dmxLAN node4

Users Manual

ELC

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dmXLAN node4

Introduction:

The dmXLAN **node4** is a DMX512 to Ethernet and reverse converter, compatible with the Artnet protocol.
The **node4** has 4 DMX inputs, fully protected with an option for optical isolation. The standard version has ground coupled inputs.
4 DMX outputs are available, ground referenced and connected to a transceiver for compatibility with RDM (Remote Device Management)
All DMX in- and outputs can be used simultaneously and independant from each other.
Further I/O are a RS232 port and a MIDI in- and output of which one of the variants can be used and 4 inputs for contacts as wel as 4 opt isolated switch outputs.
The Ethernet link is a 10BaseT connection on a Neutrik Ethercon RJ45 connector.
The unit is housed in a 19" wide 1U high rackmount case with a fixed mains lead.
The **node4** can be configured via the frontpanelcontrols and LC display for simple operations. For a full functionality a PC, running the ELC dmXLAN control software, connected to the network is required. This PC is not needed during normal operation, only for configuration and at wish for monitoring nodes and universes and fixture management.

Connections:

The node4 has the following connections:

- a 10MB Ethernet 10BaseT connection on Neutrik Ethercon
- 4 DMX512 inputs on 5 pin male XLR with termination
- 4 DMX512 outputs on 5 pin female XLR, with termination and a transceiver connection for RDM compatibility
- RS-232 connection on D-sub 9 pin female
- MIDI In and Out/Thru connections on 5 pin female DIN connectors
- 2 contact closure inputs plus 2 opto isolated switched outputs on a D-sub 9 pin female connector.

Operation:

The **node4** can be controlled with the user interface (LCD and keys on the front) and by the dmXLAN software.

Controlling the unit with the user interface:

The options to be set in this operating mode are:

- Input enable/disable and universe select
- Output universe select
- RS-232/Midi connection
- IP address and NetMask
- DMX output rate
- Min/Max DMX input frame rate
- Clear Setup

Input enable/disable and universe select:

The DMX inputs can be enabled to send their DMX data onto the network. The data are converted to Ethernet and a universe number is added.
This number has 2 digits, both digits go from 0 to 9 and A to F. So for each digit there are 16 options, enabling 16x16 = 256 different universes. The first digit is also called 'SubNet', the second called Net. When a universe number is set, the data from the DMX input is sent on the network. The input can also be disabled.

Output universe select:

The DMX output can selected to one of the 256 universes on the network by setting the universe number with the 2 digits. The output can also receive data from the inputs on the same unit, if they have been set to the same universe number.

Note:
 After POWER ON the outputs do NOT generate DMX until they have received the first DMX data on the assigned universe.
When the universe data fails (no data coming in for 10 seconds) the output will HOLD the DMX data.

RS-232/MIDI connection:

The RS-232/MIDI port can be used to transfer other data (not DMX) over the network. Options are:

- not used
- MIDI in/thru, the MIDI in data is sent on the network, and the MIDI output is used as a MIDI thru.
- MIDI in/out, the midi in data is sent on the network, and the MIDI output receives data from the network.
- MIDI out, the MIDI output receives data from the network.
- RS-232, the RS-232 connection receives and send data. The speed (baudrate) can be set to 2400bps, 4800bps, 9600bps and 19200bps. Fixed settings are 1 startbit, 8 databits, no paritybit and 1 stopbit.

IP address and NetMask:

The IP address and NetMask can be adjusted, but for normal operation this should not be done. To get back to the original settings use the **ClearAll** menu item.

Set ID

The unit can be given an ID number. This number can be used to preconfigure the node in the dmXLAN PC control software. When the unit is switched on with an ID number, and the PC software has a configuration prepared for this ID number, the configuration will be programmed in the unit. The ID number is built up with 3 digits. The digits are in hexadecimal (values 0-9 and A-F, so 16 posibilities).
The maximum numbers of ID's is:
16x16x16 – 1 (ID 000 does not count) = 4095 ID's

DMX output rate:

The DMX512 output rate can be set to either 40Hz, 33Hz or 25Hz. This can be usefull for controlling equipment that cannot handle fast refresh rates (ex old dimmers or scanners).

Min/Max DMX input frame rate:

The **node4** only sends DMX data from the input when the data has changed. But the DMX data is also sent at a minimum number of times per second when there is no change.
This minimum frame rate can be set to 1 fps (FramesPerSecond), 4 fps, 10 fps or 25 fps.
When a lot of DMX universes are used (more then 20) the maximum frame rate can be limited this way, so bandwith (time on the network) is freed up for the extra universes.
The maximum frame rate can be set to 40 fps, 33 fps or 25 fps.

Clear Setup (ClearAll):

With this function the **node4** is returned to the factory settings, which include:
- disable all 4 inputs
- set outputs 1-4 to universe 0-0 to 0-3
- disable RS-232/MIDI
- reset IP address and NetMask to default

Controlling the unit with the dmXLAN software:

To fully use all the possibilities of the dmXLAN system, please download the latest **dmXLAN control software** from www.dmxlan.net.
A registration key can be obtained for free, by sending an email to key@dmxlan.net.
Required details are your name, company name and email addres.

Some functions of the software are:

- Monitoring and viewing all the DMX universes on the network
- Monitoring and configuring the nodes on the network
- Managing fixtures in the rig.
  This is done by isolating the fixtures from the control console.
  Example: the technician can takeover the controls of a single fixture or group of fixtures to test, reset, shutdown or disable the light. This can be done without interfering with any of the other fixtures.

Specifications:

DMX in ports:	compliant to DMX512(1990) on 5 pin male XLR connected to an (optional optically isolated) fully protected receiver
DMX out ports:	compliant to DMX512(1990) on 5 pin female XLR connected to a fully protected transceiver for RDM hardware compatibility
Ethernet port:	10BaseT port on RJ45 (Neutrik Ethercon)
AC power:	Switchable 115 or 230 Volt. Power requirement: < 10 VA
Dimensions:	19'' 1HE (483 x 150 x 44 mm)
Weight :	2,8 kg

Designed and manufactured in the Netherlands by:

ELC *lighting*

Distributed by:

Worldwide distribution:

ANIMA *Lighting* **ltd**
Route du Stand 20
CH-1897 Le Bouveret
Tel.+41 (0)21 967 2001
Fax +41 (0)21 960 4282
sales@elclighting.com