, MADRIX only sends the number of DMX channels that is configured. For example, if you are using 312 DMX channels on a DMX universe, only 312 DMX channels will be sent with every single frame on this universe [Optimized Frames].

- Activate Send Full Frames if devices should always send full frames on a particular universe, instead of optimized frames. Sending full frames means that always the full 512 DMX channels of a DMX universe will be sent with every frame [even when you are using less than 512 channels].

- Activating *Send Full Frames* is recommended if problems with the data output of your devices occur.

Click Apply

• In addition, you can activate Send Full Frames for the device and each MADRIX LUNA output port separately. Learn more <u>MADRIX Device Configuration</u>

More Information About DMX Output

Learn more »DMX512 [DMX-OUT]

DMX-IN Via Ethernet Network [Art-Net Remote]

Overview

You can connect MADRIX LUNA via Ethernet network to the network card of your computer that runs the MADRIX software. Data is sent into the LUNA via DMX-IN [XLR] and from the LUNA to MADRIX via Ethernet network.

1] Initial Configuration

- Connect your external DMX controller to the DMX-IN port of MADRIX LUNA.
- Connect MADRIX LUNA to power.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer via network cabling.
- It is highly recommended to only use Gigabit Ethernet network components [network card, switches, etc.].

2] Windows Network Settings

Art-Net is a network-based protocol. MADRIX will use the network card of your computer to receive data.

- It is required to set up the correct network settings in Windows, first.
- You must use these IP address and Subnet mask settings. Otherwise, Art-Net might not work!
- The IP addresses of your computer and your MADRIX LUNA devices need to be different.
- Set up an individual *IP address* in the following IP address range:
 - **2.0.0.1** ... **2.255.255.254** or
 - 10.0.0.1 ... 10.255.255.254
- Set up the corresponding Subnet mask
 - 255.0.0.0

[Via factory default settings, MADRIX LUNA devices will have an IP address in the 10.x.x.x network range, such as 10.206.224.100, for example].

- Restart MADRIX, if you have changed the network settings in Windows while MADRIX was running.
- Learn more »Tips [Microsoft Windows / Networks / USB]

3] Activating Art-Net

- Go to *Preferences > Device Manager... > Art-Net* [Keyboard shortcut: *F4 > Art-Net*]
- Activate *Enable*



MADRIX will automatically create the entry ArtNet Remote

This device is used only for Remote Control.

4] Configuration Of Art-Net Remote

- Select ArtNet Remote in the list.
- Click
- A new window opens [Art-Net Device Configuration].

Art-Net Device Configuration	×
Manufacturer : inoage	
Product : MADRIX3 Firmware: v3.6	
OEM Code : 0x04C4	
ESTA: 0x4941 - incage GmbH	
Short Name : ArtNet Remote Manual D : 0	
Long Name : ArtNet Remote, to remote control MADRIX via ArtNet	
Port Count : 1	
State : Port 1 : Disabled	
Universe	
Universe Port OUT : 1 (0:00)	
Universe Port IN :	
MAC Address :	
Style Code : (0x00) node	
Port Address : 6454 0x1936	
Direct IP Mode : 🧧 Receive Only From IP Address 10.0.0.1 And Universe 0x0	
P Address : 10 , 206 , 224 , 13 MAC To P	
Broadcast Mode : 🚍 Receive From All Addresses And Universe 0x0	
СК Арріу	Cancel

- Set Universe Port OUT to 256, which is Art-Net universe 256. Confirm with Apply
 [By default, MADRIX LUNA sends DMX-IN data to Art-Net universe 256. You can change these
 settings in the Web Configuration or MADRIX Device Configuration window if required. If you
 have changed the settings, enter the exact same Art-Net universe here!]
- Activate *Direct IP Mode* and enter the *IP Address* of your MADRIX LUNA. Confirm with *Apply* [E.g., 10.206.224.14]
- [You can also activate **Broadcast Mode**. In this mode, MADRIX will receive any DMX data that is sent in the network on this particular Art-Net universe.]
- Press OK

5] Activating Art-Net Remote

You need to activate the Art-Net Remote device. Art-Net Remote is still deactivated.

Go to Preferences > Device Manager... > DMX Devices
 [Keyboard shortcut: F4]

State	Device Name ArtNet Remote (MADRX) Port 0	Universe	OUT / N	ms / FPS 30 / 33 3	Frames	Device
0.1	And the second of the second of the second s			00700.0		
						Settings
						Input E
						Universe : 🔜 1 🎞
						Frame Time (ms):
						Create #E-state

- Select ArtNet Remote in the list.
- Activate *Enable*
- *Input* is automatically selected.
- Click Apply

J Device Mana	ger		
DMX Devices	DVI Devices DMX Input Art-Net MIDI	Audio Input Visualizer	
State Cn	Device Name ArtNet Remote (MADRIX) Port:0	Universe OUT / N ms / FPS Frames IN 30 / 33.3	Device - ArtNet Remote (MADRIX) Port:0
			ArtNet Remote IP: 10.0.0.1 , Uni: OUT 1 MADRIX3 incoge
			Settings
			Universe : 1
			Frame Time (ms) : 30 To FPS : 33.3 Send Full Frames
~ o		Universes in Use OUT: 0.64 IN:	1
		ск	Apply Cancel Help

If required, change the *Frame Time (ms)* The higher the Frame Time, the lower the FPS will be. The lower the Frame Time, the higher the FPS will be.
 The default Frame Time is 33.
 Press *Apply* to confirm.

6] Activating DMX Input

Go to Preferences > Device Manager... > DMX Input

Devices	DVI Devices DMX Input Art-I	Vet 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		011	011	
Off	7		011	011	
Off	8		011	011	
evice		Repo	te Control		
	DMX-IN Device :				V E Edt
tapping -				Start Address :	E
Мар	Channels From : 1 🎞	To: 512			
	To Universe : 1 1	Start At Channel:			
				_	
	C Ose HiP			모	DMX Watcher

- Select your preferred DMX Universe in the list.
 [By default, DMX universe 1 to 8 are listed. If you wish to increase the number of DMX-IN universes, you can change the setting. Learn more »Performance]
- Choose your *DMX-IN Device* in the section *Device*. Select *ArtNet Remote*

🔰 Device Mana	J Device Manager					
DMX Devices	DMX Devices DV/I Devices DMX Input Art-Net MIDI Audio Input Visualizer					
State	Universe	Device Name		Mapping	Remote Control	E Mapping
 On 	1	ArtNet Remote (MADRIX) Port-0		Off	Off	Remote
Off	2			Off	Off	
e Off	3			Off	Off	
e Off	4			Off	Off	
e Off	5			Off	Off	
e Off	6			Off	Off	
e off	7			Off	Off	
e Off	8			011	011	
r Device) r	Remote	Control		_
	DMX-IN Dev	ice : ArtNet Remote (MADRIX) Port:0	0	None 0 Channels		V E Ect
		·			Start Address :	Ŧ
Mapping						
Мар	Channels From :					
	To Universe :	1 📮 Start At Channel : 1 📮				
		Clise HTP			Q	Watch Universe
	******			ок	Apply Car	icel Help

Art-Net Remote is now activated. MADRIX can already receive DMX data.

Now, choose how to use incoming data. Learn more »Art-Net Remote

DMX-IN Via USB

Overview

You can connect the LUNA directly via USB to the computer that runs the MADRIX software. Data is sent into the MADRIX LUNA via DMX-IN [XLR] and from the LUNA to MADRIX via USB.

1] Initial Configuration

- Connect your external DMX controller to the DMX-IN port of MADRIX LUNA.
- Connect MADRIX LUNA to power.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer via USB. [Use the provided USB cable]
- Make sure to check the power management options of Windows. Learn more »PC Power Management

2] Enabling Drivers In MADRIX

- Go to Preferences > Options... > Devices USB [Keyboard shortcut: Ctrl+Alt+O > Devices USB]
- Activate MADRIX LUNA
- Click Apply
- Close the window with OK



3] Activating Devices

- Go to *Preferences > Device Manager... > DMX Devices* [Keyboard shortcut: *F4*]
- Your LUNA devices and all of their ports [4/8/16 output ports, 1 input port] will appear in the list.
- If your devices are not in the list, click
 [In the screenshot below, one LUNA 8 is connected.]

State	Device Name	Universe	OUT / IN	ms / FPS	Frames	Device	
On 🗧	MADRIX LUNA 8 #LUNA000013 - DMX 01		OUT	30/33.3	Optimized		
On	MADRIX LUNA 8 #LUNA000013 - DMX 02	2	OUT	30/33.3	Optimized		
On 🗧	MADRIX LUNA 8 #LUNA000013 - DMX 03	3	OUT	30/33.3	Optimized		
On	MADRIX LUNA 8 #LUNA000013 - DMX 04	4	OUT	30/33.3	Optimized		
) On	MADRIX LUNA 8 #LUNA000013 - DMX 05	5	OUT	30/33.3	Optimized		
On	MADRIX LUNA 8 #LUNA000013 - DMX 06	6	OUT	30/33.3	Optimized	C. Collinson	
) On	MADRIX LUNA 8 #LUNA000013 - DMX 07	7	OUT	30/33.3	Optimized	Settings	
On	MADRIX LUNA 8 #LUNA000013 - DMX 08	8	OUT	30/33.3	Optimized	Enable	Output 1
Off 🗧	MADRIX LUNA 8 #LUNA000013 - DMX-IN		N	30/33.3			Input 🔤
						Fr	universe : 1 ∓ ame Time (ms) : 30 ∓ FPS : 33.3 Send Full Frames 등

- Select MADRIX LUNA DMX-IN in the list.
- Activate *Enable*
- Input is automatically selected.
- Click Apply

State	Device Name	Universe	OUT / N	ms / FPS	Frames	Device
On	MADRIX LUNA 8 #LUNA000013 - DMX 01		OUT	30/33.3	Optimized	MADRIX LUNA 8 #LUNA000013 - DMX-IN
On	MADRIX LUNA 8 #LUNA000013 - DMX 02	2	OUT	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 03	3	OUT	30/33.3	Optimized	Revision: 0105 Serialnumber: LUNA000013
On	MADRIX LUNA 8 #LUNA000013 - DMX 04	4	OUT	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 05	5	OUT	30/33.3	Optimized	
On	MADRIX LUNA 8 #LUNA000013 - DMX 06	6	OUT	30/33.3	Optimized	Cattleon
On	MADRIX LUNA 8 #LUNA000013 - DMX 07	7	OUT	30/33.3	Optimized	Security Control D
On	MADRIX LUNA 8 #LUNA000013 - DMX 08	8	OUT	30/33.3	Optimized	Enable Output
On	MADRIX LUNA 8 #LUNA000013 - DMX-IN		N	30/33.3	-	Input iz
						Universe : 258 🗮
						Frame Time (ms) : 💦 🕄 🕄
						FPS: 33.3
						Send Full Frames

If required, change the Frame Time (ms)

The higher the Frame Time, the lower the FPS will be. The lower the Frame Time, the higher the FPS will be. The default Frame Time is 33.

Press **Apply** to confirm.

6] Activating DMX Input

Go to Preferences > Device Manager... > DMX Input

Device Manager						
DMX Devices	VI Devices	DMX Input Art-Net MIDI Audio Input Visualizer				
State	Universe	Device Name		Mapping	Remote Control	Mapping
😑 Off	1			Off	Off	Remote
e off	2			Off	Off	
😑 Off	3			Off	Off	
e Off	4			Off	Off	
e Off	5			Off	Off	
e off	6			011	Off	
e Off	7			011	011	
e Off	8			011	011	
- Device			r Rende	Control		
607760	DMX-IN Dev	áre:	1 Car	CONIG		
	Chieffer		-		Stad & dilyana 1	- L
Mapping					Start Address :	-
Map C	hannels From :	1 ∓ To: 512 ∓				
	To Universe :	1 🗮 Start At Channel: 1 🗮				
		Use HTP				PMV Matcher
					Ŷ.	CHINE PROCESSION
FF F F F F F F F F F	1000000			OK	Analy Car	rcel Help
				- Off	- (4pr) - (40	roop

- Select your preferred DMX Universe in the list.
 [By default, DMX universe 1 to 8 are listed. If you wish to increase the number of DMX-IN universes, you can change the setting. Learn more »Performance]
- Choose your DMX-IN Device in the section Device. Select MADRIX LUNA DMX-IN

J Device Manag	Device Manager					
DMX Devices	DVI Devices DMX	Input Art-Net MIDI Audio Input Visualizer				
State	Universe	Device Name	_	Mapping	Remote Control	Mapping
👄 On	1	MADRIX LUNA 8 #LUNA000013 - DMX-IN		Off	Off	Remote
Off	2			Off	Off	
e Off	3			Off	Off	
Off	4			Off	Off	provide the second second
e off	5			Off	Off	
e off	6			Off	Off	
e off	7			Off	011	
e off	8			Off	011	and the second state of the
Device			Remot	Remote Control		
	DMX-IN Device	MADRIX LUNA 8 #LUNA000013 - DMX-IN	-	None 0 Channel	\$	Edt
r Mapping					Start Address :	E .
Map C	Channels From :	1 🚛 To: 512	3			
	To Universe :	1 📰 Start At Channel : 1	=			
	5	Use HTP			Ð	Watch Universe
e 🖥				ок	Apply Car	ncel Help

- DMX-IN is now activated. MADRIX can already receive DMX data.
- Now, choose how to use incoming data. Learn more »<u>DMX-IN</u>

Status Indicators [ArtAddress]

In order to use these features, please *Enable* ArtAddress first.

[Please make sure that your nodes fully support this Art-Net feature, such as MADRIX LUNA, MADRIX NEBULA, MADRIX PLEXUS, MADRIX STELLA. You will also get notified by a message box. Confirm the message with **OK** or abort via **Cancel**.]



Mute Status Indicators - Switches off and disables all built-in status indicators of a device over Art-Net [ArtAddress > AcLedMute].



Operate Status LEDs Normally - Allows the built-in status indicators of a device to operate normally again, after having them switched off [ArtAddress > AcLedNormal].



Highlight Device - Activates the highlight mode [ArtAddress > AcLedLocate]. Select one or more interfaces and click the button. The corresponding status indicators of the selected interfaces will flash for a better identification or tests. This makes it easier to see them on site/stage. It considerably speeds up the procedure of programming or testing the selected interfaces.

DMX Watcher



DMX Watcher - Opens the DMX Watcher to monitor your DMX output or input under **Preferences > Device Manager... > DMX Devices Watch Universe -** Appears when you have selected a list item. The DMX Watcher will open with the particular DMX Universe already entered. Learn more »Tools

Automatic HTP Merging

Overview

MADRIX LUNA features automatic HTP merging from 2 Art-Net sources.

[Usually, the first source will be MADRIX. The second source could be a console, for example.]

- Data from both source will be merged together and sent out as 1 signal. This happens across all 8 output ports and by using the HTP principle.
- *HTP* Is the acronym for Highest Takes Precedence. Data from both sources will be compared for each individual channel. The higher value wins per channel.
- **Example:** We are using an LED fixture with a total of 5 control channels [3 color channels and 2 movement channels]. MADRIX should provide the color data for channels 1 to 3 and the console should provide the

MADRIX LUNA

movement data for channels 4 and 5. Using the MADRIX Fixture Editor, we could create a corresponding fixture where channel 4 and 5 are set up as *Fixed* channel using always a value of *0*. On the other hand, the console will always send a value of *0* for the first 3 channels of each fixture. This will ensure that the data from the console will always provide the higher value on channels 4 and 5, while MADRIX provides the color data. Due to the automatic HTP merging of the device, the LED fixture will receive correct data from both sources as desired.

Configuration And Recommendations

- 1] Correctly set up and enable Art-Net for each source.
- 2] Make sure to activate Sync Mode for Art-Net in MADRIX. Learn more Sync Mode
- 3] Make sure that MADRIX has a **lower IP address** compared to the second source.
- [E.g., 2.0.0.1 compared to 2.0.0.20]

4] Always use *Direct IP Mode* to directly send data to the correct IP addresses of your MADRIX LUNA devices. [It is not recommend to have any of the two sources or any other source in the network to send data via Broadcast Mode.]

Reset To Factory Default Settings

Reset Via Reset Button

- Disconnect MADRIX LUNA from power.
- Use a suitable tool to press the reset button on the unit's back side.
- Continue to press the reset button and connect to power again.
- Continue to press the reset button and wait until all status LEDs on the front of the device flash repeatedly or wait 10 seconds.

Reset Via USB [MADRIX LUNA Updater]

- Connect MADRIX LUNA to power.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer via USB. [Use the provided USB cable.]
- Close the MADRIX software.
- Start the separate MADRIX LUNA Updater tool.
 [In Windows, go to Start > All Programs > MADRIX 3 > Tools > MADRIX LUNA Updater]
- In the MADRIX LUNA Updater, click Reset To Factory Default Settings
- Wait for the reset process to end [usually it takes only seconds]. Learn more <u>MADRIX LUNA Updater</u>



Update Via USB

- Connect MADRIX LUNA to power.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer via USB. [Use the provided USB cable.]
- Start the MADRIX software.
- Open the MADRIX Device Configuration window. Go to Tools > MADRIX Device Configuration...
- Click connected devices and your device will appear in the list.
- Select your device in the list and click *Firmware*
- Wait for the process to end [usually it takes only seconds].
- Disconnect MADRIX LUNA from power and connect again.
- [You can also use the MADRIX LUNA Updater. Learn more MADRIX LUNA Updater]

Update Via Ethernet

- Connect MADRIX LUNA to power.
 [Please see safety instructions in the MADRIX LUNA Quick Start Guide!]
- Connect MADRIX LUNA to your computer via Ethernet network.
- In MADRIX, go to Preferences > Device Manager... > Art-Net
- Activate Art-Net
- Click
 DMX-OUT Via Ethernet Network [Art-Net]
- Select the device in the list. Click
 A new window opens.
- Click *Firmware*
- The update process will starts.

The MADRIX logo on the front of the device will start to flash and the firmware will be updated.

• Wait for the process to end [usually it takes only seconds].

LED Status Codes

The following tables describe the LED status codes on the front of the device.

STATUS	POWER
Powered off	Power cable not connected. ' The device has no power.
Permanently green	Connected to power. ' The power is on.

STATUS	ETHERNET	USB

Powered off Ethernet not connected or the device has no power.		USB not connected or the device has no power.
Permanently green	Connected to Ethernet. ' No data is sent or received over Ethernet.	Connected to USB. ' No data is sent or received over USB.
Blinking green	Communicating over Ethernet. ' Sending or receiving data over Ethernet.	Communicating over USB. ' Sending or receiving data over USB.

STATUS	DMX-IN	DMX-OUT
Powered off	DMX not connected or the device has no power.	DMX not connected or the device has no power.
Blinking green	Receiving data via DMX-IN. ' The device works correctly.	Sending data to DMX OUT. ' The device works correctly.

Web Configuration

When connected to Ethernet network, you can easily configure MADRIX LUNA using a web configuration interface.

You have 2 options to access the web interface:

A] Open your web browser and enter the IP address of MADRIX LUNA. [Both, LUNA and your computer, need to be in the same network.]

B] Use MADRIX.

- Go to *Preferences > Device Manager... > Art-Net* [Keyboard shortcut: *F4 > Art-Net*]
- Select your MADRIX LUNA device in the list.
- Click C HTTP
- Your default web browser will open.
- Now, you have access to various information and settings.

	LUNA		
Device Information			
Model	MADRIX LUNA 8		
Serial Number	LUNA000013		
Firmware	1.5.6298		
Hardware	1.0		
Build Date	Sep 6 2016 14:00:19		
IP Address	10.206.224.13		
MAC Address	40:D8:55:05:E0:0D		
Device Name			

MADRIX LUNA

MADRIX LUNA 8							
		Set					
Device Settings							
IP Address	10 🔶 . 206	÷ . 224≑ . 13≑					
Subnet Mask	255 🚖 . 🛛 0 🗧	╡					
		Set					
DMX Output Set	tings						
Output Port	Art-Net Universe	Send Always Full Frames (512 CH)					
DMX 1	1 🗧						
DMX 2	2÷						
DMX 3	€						
DMX 4	4 🔶						
DMX 5	\$						
DMX 6	6÷						
DMX 7	70						
DMX 8	8						
		Set					
DMX Input Setti	nas						
DMX-IN Port	Send To Art-Net	Universe					
Full Frames	Send Always Full Frames (512 CH) to Art-Net						
Broadcast Mode	0						
Direct IP Mode	255 ÷ . 25	5 <mark>순 . 255</mark> 순 . 255					
		Set					
Refresh							
For more information visit www.madrix.com							

Device Information This section displays various details about the device, including:

- Model [Device type]
- Serial Number
- Firmware [Current firmware version]
- Hardware [Hardware model]
- Build Date [Firmware creation date]
- IP Address [Current IP address]
- MAC Address [A permanent, unique address]

Device NameYou can change the description of the device. Enter a name and confirm your input withSet. This label is only shown in this web interface.

Device Settings	You can c	change the	IΡ	address	and	Subnet	Mask.	Enter	the	specific	addresses	and
	confirm wi	ith Set .										

DMX Output Settings This section shows specific settings for the DMX output ports [DMX 1 - 4/8/16]. By default, Art-Net universe 1 - 4/8/16 are assigned to DMX 1 - 4/8/16. [This is the recommended setting when using one MADRIX LUNA].

If you are broadcasting data for a large number of Universes [using Broadcast Mode instead of using Direct IP Mode] with MADRIX or a 3rd-party controller for example, you can assign different DMX universes to each LUNA device with these settings. Each MADRIX LUNA will then only receive data from the specific Art-Net universe and send it to its specified output port. Example: You can set up that LUNA 8 #1 only listens to Art-Net universe 1 - 8, while LUNA 8 #2 listens to Art-Net universe 9 - 16, and LUNA 8 #3 listens to Art-Net universe 17 - 24, and so on.

Send Always Full Frames (512 CH) - Is another specific setting. The XLR DMX output port will always send out 512 channels, even if the data sent to LUNA includes less than 512 channels for this port and universe. LUNA automatically sends values of 0 on channels that are not used.

DMX Input SettingsThis section allows you to specify settings for DMX input.When data is received through the DMX-IN port, MADRIX LUNA will automatically
forward it to Ethernet network.

LUNA can receive 512 channels via the DMX-IN port. Use **Send To Art-Net Universe** to specify on which Art-Net universe those 512 channels are sent. By default, **256** is selected. Valid values range from 1 to 256.

Send Always Full Frames (512 CH) To Art-Net - Is another specific setting. The XLR DMX input port will always send out 512 channels, even if the data sent to LUNA includes less than 512 channels for this port and universe. LUNA automatically sends values of 0 on channels that are not used.

Additionally, choose to how MADRIX LUNA sends the data into the network:

- Use *Broadcast Mode* if LUNA should sent to all IP addresses in the network.
- Use *Direct IP Mode* to specify one recipient, e.g. your MADRIX computer [Enter the IP address of your MADRIX computer].
- Confirm with Set

MADRIX Device Configuration

You can access all information and settings of the web configuration in MADRIX using the MADRIX Device Configuration window.

 In MADRIX, go to Tools > MADRIX Device Configuration... [Keyboard shortcut: Ctrl+Alt+L]



 Scans the USB ports of your computer and the network for connected MADRIX LUNA devices. If devices are found, they will be shown in the list.

- To see USB devices, you need to enable LUNA USB drivers first [they are activated by default]. Learn more »<u>Devices USB</u>

- To see network devices, you need to enable LUNA networking drivers [they are activated by default] and connect MADRIX LUNA and your computer to the same network first. Learn more »<u>Devices Network</u>



нтти

 Allows you to change the settings of your device. Apply your changes by confirming with Set

Refreshes already connected devices and brings the information in the list up to date.

 Enables remote access to the web configuration as explained above. MADRIX LUNA needs to be connected via Ethernet [network connection required]. First, connect your computer and the MADRIX LUNA to one and the same network. Second, select your MADRIX LUNA in the list. Third, click this button. A web browser opens automatically.



Save

- Imports the MADRIX LUNA Device Settings from an external file [of the file type *.mldx]. Use this option to easily restore all device settings from a file [as described below].
- Exports the MADRIX LUNA Device Settings to an external file [of the file type *.mldx]. Use this option to easily store all device settings in a file. Simply enter a name in the window that opens and click 'Save'.

Updates the firmware of your MADRIX LUNA if a newer firmware is available [USB connection required].

Learn more Web Configuration

MADRIX LUNA Updater

Overview

MADRIX LUNA Updater is a separate tool only for MADRIX LUNA.

Usage

🔰 MADRD	LUNA Updater					
		Jpdater		State	Information	
Firmware :						
LUNA	Туре	MADRIX	~			
	Update LU	NA Firmware				
	Reset To Factor	y Default Settings				
		j [2222222222222]	*******			

MADRIX LUNA Updater can be used for several, specific tasks.

Update LUNA Firmware

Updates the firmware of all LUNA devices that are connected to the computer via USB. First, select the correct firmware in the list above this button [Example: *LUNA 1.0.000 Type V1.0 MADRIX 3.0*]. Second, click the button. Third, disconnect the power after updating in order to restart the device.

 Reset To Factory Default Settings
 Resets all settings of all LUNA devices that are connected to the computer via USB to the standard values. Use this function to restore the original settings of the device. • Additional information on the status of the performed functions will be given on the right side of the window. Information is displayed from down to top [the latest information is shown at the top].

Available Firmware Updates

LUNA Firmware	MADRIX Version	Release Date		
1.00.4547	MADRIX 3.0	July 2013		
1.01.4555	MADRIX 3.1	November 2013		
1.02.4946	MADRIX 3.2	March 2014		
1.03.5043	MADRIX 3.3	November 2014		
1.04.5298	MADRIX 3.3a	December 2014		
1.05.5501	MADRIX 3.4	June 2015		
1.05.5997	MADRIX 3.6	May 2016		
1.05.6298	MADRIX 3.6b	September 2016		
1.05.6996	MADRIX 3.6d	December 2016		

Important Notes

- If new drivers and a new firmware are available for the MADRIX LUNA, please always update the firmware first and then the drivers!
- MADRIX LUNA Updater does not work when MADRIX is running. Please close MADRIX and restart MADRIX LUNA Updater.

Where To Find The MADRIX LUNA Updater

The MADRIX LUNA Updater is included in the MADRIX Installer. After installing MADRIX, you can find a link to the MADRIX LUNA Updater in the Windows Start menu:

Start > All Programs > MADRIX 3 > Tools > MADRIX LUNA Updater

The original, executable program can be found in the MADRIX installation directory:

C:\Program Files (x86)\MADRIX3

MADRIX LUNA

MADRIX 3.6d

[Ctrl & +/-] = Zoom In/Out | [Ctrl & 0] = 100%

Print Previous Next