



DMX Panel Mix4-6 with integrated power supply

Functional description Mix4-6

Fabrication and Marketing
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Caution! Operate the device only after having read and **understood** operating instructions!

The DMX panel Mix4-6

The light mixing panel Mix4-6 is a small, easy to use DMX panel with standard DMX512-1990 outputs. It has an integrated power supply with 5A (120W).

Up to 4 motoryokes inclusive focus-units from Licht-Technik can be controlled via the joystick. With the 6 additional faders other devices like color changers or dimmer shutters can be operated.

A 5pin and a 4pin DMX output can be used at the same time. The 4pin output can control the connected devices directly, the 5pin can be used to provide a splitbox, e.g. PS104 or PS204.

The device can be operated with 100V to 120V AC or 220V to 240V AC. The power supply is designed in switching technology to provide high reliability and reduction of heat.

The housing is 2mm powder coated.

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Operating and safety instructions

Before opening the housing disconnect the device from the mains !!!

Don't try in any case to touch the electronic through any openings, also with any objects. This can cause an electrical accident that can lead to death!

Use the panel only in **horizontal** position

Admissible **ambient temperature**: 0..+40 degree Celsius.

The device is **not** for use in **outside** area. Only applicable indoor in clean and dry environment.

The device must be kept **dry**. In case of water condensation a waiting period of 2 hours is necessary until the state of being acclimatised is reached.

The device must not be mounted at the **hand grip** into a Rigg or similar systems.

Observe mains supply voltage: 100..120V AC (e.g. America, Japan) **OR** 220..240V AC 50/60Hz.

When it has to be assumed that a safe operation is no longer possible, the equipment must be switched off immediately and be secured against unintended operation.

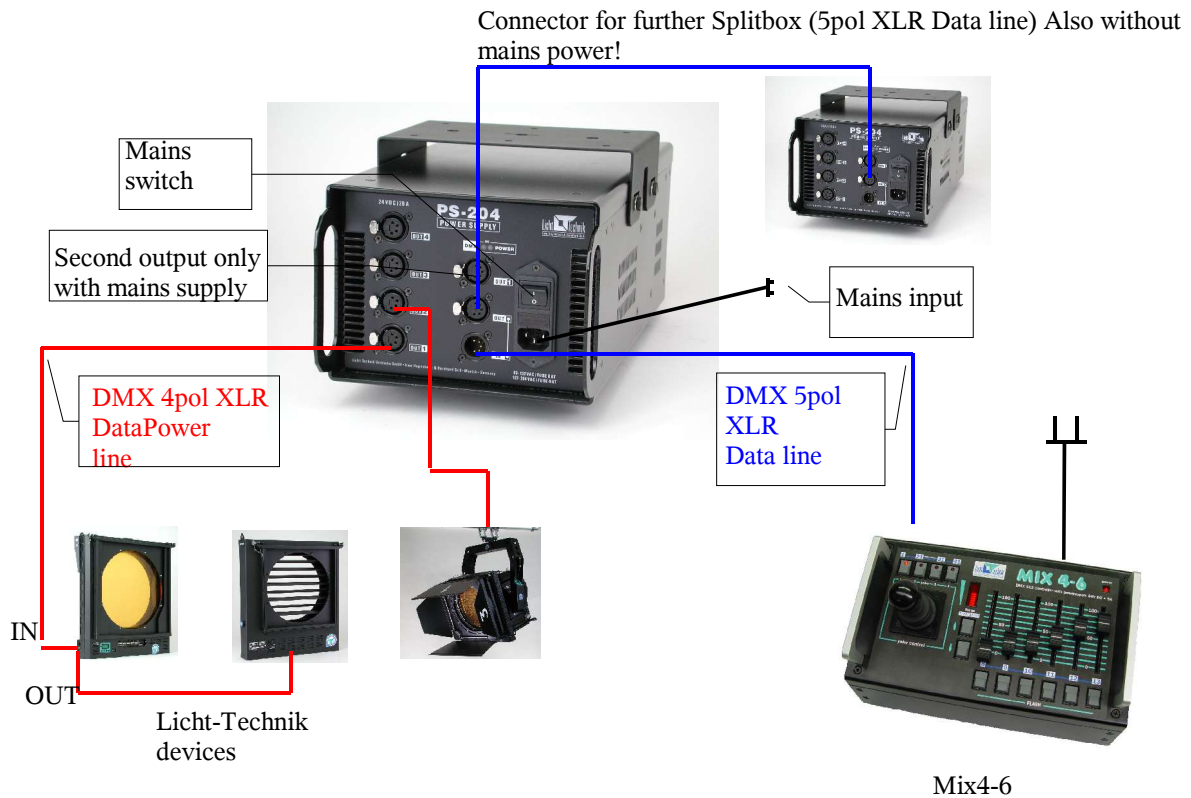
This is the case when

- the equipment shows visible damages;
- the equipment is no longer functional;
- parts of the equipment are loose or slackened;
- connecting lines show visible damages.

Prior to starting the equipment the user must check the usefulness of the device for its intended purpose. In particular, Licht-Technik shall decline any liability for damages of the equipment as well as for consequential damages resulting of the device being used inappropriately, of inexpert installation, incorrect starting and use, and of non-compliance with the valid safety regulations.

Cabling

Cabling with splitbox(es):



Connect the Mix4-6 with the splitbox via a 5pin DMX cable. The two 5pin outputs of the splitbox can be used to connect further splitboxes. On DataPower output of the Splitbox the devices can be plugged, also in a daisy chain. Observe the maximum number of devices. Connect the mains cable.

Distribute the load evenly over the 4 outputs.

Maximum number of devices per splitbox:

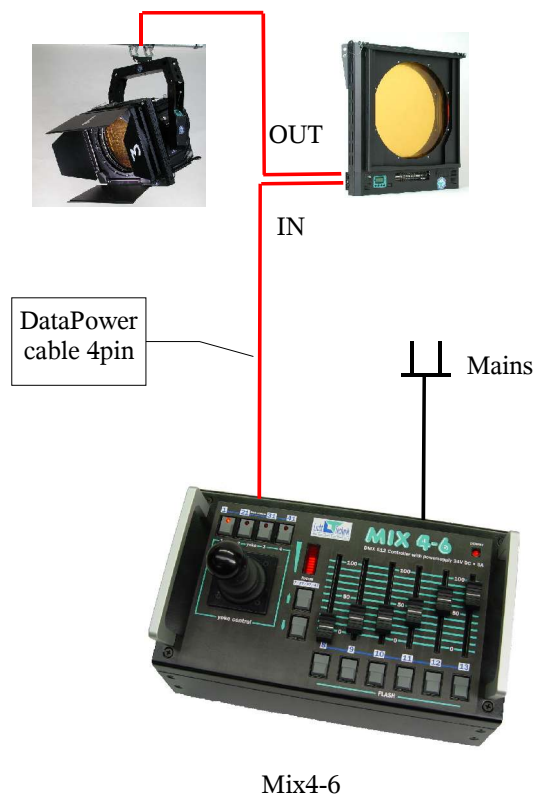
Device	Current	Number at PS204 (20 A)		Number at F total
		total	per output	
Color changer	1,2 A	16	4	8
Dimmer shutter	1,2 A	16	4	8
MagVader (Color changer and	2,5 A	8	4	4
Motor yoke	4,0 A	4	1	2

It is surely possible to mix the devices. The maximum power of 120W (PS104) respectively 240W (PS204) must be observed. The power consumption of every device is indicated on the type plate. The total power consumption per Power supply is the sum of the single power consumption of the devices.

The standardized DMX-Signal is based on industrie's RS485 Interface. It is designed for maximum lengths up to 1200m. This length is under condition in theatre or studio normally not possible. As a result of internal tests we recommend a maximum length of 200m (**only DMX, 5PIN**). A maximum of 32 DMX receiver can be connected to one DMX transmitter. If more devices should be connected a splitbox must be used.

The last device in a row should be terminated with a 470 Ohm resistor. The maximum lin length must not exceed 80 m (DataPower, 4pin) because of the voltage drop.

Cabling without Splitbox:



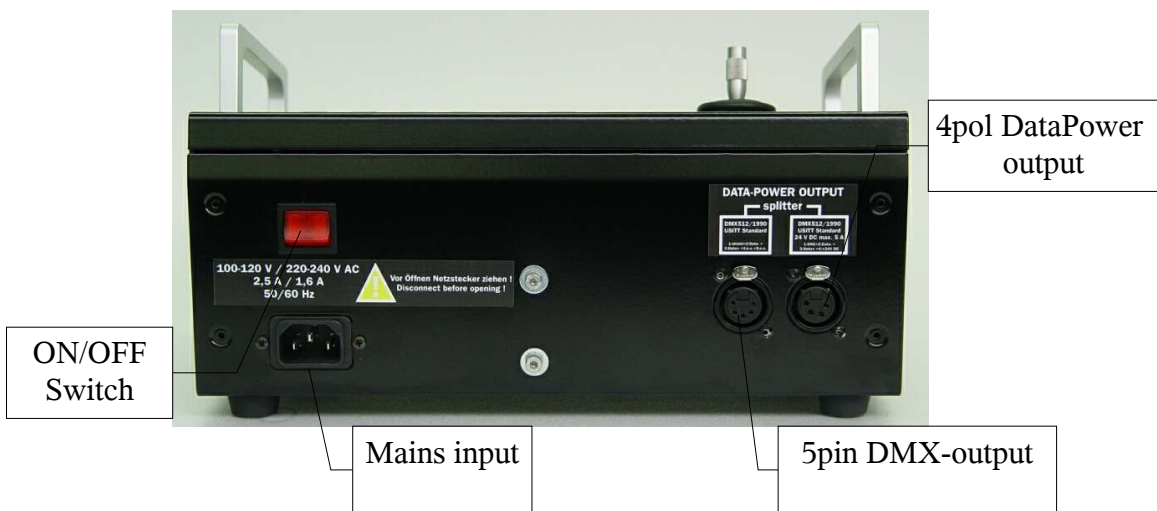
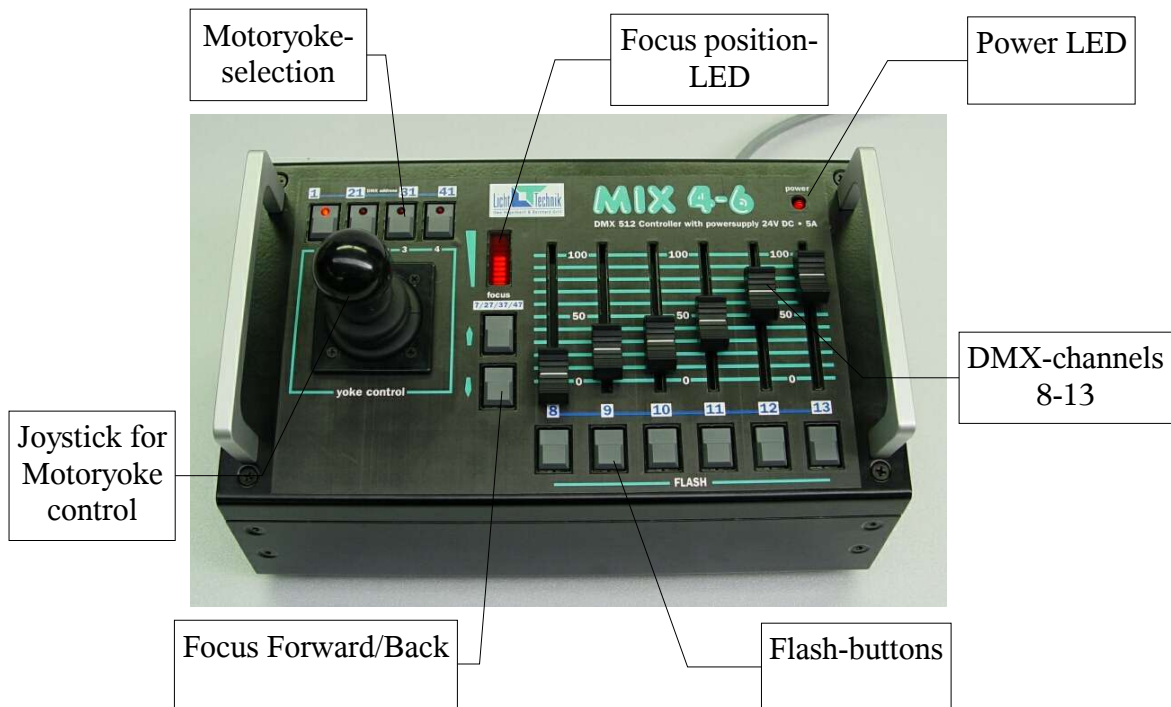
Connect the Mix4-6 with the devices directly via a 4pin DataPower cable. Connect them in a row (daisy chain). Observe the maximum load of 120W. The motoryoke has no output connector, so only one motoryoke can be connected without a splitbox!

Getting started

Important! Check the mains voltage: 100..120 **or** 220..240 V AC !

- Switch the power switch to OFF
- Plug the mains cable
- Cable the system like illustrated on page 6.
- Switch on the device. **And leave the joystick in the middle position! It is calibrated during switching on!**

User interface elements



Handling / Programming

Now, the DMX-adresses of the devices have to be adapted to the panel. Program the device-addresses like indicated on the Mix4-6:

Motoryoke	Startadress
1	1
2	21
3	31
4	41

The focus-adresses are automatically okay, because on the yoke you only have to set the first adress. All others follow. The startadress of the motoryoke is programmed in menu P01. (See also motoryoke manual).

For additional devices (e.g. dimmer-shutter or color changer) you can use the addresses 8 to 13. These are controllable with the 6 faders.

Very important:

The menu P27 at the motoyoke must be set to 1. It determines that 2 DMX-channels for the PAN and TILT speed is used (Normally 1 for both speeds). See also motoryoke manual. Is this value not set to 1, the motoryokes are not controllable from this board.

Now everything should be programmed correctly. With the unit-buttons the desired motoryoke system can be selected. The corresponding LED lights. With the Joystick, the motoryoke can be moved.

The focus-buttons control the focus unit. The LED bargraph indicates the position approximately. It is not a correct indicator for the focus position.

The 6 faders on the right hand side represent the indicated DMX channels. With the flash buttons you can set the DMX value to maximum.

Technical data

Weight and dimensions:

Width	Height	Length	Weight
29,5 cm	16,5 cm	17 cm	2,51 kg

Mains voltage:	100..120 V AC or 220..240 V AC
Admissable ambient temperature:	0..40 degree Celsius
Maximum power output:	120 W
Output voltage:	24 V DC
Fuse:	internally, 200mA, slow blow

Pin configuration:

OUT 4pin: 4pin. XLR female, gold contacts
PIN 1 0 V (GND) min. cross section 0,75mm²
PIN 2 Data – min. cross section 0,25mm²
PIN 3 Data + min. cross section 0,25mm²
PIN 4 +24 V DC min. cross section 0,75mm²
Housing: shield

OUT 5pin: 5pin. XLR female, gold contacts
PIN 1 shield min. cross section 0,25mm²
PIN 2 Data – min. cross section 0,25mm²
PIN 3 Data + min. cross section 0,25mm²
PIN 4 not connected min. cross section 0,25mm²
PIN 5 not connected min. cross section 0,25mm²
Housing: shield

Cable 4pin:
2 x 1mm² Power supply (Pin 1 and 4)
2 x 0,25mm² twisted, 110 Ohm characteristic impedance (Pin 2 and 3), shielded
Shielded.

Cable 5pol:
2x 0,25mm² twisted, 110 Ohm characteristic impedance (Pin 2 and 3), shielded
Shielded.

Malfunctions

Caution! Before opening the housing disconnect the device from electrical mains

Caution! Change the fuse only in disconnected condition. If the fuse will blow again, the device has to be repaired by Licht-Technik

Caution! Replace a defect fuse only with a fuse of the right value

In the inside of the device are no parts which can be repaired by the user!!

The built in power supply is short circuit protected, overload proof and very reliable in operation. In case of a defect no changable parts can be reached.

When connecting a defect cable to the 4pin output, it might be possible to break the DMX line driver. This happens when there is a short circuit from 24V to pin 2 or 3.

No LED lights after power up

- Is the mains cable connected?
- Is the device switched on?
- Check the fuse inside the device.

The motoryoke does not move like desired.

- Are the DMX adresses right programmed? Check the printed addresses on the panel and check menu P01 at the yokes.
- Is the menu P27 set to 1 at the motoryoke?
- Was the joystick touched during power on? If yes, release the joystick at power up again.

No DMX signal on the outputs

- Check the DMX lines for interruption and interchanging of pin 2 and 3.

If the error could not be recovered, the device must be sent to company Licht-Technik.

Warranty

The warranty for our products is 2 years. It comprises any repair of failures – free of charge – which can be proved to result from defects of fabrication.

Warranty expires when:

- the device was modified or attempted to be repaired
- damages were caused by the intervention of foreign persons
- damages are due to noncompliance with the operating instructions
- the device was connected to an incorrect voltage or incorrect type of current
- the device was incorrectly operated or when damages were caused by negligent handling or misuse

All maintenance and servicing works related to the product must be carried out by the company *Licht-Technik*. *Licht-Technik* shall not assume any liability for losses or damages of any kind being the results of inexpert servicing.

Further information

This document and the information contained therein are subject to copyright and neither the whole nor any part of it may, and this is also valid for the described product, be reproduced, copied or recorded in any form without the prior written authorization of *Licht-Technik Vertriebs GmbH*.

The products of *Licht-Technik GmbH* are subject to constant development. Therefore *Licht-Technik* reserves the right to modify components, motors and also technical specifications any time and without prior notice.

EC Declaration of Conformity

1. **Type of device/product** DMX desk Mix 4-6
2. **Name and address of manufacturer** Licht-Technik Vertriebs GmbH
Osterwaldstraße 9-10
80805 München

3. **The manufacturer is responsible for this declaration**

4. **Item of declaration** Mix 4-6

5. **The described item is conform to the following guidelines/regulations**

RICHTLINIE 2014/30/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit

RICHTLINIE 2014/35/EU DES EUROPÄISCHEN PARLAMENTS UND DES RATES vom 26. Februar 2014 zur Harmonisierung der Rechtsvorschriften der Mitgliedstaaten über die Bereitstellung elektrischer Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen auf dem Markt

6. **Applied and conform to harmonized standards in particular**

DIN EN 55015; VDE 0875-15-1:2016-04 - Grenzwerte und Messverfahren für Funkstörungen von elektrischen Beleuchtungseinrichtungen und ähnlichen Elektrogeräten (CISPR 15:2013 + IS1:2013 + IS2:2013 + A1:2015); Deutsche Fassung EN 55015:2013 + A1:2015

DIN EN 61547; VDE 0875-15-2:2010-03 Einrichtungen für allgemeine Beleuchtungszwecke – EMV-Störfestigkeitsanforderungen (IEC 61547:2009); Deutsche Fassung EN 61547:2009

DIN EN 60598-1; VDE 0711-1:2015-10 – Leuchten – Teil 1: Allgemeine Anforderungen und Prüfungen (IEC 60598-1:2014, modifiziert); Deutsche Fassung EN 60598-1:2015

7. **Not applicable**

8. **This declaration is invalid if the device is changed technically and/or unintended use.**

Signed for

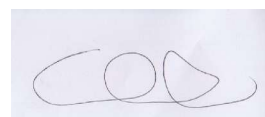
Licht-Technik Vertriebs GmbH

Place and date of description

München 6.9.2017



Uwe Hagenbach (Geschäftsführer)



Bernhard Grill (Geschäftsführer)