



eDMX2 PRO Interface



USER MANUAL

TABLE OF CONTENTS

1.	Introduction	1
	Hardware and Firmware versions	1
	Main Features	1
2.	Exterior View	2
	Front & REAR View	2
	Status LED Table	2
3.	Installing the FTDI driver	3
4.	Default Configuration	4
	USB DMX Modes	5
5.	Configuration Utility	5
	Network Tab	6
	Port Tab	7
	Recorder Tab	9
	DMX Display Function	9
	Node Report	10
	Advanced Options	10
	Art-Net Node Name	10
	Factory Reset	11
6.	Ports, Merging, Priority And DMX Input	12
	Ports and merging	12
	Supported merging combinations	12
	sACN / E1.31 Priority	12
	sACN / E1.31 Priority – DMX Receive	13
	DMX512 In – Unicast / Broadcast / Multicast	13
7.	Compatible Software	13
8.	USB Communications Protocol	14
	Enhanced mode	14
	Compatibility mode	14
	Manufacturer and Device Name extensions	14

9. Technical Specifications 15

10. Warranty 15

DMXking.com Hardware Limited Warranty 15

11. Declarations (FCC & CE) 16

Federal Communications Commission (FCC) Declaration of Conformity 16

EEC Declaration 16

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 which also translates into end user savings.

This user manual covers features up to v3.5 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.

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.
- DMX512 **Out** or DMX512 **In** functionality selectable on each port.
- 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** or 1 **In** 1 **Out**.
- 1500V Isolation between every port.
- Art-Net broadcast, Art-Net II, III & 4 unicast, sACN/E1.31 Multicast and sACN Unicast support.

- E1.20 RDM over Art-Net support.
- Universe Sync Art-Net, sACN and Madrix Post Sync.
- User configuration of Art-Net Node short and long names.
- Compact tough metal enclosure.
- Available with 3 pin or 5 pin XLR sockets.
- Optional Power over Ethernet compliant with 802.3af PoE or passive 48V PoE.
- Ethercon connector.
- Accessory port for external show triggering and future add on devices.
- Fully compatible with ***ALL*** software and hardware that supports Art-Net, Art-Net II, III & 4, and sACN protocols.
- Fully compatible with lighting consoles capable of generating Art-Net or sACN protocol.
- Configuration utility with basic Art-Net output/input test functionality.
- Recording and playback to microSD card (not included). See eDMX PRO Record / Playback manual.
- Standalone show playback without computer or network connection.
- Firmware updates can be performed by end user.

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

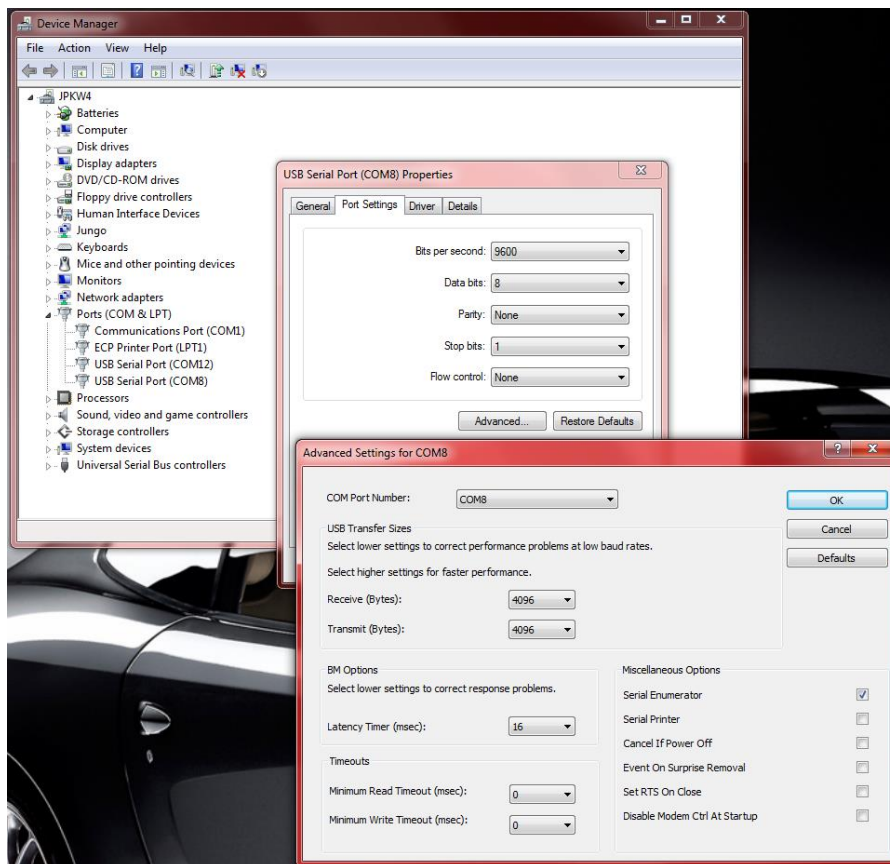
LED	Indication
Data (upper)	Protocol activity. Red = RX, Green = TX, Orange = Boot loader mode
Network (lower)	Network activity. Green = Link, Flash = Traffic
A (upper)	DMX512 Port A. Green = TX, Red = RX
B (lower)	DMX512 Port B. Green = TX, Red = RX

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 OS. 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 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 and DHCP disabled. Please reconfigure for your requirements before use.

Parameter	Default Setting
IP Address	192.168.0.112
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.254

DMX512 and Art-Net configuration parameters are also configured with default values.

Parameter	Default Setting
Network Mode	Static IP address
*Operation Mode	DMX Out
*Fixed IP	0.0.0.0 [Only for DMX In – Unicast to 1 IP address only]
*DMX Universe	1, 2 [Net 00, Subnet 0, Universe 0, 1] Note sACN Universe 1 = Art-Net 00:0:0
*Merge Mode/Timeout all sources	HTP, Timeout all sources <i>unchecked</i>
*DMX512 Update Rate	40 [DMX512 frames per second]. Universe Sync will override.
*RDM Packet Spacing	1/20s
*RDM Discovery Period (TX mode) / sACN Priority (RX mode)	0s [RDM Disabled]
*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.
*Recall DMX Snapshot at startup	Recall <i>unchecked</i>
Recorder Tab	All options disabled/unchecked by default. TFTP Client IP 0.0.0.0

*These parameters are per port.

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.

Use the auto-configuration in ultraDMX Configuration Utility v1.9+ for simple setup of USB DMX configurations (firmware 3.5 and above).

5. CONFIGURATION UTILITY

Because this unit is both USB DMX and Ethernet DMX there are 2 configuration utilities that can be used. The majority of features are setup using eDMX Configuration which requires a network connection to the eDMX2 PRO device. Basic setup relevant to USB DMX operation is available using the ultraDMX Configuration Utility v1.9 (coming soon) and above with firmware 3.1+.

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. By default DHCP is disabled.

IMPORTANT: Once you've finished configuring your eDMX product close it 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

The screenshot shows the 'DMXking.com eDMX Configuration v1.14' window with the 'Network' tab selected. The interface includes a menu bar (File, View, Advanced), a table of 'eDMX Nodes' with columns for IP Address and Name, and a 'Search For Devices' button. The 'Node Information' section displays details for the selected device (192.168.0.112): MAC Address 00:1A:19:22:11:F8, Node IP Address 192.168.0.112, Firmware Version 3.0, Device eDMX2 PRO, and DMXking.com eDMX2 PRO S/N 001A192211F8. The 'Network Settings' section shows IP Address (192.168.0.112), Subnet Mask (255.255.255.0), and Default Gateway (192.168.0.254). The 'Network Mode' section has radio buttons for 2.148.17.248, 10.148.17.248, Static IP (selected), and DHCP. The 'Commands' section has buttons for 'Update Network Settings' and 'Firmware Update'. The 'Network Adapter IP Address' dropdown is set to 192.168.223.25, and the 'Network Adapter Subnet Mask' is 255.255.255.0. The 'Messages' section at the bottom shows a log of ArtNet messages.

Time	Type	Source	ArtNet Messages
5/08/2017 2:37:07 PM	Received	192.168.0.112	SettingsNewReply
5/08/2017 2:37:07 PM	Transmitted	192.168.223.25	SettingsNew
5/08/2017 2:37:06 PM	Received	192.168.0.112	PollReply
5/08/2017 2:37:05 PM	Transmitted	192.168.223.25	Poll

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 devices on the same subnet are automatically detected and displayed by IP address. You can re-poll for new devices or just check the communications is okay by clicking "Search For Devices". From v1.16 polling is automatic every 8 seconds but can be disabled through the Advanced | Auto Device Poll menu option.

Click on the desired device's IP address in the list and all Settings will be retrieved. Note that if no response is received the settings will be greyed out. 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 need to select the same network range as the eDMX from the Network Adapter IP Address dropdown box and also ensure the subnet mask is appropriate. Make changes to the applicable settings on the Network tab 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. 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

The Port A & B tabs provide access to the DMX512 port parameters.

The screenshot shows the 'Port A' configuration window. The 'Operation Mode' is set to 'DMX Out' (indicated by a selected radio button). The 'ArtNet Settings' section includes 'Update Rate' at 40hz and 'Broadcast Threshold' at 10. The 'Merge Mode' section has 'Highest Takes Priority (HTP)' selected. The 'RDM Settings' section has 'Discovery Period' at 0s and 'Packet Spacing' at 1 1/20s. The 'Recall DMX snapshot at startup' checkbox is unchecked. The 'Snapshot DMX' button is visible. The 'Universe' is set to 1, and the 'Art-Net Port-Address' is 00 0 0. The 'Update' button is at the bottom left.

Operation Mode: DMX Out

The screenshot shows the 'Port A' configuration window. The 'Operation Mode' is set to 'DMX In sACN' (indicated by a selected radio button). The 'ArtNet Settings' section includes 'Async Update Rate' at 40hz and 'Broadcast Threshold' at 10. The 'Merge Mode' section has 'Highest Takes Priority (HTP)' selected. The 'RDM Settings' section has 'sACN Priority' at 100 and 'Packet Spacing' at 1 1/20s. The 'Recall DMX snapshot at startup' checkbox is unchecked. The 'Snapshot DMX' button is visible. The 'Fixed IP' field is set to 0.0.0.0. The 'Universe' is set to 1, and the 'Art-Net Port-Address' is 00 0 0. The 'Update' button is at the bottom left.

Operation Mode: DMX In sACN with sACN Priority 100

DMX512 ports can be 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 Fixed IP address destination may be specified but in the majority of applications leaving this field at 0.0.0.0 is appropriate.

Make changes to the applicable Port settings then click "Update".

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 IP
Operation Mode	DMX IN Art-Net, DMX IN sACN, DMX OUT (both Art-Net and sACN are enabled). Fixed IP is 0.0.0.0 by default which equates to OFF. Setting a Fixed IP forces DMX IN unicast to 1 IP only.
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)
Merge Mode	HTP (Highest Takes Precedence - dimmers), LTP (Last Takes Precedence – moving lights). Timeout all sources: Last Art-Net or sACN stream source if lost will timeout DMX output.
Update Rate	DMX512 output frame rate/frequency. Universe Sync takes precedence.
RDM Packet Spacing	Number of 1/20sec intervals enforced minimum between RDM messages on DMX line
RDM Discovery Period (TX) / sACN Priority (RX mode)	Number of seconds between internally initiated RDM Discovery attempt. Setting Discovery Period = 0s will disable RDM which is the default. In receive mode – sACN Priority 0 – 200.
Broadcast Threshold	0 = Force Art-Net broadcast mode, > 0 Art-Net II/3/4 unicast.
Recall DMX snapshot at startup	Recall snapshot scene at power on and output until Art-Net or sACN source received. Snapshot DMX button records current DMX output to snapshot memory.

RECORDER TAB

The Recorder Tab interface includes the following sections:

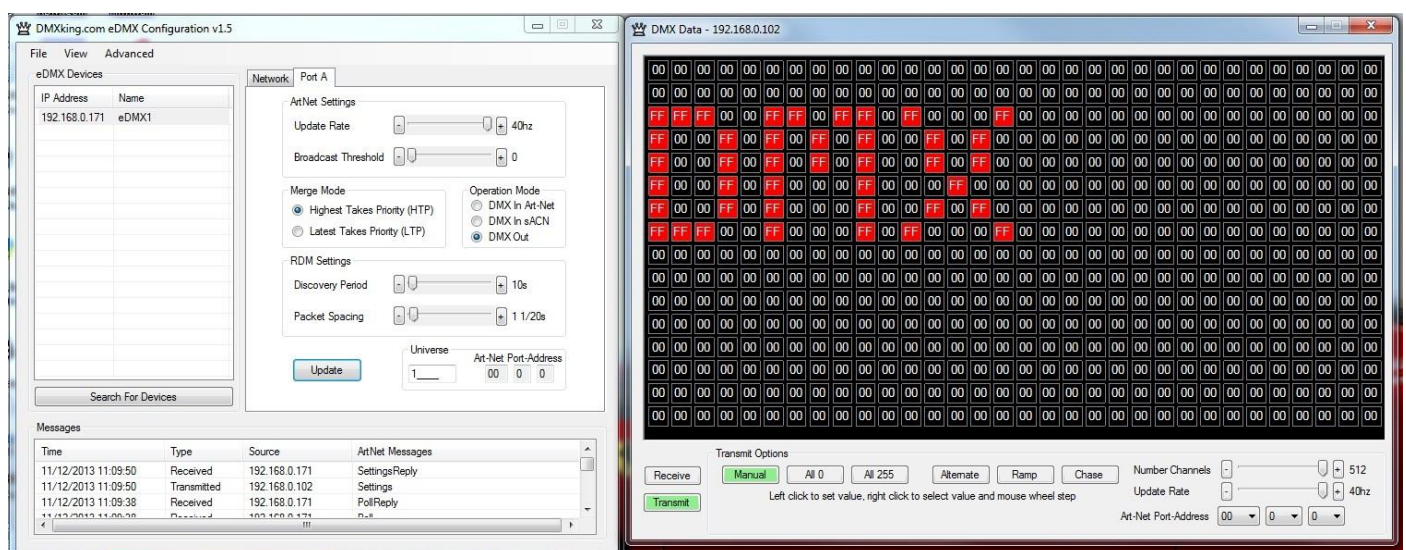
- Controls:**
 - Show 1 (dropdown)
 - Play (button)
 - Stop (button)
 - Controls Scope: ☒ Selected ☐ Broadcast
 - Record (button)
 - Enable (checkbox)
- Settings:**
 - ☐ Playback Enable
 - ☐ Recorder Enable
 - ☐ Playback Merge
 - ☐ Record Monitor
 - ☐ Record Trigger Uni / Ch: 1 [00] [0] [0] [1]
 - ☐ Playback Trigger Universe: 1 [00] [0] [0]
 - ☐ Playback Universe Master Level
 - ☐ Playback External Trigger
 - ☐ Hold Last Scene
 - ☐ Last Show Recall
 - TFTP:**
 - ☐ Read Access
 - ☐ Write Access
 - 0.0.0.0 (text field) Client IP
 - ☐ Up/Down/Go
 - ☐ Broadcast
 - ☐ B/O Show After Stop
 - ☐ Multicast Output
- Update** (button)

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.

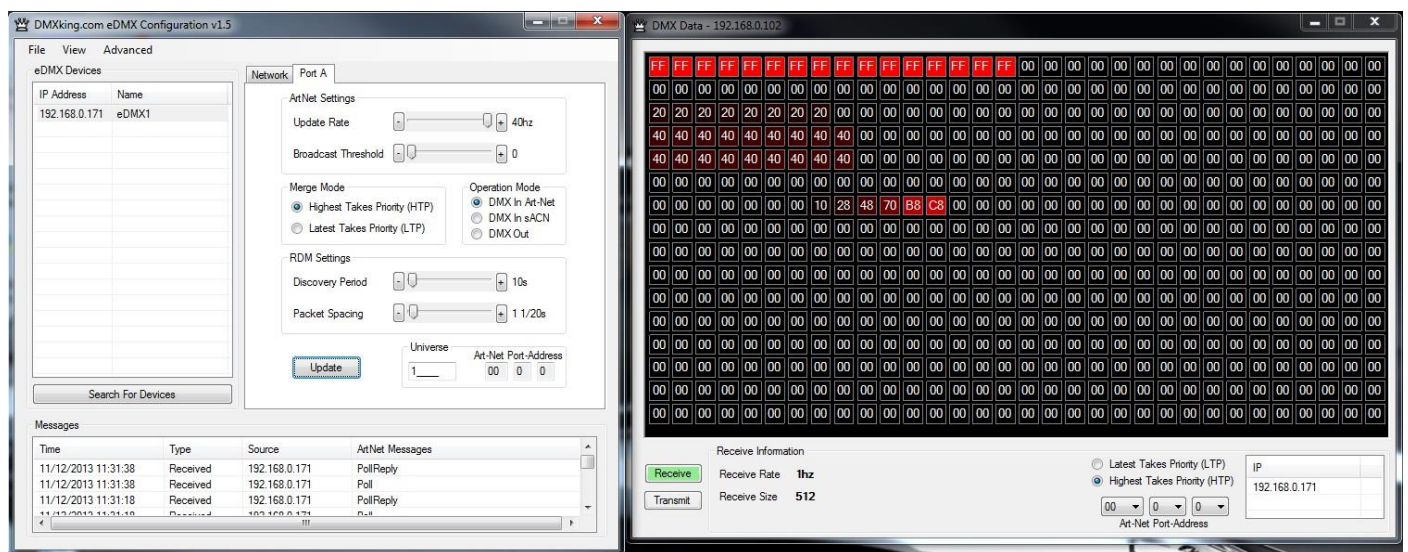
DMX DISPLAY FUNCTION

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

Node Report: #0001[39]DMX:40,33 SYNC:Async SHOW:000 REC:Idle

From firmware v3.3+ each node provides a brief status report indicating DMX frame rates, SYNC status, SHOW playback selection and REcorder status.

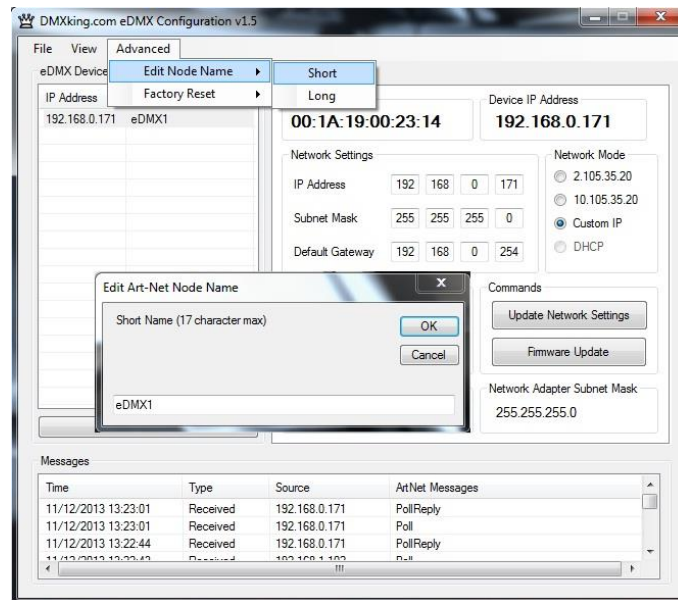
Above an eDMX2 PRO reports Port A at 40fps and Port B at 33fps with no synchronization present (Async mode) and the recorder state Idle.

ADVANCED OPTIONS

IGMP Unsolicited Period can be configured where an IGMP Querier is not always active in a multicast (sACN) network. We highly recommend ensuring your network infrastructure manages IGMP Requests appropriately however setting the IGMP Unsolicited Period from 5 – 255 seconds permits multicast traffic to function correctly even when the IGMP Querier is off-line. Set to 0s to disable (default). This is only available in firmware 3.0+ and can be accessed using the **Advanced | IGMP Unsolicited Period** dialog.

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 crossover 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+.

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 PRO into a USB DMX or 1 universe Art-Net/sACN node + 2 port isolated splitter in one.

DMXking products are capable of several advanced merging and stream selection functions usually only found on high end 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 co-exist for 1 lighting rig. To achieve DMX stream merging simply send 2 Art-Net or sACN streams with the same Universe ID and configure the applicable merge scheme HTP or LTP. If the number of sources exceeds 2 only the first 2 will be processed and all others are 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 the same as DMX Out port universe. Priority is 100.
DMX In sACN	Configure DMX In port universe to the same as DMX Out port universe. Priority is defined by the Discovery Period slider (values of 0-200 valid).
USB DMX	Source is Universe 1 Priority 100. Note if using 2 universe USB DMX mode 2 nd 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 (i.e. console) with incoming Art-Net stream.
DMX In	sACN / E1.31	Merge external DMX512 source (i.e. console) 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 (i.e. console) with USB DMX source.

SACN / E1.31 PRIORITY

At any time if a higher priority sACN stream is received it will take over control a DMX Out channel regardless of other incoming streams or merging. When an sACN stream is stopped gracefully via a stream terminate message the eDMX2 PRO 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 2 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 RDM Discovery Period parameter doubles up as sACN Priority since it is otherwise unused. 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 eDMX2 PRO 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 only 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

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