



DIN-ODE Mk2

Box Contents

- DIN-ODE Mk2 (PN: 71020 or 71021)
- This user manual (available online)

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 PN 71021**)
- DIN-Rail compatible
- Supports Broadcast or Unicast (Input mode)
- Machined aluminium box, made to last.
- Phoenix DIN Connectors

Safety

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

Basic Setup

Right out of the box, the DIN-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 DIN-ODE Mk2. ENTTEC provides a free App (available for Windows and Mac) called NMU, which will find the DIN-ODE on your network and display its IP address.

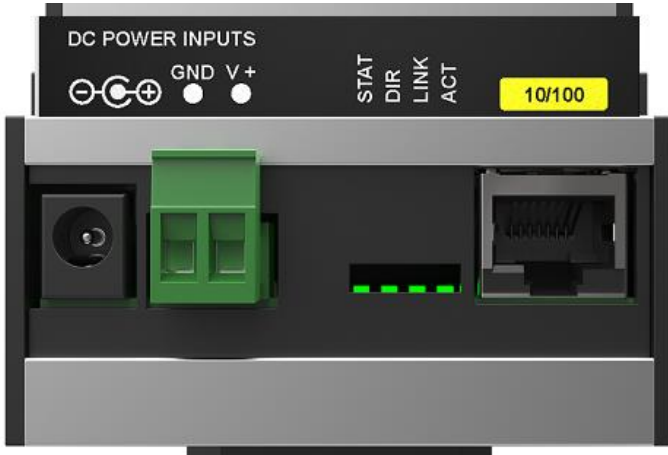
Using the IP address one can access the built-in web-interface inside the ODE via any modern web-browser. The web-interface allows the settings of the unit to be changed.

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/71020
www.enttec.com/sku/71021

Dip-Switch: There is a dip-switch inside the unit, accessible by removing the top cover. Switch 1, when engaged terminates the DMX output. Useful, if the unit is used at the end of a DMX chain, to terminate the DMX signal. By default, switch 1 is off. Switch 2 is not connected, and has no effect when engaged or not.

LED Status



The DIN-ODE Mk2 comes with four LED indicators located between the DC power jack and the RJ45 connector.

1. **STAT (Status):** Blinks to indicate the following:
 - Blinks once per second: normal operation
 - Blinks more than once a second: multiple sources detected, or requires firmware.
2. **DIR (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

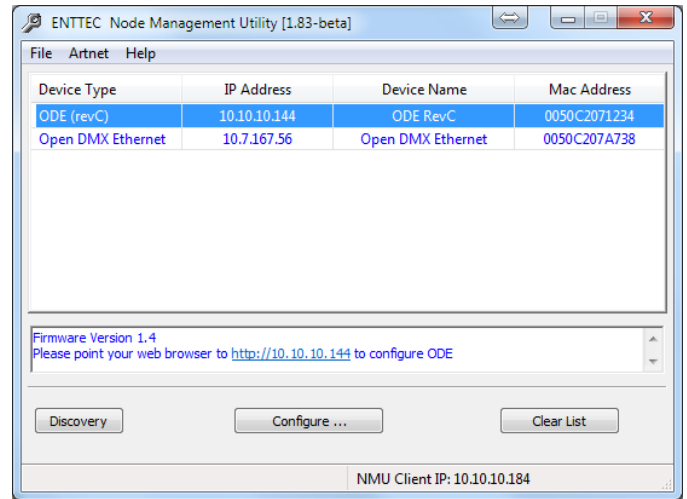
NMU (Node Management Utility) is a free Windows and Mac application that is used to manage compatible ENTTEC DMX over Ethernet nodes.

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

Please follow these steps:

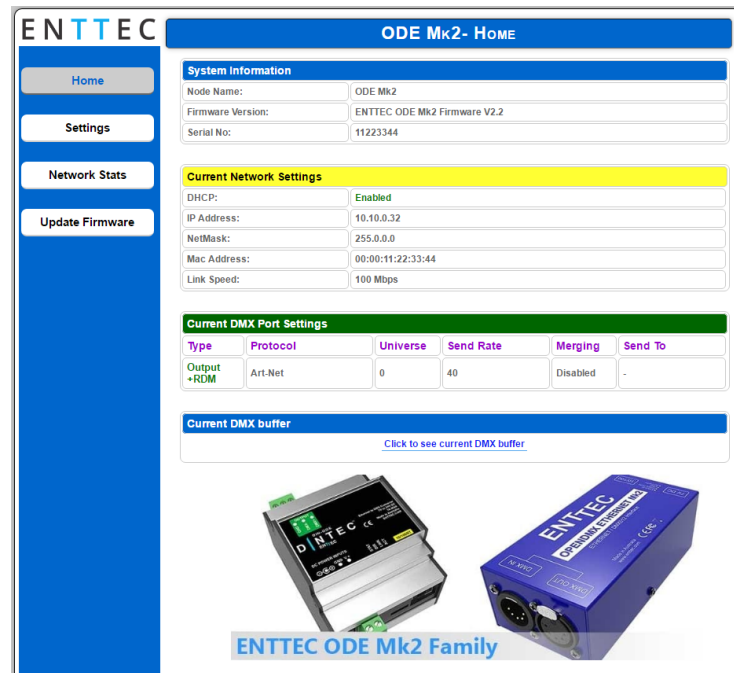
1. Download NMU from www.enttec.com/nmu
2. Ensure that your DIN ODE Mk2 is hooked up physically by an Ethernet cable.
3. And connected to the same physical network (or router) as the computer on which you will run NMU.

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 DIN-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, Mac OS X or Linux can be used.



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

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.

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/71020 www.enttec.com/sku/71021

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

ODE - UPDATE FIRMWARE

Current System Information	
Boot Version:	ENTTEC ODE RevC Boot V1.0
Firmware Version:	ENTTEC ODE RevC Firmware V1.4
Mac Address:	00:50:c2:07:12:34
Serial No:	c2071234
Link Speed:	100 Mbps

Current Network Settings	
DHCP:	enabled
IP Address:	10.10.10.144

Update Firmware

Select firmware file:	Choose File firmware.bin	Update Firmware
Update progress:	<div style="background-color: #008000; width: 100%; height: 10px; position: relative;"> 33% </div>	

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Select firmware file:	Choose File firmware.bin	Update Firmware
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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

Update Firmware

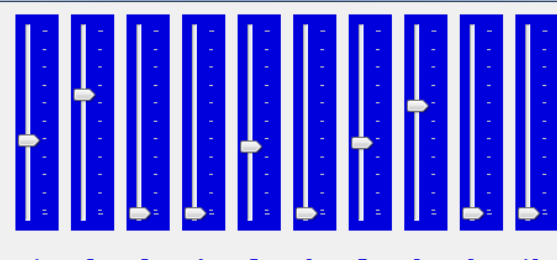
Select firmware file:	Choose File firmware.bin	Update Firmware
Update progress:	<div style="background-color: #008000; width: 100%; height: 10px; position: relative;"> 82% </div>	

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.


Artnet: Send DMX 512



Artnet Options

Send To - IP Address:

Universe: Send Artnet: Enable Artnet Disable Artnet Status: Artnet ACTIVE



When the update is complete, the page will refresh and you will be taken to the home page – where you can verify

Specifications

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

Item	Value
Input Voltage	7-24V DC or (PoE 802.3AF – 48v)
Maximum Power Draw	2.5W
Supported Protocols	DMX512A / RDM / ArtNet / sACN / ESP
Length:	4.21" / 107mm
Height	2.24" / 57mm
Width	2.71" / 69mm
Unit Weight	0.46bs / 210g
Shipped Weight	0.55bs / 250g
Operating Environment	0° to 50°C
Connectors	1x 3pin Screw Terminal for Data 1x 2pin Screw Terminal for Power 1x RJ45 connector for Ethernet

Ordering Information

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

PN	Description
71020	DIN-ODE Mk2
71021	DIN-ODE POE Mk2
79111	Autoswitching power supply 7V (universal)
79111-US	Autoswitching power supply 7V (US only)

Wiring Advice

The Enttec DIN-ODE Mk2 DMX data phoenix connector, can be double wired (thereby making a pass-through). Whereby two wires may be connected to each terminal in order to approximate a daisy chain (with no more than 32 devices).

Engage the dip-switch 1 to terminate the DMX signal, on the last unit on the daisy chain.