STAIRVILLE

WLS-DMX
transceiver

user manual

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1 General notes

This manual contains important instructions for the safe operation of the unit. Read and follow the safety instructions and all other instructions. Keep the manual for future reference. Make sure that it is available to all those using the device. If you sell the unit please make sure that the buyer also receives this manual.

Our products are subject to a process of continuous development. Thus, they are subject to change.

1.1 Further information

On our website (*www.thomann.de)* you will find lots of further information and details on the following points:

Download	This manual is also available as PDF file for you to download.
Keyword search	Use the search function in the electronic version to find the topics of interest for you quickly.
Online guides	Our online guides provide detailed information on technical basics and terms.
Personal consultation	For personal consultation please contact our technical hotline.
Service	If you have any problems with the device the customer service will gladly assist you.

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1.2 Notational conventions

This manual uses the following notational conventions:

Letterings

The letterings for connectors and controls are marked by square brackets and italics.

Examples: *[VOLUME]* control, *[Mono]* button.

Displays

Texts and values displayed on the device are marked by quotation marks and italics.

Examples: *'24ch'*, *'OFF'*.

Instructions	The individual steps of an instruction are numbered consecutively. The result of a step is indented and highlighted by an arrow.

Example:

1. ▶ Switch on the device.

2. ▶ Press *[Auto]*.

⇨   Automatic operation is started.

3. ▶ Switch off the device.

1.3   Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this manual.

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Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended for the wireless transmission of DMX signals in lighting systems. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety

> **DANGER!**
> **Danger for children**
>
> Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!
>
> Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!
>
> Never let children unattended use electrical devices.

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DANGER!
Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

Do not use the device if covers, protectors or optical components are missing or damaged.

DANGER!
Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

! **NOTICE!**
Risk of fire
Do not cover the device nor any ventilation slots. Do not place the device near any direct heat source. Keep the device away from naked flames.

! **NOTICE!**
Operating conditions
This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

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NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

!

NOTICE!

Possible staining

The plasticiser contained in the rubber feet of this product may possibly react with the coating of your parquet, linoleum, laminate or PVC floor and after some time cause permanent dark stains.

In case of doubt, do not put the rubber feet directly on the floor, but use felt-pad floor protectors or a carpet.

3   Features

Special features of the device:

- Switchable operating mode: Transmitter or receiver
- Wireless signal transmission in frequency range 2.4 GHz (ISM band) without interference
- Toll-free operation in the EU and NAFTA countries, no permit required
- Operation via button on the unit
- Three LEDs for monitoring the operating status
- Lockable powerCON input socket (NAC3FA) for mains connection.
- Mounting bracket and powerCON mains cable supplied

4 Installation

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

> **!**
>
> **NOTICE!**
> **Possible data transmission errors**
>
> For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.
>
> Never connect the DMX input or output to audio devices such as mixers or amplifiers.

5 Starting up

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

Point-to-point connection

Connect a device configured as transmitter to the DMX output of your DMX controller and a device configured as receiver to the DMX input of the first DMX device in the DMX chain that is to be controlled. In this point-to-point configuration the DMX signal from one transmitter is sent to one receiver.
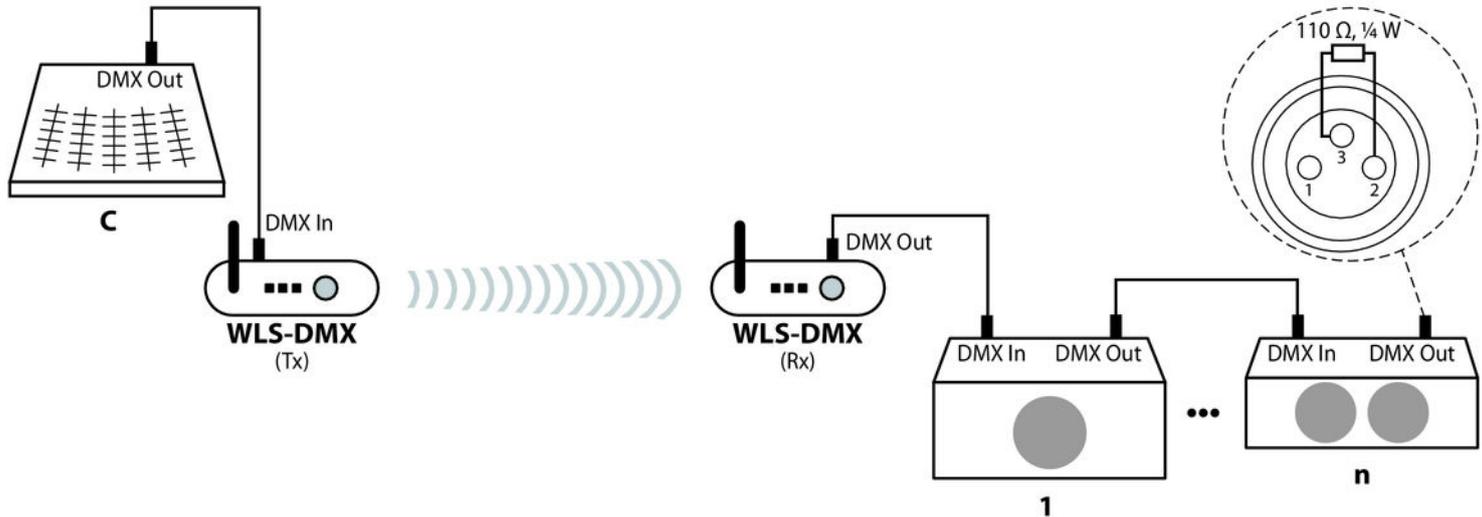
Point-to-multipoint connection   Connect a device configured as transmitter to the DMX output of your DMX controller and a device configured as receiver to the DMX input of the first respective DMX device in the DMX chains that are to be controlled. In this point-to-multipoint configuration the DMX signal from one transmitter is sent to several receivers. Transmitter and all receivers must be set to the same frequency range.
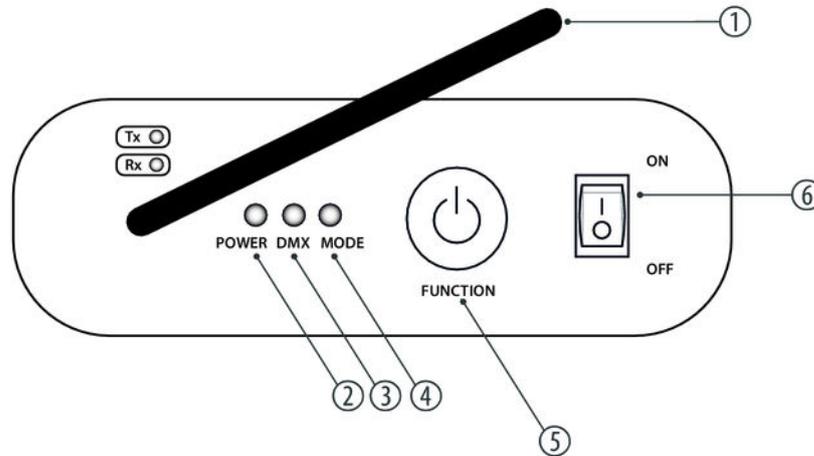
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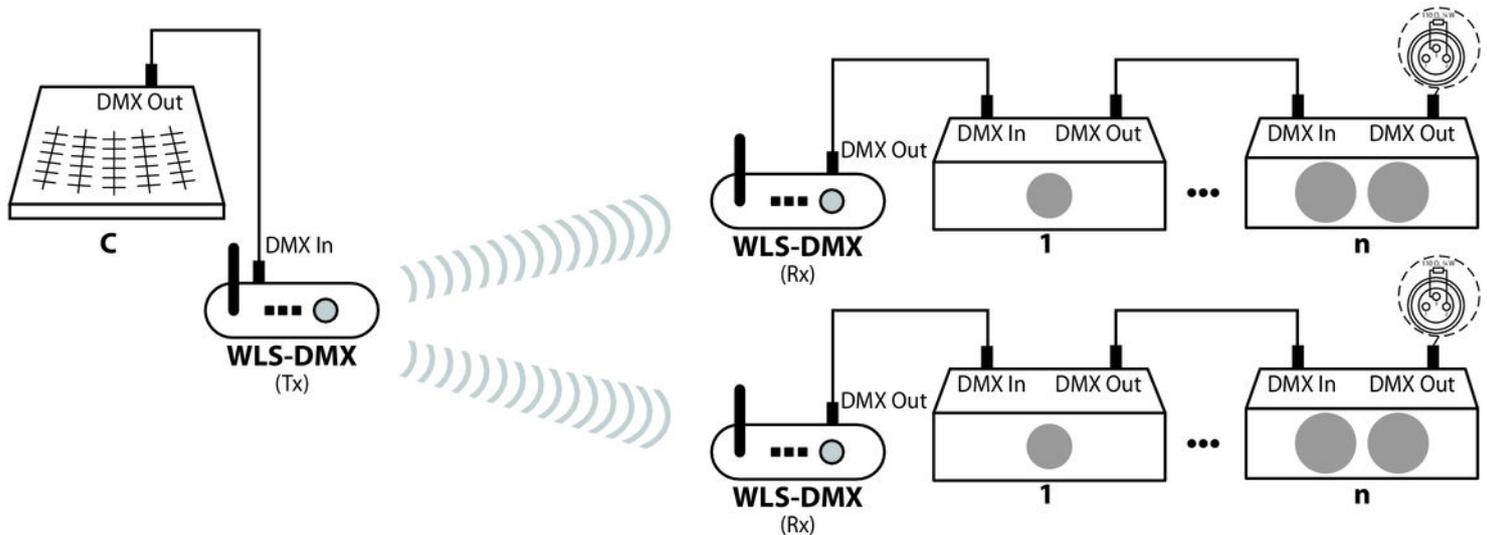
DMX chain

Connect the output of the first DMX device to the input of the second one and so on, to form a series connection. Make sure that the output of the last DMX device in the chain is terminated by a resistor (110 Ω, ¼ W).

6 Connections and controls

Front panel

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1	Antenna.
2	*[POWER]* Control LED for the power supply. Lights when the device is connected to the power supply.

3	*[DMX]*

Control LED for the operating status.

Meaning while device operates as **Transmitter**:

- Constant light: Transmission path active, DMX signals are being sent.
- Flashes every 1.5 s: Transmission path not active.
- Flashes every 1.0 s: Transmission path active, no DMX signal present.
- Flashes every 0.2 s: The device tries to set up a transmission path to a receiver.
- Off: Operating mode or used frequency range can be switched.

Meaning while device operates as **Receiver**:

- Constant light: Transmission path active, DMX signals are being received.
- Flashes every 1.0 s: Transmission path active, no DMX signal present.
- Flashes every 0.2 s: The device tries to set up a transmission path to a transmitter.
- Off: Transmission path not active.

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4	*[MODE]*
	Control LED for the used frequency range.
	◼ Off: Frequency range 1
	◼ Flashing: Frequency range 2
	◼ Lights constantly: Frequency range 3
5	*[FUNCTION]*
	Button to switch the operating mode.
6	*[ON / OFF]*
	Main switch. Turns the device on and off.

Rear panel
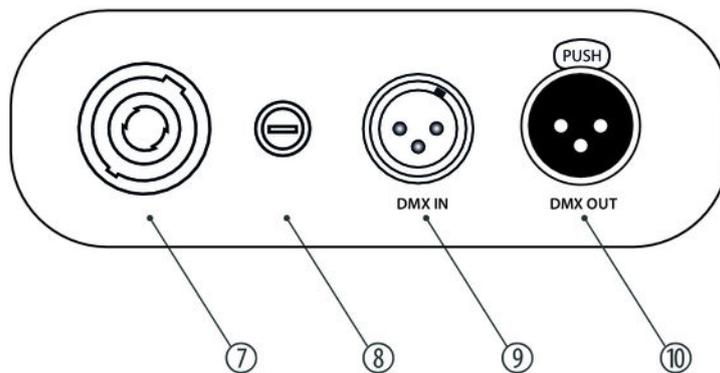
7	Lockable powerCON input socket (NAC3FA) for mains connection.
8	Fuse holder.
9	*[DMX IN]* DMX input.
10	*[DMX OUT]* DMX output.

7 Operating

Setting up transmission path

Proceed as follows to set up a point-to-point connection:

1. ▶ Connect transmitter and receiver to the mains power grid and switch both devices on with the main switch.

   ⇨ Normally, the LED *[DMX]* lights at none of the devices. If it lights or flashes on one of the devices press *[FUNCTION]* on the corresponding device until the LED turns off.

2. ▶ Press briefly *[FUNCTION]* on the transmitter.

   ⇨ The LED *[DMX]* flashes quickly on both devices until the wireless connection is established. Once connected, the LED flashes slowly.

Proceed as follows to set up a point-to-multipoint connection:

1. ▶ Connect the transmitter and all receivers to the mains, while all devices remain switched off.

2. ▶ Turn on the transmitter and the first receiver with the main switch.

   ⇨ Normally, the LED *[DMX]* lights at none of the devices. If it lights or flashes on one of the devices press *[FUNCTION]* on the corresponding device until the LED turns off.

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3. ▶ Press briefly *[FUNCTION]* on the transmitter.

⇨ The LED *[DMX]* flashes quickly on both devices until the wireless connection is established. Once connected, the LED flashes slowly.

4. ▶ Turn on the next receiver with the main switch.

5. ▶ Press briefly *[FUNCTION]* on the transmitter.

⇨ The LED *[DMX]* flashes quickly on all devices until the wireless connection is established. Once connected, the LED flashes slowly.

6. ▶ Repeat steps 4 and 5 on all receivers involved.

Taking down transmission path

Proceed as follows to take a transmission path down from the transmitter.

▶ Press *[FUNCTION]* on the transmitter for about five seconds.

⇨ The connection to all receivers is being interrupted. The LED *[DMX]* turns off on all receivers.

Proceed as follows to take a transmission path down to a receiver.

▶ Press *[FUNCTION]* on the receiver for about five seconds.

⇨ The connection from the transmitter to this receiver is being interrupted. The LED *[DMX]* turns off on this receiver.

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Changing the frequency range

The devices can operate in three different frequency ranges (range 1, 2 or 3). Transmitter and receiver of a transmission path must be set to the same frequency range.

Proceed as follows to change the frequency range:

1. ▶ Press *[FUNCTION]* on the transmitter for about eight seconds.

⇨ The LED *[DMX]* turns off.

2. ▶ Press *[FUNCTION]* repeatedly until the LED *[MODE]* shows the desired frequency range.

LED indication meaning:

■ Off: Frequency range 1
■ Flashing: Frequency range 2
■ Lights constantly: Frequency range 3

3. ▶ Press *[FUNCTION]* on the transmitter for about seven seconds.

⇨ The transmitter returns to the original mode.

Changing the operating mode

The devices can operate either as transmitter or as receiver.

Proceed as follows to change the operating mode:

1. ▶ Turn off the device in question with the main switch and shortly thereafter back on again.

2. ▶ Press *[FUNCTION]* for about two seconds.

⇨ The device turns from transmitter to receiver function or vice versa, respectively.

Operating mode detection

Proceed as follows to detect the operating mode of a device:

1. ▶ Turn off the device in question using the main switch.

2. ▶ Press *[FUNCTION]*.

⇨ If the LED *[DMX]* changes its status the device operates as transmitter, otherwise it operates as receiver.

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8 Technical specifications

Frequency band	2.4 GHz
Operating range	approx. 500 m
Control LEDs	3
Operating supply voltage	110 / 230 V ∼, 50/60 Hz
Fuse	5 mm × 20 mm, 1.0 A, fast blow
Power consumption	6 W
Dimensions (W × H × D)	145 mm × 60 mm × 120 mm
Weight	1.0 kg

9 Plug and connection assignments

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment so that a perfect light experience is guaranteed.

Please take our tips, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into a socket, the result of an incorrect connection may be a destroyed DMX controller, a short circuit or 'just' a not working light show!

DMX connections

The unit offers a 3-pin XLR socket for DMX output and a 3-pin XLR plug for DMX input. Please refer to the drawing and table below for the pin assignment of a suitable XLR plug.

Pin	Configuration
1	Ground, shielding
2	Signal inverted (DMX–, 'cold signal')
3	Signal (DMX+, 'hot signal')

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10 Troubleshooting

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NOTICE!
Possible data transmission errors

For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.

Never connect the DMX input or output to audio devices such as mixers or amplifiers.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

Symptom	Remedy
No response to the DMX controller	1. Check the power supply of transmitter and receiver.
	2. Make sure that transmitter and receiver are operating in the same frequency range.
	3. Check the DMX connectors and cables for proper connection.
	4. Check the address settings and the DMX polarity.
	5. Try using another DMX controller.
	6. Check whether the DMX cables run near or parallel to high-voltage cables that may cause damage or interference to a DMX interface circuit.
Transmission is interrupted.	1. Try to improve the audio transmission by moving the transmitter closer to the receiver.
	2. Make sure that no metal objects near the transmitter or receiver obstruct the transmission.
	3. Modify the orientation of the antennas.

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Symptom	Remedy
	4. If you use more than one wireless system at the same time, check the used frequencies and channels.
	5. Interference can also be caused by other radio or in-ear systems.

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at *www.thomann.de*.

11 Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the notes and markings on the packaging.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE). Do not dispose with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

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Notes