BOS-Node 8

MAKE LIFE BRIGHTER

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SECTION 1

SAFETY INSTRUCTIONS & MAINTENANCE

This product is intended for professional use only. It is not suitable for household use.

Read this manual before you install, connect or use the unit, and keep it for future reference.

If you have questions about using this unit safely, contact us at info@bos-lighting.nl.

WARNING!
Risk of electric shock.

- Keep the unit dry and do not expose it to water or high humidity.
- If liquid gets into the unit, disconnect the power immediately.
- Do not open or modify the unit. There are no user-serviceable parts inside.
- Do not apply power if the unit or the power cable is damaged.

WARNING!
Keep the unit working properly.

- Do not let flammable liquids or metal objects get into the unit.
- Keep the unit away from strong magnetic fields.
- Handle the unit with care: hard shocks or vibration can cause faults.
- Do not let children play with the unit.

CAUTION!
Disconnect the unit from mains power before starting any maintenance

The following points have to be considered during the inspection:

1. The housing and rack ears must not be deformed or damaged.
2. The connectors must be firmly fixed and not loose in the housing.
3. The power cables must show no damage, material fatigue or deposits.

Further instructions depending on the installation spot and usage have to be adhered by a skilled installer and any safety problems have to be removed.

SECTION 2

INSTALLATION

WHAT IS IN THE BOX?

- 1x BOS-Node 8
- 1x PowerCON power cable
- 1x Network cable (Cat5)
- 1x User manual

PREPARING

Unpack the unit and check it was not damaged in transit.

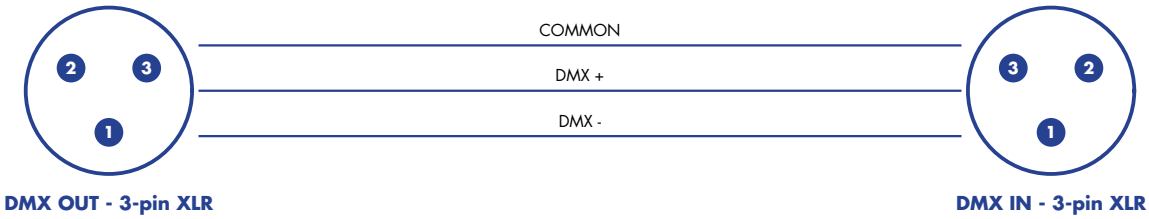
When choosing a location, check the following:

- The unit is meant for a 19-inch rack or a dry, flat surface.
- It is placed where it cannot get wet.
- The ventilation openings stay clear.

SECTION 3

DMX-512 CONTROL CONNECTIONS

On a port set as output, connect the first fixture with a DMX cable; further fixtures are daisy-chained. On a port set as input, connect the DMX output of a console or other device. Use shielded twisted-pair cable.



DMX OUT - 3-pin XLR **DMX IN - 3-pin XLR**

1: Ground
2: Data - (cold)
3: Data + (hot)

For installations where the DMX cable has to run a long distance or is in an electrically noisy environment, it is recommended to use a DMX terminator. This helps in preventing corruption of the digital control signal by electrical noise. The DMX terminator is simply an XLR plug with a 120 Ohm resistor connected between pins 2 and 3, which is then plugged into the output XLR socket of the last fixture in the chain.

SECTION 4

OVERVIEW

The BOS-Node 8 converts Art-Net and sACN to DMX512 and back, with RDM. It has eight DMX ports and two network ports. Each port is one universe; together that is 4096 channels. All inputs and outputs are galvanically isolated: a fault on one port does not affect the others.

Front panel

- POWER: lit when the unit is on.
- Eth. 1 and Eth. 2: connection status of the network ports.
- DMX 1 - 8: status of each DMX port.
- Display: shows the status or the menu.
- Buttons RETURN, UP, DOWN and ENTER.
- Power switch.

Rear panel

- AC IN: PowerCON input for mains power.
- AC OUT: PowerCON output to power the next unit.
- DMX 1 - 8: 3-pin XLR, each configurable as input or output.
- Ethernet 1 and 2: RJ45 with built-in switch, to daisy-chain the next node.

Status screen

Outside the menu the display shows the IP address and, per port, the universe (Univ), the direction (Dir: O = output, I = input, X = disabled) and the protocol (PRO: A = Art-Net, s = sACN).

Presets: choose a mode quickly

Preset	What it does
Net to DMX8	Network to DMX: all eight ports are outputs.
DMX8 to Net	DMX to network: all eight ports are inputs.
DMX Split 1->7	Splitter: DMX 1 is the input, DMX 2 - 8 the outputs.
DMX Split 2x1->3	Two splitters: DMX 1 to 2 - 4 and DMX 5 to 6 - 8.

Network

Under Network choose the IP mode. 2XX (the default) gives an address in 2.x.x.x with subnet mask 255.0.0.0, 10XX an address in 10.x.x.x. Both suit Art-Net consoles such as a grandMA. With CUSTOM you enter the IP address, subnet mask and gateway yourself, for example 192.168.1.7 with 255.255.255.0. In 2XX and 10XX every unit has its own address; it is shown on the status screen.

Ports

IP Merging and No DMX only apply to ports set to OUT.

Setting	Options	Meaning
Direction	OUT / IN / Disable	Output, input or disabled.
Protocol	sACN / ArtNET	Protocol of this port.
IP Merging	SINGLE / HTP / LTP	Two sources: first only, highest or latest value.
FrameRate	1 - 40	DMX packets per second (default 40).
Universe	0 - 32767	Universe of this port.
No DMX	HOLD / ZERO / OFF	Signal lost: hold last value, all to 0, or no DMX.
RDM	0 - 999	RDM refresh (default 0).

DMX timing

Under DMX Out you set the break (default 92 microseconds) and the mark-after-break (default 12 microseconds) of the outputs. Leave these values alone unless an older device does not read the DMX signal properly.

Display and factory settings

Under Display you choose whether the screen shows the status, stays on or switches off, and after how many seconds (default 10). Load Default returns all settings to the factory values: ENTER confirms, MENU cancels.

SECTION 6

WEB INTERFACE

Logging in

Everything in the menu can also be done in a web browser. Put your computer on the same network as the node and type the IP address from the status screen into the address bar. Enter the password (default: admin) and click Submit. The menu then sits on the left, the chosen page on the right. Click Apply after every change; Reset returns the fields to what is stored in the node.

Network Settings

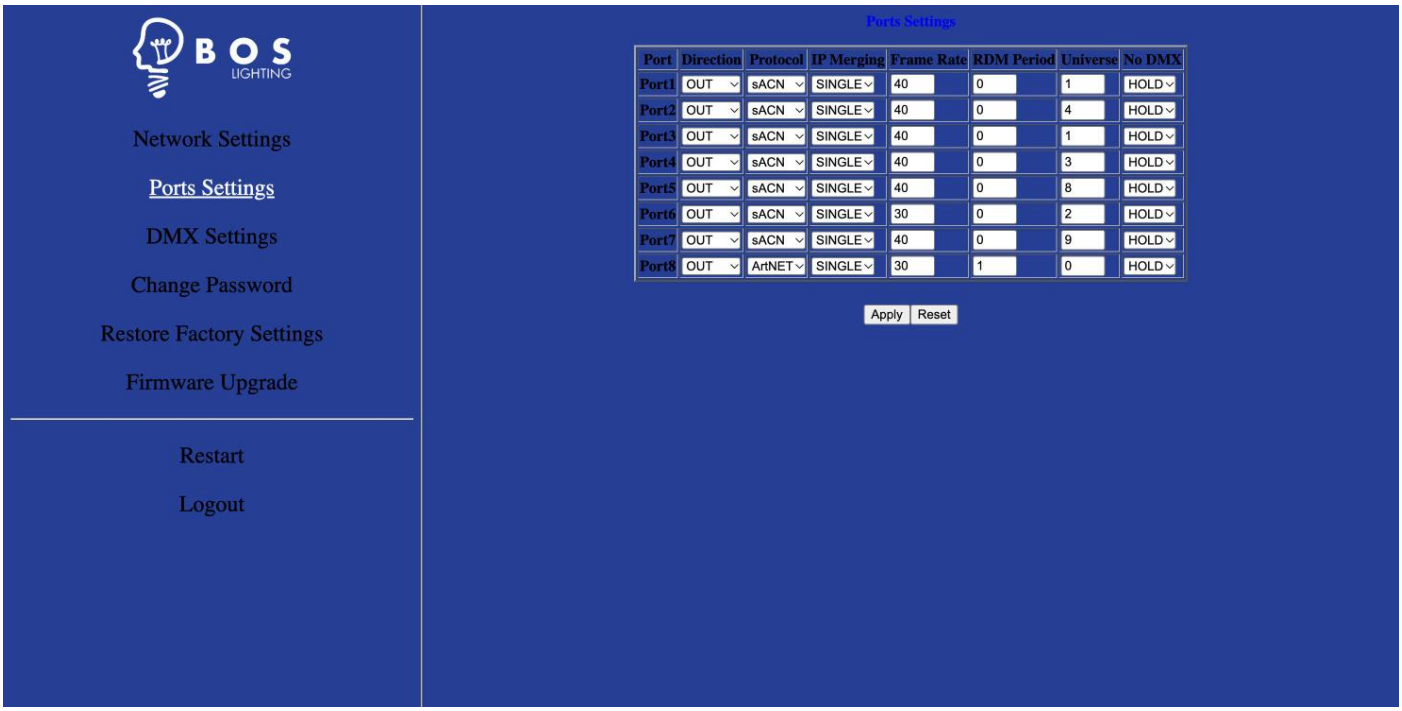
Node name, IP address, netmask, gateway and the IP mode (Custom IP, 2.x.y.z or 10.x.y.z). After Apply with a new IP address the node can only be reached on that address.



WEB INTERFACE

Ports Settings

All eight ports in one table: direction, protocol, merging, frame rate, RDM period, universe and what the port does on signal loss. The meaning is explained in the Setup chapter.



WEB INTERFACE

DMX Settings

Break and mark-after-break of the DMX outputs, in microseconds.



WEB INTERFACE

Change Password

Enter the old password and the new one twice. Change the default password admin when the node sits on a permanent network that others can reach.



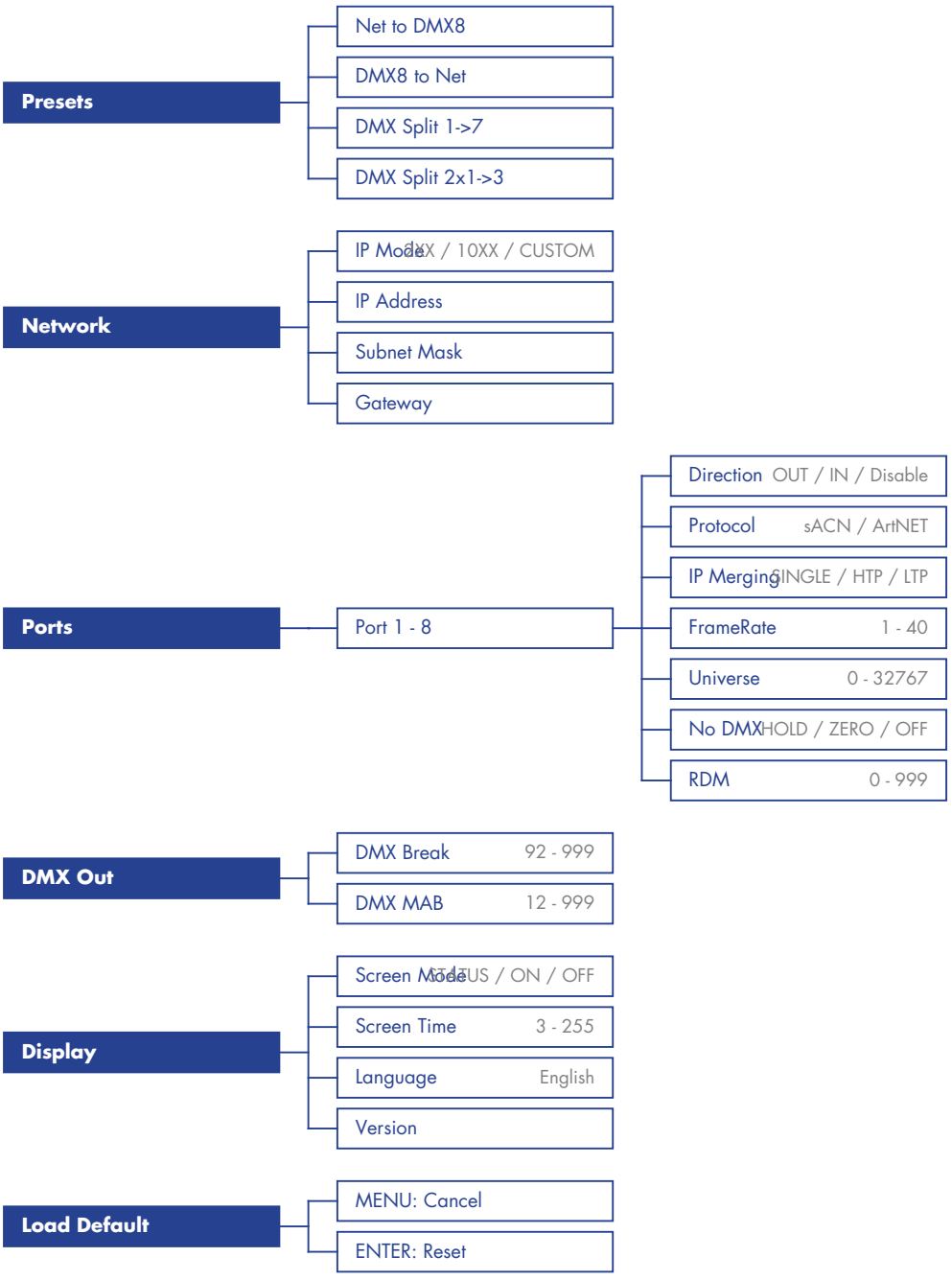
Other items

- Restore Factory Settings: returns all settings to the factory values.
- Firmware Upgrade: only use with firmware from BOS Lighting.
- Restart: restarts the node immediately.
- Logout: log out.

SECTION 7

MENU OVERVIEW

Press any of the four buttons to open the menu. UP and DOWN select an item, ENTER confirms and RETURN goes back one step.



SECTION 8

TROUBLESHOOTING AND CLEANING

CAUTION!
Disconnect the unit from mains power before starting any maintenance

The unit contains professional electronics. For your own safety and the life of the product, unqualified persons must not open the unit.

The fixtures do not respond

Possible cause: a wrong setting or a network fault. Proceed as follows:

- Check that the port is set to OUT with the right protocol and universe.
- Check that the computer or console is on the same network (2.x.x.x, 10.x.x.x or your own range).
- Check that the network port LED is lit and the network cable is intact.
- Check the DMX cable and terminate the line with a 120 Ohm resistor.

The web interface does not open

Possible cause: the computer is on a different network. Proceed as follows:

- Read the IP address on the status screen and give the computer an address in the same range.
- If needed, set the node to CUSTOM in the menu with an address that fits your network.

The unit does not start

Possible cause: a power supply fault. Proceed as follows:

- Check the PowerCON cable and that the power switch is on.
- Contact BOS Lighting if the unit still does not start.

CAUTION!
Do not use solvents or abrasives

Clean the unit when needed:

1. Disconnect the power.
2. Wipe the housing with a dry, soft cloth.
3. Blow dust out of the ventilation openings with low air pressure.

SECTION 9

TECHNICAL SPECIFICATIONS

Protocols	Art-Net, sACN, DMX512, RDM
DMX ports	8 x 3-pin XLR, input or output
Universes	8 (4096 channels)
Network	2 x RJ45 with switch
Isolation	All ports galvanically isolated
DMX refresh	1 - 40 Hz
Display	Colour display with 4 buttons
Operating supply voltage	AC 88 - 256 V 50/60 Hz
Power connection	PowerCON in and out
Housing	19 inch, 1U
Dimensions	482 x 168 x 44 mm
Weight	1.7 kg
Protection class	IP20 (indoor use only)