STAIRVILLE

LED-Commander 16/2

DMX controller

thomann
MUSIC IS OUR PASSION

user manual

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1 General notes

This user manual contains important information on 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, include the manual for the next owner.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user 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 was specifically designed for the DMX control of LED spot lights and moving heads. 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.

3 Features

- 16 devices controllable via DMX-512
- 2 × 8 memory slots each for scenes and chases
- Faders for fade and scene time and speed, dimmer etc.
- Operation modes: automatic, sound controlled and manual
- Blackout and Full-on-function
- Separate channel assignment
- Backup and firmware update via USB
- USB port for desk light
- 19" housing, 4 RU

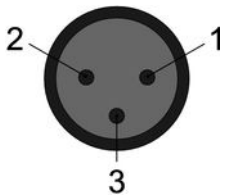
4 Installation

Unpack and check carefully 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.

Rack mounting

The unit has been designed for rack mounting in a standard 19-inch rack. It occupies four rack units (RU).

DMX connection



A 3-pin XLR socket is used as DMX output. The following diagram and table show the pin assignment of the XLR socket.

1	Ground
2	DMX data (–)
3	DMX data (+)

5 Starting up

Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

Connecting the power supply

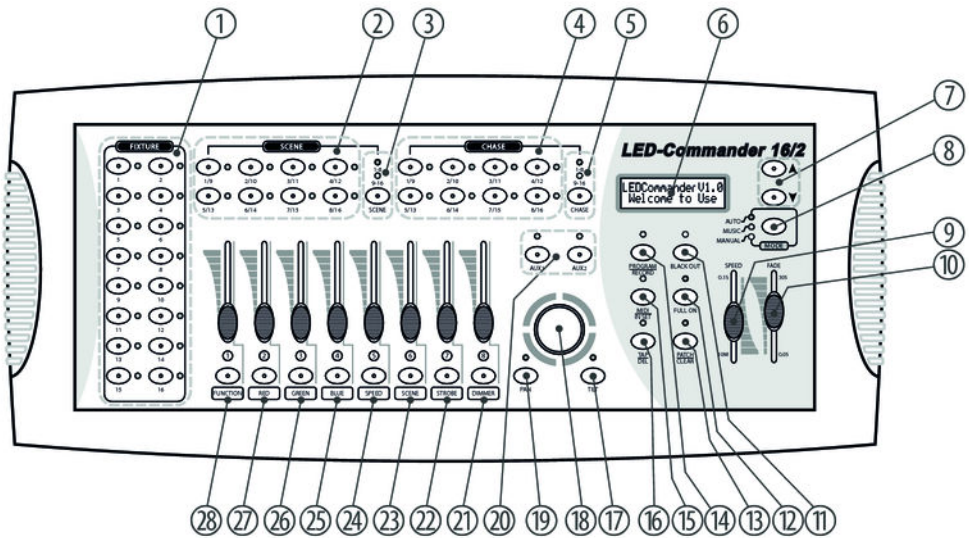
Connect the included power adapter to the 9 V input of the device and then plug the mains plug into the power outlet.

Switching the device on

Turn on the main switch on the rear side of the unit. Then the display shows the operating mode and the corresponding indicator LED is on.

6 Connections and operating elements

Front panel



1	**FIXTURE** Buttons 1 to 16 to select the control channels. The corresponding indicator LED shows whether the respective channel is activated (LED on) or deactivated (LED off).
2	**SCENE** Eight buttons with double assignment for enabling / disabling of up to 16 scenes. The indicator LEDs show which scenes are enabled (LED is on). Switching between the key groups (banks) 1…8 and 9…16 is done via the Shift key (3).
3	Shift key **SCENE** Button to toggle the SCENE buttons. The two indicator LEDs show which of the two key groups (banks) 1…8 (red) or 9…16 (green) is currently active.
4	**CHASE** Eight buttons with double assignment for enabling / disabling of up to 16 chases. The indicator LEDs show which chases are enabled (LED is on). Switching between the key groups (banks) 1…8 and 9…16 is done via the Shift key (5).

5	Shift key **CHASE** Button to toggle the CHASE buttons. The two indicator LEDs show which of the two key groups (banks) 1…8 (red) or 9…16 (green) is currently active.
6	Display.
7	Buttons ▲ and ▼ Navigation buttons for scrolling the display and to select options.
8	**MODE** button Button to change the operation mode. The corresponding LED shows the active operating mode: Auto, Music or Manual.
9	**SPEED** fader Slider to manually adjust the chase speed during playback.
10	**FADE** fader Slider to manually adjust the fade time during playback.

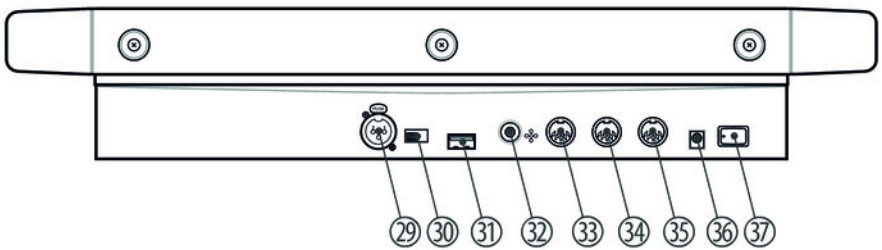
11	**BLACKOUT** button Button to turn the BLACKOUT function on or off. The corresponding indicator LED shows whether the function is activated (LED on) or deactivated (LED off).
12	**FULL ON** button Button to turn the FULL ON function on or off. The corresponding indicator LED shows whether the function is activated (LED on) or deactivated (LED off).
13	**PATCH | CLEAR** button Press this button for three seconds to cancel the channel assignments (scenes, chases or connected devices). Once the corresponding indicator LED is lit, the channels can be reassigned. Press the button again for three seconds to exit this mode.
14	**PROGRAM | RECORD** button Press this button for three seconds to enable the Program mode. The corresponding indicator LED shows whether the mode is activated (LED on) or deactivated (LED off). Press the button again for three seconds to exit this mode.
15	**MIDI | IN SET** button Press this button for three seconds to open the menu for midi input assignment. Once the corresponding indicator LED is lit, the midi inputs can be assigned using the SPEED fader or the ▲ and ▼ buttons. Press the button again for three seconds to exit this mode.

16	**TAP | DEL** button With this button you can delete and reverse inputs.
17	**TILT** button Press this button to control the inclination of the assigned moving heads via the joystick (18). The corresponding LED indicator flashes while the TILT mode is active.
18	Joystick to control the connected moving heads. To activate the joystick function either the TILT (17) or the PAN mode (19) must be activated.
19	**PAN** button Press this button to control the rotation of the assigned moving heads via the joystick (18). The corresponding LED indicator flashes while the PAN mode is active.
20	**AUX1 | AUX2** buttons With these buttons you can activate the AUX channels (corresponding LED is lit) or deactivate them (LED is off).
21	**DIMMER** fader Slider to manually adjust the DIMMER function. Press the corresponding flash button 8 to activate the slider control.

22	**STROBE** fader Slider to manually adjust the STROBE function. Press the corresponding flash button 7 to activate the slider control.
23	**SCENE** fader Slider to manually control a scene. Press the corresponding flash button 6 to activate the slider control.
24	**SPEED** fader Slider to manually control the speed of a scene or a chase. Press the corresponding flash button 5 to activate the slider control.
25	**BLUE** fader Slider to manually control the colour intensity BLUE. Press the corresponding flash button 4 to activate the slider control.
26	**GREEN** fader Slider to manually control the colour intensity GREEN. Press the corresponding flash button 3 to activate the slider control.

27	**RED** fader Slider to manually control the colour intensity RED. Press the corresponding flash button 2 to activate the slider control.
28	**FUNCTION** fader Controller for manual adjustment of an active function. Press the corresponding flash button 1 to activate the slider control.

Rear panel



29	Lockable DMX output socket.
30	DMX polarity switch.
31	USB port.
32	Audio input (line level, 100 mV to 1 V_{pp}).
33	MIDI OUT output socket.
34	MIDI THRU port.
35	MIDI IN input socket.
36	Connection socket for the 9 V power adapter for voltage supply.
37	Main switch to turn the unit on or off.

7 Operation

After turning the unit on, it will run a short self-test. Then the unit automatically switches to operating mode 'Manual' and is ready for use.

Selecting the operating mode

The LED Commander 16/2 operates in three different modes. To change the mode, press the *[MODE]* button repeatedly until the desired mode appears in the display and the corresponding indicator lights up.

- *'Auto'*

  In this mode you can use the sliders *[FADE]* and *[SPEED]* to adjust the fade in and out time and speed. Use the buttons ▲ and ▼ to control the chase speed (setting range: 1 to 200 s).
- *'Music'*

  In this mode you can use the ▲ and ▼ buttons to adjust the audio sensitivity (setting range: 0 to 100 %). Use the *[FADE]* slider to adjust the fade in and out time.
- *'Manual'*

  In this mode you can use the ▲ and ▼ buttons to call each program step of a chase. Use the *[FADE]* slider to adjust the fade in and out time.

Assigning channels

1. Keep the *[PATCH / CLEAR]* button pressed for three seconds.
2. Press the *[FIXTURE]* button (1 to 16) to select the desired FIXTURE channel.
3. Use the *[SPEED]* slider to choose the desired channel range.
4. Use the *[FADE]* slider to select the desired DMX channel.
5. Press the flash button for the function you want to assign.
6. Repeat steps 2 to 5 to allocate the remaining sliders with functions.

Example: If the RED function (flash button 2) is assigned to DMX channel 21, the display shows the following values:

Cancelling channel assignment

1. Keep the *[PATCH / CLEAR]* button pressed for three seconds.
2. Deselect all active FIXTURE channels (all blue FIXTURE-LEDs off).
3. Use the *[FADE]* and *[SPEED]* sliders to select the DMX channel whose assignment you want to cancel.
4. Press the respective flash button (1 to 8) to cancel the channel assignment.

The channel assignment is cancelled.

Setting the dimmer channel

1. Keep the *[PATCH / CLEAR]* button pressed for three seconds.
2. Press the *[FIXTURE]* button (1 to 16) to select the desired FIXTURE channel.
3. Keep the *[DIMMER]* button pressed for three seconds.
   ⇨ The display shows the following message:

   Now, the channel to be programmed in the next step can be controlled via the *[DIMMER]* control that is assigned to channel FIXTURE 01.
4. Select the desired channel range using the *[SPEED]* sliders (1, 21, 41, 61 etc.).
5. Select the desired DMX channel via the *[FADE]* slider.
6. Keep the flash button *[RED]* pressed for three seconds.
   ⇨ The display shows the following message:

Now, the channel RED of FIXTURE 01 can be controlled via the *[DIMMER]* control that is assigned to the channel FIXTURE 01.

7. Repeat steps 4 to 6 to allocate the remaining channels of FIXTURE 01.

The previously selected FIXTURE channel is displayed with the letter 'M' in the display.

In the example, this means that the *[DIMMER]* control that is assigned to channel FIXTURE 01 can control the maximum value of RED (CH 2).

Calling scenes

1. Deselect all active FIXTURE channels.
2. Keep the *[PATCH / CLEAR]* button pressed for three seconds to delete all initial values of the fader function.
3. Press the *[SCENE]* button to select the desired scene. If needed, toggle between both memory banks via the shift button.

You can link a number of scenes together and control them using the [FADE] slider. The LEDs of all selected scenes light up blue.

Programming scenes

1. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to change to the operating mode Programming/Recording.
2. Use the *[FIXTURE]* buttons to select the channel that you want to programme.
3. Use the flash controls 1 to 8 to set the desired values.
4. Press the *[SCENE]* button to select a memory slot. If needed, toggle between both memory banks via the shift button.
5. Press the *[PROGRAM / RECORD]* button and then for about one second the button for the scene that you want to overwrite.

   ⇨ All device LEDs briefly flash.
6. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

With each programming, the existing scenes are overwritten with the new data.

Calling chases

1. Deselect all active FIXTURE channels (all blue FIXTURE-LEDs off).
2. Keep the button *[PATCH / CLEAR]* pressed for three seconds to delete all initial values of the fader function.
3. Press the *[CHASE]* button to select the desired chase. If needed, toggle between both memory banks via the shift button.

Programming chases

1. Keep the *[PROGRAM / RECORD]* button pressed for three seconds to change to the operating mode Programming/Recording.
2. Press the *[CHASE]* buttons to select the desired chase. If needed, toggle between both memory banks via the shift button.
   ⇨ The corresponding CHASE LED lights up.
3. Press the *[FIXTURE]* buttons to select the channel that you want to programme.
4. Use the flash controls 1 to 8 to set the desired values.
5. Press the *[PROGRAM / RECORD]* button to store the updated values.
   ⇨ All device LEDs briefly flash and the display shows the following values:

6. Repeat steps 2 to 5 to add further programme steps.
7. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

Inserting a programme step

1. Keep the *[PROGRAM / RECORD]* button pressed for three seconds to change to the operating mode Programming/Recording.
2. Press the *[CHASE]* buttons to select the desired chase that you want to expand. If needed, toggle between both memory banks via the shift button.
3. Briefly press the *[MIDI / IN SET]* button.
   ⇨ The corresponding indicator LED flashes.
4. If needed, press the ▲ and ▼ buttons to select the step number at which you want to insert the program step.
5. Press the *[FIXTURE]* buttons to select the channel that you want to programme.
6. Use the flash controls 1 to 8 to set the desired values.
7. Press the *[PROGRAM / RECORD]* button to store the updated values.
   ⇨ All indicator LEDs flash three times.
8. Repeat steps 4 to 7 to insert further programme steps. The 16 memory slots can be assigned to a total of 2,000 programme steps.
9. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

Deleting a programme step

1. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to change to the operating mode Programming/Recording.
2. Press the *[CHASE]* buttons to select the chase from which you want to delete a step. If needed, toggle between both memory banks via the shift button.
3. Press the *[MIDI / IN SET]* button and then press the ▲ and ▼ buttons to select the step number to be deleted.
4. Press the *[TAP / DEL]* button to delete the step.

   ⇨ All LEDs flash three times.
5. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

Deleting a chase

1. Deselect all active FIXTURE, SCENE and CHASE channels (all blue LEDs off).
2. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to change to the operating mode Programming/Recording.
3. If needed, toggle between both memory banks 'CHASE' via the shift button.
4. Press the *[TAP / DEL]* button and then the Chase button of the chase that you want to delete.
5. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

Assigning DMX channels to AUX channels

1. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to change to the operating mode Programming/Recording.
2. Use the *[FADE]* and *[SPEED]* sliders to select the DMX channel that you want to assign.
3. Press the *[AUX1]* or *[AUX2]* button to assign the DMX channel to the respective AUX channel.
4. Repeat steps 2 and 3 to assign any number of DMX channels.
5. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

The AUX channels can only be controlled via the [FADE] control.

Assigning DMX channels to flash controls 1 to 8

1. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to change to the operating mode Programming/Recording.
2. Use the *[FADE]* and *[SPEED]* sliders to select the DMX channel that you want to assign.
3. Press the flash button of the desired control to assign the DMX channel.
4. Repeat steps 2 and 3 to assign any number of DMX channels.
5. Keep the button *[PROGRAM / RECORD]* pressed for three seconds to exit the recording mode.

Renaming flash functions

1. Switch the device off
2. Keep the buttons *[PROGRAM / RECORD]*, *[DIMMER]* and *[PATCH / CLEAR]* pressed simultaneously and turn the device on again.

   ⇨ The following message appears in the display after two seconds:

3. Press the flash button of the function that you want to rename.
4. Now you can use the joystick to change the description in the display (move it right / left to move the cursor, move it up / down to change the character).
5. Repeat steps 3 and 4 to rename further flash function, if required.
6. Confirm the updated description(s) via *[PROGRAM / RECORD]*.
7. Switch the device off and on again to work with the new settings.

MIDI functions

The MIDI function allows you to combine two DMX controllers together, or to control the controller via a MIDI keyboard.

1. Keep the button *[MIDI / IN SET]* pressed for three seconds to change to the operating mode MIDI.
2. Select a MIDI channel (1 to 16) via buttons ▲ and ▼.
3. Keep the button *[MIDI / IN SET]* pressed for three seconds to exit the MIDI mode.

MIDI value	Function	Description
0-15	SCENE1-16	Turning scenes 1-16 on / off
16-31	CHASE1-16	Turning chases 1-16 on / off
32	MANUAL	Manual show control
33	MUSIC	Sound controlled show
34	AUTO	Automatic show
35	AUX1	Turning AUX1 on / off
36	AUX2	Turning AUX2 on / off

MIDI value	Function	Description
37	▲	Manual show control
38	▼	Manual show control
39	TAP	Automatic show
…	…	…
126	BLACK OUT	Function BLACK OUT active

Saving settings externally

You can save various device settings to a USB drive.

1. Connect the USB drive to the USB port of the device.
2. Keep the buttons *[MODE]* and ▲ pressed for two seconds until the display shows the message *'Press fixture / key save file'*.
3. Press the button of the FIXTURE channel whose settings you want to save.
   ⇨ The saving progress is shown on the display.

All channel settings are stored together in the file 'led-commander 16-2' on the USB drive.

Loading stored settings

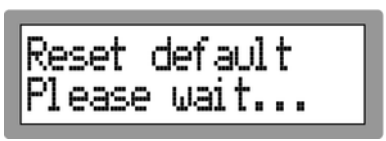
You can load saved device settings from a USB drive into the units memory.

1. Connect the USB drive with the saved setting values to the USB port of the device.
2. Keep the buttons *[MODE]* and ▼ pressed for two seconds until the display shows the message *'Press fixture /key loader file'*.
   ⇨ The LEDs of those channels for whom settings have been found on the USB drive light up.
3. Press the button of the FIXTURE channel whose settings you want to load.
   ⇨ The loading progress is shown on the display. Then the display returns to the previous status.

Resetting to factory defaults

1. Turn off the device with the main switch.
2. Press the buttons *[PROGRAM / RECORD]*, *[TAP / DEL]* and *[PATCH / CLEAR]* simultaneously and then turn the unit on again.

   ⇨ After two seconds, the display shows the following message:



After resetting to factory defaults, the FIXTURE channels are set up as follows:

FIXTURE 1	FIXTURE 2	FIXTURE 3	...	FIXTURE 16
FUN CH1	FUN CH11	FUN CH21		FUN CH151
Red CH2	Red CH12	Red CH22		Red CH152

FIXTURE 1	FIXTURE 2	FIXTURE 3	...	FIXTURE 16
Green CH3	Green CH13	Green CH23		Green CH153
Blue CH4	Blue CH14	Blue CH24		Blue CH154
SPEED CH5	SPEED CH15	SPEED CH25		SPEED CH155
COLOUR CH6	COLOUR CH16	COLOUR CH26		COLOUR CH156
STROBE CH7	STROBE CH17	STROBE CH27		STROBE CH157
No Func.CH8	No Func.CH18	No Func.CH28		No Func.CH158
PAN CH9	PAN CH19	PAN CH29		PAN CH159
TILT CH10	TILT CH20	TILT CH30		TILT CH160

Firmware update

1. Connect a USB drive with the latest firmware version to the USB port of the device.
2. Turn the device off.
3. Keep the buttons *[PROGRAM / RECORD]*, *[MODE]* und ▼ pressed and turn the device on again.
   ⇨ After two seconds, the display shows the message *'Press any button / Update firmware'*.
4. Press any key to start the firmware update.
5. After the installation is complete, the display shows the message *'Update succeeded / Please reboot'*.
6. Then, turn off the device and after a few seconds turn it on again.

8 Technical specifications

Operating supply voltage	DC 9…12 V ⎓
Communication protocol	DMX 512
Dimensions (W × D × H)	482 mm × 175 mm × 75 mm
Weight	3.5 kg

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 device is subject to the European directive 2002/96/EC.

Do not dispose of the device 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.