

User manual



Dr. RDM | DMX RDM
Tester

controller

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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.

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 for testing devices that are controlled via DMX, RDM or MIDI or output these 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!

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.

3 Features

- Universal test device for DMX, RDM and MIDI networks
- 5-pin DMX in and output
- Plug-in power supply and adapter for 3-pin DMX plug included
- Operating via buttons and display on the unit

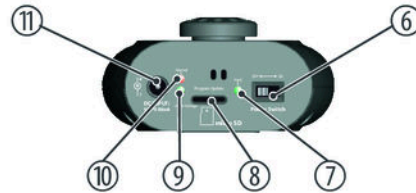
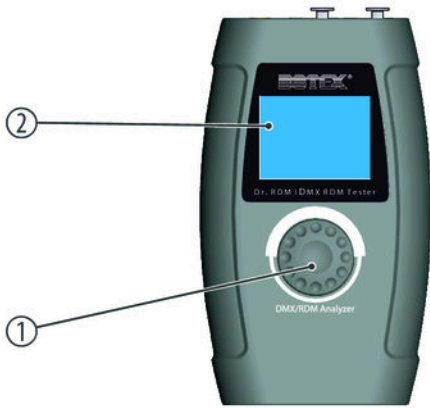
4 Installation and starting up

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.

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.

The included lanyard can be threaded through the bottom of the device.

5 Connections and controls



1	Jog Wheel for control and menu selection
2	Display The display is turned off after an adjustable period of time without keystroke. Press the jog wheel to reactivate the display.
3	<i>[DMX/RDM OUT]</i> 5-pin DMX / RDM output
4	<i>[DMX/RDM IN]</i> 5-pin DMX / RDM input
5	<i>[MIDI IN]</i> MIDI input
6	<i>[Power Switch]</i> Main switch. Turns the device on and off.
7	<i>[PWR]</i> The LED indicates that the device is switched on.

8	<i>[Program Update]</i> Micro SD slot
9	<i>[Under Voltage]</i> This LED lights up when the supply voltage is too low.
10	<i>[Normal]</i> The LED indicates that the supply voltage is within the permissible range.
11	<i>[DC INPUT]</i> Connector for the supplied power supply adapter.

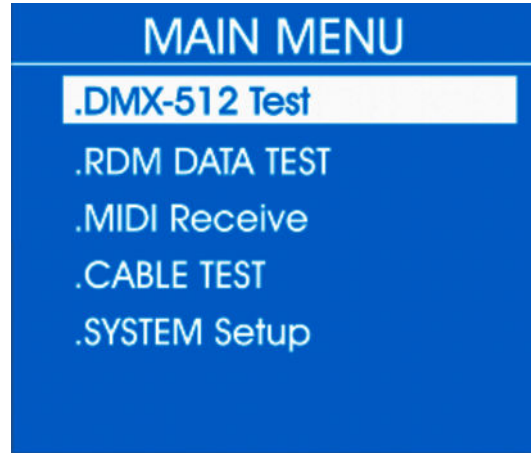
6 Operating

Connect the supplied mains adapter to the power supply input of the device and then plug the adapter into an AC outlet.

6.1 Main menu

Selection in main menu

1. ▶ Turn the jog wheel to highlight a menu item.
2. ▶ Press the jog wheel to select the highlighted menu item.
3. ▶ Press the jog wheel again to open the associated submenu.
4. ▶ The display shows the available elements of the submenu.
5. ▶ Select the menu item *'EXIT'* and press the jog wheel to return to the main menu.



6.2 DMX 512 test

This menu allows you to monitor the data packets being received by DMX-controlled devices or sending test data to the devices.

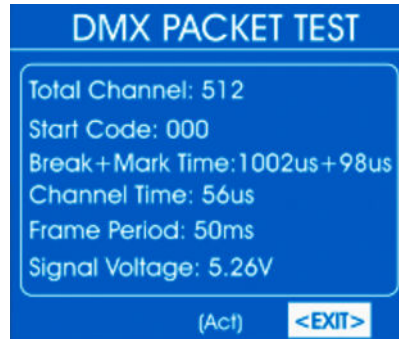
1. ▶ Select the item '*DMX-512 TEST*' from the main menu.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



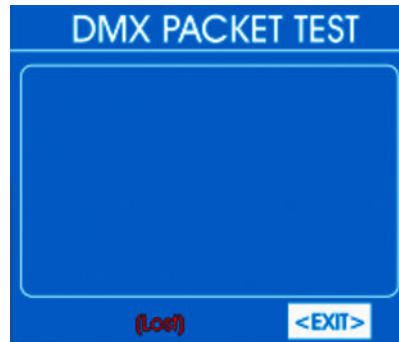
3. ▶ Select one of the submenus '*DMX Packet Test*', '*DMX Data Receive*' or '*DMX Data Send*'.

DMX packet test

1. ➤ Select the item '*DMX Packet Test*' from the submenu '*DMX-512 Test*'.
2. ➤ Press the jog wheel to open the respective submenu.
 - ⇒ If the wiring is correct and a DMX signal is received, the display shows the following values:



If no signal is received, the display shows:

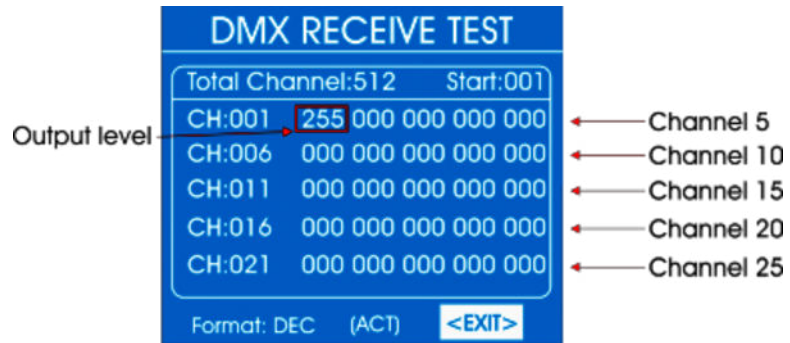


In this case, check the wiring and the correct fit of the connectors.

- 3.** To return to the parent menu, select 'EXIT' and press the jog wheel to confirm.

Analysis of received DMX data

1. ➤ Select the item 'DMX Data Receive' from the submenu 'DMX-512 Test'.
2. ➤ Press the jog wheel to open the respective submenu.
⇒ The display shows:



It will display the received DMX value ('000' ... '255') for every 25 channels.

3. ➤ To change the first displayed channel, use the jog wheel to select 'Start' and press the jog wheel. Turn the jog wheel until the number of the desired channel appears at 'Start'. Press the jog wheel to confirm.

4. ▶ To change the display format, use the jog wheel to select *'Format'* and press the jog wheel. Turn the jog wheel to select one of the following formats.
 - *'DEC'*: Decimal values
 - *'PER'*: Percentage values
 - *'BAR'*: Bars of squares
 - *'RGB'*: Squares with RGB colour mixing
 - *'BRG'*: Squares with BGR colour mixing
 - *'HEX'*: Hexadecimal values

Press the jog wheel.

5. ▶ To return to the parent menu, select *'EXIT'* and press the jog wheel to confirm.

Analysis of transmitted DMX data

1. ▶ Select the item '*DMX Data Send*' from the submenu '*DMX-512 TEST*'.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:

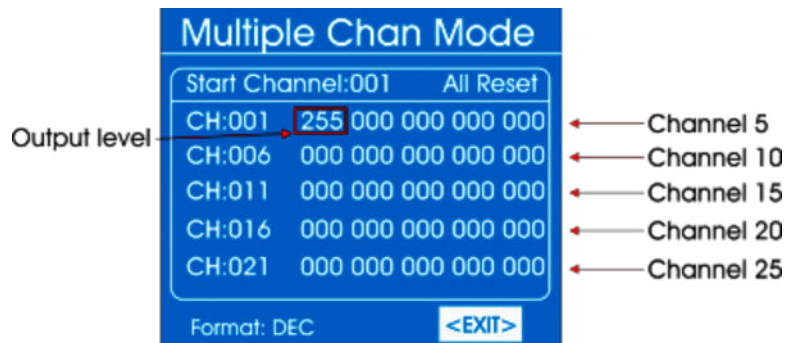


3. ▶ Select the item '*Single Channel Mode*' from the submenu '*DMX-512 SEND*'.
4. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



5. ➤ To select the channel on which the data should be sent, select the item '*Channel*'. Press the jog wheel. Use the jog wheel to set a value between 1 and 512 – or '*All*' for transmission on all channels.
6. ➤ To select an operating mode, select '*Mode*'. Press the jog wheel. Use the jog wheel to select one of the following options:
 - '*Fader Only*': The transmitted DMX value can be adjusted between 0 and 255 with the jog wheel.
 - '*Auto ON/OFF*': The transmitted DMX value automatically changes at the set speed
 - '*Ramping*': The transmitted DMX value rises evenly with the set speed, then the process repeats itself

- *'Stop'*: The transmitted DMX value can not be changed
- 7.** ▶ To select the value range of the data transmitted, select the item *'Channel Level'*. Press the jog wheel. Use the jog wheel to set a value between 0 and 255.
- 8.** ▶ To set the rate of change, select *'Speed'*. Press the jog wheel. Use the jog wheel to set a value between *'level 0'* and *'level 10'*.
- 9.** ▶ To return to the parent menu, select *'EXIT'* and press the jog wheel to confirm.
- 10.** ▶ Select the item *'Multiple Channel Mode'* from the submenu *'DMX-512 SEND'*.
- 11.** ▶ Press the jog wheel to open the respective submenu.
 - ⇒ The display shows:

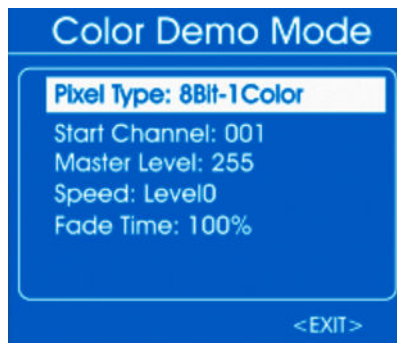


12. ▶ To change the first channel for which DMX values are to be sent, use the jog wheel to select 'Start/Channel' and press the jog wheel. Turn the jog wheel until the number of the desired channel appears at 'Start'. Press the jog wheel to confirm.
13. ▶ To set the transmitted DMX value in the range 0 to 255, first select the value with the jog wheel. Press the jog wheel. Set the desired value with the jog wheel. Press the jog wheel.
14. ▶ To change the display format, use the jog wheel to select 'Format' and press the jog wheel. Turn the jog wheel to select one of the following formats.
 - 'DEC': Decimal values
 - 'PER': Percentage values

- 'BAR': Bars of squares
- 'HEX': Hexadecimal values

Press the jog wheel.

- 15.**▶ To reset the transmitted DMX value, use the jog wheel to select the item '*All Reset*' and press the jog wheel.
- 16.**▶ To return to the parent menu, select '*EXIT*' and press the jog wheel to confirm.
- 17.**▶ Select the item '*Color Demo Mode*' from the submenu '*DMX-512 SEND*'.
- 18.**▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



- 19.** Use the jog wheel to select the setting to be changed and press the jog wheel. Turn the jog wheel to select or adjust a value. The following table shows the menu items and choices.

Menu item	Choices	Meaning
'Pixel Type'	'8Bit', '16Bit'	Resolution of connected devices
'Start Channel'	'1'... '512'	First channel for which DMX values are to be sent
'Master Level'	'0'... '255'	Maximum DMX value

Menu item	Choices	Meaning
'Speed'	'Level0' ... 'Level10'	Running speed
'Fade Time'	'0 %' ... '100 %'	Fade time

20. ▶ To return to the parent menu, select 'EXIT' and press the jog wheel to confirm.

21. ▶ Select the item 'Chase Demo Mode' from the submenu 'DMX-512 SEND'.

22. ▶ Press the jog wheel to open the respective submenu.

⇒ The display shows:



- 23.** Use the jog wheel to select the setting to be changed and press the jog wheel. Turn the jog wheel to select or adjust a value. The following table shows the menu items and choices.

Menu item	Choices	Meaning
'Start Chan.'	'1' ... '512'	First channel for which DMX values are to be sent
'Master'	'0' ... '255'	Maximum DMX value
'Pixel Type'	'8Bit', '16Bit'	Resolution of connected devices
'Total Pixel'	'1' ... '512'	Number of connected devices
'Pixel Group'	Value within the range of 'Total Pixel'	Number of devices in a group
'Jump Pixel'	Value within the range of 'Pixel Group'	Number of devices that will be switched within the group
'Test Color'	'Color 1', 'All'	Number of colours of the spotlight to be tested
'Speed level'	'Level0' ... 'Level10', 'Manual'	Process speed
'Fade Time'	'0%' ... '100%'	Fade time

- 24.** To return to the parent menu, select 'EXIT' and press the jog wheel to confirm.

25. ▶ To return to the main menu, select *'EXIT'* again and press the jog wheel to confirm.

6.3 RDM test

This menu allows you to retrieve information about the connected RDM-controlled devices or send test data to the devices.

1. ▶ Select the item '*RDM DATA TEST*' from the main menu.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



3. ▶ Select one of the submenus '*Get&Set RDM Parameter*' or '*Update RDM Device*'.

Retrieve RDM parameters - Identify Device

1. ▶ Select the item '*Get&Set RDM Parameter*' from the submenu '*RDM DATA TEST*'.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



If the wiring is correct and an RDM-controlled device is found, the display shows real-time information about the device:

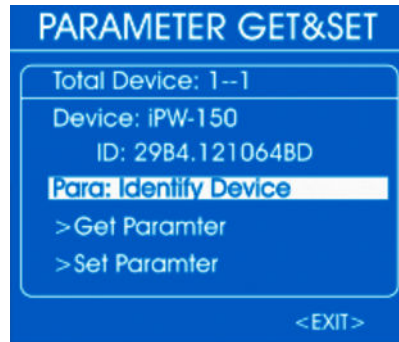


If no signal is received, the display shows:



In this case, check the wiring and the correct fit of the connectors.

- 3.** ➤ For more detailed information, use the jog wheel to select 'Para'. Press the jog wheel.
 - ⇒ The display shows:



4. ➤ The selectable parameters depend on the respective device, examples: *'Identify Device'*, *'Device Info'*, *'DMX Start Address'*.
5. ➤ To retrieve a parameter, select it with the jog wheel and press the jog wheel. Select *'Get Parameter'* and press the jog wheel.
 - ⇒ The display shows, for example:



6. ➤ Use the jog wheel to select '*Fresh*' to refresh the displayed information, or '*EXIT*' to return to the parent menu. Press the jog wheel.

Retrieve RDM Device Information - Device Info

1. ▶ Select the item '*Get&Set RDM Parameter*' from the submenu '*RDM DATA TEST*'.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



If the wiring is correct and an RDM-controlled device is found, the display shows real-time information about the device:



If no signal is received, the display shows:

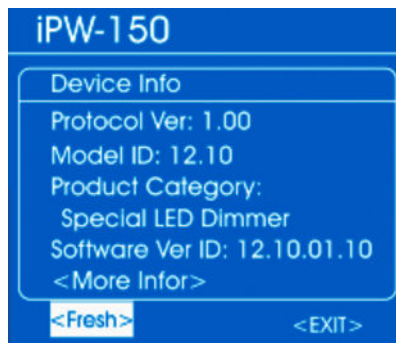


In this case, check the wiring and the correct fit of the connectors.

- 3.** ➤ For more detailed information, use the jog wheel to select 'Para'. Press the jog wheel.
 - ⇒ The display shows:



4. ➤ The selectable parameters depend on the respective device, examples: *'Identify Device'*, *'Device Info'*, *'DMX Start Address'*.
5. ➤ To retrieve a parameter, select it with the jog wheel and press the jog wheel. Select *'Get Parameter'* and press the jog wheel.
 - ⇒ The display shows, for example:



6. Use the jog wheel to select 'More Info' to access further parameters.
7. Use the jog wheel to select 'Fresh' to refresh the displayed information, or 'EXIT' to return to the parent menu. Press the jog wheel.

Changing RDM parameters

1. ➤ Select the item '*Get&Set RDM Parameter*' from the submenu '*RDM DATA TEST*'.
2. ➤ Press the jog wheel to open the respective submenu.
⇒ The display shows:



If the wiring is correct and an RDM-controlled device is found, the display shows real-time information about the device:

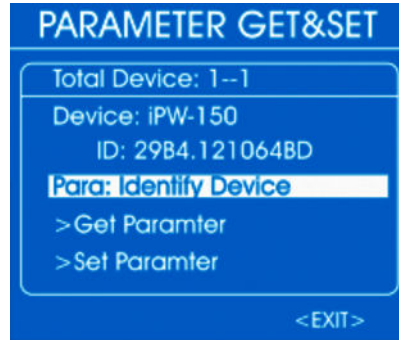


If no signal is received, the display shows:



In this case, check the wiring and the correct fit of the connectors.

- 3.** ▶ To change individual parameters, use the jog wheel to select '*Para*'. Press the jog wheel.
 - ⇒ The display shows:



4. ➤ The selectable parameters depend on the respective device, examples: *'Identify Device'*, *'Device Info'*, *'DMX Start Address'*.
5. ➤ To retrieve a parameter, select it with the jog wheel and press the jog wheel. Select *'Set Parameter'* and press the jog wheel.
 - ⇒ The display shows, for example:



6. ➤ Use the jog wheel to select *'Start Identify'* to start or *'Stop Identify'* to stop the identification. Press the jog wheel.
7. ➤ To select which devices should be affected by the change, use the Jog Wheel to select *'Only self'* and press the jog wheel. Turn the jog wheel to select one of the following formats.
 - *'Only Self'*: Change only affects the selected device
 - *'Same mfrs'*: Change affects all devices from the same manufacturer as the selected device
 - *'All Device'*: Change affects all connected devices

Press the jog wheel.

- 8.** ▶ Use the jog wheel to select '*Ok&Save*' and press the jog wheel to save the change.
- 9.** ▶ Use the jog wheel to select '*EXIT*' to return to the parent menu. Press the jog wheel.

Display or change of the DMX address of an RDM-controlled device

1. ➤ Select the item '*Get&Set RDM Parameter*' from the submenu '*RDM DATA TEST*'.
2. ➤ Press the jog wheel to open the respective submenu.
⇒ The display shows:



If the wiring is correct and an RDM-controlled device is found, the display shows real-time information about the device:



If no signal is received, the display shows:



In this case, check the wiring and the correct fit of the connectors.

- 3.** ➤ To change individual parameters, use the jog wheel to select '*Para*'. Press the jog wheel.
 - ⇒ The display shows:



4. ▶ Use the jog wheel to select '*Para: DMX Start Address*' and press the jog wheel.
5. ▶ To display the current DMX address, select '*Get Parameter*' and press the jog wheel.
 - ⇒ The display shows, for example:



- 6.** ➤ Use the jog wheel to select '*Fresh*' to refresh the displayed information, or '*EXIT*' to return to the parent menu. Press the jog wheel.
- 7.** ➤ To change the DMX address, use the jog wheel to select '*Set Parameter*' and press the jog wheel.
 - ⇒ The display shows, for example:



8. ➤ Use the jog wheel to select '*Channel:*' and press the jog wheel.
Set the desired value with the jog wheel. Press the jog wheel to confirm.
9. ➤ To select which devices should be affected by the change, use the Jog Wheel to select '*Only self*' and press the jog wheel. Turn the jog wheel to select one of the following formats.
 - '*Only Self*': Change only affects the selected device
 - '*Same mfrs*': Change affects all devices from the same manufacturer as the selected device
 - '*All Device*': Change affects all connected devices

Press the jog wheel.

- 10.**▶ Use the jog wheel to select '*Ok&Save*' and press the jog wheel to save the change.
- 11.**▶ Use the jog wheel to select '*EXIT*' to return to the parent menu. Press the jog wheel.

Software update of an RDM-controlled device

1. ▶ Select the item *'Update RMD device'* from the submenu *'RDM DATA TEST'*.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



If the wiring is correct and an RDM-controlled device is found, the display shows real-time information about the device:



If no signal is received, the display shows:



In this case, check the wiring and the correct fit of the connectors.

- 3.** ➤ Insert a micro SD card with the required software into the micro SD slot of the device.
- 4.** ➤ Use the jog wheel to select '*Send: Single device*'. Press the jog wheel.
 - ⇒ The display shows:



5. ▶ To retrieve a parameter, select it with the jog wheel and press the jog wheel. Select '*Single device*' (transmission to one device) or '*All devices*' (transmission to all devices) and press the jog wheel.
 - ⇒ The software is transferred to the devices.
6. ▶ Use the jog wheel to select '*EXIT*' to return to the parent menu. Press the jog wheel.

6.4 MIDI test

This menu allows you to test the data of a MIDI-controlled device.

- 1.** ▶ Connect a MIDI device to the MIDI input.
- 2.** ▶ Select the item '*MIDI Receive*' from the main menu.

3. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:



After a few seconds, the 'ACT' indicator appears in the lower left corner of the display. Once the data has been received from a MIDI device, the display shows:

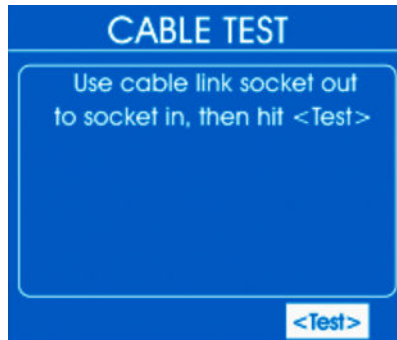


4. To return to the parent menu, select 'EXIT' and press the jog wheel to confirm.

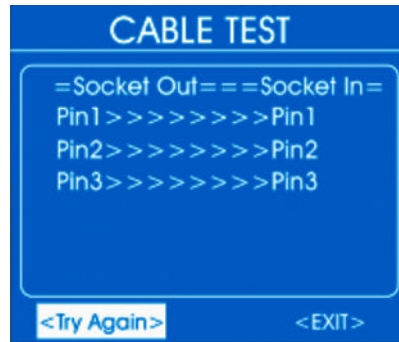
6.5 Cable test

This menu allows you to test a DMX cable.

1. ➤ Connect the cable to be tested to the DMX input and the DMX output.
2. ➤ Select the item '*CABLE TEST*' from the main menu.
3. ➤ Press the jog wheel to open the respective submenu.
 - ⇒ The display shows:



4. Use the jog wheel to select *Test* and press the jog wheel.
 - ⇒ After a few seconds, the display shows the test result. If all wires are correctly connected, the display shows:

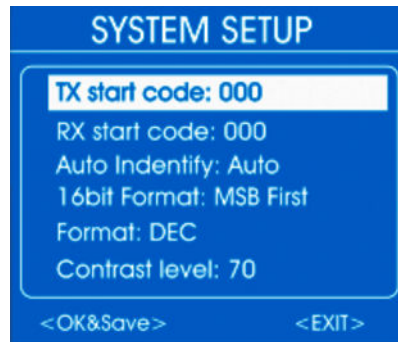


5. To repeat the test, select *Try Again* and press the jog wheel to confirm.
6. To return to the parent menu, select *EXIT* and press the jog wheel to confirm.

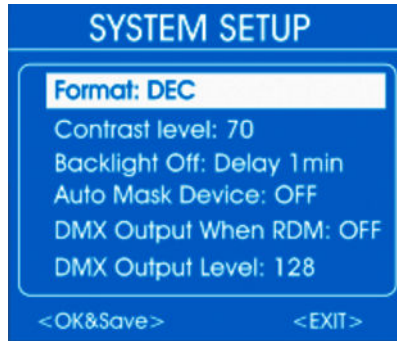
6.6 System settings

In this menu, you can adjust device settings.

1. ▶ Select the item '*SYSTEM Setup*' from the main menu.
2. ▶ Press the jog wheel to open the respective submenu.
⇒ The display shows:





Turn the jog wheel to scroll down the list:



3. Use the jog wheel to select the setting to be changed and press the jog wheel. Turn the jog wheel to select or adjust a value. The following table shows the menu items and choices.

Menu item	Choices	Meaning
'TX Start Code'	'0' ... '255'	Start value for the DMX data transmission.
'RX Start Code'	'0' ... '255', 'All'	This code is required if several test devices should work as transmitters. In this case, all test devices must be set to the same code. If you select 'All', the device accepts all start codes.
'Auto Identify'	'Auto'	Automatically sending a request for identification to all connected devices when selecting the menu item 'Get&Set RDM Parameter'.
	'OFF'	No automatic request for identification.
'16bit Format'	'MSB first'	In 16-bit mode: higher-value byte first
	'LSB first'	In 16-bit mode: higher-value byte last
'Format'	'Decimal', 'Percents', 'BAR (square)', 'Hexadezimal'	Selection of the display format for numerical values: decimal, percentage, as a bar or hexadecimal
'Contrast Level'	'10' ... '100'	Display contrast setting

Menu item	Choices	Meaning
'Backlight Off'	'30 sec', '1 min', '5 min', '10 min', '30 min'	Setting the time after which the display turns off automatically.
'Auto Mask Device'	'ON'	A connected RDM-controlled device does not appear in the overview. If you set its DMX address, the other devices without DMX address appear in the overview.
	'OFF'	A connected RDM-controlled device appears in the overview.
'DMX Output When RDM'	'ON'	DMX signals can also be sent in RDM mode.
	'OFF'	No DMX signals are sent in RDM mode.
'DMX Output Level'	'0' ... '255'	Maximum DMX output level if the option 'DMX Output When RDM' is set to 'ON'.

4.  Select 'OK&Save' and press the jog wheel to confirm.
⇒ The values are saved.
5.  To return to the parent menu, select 'EXIT' and press the jog wheel to confirm.

7 Technical specifications

Voltage supply	Plug-in power supply (9 V / 500 mA $\overleftrightarrow{=}$), centre positive
Dimensions (W × H × D)	170 mm × 100 mm × 40 mm (15.35in. × 15.55in. × 5.31in.)
Weight	0.28 kg

8 Plug and connection assignment

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')

DMX connections



A five-pin XLR socket serves as DMX output, a five-pin XLR plug serves as DMX input. The drawing below and the table show the pin assignment of a matching coupling.

Pin	Assignment
1	Ground (shielding)
2	Signal inverted (DMX-, 'cold')
3	Signal (DMX+, 'hot')
4	unused / second connection (DMX-)
5	unused / second connection (DMX+)

9 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.

