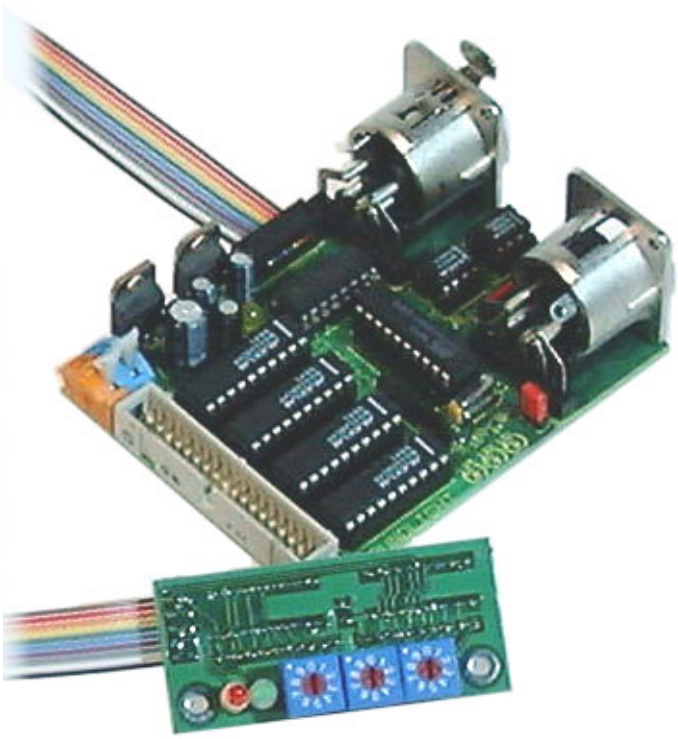
OPERATING MANUAL

DMX Demultiplexer 3032C MkI



SOUNDLIGHT *The DMX Company* Bennigser Strasse 1 D-30974 Wennigsen-Steinkrug Tel. +49-(0)5045-912 93-11

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

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

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

- **simple supply**
  The power supply may be derived from unregulated 15...20V DC, stabilization on board

- **definable signal loss behaviour**
  A signal loss of not more than 1s does not affect the output. This is in accordance with the USITT standard. In case of a longer signal loss,
  - all outputs are driven down to 0V (standard), or:
  - all outputs are set to 100%, or:
  - the last setting will remain intact (selectable).

- **cost-effective**
  The SOUNDLIGHT 3032C-EP is a cost-effective solution for many purposes.

GENERAL

Designation of pcb:	3032C-EP
Features:	32 outputs 0...+10V

The demultiplexer 3032C decodes a standard DMX-512 signal into 32 outputs, each driving a control line with voltage swing from 0V (0%) to +10V (100%) to drive analog dimmer packs or similar equipment, which is in accordance with analog drive standard ANSI E1.1(0...10V analog control signals). The decoder will source control current, not sink control current. That's why it is not possible to drive 1-10V analog electronic flourescent tube ballasts using the 3032C-EP.

CONNECTORS

POWER SUPPLY:
Power supply of the 3032C-EP pcb can be derived from any regulated DC psu 15...20V DC. The PSU is connected to connector CN6. Pin assignment is:

red:	+15...20V DC
blue:	0.0V, GND

DMX INPUT:
The DMX signal is applied via 5-pin XLR sockets using a pinout according to DIN 56930-2 and USITT DMX512/1990:

CN2	DMX Input (XLR 5-pin)	
	1	GND
	2	-DMX
	3	+DMX
	4	connected to pin 4 CN3
	5	connected to pin 5 CN3
CN3	DMX Output (XLR 5-pin)	
	1	GND
	2	-DMX
	3	+DMX
	4	connected to pin 4 CN2
	5	connected to pin 5 CN2

ANALOG OUTPUT:
All output control signals are available at a 34-pin dual pin header. All outputs are designed to drive approx. 2mA @ 10V (5 kOhm input impedance of connected dimmer packs). The maximum output voltage is approx. 10.5V.

CN3 ANALOG OUTPUT

1: channel / output 1
2: channel / output 2
3: channel / output 3
4: channel / output 4
5: channel / output 5
etc. until:
32: channel / output 32
33: 0V, GND
34: 0V, GND

MOUNTING

Two fastening holes are provided for screwing the pcb to a chassis (marked). Use the XLR connector to mount the pcb directly to the front panel. Plastic distance washers (5mm min. recommended) should be used to satisfy electrical isolation requirements.
Use of a a fully screened or metal housing connected to GND is required to satisfy EMC requirements.

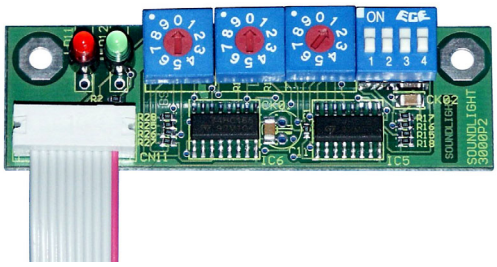
SIGNAL INDICATORS

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

green:	operation (blinking)
red:	ERROR (blinking)
	No error indication while normal operation

Error blinking at data errors or loss of communication.

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



CODING SWITCHES

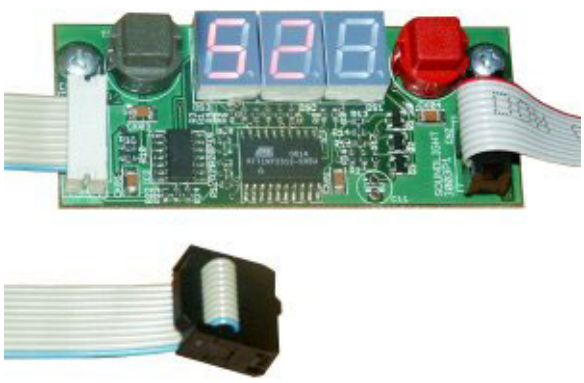
The three decimal coding switches set the start address, that is the address of the first channel to be decoded. The setting is fully decimal, no binary conversion is necessary as is with DIL switches.

S1: Ones
S2: Tens
S3: Hundreds

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

All settings made on the address board are retained in the demultiplexer internal nonvolatile memory. The settings will remain active even when disconnecting the address board after the setting has been saved. Do not detach the address board while the demux is saving configuration data (both LEDs blink alternatively 4 times).

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



The address board 3003P (with LED numerical display) is available as option. To set the address, press the left button util "Adr" will blink. Use the right button to confirm. To set the address, use the left button again to select the position (hundreds/tens/ones), and the right button to select the value (0...9). The setting will be saved atomatically some seconds after the last entry has been made.

DIP-SWITCHES

Der decoder can be configured using the sour DIP-switches on the address board (with address board 3003P, settings are designated S1..S4 respectively):

DIP-SWITCH 1 DMX HOLD Retain output value at loss of DMX data
OFF = DMX HOLD OFF
ON = DMX HOLD ON

DIP-SWITCH 2 SECURITY LEVEL Outpul level at data loss, when HOLD is not set
OFF = alle Ausgänge auf 0%
ON = alle Ausgänge auf 100%

DIP-SWITCH 3 FAST MODE Output slew rate
OFF = Standard, inperpolated output
ON = fast, direct output

DIP-SWITCH 4 OUTPUT MODE Output driver
OFF = high-impedance precision output
ON = low-impedance buffered output

TECHNICAL DATA

Dimensions:	90 mm x 70 mm x 25 mm
Supply:	15...20V DC 45mA without load
DMX IN:	1 Unit Load
DMX OUT:	fed-thru
Analog Out:	32x 0.4...+10.4V, max. 2mA (buffered mode)
	32x 0...+10V, max. 0.5mA (unbuffered mode)
Order code:	3032C-EP

CE CONFORMITY

CE

This DMX demultiplexer is microprocessor controlled and uses high frequency (16 MHz quartz). The interface has been tested in our emc lab to comply with EN5022B and IEC65/144.
To ensure the best performance regarding radiated and conducted emissions we suggest to install the interface card in a closed, conductive (e.g. metal) housing, which must be connected to GND.
Please make sure that shielded data cable is used troughout and the shield is connected properly to the GND pin. Shield must never make contact to other signal lines.

FCC STATEMENT

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

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

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

DISTURBANCES

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

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

LIMITED WARRANTY

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

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

SERVICE

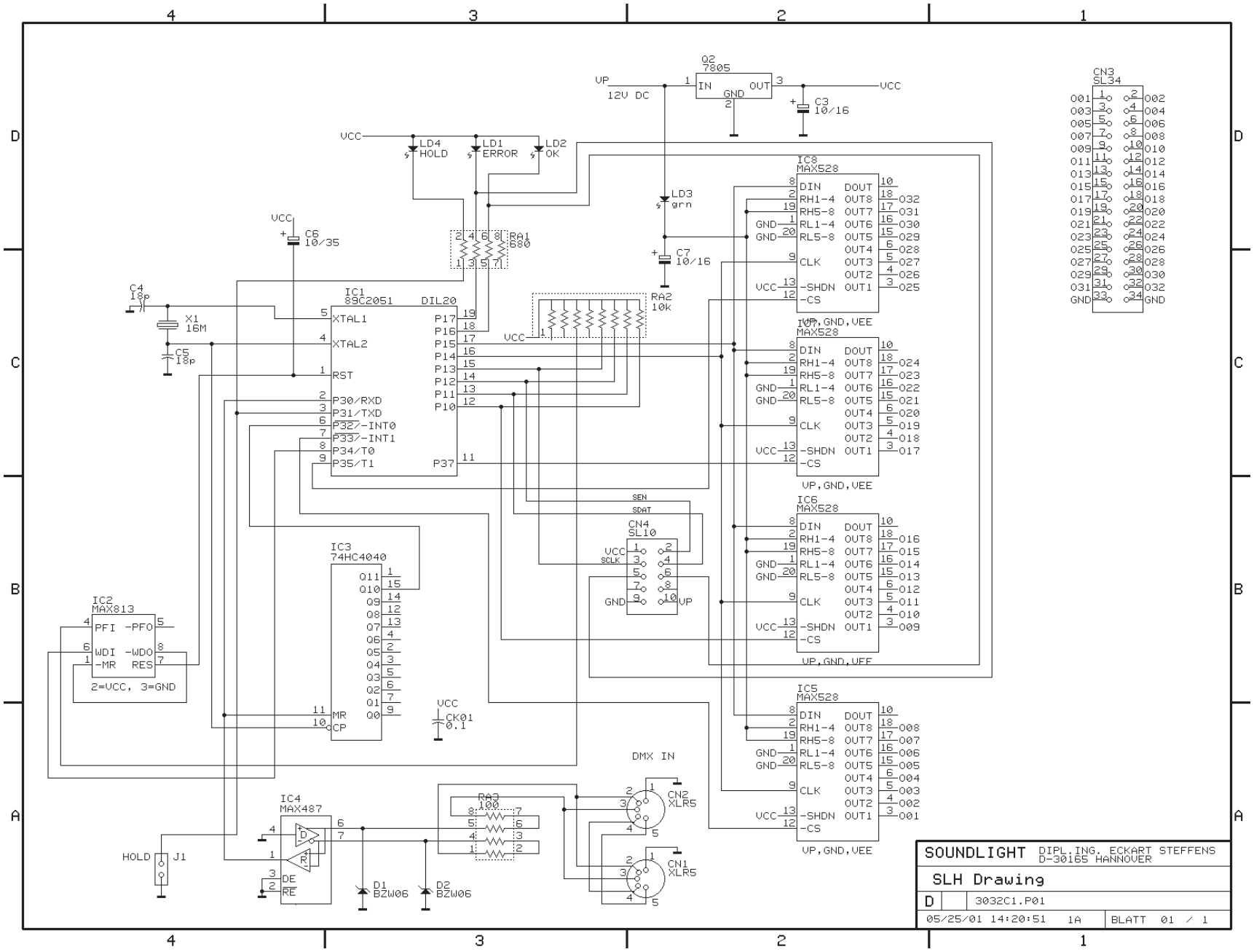
There are no parts within the DMX Demultiplexer Board 3012B which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

INTERNET-HOTLINE

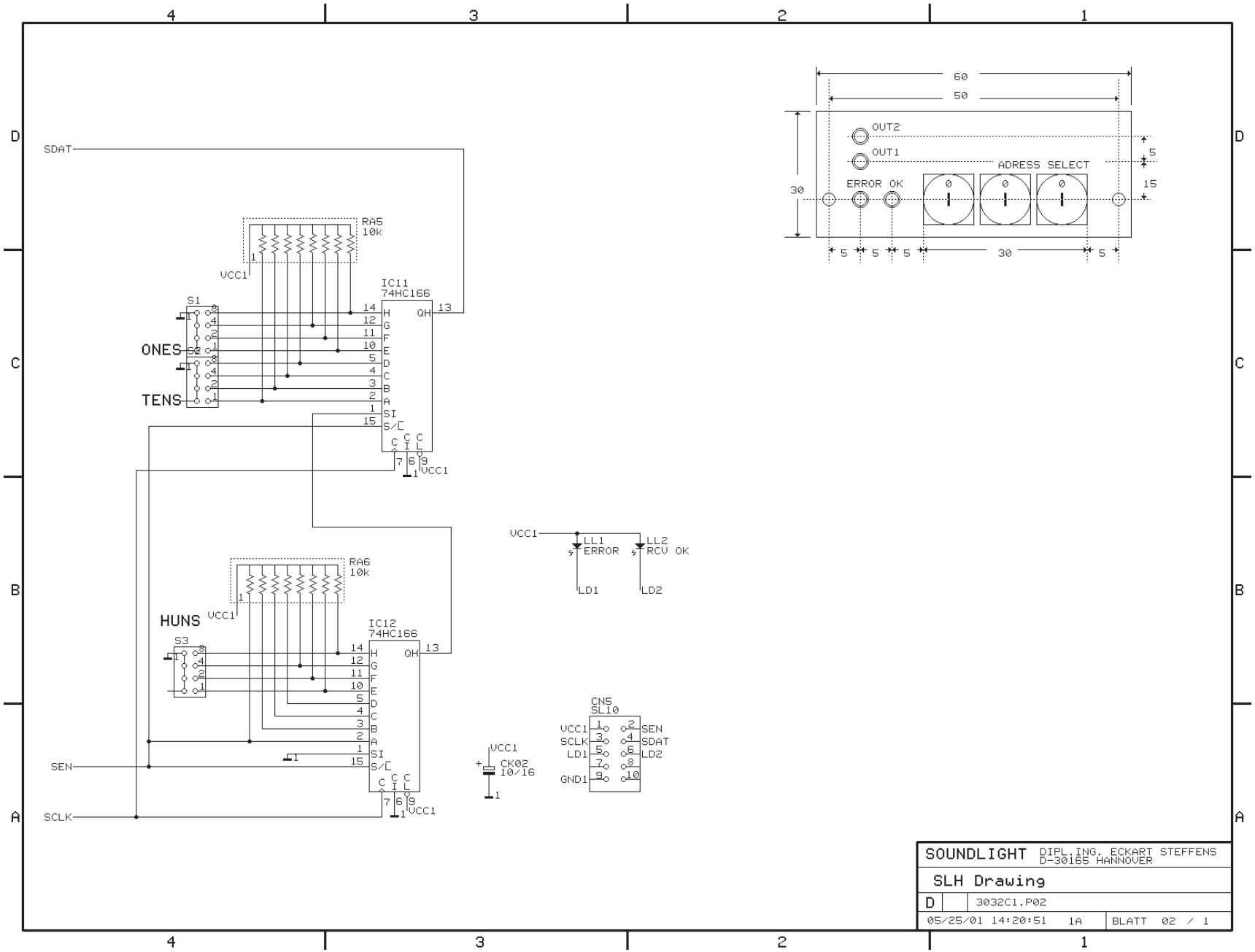
Please use our internet domain http://www.soundlight.de for new versions, updates etc. If you have any comments which may be worth considering, please send a message to info@soundlight.de. We will check your message and reply accordingly.

ENVIRONMENTAL NOTICE

When the end of the useful lifetime of this product has been reached, it must be disposed of properly. Electric and electronic devices must not be placed in domestic waste. Contact your local authorities for information about a suitable collection point in your neighbourhood. SOUNDLIGHT is a WEEE registered company (DE58883929).

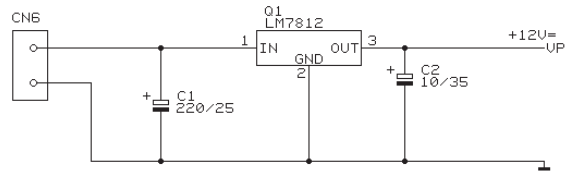

Q2
7805
VP
12V DC
IN
OUT
GND
VCC
C3
10/16
CN3
SL34
LD4
HOLD
LD1
ERROR
LD2
OK
LD3
grn
C7
10/16
C6
10/35
RA1
680
RA2
10k
C4
18p
X1
16M
C5
18p
IC1
89C2051
DIL20
XTAL1
XTAL2
RST
P30/RXD
P31/TXD
P32/-INT0
P33/-INT1
P34/T0
P35/T1
P17
P16
P15
P14
P13
P12
P11
P10
P37
IC8
MAX528
IC7
MAX528
IC6
MAX528
IC5
MAX528
DIN
DOUT
RH1-4
RH5-8
RL1-4
RL5-8
CLK
-SHDN
-CS
OUT8
OUT7
OUT6
OUT5
OUT4
OUT3
OUT2
OUT1
VP,GND,VEE
SEN
SDAT
SCLK
CN4
SL10
IC2
MAX813
PFI
-PFO
WDI
-WDO
-MR
RES
2=VCC, 3=GND
IC3
74HC4040
Q11
Q10
Q9
Q8
Q7
Q6
Q5
Q4
Q3
Q2
Q1
Q0
MR
CP
CK01
0.1
DMX IN
IC4
MAX487
RA3
100
CN2
XLR5
CN1
XLR5
HOLD
J1
DE
RE
D1
BZW06
D2
BZW06
SOUNDLIGHT
DIPL.ING. ECKART STEFFENS
D-30165 HANNOVER
SLH Drawing
D
3032C1.P01
05/25/01 14:20:51
1A
BLATT 01 / 1

SOUNDLIGHT
The DMX Company



SOUNDLIGHT	DIPL.ING. ECKART STEFFENS D-30165 HANNOVER	
SLH Drawing		
D	3032C1.P02	
05/25/01 14:20:51 1A		BLATT 02 / 1

SOUNDLIGHT
The DMX Company



SOUNDLIGHT	DIPL.ING. ECKART STEFFENS D-30165 HANNOVER		
SLH Drawing			
D		3032C1.P03	
05/25/01 14:20:51	1A	BLATT 03 / 1	