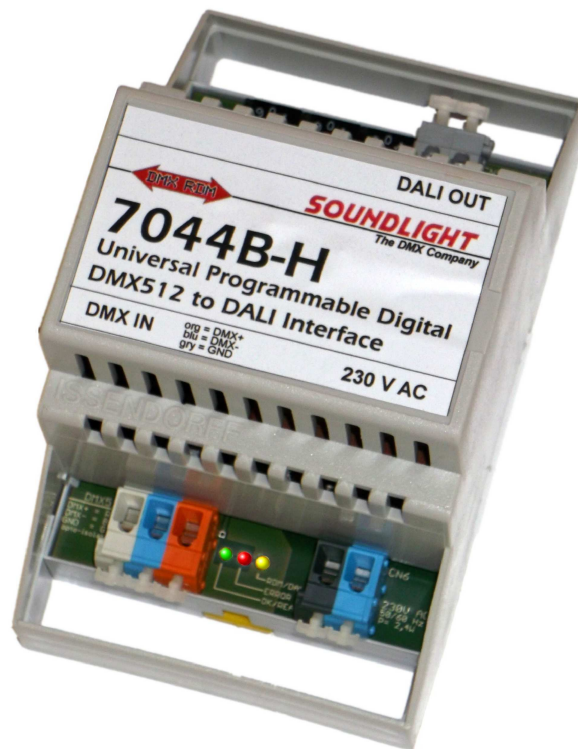


## OPERATING MANUAL

### DMX512 to DALI Dekoder 7044B-H Mk4.7



**RoHS**  
compliant

(C) SOUNDLIGHT 1996-2022 \* ALL RIGHTS RESERVED \* NO PART OF THIS MANUAL MAY BE REPRODUCED, DUPLICATED OR USED COMMERCIALY WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER \* ALL STATEMENTS WITHIN THIS MANUAL HAVE BEEN CHECKED CAREFULLY AND ARE BELIEVED TO BE ACCURATE, HOWEVER SOUNDLIGHT DOES NOT ASSUME ANY RESPONSIBILITY FOR ERRORS OR OMISSIONS. \* THE USER HAS TO CHECK THE SUITABILITY OF THE EQUIPMENT FOR THE INTENDED USE. SOUNDLIGHT EXPRESSLY EXCLUDES ANY RESPONSIBILITY FOR DAMAGES - DIRECT OR INDIRECT - WHICH MAY OCCUR DUE TO MISUSE, UNPROPER INSTALLATION, WRONG OPERATING CONDITIONS AND NON-COMPLIANCE TO THE INSTRUMENT'S INSTRUCTIONS, AS WELL AS IGNORANCE OF EXISTING SAFETY REGULATIONS.

## PREFACE

Thank you for choosing a SOUNDLIGHT device.

The SOUNDLIGHT DMX DALI Decoder 7044B-H is a intelligent DMX decoder complying with DMX data formats conforming to USITT DMX512/1990, DIN 56930-2 and ANSI E1-11 DMX512-A. The interface converts DMX to DALI control data. The interface 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 / PLASA / DIN
- **future-proof**  
The unit is software controlled and can easily be adapted to any change in protocol definition.
- **DALI bus compatible**  
The 7044B-H is compatible to DALI bus systems.
- **simple supply**  
The power supply is from standard mains voltage 230V AC
- **signal loss**  
In the case of a loss of the drive signal a pre-definable action will be taken.
- **cost-effective**  
The SOUNDLIGHT 7044B-H is a cost-effective solution for many purposes.

## APPLICATIONS

The decoder 7044B-H is intended for control applications, where DALI units must be controlled from DMX using a standard DALI bus topology. Please note that we are also offering decoders for „DirectDALI“ control, which allow individual DALI responder control in real-time.

## Symbols

This manual uses symbols to indicate special attention.:



DANGER!

Non-compliance may cause system or device failure, damage or personal injuries



INFO:

How to setup the device



INFO:

Status Information

# CONNECTORS

Our decoders use easy-to-use screwless cage clamp connectors. Please use a standard flat blade screw driver to open the clamps (a standard phase tester will be just fine) - never use a phillipps-, pozidrive or torx tool since this may damage the levers.

To open, gently press, insert wire and release. You're done! Cage clamp connectors accept both, stranded and solid wires. We recommend to use ferrules with stranded wires whenever possible.



The decoder 7044B-H consists of connectors for these inputs and outputs:

## CN6 POWER SUPPLY 230V AC 50 Hz

1	black:	<b>L</b>	230V AC
2	blue:	<b>N</b>	0V AC

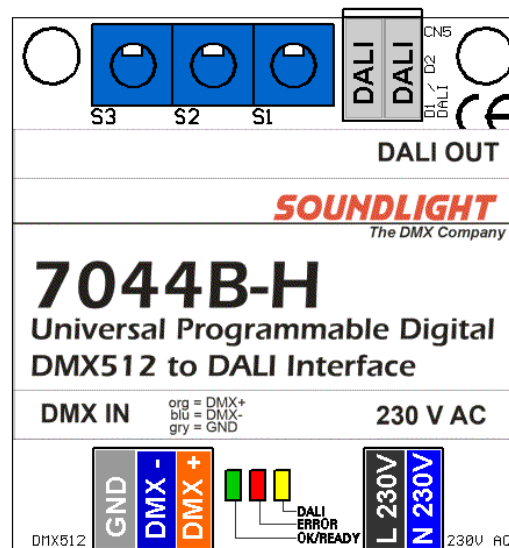
## CN5 DALI Data bus

1	grey	DALI OUT
2	grey	DALI OUT

## CN4 DMX Data input

1 (grey)	GND, Screen	connects to XLR Pin 1
2 (blue)	Control signal -	connects to XLR Pin 2
3 (orange)	Control signal +	connects to XLR Pin 3

CN5: DALI OUT



CN4: DMX IN

CN6: 230V AC

## START ADDRESS

The DMX start address can be selected using the start address switches. Also, special programming of the interface is performed using the address range beyond 512 (see chapter „Setup“). The address 000 is not a valid start address and will be decoded as 001 instead.



DALI addressing cannot be changed and is fixed from 1 thru 4\* (64). The same applies to DALI group addressing.

*\*= pre-configured to 4 addresses (data slots) . User-reprogrammable to 4...64 addresses / data slots (see chapter „SETUP“ below).*

## DALI

Please note, that DALI is much, much slower than DMX: controlling two DALI addresses simultaneously requires about the same time as transmitting a complete DMX telegram containing 512 data slots. That's what the DALI guys call „DALI Delay“.

Thus only up to four individual DALI units may be controlled simultaneously without a too big delay. The decoder, however, can be configured to output data for up to 64 addresses sequentially - but for the reason outlined above the default setting is four (4). If more units are to be controlled simultaneously we recommend to change to group address setting, or use multiple decoders and multiple DALI links in parallel. We also recommend to re-program connected DALI responders to a fade time of at least 0,7 sec (fade time parameter set to 1 or 2) to allow a smooth response. You may do so using your preferred DALI programmer (or our USB-DALI tool).

The DALI protocol can be set to individual addressing or group addressing mode using addresses 1 thru 4 (64). DALI data are derived from the incoming DMX data. Please note that the maximum intensity -as used by DMX- is 255, whereas the maximum intensity on the DALI line is 254. (In the DALI standard, value 255 is reserved for „MASK“ [no operation]). Thus the maximum level is clipped from 255 to 254\*.

The DALI output is intended for connection to a DALI bus system. The DALI bus must be fed from a DALI power supply (DALI PSU) and may be loaded with up to 64 bus participants. If required, addressing on the DALI bus must be performed using a suitable addressing tool (e.g. our USB-DALI interface). The 7044B-H does not perform any addressing of bus participants by itself.

*\*= pre-configured to 254 . User-reprogrammable to MASK value 255 (see chapter „SETUP“ below).*

## Signalanzeigen

The decoder status is signalled using three LED indicators:.

- |         |   |
|---------|---|
| green:  | on when DMX signal present<br>blinks when DMX signal present but DALI bus fails or is missing |
| red:    | ERROR normally off<br>blinks when DMX signal is missing or contains invalid data              |
| yellow: | Steady: DALI Bus missing or unpowered<br>random blink: activity                               |



For a easy DALI bus setup we recommend our SOUNDLIGHT USB-DALI adapter. Connect these items to the DALI bus:



- a DALI PSU
- the USB DALI adapter
- the DALI bus participants (excluding the 7044B-H)

Addressing a DALI system consists of multiple steps:

1. The bus will be searched for pre-addressed units first. A device is considered being addressed when a DALI short address (1...64) has been assigned to that unit. If already programmed participants can be found, you may decide
  - to leave that addressing as is
  - or erase existing programming.
2. Then all new (unprogrammed) devices are searched and then a short address is assigned to each participant in increasing order, beginning from address 1.

When all devices have been programmed, all devices are read out completely (group assignments, pre-defined settings, min/max-levels, group assignments) and the data are displayed.

Please note:

New devices may not show any group assignments yet. To assign to a group, select the device and then assign the desired group(s). By default, the 7044B-H can address groups 1...4\*.

Set the group assignment of each DALI participant to meet your individual needs.

More information regarding DALI programming and the USB-DALI interface can be found in the USB-DALI manual.

It is not necessary to use the USB-DALI programmer. Any DALI programmer which allows free user interaction can be used. A programmer which runs only automated pre-defined programming sequences does not match the needs of user-specific settings.

Please note, that the level value range transmitted by DMX consists of values 000...255, whereas the maximum DALI level is 254\*\*. (255 is the special value "MASK" used within DALI programming). "MASK" means: "do nothing".

You may select to use or not use MASK values at your option (see SETUP).

*\*= Default setting is 4 single addresses resp. 4 group addresses. This can be reconfigured from 4...64 addresses or 4...16 group addresses at your option. Note that more addresses may result in delays on the DALI bus due to the slow communication speed of DALI devices.*

*\*\*= pre-configured to 254 as maximum value (100%) . User-reprogrammable to 255 (MASK) (see chapter „SETUP“ below).*

## DALI COMMANDS

All data output on the DALI bus are Direct Arc Level commands. Normally, no other commands will be issued. In newer models (from Mk4.6 onward), the Zero Arc Level command can be substituted with the „OFF“ command to increase compatibility with certain DALI responders.

All data sent onto the DALI bus are output as DALI Direct Arc Commands. Using the setup (see below) these modes are available:

1. addressed Direct Arc Commands on a single DALI address  
Preset: 4 addresses (A0...A3) = 4 DMX data slots, up to 64 addresses can be configured
2. addressed Direct Arc Commands on a single DALI group address  
Preset: 4 groups (G0...G3) = 4 DMX data slots, up to 16 groups can be configured
3. unaddressed Direct Arc Command as Broadcast\*  
Preset: 1 address (1 DMX data slot)

\*= pre-configured to 1 slot. When selection BROADCAST mode the slot count will automatically be decreased to just one. Reverting to short addressed to group mode may require re-set then slot count (see chapter „Setup“)

## SETUP

On power up the operating parameters are read from memory. You may configure these parameters at any time using these programming options and following this programming sequence:

### SETUP PROCEDURE:

Unpower the decoder. Set the required programming address (e.g. "889" for Single Address Setting), then re-apply power. The command will be programmed into the interface, both status LEDs are blinking alternatively several times. As soon as the programming sequence is completed, upower the decoder, re-set the desired DMX start address and re-power the interface.

#### - Outputting DALI scene commands

Adresse: 885      This doubled the number of DMX data slots used, since each DALI address uses the first fader as intensity control (ARC LEVEL) and the second fader as scene control (scene 1...16)

#### - Outputting ARC LEVEL commands

Adresse: 886      All data are output as ARC LEVEL (*default* setting).

#### - Outputting DALI Broadcast-Kommandos

Adresse: 887      All data are output as DALI broadcast commands  
In broadcast mode, the slot count will automatically be reduced to just 1.

#### - Outputting DALI GROUP commands

Address: 888      All data are output as DALI GROUP commands.

#### - Outputting DALI SINGLE ADDRESS commands

Address: 889      All data are output as DALI SINGLE ADDRESS commands.

#### - Activating MASK value

Address: 890      The MASK value has been activated.  
Data output is now from 000 (0%) to 254 (100%).

#### - Deactivating MASK value

Address: 891      The MASK value has been deactivated.  
Data output is now from 000 (0%) to 255 (100%).

#### - Send DALI data in idle mode (automatic refresh)

Address: 892      DALI Data are output on DMX data change and on periodic refresh.

- Do not send DALI data in idle mode  
Address: 893      DALI Data are output only when DMX data contents change.
- DMX HOLD  
Address: 894      The last setting is retained at loss of DMX signal.
- GOTO ON  
Address: 895      At data loss, all outputs go to 100% intensity
- GOTO OFF  
Address: 896      At data loss, all outputs to to the „off“ state
- ARC LEVEL\*  
Address: 897      „off“ (0% intensity) will be sent as ARC LEVEL command
- OFF COMMAND\*  
Address: 898      „off“ (0% intensity) will be sent as „OFF“ command
- Set maximum DALI address or group number  
Address: 804-864      Tens and Ones represent the number of DALI addresses supported  
                                 (min. value 4, max. value 16, default value: 4)  
                                 804: set to enable 4 address mode  
                                 805: set to enable 5 address mode  
                                 etc  
                                 864: set to enable 64 address mode  
                                 **NOTE:** Pls note that converting more than 4 addresses simultaneously  
                                 may cause significant delays due to the limited DALI bus speed.

## TECHNICAL DATA

Dimensions:	65 mm x 105 mm x 65 mm
Power supply:	230V AC
DALI OUT:	optically isolated, potential.free, polarity independent
DALI Devices:	4-16 Addresses, single addressing or group addressing
DMX IN:	according to USITT DMX512 / DIN56930-2 / ANSI E1-11 compatible
DMX channels:	4...64 (8...128)
Mounting:	DIN rail 35mm
IP rating:	IP 20
Temperature range:	0...50C
Humidity:	non-condensing
Order code:	7044B-H

## DISTURBANCES

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

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

## LIMITED WARRANTY

This instrument is warranted against defects in materials and workmanship for a period of 24 months, 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 accordance with the manual;
- connection to wrong voltage or current;
- misuse.

## CE CONFORMITY



This DMX decoder is microprocessor controlled and uses high frequency (16 MHz quartz). The interface has been tested in our EMC lab to comply with EN55015 requirements

To ensure the best performance regarding radiated and conducted emissions we suggest to install the interface in a closed, conductive (e.g. metal) housing, which must be connected to GND. Please make sure that shielded data cable is used 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.



## End-of-Lifetime Procedures



Electronic devices are not domestic waste and must be disposed of properly. If the end of lifetime of this device has been reached, it must be recycled by your local WEEE recycling system.

SOUNDLIGHT is a WEEE registered company (registration code DE 58883929)

## SERVICE

There are no parts within the DMX decoder 7044B-H which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

## INTERNET-HOTLINE

Please check our internet domain <http://www.soundlight.de> for new versions, updates etc. Foreign manuals are available from [www.manuals.soundlight.de](http://www.manuals.soundlight.de). Additional RDM information (for RDM enabled devices only) is available from [www.rdm.soundlight.de](http://www.rdm.soundlight.de). If you have any comments which may be worth considering, please send a message to [support@soundlight.de](mailto:support@soundlight.de). We will check your message and reply accordingly.

Product news are available on the product homepage, which can be reached at

<https://www.soundlight.eu/produkte/7044b-h>



### Related products:

7044B-H	DMX to DALI Converter 4-64 channel
7048B-H	DMX to DALI DT8 CTC converter
7048D-H	DMX to DALI DT8 RGB converter
7048D-H	DMX to DALI DT8 RGBW converter
3804D-H	DMX to DALI BROADCAST Converter ("DirectDALI")
7064A-H	DALI to DMX Converter
DALI-PS	DALI Bus Power Supply
USB-DALI	USB DALI Configuration Tool and Bus Monitor