

OPERATING MANUAL

DMX / Constant Current Dekoder 3701A-H Mk1 RDM



RoHS
compliant

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Thank you for choosing a SOUNDLIGHT device.

The SOUNDLIGHT DMX LED Driver 3701A-H is an intelligent DMX decoder decoding digital data complying with standard USITT DMX512/1990, DIN 56930-2, ANSI E1-11 DMX512-A and ANSI E1-20 DMX RDM to a current controlled output to drive high power LEDs. The decoder can be used with all standard lighting control systems. Its special advantages include:

- **universal protocol decoding**
Recognizes all variants of the protocol as defined by USITT / ESTA / ANSI / DIN
- **future-proof**
The unit is software controlled and can easily be adapted to any change in protocol definition.
- **high linearity**
As the unit accepts and outputs data in digital format, excellent linearity characteristics result.
- **simple supply**
The power supply is 24V DC.
- **signal loss - switchable**
In the case of a loss of the drive signal the last setting will remain intact.
- **noise-immune srl data input**
Special slew-rate limited input circuitry provides excellent noise immunity on data lines.
- **cost-effective**
The SOUNDLIGHT 3701A-H is a cost-effective solution for many purposes.

APPLICATIONS

The DMX Decoder 3701A-H is intended for high power LED driver applications. The decoder features one output to drive 700mA LEDs up to a total LED voltage of 12V max. The unit is well suited for all applications on stage, for TV background lighting, or for architectural lighting purposes.

The 3701A-H is optimally suited to drive Luxeon Light Sources, OSRAM Golden Dragon, Talexx LightEngine and others using a standard drive current of 700mA.

UNPACKING

Please unpack carefully and check that all items are intact. When leaving our factory, the card has been in good condition. In case of damage during transport please notify the carrier immediately.

When unpacking, you should identify these items:

- * the decoder 3701-H
- * this manual

NOTE: The optional programming adaptor 3000P, 3003P or 3005P must be ordered separately. Make sure to order a version 3000P2 or 3003P2 with MicroMatch connectors.

CONNECTORS

The decoder 3701A-H consists of these connectors:

CN1 POWER SUPPLY 24VDC

orange	+12V DC...+24V DC
blue	0 V DC (GND)

CN2 DMX DATA

1	grey	Common, GND
2	blue	Control Signal DMX -
3	orange	Control Signal DMX +

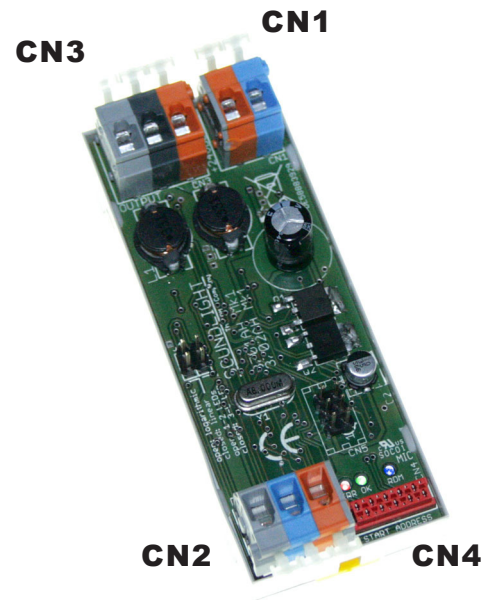
CN3 LED Drive Output

1	orange	+ 24V DC (Common Anode)
2	d'grey	CH 1: Control Output LED Cathode
3	l'grey	not used

CN4 Startaddressboard

Multipin connector to connect a 3000P2 or 3003P2 start address board (alternatively, all parameters may be set electronically using DMX RDM commands)

Refer to the drawing above to locate the appropriate connectors.



Signal Indicators

Status signalling is with LED indicators:

green:	DMX data reception OK
red:	ERROR
	normally off
	blinks at transmission errors or at loss of signal
yellow:	RDM data transfer
	lights steadily when RDM programming has been performed

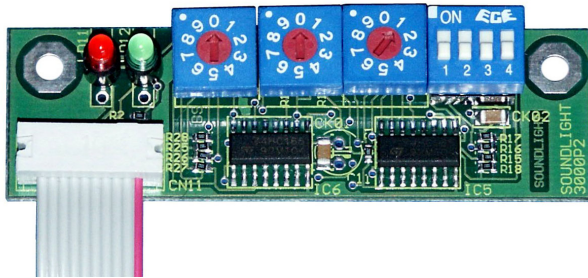
Start address

It is a commonly used scheme for building automation devices to avoid configuration switches. All settings are stored permanently in non-volatile memory. When installing the decoder for the first time, the DMX start address (number of the first DMX data slot, value 001 ... 509) and decoder options must be programmed.

A start address switch board 3000P2, 3003P2 or 3005P2 (to be purchased separately) or RDM programming is required to set start address, and mode of operation, and decoder options.

IMPORTANT NOTE: If a start address or personality setting, or a change of DMX HOLD properties has been initiated using DMX RDM commands, the external start address board will be disabled to not interfere with software driven settings. To re-enable the external start address board and take control, simply set any address from 900 to 999 (or: temporarily set the "hundreds" position to "9"). The RDM-LED will extinguish, a programming cycle will be displayed (four times red-green) and the address and DIP switches will take control again.

DIP-SWITCHES



DMX Personality and DMX HOLD Options are set using the DIP switches onboard the 3000P2 start address board.

Both, start address and HOLD-Options as well as personality selected will be stored in nonvolatile memory and will be recalled even with the start address board not present.

NOTE: All settings can be overridden using DMX RDM commands (see RDM manual).

Standard setting is "all switches off". That means:

DIP SWITCH 1,2	DMX HOLD MODE	S1	S2	
	Mode 0: no HOLD, all Outputs OFF	OFF	OFF	
	Mode 1: no HOLD, all Outputs ON	OFF	ON	
	Mode 2: DMX HOLD (last look)	ON	OFF	
DIP SWITCH 1	HOLD:	default: off = no		
	When HOLD has been set, the last look will be retained.			
DIP SWITCH 2	Offwert:	default: off =all OFF		
	When HOLD has not been set, this switch selects to go to OFF or to ON.			
DIP SWITCH 3,4	DMX PERSONALITY			
	Personality 1:	S3=OFF	S4=OFF	1-CH mode logarithmic
	Personality 2:	S3=OFF	S4=ON	1-CH mode log + Master CH2
	Personality 3:	S3=ON	S4=OFF	1-CH mode linear
	Personality 4:	S3=ON	S4=ON	1-CH mode lin + Master CH2

The DMX Personality can be selected using RDM.

Output Characteristic

The output characteristic uses an eye-friendly quasi-logarithmic intensity curve to match the intensity perception of the human eye.

LED Blinkcodes

Green LED	Red LED	Status
on	off	OK DMX signal received
off	blinking	Error: no data signal present or out of range
4x blink red/green		saving settings to EEPROM

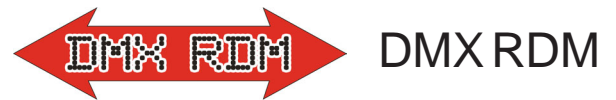
Connecting Power LEDs

You may connect *current controlled* LEDs to the output of the 3701A-H decoder. Current controlled LEDs are driven using a variable current (0...700mA). Multiple LEDs may be connected in series as long as the total LED voltage drop does not exceed 50% of the power supply voltage. Output current degradation may occur if these rules are not met.

Common LED terminal is the *positive pin* (Anode, orange, 24VDC) on the output terminal.

Technical Data

Dimensions:	68mm (W) x 93mm (D) x 66mm (H)
Power supply:	24V DC
DMX IN:	1 Unit Load
DMX OUT:	fed thru
DMX Channels:	1(2)
Output:	1x 0...max. 700mA, max. 12V
PWM resolution:	12Bit
PWM characteristic:	quasi-logarithmic
max. output current:	700mA
output frequency:	approx. 490 Hz
IP rating:	IP20
Operating temperature:	0-50 °C
Order Code.:	3701A-H



The 3701A-H RDM is compatible with ANSI E1-20 DMX RDM Version 1.0. Please note some special properties of devices complying with DMX RDM:

- DMX HOLD properties are not supported by RDM standard ANSI E1-20. A factory specific command (DMX HOLD) has been added to compensate these restraints. Use parameters 0...2 to set the desired HOLD mode:

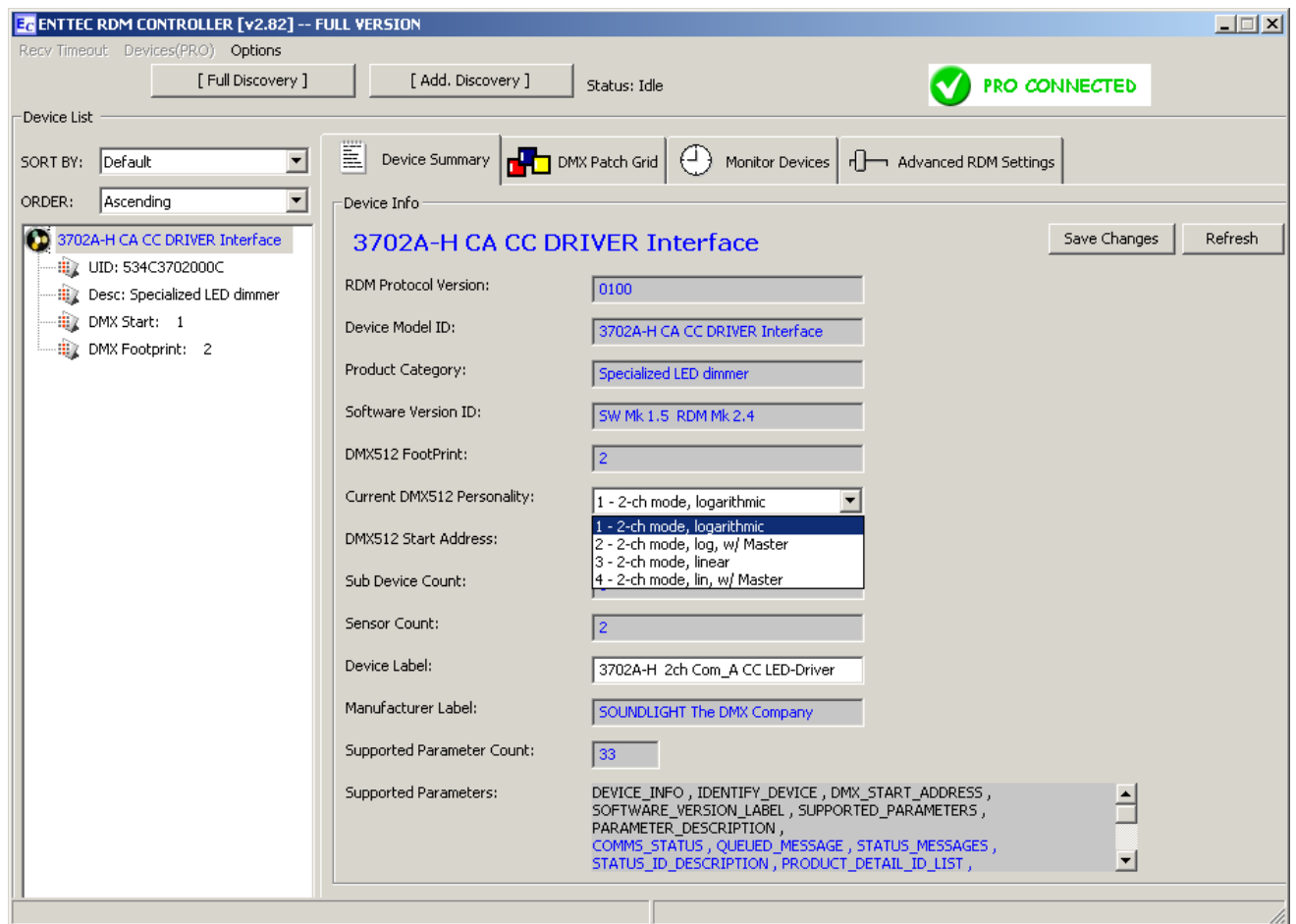
- 0: no HOLD, all outputs OFF upon loss of signal
- 1: no HOLD, all Outputs ON upon loss of signal
- 2: DMX HOLD (last look remains active)

- Setting the DMX personality reflects setting of DIP switches 3 and 4 (and vice versa).

NOTE:

Once settings have been changed using DMX RDM, the address switches become inactive (blocked). To re-enable start address switches, temporarily set any address from 900...999 (simply set the "hundreds" digit to "9"). This will re-enable switches.

For a more detailed description of RDM properties, pls refer to the separate RDM manual available from our website (www.rdm.soundlight.de). All commands are described in more detail. Additionally, refer to the command manual coming with your RDM controller or RDM controller software. RDM commands are described in full detail in the ANSI E1-20 standards document, available from the standards store at www.ansi.org or www.plasa.org/tsp.



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

CE Marking



The unit has been tested in our lab and has been marked to comply with CE requirements. To ensure compliance, use grounded power leads only and make sure that properly shielded data lines (CAT5, DMX data cable or Digital Audio cable to AES/EBU specifications) are used. Any modifications not approved by the manufacturer may void CE compliance.

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.

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.

Service

There are no parts within the DMX LED Driver 3701A-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. If you have any comments which may be worth considering, please send a message to support@soundlight.de. We will check your message and reply accordingly.

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)