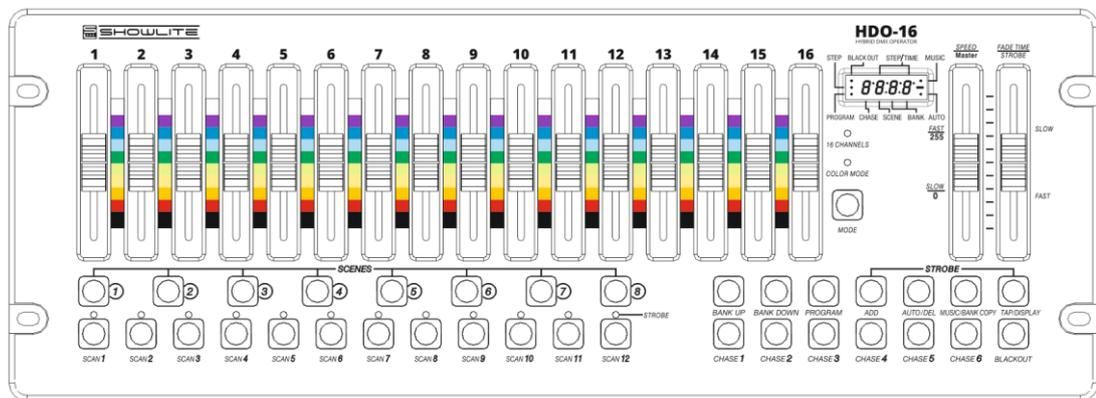




HDO-16



User Manual

Version: 07/2020

Thank you for choosing this product. To ensure that you are fully satisfied with this product, read and understand this manual carefully.



PLEASE READ CAREFULLY

Please keep this manual in a safe place for future reference. Also hand over all documents when passing the product on to third parties. Never leave children unsupervised with the packaging material. For products packed in plastic bags, there is a risk of suffocation from packaging materials. The product should only be used under adult supervision. Only use the product if it is in perfect condition. Do not use the product if damage is visible or suspected. We are not liable for any damage that occurs as a result of non-observance of the safety instructions or incorrect or improper handling.



Follow the operating instructions!



WARNING

The WARNING signal word identifies hazards that, without precautions, could result in serious injury.



NOTE

The signal word NOTE indicates general precautions that should be observed when handling the product.



NOTE

Images and screen images in this manual may differ slightly from the actual product's appearance, as long as it does not adversely affect the technical characteristics and safety of the product.



NOTE

All personal phrasing in this manual should be considered gender neutral.

These operating instructions apply to responsible users and to persons who have been supervised by a person responsible for their safety or have been instructed in the operation of the device and who have proven to be able to handle the device.



WARNING

**Children should be supervised to ensure that they do not use this device as a toy.
Never allow children to play unattended with the packaging material.**



WARNING

Danger of property damage! We are not liable for accidents that occur as a result of non-observance of the safety instructions or due to incorrect handling.

All information in this manual has been checked to the best of our knowledge and belief. However, neither author nor publisher can be held liable for any damage related to the use of this manual.

Other product, brand and company names mentioned herein may be the trademarks of their respective owners. Compliance with all applicable copyright laws is the responsibility of the user of this document.

 **WARNING**

Caution

Please observe the following basic information in order not to endanger yourself or others and to avoid damage to external devices.

 **NOTE**

Warnings

Do not disassemble or modify the product. This could result in an electric shock. Entrust a specialist workshop with any necessary service and maintenance work or contact your dealer.

If you notice that the power cable shows clear signs of wear, the device malfunctions, smells burnt or smokes, immediately pull the plug out of the socket and have a technician repair it.

Before cleaning the product, you should switch it off and disconnect it from the power supply.

Always place the product on a flat, stable surface to ensure a secure stand.

Use the product, not in a damp or wet environment.

Do not place vessels that are filled with liquids, e.g. vases, glasses or bottles on the product.

Do not place small objects on top of it that could slip in, e.g. hairpins, sewing needles or coins.

 **NOTE**

Precautions

To avoid damage to the product, do not place it in places with high temperatures or a lot of dust, do not place it directly next to an air conditioner and avoid direct sunlight.

Do not place the item near other electrical equipment to avoid interference.

Do not use force when handling the product or place heavy objects on it.

Disconnect the power supply if you are not going to use the device for a long time.

To disconnect the device from the power, please pull on the plug, not on the cable.

Please handle the power cable carefully. It should not be near radiators, you should not place heavy objects on top of it and lay it so that no one can step on it or fall over it.

 **WARNING**

Mains voltage

If an external power supply unit is required for use, connect it to a socket with the correct voltage.

Do not connect the device to a different mains voltage than the one for which your product is intended.

Unplug the power adapter when you are not using the item or when there is a thunderstorm.

Connections

Turn off all devices before connecting multiple devices. This helps prevent malfunctions and / or damage to other devices.

Interference with other electrical devices

Nearby radios and televisions can cause interference. Operate this device at a suitable distance from radios and televisions.

Attention:

The normal functioning of the product can be disturbed by strong electromagnetic interference. In this case, simply reset the product to resume normal operation by following the operating instructions. If the function still cannot be continued without any problems, use the product in a different location.

 **NOTE**

Place

Do not subject the product to the following conditions to avoid warping, discoloration, or major damage:

Direct sunlight, extreme temperature or humidity, excessively dusty or dirty place, strong vibrations or shocks, strong magnetic fields.

 **NOTE**

Cleaning

Only clean the product with a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids or chemically impregnated wipes.

 **NOTE**

Handling

Do not exert excessive force on controls such as switches and buttons..

Do not bring paper, metal, or other objects inside. In this case, pull the mains adapter / mains cable out of the socket. Then have the device checked by qualified service personnel.

 **WARNING**

Attention

Please note the following basic information in order not to endanger yourself or others and to avoid damage to external devices.

 **NOTE**

Warning

Do not disassemble or modify the device. This may result in an electric shock. Assign a specialist workshop with all the necessary service and maintenance work or contact your dealer.

If you notice that the power cord is showing signs of wear, the device is malfunctioning, has flames, smells, or smoke, immediately unplug the power cord and have it repaired by a technician.

Before cleaning the instrument, you should disconnect it from the power supply.

Always place the instrument on a flat, stable surface to ensure a secure stand.

Do not use the instrument in a damp or wet environment.

Do not place any containers filled with liquids such as vases, glasses or bottles on the instrument.

Do not place small objects on top of it that could slip in, such as hairpins, sewing pins or coins.

Do not place lit candles on the product.

 **NOTE**

Precautions

To avoid damaging the device, do not place it in places with high temperatures or dust, do not place it near an air conditioner, and avoid direct sunlight.

Do not place the instrument near other electrical devices to avoid interference.

Do not use force when handling the device and do not place heavy objects on it.

Disconnect the device from the power supply if you will not be using it for a long time. To disconnect the device from the mains, pull the plug and not the cable.

Please handle the power cord with care. It should not be near radiators. You should not place heavy objects on top of it and move it around so that no one can step on it or fall over it.

 **WARNING**

Power supply

Please connect the supplied power adapter to a socket with the correct voltage. Do not connect it to voltages other than those for which the device is intended.

Disconnect the power plug if you are not going to use the product for a long time or if there is a thunderstorm.

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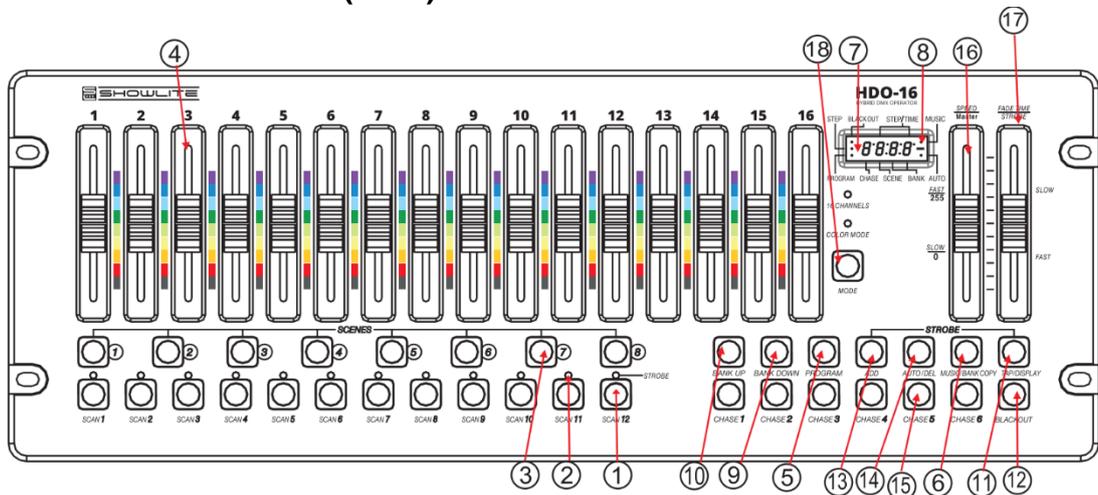
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1. General overview

This controller is a universal intelligent light controller. It enables the control of 12 DMX devices with 16 channels each and up to 240 programmable scenes. Six chases can contain up to 240 steps consisting of the stored scenes in any order. Chases can be recalled automatically or manually by music.

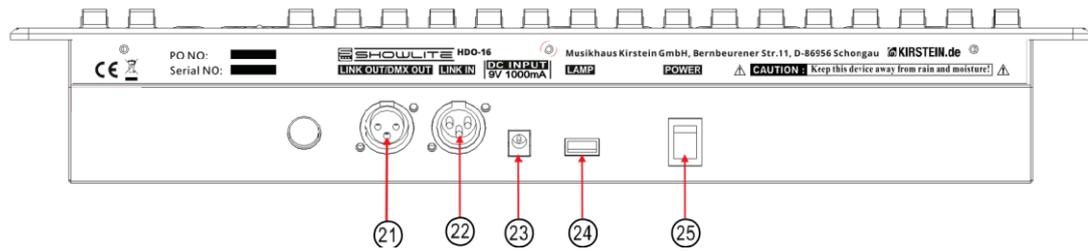
On the interface you will find various programming tools such as 16 universal channel controllers, access scanner and scene buttons as well as an LED display for easier navigation of controls and menu functions.

1.1 Product overview (front)



Number	Buttons or sliders	Function
1	Scanner select buttons	Select DMX devices
2	Scanner indicator LEDs	Indicate if the DMX device is activated
3	Scene select buttons	Buttons for recalling or saving the scenes
4	Channel slider	After activating the Scanner select buttons, the sliders 1 ~ 16 can set the DMX values.
5	Program button	To activate the programming mode
6	Music/Bank Copy button	Used to activate the music mode and as a copy command during programming
7	LED display	The display shows current settings
8	Mode indicator LEDs	Display the current mode. (Manual, Music or Auto mode)
9	Bank Up Button	Function key for switching through scenes / steps in banks or chases
10	Bank Down Button	Function key for switching through scenes / steps in banks or chases
11	Tap Display Button	Sets the chases speed by tapping and toggles the display between DMX values (0-255) and DMX percent (0-100).
12	Blackout button	Sets the shutter or dimmer value of all lights to "0", which causes all DMX devices to go to the "OFF" state.
13	ADD button	is used to confirm the recording / saving process
14	Auto/Del button	Used to activate the Auto mode and as a delete function button during programming
15	Chase Buttons	Chase memory locations from 1 ~ 6
16	Speed slider	Scan mode: Adjusts the speed between scenes within a chase In Color Mode you can use the slider as a master dimmer for the brightness of all RGB spotlights.
17	Fade Time slider	Scan Mode: Also considered a crossfade, this sets the interval time between two scenes in a chase. If you activate Strobe in Color Mode, you can change the speed of the flash with the fader
18	color mode	You can switch between Scanner Mode (Scanner 1 - 12) and Color Mode

1.2 Product overview (back)



Number	Button or Fader	Function
21	DMX output connector	Connection for the DMX output signal
22	DMX input connector	Connection for the DMX input signal
23	DC Input Connection	Connection for the power supply unit
24	USB Lamp connector	USB connector for a USB LED lamp
25	power switch	Switches the controller on and off

1.3 General terms

The following terms are used in intelligent light programming.

Blackout sets the shutter or dimmer value of all lights to "0", which causes all DMX devices to go to state "OFF".

DMX-512 is an industry standard digital communication protocol used in entertainment lighting equipment. For more information, refer to the DMX Basics section in the Appendix.

Fixture refers to your lighting device or other device such as a fog machine or dimmer that you can control.

Scene banks are a series of scenes stacked one after another. It can either consist of a single scene or several scenes.

Scene are static lighting conditions.

Fader also known as slider

Chases can also be called programs. A chase consists of a series of scenes that have been saved one after the other.

Scanner refers to a lighting device with a pan and tilt mirror. However, with the HDO-16 Controller, it can be used to control any DMX-512 compatible device as a generic device.

Stand Alone refers to the ability of a device to operate independently of an external controller and normally in sync with music, thanks to a built-in microphone.

Fade sliders are for setting the time between scenes within a chase.

Speed sliders are used to adjust the speed between scenes within a chase.

Shutter is a mechanical device in the lamp with which you can block the light beam. It is often used to reduce the intensity of the light output and to flash.

Patching refers to the process of assigning fixtures to a DMX channel.

Playbacks can be either scenes or chases, which are called directly by the user for execution. A playback can also be used as program memory that can be recalled during a show.

2. OPERATING INSTRUCTIONS

2.1 Configuration

2.1.1 Setting up the controller

- 1) Connect the power supply to the rear of the unit and to the mains socket.
- 2) Connect your DMX cables to your DMX equipment as described in the corresponding manual of your DMX equipment. For a brief introduction to DMX, refer to the "DMX Basics" section in the appendix of this manual.

2.1.2 Reset DMX Controller

Warning:

This resets the controller to the factory settings.

All programs and settings are deleted.

Action:

- 1) Switch off the unit.
- 2) Press and hold **BANK UP** and **AUTO/DEL**
- 3) Turn on the power (while holding down **BANK UP** and **AUTO/DEL**).

2.1.3 Addressing DMX devices

The controller is programmed to control 16 DMX channels per device. Therefore, the fixtures that you want to control with the corresponding "SCANNER" buttons on the unit must each be 16 channels apart.

DMX devices or SCANNER	Default setting DMX Start address	DIP switch Switch settings to the "ON position
1	1	1
2	17	1,5
3	33	1,6
4	49	1,5,6
5	65	1,7
6	81	1,5,7
7	97	1,6,7
8	113	1,5,6,7
9	129	1,8
10	145	1,5,8
11	161	1,6,8
12	177	1,5,6,8

For instructions on DMX addressing, refer to the manual for your particular device. The table above refers to a binary-configurable 9-dip switch standard fixture.

2.1.4 Copy DMX device settings

To save time, you can copy the settings of one scanner button to another scanner button.

Example: Copying the settings from scanner 1 to scanner 2

- 1) Press and hold the **SCANNER** button you want to copy.
- 2) While holding down the **SCANNER** button, simultaneously press the desired second **SCANNER** button to which you want to copy the setting and then release both **SCANNER** buttons simultaneously.
- 3) After successful copying, all **SCANNER** LEDs flash briefly.

2.2 Functionality

2.2.1 Manual mode

The manual mode allows direct control of all scanners. You can adjust them using the channel sliders and change attributes.

- 1) Press the **AUTO DEL** button until the AUTO LED goes out.
- 2) Select a **SCANNER** button
- 3) Move the sliders to change the device attributes. Press the **TAP/DISPLAY** button to toggle the output display on the LED display between DMX values (0-255) and percent (0-100).

Comments:

All changes made in manual mode are temporary and are not saved.

2.2.2 Calling up scenes or chases

This instruction assumes that you have already recorded scenes and chases on the controller. Otherwise, skip this section and continue with the Programming section.

Playing the scene

- 1) Select one of the 30 banks with the **BANK UP/DOWN** buttons.
- 2) Select a **SCENE** button (1~8) to display.
- 3) Move the sliders to change the scene setting.
- 4) Press the selected **SCENE** button (1-8) again to end the scene. The LEDs of each SCENE will turn off.

Playing a Chase

- 1) Press one of the 6 **CHASE** buttons.
- 2) Press the **TAP/DISPLAY** button to show the scene steps on the display.
- 3) Use the **BANK UP/DOWN** buttons to view the sequence of scenes in the chase.

Comments:

Make sure that you are still in MANUAL mode.

2.3 COLOR MODE

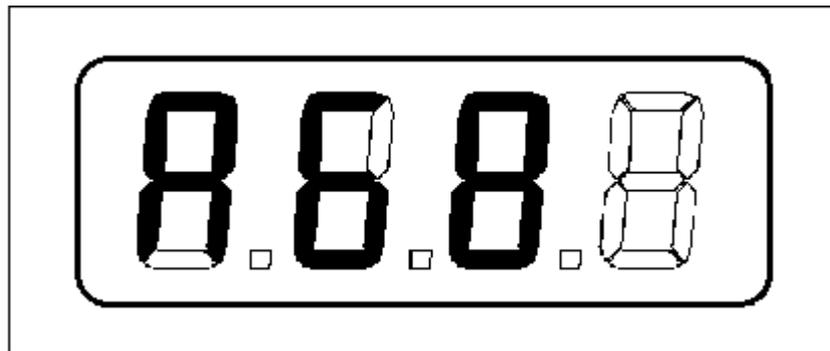
2.3.1 Starting COLOR MODE

Press and hold the **COLOR MODE** button for about 3 seconds to switch from **SCANNER MODE** to **COLOR MODE**.

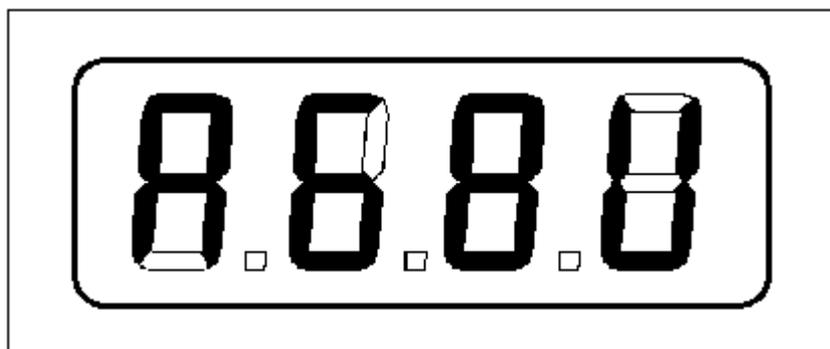
2.3.2 Switching from RGB to RGBW

Press and hold the **TAP/DISPLAY** button, then press the **COLOR MODE** button to switch between RGB and RGBW. The display shows the current setting.

RGB (R68)



or RGBW (R68U)



2.3.3 Color Mode Operation

COLOR MODE: The RGB Color sliders start at DMX address 193 (see next page)

16 Color sliders are available with 9 colors for each slider (black/red/orange/yellow/green/blue/dark blue/purple/white).

When Color Mode is activated, you can use the Speed slider as a master dimmer and adjust the brightness for all 16 Color sliders at the same time.

	DMX Value	Red	Green	Blue
	225-255	255	255	180
■	200-224	127	0	255
■	175-199	0	0	255
■	150-174	0	127	255
■	125-149	0	255	0
■	100-124	127	255	0
■	75-99	191	191	0
■	50-74	255	127	0
■	25-49	255	0	0
■	0-24	0	0	0

	DMX Value	Red	Green	Blue	White
	225-255	0	0	0	255
■	200-224	127	0	255	0
■	175-199	0	0	255	0
■	150-174	0	127	255	0
■	125-149	0	255	0	0
■	100-124	127	255	0	0
■	75-99	191	191	0	0
■	50-74	255	127	0	0
■	25-49	255	0	0	0
■	0-24	0	0	0	0

3 Channel Mode (RGB)

Fader	Color	DMX address
1	R	193
	G	194
	B	195
2	R	196
	G	197
	B	198
3	R	199
	G	200
	B	201
4	R	202
	G	203
	B	204
5	R	205
	G	206
	B	207
6	R	208
	G	209
	B	210
7	R	211
	G	212
	B	213
8	R	214
	G	215
	B	216
9	R	217
	G	218
	B	219
10	R	220
	G	221
	B	222
11	R	223
	G	224
	B	225
12	R	226
	G	227
	B	228
13	R	229
	G	230
	B	231
14	R	232
	G	233
	B	234
15	R	235
	G	236
	B	237
16	R	238
	G	239
	B	240

4 Channel Mode (RGBW)

Fader	Color	DMX address
1	R	193
	G	194
	B	195
	W	196
2	R	197
	G	198
	B	199
	W	200
3	R	201
	G	202
	B	203
	W	204
4	R	205
	G	206
	B	207
	W	208
5	R	209
	G	210
	B	211
	W	212
6	R	213
	G	214
	B	215
	W	216
7	R	217
	G	218
	B	219
	W	220
8	R	221
	G	222
	B	223
	W	224
9	R	225
	G	226
	B	227
	W	228
10	R	229
	G	230
	B	231
	W	232
11	R	233
	G	234
	B	235
	W	236
12	R	237
	G	238
	B	239
	W	240
13	R	241
	G	242
	B	243
	W	244
14	R	245
	G	246
	B	247
	W	248
15	R	249
	G	250
	B	251
	W	252
16	R	253
	G	254
	B	255
	W	256

2.4 Strobe effect in Color Mode

2.4.1 Activating Strobe Effect

Activate the **COLOR MODE**. Hold down the **TAP/DISPLAY** button and press the **ADD** button simultaneously to activate the Strobe effect. The Strobe LED (on scanner knob 12) will light up to indicate this.

2.4.2 Deactivating Strobe Effect

Press and hold the **TAP/DISPLAY** button, then press the **ADD** button at the same time to deactivate the strobe effect. When the strobe effect is off, the strobe LED (on scanner knob 12) will also turn off.

2.4.3 Strobe speed adjustment

There are 2 ways to set the strobe speed.

- 1) The strobe effect in color mode must be activated. You can adjust the speed of the strobe effect by tapping the **TAP/DISPLAY** button twice briefly.
- 2) The strobe effect in color mode must be activated. You can adjust the tempo of the strobe effect by holding down the **TAP/DISPLAY** button and then adjusting the tempo of the strobe with the **FADE TIME** fader.

2.5 RGB and RGBW Color Mode Programming

Programming of scene and chase works the same way in Color Mode as in Scanner Mode -> see point 3.1.1 for scene programming and 3.2 for chase programming.

You only need to switch from Scanner Mode to Color Mode with the **MODE** button.

Then set the desired colors with the Color sliders, adjust the brightness with the **MASTER slider** (**SPEED** slider) and create the desired scenes and chases.

3. Programming

A scene bank is a sequence of different scenes (or steps) that are called up one after the other. 30 scene banks with 8 scenes each can be created. The controller can store a total of 240 scenes.

3.1 Calling up the programming mode

- 1) Press the **PROGRAM** button until the LED flashes.

3.1.1 Programming a scene

A scene is a static lighting condition. Scenes are stored in banks.

- 1) Press the **PROGRAM** button until the LED flashes.
- 2) Press the **MODE** button to enter either Scanner Mode or Color Mode.
- 3) Create an illumination by adjusting the sliders of the respective scanner
- 4) Select another **BANK** (01~30) if necessary
- 5) Press and hold the **ADD** button while pressing the desired **SCENES** button to save the scene.
- 6) Repeat steps 3 to 5 if necessary Up to 8 scenes can be stored in one scene bank.
- 7) To exit the programming mode, press and hold the **PROGRAM** button.

Comments:

When you save a new scene, all LEDs flash to confirm. The LED display now shows the scene number and bank number used.

When you exit the program mode, deactivate the blackout function if necessary, if this LED is lit, in order to be able to view the scenes.

3.1.2 Calling up a scene bank

- 1) Use **BANK UP/DOWN** buttons to select a different scene bank if necessary.
- 2) Press the **AUTO DEL** button until the AUTO LED lights up.
- 3) Adjust the Scene Bank speed with the **SPEED** slider and the fade time with the **FADE TIME** slider.
- 4) Alternatively, tap the **TAP/DISPLAY** button twice briefly. The time between the first and second tap determines the time between SCENES (up to 10 minutes).

Note:

This function is also called Tap-Sync. Deactivate Blackout if the Blackout LED is lit.

3.1.3 Overwriting a scene

Scenes must be changed manually.

- 1) Keep the **PROGRAM** button pressed until the LED flashes.
- 2) Use the **BANK UP/DOWN** buttons to select a different scene bank if necessary.
- 3) Select the desired **SCANNER MODE** or **COLOR MODE** scene.
- 4) Change the desired setting using the sliders.
- 5) Press and hold the **ADD** button and press the desired **SCENE** button to save the data

Note:

Deactivate Blackout if the LED is on.

3.1.4 Copying a scene

- 1) Press and hold the **PROGRAM** button to enter the programming mode.
- 2) Use the **BANK UP/ DOWN** buttons to select the Scene Bank that contains the desired scene to be copied.
- 3) Press the desired **SCENE** button of the scene you want to copy.
- 4) Then press the **ADD** button to copy the scene.
- 5) Use the **BANK UP/DOWN** buttons to select the desired **BANK** to which you want to copy the scene.
- 6) Then press the desired **SCENE** button to complete the copy operation. To confirm, all LEDs will flash once

3.1.5 Copying a scene bank

- 1) Press and hold the **PROGRAM** button until the LED flashes.
- 2) Select the desired scene bank with the **BANK UP/DOWN** buttons.
- 3) Press the **ADD** button to copy the scene bank
- 4) Use the **BANK UP/DOWN** buttons to select the desired **BANK** to which you want to copy the scene bank.
- 5) Then press the **MUSIC/BANK COPY** button to complete the copy operation. All LEDs will flash once to confirm.

Note:

All 8 scenes are copied in one scene bank.

3.1.6 Deleting a scene

- 1) Press and hold the **PROGRAM** button to enter the programming mode.
- 2) Use the **BANK UP/DOWN** buttons to select the desired scene bank in which the scene to be deleted is located.
- 3) Press and hold the **AUTO DEL**
- 4) And press the desired **SCENE** button to delete this scene. All LEDs will flash to confirm.

Note:

When a scene is deleted, the physical location is not removed. However, all 384 DMX channels available for the scene are set to 0.

3.1.7 Deleting all scenes

- 1) Press and hold the **PROGRAM** button and the **BANK DOWN** button while turning on the controller.

Attention!

This process is irreversible. All scenes with data are set to 0

3.2 Programming Chase

A chase is created using previously created scenes. Scenes become steps / scene steps in a chase and can be arranged in any order. It is strongly recommended to delete all chases from memory before programming chases for the first time. For instructions, see "Delete all chases".

3.2.1 Programming a Chase

A chase can contain 240 scenes as steps. The term steps describes scenes which are arranged one after another within a chase.

- 1) Press and hold the **PROGRAM** button until the LED flashes.
- 2) Press the desired **CHASE (1~6)** button
- 3) If necessary, change the **BANK** to select the correct scene.
- 4) Select the desired **SCENE** to insert.
- 5) Press the **ADD** button to insert.
- 6) Repeat steps 3 to 5 to add more steps to the chase. Up to 240 steps can be recorded.
- 7) Press and hold the **PROGRAM** button to save the chase

3.2.2 Calling a Chase

- 1) Press the desired **CHASE** button and then press the **AUTO DEL** button.
- 2) Set the desired speed by briefly pressing the **TAP/DISPLAY** button twice.

Note:

The time between the first and second tap sets the chase speed (up to 10 minutes).

3.2.3 Checking the scene steps in a chase

- 1) Press and hold the **PROGRAM** button until the LED flashes.
- 2) Select the desired **CHASE** button.
- 3) Press the **TAP/DISPLAY** button to switch the LED display to steps.
- 4) Check each scene / step individually with the **BANK UP/DOWN** buttons.

3.2.4 Editing a Chase (Copy a scene bank into a chase)

- 1) Press and hold the **PROGRAM** button to enter the programming mode.
- 2) Press the desired **CHASE** button.
- 3) Use the **BANK UP/DOWN** buttons to select the desired scene bank to be copied.
- 4) Press the **MUSIC/BANK COPY** button to start copying.
- 5) Press the **ADD** button to insert the scene bank into the chase. All LEDs will flash to confirm.

3.2.5 Editing a chase (copying a scene into a chase)

- 1) Press and hold the **PROGRAM** button to enter the programming mode.
- 2) Press the desired **CHASE** button.
- 3) Use the **BANK UP/DOWN** buttons to select the **BANK** in which the scene you want to copy is stored.
- 4) Press the **SCENE** button of the scene you want to copy.
- 5) Press the **ADD** button to copy the scene into the chase. All LEDs will flash to confirm.

3.2.6 Editing a chase (inserting a scene step into a chase)

- 1) Press and hold the **PROGRAM** button to enter the programming mode.
- 2) Press the desired **CHASE** button.
- 3) Press **TAP/DISPLAY** to switch the LED display for showing steps.
- 4) Use the **BANK UP/DOWN** buttons to navigate through the steps and locate the insertion point of the new scene. The display will show the step numbers.
- 5) Press the **ADD** button
- 6) Select the desired **SCENE** with the **BANK UP/DOWN** buttons.
- 7) Press the **SCENE** button for the desired scene.
- 8) Press the **ADD** button to insert the scene as a step. All LEDs will flash to confirm.

Note:

To insert a scene between steps 05 and 06, navigate with the BANK buttons until the display shows STEPO5

3.2.7 Deleting a scene in a chase

- 1) Press and hold the **PROGRAM** button to enter the programming mode.
- 2) Press the **CHASE** button under which you want to delete a scene.
- 3) Press the **TAP/DISPLAY** button to change the LED display to showing steps.
- 4) Use the **BANK UP/DOWN** buttons to select the scene step you want to delete.
- 5) Press the **AUTO DEL** button to delete the scene step. All LEDs will flash briefly to confirm.

3.2.8 Deleting a Chase

- 1) Press and hold the **PROGRAM** button to start the programming mode.
- 2) Press the desired **CHASE** button (1~6) you want to delete.
- 3) Press and hold the **AUTO DEL** button while pressing the desired **CHASE** button to delete. All LEDs will flash briefly to confirm.

3.2.9 Deleting all chases

ATTENTION! This process irrevocably deletes all chases.

The individual scenes and scene benches are retained.

- 1) Switch off the controller.
- 2) Press and hold the **BANK DOWN** button and the **AUTO DEL** button at the same time and turn on the controller.
- 3) All LEDs will flash briefly to confirm.

3.3 Playback

3.3.1 Activate sound mode

- 1) Press the **MUSIC/BANK COPY** button until the **MUSIC LED** lights up
- 2) Use the **BANK UP/DOWN** buttons to select the desired scene **BANK** for the sound mode.
- 3) Alternatively, select one or more **CHASE** buttons (1~6) to run them in the selected order.
- 4) You can then use the **FADE TIME** slider to set the fade time.

Comments:

In sound mode, scenes and chases are controlled by the sound from the built-in microphone.

Several selected chases are repeated and executed in the originally selected order.

3.3.2 Starting Auto-Mode

- 1) Press the **AUTO DEL** button until the **AUTO LED** lights up.
- 2) If no **CHASE** button is selected, the controller automatically starts the current scene bank.
- 3) You can select another scene by using the **BANK UP/DOWN** buttons.
- 4) Alternatively, select one or more **CHASE** buttons (1~6) to run them in the selected order.
- 5) Adjust the speed with the **SPEED** slider and the fade time with the **FADE TIME** slider.

Note:

In Auto mode, scenes and chases are triggered by the speed and fade times set by the controller, depending on how the sliders are set.

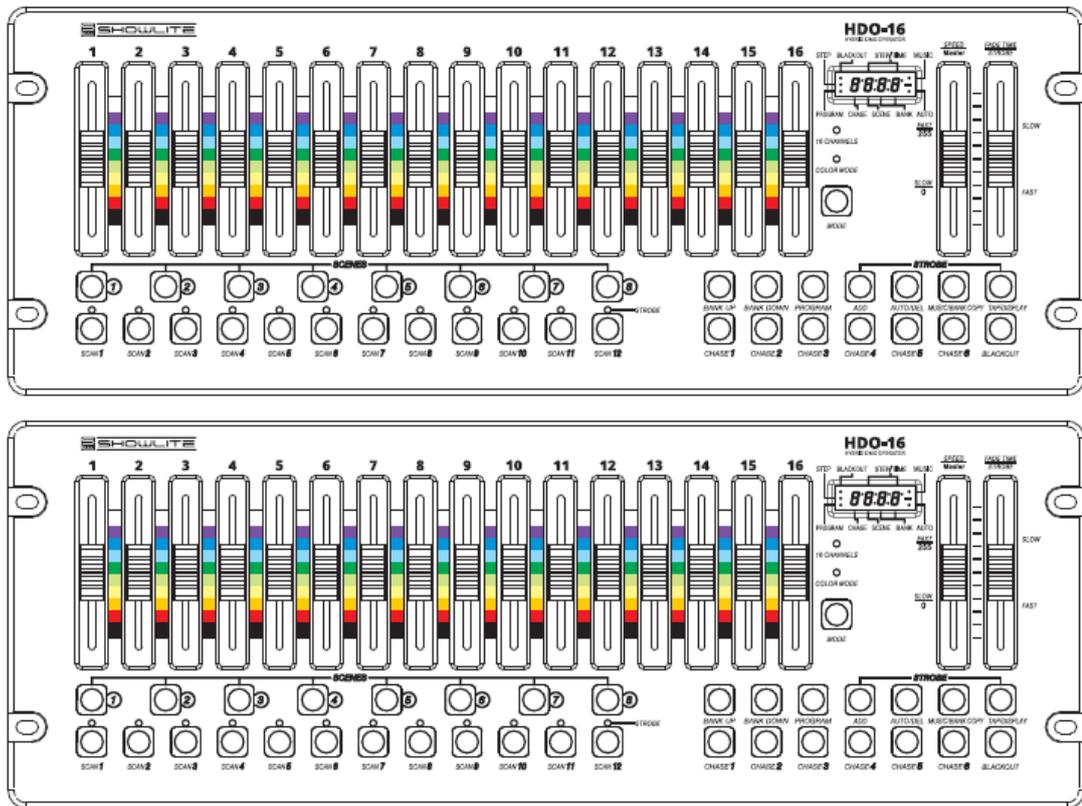
Several selected chases are repeated and executed in the originally selected order.

4. Using two controllers at the same time

With the Link In (DMX In) connection, it is possible to use two controllers at the same time.

In Color Mode, you can use the **MASTER** sliders to display which controller setting should be visible on the lighting system.

With this option, you can, for example, always see one controller light setting on stage during the light show, prepare the other controller for the next scene setting and then use the two **MASTER** sliders to switch between the light settings of the two controllers.



You can also view the light settings of both controllers at the same time by moving both **MASTER** sliders up at the same time.

4.1 Connecting two controllers

Connect the DMX input of the first controller whose DMX output is connected to the lighting system to the DMX output of the second controller.

Use a DMX cable for this.

The DMX values of both controllers are then output to the lighting system at the same time, whereby the higher DMX value has priority if the channel setting is the same.

5. Annex

5.1 DMX basics

In a DMX-512 connection there are 512 channels. The channels can be assigned in any way. A device that can receive DMX 512 requires one or more consecutive channels. The user must assign a start address to the fixture that specifies the first channel reserved in the controller. There are many different types of DMX-controllable devices, and all of them can vary in the total number of channels required. The selection of a start address should be planned in advance. Channels should never overlap. If they do, this will result in incorrect operation of devices with incorrectly set start addresses. However, you can control multiple devices of the same type with the same start address, as long as the DMX devices are to do exactly the same thing. In other words, the devices are switched together and all react in exactly the same way.

DMX devices receive data via a serial daisy chain. In a daisy chain connection, the DATA OUT of one device is connected to the DATA IN of the next device. The order in which the devices are connected is not important and does not affect how a controller communicates with each device. Use an order that allows the simplest and most direct wiring. Connect the devices using a shielded, two-conductor twisted-pair cable with a three-pin XLR male and female connector. The shielded connection is pin 1, while pin 2 is data negative (S-) and pin 3 is data positive (S+).

5.2 Connect Fixture

Assignment of the XLR connection:

DMX-OUTPUT

DMX-INPUT

XLR connection socket:

XLR connection socket:

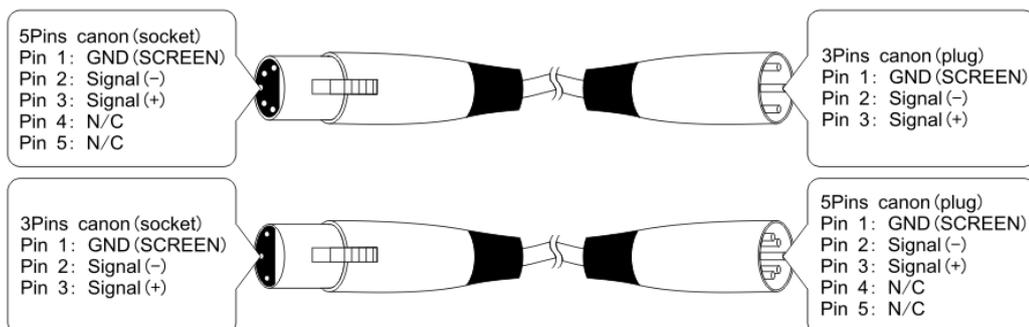


1- Ground
2 - Signal (-)
3 - Signal (+)



1- Ground
2 - Signal (-)
3 - Signal (+)

Attention: At the last DMX device in the connection, the DMX output should be terminated with a terminating resistor. It is best to use a suitable DMX terminator / terminator connector.



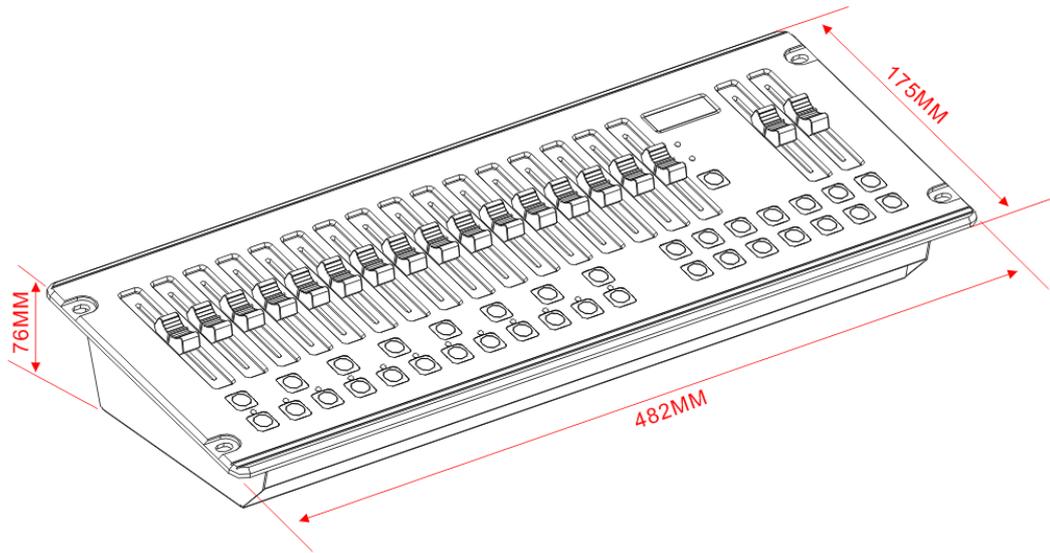
5.3 DMX Dipswitch Quick Overview

DMX Address Quick Reference Chart																				
Dip Switch Position																				
DMX DIP SWITCH SET 0=OFF 1=ON X=OFF or ON	#9	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1			
	#8	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1			
	#7	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1			
	#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1			
#1	#2	#3	#4	#5																
0	0	0	0	0	32	64	96	128	160	192	224	256	288	320	352	384	416	448	480	
1	0	0	0	0	1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481
0	1	0	0	0	2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482
1	1	0	0	0	3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483
0	0	1	0	0	4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484
1	0	1	0	0	5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485
0	1	1	0	0	6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486
1	1	1	0	0	7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487
0	0	0	1	0	8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488
1	0	0	1	0	9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489
0	1	0	1	0	10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490
1	1	0	1	0	11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491
0	0	1	1	0	12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492
1	0	1	1	0	13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493
0	1	1	1	0	14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494
1	1	1	1	0	15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495
0	0	0	0	1	16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496
1	0	0	0	1	17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497
0	1	0	0	1	18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498
1	1	0	0	1	19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499
0	0	1	0	1	20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500
1	0	1	0	1	21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501
0	1	1	0	1	22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502
1	1	1	0	1	23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503
0	0	0	1	1	24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504
1	0	0	1	1	25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505
0	1	0	1	1	26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506
1	1	0	1	1	27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507
0	0	1	1	1	28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508
1	0	1	1	1	29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509
0	1	1	1	1	30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510
1	1	1	1	1	31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511

Dip Switch Position

DMX Address

6. Product specifications



DMX output	3 pin XLR female
DMX input / Link	3 pin XLR male
Protocol	DMX-512 USITT
Weight	3.0 kg
Dimensions	482 X175 X76 mm
Power supply unit	DC 9V-12V 500mA min

WEEE declaration

(Waste of Electrical and Electronic Equipment)

Your product has been designed and manufactured with high quality materials and components that are recyclable and can be reused.

This symbol means that electrical and electronic devices must be disposed of separately from household waste at the end of their useful life.

Please dispose of this device at your local municipal collection point or at the recycling center.

Please help preserve the environment we live in.



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