



eDMX MAX

Configuration Utility

v2.3 Release

USER MANUAL

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1. CONFIGURATION UTILITY

The eDMX MAX Configuration utility provides an interface to all device parameters. Microsoft Windows 10 & 11 and macOS 10.13+, 11, 12, 13 and 14 are supported. Not all features are available in the macOS version and there are some visual differences.

All MAX series DMXKing hardware, including ultraDMX MAX, is supported along with previous generation eDMX PRO series hardware (minimum firmware v3.3 required).

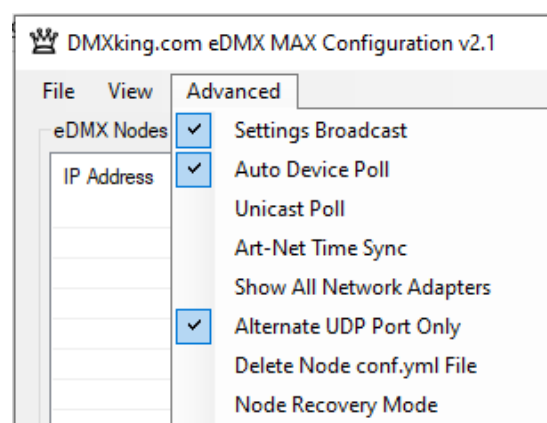
Some configuration items may not be applicable to earlier firmware versions and it is recommended to update to the latest available firmware. Configuration items unavailable in device firmware will simply refuse to change value when updated.

NETWORK / USB SELECTION

Firmware v4.3+ supports configuration over USB in addition to configuration over network. Select Network or USB in the Node Communication box. Refresh List will update the available COM ports. Network Adapter IP list is only updated upon application startup.

The image shows two screenshots of the eDMX MAX Configuration utility's Node Communication section. The top screenshot shows 'Network' selected, with 'COM1' as the Selected COM Port, '192.168.0.5' as the Selected Network Adapter IP, '255.255.255.0' as the Subnet Mask, and 'Intel(R) I210 Gigabit Network' as the network adapter. The bottom screenshot shows 'USB' selected, with 'COM61' as the Selected COM Port, and the same IP and Subnet Mask values. The network adapter list is empty in the USB mode.

eDMX MAX Configuration connects to networked nodes using primary Art-Net UDP port 6454 or an alternate UDP port 16454 port for device configuration. This is helpful when simultaneously running eDMX MAX Configuration and a lighting control application to avoid UDP port conflict. Automatic selection of alternate port is performed upon utility startup if the primary Art-Net port is unavailable. It is also possible to lock eDMX MAX Configuration to alternate port via the Advanced menu. Note that DMXKing nodes are always listening on both primary and alternate ports so there is no device configuration required to switch between UDP ports.



eDMX MAX Node configuration can be saved/loaded from a simple Key:Value YML file. Select the node and perform Load/Save accessible in the File menu. Configuration files can be loaded upon device startup from a file named "conf.yml" stored on an optional SD card however updates made to configuration are not saved by the node back to the conf.yml file. This is intended as

a deployment mechanism where complete device configuration and show content can be prepared externally on an SD card for installation on a device.

NETWORK TAB

The screenshot shows the 'eDMX MAX Configuration v2.3' window. The 'Network' tab is active, displaying configuration for a selected node (IP: 192.168.0.112, Short Name: eDMX4 MAX 360B62). The interface includes a menu bar (File, View, Advanced), a left sidebar for 'eDMX Nodes' with a search and broadcast controls, and a main area with tabs for Network, Port A, Port B, Port C, Port D, Settings, and Recorder. The 'Network' tab contains fields for Node MAC Address (00:1A:19:36:0B:62), Current IP Address (192.168.0.112), and Port (6454). It also has sections for Network Settings (IP Address, Subnet Mask, Default Gateway), Network Mode (Static IP selected), IGMPv2 settings, Firmware Status (Application selected), and Node Information (Hardware: eDMX4 MAX DIN, Firmware Version: 4.7). A 'Commands' section includes 'Update Network Settings' and 'Firmware Update' buttons. Below the main configuration is a 'Node Communication' section with 'Network' selected and 'COM1' as the port. At the bottom, there is a 'Node Report' and an 'ArtNet Messages' table.

Time	Type	Source	ArtNet Messages
23/03/2024 7:50:40 AM	Received	192.168.0.112	PollReply
23/03/2024 7:50:40 AM	Received	192.168.0.112	PollReply
23/03/2024 7:50:40 AM	Received	192.168.0.112	PollReply
23/03/2024 7:50:40 AM	Received	192.168.0.112	PollReply

eDMX MAX Configuration can find and configure eDMX MAX nodes on different IP subnets from the computer network adapter using Settings Broadcast mode. Some functions such as the Recorder require both node and computer on the same IP subnet range e.g., Computer IP 192.168.0.100 Subnet 255.255.255.0 Gateway 192.168.0.254 and eDMX MAX on default IP 192.168.0.112 Subnet 255.255.255.0.

Direct connection through a USB Virtual COM Port connection is also possible with firmware v4.3 onwards. It is recommended to try USB Node Communication if Network is unsuccessful and ascertain what the current Network Settings are to assist with diagnosing issues.

Upon startup eDMX nodes are automatically detected and displayed by IP address. To poll for new devices or just check the communications is okay by clicking the **Search** button which will first clear all listed nodes. Polling is automatic every 8 seconds but can be disabled through the **Advanced | Auto Device Poll** menu option. **Mute Responses** option prevents any new nodes from being listed regardless of their status on the network. With large node counts this can be helpful to prevent unwanted eDMX Node list updating.

Click on an eDMX Node entry and all settings will be retrieved. Note that if no response is received the Network tab settings will be greyed out and no additional tabs available. An activity box shows both transmitted and received ArtNet messages to help

with diagnosing communication issues. If your network configuration has multiple adapters and/or IP addresses you should select the same network range as the eDMX from the **Network Adapter IP Address** dropdown box and also ensure the subnet mask matches.

Node firmware status is indicated however this will always show Application unless Node Recovery Mode is used.

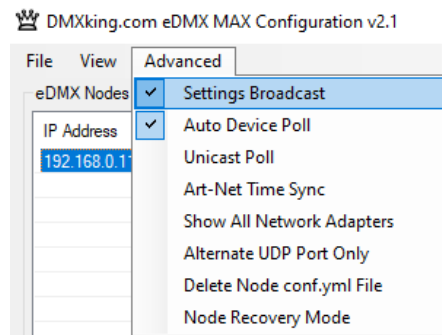
Firmware Status

☐ Boot Loader

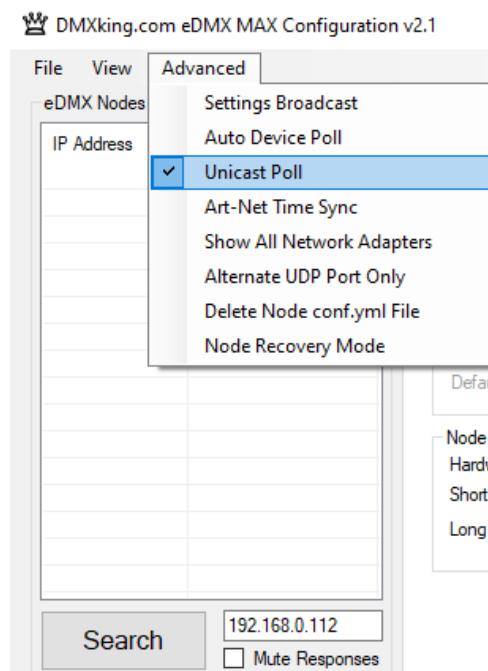
☒ Application (Hash OK)

☐ Boot Loader Updater

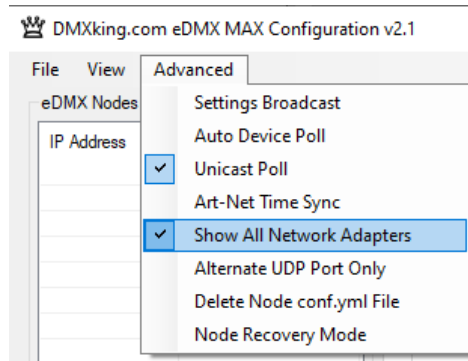
Settings Broadcast is supported by eDMX MAX which allows node settings to be updated regardless of the network adapter subnet range. This can be enabled or disabled through menu item **Advanced | Settings Broadcast**.



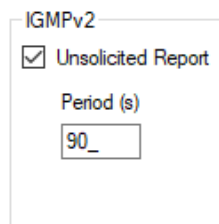
Unicast single node discovery and configuration is possible by selecting **Advanced | Unicast Poll** and entering the destination IPv4 address then click Search. This will function over routed networks assuming the applicable **Default Gateway** has been specified in Network Settings. Both Settings Broadcast and Auto Device Poll are not applicable to Unicast Poll operation.



Some network adapters, such as some VPN virtual adapters, are not listed as standard Ethernet type and will not be included in the Network Adapter list. By default this list excludes non-Ethernet types but optionally all filtering can be disabled with **Advanced | Show All Network Adapters** (requires application restart to take effect). Typically used in conjunction with Unicast Poll for accessing remote eDMX nodes through certain VPN adapters.



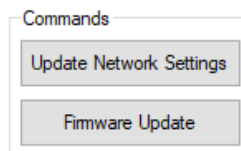
eDMX MAX nodes provide IGMPv2 Reports necessary to participate in a multicast environment as necessary for correct operation in sACN/E1.31 protocol environments. Sometimes due to network infrastructure issues an IGMP querier is not present and in these situations, optionally the node can generate ongoing unsolicited IGMPv2 Reports to maintain open multicast traffic routes through IGMP snooping network switches.



To make changes click **Update Network Settings**.

FIRMWARE UPDATE - WINDOWS

Selecting **Firmware Update** will prompt for an appropriate firmware file and upload upon confirmation. All eDMX hardware includes a built-in network boot loader permitting user updating of eDMX firmware. eDMX MAX hardware with bootloader v1.2+ also includes a built-in USB boot loader (check boot loader version in Node Recovery Mode). Note only signed encrypted firmware files from DMXKing.com can be successfully loaded to ensure you won't brick your device by accident. Future firmware releases for this product will be in the form *-500-VersionMajor.VersionMinor.enc



FIRMWARE UPDATE - MACOS

Firmware Update on the macOS version does not support fully automatic uploading and will only place the target eDMX unit into boot loader mode ready for manual tftp file transfer. Updating firmware via USB is not supported thus ultraDMX MAX may only be updated using the Windows utility and all other MAX series devices can only be updated over a network connection.

1. Download eDMX_MAX_Firmware.zip from dmxking.com
2. Unzip the file by double click
3. Launch a terminal shell (Launchpad -> Other -> Terminal)
4. Place the MAX device into boot loader mode by selecting Firmware Update
5. Follow the highlighted commands below making changes for the device IP address and firmware file accordingly

```
name@MAC ~ % cd Downloads/eDMX_MAX_Firmware
```

```
name@MAC eDMX_MAX_Firmware % tftp -e 192.168.0.112
```

```
tftp> put 0129-500-4.7.enc firmware.enc
```

Sent NNNNNN bytes in N.N seconds in N blocks

```
tftp> quit
```

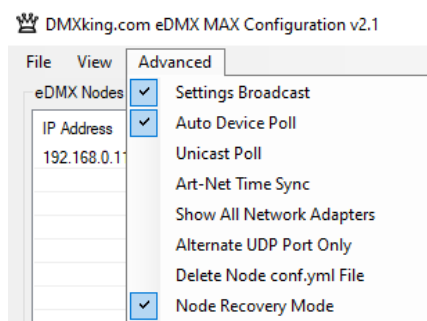
The firmware file download contains all available versions for both PRO and MAX series hardware. Filename format is PPPP-500-N.N.enc where PPPP is the product part number and N.N the firmware version. Reference below for product numbers.

Product	Part Number	Example filename (v4.7 firmware)
eDMX1 MAX DIN	0125	0125-500-4.7.enc
eDMX4 MAX DIN	0126	0126-500-4.7.enc
eDMX8 MAX DIN	0127	0127-500-4.7.enc
LeDMX2 MAX	0128	0128-500-4.7.enc
LeDMX4 MAX	0129	0129-500-4.7.enc
eDMX4 MAX ISODIN22	0130	0130-500-4.7.enc
eDMX1 MAX	0132	0132-500-4.7.enc
eDMX2 MAX	0133	0133-500-4.7.enc
eDMX4 MAX	0134	0134-500-4.7.enc

NETWORK TAB – NODE RECOVERY MODE / DEVICE OPTIONS

eDMX MAX nodes include a Recovery Mode which allows device Firmware Status to be checked and new application firmware to be loaded if a complete factory reset has been performed by the user. Holding the Factory Reset button on power up will wipe the application firmware.

Node Recovery Mode can be activated through menu item **Advanced | Node Recovery Mode**. It is not possible to configure device parameters other than IP network settings and Device Options when in Node Recovery Mode. UDP Port 6456 is used for Node Recovery Mode operations.



DMX-OUT Options:

- **Async Update Rate** adjusts DMX512 frame output rate independent of incoming Art-Net/sACN/USBDMX. This is overridden by Universe Sync messages if the lighting controller produces them.
- **Merge Mode** selects how 2 Art-Net/sACN/USBDMX streams of the same DMX512 Universe are merged together.
- **Full DMX Frame** will expand the incoming Art-Net/sACN/USBDMX stream to all 512 channels if there are fewer channels available by filling them with zeros.

DMX-OUT RDM Settings:

- **RDM Enable** configures the port to allow RDM functionality.
- **Discovery Period** adjusts the time between RDM device discovery operations. Set to 0 seconds will disable RDM operation in firmware earlier than v4.6. From v4.6 onwards RDM Enable setting should be used.
- **Packet Spacing** adjusts how frequently RDM packets can interrupt the normal DMX512 stream. Setting this to 0 will allow the fastest possible RDM operation but at the expense of DMX512 frames being cut out.

***RDM functionality requires MAX firmware v4.6+**

DMX512 Universe:

- **DMX512 Universe** is the sACN Universe 1-63999 assigned to this DMX Port. Art-Net Port-Address is automatically overlayed with sACN Universe and displayed for convenience. DMXKing products map sACN Universe 1 to Art-Net Port-Address 00:0:0.
- Multiple DMX Ports may be configured to the same DMX512 Universe.

Port Operation Mode:

- **Timeout all sources** provides an optional override of normal Art-Net defined behavior which specifies a DMX port shall output the last received Art-Net frame forever until another is received. This is used in conjunction with **Failsafe Mode** option which is described below.
- **Channel Offset** performs re-mapping of incoming ArtNet/sACN/USBDMX stream(s) by pushing channel 1 up to channel 1+N. When channel 1+N exceeds 512 the extra incoming stream channels are ignored/lost. Setting to 0 will disable Channel Offset.

DMX-OUT Failsafe Mode:

- **Hold Last.** Last received ArtNet/sACN/USBDMX universe frame is held forever until a new frame is received. **Timeout all sources** must be disabled for **Hold Last** to function otherwise the DMX port will cease output after a 3 second timeout period.
- **Snapshot Scene.** Recall saved Snapshot DMX frame for this channel when all sources have timed out. **Timeout all sources** must be enabled for **Snapshot Scene** recall to function.
- **Outputs Zero.** Set all DMX channel levels to zero when all sources have timed out. **Timeout all sources** must be enabled for **Outputs Zero** to function.
- **Outputs Full.** Set all DMX channel levels to full level when all sources have timed out. **Timeout all sources** must be enabled for **Outputs Full** to function.
- **Recall DMX snapshot at startup.** DMX port will output saved snapshot upon device power up. **Timeout all sources** will be ignored until a new ArtNet/sACN/USBDMX universe frame is received so it is possible to recall the DMX snapshot upon device power up and optionally failsafe DMX snapshot when universe frame reception stops.
- **Snapshot DMX** records the current DMX output for this port into non-volatile memory.

DMX-IN MODE

Network Port A Port B Port C Port D Settings Recorder

DMX-OUT Options

Async Update Rate - 40hz

Merge Mode

☒ Highest Takes Priority (HTP)

☐ Latest Takes Priority (LTP)

☐ Full DMX Frame

DMX-IN Options

Broadcast Threshold - 0

Unicast IP 0.0.0.0 ☐ Full DMX Frame

sACN Priority - 100

DMX-OUT RDM Settings

☐ RDM Enable

Discovery Period - 0s

Packet Spacing - 0.05s

Port Operation Mode

☐ DMX-IN Art-Net ☐ USB DMX Forward

☒ DMX-IN sACN ☐ USB ArtNet/sACN Fwd

☐ DMX-OUT ☐ DMX Decelerator

☐ Timeout all sources Channel Offset 0

DMX-OUT Failsafe Mode

☒ Hold Last ☐ Snapshot Scene

☐ Outputs Zero ☐ Outputs Full

☐ Recall DMX snapshot at startup

Snapshot DMX

DMX512 Universe

DMX512 Universe 1 Art-Net Port-Address 00 0 0

Update

DMX-IN Options:

- **Broadcast Threshold** determines how many Art-Net devices (unicast subscribers) on the same DMX Universe should receive unicast ArtDmx packets before falling back to broadcasting ArtDmx packets. Set this to zero to always broadcast ArtDmx packets. No effect on DMX-IN sACN operation mode. This setting is only visible on Port A and applies to all DMX ports on the node.
- **Unicast IP.** Specified destination IP address for received DMX frames. This IP address does not have to be on the local subnet and will route through default gateway. Set to IP 0.0.0.0 to disable Unicast IP.
- **Full DMX Frame** will expand the incoming DMX512 frame to all 512 channels if there are fewer channels available by filling them with zeros.
- **sACN Priority** sets the priority value tagged to sACN stream data for the DMX-IN port.

Port Operation Mode:

- **USB DMX Forward** enables DMX-IN frames to be directed over USB DMX. Only 1 DMX port can be selected since there is no universe tag.
- **USB ArtNet/sACN Forward** enables DMX-IN frames to be directed over USB DMX using ArtNet/sACN messages. Currently only DMX Display utilizes this forwarding option.
- **Timeout all sources.** When enabled and DMX512 input on the port stops the outgoing ArtNet/sACN/USBDMX stream will end after 3 seconds.
- **Channel Offset.** Incoming DMX512 is re-mapped so channel 1 is pushed up to channel 1+N on the outgoing ArtNet/sACN/USBDMX stream. When incoming DMX512 channel 1+N exceeds 512 the following channels are ignored/lost. Setting to 0 will disable Channel Offset.

SETTINGS TAB – DMX512 PORT SETTINGS

Network Port A Port B Port C Port D Settings Recorder

DMX512 Port Settings

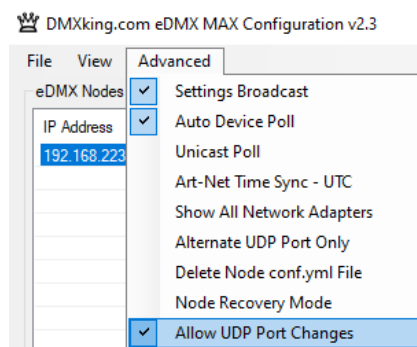
ArtNet Port: 6454_ Break Time: 177us

RDM Controller IP: 0.0.0.0 MAB Time: 12us

RDM Controller Port: 6454_

Update

- **ArtNet Port** allows default UDP port to be changed. Do not change unless you know exactly what this does.
- **RDM Controller IP** locks RDM messaging to only this address with unicast traffic which permits routed RDM over ArtNet where the controller can be remote on another subnet. Leave at 0.0.0.0 for normal RDM over ArtNet operation.
- **RDM Controller Port** allows default UDP port for RDM over ArtNet messages to be changed. Do not change unless you know exactly what this does.
- **Break Time** adjusts DMX512 line break duration. Minimum 176us to comply with RDM requirements.
- **MAB Time** adjusts DMX512 line mark after break duration.



By default UDP Port changes are disabled to prevent accidental change. Enable changes using Allow UDP Port Changes in the Advanced menu.

SETTINGS TAB – LEDMX SETTINGS

LeDMX MAX devices also include additional settings on the Settings Tab.

The screenshot shows the 'Settings' tab in the LEDMX interface. It contains two main sections: 'LeDMX Settings' and 'DMX512 Port Settings'. The 'LeDMX Settings' section includes sliders for 'Async Update Rate' (set to 30hz), 'Master Level' (set to 255), 'Alt. Master Level' (set to 255), and a text input for 'Alt. mapping priority threshold' (set to 0). The 'DMX512 Port Settings' section includes text inputs for 'ArtNet Port' (6454), 'RDM Controller IP' (0.0.0.0), and 'RDM Controller Port' (6454), along with sliders for 'Break Time' (177us) and 'MAB Time' (12us). Both sections have an 'Update' button.

- **Async Update Rate** adjusts Pixel output rate independent of incoming Art-Net/sACN/USBDMX. This is overridden by Universe Sync messages if the lighting controller produces them.
- **Master Level.** Pixel output master level control for all ports. Has no effect for Raw Color Order modes and is overridden by Playback Universe Master Level (see eDMX MAX Recorder Manual).
- **Alternate Master Level.** Pixel output master level control for all outputs when Alternate Mapping is in effect. Has no effect for Raw Color Order modes.
- **Alternate mapping priority threshold.** sACN Priority below which pixel Alternate Mapping parameters are used if no higher Priority sACN stream is present. Threshold is only assessed on the Start Universe for a pixel port. When incoming stream priority is > threshold then Primary mapping applies. Priority <= threshold Alternate mapping applies. For Primary source 100 Priority and Alternate source 50 set threshold between 50 and 99 for example.

PORT TAB – LEDMX PIXEL PORT

The screenshot shows the 'Port 1' tab in the LEDMX interface. It contains two main sections: 'Pixels' and 'Mapping'. The 'Pixels' section includes a dropdown for 'Pixel Type' (WS2811), text inputs for 'Pixel Count' (170), 'Null Pixels' (0), and a dropdown for 'Colour Order' (GRB). The 'Mapping' section is divided into 'Primary Mapping' and 'Alternate Mapping'. 'Primary Mapping' includes text inputs for 'Start Universe' (1), 'Start Channel' (1), 'Pixel Group Size' (1), 'ZigZag' (0), and a checkbox for 'Direction' (Reverse). 'Alternate Mapping' includes text inputs for 'Start Universe' (5), 'Start Channel' (1), 'Pixel Group Size' (1), 'ZigZag' (0), and a checkbox for 'Direction' (Reverse). Both sections have a 'Disable Full Mapping' button and an 'Update' button.

Pixels:

- **Pixel Type.** Match your connected Pixel type or an equivalent type. There are clock speed options for many pixel types and recommend slower clock rates for longer cable runs.
- **Pixel Count.** Number of physical pixels in the string. Maximum depends on number of channels per pixel which depends on the Color Order setting. RGB = 1020, RGBW = 768, 2ch = 1536, 1ch = 3072, Raw I+3ch = 768, RGB 16bit = 510, RGBW 16bit = 384.
- **Null Pixels.** Number of pixels to ignore at the start of the pixel strip. Minimum 0. Maximum 16. Commonly used to extend the drive distance from source to the first active pixel.
- **Color Order.** DMX channel mapping to pixel elements. RGB, RBG, GRB, GBR, BRG, BGR, raw 1/2/3/4/5ch, 2ch swapped, RGBW, WRGB, WRBG, GRBW, Raw I+3ch, Raw 3ch 16bit, Raw 4ch 16bit, RGB 16bit, RGBW 16bit.

Primary Mapping:

- **Start Universe.** Art-Net/sACN Universe pixels start mapping from with automatic rollover into subsequent universes
- **Start Channel.** Pixels start mapping from specified channel. Must be 1+ multiple of pixel channel count. **Start Channel** has no effect when **Color Order** is Raw type.
- **Pixel Group Size.** Multiple sequential pixels can be grouped together mapped to less channels. Set to 255 for ALL pixels as specified by **Pixel Count**.
- **ZigZag.** Reverses pixel direction every N pixels.
- **Direction.** Reverse start end of pixel strip based on specified **Pixel Count**.

Alternate Mapping:

- **Start Universe.** Art-Net/sACN Universe pixels start mapping from with automatic rollover into subsequent universes
- **Start Channel.** Pixels start mapping from specified channel. Must be 1+ multiple of pixel channel count. **Start Channel** has no effect when **Color Order** is Raw type.
- **Pixel Group Size.** Multiple sequential pixels can be grouped together mapped to less channels. Set to 255 for ALL pixels as specified by **Pixel Count**.
- **ZigZag.** Reverses pixel direction every N pixels.
- **Direction.** Reverse start end of pixel strip based on specified **Pixel Count**.

RECORDER TAB

Network Port A Port B Port C Port D Recorder

Recorder Settings

- ☒ Playback Enable
- ☒ Record Enable
- ☐ Playback Merge
- ☐ Record Monitor
- ☐ Network Playback

Show Settings

- ☐ B/O Show After Stop
- ☐ Hold Last Scene
- ☐ Last Show Recall

TFTP

- ☒ Read Access
- ☒ Write Access
- Restricted Client IP: 0.0.0.0

Time

NTP Server IP: 202.46.177.18

NTP Poll Interval: 1 Hours

Time Zone: UTC+12:00

☐ US Date Format ☐ CRON wait

Daylight Savings

- ☒ DST Enabled
- ☐ Specified ☒ Recurring

DST Begin: Month: September, Week Num: Last, Week Day: Sunday, Hour: 2

DST End:

Show Triggering

- ☐ eDMX Trigger ☐ Up/Down/Go
- ☐ eDMX Control ☐ Skip Script
- ☐ Playback Trigger Universe
- Universe: 1 00 0 0
- Playback Group: 0
- ☐ Playback Master Level
- DMX Channel: 1
- ☐ Show Run Until Complete
- ☐ Broadcast Triggers
- ☐ Record Trigger Universe
- Universe: 1 00 0 0
- DMX Channel: 1

Update Settings

Please refer to the eDMX MAX Recorder manual for more information. This functionality is common to all MAX series hardware that includes an SD card socket. External I/O port functionality and backup battery replacement procedure can also be located in the document.

DMX DISPLAY FUNCTION

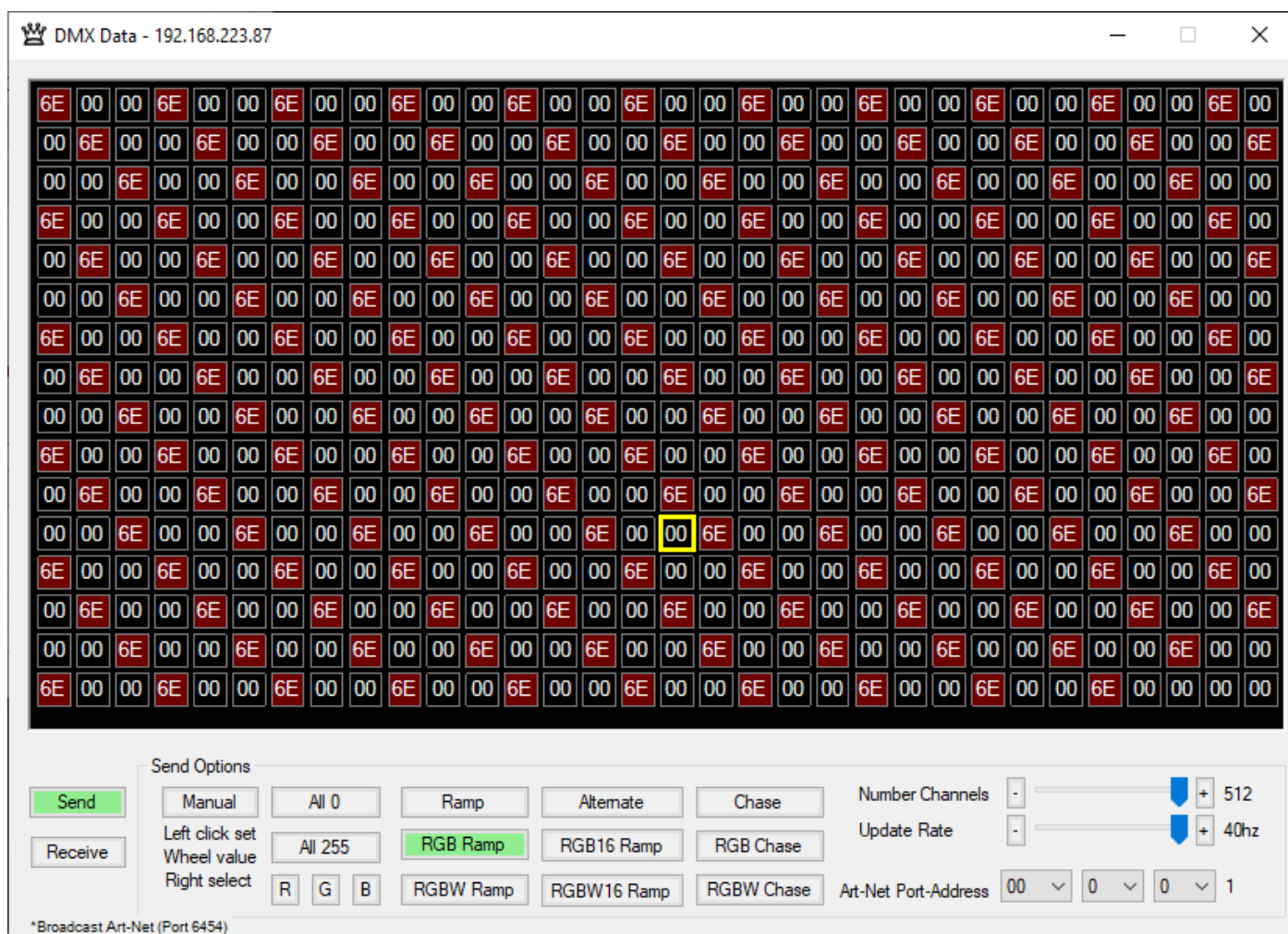
Select **View | DMX Display** for a simple Art-Net DMX512 test utility.

SEND ART-NET

To generate an all-networks (255.255.255.255) broadcast Art-Net output stream click Send then select one of the Send Options. Change Art-Net Universe as applicable, sACN Universe number is displayed next to Art-Net value. When in Manual mode you can click on any of the channels, represented by small boxes with hexadecimal channel level inside, to set ON level and double click to set zero. The mouse scroll wheel adjusts a channel by a defined increment. ON level and mouse wheel step can be set by right clicking anywhere within the channel display area.

Channel number display increments left to right and top to bottom. Number of channels transmitted and Art-Net output rate can be adjusted as required.

USB Node Communication also functions with DMX Display Send mode and is automatically selected if Node Communication is USB.



RECEIVE ART-NET

Receive mode will display the selected Art-Net universe number with HTP/LTP merged streams if more than 1 is present. Only Art-Net broadcast streams are supported. To configure an eDMX node to broadcast Art-Net from DMX-IN ports set the Broadcast Threshold to zero on the Port A tab as below.

The screenshot shows the 'Port A' configuration tab. Under 'DMX-OUT Options', the 'Async Update Rate' is set to 40hz. The 'Merge Mode' section has 'Highest Takes Priority (HTP)' selected, with 'Full DMX Frame' checked. Under 'DMX-IN Options', the 'Broadcast Threshold' is set to 0, and 'Unicast IP' is 0.0.0.0 with 'Full DMX Frame' checked.

USB Node Communication also functions with DMX Display Receive mode and is automatically selected if Node Communication is USB. It is also necessary to configure Port Operation Mode option USB ArtNet/sACN Forwarding as below. Not required for Network sourced DMX Data.

The screenshot shows the 'Port Operation Mode' section. 'DMX-IN Art-Net' is selected. 'USB ArtNet/sACN Fwd' is checked. 'Timeout all sources' is checked, and 'Channel Offset' is set to 0.

The screenshot shows the 'DMX Data - 192.168.0.5' window. It displays a 512-channel data grid (5 rows of 104 channels each). The first 512 channels (00-FF) are highlighted in red, indicating they are active. The bottom section shows 'Receive Information' with 'Receive Rate' set to 35hz, 'Receive Size' set to 512, and 'Highest Takes Priority (HTP)' selected. The 'IP' field is set to 192.168.0.112. The 'Art-Net Port-Address' is set to 00, 0, 0, 1. A 'Send' button and a 'Receive' button are also visible.

NODE REPORT

Node provide a brief status report indicating DMX frame rates, SYNC status, SHOW playback selection and Recorder status.

```
Node Report: #0001[11]DMX:40,40,40,40 SYNC:Async SHOW:000 REC:Idle
```

Above an eDMX4 MAX reports Port A,B,C,D at 40fps with no synchronization present (Async mode) and the recorder state Idle.

```
Node Report: #0001[7]DMX:0,0,0,0 SYNC:Async SHOW:000 REC:No SD
```

In the example above the recorder status indicates there is No SD card present.

ART-NET NODE NAME

The Art-Net protocol supports device naming which can make larger installations more manageable. Both Short Name (17 characters) and Long Name (63 characters) for an eDMX Device can be edited in the Node Information box.

Node Information	
Hardware	eDMX4 MAX DIN Firmware Version 4.0
Short Name	eDMX4 MAX 360000 <input type="button" value="Update Name"/>
Long Name	DMXking.com eDMX4 MAX DIN S/N 001A19360000

Art-Net Short Name is also used for sACN protocol name.

SUMMARY OF SETTINGS

Parameter	Usage
MAC Address	Factory programmed Ethernet MAC address / device serial number
IP Address	IPv4 network address
Subnet Mask	Subnet mask, typically 255.0.0.0, 255.255.0.0 or 255.255.255.0
Default Gateway	Address of network gateway (router) for communications beyond local subnet
Network Mode	DHCP or Static IPv4
IGMPv2 Unsolicited Report	IGMPv2 Report messages sent at 5-255 second intervals without active IGMP Querier
Port Operation Mode	DMX-IN Art-Net, DMX-IN sACN, DMX OUT (both Art-Net and sACN are always enabled)
Timeout all sources	Last Art-Net or sACN stream source if lost will timeout DMX-OUT. Loss of DMX-IN signal will timeout outgoing ArtNet or sACN stream. Fixed period 3 seconds.
Channel Offset	Re-mapping offset for DMX-OUT or DMX-IN streams
USB DMX Forward	Enable forwarding of DMX-IN port over simple USB DMX protocol
USB ArtNet/sACN Forward	Enable forwarding of DMX-IN ArtNet/sACN protocols over port over USB DMX
Async Update Rate	DMX512 output frame rate/frequency. Universe Sync takes precedence.
Merge Mode	HTP (Highest Takes Precedence - dimmers), LTP (Last Takes Precedence – moving lights)
Full DMX Frame	Force DMX-OUT or DMX-IN to full 512 channel frames with zero levels filling gaps
Broadcast Threshold	0 = Force Art-Net broadcast mode, > 0 Art-Net II/3/4 unicast until threshold of universe subscribers exceeded (DMX-IN global setting located in Port A tab)
Unicast IP	Single IPv4 destination for unicast ArtNet or sACN from DMX-IN. Routable via default gateway.
sACN Priority	DMX-IN sACN Priority value assigned to sACN stream. 0 – 200, default 100
RDM Enable	Enables or disables RDM functionality on DMX512 port.
RDM Discovery Period	Number of seconds between internally initiated RDM Discovery attempt. Setting Discovery Period = 0s will disable RDM on PRO series hardware.
RDM Packet Spacing	Number of 1/20sec intervals enforced minimum between RDM messages on DMX line
DMX-OUT Failsafe Mode	ArtNet failsafe mode selection. Timeout All Sources must be enabled for all options other than Hold Last.
Recall DMX snapshot at startup	Recall snapshot scene at power on and output until Art-Net or sACN stream received. Snapshot DMX button records current DMX output to snapshot memory.
DMX Universe	sACN 1-63999 which is translated to an Art-Net Port-Address (Net:Sub:Uni). Setting DMX Universe = 1 -> sACN Universe = 1 and Art-Net 00:0:0 (i.e. Universe 1 = Art-Net Universe 0)

2. PORTS, MERGING, PRIORITY AND DMX INPUT

PORTS AND MERGING

Each DMX Port is fully independent which allows for configurations including setting multiple ports to the same universe. Some merging combinations are not supported on devices with only 1 DMX port and ultraDMX MAX is a special case since the only interface is USB.

eDMX MAX nodes are capable of several advanced merging and stream priority switching functions. Support for both HTP (Highest Takes Precedence) and LTP (Latest Takes Precedence) merging of 2 sources producing a single DMX512 output thus permitting 2 controllers to simultaneously operate on 1 lighting rig. To achieve DMX stream merging simply send 2 Art-Net or sACN streams on the same Universe and configure the applicable DMX OUT port merge scheme HTP or LTP. If the number of sources exceeds 2 only the first 2 will be processed and all new streams that appear are simply dropped. Possible merging sources are:

Source	Notes
Art-Net I, II, 3 or 4	Priority 100 is assigned to permit Art-Net + sACN or USB merge/priority functionality.
sACN / E1.31	Only sACN sources of the same Priority will be HTP or LTP merged.
USB DMX	Priority 100 is assigned to permit USB DMX + Art-Net or sACN merge/priority functionality.
DMX-IN Art-Net	Configure DMX-IN port universe to match a DMX-OUT port universe. Priority is locked to 100 since Art-Net does not have a Priority value.
DMX-IN sACN	Configure DMX-IN port universe to match a DMX-OUT port universe. Priority is defined by the DMX port configuration sACN Priority value.

SUPPORTED MERGING COMBINATIONS

Source 1	Source 2	Notes
Art-Net	Art-Net	Sources are timed out 3 seconds after last received frame.
sACN / E1.31	sACN / E1.31	Sources will end immediately upon sACN stream termination flag, otherwise 3 second timeout after last received frame.
Art-Net	sACN / E1.31	Art-Net source timed out 3 seconds after last received frame, sACN stream termination flag otherwise 3 second timeout after last received frame.
Art-Net	USB DMX	Sources are timed out 3 seconds after last received frame.
sACN / E1.31	USB DMX	USB DMX source timed out 3 seconds after last received frame, sACN stream termination flag otherwise 3 second timeout after last received frame.
DMX-IN	Art-Net	Merge external DMX512 source with incoming Art-Net stream.
DMX-IN	sACN / E1.31	Merge external DMX512 source with incoming sACN stream.
DMX-IN	USB DMX	Merge external DMX512 source with incoming USB DMX stream.
DMX-IN (1)	DMX-IN (2)	Merge 2 external DMX512 sources. Priority is defined by the respective port configuration sACN Priority.

SACN / E1.31 PRIORITY

At any time if a higher priority sACN stream, on the same Universe, is received it will take over control a DMX-OUT port regardless of other incoming streams or merging. When an sACN stream is stopped gracefully via a stream terminate message the eDMX MAX port will immediately revert to whatever other sources are present, otherwise the default stream timeout of 3 seconds applies. If you want to HTP/LTP merge two sACN streams together they must be of the same priority.

Both Art-Net and USB DMX streams are internally assigned Priority 100 so they can participate in sACN Priority.

SACN / E1.31 PRIORITY – DMX RECEIVE

When a port is configured for DMX-IN sACN operation the sACN Priority can be set. This permits DMX Inputs to generate sACN multicast or unicast streams with a specified priority.

DMX512 IN – UNICAST / BROADCAST / MULTICAST

For DMX512 signal fed into an eDMX MAX Port configured as **DMX-IN Art-Net** the following will determine Art-Net unicast or broadcast:

1. If Broadcast Threshold = 0 the frame is always broadcast on the IP subnet.
2. If Broadcast Threshold > 0 and number of detected Art-Net II/3/4 devices "subscribed" to that universe is less than the threshold the frame is unicast to each device.
3. If Broadcast Threshold > 0 and the number of detected Art-Net II/3/4 devices "subscribed" to that universe is greater than the threshold the frame is broadcast on the subnet.
4. If Broadcast Threshold > 0 and zero Art-Net II/3/4 devices are "subscribed" to that universe the frame is broadcast on the subnet.
5. If Fixed IP is **not** 0.0.0.0 the frame is only unicast to that single specified IPv4 address.

There are multiple ways broadcasting of Art-Net from DMX-IN can occur. The implementation ensures compatibility with mixed Art-Net I/II/3/4 device networks but still permits unicast when Art-Net II/3/4 devices are used exclusively.

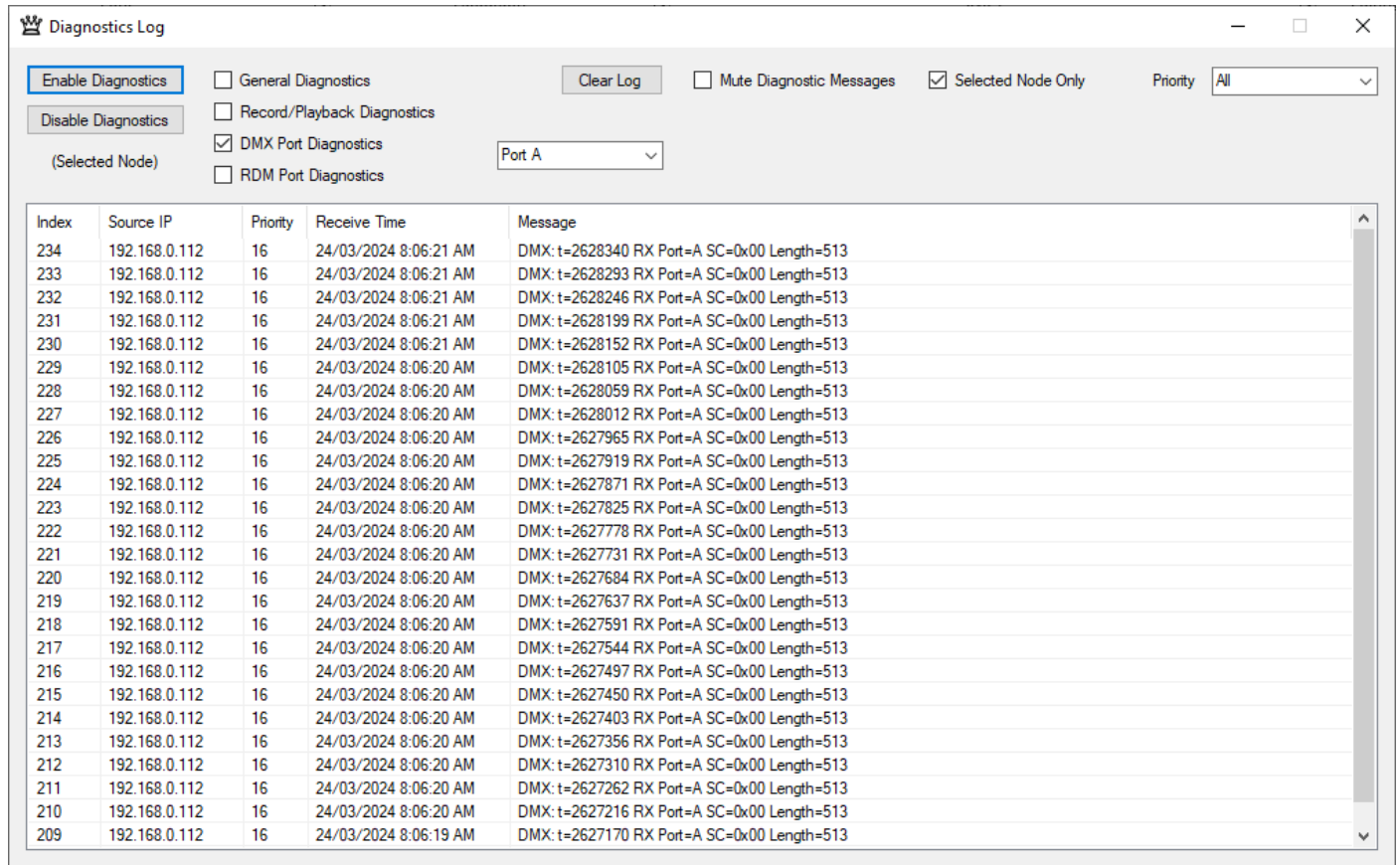
For **DMX-IN sACN** multicast frames will be generated when Fixed IP is 0.0.0.0 otherwise frames are unicast to the specified destination.

3. DIAGNOSTICS LOG

Select **View | Diagnostics Log** in the Windows version of eDMX MAX Configuration Utility. Not available on macOS version.

Several filtering options are available and it is recommended to minimize diagnostics messages to only those required. Once selected click on Enable Diagnostics to update the current eDMX node to send requested messages. If changes are made be sure to click on Enable Diagnostics again to update. Disable Diagnostics will stop messages from the selected eDMX node.

Diagnostics messages will only function when the selected eDMX node is on the same IP subnet as the host computer.



<input checked="" type="button" value="Enable Diagnostics"/> <input type="button" value="Disable Diagnostics"/>		<input type="checkbox"/> General Diagnostics	<input type="button" value="Clear Log"/>	<input type="checkbox"/> Mute Diagnostic Messages	<input checked="" type="checkbox"/> Selected Node Only	Priority: <input type="text" value="All"/>
(Selected Node)		<input type="checkbox"/> Record/Playback Diagnostics				
		<input checked="" type="checkbox"/> DMX Port Diagnostics	Port A			
		<input type="checkbox"/> RDM Port Diagnostics				
Index	Source IP	Priority	Receive Time	Message		
234	192.168.0.112	16	24/03/2024 8:06:21 AM	DMX: t=2628340 RX Port=A SC=0x00 Length=513		
233	192.168.0.112	16	24/03/2024 8:06:21 AM	DMX: t=2628293 RX Port=A SC=0x00 Length=513		
232	192.168.0.112	16	24/03/2024 8:06:21 AM	DMX: t=2628246 RX Port=A SC=0x00 Length=513		
231	192.168.0.112	16	24/03/2024 8:06:21 AM	DMX: t=2628199 RX Port=A SC=0x00 Length=513		
230	192.168.0.112	16	24/03/2024 8:06:21 AM	DMX: t=2628152 RX Port=A SC=0x00 Length=513		
229	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2628105 RX Port=A SC=0x00 Length=513		
228	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2628059 RX Port=A SC=0x00 Length=513		
227	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2628012 RX Port=A SC=0x00 Length=513		
226	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627965 RX Port=A SC=0x00 Length=513		
225	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627919 RX Port=A SC=0x00 Length=513		
224	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627871 RX Port=A SC=0x00 Length=513		
223	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627825 RX Port=A SC=0x00 Length=513		
222	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627778 RX Port=A SC=0x00 Length=513		
221	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627731 RX Port=A SC=0x00 Length=513		
220	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627684 RX Port=A SC=0x00 Length=513		
219	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627637 RX Port=A SC=0x00 Length=513		
218	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627591 RX Port=A SC=0x00 Length=513		
217	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627544 RX Port=A SC=0x00 Length=513		
216	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627497 RX Port=A SC=0x00 Length=513		
215	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627450 RX Port=A SC=0x00 Length=513		
214	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627403 RX Port=A SC=0x00 Length=513		
213	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627356 RX Port=A SC=0x00 Length=513		
212	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627310 RX Port=A SC=0x00 Length=513		
211	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627262 RX Port=A SC=0x00 Length=513		
210	192.168.0.112	16	24/03/2024 8:06:20 AM	DMX: t=2627216 RX Port=A SC=0x00 Length=513		
209	192.168.0.112	16	24/03/2024 8:06:19 AM	DMX: t=2627170 RX Port=A SC=0x00 Length=513		

Diagnostics messages for Port A DMX-IN showing timestamped incoming DMX512 frames.

Diagnostics messages showing external show trigger and subsequent show run.

Diagnostics messages from RDM device connection to Port A.

How to obtain support

Contact your local distributor <https://www.dmxking.com/distributors>

Contact DMXKing directly admin@dmxking.com