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ENTTEC ODE MK3 DMX Ethernet Interface User Manual

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The ODE MK3 is a solid-state RDM compatible DMX node designed for the highest level of portability, simplicity, and practicality. A perfect solution for converting from a multitude of Ethernet-based lighting protocols to physical DMX and vice versa without the need for adaptors.

With 2 Universes of bi-directional eDMX <–> DMX/RDM support female XLR5s and a PoE (Power over Ethernet) RJ45, ODE MK3 is simple and easy to connect physical DMX devices to your network infrastructure.

Connectors with EtherCon lockable feature in addition make the wiring secured with a peace of mind.

The configuration as well as the firmware updates of the ODE MK3 are managed through the localhost web interface to simplify commissioning from any computer on your network.

Contents

Features

- Two-Universe bi-directional DMX / E1.20 RDM female XLR5s.
- One PoE (Power over Ethernet) RJ45 port supporting IEEE 802.3af (10/100 Mbps) and one optional DC 12-24v power input.
- Secured 'EtherCon' connectors.
- Support RDM over Art-Net & RDM (E1.20).
- Support for DMX -> Art-Net (Broadcast or Unicast) / DMX -> ESP (Broadcast or Unicast) / DMX -> sACN (Multicast or Unicast).
- HTP/LTP Merging support for up-to 2 DMX sources.
- Configurable DMX output refresh rate.
- Intuitive device configuration and updates through the inbuilt web interface.
- Current Port Buffer' allows live DMX values to be viewed.

Safety

⚠Ensure you are familiarized with all key information within this guide and other relevant ENTTEC documentation before specifying, installing, or operating an ENTTEC device. If you are in any doubt about system safety, or you plan to install ENTTEC device in a configuration that is not covered within this guide, contact ENTTEC or your ENTTEC supplier for assistance.

ENTTEC's return to base warranty for this product does not cover damage caused by inappropriate use, application, or modification to the product.

Electrical safety

- ⚠ This product must be installed in accordance with applicable national and local electrical and construction codes by a person familiar with the construction and operation of the product and the hazards involved. Failure to comply with the following installation instructions may result in death or serious injury.
- Do not exceed the ratings and limitations defined in the product datasheet or this document. Exceeding can cause damage to the device, risk of fire and electrical faults.
- Ensure that no part of the installation is or can be connected to power until all connections and work is complete.
- Before applying power to your installation, ensure your installation follows the guidance within this document. Including checking that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices and factor in overhead as well as verifying that it is appropriately fused and voltage is compatible.
- Remove power from your installation immediately if accessories power cables or connectors is in any way damaged, defective, shows signs of overheating or are wet.
- Provide a means of locking out power to your installation for system servicing, cleaning and maintenance. Remove power from this product when it is not in use.
- Ensure your installation is protected from short circuits and overcurrent. Loose wires around this device whilst in operation, this could result in short circuiting.
- Do not over stretch cabling to the device's connectors and ensure that cabling does not exert force on the PCB.
- Do not 'hot swap' or 'hot plug' power to the device or its accessories.
- Do not connect any of this device's V- (GND) connectors to earth.
- Do not connect this device to a dimmer pack or mains electricity

System Planning and Specification

- ⚠ To contribute to an optimal operating temperature, where possible keep this device out of direct sunlight.
- Any twisted pair, 120ohm, shielded EIA-485 cable is suitable to transmit DMX512 data. The DMX cable should be suitable for EIA-485 (RS-485) with one or more low capacitance twisted pairs, with overall braid and foil shielding. Conductors should be 24 AWG (7/0.2) or larger for mechanical strength and to minimize volt drop on long lines.
- A maximum of 32 devices should be used on a DMX line before re generating the signal using a DMX buffer/ repeater / splitter.
- Always terminate DMX chains using a 120Ohm resistor to stop signal degradation or data bounce-back.
- The maximum recommended DMX cable run is 300m (984ft). ENTTEC advises against running data cabling close to sources of electromagnetic interference (EMF) i.e., mains power cabling / air conditioning units.
- This device has an IP20 rating and is not designed to be exposed to moisture or condensing humidity.
- Ensure this device is operated within the specified ranges within its product datasheet.

Protection from Injury During Installation

- ⚠ Installation of this product must be performed by qualified personnel. If ever unsure always consult a professional.
- Always work with a plan of the installation that respects all system limitations as defined within this guide and product datasheet.

- Keep the ODE MK3 and its accessories in its protective packaging until final installation.
- **Note** the serial number of each ODE MK3 and add it to your layout plan for future reference when servicing.
- All network cabling should be terminated with an RJ45 connector in accordance with the T-568B standard.
- Always use suitable personal protective equipment when installing ENTTEC products.
- Once installation is completed, check that all hardware and components are securely in place and fastened to supporting structures if applicable.

Installation Safety Guidelines

- ⚠ The device is convection cooled, ensure it receives sufficient airflow so heat can be dissipated.
- Do not cover the device with insulating material of any kind.
- Do not operate the device if the ambient temperature exceeds that stated in the device specifications.
- Do not cover or enclose the device without a suitable and proven method of dissipating heat.
- Do not install the device in damp or wet environments.
- Do not modify the device hardware in any way.
- Do not use the device if you see any signs of damage.
- Do not handle the device in an energized state.
- Do not crush or clamp the device during installation.
- Do not sign off a system without ensuring all cabling to the device and accessories has been appropriately restrained, secured and is not under tension.

Wiring Diagrams

Port 1: eDMX to DMX Conversion
Port 2: eDMX to DMX Conversion
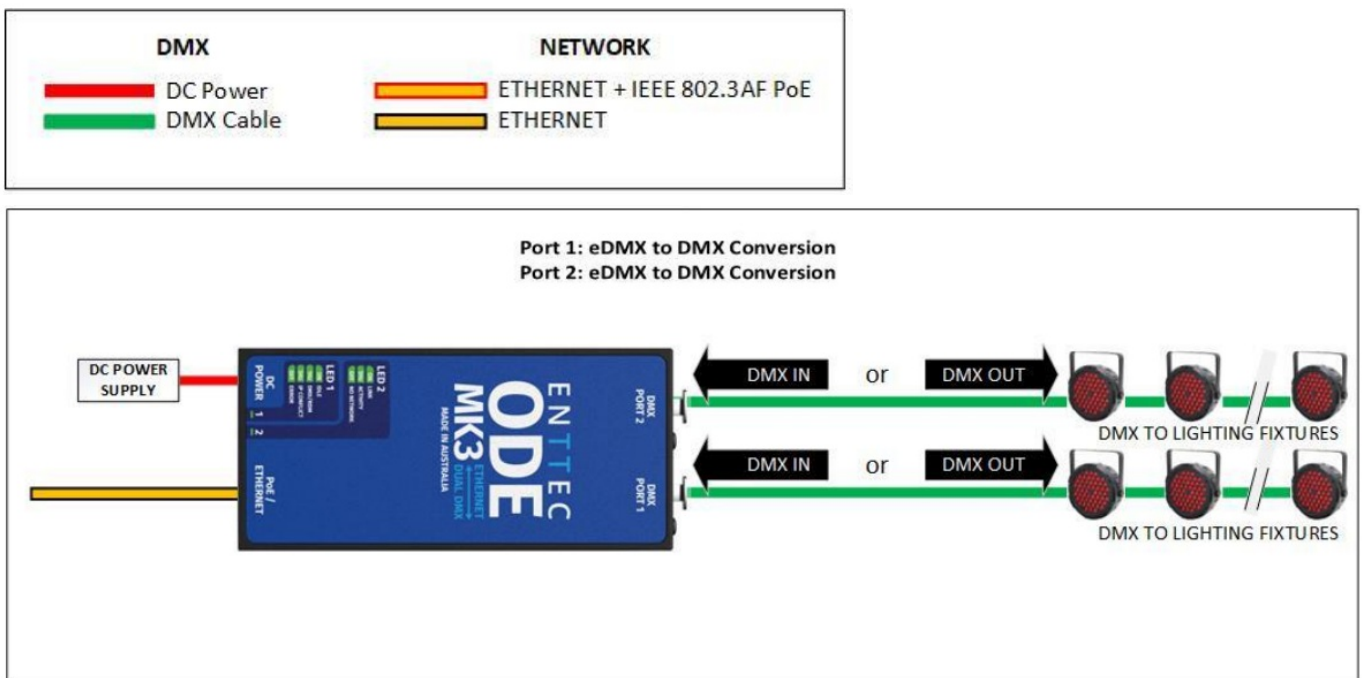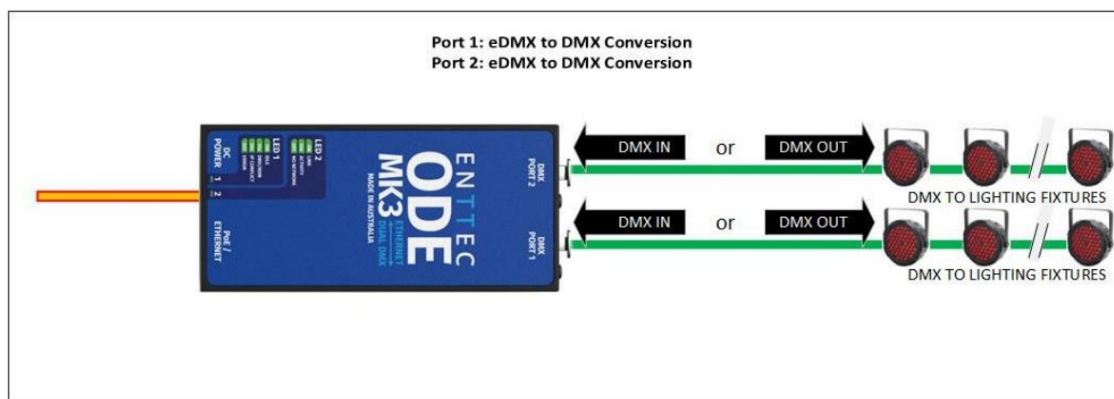
Functional Features

Bi-directional eDMX Protocols and USITT DMX512-A Conversion

The ODE MK3's primary functionality is to convert between Ethernet-DMX protocols and USITT DMX512-A (DMX). The ODE MK3 can support eDMX protocols including Art-Net, sACN and ESP which can be received and converted to DMX with the HTP or LTP Merging options, or DMX converted to eDMX protocols with the options to Unicast or Broadcast/Multicast.

Art-Net <-> DMX (RDM Supported): Art-Net 1, 2, 3 & 4 are supported. Each port's c

RDM (ANSI E1.20) is supported whilst the ODE MK3's conversion 'Type' is set to Output (DMX Out) and the Protocol is set to Art-Net. When this is the case, a check box appears which will need to be ticked to enable RDM. This will convert Art-RDM to RDM (ANSI E1.20) to use the ODE MK3 as a gateway to discover, configure and monitor RDM capable devices on the DMX line connected to the port.

ENTTEC recommends disabling RDM if your fixtures do not require it. Some older fixtures that support the DMX 1990 Specification can sometimes behave erratically when RDM packets are on the DMX line.

The ODE MK3 does not support remote configuration through Art-Net

sACN <-> DMX: sACN is supported. Each port's configuration can be defined using the ODE MK3's web interface to define a universe in the range 0 to 63999. sACN priority of the output can be defined (default priority: 100). The ODE MK3 supports a maximum of 1 multicast universe with sACN sync. (i.e. both universe outputs set to the same universe).

ESP <-> DMX: ESP is supported. Each port's configuration can be defined using the ODE MK3's web interface to define a universe in the range 0 to 255.

The additional flexibility that the ODE MK3 can provide, means that each of the two ports can be configured individually:

- Both outputs can be specified to use the same universe and protocol,i.e., both outputs can be set to output use universe 1.
- Each output is not required to be sequential i.e. port one can be set to universe 10, port two can be set to input

universe 3.

- Protocol or data conversion direction doesn't have to be the same for each port.

Merging is available when the ODE MK3 'Type' is set to Output (DMX Out). Two different Ethernet-DMX sources (from different IP addresses) values can be merged if the source is the same protocol and universe.

If the ODE MK3 receives more sources than expected (Disabled – 1 source & HTP/LTP – 2 sources) the DMX Output will send this unexpected data, affecting the lighting fixtures, potentially causing flicker. The ODE MK3 will display a warning on the home page of the web interface and the status LED will blink at a high rate.

Whilst set to HTP or LTP merging, if either one of the 2 sources stop being received, the failed source is held in the merge buffer for 4 seconds. If the failed source returns the merge will continue, otherwise it will be discarded.

Merging options include

- **Disabled:** No Merging. Only one source should be sending to the DMX output.
- **HTP Merge (by default):** Highest Takes Precedence. Channels are compared one to one and the highest value is set on the output.
- **LTP Merge:** Latest Takes Precedence. The source with the latest change in data is used as the output.

Hardware Features

- Electrically insulated ABS plastic housing
- 2* 5-Pin Female XLR for Bi-directioal DMX Ports
- 1* RJ45 EtherCon Connection
- 1* 12–24V DC Jack
- 2* LED Indicators: Status and Link/Activity
- IEEE 802.32af PoE (active PoE)

DMX Connectors

The ODE MK3 features two 5-Pin Female XLR bi-directional DMX ports, which can be used either for DMX in or DMX out, depending on the settings set within the Web Interface.

5pin DMX OUT/ DMX IN:

- Pin 1: 0V (GND)
- Pin 2: Data –
- Pin 3: Data +
- Pin 4: NC
- Pin 5: NC
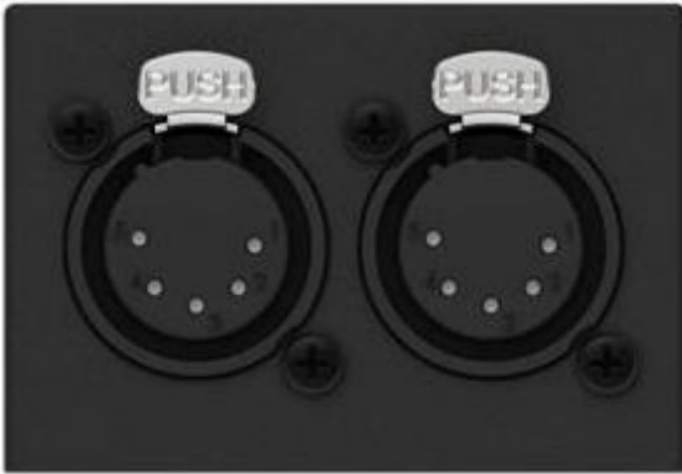
Any suitable 3 to 5pin DMX adaptor can be used to connect to 3pin DMX cables or fixtures. Please note the pinout, before connecting to any non-standard DMX connector

LED Status Indicator

ODE MK3 comes with two LED indicators located between the DC Jack input and the RJ45 EtherCon Connector.

- **LED 1:** This is a Status indicator which blinks to indicate the following:

Frequency	Status
On	IDLE
1Hz	DMX / RDM
5 Hz	IP CONFLICT
Off	ERROR

- **LED 2:** This LED is a Link or Activity indicator which blinks to indicate the following:

Frequency	Status
On	Link
5 Hz	ACTIVITY
Off	NO NETWORK

- **LED 1 & 2 both blink at 1Hz:** When both LED blink at the same time, it indicates the ODE MK3 equires a firmware update or a reboot.

PoE (Power over Ethernet)

The ODE MK3 supports IEEE 802.3af Power over Ethernet. This allows the device to be powered via the RJ45 EtherCon Connection, reducing the number of cables and the ability to remotely deploy the ODE MK3 without the

need for a local power source close to the device. PoE can be introduced to the Ethernet cable, either through a network switch which outputs PoE under the IEEE 802.3af standard, or through an IEEE 802.3af PoE injector.

Note: DC power input has higher priority over PoE. In the event of DC power input disconnection, please expect approximately 1 minute down time before ODE MK3 reboots for PoE to take over.

Note: Passive PoE is not compatible with the ODE MK3.

Out of the Box

The ODE MK3 will be set to a DHCP IP address as default. If the DHCP server is slow to respond, or your network does not have a DHCP server, the ODE MK3 will fall back to 192.168.0.10 as default. The ODE MK3 will also be set as DMX OUTPUT as default, listening to the first two Art-Net Universes – 0 (0x00) and 1 (0x01) – converting them to DMX512-A on the two DMX ports.

Networking

The ODE MK3 can either be configured to be a DHCP or Static IP address.

DHCP: On power up and with DHCP enabled, if the ODE MK3 is on a network with a device/router with a DHCP server, the ODE MK3 will request an IP address from the server. If the DHCP server is slow to respond, or your network does not have a DHCP server, the ODE MK3 will fall back to the default IP address 192.168.0.10 and netmask 255.255.255.0. If a DHCP address is provided, this can be used to communicate with the ODE MK3.

Static IP: By default (out of the box) the Static IP address will be 192.168.0.10. If the ODE MK3 has DHCP disabled, the Static IP address given to the device will become the IP address to communicate with the DIN ETHERGATE. The Static IP address will change from the default once it's modified in the web interface. Please note down the Static IP address after setting.

⚠ **Note:** When configuring multiple ODE MK3's on a Static network; to avoid IP conflicts, ENTTEC recommends connecting one device at a time to the network and configuring an IP.

- If using DHCP as your IP addressing method, ENTTEC recommends the use of the sACN protocol, or ArtNet Broadcast. This will ensure that your ODE MK3 continues to receive data if the DHCP server changes it's IP address.
- ENTTEC does not recommend unicasting data to a device with its IP address set through DHCP server on

Web Interface

Configuring the ODE MK3 is done through a web interface which can be brought up on any modern web browser.

- **Note:** A Chromium based browser (i.e. Google Chrome) is recommended for accessing the ODE MK3 web interface.
- **Note:** As the ODE MK3 is hosting a web server on the local network and does not feature an SSL Certificate (used to secure online content), the web browser will display the 'Not secure' warning, this is to be expected

Identified IP address: If you are aware of the ODE MK3 IP address (either DHCP or Static), then the address can be typed directly into the web browsers URL field.

Unidentified IP address: If you are not aware of the ODE MK3's IP address (either DHCP or Static) the following discovery methods can be used on a local network to discover devices:

- An IP scanning software application (i.e. Angry IP Scanner) can be run on the local network to return a list of active devices on a local network.
- Devices can be discovered using Art Poll (i.e. DMX Workshop if set to use Art-Net).
- The device Default IP address 192.168.0.10 is printed on the physical label on the rear of the product.
- ENTTEC EMU software (available for Windows and MacOS), which will Discover ENTTEC devices on the Local Area Network, will display their IP addresses and open to the Web Interface before opting to configure the device

⚠ **Note:** The eDMX protocols, the controller and the device using to configure the ODE MK3 must be on the same Local Area Network (LAN) and be within the same IP address range as the ODE MK3. For example, if your ODE MK3 is on Static IP address 192.168.0.10 (Default), then your computer should be set to something such as 192.168.0.20. It is also recommended that all devices Subnet Mask are the same across your network.

Home

he landing page for the ODE MK3 web interface is the Home tab. This tab is designed to give you a readonly device overview. This will display

System Information:

- Node Name
- Firmware Version
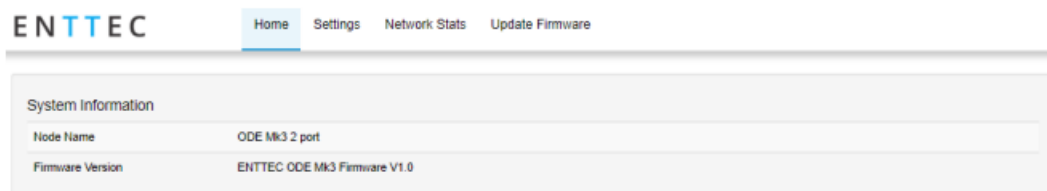
Current Network Settings:

- DHCP Status
- IP Address
- NetMask
- Mac Address
- Gateway Address
- sACN CID
- Link Speed

Current Network Settings

DHCP	Enabled
IP Address	10.10.3.51
NetMask	255.255.255.0
MAC Address	d0:9f:d9:90:60:00
Gateway Address	10.10.3.254
sACN CID	161D5ACB-5073-178E-85A1-6C08C3316BEE
Link Speed	100 Mbps

Current Port Settings:

- Port
- Type
- Protocol
- Universe
- Send Rate
- Merging
- Send to Destination

Current Port Settings

Port	Type	Protocol	Universe	Send Rate	Merging	Send To
Port1	Input (DMX IN)	Art-Net	0	40	Disabled	192.168.0.11
Port2	Input (DMX IN)	Art-Net	0	40	Disabled	192.168.0.11

Current DMX buffer

Port 1	Click to see current DMX Port1 buffer

```
208  254  70  242  24  63  125  208  42  123  16  11  134  164  41  212  172  120  196  114  104  158  174  103  5   106  94  159  129  27  48  231
193  15  26  50  122  156  244  191  209  242  150  120  50  76  15  130  121  29  54  132  50  138  248  145  221  140  78  173  46  25  147  43
155  146  103  219  184  76  96  157  20  116  244  31  47  62  83  90  108  132  96  12  154  19  172  56  89  55  29  211  232  71  37  255
225  45  206  53  145  100  97  226  89  200  19  0  200  76  207  38  89  131  3  159  32  146  62  78  159  211  231  163  107  4  152  165
159  22  92  57  116  96  231  78  87  164  254  165  70  234  58  203  22  156  44  136  51  84  191  25  254  253  51  148  5  66  127  22
117  39  229  220  97  87  112  65  211  187  13  96  116  253  76  24  163  207  89  245  231  156  61  185  153  186  191  113  182  77  197  215
10  234  119  96  161  0  196  160  23  116  216  65  162  24  241  15  241  26  14  83  14  105  51  24  17  86  99  212  80  147  86  138
204  133  32  34  21  197  6  130  64  46  97  81  193  168  33  146  136  32  118  39  167  12  56  127  176  190  29  77  250  209  227  109
16  73  200  25  57  131  19  117  223  145  2  201  61  214  142  241  30  152  215  120  51  240  12  22  134  250  223  172  221  62  219  192
221  205  31  254  201  227  31  168  193  183  170  52  167  43  167  114  185  109  8  64  223  216  66  239  153  3  247  96  86  129  134  89
84  188  30  89  114  241  241  121  34  133  12  74  148  46  27  215  244  144  215  60  80  210  160  241  51  208  225  191  191  186  187  231
183  67  14  129  142  129  6  169  151  62  246  62  204  156  220  39  156  26  171  255  92  106  196  106  156  202  238  244  81  200  26  126
141  41  77  254  71  71  62  234  137  103  110  86  252  144  64  58  166  45  238  113  238  159  249  21  57  218  236  131  62  120  196  124
162  191  247  136  15  109  217  64  187  125  198  141  223  230  229  227  201  35  61  182  216  195  73  55  96  153  40  222  109  65  16  165
163  236  209  4  173  113  154  197  47  0  176  16  21  89  109  87  106  25  140  225  188  39  159  46  229  32  158  31  112  243  14  44
86  79  160  4  102  110  63  49  111  10  87  147  215  48  171  158  194  190  168  226  90  77  65  116  51  20  50  52  138  173  234  156
```

Port 2	Click to see current DMX Port2 buffer

Current DMX Buffer: The Current DMX buffer displays a snapshot of all current DMX values when refreshed manually.

Settings

The ODE MK3 settings can be configured within the Settings tab. Changes will only take affect after being saved; any unsaved changes will be discarded.

Network Settings

Node Name:	ODE Mk3 2 port
DHCP:	☑ Enable
IP Address:	192 . 168 . 0 . 10
NetMask:	255 . 255 . 255 . 0
Gateway:	192 . 168 . 0 . 254
sACN CID:	81F59FC9-5105-3EE9-AE22-7FDC944F8025
Control4 support:	Identify to Control4

Node Name: The name of ODE MK3 will be discoverable with in Poll replies.

Port1 Settings

Type:	Output (DMX OUT) ▼ ☑ RDM Enabled
Protocol:	⦿ Art-Net ○ ESP ○ sACN
Universe:	0 (max: 32767)
Refresh Rate:	Max ▼ frames per second (fps)
Options:	Merging HTP Merge (Highest Takes Precedence) ▼

DHCP: Enabled by default. When enabled, the DHCP server on the network is expected to automatically provide the IP address to the ODE MK3. If no DHCP router/server is present or DHCP is disabled, the ODE MK3 will fall back to 192.168.0.10.

Port2 Settings

Type:	Input (DMX IN) ▼
Protocol:	○ Art-Net ○ ESP ⦿ sACN
Universe:	63999 (max: 63999)
Input Send Mode:	Unicast ▼
Options:	Unicast IP 10 . 10 . 10 . 74
	sACN Priority 100 ▼

IP Address / **NetMask** / **Gateway:** These are used if DHCP is disabled. These options set the Static IP address. These settings should be set to be compatible with other devices on the network.

Update

Save Settings   Factory Default   Restart Now

sACN CID: The ODE MK3's unique sACN Component Identifier (CID) is displayed here and will be use in all sACN communication.

Control4 Support: Pressing this button will send a SDDP (Simple Device Discovery Protocol) packet to allow easier discovery in Control4's Composer software.

Type: Choose from the following options:

- Disabled – will not process any DMX (input or output).

- Input (DMX IN) – Will convert DMX from the 5-pin XLR to an Ethernet-DMX protocol.
- Output (DMX Out) – Will convert an Ethernet-DMX protocol to DMX on the 5-pin XLR.
  RDM: RDM (ANSI E1.20) can be Enabled using the tick box. This is only available when the Type is set to 'Output' and the Protocol is 'Art Net'. More information can be found in the Functional Features section of this document.

Protocol: Choose between Art-Net, sACN and ESP as the Protocol.

Universe: Set the Ethernet-DMX protocol's input Universe.

Refresh Rate: The rate at which the ODE MK3 will output the data from its DMX port (40 Frames per second is default). It will repeat the last received frame to comply with DMX standard.

Options: additional configuration is available depending on port type and protocol

- **Input Broadcast/Unicast:** Choose either broadcasting or a specified unicast IP address. Broadcast address is based on the subnet mask shown. Unicast allows you to define a specific single IP address.
- **Input sACN Priority:** sACN Priorities range from 1 to 200, where 200 has the highest priority. If you have two streams on the same Universe, but one has the default priority of 100 and the other has a priority of 150, the second stream will override the first.
- **Output Merging:** When enabled, this can allow the merging for two DMX sources from different IP address whilst sending on the same Universe in either a LTP (Latest Takes Precedence) or HTP (Highest Takes Precedence) merge. More information can be found in the Functional Features section of this document.

Save settings: All changes must be saved to take effect. The ODE MK3 takes up-to 10 seconds to save.
Factory Default: Factory resetting the ODE MK3 results in the following:

- Resets the device name to defaults
- Enables DHCP
- Static IP 192.168.0.10 / Netmask 255.255.255.0
- Output protocol is set to Art-Net
- Merging is disabled
- Port 1 Universe 0
- Port 2 Universe 1
- RDM enabled

Restart Now: Please allow up-to 10 seconds for the device to reboot. When the web interface page refreshes the ODE MK3 is ready.

Network Stats

The Network Stats tab is designed to provide an overview of the network data. This is broken down into Ethernet-DMX protocols statistics which can be located within the tabs.

Art-Net Statistics   ESP Statistics   sACN Statistics

Summary

Total Packets Received	1
Poll Packets Received	1
Last IP	10.10.10.78
Last Port	6454

The Summary provides details regarding total, poll, data or sync packets depending on the protocol.

Art-Net DMX

DMX Data Packets Received	1
DMX Sync Packets Received	0
DMX Data Packets Sent	2

Art-Net Statistics also provide a breakdown of ArtNet DMX packets sent and received. As well as a breakdown of RDM over Art-Net packets including packet sent and received, Subdevice and TOD Control/Request packets.

RDM over Art-Net

RDM Packets Received	0
RDM Packets Sent	0
RDM TOD Control Packets Received	0
RDM TOD Request Packets Received	0
RDM TOD Data Packets Sent	1
RDM Packets Dropped	0

Update Firmware

When selecting the Update Firmware tab, the ODE MK3 will stop outputting and the web interface boots into the Update Firmware mode. It may take a while depending on the network setting. An error message is expected as the webpage is temporary unavailable in boot mode.

ENTTEC   Home   Update Firmware

ODE Mk3 - Update Firmware

Current System Information

Boot Version:	ENTTEC ODE Mk3 Boot V1.0
Firmware Version:	ENTTEC ODE Mk3 Firmware V1.0
Mac Address:	d0:9f:d9:90:60:00
Link Speed:	100 Mbps

This mode will display basic information regarding the device including current Firmware Version, Mac Address and IP address information

Firmware Update

Upload New Firmware:	Browse		Update Firmware
Update progress:	Please do not interrupt while the firmware is being updated. Unit will restart once firmware update is complete.		

The latest firmware can be downloaded from **www.enttec.com**. Use the Browse button to access in your computer for the latest ODE MK3 firmware file which has a .bin extension.

Next click on the Update Firmware button to begin updating.

After the update has completed, the web interface will load the Home tab, where you can check the update was successful under Firmware Version. Once the Home tab has loaded, the ODE MK3 will resume operation.

Servicing, Inspection & Maintenance

- ⚠ The device has no user serviceable parts. If your installation has become damaged, parts should be replaced.
- Power down the device and ensure a method is in place to stop the system from becoming energized during servicing, inspection & maintenance.

Key areas to examine during inspection:

- Ensure all connectors are mated securely and show no sign of damage or corrosion.
- Ensure all cabling has not obtained physical damage or been crushed.
- Check for dust or dirt build up on the device and schedule cleaning if necessary.
- Dirt or dust buildup can limit the ability for a device to dissipate heat and can lead to damage.

The replacement device should be installed in accordance with all steps within the installation guide. To order replacement devices or accessories contact your reseller or message ENTTEC directly.

Cleaning

Dust and dirt build up can limit the ability for the device to dissipate heat resulting in damage. It's important that the device is cleaned in a schedule fit for the environment it is installed within to ensure maximum product longevity.

Cleaning schedules will vary greatly depending on the operating environment. Generally, the more extreme the environment, the shorter the interval between cleaning.

- Before cleaning, power down your system and ensure a method is in place to stop the system from becoming energized until cleaning is complete.
- ⚠ Do not use abrasive, corrosive, or solvent-based cleaning products on a device.
- ⚠ Do not spray device or accessories. The device is an IP20 product.

To clean an ENTTEC device, use low-pressure compressed air to remove dust, dirt and loose particles. If deemed necessary, wipe the device with a damp microfiber cloth.

A selection of environmental factors that may increase the need for frequent cleaning include

- Use of stage fog, smoke or atmospheric devices.
- High airflow rates (i.e., in close proximity to air conditioning vents).
- High pollution levels or cigarette smoke.
- Airborne dust (from building work, the natural environment or pyrotechnic effects).

  If any of these factors are present, inspect all elements of the system soon after installation to see whether cleaning is necessary, then check again at frequent intervals. This procedure will allow you to determine a reliable cleaning schedule for your installation.

Revision History

Please check your serial number and artwork on your device.

- The followings are implemented after Serial Number 2361976 (August 2022):
  - Boot version V1.1
  - Firmware version V1.1
- Read Me Card with Promo Code is implemented after Serial Number 2367665 (August 2022).

Package Contents

- ODE MK3
- Ethernet Cable
- Power supply with AU/EU/UK/US adapters
- Read Me Card with EMU Promo Code (6 months).

Ordering Information

For further support and to browse ENTTEC's range of products visit the ENTTEC website.

Item	Part No.
ODE MK3	70407

www.enttec.com.

Due to constant innovation, information within this document is subject to change

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Documents / Resources

ENTTEC ODE MK3 DMX Ethernet Interface [pdf] User Manual
ODE MK3 DMX Ethernet Interface, ODE MK3, DMX Ethernet Interface, Ethernet Interface, Ethernet Interface

ENTTEC ODE MK3 DMX Ethernet Interface [pdf] User Manual
ODE MK3 DMX Ethernet Interface, ODE MK3, DMX Ethernet Interface, Ethernet Interface, Interface

References

- T **ENTTEC | Designs and manufactures a range of LED lighting & control equipment : ENTTEC**
- T **ENTTEC | Lighting control experts : ENTTEC**
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Manuals+,