ENTTEC

User Manual
70405 ODE Mk2/
70406 ODE PoE Mk2

For the latest version visit:
www.enttec.com

Open DMX Ethernet Mk2
RDM compliant DMX over Ethernet Gateway

Box Contents

- ODE Mk2 (SKU: 70405 or 70406)
- Straight connect Ethernet lead (PN: 79102)
- Power adapter if you have the POE option, the power adapter is not included.
- This user manual

Features

- 1 Universe Ethernet to DMX node (Output mode)
- 1 Universe DMX to Ethernet (Input mode)
- Easy to setup & update through any web browser
- Supports following DMX over Ethernet protocols:
    - Art-Net
    - Streaming ACN (sACN)
    - ESP
- Supports RDM over Art-Net (controller)
- Supports Art-Net 3
- HTP/LTP Merging support: up-to 2 DMX sources can be merged (if enabled).
- 1 RJ45 connector (10/100 Mbps)

- Static or Dynamic (DHCP) IP configuration (DHCP by default)
- Supports IEEE 802.3af PoE (Power over Ethernet) over RJ45 connector (**only on PoE model SKU 70406**)
- Supports Art-Net Broadcast or Unicast (Input mode)
- 5Pin DMX XLR connectors

Safety

- Do not expose the ODE Mk2 to rain or moisture, doing this will void its warranty.
- This unit is intended for indoor use only

Basic Setup

Right out of the box, the ODE Mk2 is factory configured to be a DMX OUTPUT device, listening to the first Art-Net Universe (0x00). It is also set as a **DHCP node**, so you can plug it into your existing router, and it's good to go.

To make any changes to the configuration, you will need the IP address of ODE Mk2.

If you connect ODE to a network router, it will be assigned an IP address as per the router's DHCP addressing. However, if you connect ODE to a switch or a computer, it will use the factory set static IP address (printed on the box).

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ENTTEC provides a free App (available for Windows and Mac) called **NMU**, which will find the ODE on your network and display its IP address.

Using the IP address one can access the built-in web-interface inside the ODE via any modern web-browser. The web-interface allows the settings of the unit to be changed.

Once setup, any Art-Net/sACN/ESP enabled software/app or a lighting control/desk can be used to send

DMX out of the ODE. For a list of recommended apps, please check the website www.enttec.com/sku/70405

LED Status

The ODE Mk2 comes with four LED indicators located between the DC power jack and the EtherCon connector.

1. STAT (Status): Blinks to indicate the following:

Frequency	Status
0.5 Hz	Normal
1 Hz	DMX Port Receive
2 Hz	DMX Port Send
Always on	Error
25 Hz	Control 4 Identify

2. DIRECTION: (Port Direction) The LED will be ON when the DMX port is in Output mode, and OFF when the DMX port is in input mode.

3. LINK: This LED will be ON when there is an Ethernet Link.

4.   ACT: This LED blinks when there is activity on the Ethernet network.

NMU

NMU (Node Management Utility) is a free Windows and Mac application that is used to discover ENTTEC Devices on a computer network.

NMU will help you find your ODE's IP address and then open a web browser window to access it's web-interface.

Please follow these steps:

1. Download NMU from www.enttec.com/sku/79001
2. Ensure that your ODE Mk2 is hooked up physically by an Ethernet cable.
3. And connected to the same physical network (or router) as the computer on which you will run NMU.
4. Open NMU. If prompted with multiple networks, select the correct network. (identified by the IP address of your computer on that network)
5. Press the Discovery button, and wait till NMU finds all supported ENTTEC devices on your network.
6. Once found, select ODE and use the IP address to access the web-interface via your web browser.
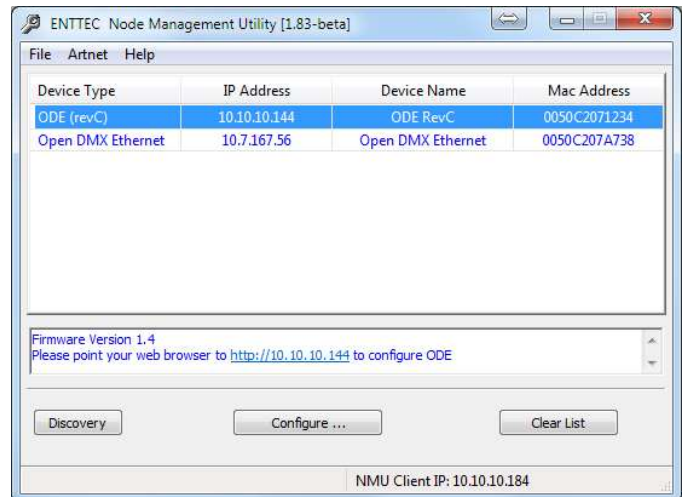
Web Configuration

The ODE Mk2 can be configured and controlled through a web browser, running on a computer system, located on the same Local Area Network. Any modern web browser, such as Chrome, Firefox, Internet Explorer, Safari or Opera, running under any operating system, including Windows 7/8, MacOS or Linux can be used.

Either click on the underlined url displayed in NMU, or type the IP address (as detected by NMU) into your web browser to access the ODE Mk2's Web Interface.

The left side menu allows all the ODE web pages to be accessed. Home page provides the following information:

System Information: Name, Firmware Version and Serial No. of the unit. The Serial No. is unique to this unit and can be used to identify this unit.

Current Network Settings: Configured IP address and Link speed for the unit.

Current Port Settings: Configured Port Type, Protocol and Universe for the unit. This serves as a quick place to check all the Port related settings.

Current DMX buffer: allows you to see the current DMX values for the Port. The buffer is a snapshot only, but can be refreshed manually.

To change any of the displayed settings, you must use the Settings page.

Network Settings

Node name is used to identify the ODE on the network. Any meaningful name can be used.

DHCP is enabled by default. When enabled, the router on your network is expected to automatically provide the IP address to the ODE. If no DHCP router/server is present on the network, the manual IP address will be used.

If for some reason, your unit does not get an IP address via DHCP, please restart the ODE with the Ethernet cable connected. It will listen for DHCP on start-up and wait for a few seconds, before giving up.

IP Address and Netmask are only used if DHCP is disabled or is unavailable on your network. ODE web-page will warn you, if non-standard IP address or netmask is used.

If ever you manage to use an IP Address that can't be connected to later, please perform the reset procedure (as described later). The reset will re-enable DHCP on ODE.

Input Send Mode: allows you to pick either broadcasting or a specified unicast IP address. Broadcast address is based on the subnet mask shown.

Art-Net Address: Net and Subnet can be selected here and comply with Art-Net 3 protocol. Universe can be selected from the DMX Port Settings.

sACN CID: The current CID for ODE is displayed here and will be use in all sACN communication.

DMX Port Settings

Port Types:

- *Output*: Ethernet to DMX Output, based on the selected protocol.

- *Input*: DMX Input to Ethernet, sends the selected protocol on the network.

- *Disabled*: Does not process any DMX (input or output).

- *RDM Enabled*: Enables RDM over Art-Net support on the port. Only available when Art-Net is selected and Port Type is output.

Protocol and Universe must be selected to match the settings of the remote sender or receiver connected to the LAN.

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Refresh Rate

The rate at which ODE will output the Data from DMX port (40 Frames per second is default). It will repeat the last received LAN frame to comply with DMX standard. However, if you do not want to repeat the last frame use "follow source" as the refresh rate. This option will match the rate at which the source sends at.

Merging Support

Merging option is only available when port is set to Output. Any incoming DMX on the same universe, but from different IP addresses is treated as a separate DMX source.

Available Merging options:

- Disabled: only one source should be sending to the DMX output. Using multiple sources will cause a conflict and the output might have unexpected data.

- HTP Merge (by default): Highest Takes Precedence. Channels are compared one to one and the highest value is set on the output. Merging is limited to two sources, any additional sources will be ignored by ODE. If either one of the 2 sources of DMX stop, the failed source is held in the merge buffer for 4 seconds. If, during the 4 second timeout, the failed source returns, Merging continues.

- LTP Merge: Latest Takes Precedence. The latest source is used as the output. The source that hasn't been received for 4 seconds or more, will be discarded.

- Merging conflict: if more than two sources are sending data to ODE on the same universe, ODE will indicate a conflict. A warning will be displayed on the home-page, and it's also indicated by the status led blinking faster than normal.

  NOTE:
  - 2 or more sources sent from the same IP will lead to flicker

  - Supports merging from 2 separate sources only

Unicast option

Send DMX to a single IP address rather than broadcast. Unicast is only available when port is set to Input. Any valid IP address can be used to Unicast DMX.

Save or Reset

To save all the changes made, please click on Save Settings and wait for ODE to confirm (takes up-to 5 seconds). Once confirmed you will be taken to the home-page.

Reset to defaults, will put all the settings back to their default values (network & port settings). ODE will be reset to Factory condition.

Reboot – will restart the ODE. Please allow a few seconds, and the page will refresh, when ODE is ready.

Update Firmware

From this page you can update ODE to the latest firmware. Latest firmware file is available at:
www.enttec.com/sku/70405 / www.enttec.com/sku/70406

Please use the correct firmware file.

Choose or browse the firmware file (as per your browser) and click on Update firmware to start the process. The update progress is shown in real-time, and will take a few seconds for the update to complete

When the update is complete, the page will refresh and you will be taken to the home page – where you can verify the firmware version. If the update fails for any reason, please try the same process again.

ODE will reboot after a firmware update, please allow a few seconds for it to be refreshed in the browser. Please wait until the update process is complete.

Art-Net Send Test

NMU can also be used to troubleshoot the DMX output on your ODE. Art-Net Test can be accessed from the top menu: Art-net → Art-net **Test**

When first opened, the Art-Net is set to Disabled, please set it to Enabled, and then you can use either the DMX faders to test one or more DMX channels, or use the test-patterns from the options available.

Please set the ODE to be Art-Net output and on the same universe as being used to send Art-Net from NMU.
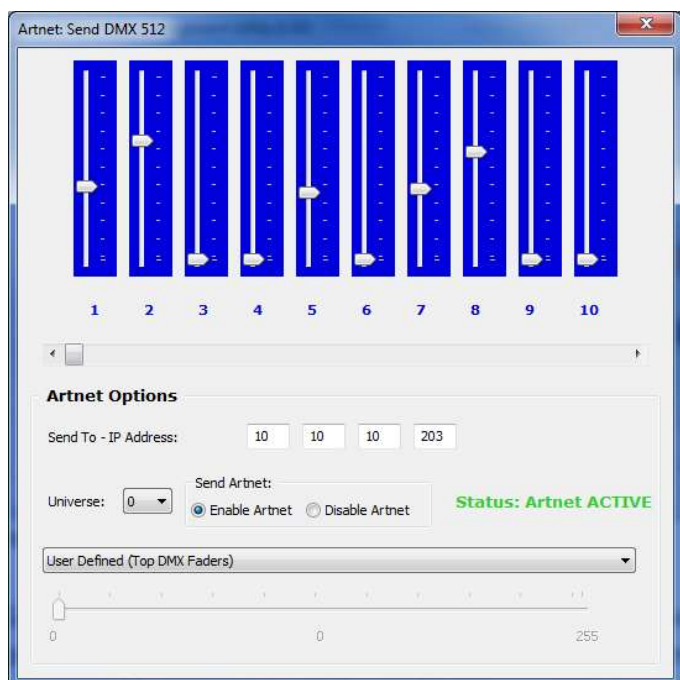
DMX wiring

5pin DMX OUT/ DMX IN:

- Pin 1: Ground
- 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.

Specifications

Due to continuous improvements and innovations of all ENTTEC products, specifications and features are subject to change without notice.

Item	ODE Mk2 PN: 70405	ODE PoE Mk2 PN: 70406 PoE
PoE (802.3af) Support	N/A	Yes
DC PSU Included in the Packaging	Yes	No
Input Voltage	7.5V to 24V DC *	
Max. Power Draw	6W	
Max. Current Draw	800mA	
Output Type	DMX or Network	
Max Output Channels	1 Universe (512ch)	
Max. Merging Sources	2 from separate IP addresses	
Supported Protocols	ArtNet / sACN / DMX512A / RDM	
Connectors	RJ45 EtherCon Connection Male XLR5 Female XLR5 DC Jack	
Environment	0°-50°C in non-condensing environment	
Certifications	CE & FCC	

Note: 7.5V-24V input voltage range implemented from Serial Number **0050C20814A0** onwards (December 2019). Please check your Serial Number and artwork on your device for its input DC voltage.

Ordering Information

The ENTTEC ODE and compatible products can be ordered from our website or through your ENTTEC dealer.

PN	Description
70405	ODE Mk2
70406	ODE Mk2 with POE
70041	Truss Mounting Kit (not included)
70029	3-pin female to 5-pin male adapter
70030	5-pin female to 3-pin male adapter

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