DMXking.com

eDMX2 PRO

Interface

USER MANUAL

DMXking.com • JPK Systems Limited • New Zealand
0107-700-3.7

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1. INTRODUCTION

Thanks for purchasing a DMXking.com product. Our aim is to bring you high quality products with great features we know you'll appreciate. We ship only what's required which is why there's no CD or printed manual in the box, this is part of our commitment to minimizing environmental impact.

This user manual covers features up to v3.7 firmware. Some functionality may not be available with earlier firmware versions.

HARDWARE AND FIRMWARE VERSIONS

From time to time minor hardware changes occur in our products usually small feature additions or unseen optimizations. The table below lists eDMX2 PRO product variants. Check the product label for P/N details.

Part Number	**Feature addition**
0107-1.0	Initial product release

Firmware updates are released on a semi-regular basis. We recommend updating to the latest available firmware version so all product features are available. Please take note the user manual reflects latest firmware version features unless otherwise noted.

Firmware Version	**Comments**
v2.10	Initial firmware release.
v2.14	ArtNet 4 support, DHCP + AutoIP, Merge engine improvements, RDM performance enhancements.
v3.0	Record playback added, RDM enhancements, Universe Sync, IGMP report when universe change + unsolicited option, DMX IN Single IP.
v3.1	ArtNet 4 NodeReport messages with BindIndex, NodeReport status messages, Dynamic IGMP reporting based on current port configurations.
v3.3	Record/playback enhancements.
v3.5	CR+LF no longer required on last script line, USB DMX assigned universe now follows Port A/B universe setting, Basic device configuration via USB.
v3.7	DMXworkshop excess ArtPoll bytes accepted, Full frame DMX512 option DMX-IN & DMX-OUT, Broadcast ArtNet playback over network, ArtPollReply includes UID report, ArtNet fail safe modes, NTP time sync and time zone with DST, DMX-IN & DMX-OUT re-mapping channel offset, Timeout all sources for DMX-IN, sACN CID fix for multiple DMX-IN ports on same universe, sACN Universe Sync enhancements, Recording from DMX-IN sources, Default Gateway added to ArtIpProg, Numerous Record/playback enhancements (see eDMX Recorder manual).

MAIN FEATURES

- Static IP or DHCP network addressing.
- Supported operating systems: Any with Ethernet networking support. Windows, OS X, Linux, iOS, Android.
- Compatible with software suitable for ENTTEC USB DMX Pro. Drivers for Windows, OS X, Linux.
- eDMX2 PRO - 2x DMX512 Out or DMX512 In with Art-Net, sACN E1.31 and E1.20 RDM support.
- Art-Net broadcast, Art-Net II,3 & 4 unicast, sACN/E1.31 Multicast and sACN Unicast support
- Merge 2 incoming Art-Net/sACN streams per output channel with both HTP and LTP options
- Merge Art-Net/sACN + DMX input -> DMX output
- Merge DMX input + USB DMX source -> DMX output
- USB DMX enhanced mode for 2 Universe **Out**
- sACN Priority takeover for multi-tier controller arrangements
- Mix and match ArtNet with sACN merge/priority sources
- DMX-IN and DMX-OUT channel offset re-mapping
- User configuration of Art-Net Node short and long names
- 1500V Isolation between every port
- Tough metal enclosure
- Available with 3 pin or 5 pin XLR sockets
- Power over Ethernet 802.3af compliant and etherCON for network connection
- Fully compatible with all software and hardware that supports Art-Net I, II, 3 & 4 and sACN protocols
- Works with your existing console if Art-Net or sACN external nodes are supported
- Universe Sync Art-Net, sACN and Madrix Post Sync
- Recording and playback to microSD card (not included). See eDMX PRO Record / Playback manual
- Standalone show playback without computer or network connection
- Internal clock with NTP time sync for timed playback
- Configuration utility with basic Art-Net output/input test functionality
- Accessory port for external show triggering and future add on devices
- Firmware updates can be performed by end user

eDMX2 PRO products consider Art-Net 00:0:0 to be Universe 1 (i.e. offset by 1) so there is an easy mapping between sACN/E1.31 and Art-Net.

2. EXTERIOR VIEW

FRONT & REAR VIEW

Ethercon connector for power/network using 802.3af PoE switch or power injector. Alternatively higher power 802.3at switches/injectors or passive 48V PoE will also work. Two female 3pin or 5pin XLR connectors for DMX512-A ***input*** or ***output*** function on each port. Port A on left, Port B on right. Port A indicator at top, Port B indicator at bottom. USB B socket for direct 5V power input and/or connection to host computer for USB DMX functionality. RJ12 socket for accessory connection. Upper indicator Protocol/Activity, lower indicator network link/activity.

STATUS LED TABLE

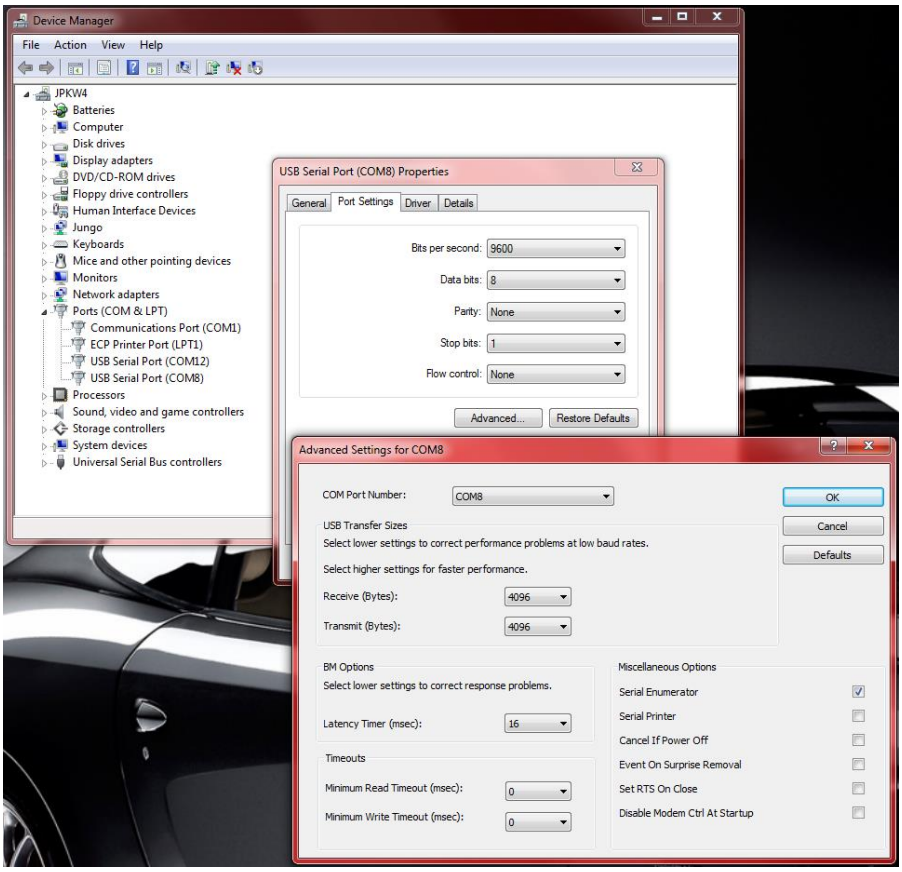
LED	**Indication**
Data (upper)	Protocol activity. Red = RX, Green = TX, Orange = Boot loader mode
Network (lower)	Network activity. Green = Link, Flash = Traffic
A (upper)	DMX512 Port A. Green = TX, Red = RX
B (lower)	DMX512 Port B. Green = TX, Red = RX

3. INSTALLING THE FTDI DRIVER

To use the USB DMX interface install the FTDI driver. Modern versions of Windows and OS X should do this automatically. Note the FTDI driver isn't required for pure Art-Net or sACN operations. eDMX2 PRO maximizes compatibility with existing software using an FTDI (www.ftdichip.com) FT245RL device which provides USB 2.0 Full Speed interfacing. Drivers are available directly from FTDI and in most cases the VCP (Virtual COM Port) driver should be used although both D2XX and VCP are installed by default on Windows 10. The latest drivers are available from www.ftdichip.com/Drivers/VCP.htm

Please refer to the installation guides at www.ftdichip.com/Documents/InstallGuides.htm and note the process involved installs 2 devices, a USB serial device followed by USB virtual COM port. All required files are included in the driver installation file.

Mac OS X users. You do not need to install anything unless you're running a really old OS version. Apple include their own FTDI driver with the OS X distribution.



On occasion, you may wish to change the COM port number an eDMX2 PRO unit has been assigned by Windows. This can be done through the Device Manager applet by right clicking on the USB Serial Port of interest (unplug/re-plug the unit and observe if unsure which COM port) then select properties, Port Settings tab, Advanced button and finally choose the desired COM Port Number.

4. DEFAULT CONFIGURATION

All eDMX2 PRO units ship with default IP address settings. Please reconfigure network settings as required before use.

Parameter	Default Setting
IP Address	192.168.0.112
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.254
IGMPv2 Unsolicited Report	*Unchecked*
Network Mode	Static IP address

DMX512 Port configuration parameter defaults.

Parameter	Default Setting
Async Update Rate	40 [DMX512 frames per second]. Universe Sync will override.
Port Operation Mode	DMX-OUT
Timeout all sources	*Unchecked*
Channel Offset	0
Fixed IP	0.0.0.0 [Only for DMX IN – Unicast to 1 IP address only]
Merge Mode	HTP
Full DMX Frame	*Unchecked*
*Broadcast Threshold	10 [Art-Net II/3/4 unicasting up to 10 nodes]. Set to 0 for Art-Net I broadcast on DMX IN ports.
Unicast IP [DMX-IN]	0.0.0.0
sACN Priority [DMX-IN]	100
RDM Discovery Period [DMX-OUT]	0s / RDM Disabled
RDM Packet Spacing [DMX-OUT]	1/20s
DMX-OUT Failsafe Mode	Hold Last
Recall DMX Snapshot at startup	*Unchecked*
DMX512 Universe	1-4 [Net 00, Subnet 0, Universe 0-3] Note: sACN Universe 1 = Art-Net 00:0:0

*Global threshold for all DMX-IN ports, configured in Port A settings tab.

USB DMX MODES

In USB DMX mode the eDMX2 PRO operates either standard or enhanced functionality depending on your software. Note compatible software is required for enhanced mode.

eDMX2 PRO operating modes:

1x OUT (standard)	Compatibility mode. Universe [Port A] configured on Port A or Port B.	Device behaves just like ENTTEC USB Pro so works with large existing software base. Provides 1 isolated DMX output.
2x OUT splitter (standard)	Compatibility mode. Universe [Port A] configured on Port A & Port B.	Device behaves just like ENTTEC USB Pro so works with large existing software base. Provides 2 isolated DMX outputs of the same universe.
1x IN (standard)	Compatibility mode. Universe [Port B] configured on Port B as DMX IN.	Device behaves just like ENTTEC USB Pro so works with large existing software base. Provides 1 isolated DMX input.
2x OUT, 2 universes (enhanced)	Enhanced mode. Universe [Port A] and [Port B] configured on Port A & Port B respectively.	Equivalent to having 2x USB DMX units rolled into 1 enclosure and USB connection. Requires compatible software.
1x OUT, 1x IN (enhanced)	Enhanced mode. Universe [Port A] configured on Port A DMX OUT and Universe [Port B] on Port B DMX IN.	Equivalent to having 2x USB DMX units rolled into 1 enclosure and USB connection with both DMX OUT and DMX IN unit. Requires compatible software.

Switching between Standard and Enhanced modes is fully automatic and determined by your lighting control software. If enhanced mode DMX output commands are sent to the ultraDMX2 PRO it enters enhanced mode and conversely when standard DMX output commands are sent standard mode is triggered.

Firmware v3.3 and below. Note if Port A and Port B are not configured to the appropriate Universes the USB DMX functionality will not work. Only Universe 1 and Universe 2 are used for USB DMX.

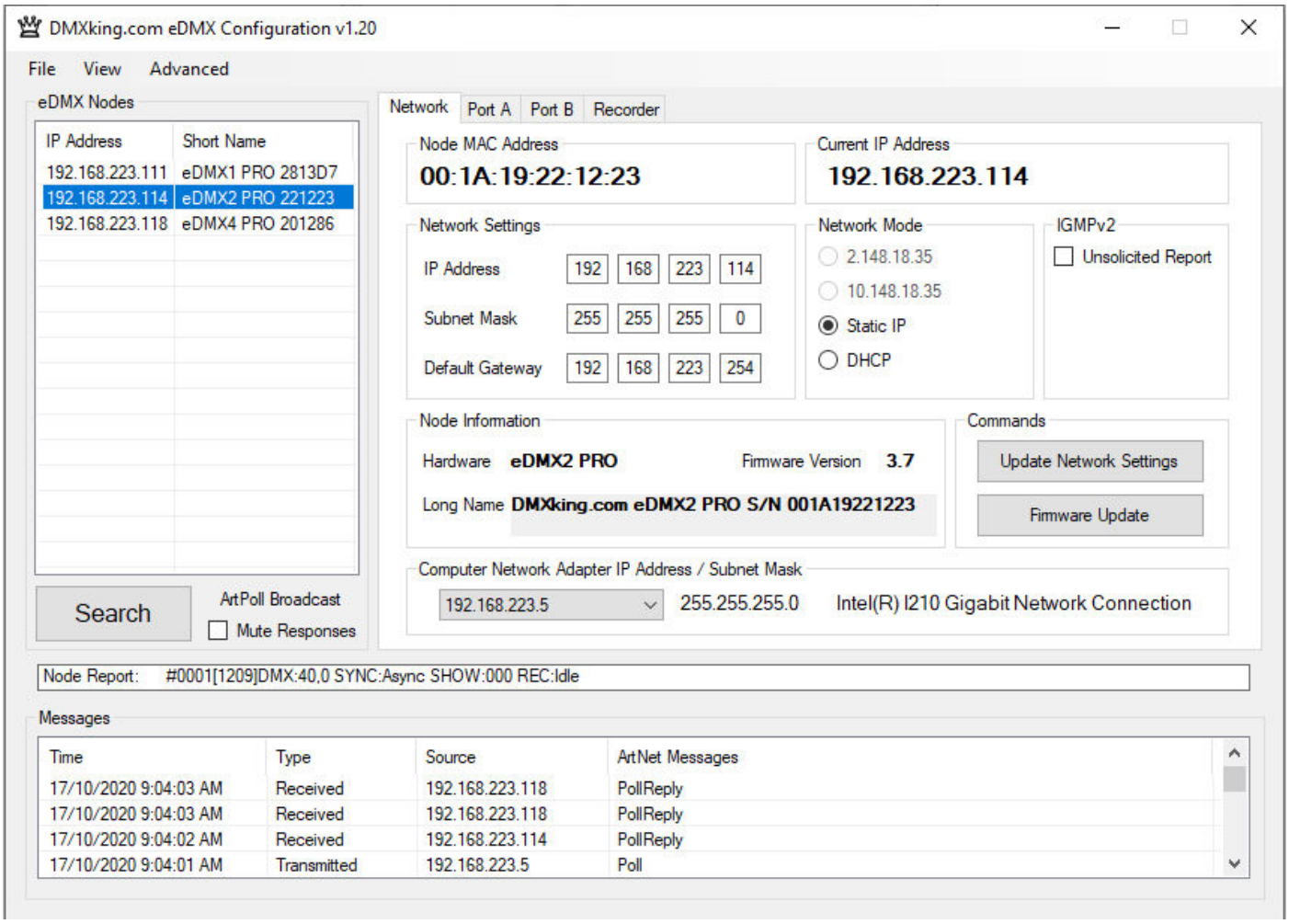
Firmware v3.5+. Port A and Port B universe assignments are used for USB DMX. Even though there is no means to define which universe is used for USB DMX it can sometimes be useful to control the underlying universe for merging other ArtNet and sACN sources with USB.

5. CONFIGURATION UTILITY

The eDMX Configuration utility provides a simple interface to all device parameters. Typically, these are set once during initial configuration and left untouched. If you are not confident in setting up network IP Address, Subnet Mask and Default Gateway parameters please get in touch with DMXking.com support and we'll walk you through the process. DHCP is supported from firmware v2.14 onwards.

IMPORTANT: Once you've finished configuring your eDMX product close the configuration utility before starting your lighting control application if it's running from the same computer. In general, only 1 Art-Net application will function at a time.

NETWORK TAB



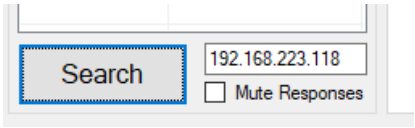
Before starting the eDMX Configuration utility please ensure your computer has appropriate IPv4 network settings, for example IP 192.168.0.100 Subnet 255.255.255.0 Gateway 192.168.0.254.

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 **Search**. From v1.16 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.

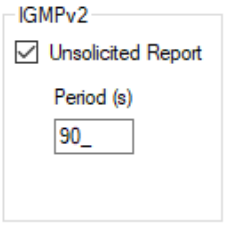
Click on the desired node's entry and all Settings will be retrieved. Note that if no response is received the settings will be greyed out and no additional tabs visible. An activity box shows both transmitted and received messages to help with diagnosing communication issues. If your network configuration 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 is appropriate.

Utility v1.20 uses **Settings Broadcast** by default which allows node settings to be updated regardless of the network adapter subnet range. This only works if all detected nodes are firmware v3.0+ and is automatically disabled otherwise.

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 provided a **Default Gateway** has been specified in the node Network Settings.



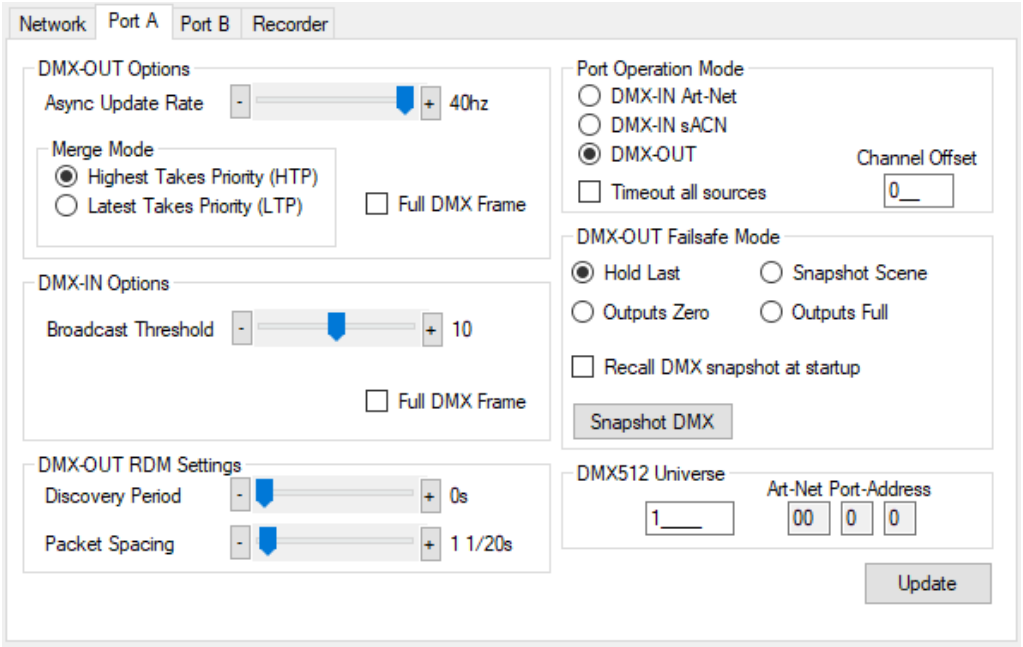
All eDMX/LeDMX/ultraDMX PRO nodes provide IGMPv2 Reports necessary to participate in a multicast environment as necessary for sACN/E1.31 protocol. Sometimes due to network infrastructure issues an IGMP querier is not present and in these situations, you can opt to have the node generate ongoing unsolicited IGMPv2 Reports.



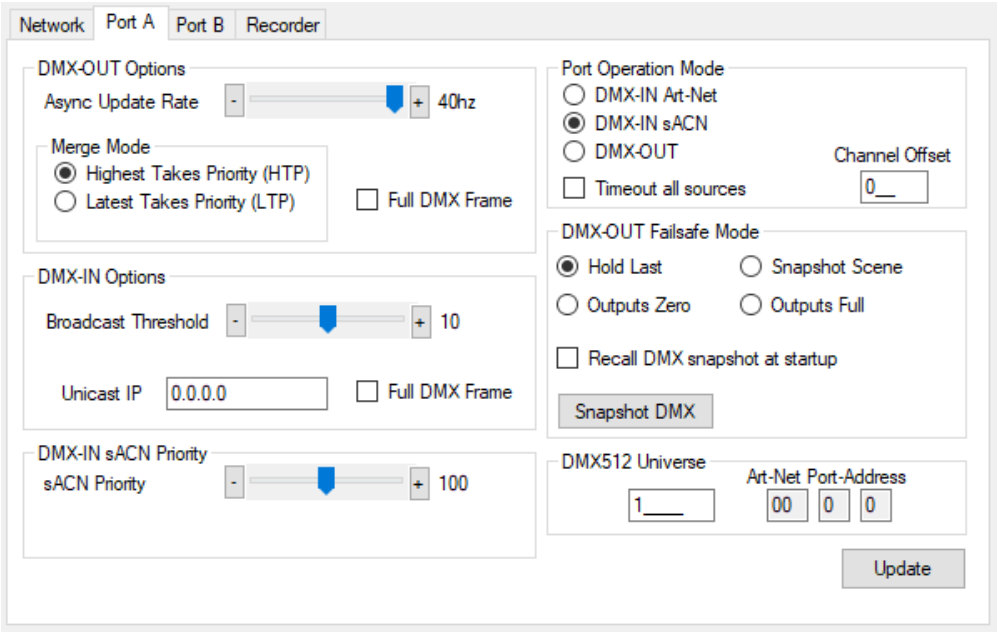
To change the node Network Settings make applicable changes then click **Update Network Settings**.

Selecting **Firmware Update** will prompt for an appropriate firmware file and upload upon confirmation. A built-in boot loader permits updating of the eDMX firmware. We do not recommend performing firmware updates over routed networks. 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 0107-500-VersionMajor.VersionMinor.enc

PORT TAB



Port Operation Mode: DMX-OUT



Port Operation Mode: DMX-IN sACN with sACN Priority 100

DMX512 ports can be individually configured as either DMX-OUT, with automatic dual sACN/Art-Net protocol support, or DMX-IN, with manually selected sACN or Art-Net protocol. When configured as DMX-IN a single **Unicast IP** address destination may be specified but in the majority of applications leaving this field at 0.0.0.0 is appropriate.

Timeout all sources can be used to override default ArtNet defined behavior of holding the last sent or received frame forever.

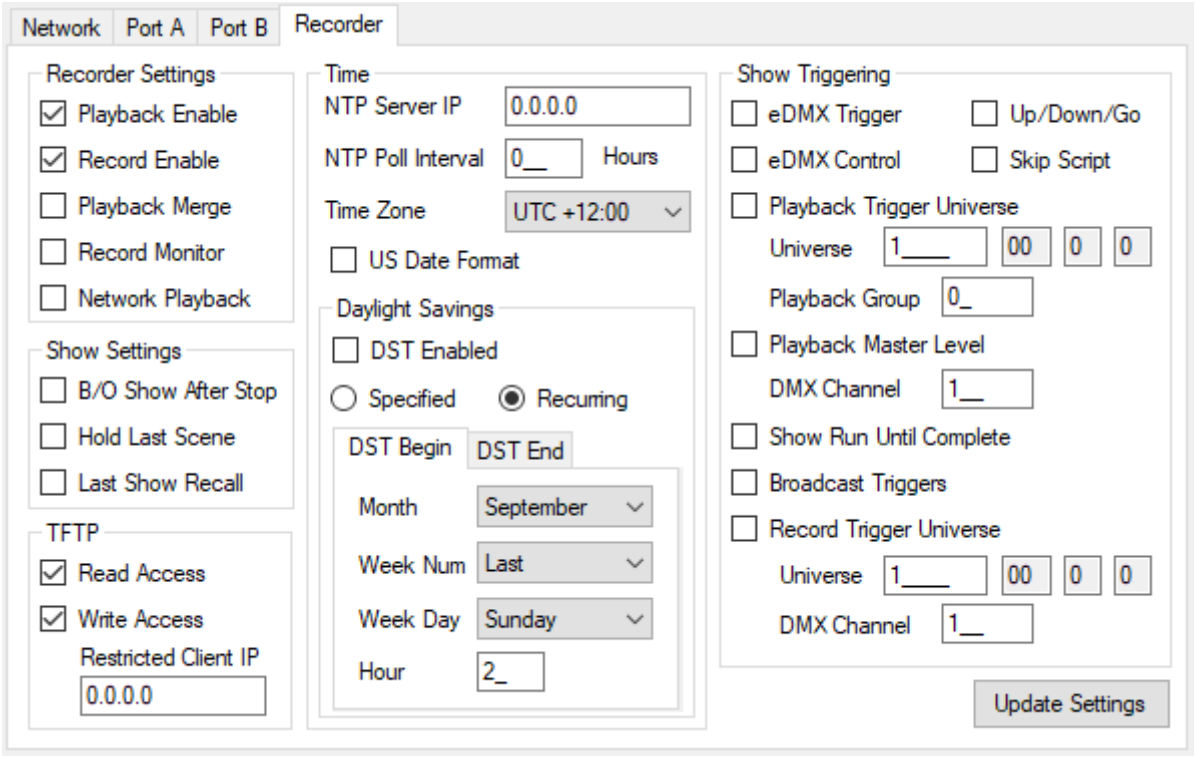
- DMX-OUT mode: Whenever 2 sources are present and being merged together a 2nd source will always timeout when the stream stops. In DMX-OUT mode if **Timeout all sources** is unchecked and Hold Last mode selected the output will hold last frame forever. **Timeout all sources** checked and Failsafe Mode other than Hold Last selected will cause the output to change to Zero, Full or Snapshot Scene.
- DMX-IN mode: An ArtNet or sACN stream is generated upon receiving DMX512 on the port. **Timeout all sources** checked will cause this stream to end a few seconds after the DMX512 signal stops.

Channel Offset provides simple re-mapping for both DMX-OUT and DMX-IN port configurations. Set to 0 for no re-mapping.

- DMX-OUT mode: Incoming ArtNet or sACN stream(s) are re-mapped so channel 1 is pushed up to channel 1+N. When channel 1+N exceeds 512 the incoming stream channels are ignored/lost.
- DMX-IN mode: Incoming DMX512 is re-mapped so channel 1 is pushed up to channel 1+N on the outgoing ArtNet or sACN stream. When incoming DMX512 channel 1+N exceeds 512 to channels are ignored/lost.

Make changes to the applicable Port settings then click **Update**. Changes on all port tabs are updated regardless of which tab the **Update** button is clicked.

RECORDER TAB

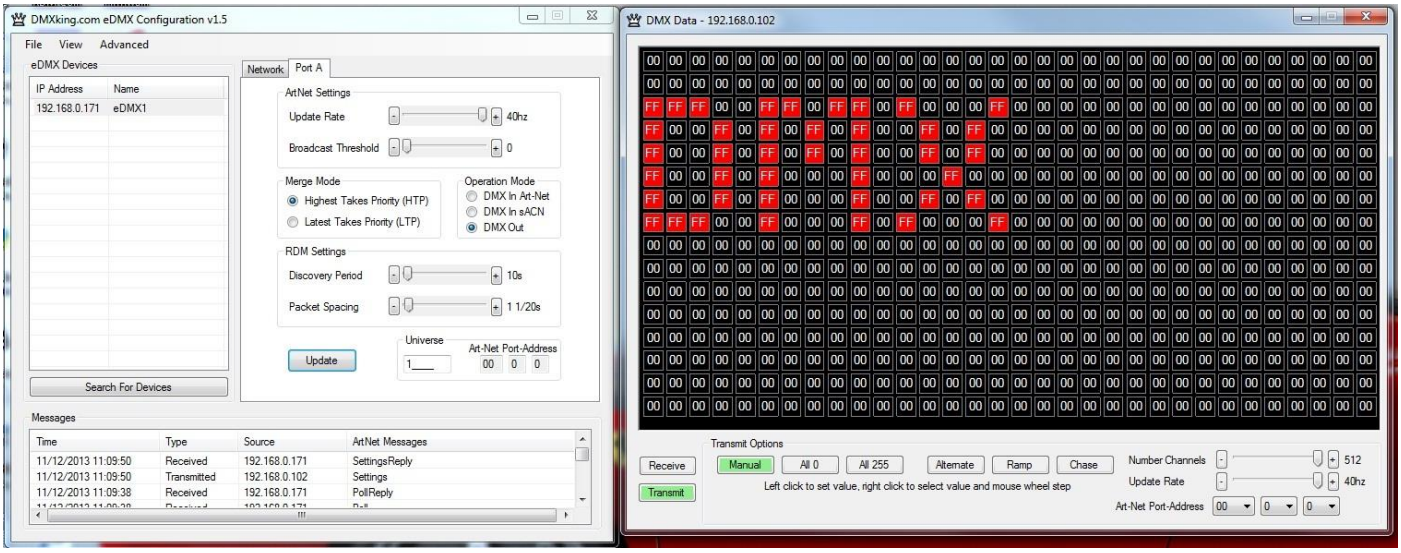


Please refer to the eDMX PRO Recorder manual for more information. This functionality is common to all eDMX PRO, LeDMX PRO and ultraDMX2 PRO devices.

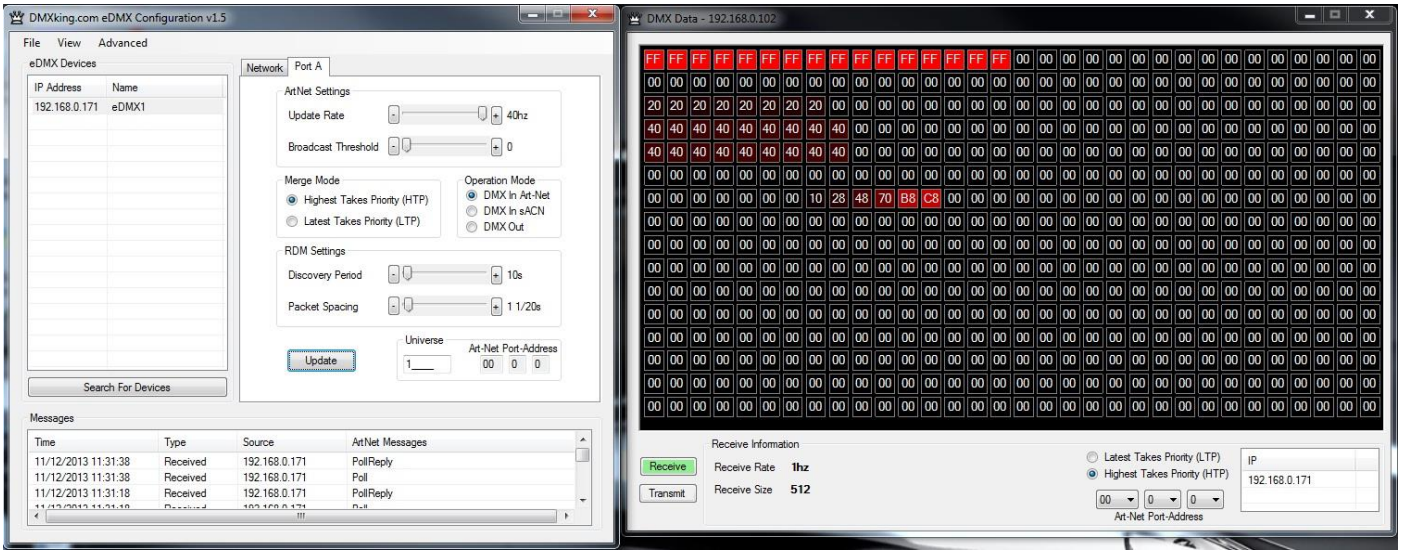
DMX DISPLAY FUNCTION

Select **View | DMX Display** for a simple DMX512 test utility. To generate an Art-Net output stream click Transmit then select one of the 6 Transmit Options and change Art-Net Universe as applicable. 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. Channel number increases left to right, top to bottom and the roaming tool tip provides information about a specific channel.

Both the ON level and mouse wheel step can be set by right clicking anywhere within the black display area. Number of channels transmitted and the refresh rate can be adjusted using the applicable sliders adjacent to transmit options.



Changing to Receive mode will display the selected Art-Net universe number with merged streams if more than 1 is present. Note Art-Net II unicast is not supported meaning only Art-Net broadcast streams are displayed.



The DMX Display utility works with any manufacturers Art-Net hardware and can be useful for diagnostics and simple testing of DMX512 fixtures.

NODE REPORT

From firmware v3.3+ each node provides 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
```

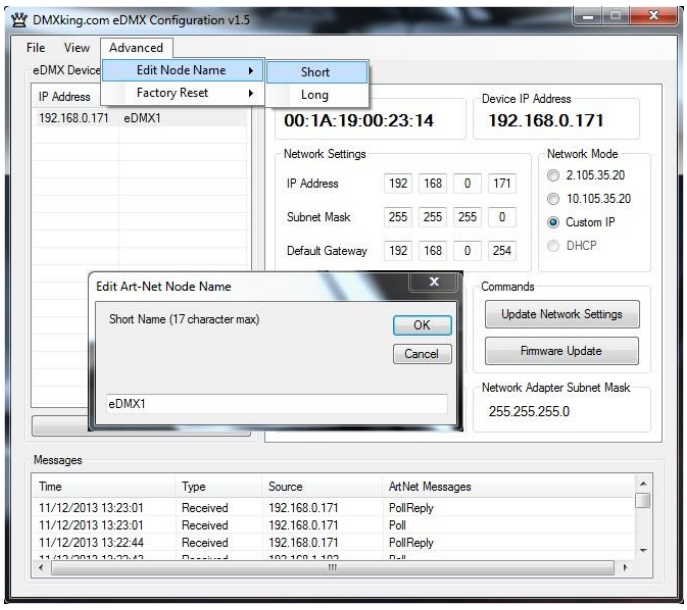
Above an eDMX4 PRO reports Port A,B,C,D at 40fps with no synchronization present (Async mode) and the recorder state Idle.

```
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 modified using the **Advanced | Edit Node Name** dialog.



FACTORY RESET

This is a last resort option if for whatever reason incorrect or forgotten device network settings have rendered your device unusable. A word of warning – this function will factory reset ***ALL*** eDMX devices on your network so it's critical to separate off the device requiring reset. We recommend directly connecting a computer and eDMX device using a network cable so there's no chance of additional eDMX devices accidentally being reset too.

Several warnings are presented before the command is sent. This function is not intended for use with eDMX/LeDMX PRO and ultraDMX2 PRO devices and will not have any effect in firmware 3.0+.

SUMMARY OF SETTINGS

Parameter	Usage
MAC Address	Factory programmed Ethernet MAC address
IP Address	IPv4 network address
Subnet Mask	Subnet mask, typically 255.0.0.0, 255.255.0.0 or 255.255.255.0 for class A,B & C respectively
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
Port Operation Mode	DMX-IN Art-Net, DMX-IN sACN, DMX OUT (both Art-Net and sACN are always enabled). Fixed IP is 0.0.0.0 by default which equates to multicast sACN or automatic unicast/broadcast Art-Net. Setting a Fixed IP forces DMX-IN ArtNet or sACN unicast to 1 IP only.
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.
Channel Offset	Re-mapping for DMX-OUT or DMX-IN streams
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 (DMX-IN)
Unicast IP	Single IPv4 destination for unicast ArtNet or sACN from DMX-IN
sACN Priority	DMX-IN sACN Priority value assigned to sACN stream. 0 – 200, default 100
RDM Discovery Period	Number of seconds between internally initiated RDM Discovery attempt. Setting Discovery Period = 0s will ***disable RDM***
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 checked 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 results in sACN Universe = 1 and Art-Net 00:0:0 (Universe 1 = Art-Net Universe 0)

6. 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. A commonly used configuration for eDMX2 PRO is 2x isolated DMX512 outputs of the same universe, thus turning the eDMX2 into a 1 universe Art-Net/sACN node + 2 port isolated splitter.

eDMX PRO nodes are capable of several advanced merging and stream selection functions usually only found on higher priced equipment. 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 merge/priority functionality.
sACN / E1.31	Only sACN sources of the same Priority will be HTP or LTP merged.
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 port configuration sACN Priority.
USB DMX	Source is Universe 1 Priority 100. Note if using 2 universe enhanced USB DMX mode 2nd port is Universe 2.

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.
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.
USB DMX	Art-Net	Sources are timed out 3 seconds after last received frame.
USB DMX	sACN / E1.31	USB DMX source timed out 3 seconds after last received frame, sACN stream termination flag otherwise 3 second timeout after last received frame.
USB DMX	DMX-IN	Merge external DMX512 source with USB DMX source.

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 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.

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 specific priority.

DMX512 IN – UNICAST / BROADCAST / MULTICAST

When you feed a DMX512 signal into an eDMX 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 the specified IPv4 address.

As you can see there are multiple ways broadcast could occur. The implementation is done like this to ensure compatibility with mixed Art-Net I/II/3/4 device networks but still permit 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.

7. COMPATIBLE SOFTWARE

Art-Net/sACN and DMX512 are the most commonly used lighting control protocols with roots in simple theatrical light dimming. These days almost any lighting or stage effect equipment may be controlled using DMX512 (with explicit exclusion of anything involving potentially dangerous operations such as pyrotechnics) including moving lights, LED screens, fog machines and laser displays.

The DMXking.com eDMX2 PRO unit is a 2 universe USB/Art-Net/sACN device designed for use with computer based show control software. It replaces an entire lighting console allowing the user to perform sophisticated shows with little more than a laptop. There are many free and commercial software packages available and by selecting Art-Net or sACN as your DMX device compatibility is guaranteed. For USB DMX operation in general select Enttec USB Pro.

Check the following page for a short list of compatible software:

http://dmxking.com/control-software

8. USB COMMUNICATIONS PROTOCOL

The eDMX2 PRO uses ENTTEC's DMX USB Pro Widget API Specification 1.44 (as used for ENTTEC DMX USB Pro). You can find this document on Enttec's website.

DMXking has added several extensions to cater for additional output universes and other product identification data.

ENHANCED MODE

Label = 100 Output Only Send DMX Packet Request Universe 1 on output(s) configured as Universe 1 (same format as label 6)

Label = 101 Output Only Send DMX Packet Request Universe 2 on output(s) configured as Universe 2 (same format as label 6)

When in Enhanced Mode Port B can be configured as DMX In Art-Net/sACN for simultaneous DMX Out and DMX In functionality. If both Port A and Port B are configured as Universe 1 then Port B will merge with the USB DMX source.

COMPATIBILITY MODE

When Label 6 data is received the eDMX2 PRO reverts back to standard mode and outputs only 1 universe on output(s) configured as Universe 1.

MANUFACTURER AND DEVICE NAME EXTENSIONS

All DMXking.com USB DMX units also support Device Manufacture and Device Name extensions as detailed here: http://www.opendmx.net/index.php/USB_Protocol_Extensions

DEVICE CONFIGURATION - BASIC

eDMX2 PRO and ultraDMX2 PRO devices with firmware v3.5+ include basic configuration through USB using extension labels. Protocol format is the same as all other USB DMX commands.

GetDeviceSettingsBasic, Label = 245, no data

This message requests the basic device settings from the device. The response is of the form:

Size in bytes	***Description***
1	Number of ports (always 2 for eDMX2 PRO & ultraDMX2 PRO)
1	Port A: Operation Mode 0x00 = ArtNet Receiver, 0x01 Transmitter, 0x02 sACN Receiver
1	Port A: Merge Mode Bit 0 = HTP/LTP, Bit 1 = TimeOut All Sources, Bit 2 = Snapshot recall
2	Port A: DMX Universe LSB first. 0 = ArtNet 00:0:0 = sACN 1
2	Port A: Discovery Period LSB first
2	Port A: Update rate LSB first
8	Port A: Filler/unused
1	Port B: Operation Mode 0x00 = ArtNet Receiver, 0x01 Transmitter, 0x02 sACN Receiver
1	Port B: Merge Mode Bit 0 = HTP/LTP, Bit 1 = TimeOut All Sources, Bit 2 = Snapshot recall
2	Port B: DMX Universe LSB first. 0 = ArtNet 00:0:0 = sACN 1

2	Port B: Discovery Period LSB first
2	Port B: Update rate LSB first
8	Port B: Filler/unused

SetDeviceSettingsBasic, Label = 244, data payload 33 bytes

This message configures the device settings. There is no response.

Size in bytes	***Description***
1	Number of ports (always 2 for eDMX2 PRO & ultraDMX2 PRO)
1	Port A: Operation Mode 0x00 = ArtNet Receiver, 0x01 Transmitter, 0x02 sACN Receiver
1	Port A: Merge Mode Bit 0 = HTP/LTP, Bit 1 = TimeOut All Sources, Bit 2 = Snapshot recall
2	Port A: DMX Universe LSB first. 0 = ArtNet 00:0:0 = sACN 1
2	Port A: Discovery Period LSB first
2	Port A: Update rate LSB first
8	Port A: Filler/unused
1	Port B: Operation Mode 0x00 = ArtNet Receiver, 0x01 Transmitter, 0x02 sACN Receiver
1	Port B: Merge Mode Bit 0 = HTP/LTP, Bit 1 = TimeOut All Sources, Bit 2 = Snapshot recall
2	Port B: DMX Universe LSB first. 0 = ArtNet 00:0:0 = sACN 1
2	Port B: Discovery Period LSB first
2	Port B: Update rate LSB first
8	Port B: Filler/unused

9. TECHNICAL SPECIFICATIONS

- Dimensions: 75x36x104mm (WxHxD)
- Weight: 0.29kg
- DMX512 connector: 3 or 5 pin XLR Female per port
- Internal DMX512-A line biasing termination as per ANSI E1.20 RDM requirements.
- 1500V isolation on each port.
- Ethernet 10/100Mbps Auto MDI-X port.
- Power input: 802.3af Power over Ethernet. Maximum power budget 7W.
- Art-Net, Art-Net II, Art-Net III, Art-Net 4 and sACN/E1.31 support.
- ANSI E1.20 RDM compliant with RDM over Art-Net.
- Universe Sync Art-Net, sACN and Madrix Post Sync.
- Both HTP and LTP merging of 2 Art-Net/sACN streams per port
- sACN Priority
- Internal merging capability with DMX In and DMX Out ports on same Universe.
- IPv4 Addressing
- IGMPv2 for multicast network management
- DMX512 Frame Rate: Adjustable per port

10. WARRANTY

DMXKING.COM HARDWARE LIMITED WARRANTY

What is covered

This warranty covers any defects in materials or workmanship with the exceptions stated below.

How long coverage lasts

This warranty runs for one year from the date of shipment from an authorized DMXking.com distributor.

What is not covered

Failure due to operator error or incorrect application of product. Opening the unit voids the warranty.

What DMXking.com will do

DMXking.com will repair or replace, at its sole discretion, the defective hardware. Return shipping costs from our service facility in New Zealand shall be free of charge.

How to obtain service

Contact DMXking.com directly by email sales@dmxking.com

11. DECLARATIONS (FCC & CE)

FEDERAL COMMUNICATIONS COMMISSION (FCC) DECLARATION OF CONFORMITY

Responsible Party: JPK Systems Limited
PO Box 493
Pukekohe 2340
New Zealand

declares that the product eDMX2 PRO complies with Part 15 of the FCC rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

EEC DECLARATION

We

JPK Systems Limited
PO Box 493
Pukekohe 2340
New Zealand

declare under our sole responsibility that our product eDMX2 PRO conforms to the requirements of Council Directives 89/336/EEC and 73/23/EEC and therefore complies with the requirements of Council Directive 73/23/EEC, (The Low Voltage Directive) on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits as amended by Article 13 of Council Directive 93/68/EEC

- EN 55103-1
- EN 55103-2
- EN 60065

Signed: Jason Kyle

Date: 24 February 2016

Position: Managing Director