



DR-1

DMX recorder



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1 General information

This user manual contains important information on the safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to another user, be sure that they also receive this manual.

Our products and user manuals are subject to a process of continuous development. We therefore reserve the right to make changes without notice. Please refer to the latest version of the user manual which is ready for download under www.thomann.de.

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.

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.

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 – danger zone.

2 Safety instructions

Intended use

This device is intended to be used to record and reproduce DMX signals. 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.

**NOTICE!****External power supply**

The device is powered by an external power supply. Before connecting the external power supply, 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 the user. Unplug the external power supply before electrical storms occur and when the device is unused for long periods of time to reduce the risk of electric shock or fire.

**NOTICE!****Risk of fire**

Do not block areas of ventilation. Do not install 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. Only operate the device within the ambient conditions specified in the chapter 'Technical specifications' of this user manual. Avoid heavy temperature fluctuations and do not switch the device on immediately after it was exposed to temperature fluctuations (for example after transport at low outside temperatures). Dust and dirt inside can damage the unit. When operated in harmful ambient conditions (dust, smoke, nicotine, fog, etc.), the unit should be maintained by qualified service personnel at regular intervals to prevent overheating and other malfunction.



NOTICE!

Possible staining

The plasticiser contained in the rubber feet of this product may possibly react with the coating of your surface and after some time cause permanent dark stains. In case of doubt, do not put the rubber feet directly on the surface and use a suitable underlay if necessary, i.e. felt-pad floor protectors or similar.

3 Features

- DMX input for recording DMX sequences in real-time
- DMX output; the lines are galvanically isolated by optocouplers
- Data storage on standard SD memory cards with max. 32 GB (SD card with 8 GB included)
- Playback of DMX sequences on the DMX output either manually or timer controlled
- Playback in endless loop possible
- Connection for optional remote control Stairville Pocket-Master (item no. 168964)

4 Installation

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

Rack mounting

The unit has been designed for rack mounting in a standard 19-inch rack; it occupies one rack unit.



NOTICE!

Possible data transmission errors

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

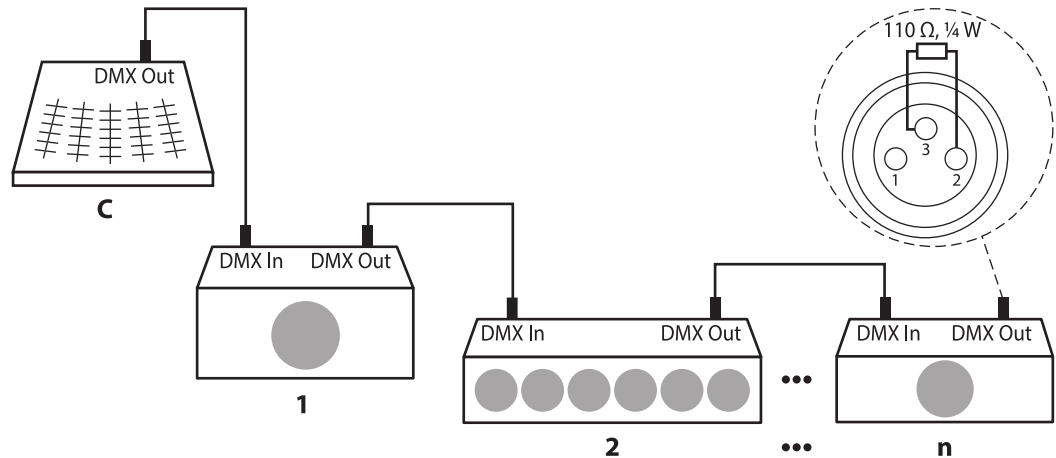
Never connect the DMX input or output to audio devices such as mixers or amplifiers.

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.

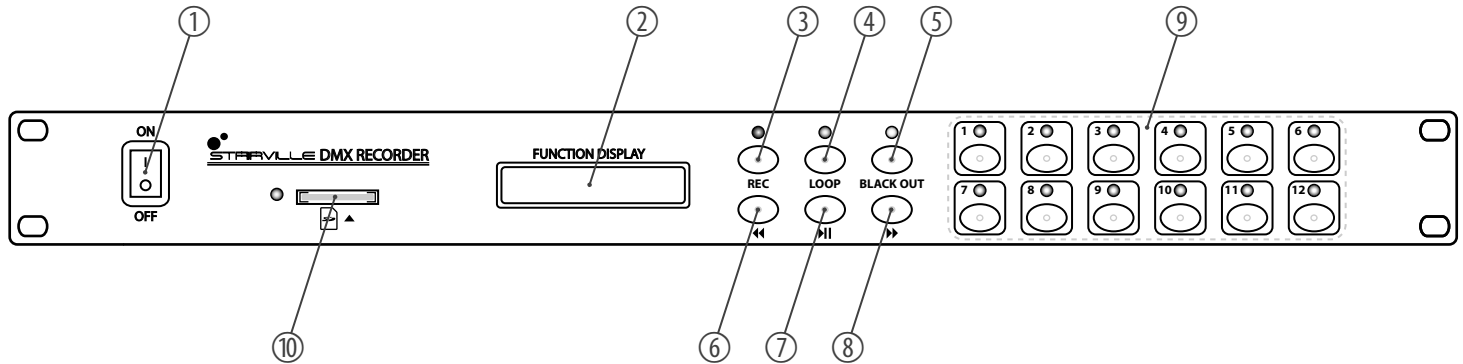
Connections in DMX mode

Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor ($110\ \Omega$, $\frac{1}{4}\ \text{W}$).



6 Connections and operating elements

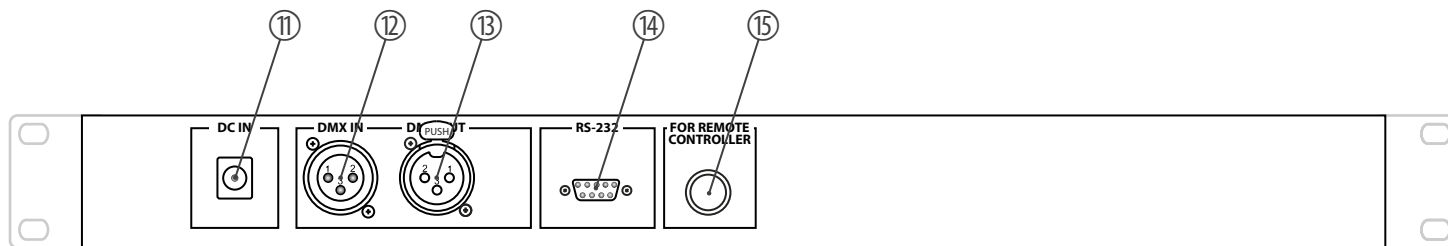
Front panel



1	Main switch. Turns the device on and off.
2	Display
3	<i>[REC]</i> Starts recording
4	<i>[LOOP]</i> To reproduce a recorded file in an endless loop
5	<i>[BLACK OUT]</i> To blackout all connected DMX devices
6	◀◀ During playback: to reduce the speed In menu: to decrease the displayed value by one

7	▶ During recording and playback: to pause or resume recording or playback Keep this button pressed for 3 seconds to open the menu. In menu: to select a submenu or to confirm a selection
8	▶▶ During playback: to increase the speed In menu: to increase the displayed value by one
9	Keypad to select a file on the SD card for recording or playback. Each file is assigned to an indicator light. If the light flashes, DMX data was already recorded to this file.
10	Indicator light and slot for SD memory cards

Rear panel



11	<i>[DC IN]</i> Connection for external power adapter
12	<i>[DMX IN]</i> Input for DMX signal, such as coming from a DMX controller
13	<i>[DMX OUT]</i> Output for DMX signal to be connected to other DMX controlled devices
14	<i>[RS-232]</i> No function
15	<i>[FOR REMOTE CONTROLLER]</i> 1/4" phone socket for connecting the optionally available remote control Stairville Pocket-Master(item no. 168964)

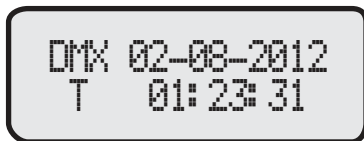
7 Operating

With this device you can record DMX signal sequences. The DMX sequences are recorded to individual files on an SD memory card. Each SD memory card can contain twelve files in total.

You can play back the stored sequences once, or run in an endless loop or let the built-in timer control the playback.

7.1 Record

Procedure



1. ➤ Make sure that an SD memory card is inserted into the card slot on the front panel.
2. ➤ The device must be in normal operating state, where no menu is open. The display shows date and time. If any menu should still be open, press ►|| to quit the menu.



DMX RECORD?
T • SelectFile!

3. ▶ Press [REC].

⇒ The indicator light next to the SD card slot lights up and the display prompts you to select a file for recording.



DMX REC09
T ■ T: 00:00:00

4. ▶ Use the keypad to select a file. If the indicator light above a keypad button flashes, this file already contains a DMX sequence. When choosing a file that already contains data, the new recording will overwrite the previous data.

⇒ After selecting a file, the rectangle in the display indicates that the device is ready to record.



DMX REC09
T • T: 00:00:11

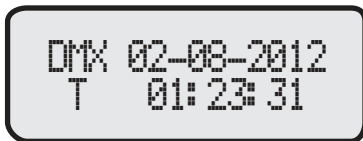
5. ▶ Press ▶|| to start the recording. Now use your DMX controller to perform the show that should be recorded.

⇒ The dot in the display indicates the running recording. 'DMX' is flashing in the display when a signal is received from the DMX controller.



6. ▶ Press ▶|| for at least two seconds to stop the recording.

7.2 Playback

Procedure



1. ➤ Make sure that there is no DMX signal present at the input (*[DMX IN]*). Otherwise, no stored DMX sequence can be played.
2. ➤ Make sure that an SD memory card is inserted into the card slot on the front panel.
3. ➤ The device must be in normal operating state, where no menu is open. The display shows date and time. If any menu should still be open, press ►|| to quit the menu.
4. ➤ Use the keypad to select a file to be reproduced. If the indicator light above a keypad button flashes, this file already contains a DMX sequence. When choosing a file that does not contain a DMX sequence, the display shows the message 'NO FILE'.
⇒ Playback begins.
5. ➤ You can use ◀◀ or ▶▶ to decrease or increase the playback speed. The display shows the playback speed.
To prevent playback in an endless loop, press *[LOOP]*. Press again *[LOOP]* to resume loop playback.

6.  To pause the playback, briefly press **▶||**. Press again **▶||** to resume playback on the same position.
7.  Press **▶||** for at least two seconds to stop the playback of the show.

7.3 Menu functions

Setting the date

Press **▶||** for at least three seconds to open the menu.

Press **◀◀** or **▶▶** until the display shows 'Set date'; then press **▶||** to select this menu item.

Use **◀◀** or **▶▶** to input the correct date. Then press **▶||** to confirm the setting and exit the menu item.

Setting the clock time

Press **▶||** for at least three seconds to open the menu.

Press **◀◀** or **▶▶** until the display shows 'Set time'; then press **▶||** to select this menu item.

Use **◀◀** or **▶▶** to input the correct clock time. Then press **▶||** to confirm the setting and exit the menu item.

Using the timer

Press ►|| for at least three seconds to open the menu.

Press ◀◀ or ▶▶ until the display shows *'Set clock'*; then press ►|| to select this menu item.

For each switching point of the timer, you can now select the day of the week, the switching on / off time, the file to be played, etc. Use ►|| to select the individual parameters of the switching point and ◀◀ or ▶▶ to change the respective value. Then press ►|| to confirm the setting.

You can determine 21 switching points per week, a maximum of three per day.

Showing file properties

Press ►|| for at least three seconds to open the menu.

Press ◀◀ or ▶▶ until the display shows *'File info'*; then press ►|| to select this menu item.

The display shows the file name and the total time of the selected file.

Press ►|| to exit the menu item.

Setting the start status

Press ►|| for at least three seconds to open the menu.

Press ◀◀ or ▶▶ until the display shows *'Start status'*; then press ►|| to select this menu item.

Use ◀◀ or ▶▶ to select between *'Normal play'* and *'Last status'*. Then press ►|| to confirm the setting and exit the menu item.

Reset to factory defaults

Press ►|| for at least three seconds to open the menu.

Press ◀◀ or ▶▶ until the display shows *'Default set'*; then press ►|| to select this menu item.

Use ◀◀ or ▶▶ to select between *'YES'* (reset) and *'NO'* (no reset). Then press ►|| to confirm the setting and exit the menu item.

Showing the firmware version

Press ►|| for at least three seconds to open the menu.

Press ◀◀ or ▶▶ until the display shows *'Version'*; then press ►|| to select this menu item.

The display now shows the version number of the currently used firmware.

Press ►|| to exit the menu item.

7.4 Updating the firmware

Procedure

- 1.** ➤ Save the new firmware with the file name `DMX-REC.SUP` to the directory `SD:\DMX-REC` on an SD memory card.
- 2.** ➤ Insert the SD memory card containing the new firmware into the card slot of the device and switch the unit off.
- 3.** ➤ Keep `[REC]`, `▶▶` and `[7]` of the keypad simultaneously pressed while switching the unit on.
 - ⇒ The display message *'Find update file'* indicates, that the new firmware is looked for.
- 4.** ➤ Keep `[REC]`, `▶▶` and `[7]` pressed until the display shows *'Updating firmware, please wait'*.
 - ⇒ The device now checks the new firmware and installs it then.
- 5.** ➤ Neither take out the SD memory card, nor switch the device off until the display shows *'Update complete, please reboot'*.
 - ⇒ Now the installation is complete.
- 6.** ➤ Reboot the device to put the new firmware into operation.

7.5 Remote control

The DMX recorder can also be remote controlled using the remote control Stairville Pocket-Master (item no. 168964). Once a remote controller is connected, its LED *[STAND BY]* is flashing.

Activating remote control

As after activation of the remote control it is no longer possible to control the DMX recorder directly, you should select all desired functions (e.g.: loop) before the remote control is activated.

Press *[STAND BY]* for at least 3 seconds to activate the remote control.

The LED *[STAND BY]* turns off.

The LED *[BLACK OUT]* on the DMX recorder flashes.

Remote control operation

Press *[MODE]* to toggle between the functions of *[FUNCTION]*. The LED *[MODE]* indicates the respective function.

LED *[MODE]* is lit: the programme switching function is active.

LED *[MODE]* is not lit: the Play-Stop function is active.

Activating / deactivating 'BLACK OUT' Briefly press *[STAND BY]* to activate or deactivate the 'BLACK OUT' on the DMX recorder.

Deactivating remote control Press *[STAND BY]* for at least 3 seconds to deactivate the remote control. Only then you may disconnect the remote controller from the DMX recorder. Otherwise, the functions remain disabled at the DMX recorder.

8 Technical specifications

Control protocols	DMX512	
Input connections	Power supply	Connection for external power adapter
	DMX control	XLR chassis socket, 3-pin
	Remote control	1/4" jack socket
Output connections	DMX control	XLR chassis socket, 3-pin
Power supply	External power adapter, 100 - 240 V ~ 50/60 Hz	
Operating voltage	9 V - 12 V $\overline{\text{---}}$ / 300 mA, centre positive	
Installation	19", 1 RU	
Dimensions (W × H × D)	483 mm × 44.5 mm × 105 mm	
Weight	1.5 kg	
Ambient conditions	Temperature range	0 °C...40 °C
	Relative humidity	20 %...80 % (non-condensing)

Further information

External storage option	Yes
SD card	8 GB included, max. 32 GB available

9 Plug and connection assignment

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

1/4" TRS phone plug (mono, balanced)



1	Signal (in phase, +)
2	Signal (out of phase, -)
3	Ground

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')

10 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) in its currently valid version. 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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