DMX ETHERGATE MK3

(PN 70070)

Box Contents

- DMX Ethergate Mk3 (pn: 70070)
- Straight connect Ethernet lead (pn: 79102)
- 1RU Mount Bracket Kit (pn: 79105)

Features

- 2 fully independent bi-directional DMX ports (5 pin Female XLR connectors).
- 2 Universe Ethernet to DMX node (Output mode)
- 2 Universe DMX to Ethernet (Input mode)
- Can be used as either 2 input, 2 output or 1 in 1 out ports.
- 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
- RGB LED shows current system status
- HTP Merging support : up-to 2 DMX sources can be merged (if enabled).
- LTP Merging support (Latest Takes precedence)

- 1 RJ45 Ethercon connector (10/100)
- Static or Dynamic (DHCP) IP configuration (DHCP by default)
- Easy firmware upgrades via any web browser
- Reset button to perform factory restore
- Inbuilt Auto ranging (90-260V) Mains power supply

Safety

- Do not expose the Ethergate Mk3 to rain or moisture, doing this will void the warranty
- Do not remove the cover, live voltage inside
- This unit is intended for indoor use only

Basic Setup

Right out of the box, the Ethergate Mk3 is factory configured to be a DMX OUTPUT device, listening to the first two Art-Net Universes (starting from 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 Ethergate. ENTTEC provides a free App (available for Windows and Mac) called NMU, which will find the Ethergate on your network and display its IP address.

Using the IP address one can access the built-in web-interface inside the Ethergate Mk3 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 Ethergate Mk3. For a list of recommended apps, please check the website

Status LEDs

The Ethergate Mk3 comes with one RGB status LED and two green network LED indicators located on the right side of the front panel.

RGB Status LED:

- **WHITE:** idle, signifies that Ethergate is operating normally.

- **GREEN:** DMX Output or Input on Port1. The led will fade from white to green. Please disable the Port1 if you don't want it to function. Flashing Green indicates RDM.

- **YELLOW:** DMX Output or Input on Port2. The led will fade from white to yellow. Please disable the Port2 if you don't want it to function. Flashing Yellow indicates RDM.

- **RED:** (Blinking) Error State. No DMX will be input or output in this state. Requires a firmware update or needs to be rebooted. A reset might be required, if it stays in error-mode on reboot.

- **PURPLE:** (Blinking) IP Address Conflict. Please change the IP address manually or enable DHCP.

- **CYAN:** (Blinking) Merging conflict. Multiple DMX Sources detected, either Merging is disabled or number of sources exceed 2 (for the same universe). User action is required to allow proper DMX output.

Ethernet Link Speed: is ON when there is an active Ethernet Link @ 100 mbps. It will stay OFF @ 10 mbps.

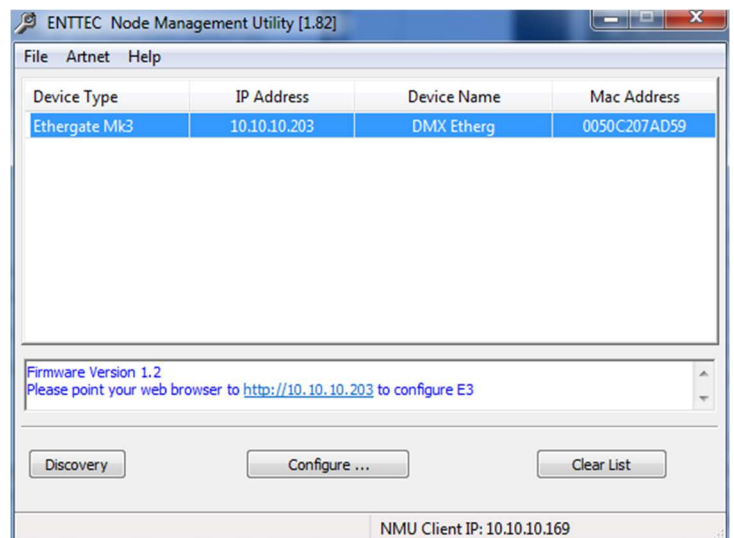**Ethernet Activity:** This LED blinks when there is activity on the Ethernet network.

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

2. Ensure that your Ethergate Mk3 is hooked up physically by 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 Ethergate Mk3 and use the IP address to access the web-interface via your web browser.

Web Configuration

The Ethergate Mk3 is 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 or higher MacOS 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 Ethergate Web Interface. The left side menu allows all the Ethergate web pages to be accessed.

- **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.

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

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

DMX Buffer (Port 1)

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

In the DMX Buffer table, you can hover the mouse over any value, and the channel number (1 to 512), for that value will be shown.

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

Network Settings

Network Settings

Node name is used to identify the Ethergate node 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 Ethergate Mk3. 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 Ethergate Mk3 with the ethernet cable connected. It will listen for DHCP on startup 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. Ethergate Mk3 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 the Ethergate Mk3.

DMX ETHERGATE MK3 - HOME

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

Both ports share the broadcast options selected here, but the unicast address can be specified as needed for each port separately.

Art-Net Address: Net and Subnet can be selected here, and comply to Art-Net 3 protocol. These address are applicable to both ports, whereas the universe can be selected for each port separately.

sACN CID: The current CID for Ethergate Mk3 is displayed here, and will be use in all sACN communication.

Port Settings

Port 1 Settings / Port 2 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 Ethergate Mk3 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 0 as the refresh rate, at 0 – it will match the rate at which the source sends at.

ArtNet Merging Support

The ArtNet Merging option is only available to a DMX port when it is set to output. Any incoming ArtNet stream on the same universe, but from different IP addresses is treated as a separate DMX source and can be merged.

Available Merging options:

- **Disabled:** (by default) 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:** 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 the Ethergate Mk3. 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. A source that hasn't been received for 4 seconds or more, will be discarded.

Merging Conflict Warning: A warning will be displayed on the home-page, if more than two sources are sending data to the Ethergate Mk3 on the same universe. The Status LED will blink CYAN to indicate merging conflict.

Note: Users looking to merge a physical DMX Input and an ArtNet stream, to a single DMX port can achieve this by converting the physical DMX feed to an ArtNet universe and allow it to be bounced back into the Ethergate Mk3 over the network to re-enter the device and be merged in line with the methods defined above.

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. You must select Unicast under Network Settings to use Unicast per port.

Save or Reset

To save all the changes made, please click on Save Settings and wait for Ethergate 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). Ethergate Mk3 will be reset to Factory condition.

Reboot – will restart the Ethergate.

Update Firmware

From this page you can update the latest firmware of the Ethergate Mk3 (firmware file is available at **www.enttec.com**).

Choose or browse the firmware file (as per your browser) and click on Update firmware to start the process.

The Status LED will blink red during firmware mode.

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.

Since, Ethergate Mk3 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.

Reset button

The reset button restores the network configuration of the Ethergate Mk3 to factory defaults:

- DHCP is set to enabled
- Static IP address is mapped to the Serial number of the unit (used if DHCP is unavailable).
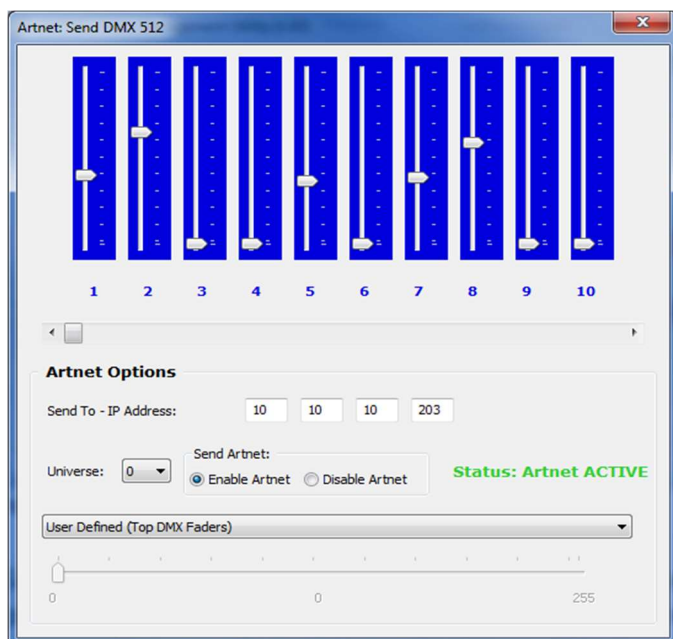
For example, a Serial No. of 2176541 will have a default Static IP address at 10.17.65.41

- Netmask is set to 255.0.0.0

To successfully reset to factory defaults the Ethergate Mk3, the following procedure must be performed:

- Power off the unit
- Press and hold the Reset button.
- While holding the Reset button, power up the unit, and keep holding the button for 3 seconds.
- Release the Reset button once the status led starts blinking red.
- Wait 3 seconds and cycle power

Art-Net Send Test

NMU can also be used to troubleshoot the DMX output on your Ethergate Mk3. 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 Ethergate Mk3 to be output and on the same universe as being used to send Art-Net from NMU.

DMX Connector pin out

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	Value
Input Voltage	85 - 264V AC
Input Frequency	47 - 63Hz
Weight	0.75Kgs / 1.65lbs
Shipped Weight	1.45kgs / 3.19lbs
Length	191mm / 7.35"
Width	105mm / 4.14"
Height	44.45 / 1.75"
Op Environment	0 - 50C
Relative humidity	5% - 95% non-condensing environment
Connectors	2 * 5-Pin Female XLR (bi-directional DMX) 1 * RJ45 Ethercon connector (10/100) 1 * IEC Power Connector
DMX Timings	Break time: 96 micro sec MAB 40 micro sec
RDM Timings	Break time 200 micro sec MAB: micro sec

Ordering Information

Ethergate Mk3 and related products can be ordered from our website or through your local ENTTEC dealer using the following part numbers.

Item	Name
70070	DMX Ethergate MK3
70023	5-Pin Male to Male DMX Adapter
70029	5-Pin to 3-Pin DMX Adapter
70006	2U 19" Rack Mount Kit
70035	1U 19" Rack Mount Kit
79122	5-Pin DMX Terminator
79134	5M 5-Pin DMX Cable

enttec.com

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