

eDMX4 PRO ISODIN

Interface



USER MANUAL

DMXking.com • JPK Systems Limited • New Zealand 0118-700-3.7

TABLE OF CONTENTS

1	Introduction	1
	Hardware and Firmware versions	1
	Main Features	2
2	Exterior View	3
	Front View	3
	Status LED Table	3
3	Default Configuration	4
4	Configuration Utility	5
	Network Tab	5
	Port Tab	
	Recorder Tab	
	DMX Display Function	
	Node Report	
	Art-Net Node Name	
	Factory Reset	
_	Summary of settings	
5		
	Ports and merging	
	Supported merging combinations	. 12
	sACN / E1.31 Priority	. 12
	sACN / E1.31 Priority – DMX Receive	. 13
	DMX512 In – Unicast / Broadcast / Multicast	. 13
6	Compatible Software	. 13
7	Technical Specifications	. 13
8	Warranty	. 14
	DMXking.com Hardware Limited Warranty	. 14
9	Declarations (FCC & CE)	. 15
	Federal Communications Commission (FCC) Declaration of Conformity	15
	EEC Declaration	15

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 eDMX4 PRO ISODIN product variants. Check the product label for P/N details.

Part Number	Feature addition	
0118-1.0	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	
v3.5	Initial release	
v3.6	Fixed eDMX4 PRO ISODIN port allocation mismatch. **Critical update to replace v3.5	
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

- Wide input power range 8-28Vdc.
- DIN rail mounted compact form factor.
- Static or DHCP IPv4 network addressing.
- Supported operating systems: Any with Ethernet networking support. Windows, MAC OS, Linux, iOS, Android....
- eDMX4 PRO ISODIN 4x 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(s)
- Merge 2x DMX input -> DMX output(s)
- Split 1x DMX input -> 3x DMX outputs
- 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
- DMX ports with 3 pin screw terminal plugs.
- E1.11 Higher Protection Level "DMX512-A Protected" device
- 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

eDMX4 PRO ISODIN 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.

FRONT VIEW



Network 10/100Mbps RJ45 socket. Pluggable terminal block for 8-28Vdc power input. Four 3way pluggable terminal block connectors for DMX512.

STATUS LED TABLE

LED	Indication	
Protocol	Protocol activity. Flash Yellow = Art-Net/sACN. Solid Yellow = Firmware Update mode.	
Network	Network activity. Green = Link, Flash = Traffic	

3. DEFAULT CONFIGURATION

All eDMX4 PRO ISODIN 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	НТР	
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]	Os / 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.

4. 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

File View Advanced eDMX Nodes PAdress Short Name 192.168.223.114 EDMX2 PRO 201285 192.168.223.119 LOBMX2 PRO 20155 192.168.223.119 LOBMX4 PRO 2615 192.168.223.119 LOBMX4 PRO 2615 192.168.223.119 LOBMX4 PRO 2615 192.168.223.119 LOBMX4 PRO 2615 192.168.223.20 utraDMX2 PRO 78 IP Address 192.168 Subnet Mask 255 255 0 Default Gateway 192.168 Node Information Commands Hardware EDMX4 PRO Name DMXking.com eDMX4 PRO S/N 001A19201286 Image: Report Hould Information Hardware EDMX4 PRO Search AtPoll Breadcast IS2168.223.5 255.255.55.0 Intel(R) I210 Gigabit Network Connection Search Type Source AtNet Messages The Type Source AtNet Messages The Type Source AtNet Messages	DMXking.com eDMX Configuration v1.2	0		- 🗆 X
IP Address Short Name 192.168.223.114 eDMX4 PRO 201205 192.168.223.119 LeDMX4 PRO 201205 192.168.223.119 LeDMX4 PRO 201205 192.168.223.119 LeDMX4 PRO 201205 192.168.223.10 UhraDMX2 PRO 78 IP Address 0:1A: 19:20: 12:86 192.168.223.118 Network Mode IP Address 192.168.223.118 IP Address 192.168.223.114 IP Address 192.168.223.5 IP Address 192.168.223.114 IP Address 192.168.223.114 IP Address 192.168.223.114 IP Address	File View Advanced			
192.168.223.114 eOMX2 PR0 22123 192.168.223.118 eOMX4 PR0 201286 192.168.223.119 LeDMX4 PR0 201286 192.168.223.20 ultraDMX2 PR0 78 192.168.223.20 ultraDMX2 PR0 78 192.168.223.21 IP Address 192.168.223.22 UltraDMX2 PR0 78 192.168.223.20 UltraDMX2 PR0 78 192.168.223.21 IP Address 192.168.223.20 UltraDMX2 PR0 78 192.168.223.21 Default Gateway 192.168.223 Default Gateway 192.168.223.5 255.255.255.0 192.168.223.5 255.255.255.0 Intel(R) 1210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Tme Type 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Rec	eDMX Nodes Network Port A Port B Port C Port D Recorder			
192.160.223.118 eDMX4 PRO 201286 192.163.223.119 LeDMX4 PRO 2615 192.163.223.00 utraDMX2 PRO 78 IP Address 192.168 IP Address 192.168 Subnet Maak 255 Default Gateway 192.168 Default Gateway 192.168 Default Gateway 192.168 Node Information Commands Hardware EDMX4 PRO Node Information Update Network Settings Node Information Computer Network Adapter IP Address / Subnet Mask 192.168.223.5 255.255.0 Intel (R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC: Async SHOW:000 REC:Idle Messages Time 13/10/2020 3:12:32 PM Received 13/10/2020 3:12:31 PM Received 192.168.223.119	IP Address Short Name	Node MAC Address	Current IP Address	
192.168.223.19 LeDMX4 PRO 2615 192.168.223.20 ultraDMX2 PRO 78 IP Address 192 IP Address 192 Subnet Mask 255 Default Gateway 192 IP Address 192		00:1A:19:20:12:86	192.168.223.118	3
192.168.223.20 ultraDMX2 PRO 78 IP Address 192 168 223 118 0.145.18.134 Insolicited Report 192.168.223.20 ultraDMX2 PRO 78 IP Address 192 168 223 118 0.145.18.134 Insolicited Report 192.168.223.20 UltraDMX2 PRO 78 IP Address 192 168 223 118 0.145.18.134 Insolicited Report 10.145.18.134 Image: Comparison of the second o		Network Settings	Network Mode	-IGMPv2
IP Address 192 168 223 118 0.145.18.134 Subnet Mask 255 255 0 0 Static IP Default Gateway 192 168 223 254 0 DHCP Node Information Hardware eDMX4 PRO Firmware Version 3.7 Update Network Settings Long Name DMXking.com eDMX4 PRO Firmware Version 3.7 Update Network Settings Computer Network Adapter IP Address / Subnet Mask 192.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM PolReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PolReply 13/10/2020 3:12:31 PM 192.168.223.119 PolReply				
Subnet Mask 255 255 0 Image: Static IP Default Gateway 192 168 223 254 O DHCP Node Information Hardware eDMX4 PRO Firmware Version 3.7 Update Network Settings Long Name DMXking.com eDMX4 PRO Firmware Version 3.7 Image: Static IP Computer Node Information Econycler Computer Network Adapter IP Address / Subnet Mask Ip2.168.223.5 255.255.2 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Image: Source ArtNet Messages Time Type Source ArtNet Messages Image: Source Intel(R) I210 Gigabit Network Connection 13/10/2020 3:12:32 PM Received 192.168.223.114 PolReply PolReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PolReply Intel(R) I210 Gigabit Network		IP Address 192 168 223 118		
Default Gateway 192 168 223 254 O DHCP Node Information Hardware eDMX4 PRO Firmware Version 3.7 Update Network Settings Long Name DMXking.com eDMX4 PRO Firmware Version 3.7 Firmware Update Search ArtPoll Broadcast 192.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192:168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192:168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192:168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192:168.223.119 PollReply		Subnet Mask 255 255 0	-	
Default Gateway 132 168 223 234 C Image: Computer Network Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Adapter IP Address / Subnet Mask Image: Computer Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Image: Computer Network Messages Image: Computer Network Messages <td></td> <td></td> <td>0</td> <td></td>			0	
Hardware eDMX4 PRO Firmware Version 3.7 Long Name DMXking.com eDMX4 PRO S.7 Long Name DMXking.com Subnet Mask Ip2.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Messages Time Type Source AtNet Messages Ip2.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply		Default Gateway 192 168 223 254	O brief	
Long Name DMXking.com eDMX4 PRO S/N 001A19201286 Firmware Update Search ArtPoll Broadcast 192.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply		Node Information	Commar	nds
Long Name DMXking.com eDMX4 PRO S/N 001A19201286 Firmware Update Search ArtPoll Broadcast 192.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply		Hardware eDMX4 PRO Firmwa	are Version 37	date Network Settings
Art Poll Broadcast Computer Network Adapter IP Address / Subnet Mask Search Art Poll Broadcast Mute Responses 192.168.223.5 Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Messages Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply				
ArtPoll Broadcast 192.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Messages Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply		Long Name DMXking.com eDMX4 PRO S/N	001A19201286	Firmware Update
AttPoll Broadcast 192.168.223.5 255.255.255.0 Intel(R) I210 Gigabit Network Connection Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Messages Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply		Computer Network Adapter IP Address / Subject Ma		
Search Mute Responses Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages Messages Time Type 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply	Art Poll Broadcast			Jotwork Connection
Node Report: #0001[184]DMX:0.0.0.0 SYNC:Async SHOW:000 REC:Idle Messages AtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply	Search	192.168.223.5 V 255.255.255.	u intel(R) iz tu digabit t	Network Connection
Messages Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply				
Time Type Source ArtNet Messages 13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply	Node Report: #0001[184]DMX:0,0,0,0 SYI	NC:Async SHOW:000 REC:Idle		
13/10/2020 3:12:32 PM Received 192.168.223.114 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply	Messages			
13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply 13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply	Time Type	Source ArtNet Messages		^
13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply				
13/10/2020 3:12:31 PM Received 192.168.223.119 PollReply				
	13/10/2020 3:12:31 PM Received	192.168.223.119 PollReply		¥

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.

Search	192.168.223.118
Search	Mute Responses

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.

IGMPv2
Unsolicited Report
Period (s) 90_

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 0118-500-VersionMajor.VersionMinor.enc

PORT TAB				
	Network Port A Port B Port C Port	ort D Recorder		
Merge Mode Highest Takes Priority (HTP)		+ 40hz	Port Operation Mode DMX-IN Art-Net DMX-IN sACN DMX-OUT Timeout all source	Channel Offset
			DMX-OUT Failsafe M	
	DMX-IN Options Broadcast Threshold	+ 10	 Hold Last Outputs Zero 	Snapshot Scene Outputs Full
		E Full DMX Frame	Recall DMX snap	shot at startup
	DMX-OUT RDM Settings Discovery Period -	+ 0s + 1 1/20s	DMX512 Universe	Art-Net Port-Address
				Update

Port Operation Mode: DMX-OUT

DMXking.com • JPK Systems Limited • New Zealand 0118-700-3.7

Network Port A Port B Port C Port D Recorder	
DMX-OUT Options Async Update Rate Merge Mode Ighest Takes Priority (HTP) Latest Takes Priority (LTP) Full DMX Frame	Port Operation Mode O DMX-IN Art-Net Image: DMX-IN sACN O DMX-OUT Channel Offset Timeout all sources DMX-OUT Failsafe Mode
DMX-IN Options	Hold Last Snapshot Scene Outputs Zero Outputs Full
Broadcast Threshold	Recall DMX snapshot at startup
Unicast IP 0.0.0.0 Full DMX Frame	Snapshot DMX
DMX-IN sACN Priority sACN Priority + 100	DMX512 Universe Art-Net Port-Address 1 00 0 0
	Update

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.

Network Port A Port B Port C Port D Recorder			
Recorder Settings	Time NTP Server IP 202.46.177.18 NTP Poll Interval 2 Hours Time Zone UTC +12:00 US Date Format Daylight Savings Daylight Savings	Show Triggering eDMX Trigger Up/Down/Go eDMX Control Skip Script Playback Trigger Universe Universe 100_0_0 Playback Group 0 Playback Master Level	
Show Settings B/O Show After Stop Hold Last Scene Last Show Recall TFTP Read Access Write Access Restricted Client IP	 ✓ DST Enabled ○ Specified ● Recurring DST Begin DST End Month September ∨ Week Num Last ∨ Week Day Sunday ∨ Hour 2_ 	DMX Channel 1 Show Run Until Complete Broadcast Triggers Record Trigger Universe Universe 1 00_ 0_ 0 DMX Channel 1	
0.0.0.0		Update Settings	

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.

e View Advanced													1010				1								and the second second	-
DMX Devices		Network Port A			00 00		00 00											00 00								
IP Address Name		ArtNet Sett	ings		00 00	00 0	00 00	00 C	00 00	00	00 0	00 00	00	00 00	00 0	00 00	00 0	00 00	00	00	00 00	00	00 00	00 0	00 0	00
192.168.0.171 eDMX1		Update Rate			FF FF	FF (00 00	FF F	F 00	FF	FF	DO FF	00	00 00) FF	00 00	00 0	00 00	00	00	00 00	00	00 00	0 00	00 0	00
		Update Hate			FF 00	00	F 00	FF	0 FF	00	FF (00 00	FF	00 FF	00	00 00	00 0	00 00	00	00	00 00	00	00 00	0 00	00 0	00
		Broadcast Threshold 💿 🕒 🛨 0			FF 00	00	F 00	FF C	0 FF	00	FF (00 00	FF	00 FF				00 00								00
		Merge Moo	14	Operation Mode	FF 00	00 F	F 00	FF C	00 00	00	FF (00 00	00	FF 00				00 00								00
			st Takes Priority (HTP)	 DMX In Art-Net 	FF 00	00	F 00	FF C	00 00	00	FF	00 00	FF	00 FF				00 00			00 00				00 0	00
			Takes Priority (LTP)	DMX In sACN	FE FE	FF (00 00	FF (0 00	00		00 FF	00	00 00		00 00		00 00			00 00					00
		1000		OMX Out	00 00		00 00	00 0	00 00	00		00 00		00 00		00 00		00 00		00 (00 00			
		RDM Settin																								
		Discovery	Period 🕞 💭	+ 10s	00 00		00 00		00 00									00 00								
		Packet Spacing + 1 1/20s			00 00		00 00											00 00								
					00 00	00 0	00 00																		00 0	00
		21	Universe	Art-Net Port-Address	00 00	00 0	00 00	00 C	00 00	00	00 0	00 00	00	00 00	00 (00 00	00 (00 00	00	00	00 00	00	00 00	0 00	00 0	00
		Updat	e 1	00 0 0	00 00	00 0	00 00	00 C	00 00	00	00 0	00 00	00	00 00	00 0	00 00	00 0	00 00	00	00	00 00	00	00 00	0 00	00 0	00
Search For De	vices				00 00	00 0	00 00	00 0	00 00	00	00 0	00 00	00	00 00	00 0	00 00	00 0	00 00	00	00	00 00	00	00 00	0 00	00 0	00
lessages					00 00		00 00																		00 0	00
Time	Туре	Source	ArtNet Messages	<u>^</u>		Tr	ransmit O	ptions													_	19449				
11/12/2013 11:09:50	Received	192.168.0.171	SettingsReply		Receive		Manua		All 0		All 25	55	Ah	emate	F	lamp	CH	ase	Num	ber Ch	annels	0-			00	
11/12/2013 11:09:50 11/12/2013 11:09:38	Transmitted Received	192.168.0.102 192.168.0.171	Settings PollReply					Left c	lick to s	et valu	ue, right	click to	select	value a	nd mou	se whee	step		Upda	ate Rat	e	0-			00	40
11/12/2013 11:09:38	Received	192.168.0.171	PoliReply		Transmit						-							224		D-+ A	ddress	00			-	1

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.

e View Advanced						_			_		_														_	_	_
DMX Devices		Network Port A			FF FI	FF	FF FF	FF	FF FF	FF	FFF	FF	FF	FF FI	FF	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	þ
IP Address Name		ArtNet Setti	ings		00 00		00 00		00 00			00 00		00 0			00 00			00 00					00 0	0 00)
192.168.0.171 eDMX1		Update Rate		() + 40hz	20 20		20 20							_	_						_				00 0	0 00	Ì
		Broadcast	Threshold	+ 0	40 40		40 40										00 00								00 0	0 00	1
		Divaucast	mesion jo		40 40	0 40	40 40		40 40															0 00	00 0	0 00	l
		Merge Mod	le	Operation Mode	00 00	00 0	00 00	00	00 00	00	00 0	00 00	00	00 00	00 0	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	J
		Highes	t Takes Priority (HTP)	OMX In Art-Net DMX In sACN	00 00	00 (00 00	00	00 10	28	48 7	'0 B8	C8	00 00	00 0	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	l
		C Latest	Takes Priority (LTP)	DMX In SACN	00 00	00 0	00 00	00	00 00	00	00 (00	00	00 00	D 00	00	00 00	00	00 0	00 00	00	00	00 0	0 00	00 0	0 00	l
		RDM Settin	ngs		00 00	00 0	00 00	00	00 00	00	00 0	00 00	00	00 00	D 00	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	l
		Discovery	Period	+ 10s	00 00	00 0	00 00	00	00 00	00	00 (00 00	00	00 00	00 0	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	00 00	i
			<u> </u>	J	00 00	00 0	00 00	00	00 00	00	00 0	0 00	00	00 00	00 0	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	i
		Packet Sp	acing - O	+ 1 1/20s	00 00	00 0	00 00	00	00 00	00	00 0	00 00	00	00 00	00 0	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	i
			Universe		00 00	00 0	00 00	00	00 00	00	00 0	0 00	00	00 00	00 0	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	i
		Update	1	Art-Net Port-Address 00 0 0	00 00	00 0	00 00	00	00 00	00	00 0	00 00	00	00 00	00 0	00	00 00	00	00 (00 00	00	00	00 0	0 00	00 0	0 00	i
Search For Dev	rices	-			00 00	00 0	00 00		00 00																00 0	0 00	i
essages	,				00 00	00 0	00 00	00	00 00	00	00 (00 00	00	00 0	0 00	00	00 00	00	00	00 00	00	00	00 0	0 00	00 0	0 00	ļ
Time	Туре	Source	ArtNet Messages	*		F	Receive	nformat	ion																		1
1/12/2013 11:31:38	Received	192.168.0.171	PollReply		Receiv	e	Receive	Rate	1hz											Takes I			IF				
1/12/2013 11:31:38	Received	192.168.0.171	Poll			_	Receive											0	-	t Takes			1	92.168.0	1.171		
11/12/2013 11:31:18	Received	192.168.0.171	PollReply		Transm	in j	1000140	U.L.U	5.2									0	0 v Art-N	0	- 0	-					

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

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.

le View	Advanced							
DMX Device	Edit N	lode Name	Short					
IP Address Factory Reset			Long			- 578	Device IF	Address
192.168.0.171 eDMX1			00:1A:19:0				192.	168.0.171
			Network Settings					Network Mode
			IP Address	192	168	0	171	@ 2.105.35.20
			Subnet Mask	255	255	255	0	 10.105.35.20 Custom IP
			Default Gateway	192	168	0	254	O DHCP
E	dit Art-Net	Node Name			х		Command	ls
5	Short Name	(17 character ma	x)		ОК		Upda	te Network Settings
					ancel	í	F	imware Update
							Network	Adapter Subnet Mask
	eDMX1						255.25	5.255.0
Messages								
Time		Туре	Source	ArtNe	et Mess	ages		
11/12/2013	13:23:01	Received	192.168.0.171	PollR	leply			
11/12/2013	13:23:01	Received	192.168.0.171	Poll				
	13.22.44	Received	192.168.0.171	PollR	leply			+
11/12/2013								

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+.

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 & crespectively									
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 <i>disable RDM</i>									
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)									

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 eDMX4 PRO ISODIN is 4x isolated DMX512 outputs of the same universe, thus turning the eDMX4 into a 1 universe Art-Net/sACN node + 4 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.

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.
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 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/I/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.

6. 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 eDMX4 unit is a 4 universe Art-Net/sACN device designed for use with computer based show control software or expansion of lighting console outputs. 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 as your DMX device compatibility is guaranteed.

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

http://dmxking.com/control-software

7. TECHNICAL SPECIFICATIONS

- Dimensions: 22.5x100x120mm (WxHxD)
- Weight: 0.15kg
- DC Power input 8-28Vdc, 2.5W max. Typical current consumption @ 12Vdc 250mA
- DMX512 connector: 3 way screw terminal block.

- 1500V isolation on each port.
- Ethernet 10/100Mbps Auto MDI-X port.
- Internal DMX512-A line biasing termination as per ANSI E1.20 RDM requirements
- Art-Net, Art-Net II, Art-Net 3, 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 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
- DMX512 Port Electrical Protection: DMX512-A Protected as per E1.11-2008
- Operating temperature -10°C to 50°C non-condensing dry environment

8. 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

FEDERAL COMMUNICATIONS COMMISSION (FCC) DECLARATION OF CONFORMITY

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

declares that the product eDMX4 PRO ISODIN 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 а residential This equipment generates, uses and can radiate radio frequency energy installation. 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 eDMX4 PRO ISODIN 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: 1 November 2018

Position: Managing Director