



Artistic Licence



Net-Lynx O/P

User Guide



Please read these instructions before using the product.

This product has been designed & manufactured for professional use only. It should only be installed by a suitably qualified technician and in accordance with electrical regulations in the country of use.

Unless directed in the instructions there are no user serviceable parts inside the outer case of this product.

Always disconnect from the power supply when not in use.

Any specific IP rating, where appropriate, is given in the instructions. Unless otherwise stated this product is designed for indoor use only. If used outdoors it **MUST** be installed in an appropriate IP rated cabinet. Do not allow this product to be exposed to rain or moisture. Do not allow liquid to penetrate the product.

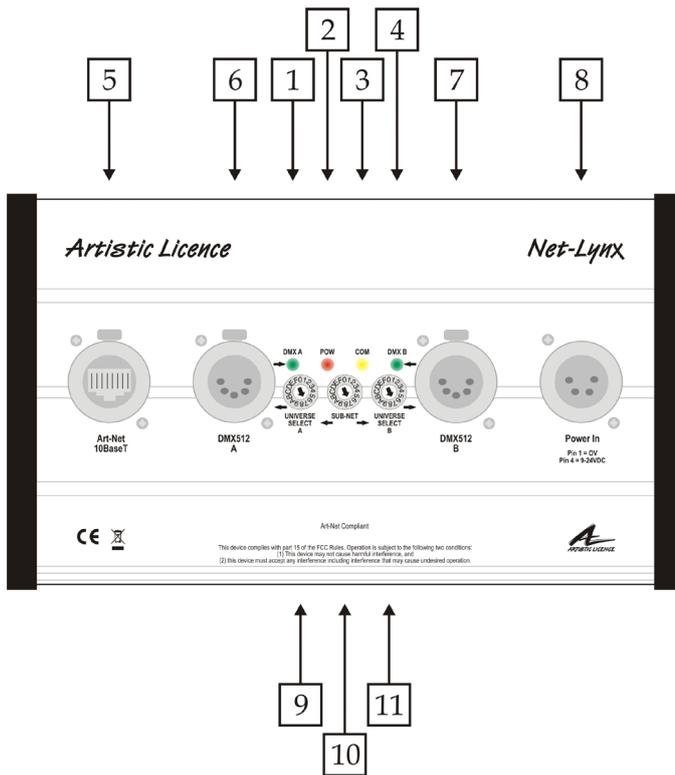
Please recycle all packaging.

Copyright © Artistic Licence Engineering Ltd. All rights reserved.

Download the user guide by scanning the following QR code:

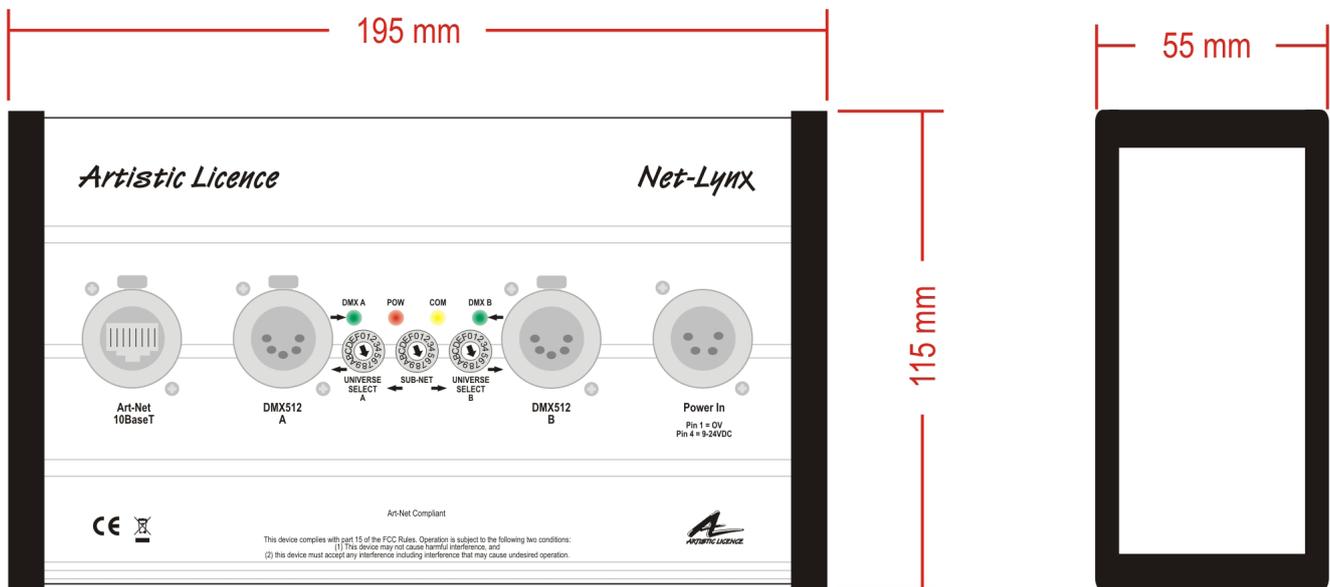


Connections



Ref.	Type	Description
1	LED	Data activity
2	LED	Indicator for Power
3	LED	Indicator for Ethernet
4	LED	Data activity
5	Data Connection	Ethernet
6	Data Connection	DMX O/P A
7	Data Connection	DMX O/P B
8	Power Input	9-48 VDC
9	Configuration	Universe A Select
10	Configuration	Sub-Net Select
11	Configuration	Universe B Select

Mounting Diagram



Product Overview

Net-Lynx O/P is a desktop or truss-mounted Ethernet-to-DMX512 converter. It is capable of converting Art-Net into 2 Universes of DMX512 & RDM, or sACN into 2 Universes of DMX512. The product is powered via an external power supply unit or, alternatively, the Power over Ethernet (PoE) standard.

The product is easily configured by dialling in the required Sub-Net and Universe using the wheel selectors. Alternatively, Net-Lynx O/P can be remotely configured via the internal web-server or over the network using DMX-Workshop (free-of-charge software available from Artistic Licence). When used with Art-Net 3, DHCP is supported for automatic IP addressing.

Summary of Key Features

- Ethercon XLR/RJ45 10BaseT ethernet port, compatible with Art-Net and sACN
- 2 DMX512 outputs, compatible with all variants of DMX, including DMX512-A. Support for RDM (Remote Device Management) V1.0 (E1.20 - 2006 ESTA Standard)
- Ethernet data activity indicator
- DMX data activity indicators
- Power indicator
- PoE compatible
- Internal web-server for configuration (including support for DHCP when used with Art-Net 3).
- Sub-Net and Universe wheels
- Default IP address: 2.x.y.z
- Truss-mountable using truss-ear adapter

Power

Net-Lynx O/P can be powered from either an external PSU (9 to 48VDC) or with PoE (Power-Over-Ethernet). PoE requires a suitable ethernet switch for the power source, such as Art-Switch PoE4.

The power LED indicator is on when the unit is powered. If it is flashing, please refer to the 'Error Messages' section for more information.

Ethernet Connection

Net-Lynx O/P has a single XLR-RJ45 ethernet connection. The interface can accept Art-Net (the public domain protocol invented by Artistic Licence), or sACN (the standard managed under ESTA/PLASA E1.31).

Net-Lynx O/P requires Cat 5 cable or better and supports 10BaseT.

The ethernet LED data indicator is on when network data is active. If it is flashing, please refer to the 'Error Messages' section for more information.

DMX Outputs

Net-Lynx O/P can output a maximum of two Universes of DMX512 data. There are 2 DMX/RDM output ports (A and B) with XLR5 connectors.

The DMX512-A standard specifies that Cat5 cable can be used to carry DMX data. The table below shows which cores should be used. It is recommended that Cat5E cable is used. RDM data uses the same connections as the DMX512 data.

The DMX A/B LED indicators are on when there is data activity. If the output is merging data (see the description of DMX-Workshop in 'Remote Configuration'), the LED will flash.

DMX512 Wiring

XLR Pin (convention)	Function	Colour	RJ45 Pin	Cable Colour
1	COM	Black	7 & 8	White/Brown & Brown
2	DMX -	Blue	2	Orange
3	DMX +	Red	1	White/Orange

Universe, Sub-Net and Net

Each universe being transmitted over ethernet needs to be distinguishable from other universes on the same network. For universe numbers up to 256 (the maximum limit of Art-Net II), this is achieved by setting the (4-bit) Universe and Sub-Net numbers. The settings can be made via the Sub-Net and Universe wheel selectors, or remotely (see 'Remote

Configuration' below).

In contrast, Art-Net 3 and sACN can carry up to 32768 and 65536 universes respectively. To handle these large values, the concept of a 16-bit port address including a 'Net' field is introduced. The port address of each DMX512 universe is a number composed of the (Net)+(Sub-Net)+(Universe). Because the product has no 'Net' wheel selectors, configuration must be done remotely if a port address greater than 256 is required.

Note that settings made remotely override the wheel selectors on the front panel, in effect locking them out. If all the LED indicators flash 3 times when a wheel selector setting is changed, this means that the product has been remotely configured.

Remote Configuration

There are two ways of remotely configuring Net-Lynx O/P. These are: 1) using DMX-Workshop or 2) using the product's internal web-server.

DMX-Workshop

DMX-Workshop™ is a software application that runs on the Windows XP & Windows 7 platforms. It is free of charge and available via download from the Artistic Licence website.

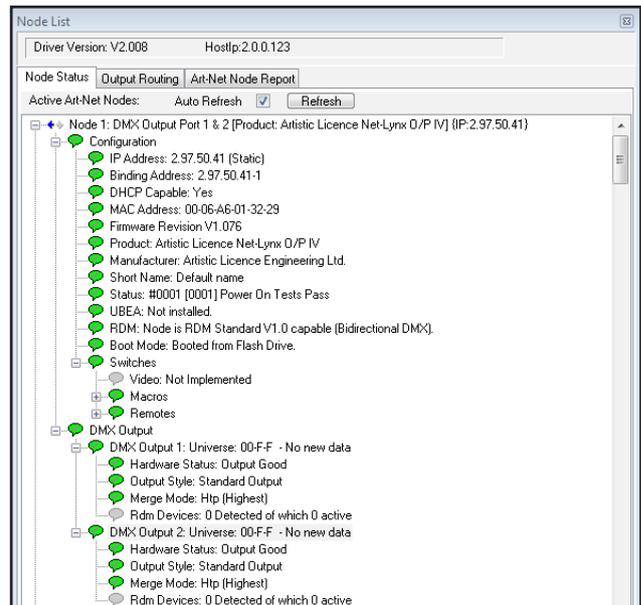
DMX-Workshop is a fully featured network management, analysis, configuration and diagnostics tool for Art-Net networks.

When Net-Lynx O/P is connected to a computer running DMX-Workshop, it should be detected and displayed as an Art-Net node (click the 'Node List' tab to verify this).

The node can be expanded to show the configuration and DMX output information, as shown in the screen-shot opposite.

Right-clicking on any entry brings up a menu that offers various functionality:

- The 'Configure Node' option enables configuration of the Universe, Sub-Net and Net values. It also allows the user to give the device a short and long name.
- 'Copy to clipboard' enables all the node information to be pasted into a support request email.



- 'Merge Controls' (selectable only on individual DMX outputs) enables the choice of LTP (latest takes preference) or HTP (highest takes preference) merge modes.
- 'Indicators' enables selection of normal, locate or mute for the LED indicators. Normal is the default behaviour, locate causes the selected port LED to flash, and mute turns off all the LEDs.
- 'RDM Devices' offers options for device discovery on RDM networks.
- 'Advanced' leads to 'Programme Upload' and 'Configure IP Address'. These are described in more detail below.

Firmware Upgrades

The 'Programme Upload' option enables the user to upgrade the product's firmware. DMX-Workshop stores the firmware files in C:\Program Files\Artistic Licence\DMX-Workshop\Firmware as e.g. AL500x v1-76.alf. Selection of the desired file is made via a pop-up window that shows the available files. It is strongly recommended that the firmware upgrade be applied to all output ports (check the 'Tick All' box in the next window).

IP Address Configuration

Choosing the 'Configure IP Address' in the 'Advanced' menu brings up a window that shows the IP and Subnet Mask.

The IP uniquely identifies any nodes or controllers on a network, while the Subnet

Mask defines which part of the IP represents the Network address and which part represents the Node address. For example, a Subnet Mask of 255.0.0.0 means that the first byte of the IP is the network address and the remaining three bytes are the Node address.

By default, the product has a static IP address in the range 2.x.x.x. There are situations in which the user may wish to change this - for example, a 192.168.x.x address is generally used in office environments.

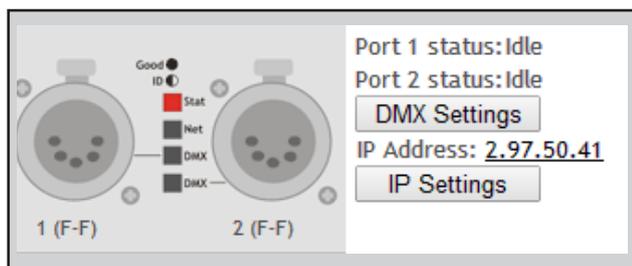
A very useful additional feature of Net-Lynx O/P is the ability to enable automatic IP address allocation on networks controlled by a DHCP server (check the 'Enable DHCP' box to activate this feature).

Note that the default IP and static addressing can be forced manually by setting all 3 wheel selectors to F and turning the power off then on again.

Web-Server

To configure Net-Lynx O/P via the internal web-server, either type in the IP address of the product or, if your web-browser supports NetBios, then enter the name: netlynxop. To find the IP address, use DMX-Workshop or type "ping 2.255.255.255" in a command line window.

The internal web page shows the DMX port status and options to change the DMX and IP settings, as illustrated below.



Web Browser Homepage

DMX Settings

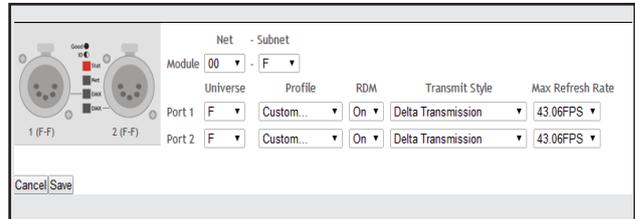
The DMX Settings tab leads to detailed configuration options:

- Set Net, Sub-Net & Universe values
- Set profile (see 'Output Profiles' table above opposite).
- Enable/disable RDM messages
- Set transmission style:

- Delta: DMX Output packets are synchronised with incoming Art-Net packets.

- Continuous: DMX output packets are continuously transmitted independently of the Art-Net inputs.

- Set the max refresh rate of the DMX port



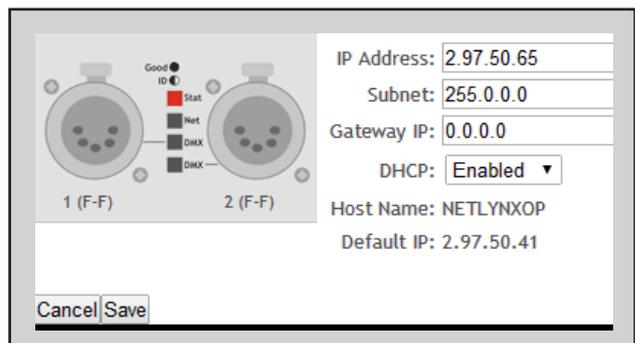
DMX Settings Detail

Profile	RDM	Transmit	Max refresh rate (fps)
Best	On	Delta	43.57
Compatibility	Off	Delta	43.06
Fix	Off	Continuous	39.95
Custom	On/Off	Delta/ Continuous	16.76 - 43.57

Output Profiles

IP Settings

The configuration menu for the IP settings (shown below) allows the user to set a custom IP address, Subnet Mask and Gateway IP. There is also an option to enable/disable DHCP for automatic IP address allocation.



Jumper Configuration

There are several advanced settings, beyond the scope of normal operation, that can be accessed by fitting the supplied jumpers over the configuration pins. The jumper settings information is as follows:

JP0-2	For future use
JP3	HTTP server disabled (e.g. no web page functionality)
JP4	10.x.x.x IP addressing active (ignored when DHCP is active)
JP5	RDM disabled on all outputs
JP6	Inverts the low byte of the IP address
JP7	For future use
ROM Boot	Switch to boot-loader* mode on power cycle

*Factory ROM mode ready for firmware upload. It is not usually necessary to use this procedure as firmware uploads can be initiated directly using DMX-Workshop.

Error Messages

On power-up, Net-Lynx O/P goes through a number of self-checks to ensure that it is functioning correctly. If an internal fault occurs the indicator LEDs are used to display an error code.

LED State	Description
Power & All alternately flashing	SRAM Fault**
Com & All alternately flashing	E2Prom Fault**
DMX 'A' & All alternately flashing	System ROM Fault**
All flashing (informational)	Boot loader mode

**Contact Artistic Licence for advice.

Net-Lynx O/P Specification

Mechanical

- Housing: Desktop style case
- Material: metal
- Overall dimensions: 115 mm (H) x 195 mm (W) x 55 mm (D)
- Weight: 0.7 kg
- Mounting: Desktop or truss (requires adapter)
- Country of manufacture: UK

Environmental

- Operating temperature: 0°C to 40°C
- Storage temperature: -10°C to +50°C
- Operating relative humidity (max): 80% non-condensing
- IP rating: IP20 indoor use only
- Certification: CE, FCC, WEEE, RoHS
- Warranty: 2-year (return to base)

Power & Electrical

- Input voltage: 9 - 48 VDC
- Input connector: 4-pin male XLR (1 no.)
- Input power (max): 2 W
- Duty cycle: 80% @ 25°C
- DC fuse: internal resettable fuse for control electronics

Ethernet

- Type: 10BaseT
- Isolation: 1 kV
- PoE: supported

DMX512 Outputs

- Output mode: ground referenced
- Output isolation: n/a
- Output ESD protection: ≥ 2 kV
- Output voltage protection: -7V to +12 V
- Output conditioning: slew-rate limited

Control

- Input Protocols: Art-Net, sACN
- Output Protocols: DMX512, DMX512 (1990), DMX512-A, RDM V1.0 (E1.20 - 2006 ESTA Standard)

Data Connections <ul style="list-style-type: none"> • Ethercon XLR-RJ45 (1 no.) • 5-pin female XLR DMX outputs (2 no.)
LED Indication <ul style="list-style-type: none"> • Power / Ethernet Link / DMX Activity
Configuration <ul style="list-style-type: none"> • Remote: Web-browser, DMX Workshop • Manual: Wheels / Jumpers • Configurable settings include: <ul style="list-style-type: none"> - Net, Sub-Net, Universe - IP Address (DHCP), DMX profile - ROM boot, RDM disable
Package Contents <ul style="list-style-type: none"> • Net-Lynx O/P • User guide • Jumpers (for configuration pins)
Ordering Info <ul style="list-style-type: none"> • Product code: Net-Lynx O/P
Accessories (not included) <ul style="list-style-type: none"> • PSU-9-1.5-XLR4 (powers 1 x Net-Lynx O/P) • Art-Switch PoE4 & PSU-48-1-DR (powers up to 4 x Net-Lynx O/P) • Truss-mount adapter



Artistic Licence

Studio 1, Spectrum House
32-34 Gordon House Road
London
NW5 1LP
United Kingdom

Telephone +44 (0) 20 8863 4515
Fax +44 (0) 20 8426 0551
Email: Sales@ArtisticLicence.com
Web: www.ArtisticLicence.com

Warranty

All products are covered from date of purchase by a two-year return to base warranty.

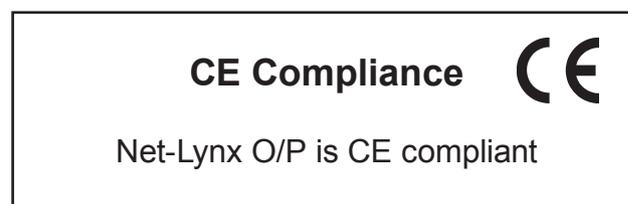
By return to base, we mean that the customer is responsible for all costs of transport to and from Artistic Licence.

Returns will not be accepted without prior authorisation. In order to discuss a request to return goods, please email:

Sales@ArtisticLicence.com

Compliance

All Products manufactured or sold by Artistic Licence Engineering Ltd are fully compliant with the appropriate CE, FCC, and RoHS regulations. Product specific information is available on request.



Waste Electrical & Electronic Equipment (WEEE)

Artistic Licence is a member of a WEEE compliance scheme and will happily recycle any of our products that you, at your expense, return to us.

Customer support and knowledge base:
www.ArtisticLicence.com/support.html

Due to our policy of continuing product improvement specifications are subject to change without notice

