

Instruction Manual

for
Splitter- Merger - Shifter

SMS-28



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1 Introduction

1.1 Overview

The SMS-28 is a all-purpose device, designed for easy handling of DMX-signals. Dependent on the selected function it can receive up to two lines of DMX, generating one or two fresh signals from them. Different modes as the classic DMX splitter (even these signals will be freshly generated), shifter and merger are available. The freshly generated signal is available on either 1x8 outputs or 2x4 outputs, depending on the selected mode. On all outputs always 512 channels will be emitted, independently from the input signal. All inputs and outputs are galvanically isolated from each other and they all have their own power supply.

2 Operation

2.1 Modes

2.1.1 Split 1 → 8 (Mode 1)

This mode complies to the classic 1 in 8 splitter. The input signal must be connected to input A, whereas signals on input B will be ignored. If the signal on input A fails, all DMX contents will be set to zero. (1)

2.1.2 Split 1 → 8 (hold) (Mode 2)

Same as 2.1.1, however the DMX contents will be hold and emitted endlessly, if the input fails. (1)

2.1.3 Split 2 → 4 (Mode 3)

In this mode the SMS-28 works like two independent 1 in 4 splitters. Line A will be emitted on outputs 1-4, line B on outputs 5-8. (1)

Annotation 1: It is not the original signal, which is emitted on the outputs but a newly generated signal with identical values

2.1.4 Split 2 → 4 (hold) (Mode 4)

Same as 2.1.3, however the DMX contents will be hold and emitted endlessly, if the inputs fail. (1)

2.1.5 Shifter 1 → 4 + 4 (Mode 5)

With this mode only line A will be processed, signals on line B will be ignored. On outputs 1-4 the signal will be emitted according to the input signal. On outputs 5-8 the input signal will be emitted shifted by a value, which can be selected with the address-selector-switch. This means that the first channel, emitted on 5-8, is the one selected by the address-selector-switch, which works like an offset to the original signal. All channels before the selected offset-value will be truncated. Therefore the total number of channels will be reduced by the number of the offset-value. Anyhow, 512 channels are emitted and the unused channels will be set to zero. The signal will be hold, if the input signal fails.

Example: „020“ is selected as an offset. The original signal is available on outputs 1-4. A shifted signal is available on 5-8 according to this table:

Offset	20	20	20	20	20
1-4	1-19	20	21	22	23
5-8	n/a	1	2	3	4

This mode is useful if you want to combine two systems, which are both set to channel 1-x. By using this mode, you can control both systems with one light desk, without reprogramming one of the systems.

2.1.6 Merger HTP (Highest Takes Precedence) (Mode 6)

This mode combines the signal on input A with the signal on input B. The highest value will be emitted on outputs 1-8. (2)

2.1.7 Merger Shift (Mode 7)

This mode is useful if you are working with two light desks which you want to combine in one DMX signal. The combination of the signals on A and B works as follows: Channel 1 and following channels of the combined signal complies to channel 1 and following on input A. Channel 1 and following channels of input B will be mapped to the channel selected by the address-selector-switch. Channels on line A, which exceed the value of the address-selector-switch, will be truncated. In any case, the sum of all channels on A and B cannot exceed 512. The signal will be hold, if the input signal fails. (2)

2.1.8 A backuped by B (Mode 8)

This mode is needed if you want to backup al light desk with a second light desk. Connect the main desk to input A and the backup desk to input B. If input A fails, the signal on input B will be used. The resulting signal is available on all outputs 1-8. If both signals fail, the output will be hold.

2.1.9 B backuped by A (Mode 9)

As 2.1.8, but A will backup B, which is the main light desk. If you toggle between mode 8 and mode 9, two light desks can be switched over manually.

Annotation 2: *Only signals with startcode „0“ (dimmer) will be accepted.*

2.2 Elements of control

2.2.1 Selector switch „mode“

Mode	Function
0	No function, all channels will be set to zero
1	Split 1→8
2	Split 1→8 (hold)
3	Split 2→4
4	Split 2→4 (hold)
5	Shifter A→4+4
6	Merger HTP
7	Merger Shift
8	A backuped by B
9	B backuped by A

2.2.2 Selector switch „address“

These selector switches select an offset or address. Only used for all merger and shift modes.

2.3 Indicators

2.3.1 LCD display

The first line of the display shows the actual mode, the second line provides information about the status of the SMS-28.

- If the input signals are correct, „OK!“ will be displayed.
- Furthermore the DMX value of the channel selected by the address selector switch is displayed.

- „DMX failed! A“ respectively „DMX failed! B“ will be displayed, if one of the input signals fail even though this signal is expected in the selected mode.
- „Startcode!“ is displayed in case that the startcode of one of the input signals is unequal to zero.
- „wrong address!“ is displayed if you select an address with the address selector switch which is invalid (<1>512).
- If mode 0 is selected, the firmware version is displayed as well as the selected address. This is helpful to identify a damaged address selector switch.

2.3.2 LEDs

Two leds indicate the existence of a DMX signal on line A resp. Line B. If you connect a DMX signal to line B while the selected mode does not expect a signal on line B, the led will not indicate the signal.

2.4 Connectors

2.4.1 DMX connector

The SMS-28 can be equipped with 3p XLR or 5p XLR according to customer request. Inputs are male, outputs are female. Each output is capable to drive up to 32 DMX lines. Inputs are terminated internally with 120 Ohm.

Pin No	1	2	3	4	5
XLR 3pol	Masse	DMX-	DMX+	n/a	n/a
XLR 5pol	Masse	DMX-	DMX+	nc	nc

2.4.2 Line connection

The SMS-28 must be operated with 230VAC. Do not operate the device, if the mains cable is damaged!

The device is fused with 1,25 A at the backside. In case the fuse is blown, a defect must be considered. Never use a fuse stronger than 1,25 A.

2.5 Mounting

If you mount the device into a case, a sufficient air circulation must be considered. It is actively ventilated – air inlet is lateral, air outlet is rear.

3 Addendum

3.1 Specifications

Operation Voltage	230VAC
Max. power consumption	50W
Fuse	1,25A med. slow-blow
DMX	DMX512/1990
Dimension	19", 1 Unit, 153mm
Front panel	483x45 mm
Weight	2,9 kg

Service Information:
help@llt-lichttechnik.de

EC-Declaration of Conformity

Product:

Splitter – Merger – Shifter Typ SMS-28

We hereby declare that the above mentioned product meets the provisions of
the Council Directive

-Electromagnetic Compatibility 89/336/EEC
-Low Voltage Standard 73/23/EEG

Harmonised Standards applied:

EN60950 EN 55022 EN 50082-1

Manufacturer:

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Thomas Müller-Rörich

Schwaikheim, 2006-07-01