SOUNDLIGHT
The DMX Company

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OPERATING MANUAL

DMX Demultiplexer 3012B-EP RDM Mk7

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Thank you for choosing a SOUNDLIGHT product.
The SOUNDLIGHT DMX Demultiplexer 3012B-EP is a intelligent DMX demultiplexer, able to decode digital data complying with USITT standard DMX-512, or DIN 56930-2 respectively, to analog output voltages of 0...+10V DC. The board can be used with all standard light control systems. Its special advantages include:

- **universal protocol decoding**
  Recognizes all variants of the protocol as defined by USITT/ESTA/WETF/DIN

- **future-proof**
  The unit is software controlled an can be adapted to any change in protocol definition.

- **simple supply**
  The power supply may be derived from unregulated 15...24V DC, stabilization on board

- **signal loss**
  A signal loss of not more than 1s does not affect the output. This is in accordance with the USITT standard. In case of a longer signal loss,
  - all outputs are driven down to 0V (standard), or:
  - all outputs are set to full level, or:
  - the last setting will remain intact (optional).

  The decoder can be configured to meet your application.

- **cost-effective**
  The SOUNDLIGHT 3012B-EP is a cost-effective solution for many purposes.

CONNECTORS

The DMX Demultiplexer Card 3012B consists of the following interconnections:

CN1 **Universal connector (16 pin)**

1	Output 0...10V Channel 1
2	Output 0...10V Channel 2
3	Output 0...10V Channel 3
4	Output 0...10V Channel 4
5	Output 0...10V Channel 5
6	Output 0...10V Channel 6
7	Output 0...10V Channel 7
8	Output 0...10V Channel 8
9	Output 0...10V Channel 9
10	Output 0...10V Channel 10
11	Output 0...10V Channel 11
12	Output 0...10V Channel 12
13	*do not use*
14	*do not use*
15	GND 0V
16	Power Supply +15...+24V=

IMPORTANT NOTE: Make sure to keep the output load below 2mA/output pin at all times. (4mA max. output current allowed). Please refer to specifications (page 5)

CN2	**DMX Input (XLR 5-pin)**	
	1	GND
	2	-DMX
	3	+DMX
	4	connected to pin 4 CN3
	5	connected to pin 5 CN3
CN3	**DMX Output (XLR 5-pin)**	
	1	GND
	2	-DMX
	3	+DMX
	4	connected to pin 4 CN2
	5	connected to pin 5 CN2
CNN	**Power Supply**	
	red	+15-24V DC
	blue	GND

ATTENTION! Reversing the PSU leads or short-circuiting respectively application of external voltage to the outputs may damage the unit!

SIGNAL INDICATORS

The status of the Demultiplex Board is signalled with two LED indicators.

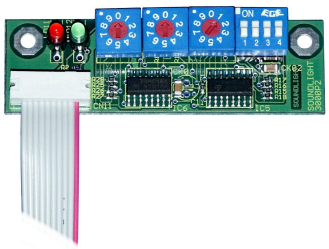
green: operation (blinking)
red: ERROR (blinking)
No error indication while normal operation
Error blinking at data errors or loss of communication.

1x blink: signal loss, general error
2x blink: startcode error

START ADDRESS SWITCHES

The three decimal coding switches set the start address, that is the address of the first channel to be decoded. The setting is fully decimal, no binary conversion is necessary as is with DIL switches.

S3 S2 S1



S1: Ones
S2: Tens
S3: Hundreds

If the switch block is set to address 000, all outputs are disabled regardless of the data received.

All settings made on the address board are retained in the de-multiplexer internal nonvolatile memory. The settings will remain active even when disconnecting the address board after the setting has been saved. Do not detach

the address board while the demux is saving configuration data (both LEDs blink alternatively 4 times).

NOTE:
We recommend to disconnect and to reconnect the address board only when the system is fully powered down. Both printed circuit boards contain static sensitive electronic devices. Please discharge yourself against GND before handling printed circuit boards. For maximum protection, leave pcbs in the antistatic bag when not used.

DIP SWITCHES

DIP switches are used to configure the board.

DIP SWITCH 1: **DMX HOLD**
S1 defines the behaviour at a loss of the DMX data signal.
ON = DMX HOLD, output will be mainatined at signal loss
OFF = NO HOLD, output will be set according to DIP switch 2

DIP SWITCH 2: **SAFETY LEVEL AT SIGNAL LOSS**
ON = 100%, all outputs will be driven to FULL ON
OFF = 0%, all output will be driven to OFF

DIP SWITCH 3: **OUTPUT VOLATEG**
sets the typical output voltage
ON: 0...5V
OFF: 0...10V

DIP SWITCH 4: **MASTER MODE**
ON: Master active (DMX slot 13)
OFF: no master selected

SERVICE SETTINGS

The Demultiplexer 3012B may be set to special service settings to test individual outputs. Selecting the address will set the appropriate output to 100% level.

801: Output 1 to 100%
802: Output 2 to 100%
803: Output 3 to 100%
....up to:
812: Output 12 to 100%

DMX RDM

The Demultiplexer 3012B is compatible with DMX RDM Ver 1.0. The DMX start address, the DMX hold mode and the DMX personality can be changed using RDM commands. Additionally, these partatmeters can be set using the external start address board. For full details, pls refer to the product homepage and the DMX RDM manual, which can be downloaded at:
www.soundlight.eu/produkte/manuals

TECHNICAL DATA

Dimensions:	70 mm x 70 mm x 45 mm
Supply:	15...24V DC 35mA without load (absolute maximum supply voltage: 28VDC)
DMX IN:	1 Unit Load
DMX Standard:	signal compatible with DMX512/1990, DMX512-A, ANSI E1-20 DMX RDM, DIN56930-2
DMX OUT:	fed thru
Analog Out:	0.4...+10.4V, max. 2mA per output*
Weight:	approx. 66 gr
Storage Temperature:	-20...+80°C non-condensing
Opeerating Temperature:	0...50°C non-condensing
Order code:	3012B-EP Mk7 RDM

**= the outputs are directly derived from the integrated digital-to-analog converter chips MAX528 (see: www.maxim-ic.com). Please refer to the component data sheet for more information.*

CE CONFORMITY

This DMX demultiplexer is microprocessor controlled and uses high frequency (16 MHz quartz).

The interface has been tested in our emc lab to comply with EN5022B and IEC65/144.
To ensure the best performance regarding radiated and conducted emissions we suggest to install the interface card in a closed, conductive (e.g. metal) housing, which must be connected to GND.
Please make sure that shielded data cable is used troughout and the shield is connected properly to the GND pin. Shield must never make contact to other signal lines.

FCC STATEMENT

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

FCC Caution: Any change or modification to the product not expressly approved by SLH could void the user’s authority to operate the device.

DISTURBANCES

If a trouble-free operation cannot be guaranteed, disconnect the decoder interface and secure it against unwanted operation. This is especially necessary, when

- the unit shows visible damages;
- the unit does not operate;
- internal parts are loose;
- interconnection cables show visible damages.

LIMITED WARRANTY

This instrument ist warranted against defects in materials and workmanship for a period of 12 month, beginning with the date of purchase. The warranty is limited to repair or exchange of the hardware product; no further liability is assumed. SOUNDLIGHT is not responsible for damages or for loss of data, sales or profit which arise from usage or breakdown of the hardware product. In Germany, SOUNDLIGHT will repair or replace established defects in hardware, provided that the defective part is sent in, freight paid, through the responsible dealer along with warranty card and/or sales receipt prior to expiration of warranty.

Warranty is void:
- when modifying or trying to repair the unit without authorisation;
- modification of the circuitry;
- damages by interference of other persons;
- operation which is not in arccordance with the manual;
- connection to wrong voltage or current;
- misuse.

SERVICE

There are no parts within the DMX Demultiplexer Board 3012B which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

INTERNET-HOTLINE

Please refer to the product homepage on the internet. The product homepage can be reached at: ***www.soundlight.eu/produkte/3012b-ep***

The DMX RDM info sites can be reached at ***www.soundlight.eu/rdm***

Load udated manuals or the RDM MANUAL from ***www.soundlight.eu/produkte/manuals***

ENVIRONMENTAL NOTICE

When the end of the useful lifetime of this product has been reached, it must be disposed of properly. Electric and electronic devices must not be placed in domestic waste. Contact your local authorities for information about a suitable collection point in your neighbourhood. SOUNDLIGHT is a WEEE registered company.