



SOUNDLIGHT
The DMX Company

The SOUNDLIGHT **5** DMX booklet



UPDATED EDITION

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5004A DMX LED Current Source
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DIN MOUNT MUX

Ideally suited for technical installations comes the 3112A-H DMX multiplexer in DIN rail format.

The 12-channel device accepts 0-10V or 1-10V input voltage (user selectable) and can be set to linear or switching mode. A second output called „DMX AUX“ can be activated via control input voltage to control an additional DMX512 data link.

TECHNICAL DATA

input channels:	12
input signal:	0... +10V DC
Output Signal:	DMX512/1990
Power supply:	230V AC 2W
Dimensions:	66x105x68mm
Weight:	212g

ORDER CODE:

3112A-H



DMX MULTIPLEXER

The 8112A board is a multiplexer, which converts 12 channels from 0... +10V into a DMX control signal. The card accepts a wide supply voltage range, which makes it ideally suited as retrofit card for old analog desks. Due to its small size, mounting the card within a desk is a simple and quick task.

Features:

- small pcb, easy to install
- simple power supply, internally stabilized
- microprocessor-controlled, high speed

WIRING

Wiring of the card is simple, as it accepts any supply voltage for 8 to 24V DC or 8-18V AC. Simply connect a potential-free low voltage transformer to the PSU terminals to make the card work.

When using power supply from the host desk, DC supply may be used via the flat ribbon cable - or you may power attached circuitry from the multiplexer pcb.

START ADDRESS

The DMX Multiplexer 8112A always starts from DMX address #1.

ENHANCED VERSION 8116A-EP

The microprocessor-driven 8116A is based on the same pcb, but has a separate start address selector switch board. The start address can be set from 001 to 512. Input sensitivity can be changed from 0-10V to 1-10V, and up to four units can be cascaded (up to 64 inputs).

ORDER CODE:

8116A-EP

TECHNICAL DATA:

Inputs:	12(16)
Input voltage:	0... +10V DC
Input impedance:	~10kOhm
Output:	DMX512/1990
Output connector:	XLR5
Power supply:	8-24V DC 8-18V AC

8112A-EP

12-CHANNEL DMX MULTIPLEXER



ORDER CODE:

8112A-EP

8116A-EP

16-CHANNEL DMX MULTIPLEXER



3006A-EP

6-CHANNEL DMX



DMX DEMUX 3006A

This card is so small, measuring a mere 2,8" x 2,8" (72mm x 72mm) it fits into any unit to be extended by a DMX input. Originally developed as add-on card for our DimmerPack 8207B, the card has proved its reliability in numerous other applications meanwhile. The card is microprocessor-controlled and features a DMX HOLD mode, which retains the output signal even if the DMX512 signal is lost. The card is intended for 6-channel units, but delivers a total of eight 0...+10V outputs - thus you have two auxiliary outputs for effects or any other custom need.

Our smallest DMX decoder is the 3006A-EP. It comes complete with XLR input and output connectors, and a separate start address selector board fitted with BCD selector switches.

TECHNICAL DATA

Dimensions: 72 mm x 72mm

DMX IN: XLR 5-pin male
DMX OUT: XLR 5-pin female
Outputs: 8x 0...+10V DC
Output Current: max. 5mA/Ch
Analog Out: 16pin Header
Voltage Supply: 15...24V DC
approx. 100 mA

TEST PROGRAMS

Internal test programs allow verification and test drive of the card without a control desk connected. These programs are available:

Single Channel Mode:

Addresses 801...808:

Set Channel 1...8 to 100%

Multi Channel Mode:

Addresses 901...963:

Set Channels 1...6 to 100%

Test programs:

Addresses 997...999:

various running light test programs

PROGRAMMABLE

The 3006A features a user programmable output level HOLD mode. Alternatively, the output

level which appears at loss of DMX data, may be set to either 0% or 100%.

POWER SUPPLY

The power supply of the board requires a DC voltage of 15...24V. DMX address setting is done by BCD switches, there is no need to perform binary calculations or DIP switch settings. The separate switch board can be mounted at the most convenient location and is simply fastened using two screws.

If the address switch board is unplugged, the last setting is retained permanently in EEPROM memory. This makes the 3006A-EP your first choice for switchless installations.

ORDER CODE:

3006A-EP



This is our latest demultiplexer card: a 12-channel demux measuring just 7cm x 7cm. So small, that it can be installed anywhere. The micro-processor-controlled card is equipped with Neutrik XLR connectors.

Start address is set via a separate switch on the pcb. The latest SRL digital receiver chips ensure safe data reception, and Transzorb diodes provide a high degree in electrical safety. The 3012B-EP is designed for 12-channel

equipment, but features a total of 14 output channels. This gives you two spare channels or extra outputs for effects etc.

TECHNICAL DATA

Input	USITT DMX512/1990 XLR 5-pin m/f
Output	14x 0...+10V DC
Supply	15...24V DC, 110mA
Dimensions	70mm x 70mm

3012B-EP
12-CHANNEL DMX
DEMULTIPLEXER

ORDER CODE:
3012B-EP

This 12-channel demux has its own power supply and can be operated on 230V directly. The demultiplexer is a very cost-effective building block, featuring DMX input via screw terminals.

This pcb assembly also contains the separate start address switch board, which is known from other SLH demultiplexer boards. Again, signalling is via green (OK) and red (Error) LEDs.

Analog outputs are buffered by extra op-amps. The 3012C comes in these versions:

- **3012C-EP**
printed circuit board, 12 channels, positive output 0...+10VDC
- **3012C-EP6**
printed circuit board, 6 channels, positive output 0...+10VDC
- **3012C-EPM**
printed circuit board, 12 channels, negative output 0...-10VDC.

Power supply for all boards is 230V AC (115V AC optionally available)



6 ch version 12 channel version

ORDER CODE:
3012C-

ORDER CODE:
3012C-EP

3032C-EP

32-CHANNEL DMX DEMULTIPLEXER



SRL-DESIGN

This 32-Channel demux has been designed using highly integrated D/A converter chips and uses the latest SRL high-impedance receiver chips for DMX reception. One of the advantages to this unit is the high immunity to noise on the data line, and low loading of the DMX transmitter (allowing more devices to be attached to the DMX line). Simply spoken: best performance and highest reliability.

NODIP SWITCHES

Two LEDs on the separate start address switch board signals the state of the demultiplexer: red means ERROR (missing or faulty DMX signal), while green means OK. Setting of the DMX start address is done by BCD coded decimal switches, no dip switch setting is required.

MOUNTING

The location of switches, indicators

and sockets resembles all other SOUNDLIGHT boards, which makes the demultiplexer easily interchangeable. Measuring just 7cm (2,76") x 9cm (3,54"), this board squeezes into any space. The 32-channel device is microprocessor-controlled and features a HOLD mode, which retains the output the last valid data level at signal loss. The HOLD mode can be selected by jumper (if desired, an external switch can be fitted easily).

POWER SUPPLY

The 3032C requires a DC power supply, which delivers 15V (min) to 24V(max) at 250mA.

FEATURES

HOLD-Mode: switchable
On-Board Test: switchable

TECHNICAL DATA

Dimensions: 70 mm x 90mm
DMX IN: XLR 5-p male, Neutrik
DMX OUT: XLR 5-p fem, Neutrik
Outputs: 32, 0... +10,5V DC

Output current: max. 2mA/Ch.
Analog Out: Pinheader 34-pin
Supply: 15-24V DC, 250 mA

Startaddress Setting

The unit decodes a block of 32 channels, beginning with the set start address.

Single Channel Drive

Addresses 801...832:
Set Ch 1...32 to 100% output

Test Patterns

Addresses 997...999:
various light test programs

ORDER CODE:

3032C-EP

RELAY CARD 3302R

This compact pcb has its own power supply. Thus it can be connected directly to mains voltage, either 115V or 230V (depending on model). The output circuits are fitted with a varistor for protection against overvoltage or voltage spikes. This allows switching of inductive loads, transformers etc.

DMX input connects via the on-board XLR connectors. Due to USITT DMX-512 and DIN 56930-2 definitions all connectors are 5-pin XLR style. The onboard connectors save mounting time and additional cost, since you do not have to purchase and assemble extra jacks. Additionally, they serve as mounting posts for the board.

SOLID STATE RELAYS

The 3302R features optically isolated solid state relays with integrated zero-crossing detector for noise-free switching.

TECHNICAL DATA

2 Relays, switched individually (2 DMX channels)
Switching hysteresis 40/60% or 25/75%, jumper selectable.
DMX line termination resistor switchable by jumper.
DMX HOLD to hold last valid value at signal loss.

Printed circuit board:
approx. 72mm x 72mm
Power supply:
230V AC, approx. 3W (3302R-EP)
115V AC, approx. 3W (3302R-EPA)
Contact rating:
230V 2x max. 500W
115V 2x max. 300W
Equipped with optically coupled SSR
Line/load connectors: spring terminal blocks

comes complete with DMX start address board 3000P



3302R-EP
SOLID STATE DMX
RELAY CARD
2-CHANNEL

115V ORDER CODE:
3302R-EPA
230V ORDER CODE:
3302R-EP

3202R-EP

2-CHANNEL DMX RELAY CARD

FEATURES

Build your own DMX-controlled switchpack... to control fans, smoke machines, mirror ball motors, low voltage fixtures, lighting effects and more...

Even audio signals can be routed via the relay contacts. The possibilities are endless. We offer several versions of the 3202R relay card, which are fitted with different types of relays to suit different needs. This makes the card a versatile tool for any application you may have.

TECHNICAL

2 relays, individually switching (2 DMX channels) or switching in four steps (1 DMX channel)

Selectable switching hysteresis 25%/75% or 40%/60%.

Last setting is retained at data signal loss (DMX HOLD).

Printed circuit board approx. 70mm x 70mm, with separate switch pcb approx. 30mm x 60mm.

Power supply: 12V DC @150 mA
2 channels DMX512/1990 with selectable switching hysteresis.

DATA

MODELS AVAILABLE:

3202R-EP6
with 2 high current relays, change-over contacts, contact rating 230V, 6A @ resistive load

3202R-EP16
with 2 high power contactors (N.O. contacts), connection via AMP 6.3mm automotive connectors. Contact rating 230V, 16A @ resistive load.

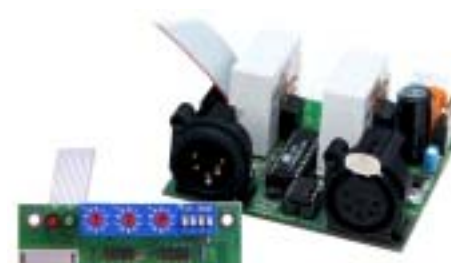
3202R-EPO
If required, you may obtain the board without relays (to drive external relays, use other voltage or your own preferred type of relay). Please consult our sales team for more details.

The SOUNDLIGHT Relay card 3202R is the most universal choice to virtually switch anything by means of DMX512. This card is intended for effects switching only. To drive power contactors, choose the optionally available 3202RS slow speed model.



new design

6 AMP. ORDER CODE:
3202R-EP6



new design

16 AMP. ORDER CODE:
3202R-EP16

NO RELAYS, ORDER CODE:
3202R-EPO

DMX RELAY 3202R-H

Industrial control installations make wide use of equipment which can be mounted on standard DIN rail. As more and more DMX equipment is being used in architectural lighting and building control systems, we have added a DMX controlled relay module, capable of controlling two individual loads.

2 CHANGEOVER CONTACTS

The high current rating of the changeover output contacts makes this module a versatile tool for all switching needs. Contact rating is 6 amps @ 230V (resistive load). The combination of two individual relay outputs allows to control all types of load switching, including motor control (e.g. on/off and up/down).

NO SWITCHES, NO JUMPERS

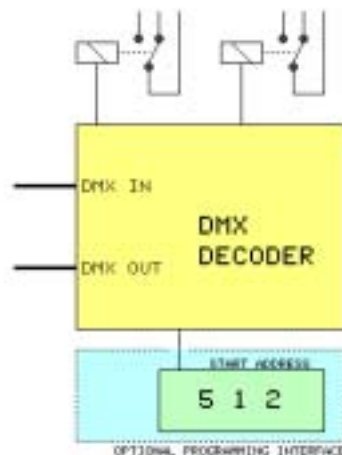
As compared to devices used on stage, start address setting is not normally required in fixed installations. Thus the 3202R-H relay module has been set up to support

permanent configuration; all settings are user-definable and are stored in non-volatile memory. The list of programmable parameters includes:

- the DMX start address
- upper and lower trip point
- channel assignment
- HOLD Mode

SIMPLE CONFIGURATION

To configure the 3202R-H DMX relay module, our universal programming adaptor 3000P allows direct connection to the module.



Adapter 3000P

NOTE: must be purchased separately, not included with delivery

TECHNICAL DATA:

2 relays, individually operated (2 DMX channels), 1x changeover Hyteresis programmable, 20/80% or 45/65%
Hold function programmable : holds the last valid setting at loss of control signal(DMX HOLD).

DIN rail module approx. 83mm
Power Supply: 230V AC, approx. 3W
Switched load: 230V 2x 6A resistive
Connectors: Spring Terminals

3002R-H

PROGRAMMABLE DMX RELAY MODULE 2-CHANNEL



Relay interface

ORDER CODE:
3202R-H

Prog-Adaptor

ORDER CODE:
3000P

3308R-EP
SOLID STATE DMX RELAY
CARD
8-CHANNEL

3316R-EP
SOLID STATE DMX RELAY
CARD
16-CHANNEL



RELAY CARD 3008R / 3016R

Need to switch many DMX channels or require noise-free switching?

Then consider our 3308R (8 ch) or 3316R (16 ch) relaycard. Both cards feature solid state relay switching, using zero-crossing SSR technology. That makes switching virtually noise-free, as high-risetime, high-voltage transients cannot occur. Both cards come complete with PSU and can be driven directly from mains voltage (115V or 230V, depending on model). The output rating is 300W (115V model) or 500W (230V model), respectively. All SSR outputs contain varistor protection against voltage spikes, which makes the card suitable for inductive load switching, such as transformers, solenoids, contactors and more.

The DMX input is fitted with

5-pin XLR sockets, conforming to USITT DMX-512 and DIN 56930-2. This saves additional cost when installing the board, as you do not have to buy and wire external XLRs.

DMX start address setting is performed via decimal coding switches, which are mounted on a separate switch decoder board. This board also carries signalling LEDs to indicate the card status.

OPERATING MODES

The relay card can be operated in any of these modes:

- individual channels
- bit mode
- ladder mode
- selectable hysteresis
- DMX HOLD

8-channel version

ORDER CODE:
3308R-EP

16-channel version

ORDER CODE:
3316R-EP

TECHNICAL DATA

control input: DMX512, DMX512-A
in connectors: XLR5
Modes: single switching
step mode, 8 steps
bit mode
power supply: 230V AC 3W
outputs: 8 or 16,
potential-free
Relays: 8 or 16, opto
max load: 500W @ 230V AC
300W @ 115V AC
out connectors: cage clamps
dimensions: 195x75x110mm

All models are for 230V (standard).
115V versions available on request.

DMX RELAY 3032R-EP

Several applications require switching of more than just one or two outputs by DMX512. That's where our 32-channel relay board comes in handy. 32 individually addressable relays, grouped in four blocks of eight relays, can do any switching job - low voltage, mains voltage, low power, high power: any combination is possible.

CHANGEOVER CONTACTS

The high current rating of the changeover output contacts makes this module a versatile tool for all switching needs. Contact rating is 10 amps @ 230V (resistive load).

NO SWITCHES, NO JUMPERS

As compared to devices used on stage, start address setting is not normally required in fixed installations. Thus the 3032R-EP relay module has been set up to support permanent configuration; all settings are user-definable and are stored in non-volatile memory. The list of programmable parameters

includes:

- the DMX start address
- HOLD Mode (on/off per block)

SIMPLE CONFIGURATION

To configure the 3032R-EP DMX relay card, simply connect our universal programming adaptor 3000P. The DMX start address board is supplied with the 3032R-EP.

TECHNICAL DATA:

32 relays, individually operated (32 DMX channels), 1x changeover output contact, spring terminals

Hold function programmable for each block of 4x 8 relay outputs: holds the last valid setting at loss of control signal (DMX HOLD).

Dimensions of pcb module:

approx. 300x130mm

Power Supply: 24V DC

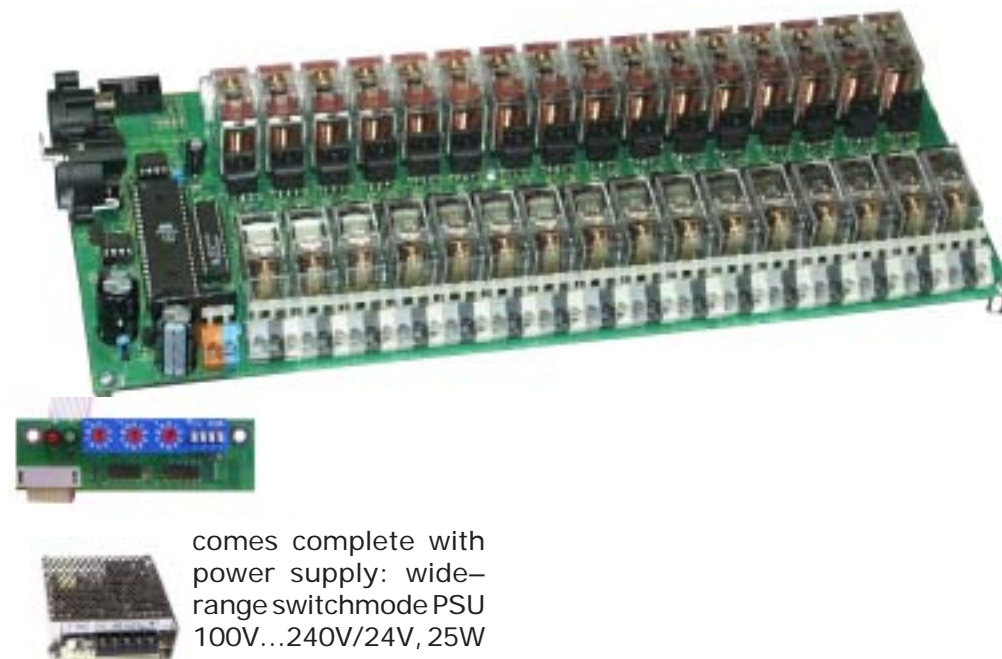
Current cons.: approx. 0,7A

Switched load: 230V 32x 10amps resistive load

Connectors: WAGO Spring Terminals

3032R-EP

32 CHANNEL DMX RELAY CARD



comes complete with power supply; wide-range switchmode PSU 100V...240V/24V, 25W

ORDER CODE:
SNT24-25

ORDER CODE:
3032R-EP

3004D-EP

4-CHANNEL
DMX To DSI
CONVERTER DMX TO
DALI CONVERTER



NEW DESIGN

The 3004D replaces the well-renowned 3004B DSI decoder. Added flexibility and new features will make the 3004D even more successful. The 3004D converts DMX512 data to DSI or to DALI. Selection of the output protocol is up to you, the user.

PROGRAMMABLE

Two LEDs on the separate start address switch board signals the state of the demultiplexer: red means ERROR (missing or faulty DMX signal), while green means OK. Setting of the DMX start address is done by means of BCD coded decimal switches, no dip switch address setting is required.

The protocol (DSI or DALI) can be selected by DIP switch, as can the output level at signal loss, the HOLD mode and the OFF mode setting. All settings are user definable and are retained in internal memory. That makes it possible to program the start address as well as the mode of operation at installation time,

and then run the 3004D without the switch board attached.

The 3004D converter uses four DMX channels, which are converted to four individual DSI or DALI outputs. Each output can drive up to eight digital fluorescent tube ballasts in parallel, thus a total of 32 tubes can be driven simultaneously.

TECHNICAL DATA

DMX channels: 4
Protocol: DSI/DALI
Hold Mode: on/off
Off Mode: on/off
Out@Idle: full/off
Power supply: 12-15VDC, 100mA
Output load: 8 ballasts
Board dimensions: 70mm x 70mm

DSI DIGITAL SERIAL INTERFACE

The DSI interface was created to drive electronic ballasts for fluorescent tubes. Using a baud rate of 1200 bps and a line level of 12V, data is transferred in 8 bit format. Bi-phase modulation transmits each bit in true and complement, thus effectively removing any DC component from the output signal. As the electronic ballasts are insensitive to input polarity, wiring is straightforward and simple. All this makes DSI a versatile and robust interface for heavy duty applications.

The SOUNDLIGHT range of DMX to DSI converters comprises of four- and eight channel models:

3004D-EP	4-channel pcb
3004T-EP	8-channel pcb
3004T-FG	8-channel unit



ORDER CODE:
3004D-EP

DALI DIGITAL ADDRESSABLE LIGHTING INTERFACE

DALI is a new protocol, based on the successful DSI implementation. While DSI is a point-to-point protocol, DALI allows control up to 64 individually addressable devices. Addressing, though, has to be defined and set at installation time; user definable address setting, as compared to DMX, is not supported. That is why our decoders use one DMX channel per attached ballast. The more important fact about DALI is that this protocol is supported by numerous manufacturers. DALI communication is performed with 2400 bps. Thus it is not a high-speed protocol.

The DALI protocol dimming range is 0,1%...100%. Common DALI controlled ballasts, however, only use the standard dimming range of 1% to 100% - same as with DSI.

Digital electronic ballasts for DSI control or combined DSI/DALI control (one4all series). Dimming range is 1%...100%.

3004B-H

The 3004B-H is a new version of the well renowned 3004B interface, which now allows DIN rail mounting. We have also added internal power supply, which lets you connect the interface directly to 230V mains voltage - no extra PSU module needed. Additionally, the DMX data input is galvanically isolated. Optocouplers increase the safety level and make the equipment fully SELV compatible.

NO SWITCHES

The 3004B-H has been designed with building lighting control and architectural applications in mind. That's why start address setting and protocol selection use switchless configuration methods and store the user-definable data in non-volatile memory. A special programmer, order code 3000P, can be connected to the module to set and save user configuration data.

TWO PROTOCOLS

The 3004B-H supports two protocols: DSI and DALI. This makes it a versatile and future-proof tool.

HIGH DRIVE CAPACITY

The 3004B-H supports 4 outputs, which can be loaded with 8 electronic ballasts each - giving a total of 32 fixtures which can be operated in parallel and in four individual groups.

INTERFACE DATA:

Standard DIN rail housing 66mm
 4 Outputs, max. 8 ballasts
 DMX input, opto-isolated.
 Inputs & Outputs accessible on spring terminals.
 Power supply: 230 V AC, <4 W

Delivery:

Interface module, manual.
 Programming adaptor 3000P optionally available as accessory.
 115V model available on request.

3004B-H DMX - DSI / DALI PROTOCOL CONVERTER

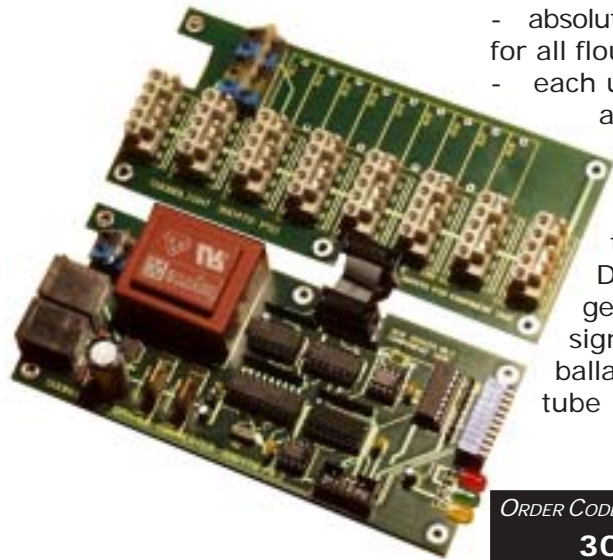


ORDER CODE:

3004B-H

3004T-EP

8 CHANNEL DMX / DSI
CONVERTER



DMX DECODER 3004T

This technology has several advantages: the fluorescent tubes are driven dime-free, and they are controlled fully digital - from control input to the tube itself.

That means to you:

- large dimming range 1%...100% (99% continuous dimming)
- no flicker, as the units are not susceptible to noise as compared to analog units;
- absolutely identical intensity level for all fluorescent tubes;
- each unit can be addressed digitally

Each fluorescent tube assembly consists of these components: the DMX decoder unit, which generates the digital control signal, the digital electronic ballast and the the fluorescent tube itself. The tube and the

ORDER CODE:

3004T-EP

electronic ballast form a building unit, and the DMX decoder can drive eight of these units. The decoder 3004T is available in printed circuit board form or as a metal case unit, complete with WAGO multipin connectors for the tube unit connections (see page 36).

DMX NETWORK TECHNOLOGY

This is the most economical and the fastest way of wiring: the 3004T decoder uses RJ45 /CAT5 wiring for the DMX control signal. This not only allows use of existing in-site building wiring, but is familiar to most technicians. (for more info see page 31).

TECHNICAL DATA 3004T

Compatibility: DMX512/1990
DMX In/Out: RJ45
DSI Out: 8
Channels
Power supply: 230V, approx. 3,2W
PCB Dimensions:
90 mm x 160 mm each

APPLICATION EXAMPLES

The application possibilities for dimmable coloured fluorescent lights are virtually endless. In TV production, horizon illumination saves cost, energy and heat the air condition does not have to handle. Showlighting and architectural lighting benefits from large areas of even illumination. In a building, a slow change of colour may match the daylight....

Large areas and soft color crossings are no problem: shown is an animated wall in a Berlin shopping mall, two stories high.



DMX/DALI CONVERTER

DALI means DIGITAL ADDRESSABLE LIGHTING INTERFACE and denotes a new interface for building lighting purposes. DALI advantages for DMX use may be summed up easily: fluorescent tube ballasts, electronic transformers and discharge lamp ballasts can be driven in common and from the same control source. What's more, DALI is being supported from numerous manufacturers of building lighting accessories, such as OSRAM, PHILIPS, TRIDONIC, HELVAR and more. So we have made the decision to also support DALI and create a DMX-to-DALI converter board.

DMX CONTROL

Control units offered for building lighting mostly suffer the ease of operation and speed associated with DMX control. Remember, that the DALI transmission speed is just one hundredth of the DMX speed. A converter, doing the required DMX demultiplexing, the speed adjustment and the protocol conversion is the necessary tool to use DMX

control equipment for DALI operated building environments. The SOUNDLIGHT 3014T converts eight DMX channels to DALI and allows connection of up to eight ballast units. Besides, the 3014T decoder adjusts the intensity control range to that of the 3004T, meaning that DSI driven and DALI operated equipment can be mixed as needed. All devices respond to a uniform, fully logarithmic dimming curve of 1%...100%.

The card uses a block of 8 channels, beginning with the set start address. Start address setting is done via decimal coded switches, thus no binary DIP switch calculations have to be performed. The switch board is connected via separate cable and can be mounted in any convenient place.

MORE SAFETY

To increase safety and to create a SELV device the digital DMX data input is optically coupled. This

Cage Clamp:

Multipin:

ORDER CODE:

3014T-EP

ORDER CODE:

3014T-EP

provides full electrical isolation to the driving DMX network and gives the safety you need to reliably operate other devices, such as dimmer packs, colour scrollers or intelligent fixtures.

OUTPUT CONNECTION

To connect the electronic ballasts the connector board can be equipped with multipin connectors (type -MCS) or spring loaded terminal contacts (type -CC), alternatively. This board additionally provides fused power supply of the connected electronic ballasts.

3014T-EP
8 CHANNEL DMX / DALI
CONVERTER





EXPO2000 Project „Donau Waves“



ISH 2001 Fair, Frankfurt



Production-Background

APPLICATIONS

DMX FLOURESCENT TUBE TECHNOLOGY



FL Tube bar 3001T-36



*8-channel
DMX/LL Decoder 3004T-FG*

DMX FLOURESCENT TUBES

The fluorescent light sources (FL tubes) combine many advantages: low power, low heat emission, long life, low cost. Additionally, they do not consume much electricity. Now that fluorescent light have become precision dimmable by means of SLH digital dimming technology, new applications arise, which benefit of excellent control characteristics (absolute logarithmic

mic curve, matching the eye's intensity response) and high precision, especially when it comes to low-level dimming.

NEW APPLICATIONS

New applications include exhibition design, architectural lighting and TV production facilities, where large areas have to be lit evenly. RGB colour mixing enables soft changes in mood, and allows designers to

match corporate identity colours (see exhibition examples above). Add to this the extremely low cost of operation, and the high speed of installation, and you have found the technology you may have always been looking for. For more information, please consult our sales staff.



Foyer Nassauische Sparkasse, Wiesbaden



*Customer Center, Schmidt
Bank*

DMX / DSI DECODER 3004T-FG

As architectural lighting gains more and more importance, we have packed our decoder 3004T in a neat little box. This ready-to-use unit features opto-isolated DMX input on RJ45 style connectors for rapid installation using affordable network wiring. The decoder drives eight individual ballasts with a logarithmic dimming range of 1%...100%, including remote switching to the OFF state at DMX control value zero.

AUTO-REFRESH

The internal HOLD function keeps the output data intact at signal loss or DMX transmission errors. Output control data to the electronic ballasts are only generated at signal change, e.g. when dimming occurs. If no signal change is present, all connected ballasts are automatically refreshed at 20 seconds intervals to ensure uniform intensity throughout the installation.

OUTPUT CONNECTORS

Both decoder models, 3004T-FG (DSI control) and 3014T-FG (DALI control), are available with two output connector styles: either WAGO MCS multipin connectors or WAGO spring clamps (pictured).

INCREASED SAFETY

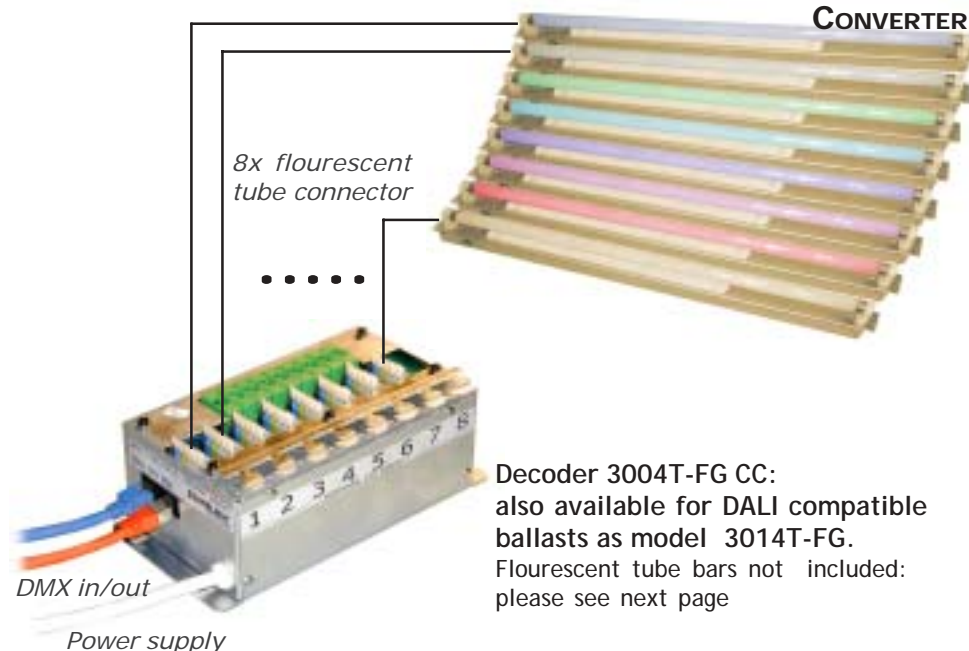
To increase safety and meet the requirements for SELV devices the DMX input and output is optically isolated, as recommended in draft standard DMX512A.

The 3004T-FG decoder makes use of the SLH DMXNET technology and features RJ45/CAT5 compatible data connectors. This makes wiring faster and much more economical as compared to using conventional XLR connectors. To effectively distribute DMX512 signals, we recommend our RJ45-equipped DMX booster/splitter devices 34xxA-FG (see catalog page 31). For RJ45 patchbays, see page 29.

CONNECT ANY LIGHT BAR

The decoder can drive up to eight light bars of different lengths, even in mixed mode. Choose model 3004T-FG CC for cage clamp terminals or model 3004T-FG MCS for multipin connector outputs.

3004T-FG
8-Ch DMX / DSI CONVERTER
3014T-FG
8-Ch DMX / DALI
CONVERTER



Decoder 3004T-FG CC: also available for DALI compatible ballasts as model 3014T-FG. Fluorescent tube bars not included: please see next page

ORDER CODE:
3004T-FG

ORDER CODE:
3014T-FG

LW3001T15
LW3001T36
LW3001T58
DMX FLOURESCENT TUBE BARS

DMX FLOURESCENT TUBES

The DMX protocol converter boards 3004B and 3004T allow **dimmer-free** and **digital** dimming of FL lights - from control signal to the tube itself.

That means to you:

- large dimming range **1%...100%** (99% dimming)
- **no flicker**, as no control voltage deviations or disturbances as compared with analog systems may occur
- absolutely **identical** intensity on all tubes
- each tube is individually **addressable**
- Installation is „**plug and play**“

DMX DECODER BOX 3004T-FG

Each FL unit consists of two elements: the DMX decoder, which generates the digital control signal for the electronic FL tube ballast, and the tube assembly, which contains the FL tube and the special digital electronic ballast. Tube and ballast form a building block, which is connected to the decoder box via multipin contacts. Each decoder can drive up to eight FL tube units.



8-Channel DMX/LL
Decoder 3004T-FG

FL tube LIGHTBAR 3001T-xx

As tube and electronic ballast have to be mounted close to each other, the light bar assembly consists of these two units.



FL light bar 3001T-36

The ballast must match the tube. The length of the FL tube may vary due to the type used. The most popular lengths are:

LW3001T-15	T8	0,60m	15W
LW3001T-21	T5	0,95m	21W
LW3001T-28	T5	1,15m	28W
LW3001T-36	T8	1,20m	36W
LW3001T-58	T8	1,50m	58W



Coloured RGB sleeves for T5 and T8 tubes now available

ORDER CODE:
HUEL-xx

APPLICATIONS

The combination DMX decoder box / FL bar is applicable wherever flexible setups have to be created using FL light sources. Typical applications include architectural lighting, exhibitions, lighting art and more. Colour mixing can easily be performed by use of coloured FL tubes, by application of colour gel, or intensified colour combining colour tubes and our tube sleeves.



Animated counter in a Sushi Bar: smooth fl light dimming colour changing effects

fl tube bar: ORDER CODE:
LW3001T-

Impossible yesterday, but a reality today: DMX512 dimmable fluorescent lights. SOUNDLIGHT has made this technology available to the field of show and concert, exhibition and architectural lighting.

Special advantages

- dimming range 1%...100%
- high lighting intensity
- lowest energy consumption, that means low heat dissipation;
- installation is plug and play

4 TUBES - 4 DMX CHANNELS

Active colour mixing is a simple task for our FL units: as we do not use subtractive CMY colour mixing, but additive RGB colour mixing instead, the FL units feature high luminous intensity output. To further increase the white intensity level, an additional fourth channel driving a white tube has



been implemented. As all colours are freely interchangeable, special colour schemes can be arranged to meet special needs (e.g. tungsten to daylight fades using colour correction media).

HIDDEN QUALITIES

Making the unseen visible: that is possible when using UV light sources. Now that you can continuously dim UV active FL lights, changing moods slowly from daylight to dark night may become reality. Simply use UV active paint when creating the scenery, and add our dimmable UV equipped FL units. Then fade into the night...

LARGE AREAS: NO PROBLEM

Absolutely even illumination of large backlit areas is widely used in TV production facilities, especially when



it comes to bluescreen production techniques. The FL units not only produce a very discrete and absolutely reproduceable level of blue, but also save immense amounts of electrical energy. This in turn results in less produced heat, and allows selection of much lower power air condition systems- again savings in money and in noise.

Wiring of the FL units is fast and simple. We use standard CAT5 wiring, all interface connectors are RJ45 compatible. This allows easy integration into existing building site networks, which usually already exist for data and telephone signal handling.

Each FL tube is individually addressable, which makes the system very flexible. Add to that the long life time of FL lights, plus the low cost of installation, maintenance and operation, and you will hardly find a system that comes close.

LW3004T15

LW3004T36

LW3004T58

DMX FLOURESCENT TUBE
FIXTURES



Multicolor-Backlighting, shown:
Shopping Mall

USBDMX1

USB DMX INTERFACE
512 CHANNEL

This is the new computer standard for serial user interfaces:

USB - Universal Serial Bus.

USB features many advantages. Some of the special features are:

- Automatic hardware detection: once installed, the PC will recognize the interface automatically;
- Power supply from the computer: the USB port can supply external interfaces and eliminates the need for external power supply units;
- suited for all desktop systems, laptop computers and notebooks computers with a USB port.

The USBDMX1 interface transmits 512 DMX channels and is very easy to use. Along with the interface comes a driver disk for Windows 98, Windows 2000, XP and VISTA. The interface can be installed on more than one computer, and will only be activated when plugged in. If the computer fails to communicate with the interface, a „Stand-Alone-

Mode“ is entered and scenes previously stored within the interface itself are recalled. These scenes can even include fades and moving lights. Changing the scenes is done by manual pushbuttons (step back and forth), or via external contacts.

PROGRAMMERS SUPPORT

Delivery of the USBDMX1 interface comprises of demo applications as well as source code written in C++ . This will enable you to write your own applications rapidly: start from demo and add your own functions as needed. A dynamic link library (DLL) contains all functions, that are needed to communicate with the interface.

SOFTWARE INCLUDED

The USBDMX1-LC (Low Cost Version) comes with EASY STAND ALONE editor software.

The USBDMX1 (full version) interface is bundled with the complete SUNLITE SOFTWARE ECONOMY professional software suite.



Application „SUNLITE Suite“ as Memory-Desk and scanner application for the USBDMX1 Interface.

TECHNICAL DATA

Compatibility: DMX512/1990
DMX channels: 512, send DMX connector: XLR 5-pin
Computer connector: USB-A
USB specification: USB 2.0
Stand Alone Mode: 250 scenes
Power supply: USB or 9V DC int/ext switchable
Dimensions: 100 x 45 x 40 mm
Weight: 130 g

Interface with Sunlite suite software bundle

ORDER CODE:

USBDMX1

Interface with ESA Editor software bundle

ORDER CODE:

USBDMX1-LC



COMPATIBLE DRIVER SYSTEM

In order to keep software development time low, the new PCI card uses a driver scheme which is compatible to the PCMCIA card 2512A (see page 24). This also widens the spectrum of applications from mobile laptop to stationary desktop systems.

The card data are impressive:

- two or four DMX universes
- DMX Send or DMX Receive
- adjustable channel count

MORE POWER

The 1514PCI is a very powerful card, serving two DMX universes (2x 512 channels = 1024 channels) simultaneously. You can set either universe to read or write mode, that is, you are allowed to:

- write 1024 DMX channels, or
- read 1024 DMX channels, or
- read 512 and write 512 channels.

This allows to receive and to transmit DMX data, and to process

incoming DMX data on the fly. The

2514PCI even boasts double capacity, it supports four universes, again in read or write mode. If this is not enough, you can install multiple cards in parallel.

PLUG AND PLAY

Being true PCI designs, the 1514PCI as well as the 2514PCI support Plug&Play operation. Just install the cards, and they will be detected and installed automatically by your system. The 1514/2514PCI system driver supports Windows 98SE, Windows 2000 and Windows XP.

PROGRAMMER'S SUPPORT

Programmers can benefit from demo applications, detailed documentation and source codes, which are available free of charge from our support website at <http://www.pcdmx512.com>.

DELIVERY

Delivery of the DMX PC interface card 1514PCI consists of:

- the PCI interface card
- a short form manual



*Interface Card 2514PCI
4x 512 DMX Channels*

- a CD containing source codes, drivers and demos
- two cable adaptors with 5-pin XLR output connectors

Dual Link Card

Quad Link Card

1514PCI
2x 512 CHANNEL DMX
PCI INTERFACE CARD

2514PCI
4x 512 CHANNEL DMX
PCI INTERFACE CARD



*Interface Card 1514PCI
2x 512 DMX Channels*

ORDER CODE :
1514PCI

ORDER CODE :
2514PCI

7044A-H DMX TO DALI CONVERTER

7064A-H DALI TO DMX CONVERTER



WHAT IS DALI?

No Artist. DALI stands for: „Digital Adressable Lighting Interface“ and describes a control bus commonly used in architectural lighting. As DMX512 comes closer to architectural lighting, gateways to and from DALI are needed.

The 7044A-H is a DIN rail mount interface to convert DMX to DALI. It is a 4-channel interface and can control up to four adresses in direct addressing or in group addressing mode. It connects to a standard DALI bus system, no special precautions must be taken. The DALI output is fully isolated from the DMX input (galvanically isolated).

Please note that the DALI bus is a very noise insensitive, but also a very *SLOW* bus, while on the other hand DMX512 is a very *FAST* bus. For more details pls check the 7044A-H manual on our website. The interface works on 230V AC and snaps to a standard DIN rail.

ORDER CODE:
7044A-H

DMX IN DALI SYSTEMS

We were among the first to introduce a DMX to DALI converter. Meanwhile others have adopted the idea. Now we have done it again: we are presenting the first DALI to DMX converter.

This decoder will easily allow to integrate entertainment lighting devices in DALI building systems. Think of using color spots or gobo projectors, fire DMX controlled smoke machines or other effects. The decoder simulates 16 addresses on the DALI bus and delivers 16 channels of DMX data, enough for most cases. If you need more, simply add a second device. It's that easy and exciting.



ORDER CODE:
7064A-H

CONFIGURE DALI SYSTEMS

Setting up a DMX512 device is easy and straightforward: set the DMX start address, some parameters and you're done. Setting up a DALI system shows to be far more complex-and that's where our USB-DALI interface comes handy.

Complete with setup and monitoring software (for Windows 2000/XP) the interface allows direct access to all DALI parameters, such as Min. Level, Max. Level, System Failure Level, Address Setting, Group Assignment and much more.

The interface works on a standard DALI bus and allows to read/write/modify data as needed. Complete with software.



ORDER CODE:
USB-DALI

Why is it so difficult to get DMX data out of a PC? There are enough interface ports, aren't they?

The question seems simple, but it is a tricky one. First of all, there is no standard interface capable of the required transmission speed; second, a DMX transmission has to be repeated continuously - and this takes an enormous amount of time if the host CPU (the PC processor) has to take care of this.

Two possible solutions come to mind: using an intelligent interface, such as our PC cards 1512B, 1512C or 1514PCI, which free the PC CPU from computing time, or using a protocol that transfers only data changes - similar to MIDI. That was the birth of PMX (Pulsar Multiplex), a serial communications protocol to transfer high resolution data over a standard serial port, developed by Pulsar Light of Cambridge, U.K. Many products of the Pulsar and ClayPaky portfolio can receive and interpret PMX data directly, software packages like SHOWMAGIC transmit PMX without need for an additional interface. PMX is based on

the standard serial port RS-232 (modem / mouse port), while DMX is using the symmetrical RS-485 standard.

PROTOCOL CONVERTER

The interface card 4102A is a protocol converter, which converts serial PMX (on RS-232) to serial DMX (on RS-485) - and vice versa DMX to PMX. Thus you can transfer data in both directions, even simultaneously.

As serial port drivers are available in all computer operating systems and all programming languages, no special driver is needed to put the 4102A to work. A documented monitor program to watch data flow on the PMX port is available from our support website free of charge.

DELIVERY

of the 4102A interface card comprises of these items:

- the 4102A interface card
- a manual

TECHNICAL DATA

DMX Input: XLR 5-pin
 DMX Output: XLR 5-pin
 DMX Channels: 512 channels

PMX Input: Sub-D 9pin f
 PMX Output: Sub-D 9pin m
 PMX Channels: 120/480

Power supply: 9-20V approx. 90mA
 Dimensions: 160 mm x 75 mm

4102A-EP

RS-232 DMX / PMX
 CONVERTER



PRINTED CIRCUIT BOARD

The interface comes as pcb, but is complete with all required connectors onboard.



2512A PCMCIA DMX CARD



INTERFACE

PLUG & PLAY.

The 2512A is a reliable and versatile solution for both desktops and mobile computers. This small card fits into any PCMCIA card slot (type I, II, III) just like a network card or modem

and supports up to 1024 DMX channels. You may use these resources as you like; either 1024 outputs or 1024 inputs, or 512 outs and 512 ins - simultaneously. The unit comes complete with a breakout box, allowing ease of connection to the DMX outputs and inputs. It is fitted with 5-pin XLR

connectors.

FULLY COMPATIBLE

The 2512A DMX PCMCIA Interface is fully compatible with both, USITT DMX512/1990 and DIN 56930-2

standards.

SEND AND RECEIVE

Most interfaces can send DMX data, only few are able to receive data. The 2512A PCMCIA card does both, and the data direction of each port can be selected by software. A special LED in the breakout box signals send or receive state.

Please check our support website for up-to-date information, latest driver and demo files. Programmers will find code demos in source code format, which then can be used as starting skeleton for own applications.

YOUR OWN SOFTWARE

This make the 2512A PCMCIA interface card the perfect solution for all those, who intend to write their own software solutions. The PCMCIA card driver has been written for Windows 98, and a Windows 2000 driver is available from our website. The driver detects the card address automatically and handles all data transfer, which is very fast

due to direct memory access techniques. Thus the 1512A qualifies as a high-speed interface, which can be used to read, modify and write DMX data on-the-fly.

MORE CHANNELS?

No problem. Two interface cards can be used in parallel, giving a total of 2048 channels out. Of course you will need a laptop with dual slot. To use the PCMCIA card in desktop systems, have a glance at the interface on the next page.

ORDER CODE:

2512A

MOBILITY DELIVERED

In order to gain easy access to the outer world, the 2512A card comes complete with a 4-connector breakout box. It features two inputs and two outputs. Additionally, automatic line termination is available- it can be invoked by software command. This makes external terminator plugs unnecessary.



The PCMCIA card comes complete with Breakout-Box for four DMX universes.

SUPPORT NEEDED?

A special support website is dedicated to our various DMX512 PC interfaces. Full technical details, programming info, driver support and free demo software is available from:

<http://www.pcdmx512.com>

As more and more software vendors are supporting the interfaces as



standard output devices, we have also set up a „third party software“ page, which is dedicated to commercially available programs. Have a look!

THE DESKTOP SOLUTION

Would you like to take your DMX interface with you when traveling? The 2512A PCMCIA interface card has this flexibility. You will, however, need a PCMCIA slot in your desktop systems. That is where the PCI-PCMCIA adapter card comes handy. The compact module occupies one PCI slot and provides one PCMCIA slot. The adapter supports not only DMX512 adapter cards, but also network cards, RAM cards, Flash cards (widely used for digital photography) and more. Thus the 2512PCI turns out to be a multi-use expansion for your desktop PC.

Technical data:

- PC-Card Types I, II, III
- one free PCI slot needed
- driver for Windows 98, ME, XP, NT and Windows 2000 available

ORDER CODE:
2512PCI

2512PCI
PCI TO PCMCIA (PCCARD)
ADAPTER



7400A-EP

ETHERNET - DMX INTERFACE
„ETHERGATE“



ETHERNET DATA TRANSFER

Computer networking relies heavily on Ethernet technology: a proven system, and a simple technology to distribute data within an office, building or construction site. What's more, Ethernet compatible equipment is available off the shelves - at attractive prices. But keep in mind, that some equipment designed for office use may not be appropriate for high demands associated with stage lighting control, and not be as robust as required.

PROTOCOL CONVERTER

To transport DMX data via Ethernet systems, a protocol converter is required. That's where the 7400A EtherGate steps in. The board converts one DMX universe into Ethernet format (TCP-IP protocol, ESP or ArtNet) and transmits either linear or compressed data, depending on the user's choice.

CONFIGURATION

Each EtherGate can be configured as DMX to Ethernet (7400A-EPI) or as Ethernet to DMX bridge (7400A-EPO). Each interface can handle two DMX universes simultaneously.

DATA TRANSPORT

Four DMX universes can be selected by the front panel DIP switches, so multiple DMX links can be established on one Ethernet connection. Multiple receiver EtherGates can be listening to one transmitter EtherGate. Alternatively you may choose the user configuration (GateConfig) mode, which gives unlimited possibilities, including individual IP address setting and DMX monitoring.

DELIVERY

of the 7400A interface card comprises of these items:

- the 7400A interface card
- a manual
- a CD with configuration and test tools

PRINTED CIRCUIT BOARD

The interface comes as pcb with RJ45 connector onboard. The unit requires a regulated and stabilized voltage supply 5V DC, 100mA.

TECHNICAL DATA

DMX Input/Output: XLR5, sep. pcb
Power Supply: Header 2p
5VDC, 100mA
DMX channels: 512 channels
DMX universes: 4 sel., 256 max.
Indicators: Data, Collision, Power
Dimensions: 70 mm x 70 mm.

ORDER CODE:

7400A-EP

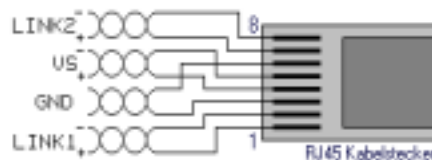
WHAT IS CAT5 / RJ45?

„RJ“ means „Registered Jack“, that is, jack design and pin assignment have been standardized. RJ45 refers to a plastic plug used widely for computer networks (Ethernet), while „CAT5“ refers to a special quality of cable. CAT5 cable is 4-pair conductor cable, able to transport 10/100Mbps digital data.

This wiring technology is already widely used in public and office buildings and is mostly dedicated to computer network (EtherNet) and telephone (ISDN) systems. All applications use the 8-pin RJ45 plug. As this wiring scheme is excellently suited to transfer DMX signals, why not use existing CAT5/RJ45 gear for DMX distribution? SOUNDLIGHT offers several pieces of equipment equipped with RJ45 connectors for direct connection to existing cable networks. This includes booster/splitter devices, relay cards and FL systems. RJ45/SubD adaptor plugs for PC card interfaces are available.

RJ45 PIN ASSIGNMENT

Pin assignment of the RJ45 connector has been defined by Ethernet and ISDN usage. We have chosen a pin assignment for DMX to ensure that no physical harm is likely to occur when erroneously plugging together sources of different origin:



- 1 DMX Uplink, Signal -
- 2 DMX Uplink, Signal +
- 3 GND, screen
- 4 Supply voltage -Vs
- 5 Supply voltage +Vs
- 6 GND, screen
- 7 DMX Downlink, Signal -
- 8 DMX Downlink, Signal +

For Ethernet pin assignment, please refer to DIN56930-3 standard.

RJ45 COMPONENTS

Important components include the CAT5 cable for free wiring, as well as pre-manufactured CAT5 cables in different lengths and colours, RJ45 patch panels and jacks.



Lengths:
0,5m, 1m,
2m, 3m, 5m,
10m, 20m

ORDER CODE: :
CAT-5/xx

RJ45 CABLE CONNECTOR

to connect two RJ45 patch cables



ORDER CODE:
RJ45-KV

PATCH PANEL

19" 1 HE
24x RJ45
screened



ORDER CODE:
RJ45-P24

**CAT5 /
DMX NETWORKING
RJ45
ACCESSORIES**

3404A-H

4-OUTPUT DMX
SPLITTER / BOOSTER



CABINET BOOSTER/SPLITTER

Designed to operate in harsh environments and to withstand extreme conditions: that is the 3404A-H, a four-output DMX512 splitter. The outputs are galvanically isolated from the input, and a fifth output terminal is designed to either feed thru direct or amplified input signal at your option.

The 3404A-H mounts neatly on a standard DIN mounting rail and operates from 230V AC. A built-in LED display clearly informs about the current signal status and displays the valid DMX512 channel count. Signals not conforming to the standard are identified clearly, improper start codes, wrong Break Timings etc. are being displayed with special messages. Thus, the highest degree of data integrity can be maintained.

- 1x DMX IN, 1x DMX THRU
- 4x DMX OUT (isolated)

ORDER CODE:
3404A-H

ECONOMY BOOSTER/SPLITTER

The 3403A-EP comes as printed circuit board, distributing one DMX input to three optically isolated DMX outputs. The board features noise-immune high quality slew rate limited CMOS output drivers for optimum performance and highest noise immunity. Can be expanded to five outputs if required. DMX In/Out connection is via screw type terminals.



ORDER CODE:
3403A-EP

HIGH PERFORMANCE BOOSTER/SPLITTER

The 3405A-EP comes as printed circuit board, distributing one DMX input to five optically isolated DMX outputs. Additionally, there is a DMX THRU output for linking further devices. The board features noise-immune high quality slew rate limited CMOS output drivers for optimum performance and highest noise immunity. DMX In/Out connection is via 5-pin XLR type connectors, conforming to the USITT standard. Alternatively, The 3505A-EP can be delivered with EtherCon Connectors



ORDER CODE:
3405A-EP

(Order Code 3405A-EPR). EtherCon Pin assignment can be set by the user (each pin individually).

DMX BOSTER / SPLITTER

When wiring DMX systems, some simple rules must be obeyed:

- all devices have to be connected in line, that is, a cable must never be split;
- a DMX transmitter (e.g. a control desk) must never be loaded with more than 32 receivers.

Sometimes it is difficult to meet both conditions, especially when it comes to installing bigger systems.

That is where the SOUNDLIGHT splitter/booster comes in handy. The unit regenerates the digital DMX signal and is the source of five, ten or even more new DMX lines, all carrying the DMX input signal. Thus 160, 320 or up to 640 receiver devices can be connected to one controller without any line load problem and perfect isolation between individual receiver data lines.

INCREASED SAFETY

As all inputs and outputs are optically isolated, defective equipment



connected to one output line will never affect any other line. Ground loops are eliminated, dangerous potentials cannot spread around the system. All this results in increased safety of operation, which cannot be achieved otherwise.

TRUE SIGNAL DETECTION

To ensure that the DMX signal IN is correct and should be amplified and distributed, we have added a true DMX512 decoder to analyze the data and show the channel count on display. If no valid DMX signal can be detected, the display shows „ERR“, which denotes to a possible communications problem.



3410A-FGR 10-channel RJ45 version

RJ45 WIRING AVAILABLE

All models are available with RJ45 style connectors instead of XLR5. To order, simply add Suffix „R“.

TECHNICAL DATA

DMX IN/THRU/OUT: XLR 5-pin
Outputs: SRL-Design, opto-iso
Dimensions: 19", 185 mm deep
Power supply: 230V AC 8-16W

ORDER CODE:
5-Channel **3405A-FG**

ORDER CODE:
10-Channel **3410A-FG**

3405A-FG
3410A-FG
DMX BOOSTER / SPLITTER

2002A-H OPTO-ISOLATED DMX MERGER



MERGING DMX SIGNALS

Unlike with analog control signals, it is not possible to directly wire two DMX signals together - this task has to be performed by a smart data station, called a Merger. The Merger receives two DMX signals, decodes the data streams and composes a new output data stream, conforming to the user's requirements.

1 Desk + 1 Controller = 1 Cable

This is the typical setup when using conventional lighting and intelligent fixtures on stage, and doing the PAR lighting control from a DMX fader board, while the scan-controller operates the moving lights. In this very case, two DMX signal lines are required. The Merger may combine the two control units by adding the desk channels to the controller channels,

or interleaving both, and transmitting the complete control packet on one DMX line. There is no need for additional demultiplexing

equipment at the receiving end: simply set the dimmer packs and the moving lights to their appropriate start address settings, and you're done.

Two Desks, One Dimmer

This is a typical requirement when (for example) disco and live performance are interleaved: the same lighting setup is either used for disco or for live performance. This would require switching or re-connecting the control line to the live console or to the disco control desk. Using a Merger, both control systems have access to the same power control. Channel assignment for both control desks is the same, as both start with the same start address and are combined using a HTP (highest takes precedence) algorithm. Additionally, the DMX Merger is performing DMX signal regeneration and isolation.

Merger = Booster + Splitter

Just in case you do not need a Merge function, you may use the unit as booster or as splitter device. The 2002A-H features two buffered

outputs carrying the same signal. This will generate extra safety on the transmission link.

Changing the data link

You may also distribute one input signal (complete or partially) to one or the other output, depending on the second DMX data input. This allows to modify signal routing directly from your console and to activate or deactivate equipment partially at your option. A feature often needed in Discotheques or when limiting access for opening acts is needed.

TECHNICAL DATA

DMX In/Out	2 / 2, cage clamp
Modes	Merge, Append, Auto split, changeover, flip
Displays:	2, 3 digit
Dimensions:	115 x 115 x 65 mm
Mounting:	standard DIN rail
Power supply:	230V, 3W

ORDER CODE:

2002A-H

Is a DMX signal present? Have problems trouble- shooting DMX systems?

Each DMX512 unit should operate perfectly with any other DMX512 device - well, that is not always the case. Though DMX512 systems prove to be robust and reliable, sometimes weird things happen, one device operates in a way never seen before, or a signal seems to be lost.

A powerful tool can help you detect these problems, the DMX POCKET TESTER. This is the optimum companion on tour, as its versatile diagnostic screens allow to trace and detect all DMX related problems. A built-in SLA battery guarantees long operation times, and best of all the display can be illuminated (If DMX512 is missing, chances are there is no light on stage.)

The big, multi-line LCD display shows several pieces of information at a glance. All information presented comes in readable text form, we do not use error codes, making troubleshooting quick and simple. The DMX POCKET TESTER default text language is in english. Other

languages can be selected or are optionally available.

Fast Diagnosis

The DMX POCKET TESTER features 5-pin XLR input and output jacks and conforms to USITT DMX512 and DIN56930-2 standards. Checking a DMX link, e.g., from control desk to dimmer, is simple: connect the tester between desk and dimmer. On the bargraph screen, you will see up to 36 channels simultaneously in bar graph mode. Switching to numerical readout will display 10 channels in decimal, hexadecimal or percentage format. A jitter detector screen allows min/max recording of a selected DMX channel.

Automatic functions

Received scenes can be stored in memory (up to 120 channels) and recalled as needed. Scenes can be modified and also saved as sequences.

The DMX tester "send menu" allows individual or independent channel settings. It can also send out a previously stored cues (16 cues

available). Auto-functions include automatic ramping, auto on/off (for fast channel identification) and a fader fine adjust mode. The ramp mode serves for linearity or range tests.

Cable test

Shorted, broken or miswired cables often turn out to be a source of trouble. Due to capacitive coupling, a cable with a broken conductor may work or may not work - both temporarily. The DMX POCKET TESTER uses both, a continuity check and digital signal check to identify shorted, broken or miswired DMX cables, and indicates the result.

Determine signal quality

To identify the signal quality, all timing parameters can be measured. Additionally, a level meter measures signal strength and gives the result in voltage. And: a flicker analyzer checks all data packets and shows the maximum deviations on a min/max screen.

DMX-Problems? Not anymore....

3512A

DMX POCKET TESTER



APPLICATIONS
LED DIMMING TECHNOLOGY



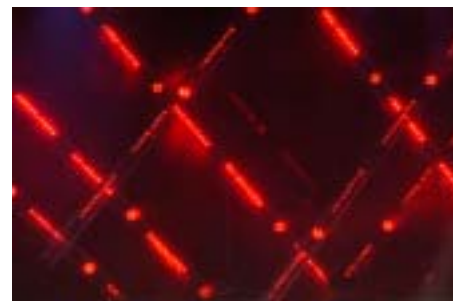
LEDSPOT48 red/green/blue/
white



Car LED lighting at a N3 TV production

DMXLED LIGHTING

LED (light emitting Diode) light sources combine many advantages: low power, low heat emission, long life, low cost. Additionally, they create pure colours - similar to dichroic filters. SOUNDLIGHT has chosen Luxeon light sources, the brightest LEDs available to date. These high-current LEDs are unmatched in terms of efficiency and light output. To



Extensive LED stage lighting effects used at recent „Herbert Grönemeyer“
Tour



Exhibition booth lighting using LED Spots
the eye, a 12 Watt color LED spot seems brighter than a 500W PAR can. Imagine the savings of electrical energy!

NEW APPLICATIONS

New applications include exhibition design, architectural lighting and TV production facilities, where the low temperature generated by LED spots helps to save additional air condition. LED-spots are rugged and



Disco effect lighting shows beam shape highly immune to mechanical shock. Add to this the extremely low cost of operation, and the high speed of installation, and you have found the technology you may have always been looking for.

For more information, please visit our website www.ledsrock.com.



LEDSPOT48 used at TV
production

LEDSPOT6

The tiny, but powerful spot features six monochromatic Luxeon® power LEDs. Colors available include red, green, blue, amber and white.



Technical Data:

diameter 100mm
depth 48mm

LEDSPOT12

Twice the power, compact design. Road-proof aluminium housing, acrylic top cover. 12 Luxeon® light sources in red, blue, green, amber or white. Dimensions: 160mm diameter



LEDSPOT18

The next step: a full color mixing LED spot. True RGB color mixing achieves 16,7 million colors. 160 mm diameter



LEDSPOT48

The ultimate power: over distance, the 48 1W Luxeon light sources generate a more visible light than a 500W PAR can do. Additionally, this colour changer does not generate any noise while mixing colours, as there are no mechanical parts. Absolute silence. No heat, as LEDs produce „cool“ light. No lamp failure, as LEDs are resistive to mechanical shock or stress. Pure colours, because no filter gels are used. Low voltage design (SELV compliant). Saves money, because it consumes just 1/10 of the energy of incandescent lamps. What else do you need? Check our website at <http://www.ledsrock.com>



LEDSTRIP36

This wall washer is 1m long and can generate up to 16,7 million colors. Two mounting brackets allow easy positioning of this outstanding 36-power LED device.



LEDSPOT
HIGH POWER LED FIXTURES

5024A

24 CH LED CURRENT SOURCE

THE LED WORKHORSE

Supplying power to LED arrays is one thing; supplying stable, reliable and flicker-free power to LEDs is a different thing.

The 5024A was designed to meet highest demands in concert, touring, show production and television setups. Its 24 outputs can internally be arranged in 8 groups of three outputs (to drive RGB fixtures), or in 6 groups of four outputs each (to drive RGBW LED fixtures). Output is via 6-pin XLR, input is DMX512. The 5024A features selectable DMX HOLD mode, DMX smooth mode and presettable output level (0/100%) at signal loss.

Technical data:

LED Drive Outputs: 24

CUSTOM
MADE
PRECISION
LED
DIMMER
5024A

LED Current: 350mA
LED voltage: up to 45V
or:
LED Current: 700mA
LED voltage: up to 22 V
Input: DMX512
Power supply: 110-230V 400W
widerange
Power factor: 0,95 @ full load
Dimensions: 19" 2 HU
Depth: 400mm
Weight: 7,9 kg

bright light:

one dimmer drives up to 6 spots



CUSTOM
MADE
PRECISION
LED DIMMER

ORDER CODE:

5024A-FG



This is the hottest technology in Entertainment Lighting: LED Lighting. We have developed a four channel DMX driven current source for for Luxeon® LED devices. The LED dimmers may be used to drive individual LED lamps or multicolor LED assemblies (Red/Green/Blue/White,



e.g. our LEDSPOT 48). Each channel can be adjusted to match the voltage characteristics of the attached LED device. The unit uses SLH DMXNet technology (RJ45 input) and features on-board BCD address switches. Power supply is 110...230V AC. The widerange

input allows international operation on any any mains voltage supply.

The 5004A-FG is a ready-to-use 1/2 19" rack mount unit. The LED dimmer matches highest performance standards due to internal 16 bit technology. As the LEDs are not pulsed, the unit is virtually flicker-free, which makes it the first choice for TV production facilities. The 5004A-FG has been designed to drive four single color spots (LEDSPOT 12) or one 4-color LED spot (LEDSPOT 48) or four-color-LEDSTRIP. It is compatible with Luxeon LED bars and Luxeon LED rings.

DMX channels: 4
Output Current: 0...700mA
Output voltage: max. 22V
Dimensions: PCB WxHxD
97mm x 30mm x 105mm

preliminary data subject to change

LED lamps are manufactured in a variety of colours: red, amber, yellow, blue, green, white. LED lamps feature high intensity, long life end very high efficiency. The 5004A will drive LED devices from Lumileds (Luxeon® Light Sources), OSRAM (DRAGON® LED) and Tridonic Optoelectronics.

For more info check our website www.ledsrock.com

Technical Data 5004A-EP:

1/2 19" unit (rack mount)

ORDER CODE:
5004A-FG

printed circuit board

ORDER CODE:
5004A-EP

5004A

4 CH LED CURRENT SOURCE



**TECHNICAL
APPENDIX
ACCESSORIES**

You cannot do without some accessories. To be compatible to the DMX standards, we recommend using 5-pin connectors as specified in USITT DMX512/1990, draft ANSI E1.11 and DIN56930-2.

CONNECTORS, CABLE TYPE



The 5-pin XLR connector has been standardized to avoid confusion with microphone cabling. Though

standard microphone cable may perform alright for short connections, it may nevertheless degrade signal quality. Digital signals like DMX data require much more bandwidth than audio. That is why special DMX cable with impedance matching characteristics should be used throughout. Impedance required is 110 Ohms, and cable capacity should be less than 70pF/m. Cable specified for transmission of digital audio data conforming to AES/EBU specification or CAT5 cable as used for computer networking systems can be used



alternatively.



- Cable connector male: NC5MX
- Cable connector female: NC5FX
- Panel connector male: MP5MX
- Panel connector female: MP5FX
- Cable 1-pair: AES/EBU-1
- Cable 2-pair: AES/EBU-2

DMX connections conforming to USITT Standard DMX512/1990 require a one pair connection:

- Pin1 = GND, screen
- Pin2 = DMX - (Signal Complement)
- Pin3 = DMX + (Signal True)

Some systems may use the second data link for talkback or signalling. This requires a 2-pair cable and wiring of all 5 pins:

- 1 = GND, screen
- 2 = DMX - (Uplink, Link 1)
- 3 = DMX + (Uplink, Link 1)
- 4 = DMX - (Downlink, Link 2)
- 5 = DMX + (Downlink, Link 2)

WALL OUTLETS

We supply a mounting frame which accepts standard XLR connectors.

These standard housings feature exchangeable mounting plates to accept either XLR male or XLR female



Wall mounting standard size connectors for 5-pin

housing:

ORDER CODE:
DMX-WHO

XLR insert male:

ORDER CODE:
DMX-WHM

XLR insert female:

ORDER CODE:
DMX-WHF

DC SOLID STATE RELAY

Sometimes switching of DC voltage is required, e.g., when connecting DMX decoders to 24V industrial devices or programmable industrial controls. The 3016R-DC (and 3008R-DC) are built with Opto-MOS output switches, which handle 250mA @ 30V DC. All other characteristics of the relay card are equivalent to the 3016R-EP or to the 3008R-EP SSR relay card, respectively.



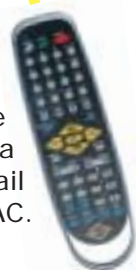
ORDER CODE:
3016R-DC

REMOTE CONTROL INTERFACE

While both, the SLESA-IP and the USBDMX1-LC interface can play



scenes and sequences in stand alone mode, a need to control sequences remotely may arise. The 8801A-H interface provides direct access to the IP and USB interface control port and accepts commands from any standard TV or video recorder RC5 compatible remote control. Up to 99 scenes may be assigned, and extra autostart and blackout facilities are provided. The interface snaps to a standard DIN mounting rail and is powered from 230V AC. Available from stock.



ORDER CODE:
8810A-H

POWERFUL LED DRIVER

Some LED tapes operate from a fixed voltage, e.g. 24V DC. Dimming these LEDs by lowering the supply voltage is not satisfying, as they will cut off when a certain minimum voltage is reached. The 3004PWM decoder achieves a smooth 0% thru 100% dimming curve using advanced PWM modulation. Four outputs (up to 50W @ 24V each) can be dimmed separately. Several features, such



as output assignment, a common master channel, output polarity etc. are user-assignable. The 3004PWM measures just 7cm x 7cm and comes with DMX512 XLR input and XLR output onboard.

ORDER CODE:
3004PWM-EP

NEWS
NEW PRODUCTS SHORTLY
PRESENTED

LINKS & MORE SOUNDLIGHT ON THE WEB

OTHER PUBLICATIONS

The original DMX BOOKLET is available in german language. It is the most comprehensive collection of DMX tools and accessories, containing many items this edition does not cover. To find out more, visit our internet website at www.soundlight.de and download a full copy of the *DMX FIBEL*.



For LED equipment, we would like to recommend visiting our LED department at

www.ledsrock.com

You will find a wealth of information regarding LED technology, the latest LED-Spots and professional LED dimming technology. Many tour photos illustrate application of LED fixtures on stage.

INTERNET RESSOURCES

Buying online:

www.soundlight.de/shop

PC Interface support:

www.pcdmx512.com

LED lighting: www.ledsrock.com

Lighting control software:

www.lightingsoftware.de

Associations:

USA:

www.esta.org

www.usitt.org

Germany:

www.vplt.org

www.dthg.de

UK:

www.plasa.org

The SOUNDLIGHT internet shop is available for all international customers to order online. We ship UPS worldwide.



The PCDMX512 support website is available in english, german und russian language (kyrillic). We welcome your input; if you have sample code or demo applications, just drop us a line.

email: info@soundlight.de



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tba

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