# ENTTEC

# STORM 8 – User Manual

Compact 8 universe DMX over Ethernet to DMX Converter.

AUSTRALIAN
DESIGNED + MADE

# Contents

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Storm 8 (70056)
Visit the ENTTEC website for the latest version.

# 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 and verify 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.
- Label any Cat5/6 DMX connector and DO NOT connect to non-DMX port (eg Ethernet Switch). Connecting unlike systems could result in serious damage to Storm8 and equipment.

## System Planning and Specification

- To contribute to an optimal operating temperature, where possible keep this device out of direct sunlight.
- The maximum recommended cable distance between the Storm8's output and DMX fixture is 300m (1000ft). ENTTEC advises against running 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 product and its accessories in its protective packaging until final installation.
- Note the serial number of each product 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.

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## Installation Safety Guidelines

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- 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
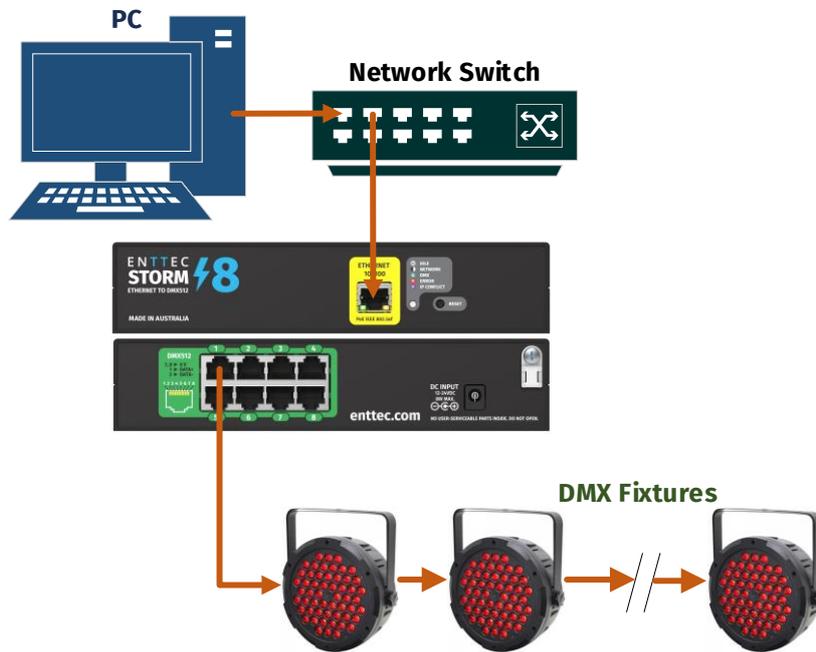


# LED status indicator

The LED status indicator can be used to determine STORM8's current state. Each state is as follows:

| LED Color | STORM8 Status |
|---|---|
| White (static) | Idle |
| Green | Sending DMX |
| Purple | IP conflict |
| Red | Device in boot / error |

# Out of the box

STORM8 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, STORM8 will fall back to the static IP address which will be 192.168.0.10 as default. By Default, all STORM8 ports are enabled with ArtNet selected. All port will output ArtNet universe number 0.

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# Networking

STORM8 can either be configured to be DHCP or Static IP address.

DHCP: On power up and with DHCP enabled, if STORM8 is on a network with a device/router with a DHCP server, STORM8 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, STORM8 will fall back to the Static IP address. If a DHCP address is provided, this can be used to communicate with STORM8.

Static IP: By default (out of the box) the Static IP address will be 192.168.0.10. If STORM8 has DHCP disabled or if STORM8 falls back to the Static IP address after being unable to find a DHCP server, the Static IP address given to the device will become the IP address to communicate with STORM8. The fall-back address will change from the default once it's modified in the web interface.

⚠️ Note: When configuring multiple STORM8'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 Art-Net Broadcast. This will ensure that STORM8 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 long term installations.

# Web interface

Configuring STORM8 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 STORM8's web interface.
- Note: As STORM8 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 STORM8's 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 STORM8'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 ArtNet).
- The device Default IP address will be printed on the physical label on the rear of the product.
- ENTTEC free NMU (Node Management Utility) software for Windows and MacOS (support up to Mac OSX 10.11), which will Discover ENTTEC devices on the Local Area Network, displaying their IP addresses before opting to Configure the device, opening the Web Interface. Note: STORM8 is supported by NMU V1.96 and above.

⚠️ Note: The eDMX protocols, the controller and the device using to configure STORM8 must be on the same Local Area Network (LAN) and be within the same IP address range as STORM8. For example, if your STORM8 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.

## Top menu

The top menu allows all STORM8 web pages to be accessed. Menu option is highlighted blue to indicate which page the user is on.

| Home | Settings | Network Stats | Update Firmware |

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# Home

Home tab displays the following information:

- Device (Node) Name.
- Firmware version on device.
- DHCP status – (either enabled / disabled).
- IP address.
- Netmask.
- Gateway.
- Mac Address.
- Link Speed.
- Input protocol set on device.
- Output ports status
  - Universe
    - Click on universe underlined in blue to inspect DMX value per channel)
  - Merge status
    - ErrorD: Merge is disabled but detected multiple data source from more than 2 IP address.
    - ErrorE: Multiple data source from more than 2 IP address detected.

# Settings

Settings tab displays the following information:

- Change a device (Node) name for identification.
- Enable/disable DHCP.
- Specify static network settings.
- Set the input protocol (Art-Net, sACN)
- Set DMX outputs ports settings
  - Enable/Disable port
  - Universe
  - Refresh rate
  - Merging option
    - None (Merging is disabled, support 1 source only)
    - HTP (Highest takes precedence, 2 sources)
    - LTP (Latest takes precedence, 2 sources)
- Reset to factory defaults.
- Reboot the device.

# Network stats

The Network page shows statistics for the DMX protocol enabled.

## Art-Net

The information provided is:
- Poll packets received.
- Last IP poll packets were received from.
- Last port data received from.
- DMX Data Packets Received
- DMX Data Packets Sent

## sACN

The information provided is:
- Data packets received
- Data packets sent
- Last IP
- Last port

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# Update firmware

It is strongly recommended that STORM8 is updated with the latest firmware, available on the ENTTEC website. This firmware can be loaded to the driver through its web interface by carrying out the following steps:

1. Browse and select the correct firmware version on your PC.

**Firmware Update**

| Upload New Firmware: | Choose File  Firmware.bin | Update Firmware |
| Update progress: | Please do not interrupt while the firmware is being updated. Unit will restart once firmware update is complete. |
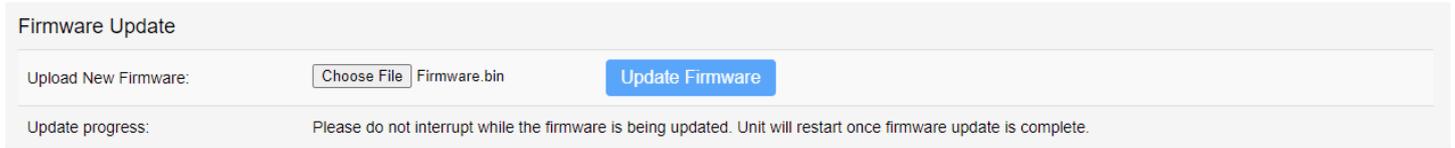
2. Press the Update Firmware button.
3. Once the firmware update is complete, the device will reboot.

# Reset to factory defaults

Factory resetting the product results in the following:

- Resets device name
- Enables DHCP
- Statis IP address reset (IP address = 192.168.0.10)
- Resets the gateway IP.
- Netmask is set to 255.0.0.0
- Input protocol is set to Art-Net.

- All ports set as "Enabled"
- Universe for Port1 = 0, Port2 = 1, Port3 = 2, Port4 = 3, Port5 = 4, Port6 = 5, Port7 = 6, Port8 = 7.
- All ports refresh rate as "40"
- All ports output merging as "None

### Using web interface

The reset to defaults command can be found under the Settings tab.

**Update**

| Save Settings | | Factory Default | Restart Now |
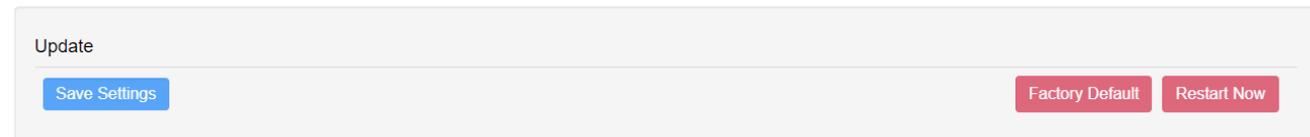
Once the command is pressed, a pop-up would appear as shown in the image below:

**10.10.10.106 says**

Reset the settings to Factory Defaults?
Please Confirm…

OK    Cancel
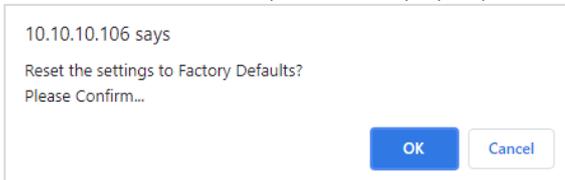
### Using the reset button

The reset button restores the network configuration of STORM8 to factory defaults:
- To reset to factory defaults, 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.
- Power cycle the unit

# Tips and guidelines

I'm unable to connect to web interface:
Ensure that ENTTEC product and your computer are on the same subnet
To troubleshoot:
1. Connect product directly to your computer using a Cat5 cable and power it on.
2. Give your computer a Static IP address (e.g.: 192.168.0.10)
3. Change computer Netmask to (255.0.0.0)
4. Open NMU and select the network adaptor connected to product.
5. If you have multiple networks (WiFi etc.), please try to disable all other networks except the one ENTTEC product is connected to.
6. Once NMU finds the product, you will be able to open the device webpage and configure it.
7. Factory Reset the device using the button if following the steps above and navigate to product default IP if this did not resolve the issue.

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# Servicing, Inspection & Maintenance

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- **The device has no user serviceable parts. If your installeigh 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.

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 cleanings.

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- **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.

# Package content

- **STORM8 (70056)**
- **2m cat5 cable (79102)**
- **1 X 12V PSU adaptor with international plugs**
- **Rack mounting bracket (79161) x2pcs + Screws x6pcs**
- **Surface/Din mounting bracket (79162) x 2pcs + Screws x4pcs**
- **Din Clip x2pcs + Screws x4pcs**
- **ReadMe Card**

# Ordering information

For further support and browse ENTTEC'S range of products, visit the ENTTEC website

| Item | SKU |
|------|-----|
| STORM8 | 70056 |

## enttec.com

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