OPERATING MANUAL

DMX / PWM Decoder 3633PWM-H Mk1 RDM

SOUNDLIGHT *The DMX Company* Bennigser Str. 1 D-30974 Wennigsen Tel. 05045-912 93-11

Thank you for choosing a SOUNDLIGHT device.

The SOUNDLIGHT DMX PWM Converter 3633PWM-H is an intelligent converter accepting drive signals according to USITT DMX-512/1990, DIN 56930-2, ANSI E1-11 DMX512A and ANSI E1-20 DMX RDM. The DMX signal is converted to a PWM output signal to drive voltage driven LEDs or LED arrays using a Common Cathode topology. 3 individual outputs are driven by 3 DMX addresses. The interface can be used with all standa rd light 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 an can easily be adapted to any change in protocol definition.

- **high linearity**
  As the unit accepts and outputs data in digital format, excellent linearity chracteristics result.

- **simple supply**
  The power supply is 12-24V DC

- **signal loss**
  In the case of a loss of the drive signal the last setting will remain intact.

- **cost-effective**
  The SOUNDLIGHT 3633PWM-H is a cost-effective solution for many purposes.

APPLICATIONS

The converter 3633PWM-H is intended for all control applications to drive voltage controlled loads, e.g. constant-voltage driven LEDs. Each output can be loaded with 24V / 4 A / 100W@24VDC (absolute maximum rated values). The unit is well suited for all applications on stage, for TV background lighting, or for architectural lighting purposes. The dimming range is 0% to 100%.

The 3633PWM-H is best suited to drive common cathode LED arrays or LED tapes.

UNPACKING

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

When unpacking, you should identify these items:

* the interface 3633PWM-H
* this manual

The decoder 3633PWM-H comprises of these connectors:

CN1   POWER SUPPLY 24VDC

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

CN2   DMX Data Input

1	grey	GND, Screen
2	blue	DMX Drive Signal -
3	orange	DMX Drive Signal +

CN3   DMX Data Output

1	grey	GND, Screen
2	blue	DMX Drive Signal -
3	orange	DMX Drive Signal +

CN4   PWM OUTPUT

1	blue	Common GND
2	grey	CH 1: Drive Output
3	blue	Common GND
4	grey	CH 3: Drive Output
5	blue	Common GND
6	grey	CH 3: Drive Output
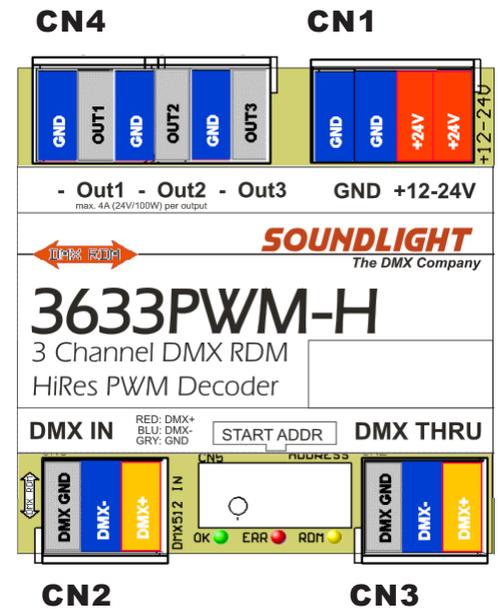
Outputs are not short circuit protected and must be fused with appropriate fuse 4A fast blow.

Refer to the drawing for the location of the connectors. To open clamp, press lever. Insert wire, then release lever. Please refer to wiring intructions on page 5/6.

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/blue: RDM
                 lights when RDM programming active. Address switches are locked when RDM programming is active. See chapter "RDM" for more info.

Red and green LEDs blink alternatively four times when programming data within the 3633PWM-H (e.g. start address, HOLD mode or change of DMX personality). No action will be taken when start address setting is locked from RDM. See next chapter how to re-enable programming.

100   10   1
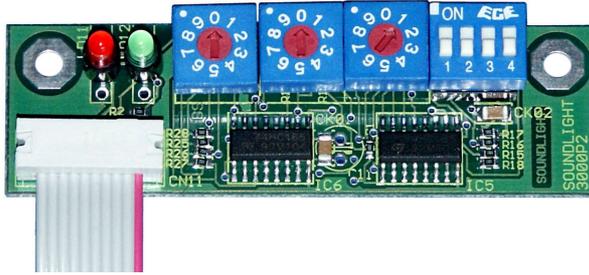
DMX START ADDRESS

To program a DMX start address, simply set the desired start address. Wait some seconds until the unit recognizes and programs the address setting. The programming cycle will be indicated by the the red and green LED flashing alternatively four times.

IMPORTANT NOTE:
When programming a DMX start adress, changing the DMX personality, the HOLD mode or other properties via RDM access, the external address switches are becoming **disabled.** To re-enable the DMX start address switches, temporarily set any adress from 900 ... 999 (simply set the "hundreds" selector to "9"). This will re-enable the address switches and override RDM settings.

DIP-SWITCHES

The DMX personality (mode of operation) and the output behaviour is set using the four DIP-switches of the start address board 3000P (or functions F1...F4 using the start address board 3003P):

DIP SWITCH 1,2	DMX HOLD MODUS	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　　**DMX HOLD**
OFF= see DIP switch 2
ON = DMX HOLD at data loss

DIP-Switch 2　　**OUTPUT LEVEL AT NON-HOLD**
OFF= all outputs set to OFF at data loss
ON = all outputs set to ON at data loss

DIP-Switch 3,4　　**DMX PERSONALITY**

Personality 1:	S3=OFF	S4=OFF	3-CH mode quasi-logartihmic
Personality 2:	S3=OFF	S4=ON	3-CH mode + Master (CH 4)
Personality 3:	S3=ON	S4=OFF	3-CH mode linear
Personality 4:	S3=ON	S4=ON	1-CH mode (outputs 1-3)

The DMX Personality can be set using DMX RDM.

DRIVE CHARACTERISTIC

The output drive characteristic follows a quasi logarithmic law adapted to the human's eye sensitivity. The output characteristic can be changed to linear mode to match other commercially available low cost products.

CONNECTING LEDs

You may connect _voltage controlled_ LEDs directly. Voltage controlled LEDs are LED assemblies, which may be connected to a specified voltage (24V DC) directly and incorporate measures to limit the operating current (e.g. TRIDONIC LED-Strips, OSRAM LINEARLIGHT FLEX). LEDs requiring a _current control_ (e.g. LUXEON light sources, OSRAM Golden Dragon etc.) must be fitted with additional current limiting circuitry and are NOT suited for direct connection to the 3633PWM-H decoder.

Common LED terminal is the **negative pin** of the supply voltage ("Common Cathode"). As high currents are present, carefully check the wiring instructions and use sufficiant wire gauges. Outputs are **not short circuit protected** and must be fused externally.

WIRING INSTRUCTIONS

Please note:

At full load, the total operating current is in excess of the rating of a single output cage clamp connector. Thus multiple GND clamps are provided to distribute the load to multiple connectors.

- All GND terminals (power supply and LED drive outputs) are interconnected. Use one separate GND wire per output and per power supply.

- Power supply voltage must match required LED suply voltage. Allowed voltage is 12..24VDC.

- The electronics can be fed separately (+12...+24VDC) to allow operation even when the LED PSU has been shut down.

- Insert external fuses 4A fast blow to prevent short circuit conditions.
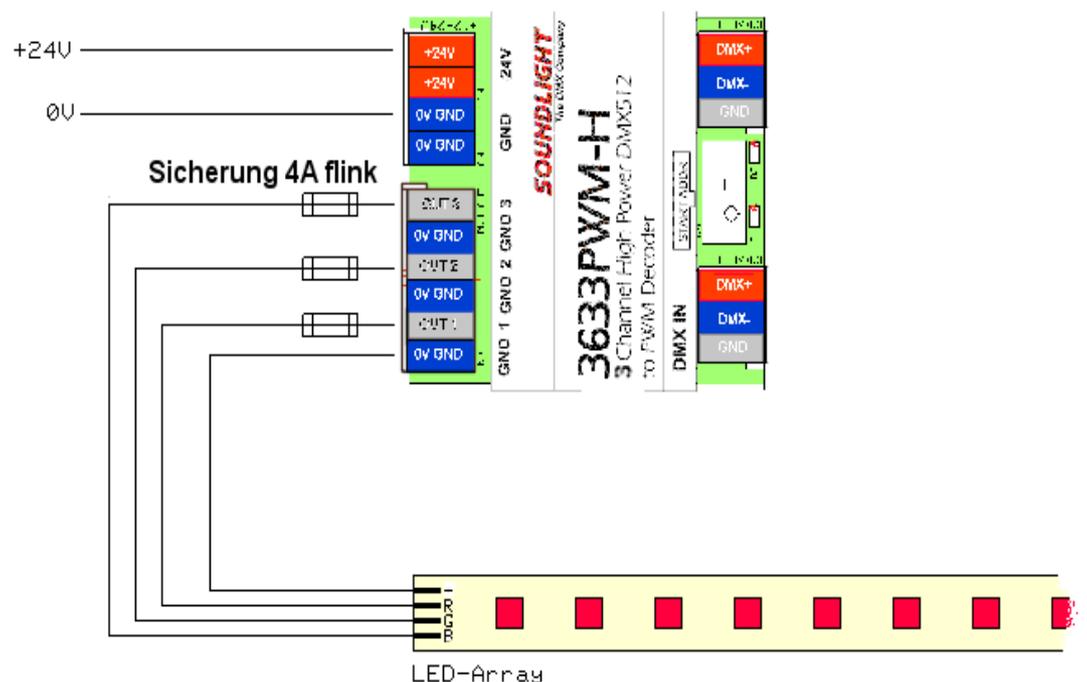
Dimensions: 66mm (W) x 90mm (D) x 66mm (H)
Power supply: 24V DC
DMX IN: 1 Unit Load
DMX OUT: fed-thru
DMX data slots: 3(4)
PWM Out: 12/24V pulse signal 0%-100%
PWM resolution: 12Bit
PWM characteristic   quasi-logarithmic / linear
Max. output current: 4 A per output (must be externally fused: 4A fast blow)
Output frequency: approx. 490 Hz
Output Topology: Common Cathode (-)
Protection: IP20 - for dry rooms only
Operating temperature: 0-50 C
Order code: 3633PWM-H

 DMX RDM

The 3633PWM-H 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).

Start adress setting with RDM::
Please note that the start address switches get locked as soon as settings have been changed using DMX RDM. This prevents the decoder from reading start address switch data again.
To unlock the switches, set the hundreds position to "9" temporarily. This will unlock the switches.

Additional RDM function allow to:
        - read the DMX slot labels
        - read and modify the device label
        - identify the decoder
        - read device hours and device initalizations
        - read, activate or deactivate the DMX HOLD mode
        - monitor DC supply voltage
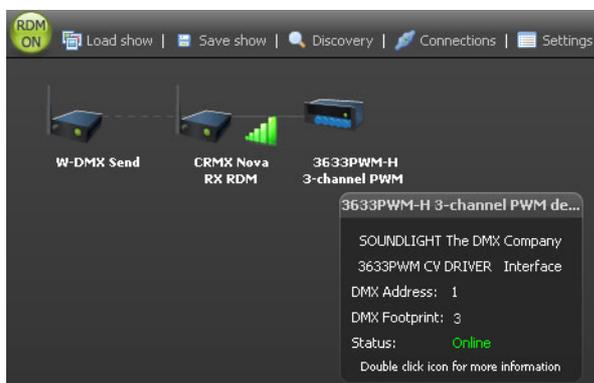
Recognizing the 3633PWM-H using Wireless DMX RDM (Screenshot: CRMX Nova Software)
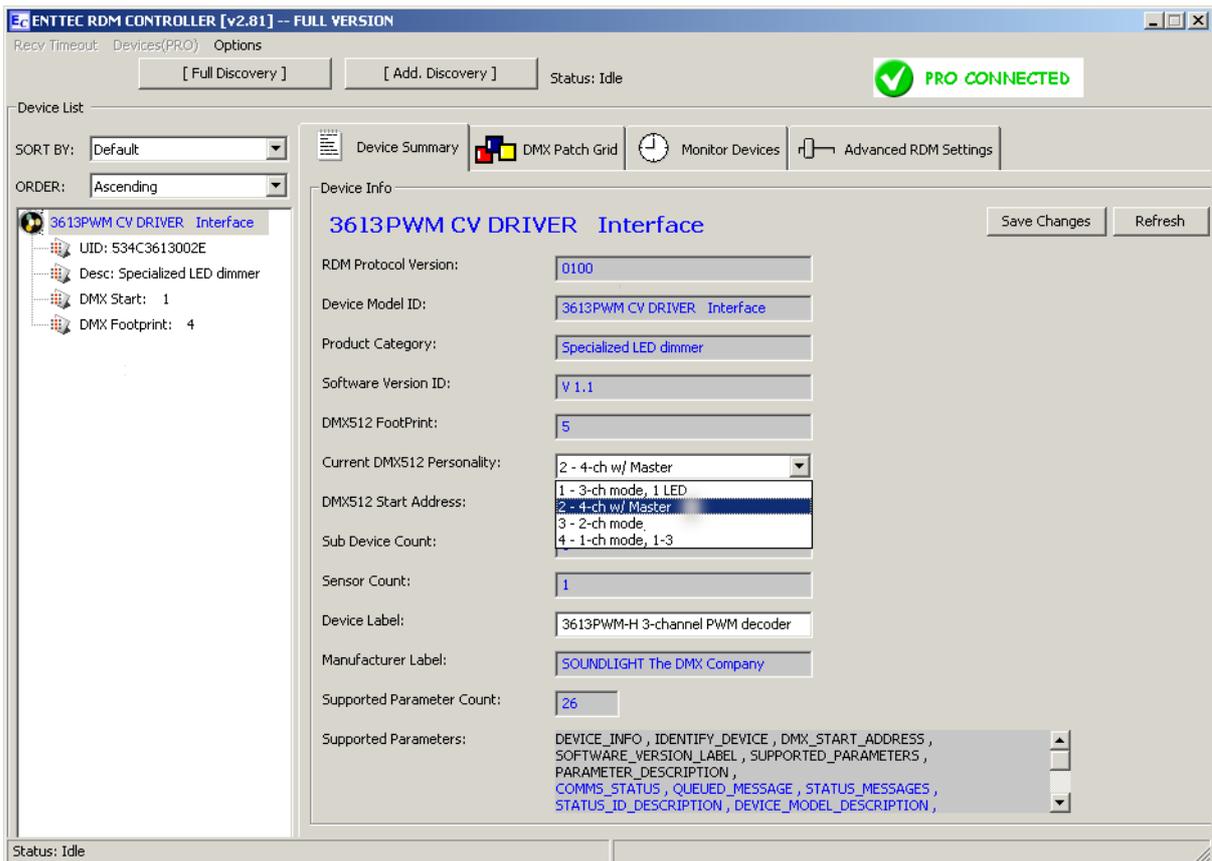
3633PWM-H RDM Main Screen (Screenshot: ENTTEC RDM Controller Software)

For more information or an in-depth command list, see the RDM manual available from our website at www.rdm.soundlight.de

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.

LIMITED WARRANTY

This instrument ist warranted against defects in metarials and workmanship for a period of 24 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 decoder 3633PWM-H which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

END OF LIFETIME

When the useful lifetime of this product has been reched, it must be disposed of properly. Electronic devices must not be placed in domestic waste. Consult your local authorities to find the nearest collection point of used electric and electronic devices. SOUNDLIGHT is a WEEE registered company (Reg No. DE58883929).

Additional Product Info

For more information, pls refer to our website.

For DMX RDM information, visit   *www.rdm.soundlight.de*

For product manuals, visit   *www.manuals.soundlight.de*

For product information, visit   *www.soundlight.de/produkte/3633pwm-h*