STAIRVILLE

# DMX-Master 3-FX

DMX controller

# Table of contents

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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.

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**!**

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

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

# 3 Features

Special characteristics of the device:

- control of up to 16 DMX devices with 16 DMX channels each (256 channels)
- 240 scenes on 30 banks (8 per bank)
- six chases with up to 250 single steps
- six overlay scenes
- integrated effect generator
- fade in time, fade out time and speed for scenes and chases can be adjusted per channel
- all channels invertable
- jog wheels for the control of pan and tilt movements
- operating modes: *'Play Mode'*, *'Program Mode'*, *'Setup Mode'* and *'Easy Mode'*
- Functions: desk lock, autostart, blackout, freeze, copy
- MIDI control (synthesizer and MIDI keyboard)
- data backup and restore via USB interface
- suitable for 19" racks (four rack units)

# 4 Installation

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

**Mounting into a rack**

The device fits into 19" racks, it occupies four rack units.

Before you install the device, remove the cover (ten fastening screws). Then mount the device into the racks using the optionally available mounting brackets.

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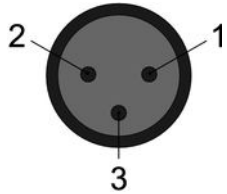
**DMX connection**

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 (+) |

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# 5 Setup

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 unit**

Connect the power supply unit which is included in the delivery to the 9-V input of the device, then put the mains plug into the socket.

**Turning the device on**

Turn on the device using the main switch at the back side. After turning the device on the displays shows the software version and the operation mode for a short time. The related display LEDs light up.

# 6 Connectors and controls

**Front panel overall view**
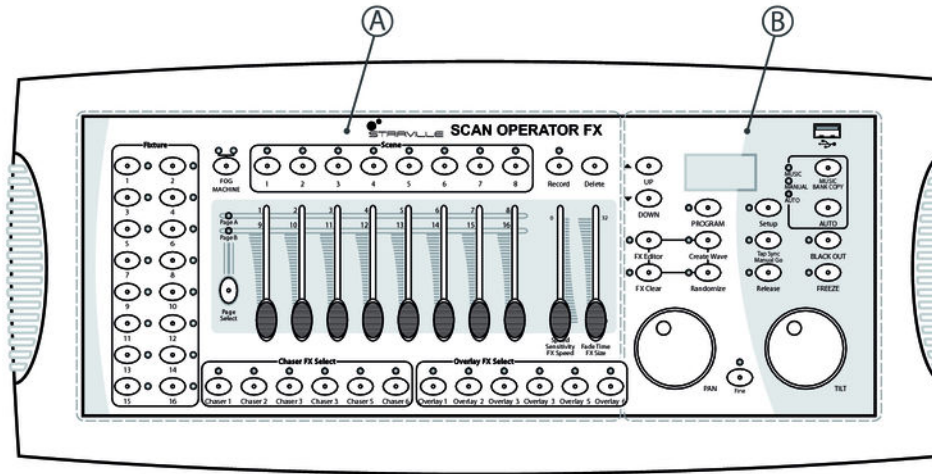
**Front panel detailed view 'A'**
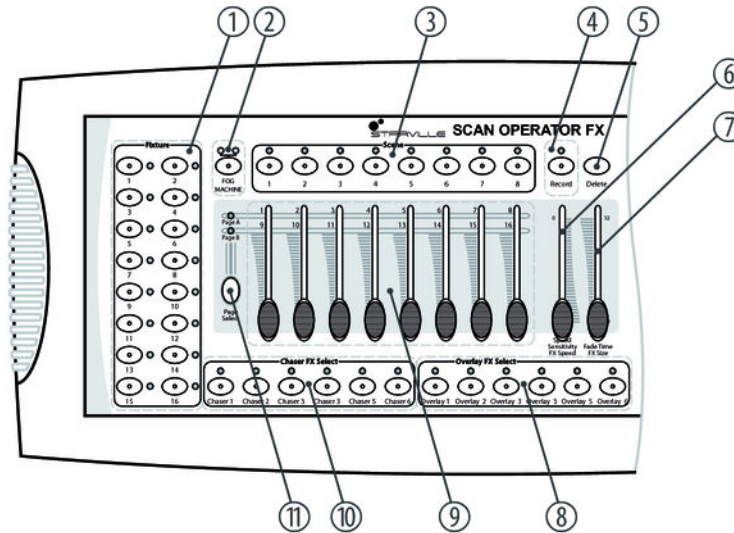
| | |
|---|---|
| 1 | *[Fixture]* group of buttons |
| | Buttons 1 to 16 select the control channels. The related control LEDs show if the respective channel is active (LED lights up) oder deactivate (LED is off). |
| 2 | *[FOG MACHINE]* button |
| | Activates a fog machine connected to the device. The **HEATING** and **READY** control LEDs show the operating status of the fog machine. |
| 3 | *[Scene]* group of buttons |
| | Buttons 1 to 8 activate oder deactivate the programmed scenes. The control LEDs show the activated scenes (LED lights up). |
| 4 | *[Record]* button |
| | Records chases created by you. |
| 5 | *[Delete]* button |
| | Deletes chases. |

| 6 | **Wait Time \| FX Speed** |
|---|---|
| | Adjusts the program and effect speed and the sensitivity of the microphone. |
| 7 | **Fade Time \| FX Size** |
| | Adjusts the fade in and fade out time used for scene and program changes and to adjust the display size of an effect. |
| 8 | *[Overlay FX Select]* group of buttons |
| | Buttons 1 to 6 activate or deactivate the overlay scenes. The control LEDs show the activated scenes (LED lights up). |
| 9 | Faders (with double function) adjust the DMX channels 1 to 16. Use *[Page Select]* to switch between banks 1…8 and 9…16. |
| 10 | *[Chaser FX Select]* group of buttons |
| | Buttons 1 to 6 activate or deactivate the chases. The control LEDs show the active chases (LED lights up). |
| 11 | *[PAGE SELECT]* button |
| | Switches between banks 1…8 and 9…16 (fader with double function to adjust the DMX channels). The control LEDs *[Page A]* and *[Page B]* indicate which of the two banks is active. |

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**Front panel detailed view 'B'**
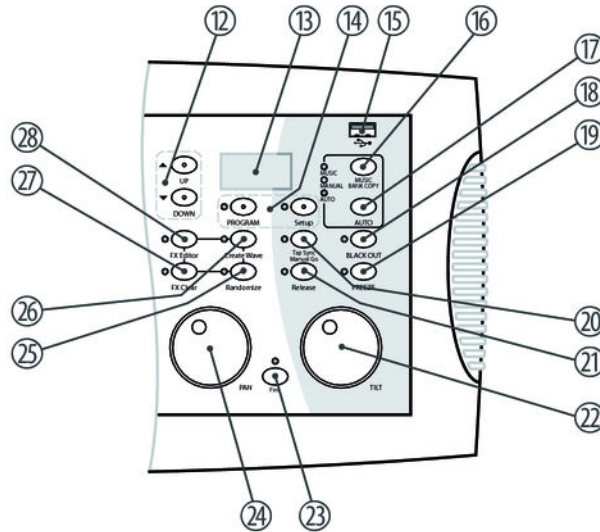
| 12 | ▲ \| *[UP]* and ▼ \| *[DOWN]* buttons |
| --- | --- |
| | Switch between the 30 banks and to adjust the starting angle in the effect editor. |
| 13 | Display |
| 14 | *[PROGRAM]* and *[Setup]* buttons |
| | Buttons with control LEDs to switch between the operation modes. |
| 15 | USB plug for a USB storage device or the USB lamp which is included in the delivery. |
| 16 | *[MUSIC BANK COPY]* button |
| | Activates the sound control or copies a complete bank. |
| 17 | *[AUTO]* button |
| | Activates the automatic control. |
| 18 | *[BLACK OUT]* button |
| | Overwrite the DMX outputs with user-specific values (all shutter channels to zero, for example). |

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| 19 | *[FREEZE]* button |
| | Activates the freeze function. |
| 20 | *[Tap Sync Manual Go]* button |
| | Synchronises the timing or activates a chase in automatic mode. The display alternately shows the number of the current step or the number of the activated chase and of the current bank. |
| 21 | *[Release]* button |
| | Sets all DMX channels back to '0'. |
| 22 | **TILT** |
| | Jog wheel used to control the tilt movement of all active channels directly. |
| 23 | *[Fine]* button |
| | Adjusts the resolution of the tilt and the pan movement (fine tuning). |
| 24 | **PAN** |
| | Jog wheel used to control the pan movement of all active channels directly. |
| 25 | *[Randomize]* button |
| | Activates the random function. |

| 26 | *[Create Wave]* button |
|----|------------------------|
|    | Activates the wave function. |
| 27 | *[FX Clear]* button |
|    | Resets the user-specific effect settings. |
| 28 | *[FX Editor]* button |
|    | Activates the effect editor. |

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**Rear side**
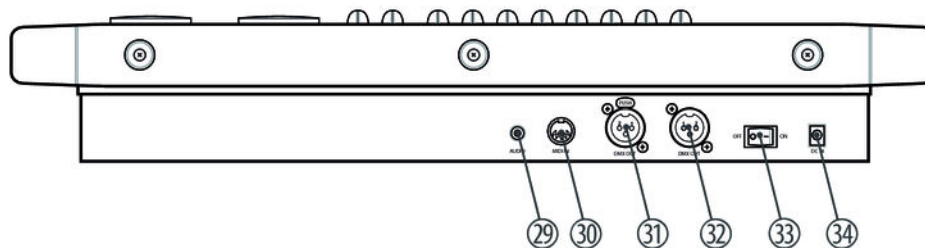
| | |
|---|---|
| 29 | **AUDIO** |
| | RCA jack to connect audio equipment to the device. |
| 30 | **Fog** |
| | Plug to connect a fog machine to the device. |
| 31 | **MIDI IN** |
| | MIDI input. |
| 32 | **DMX OUT** |
| | Lockable DMX output connector. |
| 33 | **OFF \| ON** |
| | Mains switch to turn the device on/off. |
| 34 | **DC IN** |
| | Socket for connecting the 9-V power supply unit included in the delivery. |

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# 7 Basics

This chapter provides basic information about the data transmission using the DMX protocol.

**Signal transmission**

DMX signals are generated by a DMX controller. The signals are transferred over a DMX cable to the connected devices. Each connection can transmit up to 512 channels. For each channel, a value between 0 and 255 is being transmitted. The 512 channels form a so-called 'DMX universe'.

**Cabling**

DMX devices are connected serially, that means the sending device transmits signals to all connected receivers (daisy chain). The order of the receivers in the daisy chain does not matter since all devices filter and process the relevant data independently from each other.

To create the daisy chain, the DMX input of the first receiver is connected to the DMX output of the controller or another DMX master. The output of the first receiver is connected to the input of the second one, and so on. The output of the last receiver in the DMX chain must be terminated using a resistor (110 Ω, ¼ W).

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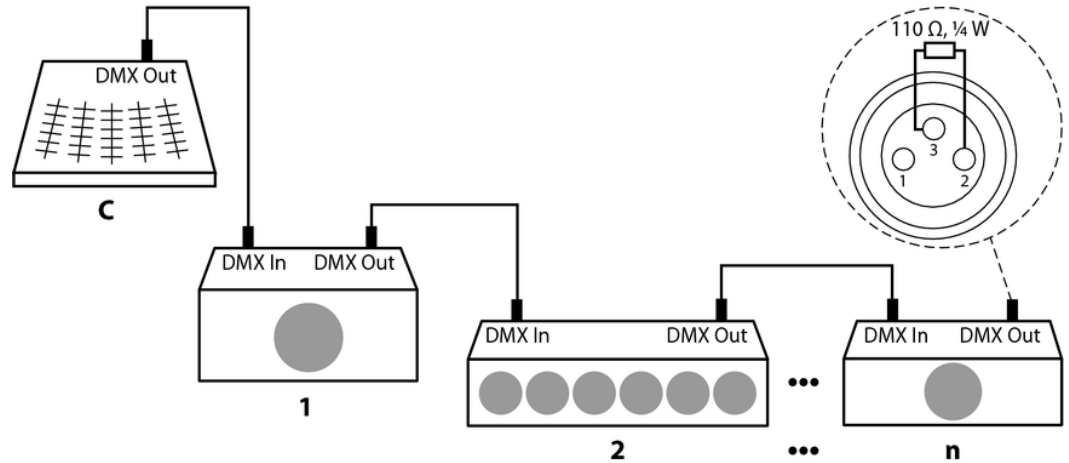
If the cable length exceeds 300 m (328 yds.) or the number of devices is greater than 32, the signal must be amplified using a DMX booster.

**Signal processing**

Each DMX devices operates on a specific number of channels to transfer the incoming control signals into movements, changing of light intensitiy or colour, and so on. Since all receivers that are part of a DMX daisy chain receive all signals, a start address must be assigned to each DMX device. Starting from this address (a value between 0 and 512) the incoming signals are being evaluated and transferred into the functions of the receiver (internal channel assignment).

It is no problem to use a start address more than once in a DMX chain. In that case, the relevant receivers operate synchronously (identical movement, light intensity, colour, and so on).

**Adressing**

When setting the DMX address, the counting method of the device determines the first channel. Depending on the device, the channel numbers may start from 0 or from 1. The address range may therefore reach from 0 to 511 or from 1 to 512.

# 8 Operation

## 8.1 Introduction

This device controls up to 16 DMX devices (for example dimmers, LED pars, moving heads or scanners) each with 16 internal DMX channels. 240 scenes in 30 banks are available in total (eight scenes per bank). They can be used to programme up to six chases with 250 single steps. The chases can be played in the following operation modes:

- manual
- sound control
- automatic
- MIDI control

**Selecting the operation mode**

The device can operate in four operation modes offering different functions. When you turn it on, the operation mode 'Play Mode' is active. The display always shows the active operation mode.

- *'Play Mode'*
  Use this operation mode to play programmed scenes, banks and chases in the mode you have selected (automatically, sound-controlled, MIDI-controlled).
- *'Program Mode'*
  Use this operation mode to programme scenes, effects, banks, chases, fade in/out and blackout.
- *'Setup Mode'*
  Use this operation mode to adjust several parameters (MIDI channel, MIDI synthesizer control, MIDI keyboard control, channel inversion, fade-in time, fade-out time, jog wheel assignment).
- *'Easy Mode'*
  Use this operation mode to test the settings of the DMX devices in use.

In 'Easy Mode' and in 'Play Mode' 256 channels are being transmitted. The channels 1 to 160 can be controlled, for the channels 161 to 256 the value '0' is being transmitted constantly.

To select a specific operation mode, press the respective button for at least three seconds:

- *'Play Mode'*
  Standard operation mode, automatically active when you turn on the device.

- *'Program Mode'*
  Button *[PROGRAM]*.
- *'Setup Mode'*
  Button *[Setup]*.
- *'Easy Mode'*
  Buttons *[PROGRAM]* and *[Setup]* simultaneously.

You can switch between the operation modes at any time. To return to the operation mode 'Play Mode', press the button that is assigned to the operation mode where you came from for at least three seconds.

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**Display**

During normal operation the upper line of the display shows the current operation mode. Depending on the operation mode, the second line shows the following:

- *'Play Mode'*

  In this operation mode, the second line shows the selected bank and the scene that is running at moment. If a chase is running, the display shows the designation of the chase in the first line and the number of the current step in the second line.

- *'Program Mode'*

  In this operation mode, the second line shows the selected bank and the current scene. Besides that there is an extra entry 'Overlay Bank' that is marked 'Overlay'.

- *'Setup Mode'*

  In this operation mode, the second line shows the designation of the menu that is open (see table below).

- *'Easy Mode'*

  In this operation mode, the second line is blank.

| Menu item | Description |
| --- | --- |
| *'Midi'* | Configuration of MIDI channels and MIDI assignment |
| *'Invert'* | Channel inversion |

| Menu item | Description |
|---|---|
| *'Fadetime'* | Fade time channel configuration |
| *'Tilt'* | Configuration of the jog wheel used for the tilt movement |
| *'Pan'* | Configuration of the jog wheel used for the pan movement |
| *'Autostart'* | Autostart configuration |

*System messages or error reports can overwrite the current information in the display for a few seconds. The display automatically returns to the normal operation after that.*

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## 8.2 Scenes and banks

**Programming new scenes**

A scene is the collection of all 256 DMX values for all the DMX devices including those for pan and tilt movement. Up to 240 scenes can be stored. The scenes are subdivided in 30 banks with eight scenes each.

1. ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

2. ▶ Activate a device using one of the *[ Fixture]* buttons 1 to 16.

3. ▶ Adjust the DMX values (0 to 255) for the DMX channels using the faders.

4. ▶ If necessary, use *[Page Select]* to switch between the channel groups, then repeat steps 2 and 3 until the desired values are assigned to all required channels.

5. ▶ Press *[Record]* to store the new scene.

   ⇨ The related control LEDs flash.

6. ▶ Now press the *[ Scene]* button that you want the new scene to be linked to. If necessary, use ▲ | *[UP]* or ▼ | *[DOWN]* to switch between the banks.

   ⇨ The control LED quickly flashes three times.

> *Using [Release], you can set all channels to '0' at once.*

**7.** To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

For information about how to play back a scene, refer to  *Chapter 8.10 'Play mode' on page 69.*

**Editing scenes**

1. ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank where the desired scene is stored.

3. ▶ Load the scene to be edited using the related *[ Scene]* button, modify the settings as desired and store the scene back at its original location. For details, refer to ♲ *'Editing scenes' on page 33*.

4. ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

> *You cannot load 'empty' scenes. When selecting a scene that contains no data, the display shows the error message 'NULL'.*

**Copying scenes**

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank where the desired scene is stored.

**3.** ▶ Load the scene to be copied (source) using the related *[ Scene]* button, .

**4.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank where you want to copy the scene to (target).

**5.** ▶ Press *[Record]*.

**6.** ▶ Now press the *[ Scene]* button that you want the copied scene to be linked to.

⇨   The control LED quickly flashes three times.

**7.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

> *You cannot load 'empty' scenes. When selecting a scene that contains no data, the display shows the error message  'NULL' .*

**Copying device settings**

Use this function to copy all DMX values assigned to one device to another.

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Hold the *[Fixture]* button of the DMX device the DMX values of which you want to copy (source).

**3.** ▶ In addition, press the *[Fixture]* button of the DMX device where you want to copy the values to (target).

⇨ The display shows the message *'COPY'*. The related control LEDs quickly flash three times.

This indicates that the data has been stored successfully.

**4.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

*You can copy the DMX value settings to further DMX devices when you keep the first [Fixture] button pressed and then press the [Fixture] button of an additional DMX device.*

> The changes take place in the memory buffer first. To keep the new values perma-
> nently, store the scene as described above.

**Copying a complete bank**

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank to be copied (source).

**3.** ▶ Press *[Record]*.

**4.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank to copy into (target).

**5.** ▶ Press *[MUSIC BANK COPY]*

⇨ The related control LEDs quickly flash three times.

This indicates that the data has been stored successfully.

**6.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Deleting a scene**

1. ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank where the desired scene is stored.

3. ▶ Hold the *[DELETE]* button and press the *[ Scene]* button of the scene that you want to delete.

   ⇨ The related control LEDs quickly flash three times.

   This indicates that the data has been deleted successfully.

4. ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

*It is not possible to restore a deleted scene.*

**Deleting a bank**

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank to be deleted.

**3.** ▶ Hold the *[DELETE]* button and press *[MUSIC BANK COPY]*.

⇨ The related control LEDs quickly flash three times.

This indicates that all scenes of the bank have been deleted successfully.

**4.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

# 8.3 Chases

**Programming chases**

A chase is a programme that calls up to 250 scenes sequentially. Before you can create a chase you have to programme the scenes that are part of it.

**Inserting a scene into a chase**

Use this function to insert a scene into a chase at the current editing position.

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Press the *[CHASER]* button of the chase that you want to edit. You can edit only one chase at a time.

> ⓘ *If you select a chase that already contains scenes, the editing position is moved to the end of the chase automatically.*

**3.** ▶ Press the *[Scene]* button of the scene that you want to insert into the chase.

**4.** ▶ Press *[Record]*.

⇨ The related control LEDs quickly flash three times.

This indicates that the scene has been inserted successfully.

The first line of the display shows the number of the edited chase and the editing position. The second line of the display shows the bank and the inserted scene.

The play back of chases is described at ♺ *'Accessing a scene manually ' on page 69*, ♺ *'Playing a chase with auto beat' on page 74* and ♺ *'Playing a chase with sound control' on page 75*.

**5.** ▶ Repeat the steps 3 and 4 until the chase is complete. A chase can contain up to 250 scenes. When this limit is reached, the display shows the message *'Chaser Full'* .

**6.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Inserting a bank into a chase**

Use this function to insert a bank containing several scenes into a chase at the current editing position.

1. ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

2. ▶ Press the *[CHASER]* button of the chase that you want to edit. You can edit only one chase at a time.

> *If you select a chase that already contains scenes, the editing position is moved to the end of the chase automatically.*

3. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank that you want to insert.

4. ▶ Press *[MUSIC BANK COPY]*.

5. ▶ Press *[Record]*.

   ⇨ The related control LEDs quickly flash three times.

   This indicates that the bank has been inserted successfully.

6. ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Changing the editing position in a chase**

Use this function to change the position in a chase where new scenes or banks are inserted.

1. ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

2. ▶ Press the *[CHASER]* button of the chase that you want to edit. You can edit only one chase at a time.

> ⓘ *If you select a chase that already contains scenes, the editing position is moved to the end of the chase automatically.*

3. ▶ Press *[Tap Sync Manual Go]*.

⇨ The display shows the current editing position.

4. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the desired editing position.

Example: If you want to insert a scene between the third and the fourth position of a chase, move the editing position until the display shows *'C:1 P003'* .

Here, *'C:1'* means chase 1 and *'P003'* means step 3.

5. ▶ Press *[Tap Sync Manual Go]*.

**6.** ▶ Now you can insert scenes or banks at the modified editing position ( � *'Inserting a scene into a chase ' on page 40*).

**7.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Removing a scene from a chase**

Use this function to remove a scene from a chase at the current editing position.

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Press the *[CHASER]* button of the chase that you want to edit. You can edit only one chase at a time.

> *If you select a chase that already contains scenes, the editing position is moved to the end of the chase automatically.*

**3.** ▶ Press *[Tap Sync Manual Go]*.

⇨ The display shows the current editing position.

**4.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the desired editing position.

**5.** ▶ Press *[DELETE]*.

⇨ The related control LEDs quickly flash three times.

This indicates that scene has been deleted successfully.

> *All scenes that were positioned behind the deleted one move one position forward. Example: If you press [DELETE] three times, the three scenes behind the original editing position will be deleted.*

**6.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Deleting a chase**

Use this function to delete the content of a chase completely. The scenes and banks will be removed from the chase.

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Hold the *[DELETE]* button.

**3.** ▶ In addition, press the *[CHASER]* button of the chase that you want to delete.

⇨ The related control LEDs quickly flash three times.

This indicates that all scenes have been removed from the chase successfully.

**4.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Deleting all chases**

Use this function to delete the content of all chases. The scenes and banks will be removed from all chases.

**1.** ▶ Ensure that the device is turned on.

**2.** ▶ Hold ▲ | *[UP]* and ▼ | *[DOWN]* simultaneously, then switch off the device.

**3.** ▶ Keep the buttons pressed and turn on the device.

⇨ All control LEDs quickly flash three times.

## 8.4 Blackout

**Setting up or modifying the blackout function**

You can configure the blackout function as necessary. It is possible to specify which channel of which DMX device will be overwritten by the blackout function and which DMX will be used. Doing so it is possible to dim fixtures with a single key stroke without changing their settings for colour, pan or tilt.

Proceed as follows to set up or modify the blackout function:

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select bank 31.

⇨ The display shows *'Overlay'*.

Now you can configure the blackout function like any standard scene.

**3.** ▶ If you want to modify the existing configuration of the blackout function, continue with step 4.

If not, consider the following hint:

If the blackout function should overwrite just a few channels (for example only the dimmer channels of some DMX devices), press *[Release]* now. This way, all channels are set to 'OFF', meaning that they will not be affected by the blackout function. From now on, you only need to turn on those channels that you want to modify.

To configure the blackout function from scratch, continue with step 5.

**4.** ▶ Press *[BLACKOUT]* once to load the existing configuration.

**5.** ▶ Press the *[Fixture]* buttons related to the DMX devices which you want to be affected by the blackout function.

**6.** ▶ Use the *[Scene]* buttons to turn specific channels on or off. The display either shows *'CHxx: ON'* (meaning that channel xx will be overwritten by the blackout function) or *'CHxx: OFF'* (meaning that channel xx will not be affected by the blackout function).

**7.** ▶ Use the faders to adjust the values as desired. For test purposes you may also use channels that have been turned off.

**8.** ▶ If necessary, repeat steps 3 to 7 for additional DMX devices.

**9.** ▶ When the blackout function has been configured completely, press *[Record]*.

**10.** ▶ Press *[BLACKOUT]*.

⇨ The related control LEDs quickly flash three times.

This indicates that the blackout function settings have been stored successfully.

**11.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

*Ensure that the blackout function does not overwrite channels having fade times assigned to them. That way, all channels are supplied with the correct values when the blackout function is disabled.*

*If, on the other hand, a channel with a fade time assigned to it is overwritten by the blackout function, it will be smoothly faded back to its original value when the blackout function is disabled.*

**Resetting the blackout settings**

Use this function to set all 256 channels to 'on' and value '0' in relation to the blackout function.

Proceed as follows to reset the blackout settings:

1. ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select bank 31.

   ⇨ The display shows *'Overlay'*.

3. ▶ Press *[DELETE]* and *[BLACKOUT]* simultaneously

   ⇨ The related control LEDs quickly flash three times.

   This indicates that the blackout function has been reset successfully.

4. ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

## 8.5 Overlay scenes

**Setting up or modifying overlay scenes**

The overlay function is used to interrupt the normal sequence of scenes with a so-called overlay scene with a single key stroke. You may think of, for example, to enable or disable the strobe function of some fixtures during the normal sequence.

Keep in mind that the blackout function has higher priority than the overlay function. That means that you use the blackout function while the overlay function is active, since the blackout function overwrites the values of the active overlay scene.

Proceed as follows to set up or modify overlay scenes:

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select bank 31.

⇨ The display shows *'Overlay'* .

Now you can configure the overlay scene like any other standard scene.

**3.** ▶ If you want to modify an existing overlay scene, continue with step 4.

Ton configure an overlay scene from scratch, continue with step 5.

**4.** ▶ Press the *[Scene]* button of an existing overlay scene to load the existing configuration.

You cannot load 'empty' scenes. When selecting a scene that contains no data, the display shows the error message *'NULL'*.

**5.** ▶ Press the *[Fixture]* buttons related to the DMX devices which you want to be affected by the overlay function.

**6.** ▶ Use the *[Scene]* buttons to turn specific channels on or off. The display either shows *'CHxx: ON'* (meaning that channel xx will be overwritten by the overlay function) or *'CHxx: OFF'* (meaning that channel xx will not be affected by the overlay function).

If the overlay function should overwrite just a few channels, press *[Release]* now. This way, all channels are set to 'OFF' and value '0', meaning that they will not be affected by the overlay function. From now on, you only need to turn on those channels that you want to modify.

**7.** ▶ Use the faders to adjust the values as desired. For test purposes you may also use channels that have been turned off.

Use *[PAGE]* to switch between channels 1…8 and channels 9…16.

**8.** ▶ If necessary, repeat steps 3 to 7 for additional DMX devices.

**9.** ▶ When the overlay scene has been configured completely, press *[Record]*.

**10.** ▶ Press the *[Overlay]* button of the overlay scene 1…6 that you want to store.

⇨ The related control LEDs quickly flash three times.

This indicates that the settings of the overlay scene have been stored successfully.

**11.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Deleting overlay scenes**

Proceed as follows to delete an overlay scene:

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select bank 31.

⇨ The display shows *'Overlay'* .

**3.** ▶ Press *[DELETE]* and the *[Scene]* button of the overlay scene to be deleted simultaneously.

⇨ The related control LEDs quickly flash three times.

**4.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Using overlay scenes**

When you have configured an overlay scene, you can use it in the operation mode 'Play Mode'. When the programme runs, simply press the *[Overlay]* button 1…6 of the overlay scene that you want to use.

Keep in mind that only one overlay scene can be active at a time.

To turn off the overlay scene, press the *[Overlay]* button again.

## 8.6 Effect generator

The effect generator can store patterns for pan and tilt movement of moving heads or scanners together with the standard DMX values of a scene. You can select twelve different movement patters and modify them concerning size, speed and starting angle. The starting angle may be adjusted for each DMX device in use separately. This way you can programme the effects for the different devices independently from each other.

The values for pan and tilt created by the effect will be added to the values stored in the scene. That means that the values stored in the scene are the base for the effects.

**Effects**　　　　　　　　　　　You can select from twelve ready-made effects.

| Designation | Description |
|---|---|
| Circle CW | Clockwise circular movement |
| Circle CCW | Counter-clockwise circular movement |
| Sine up/down | Sine-wave-like vertical movement |
| Sine right/left | Sine-wave-like horizontal movement |
| Sine diagonally left | Sine-wave-like diagonal movement from right to left |
| Sine diagonally right | Sine-wave-like diagonal movement from left to right |
| Sawtooth 1 | Saw-tooth-like pan movement |
| Sawtooth 2 | Saw-tooth-like tilt movement |
| Triangle | Triangular movement |
| Linear | Straight vertical tilt movement |

| Designation | Description |
|---|---|
| Jump | Movement jumping in a square shape |
| Wild | Complex asymmetric quick movement pattern. It results from a combination of sine-wave-like and cosine-wave-like movements. You may combine this effect with random function. That way a group of devices seem to move independently from each other. |

**Wave movement using the button 'Create Wave'**

When you have selected an effect in the effect generator, the *[Create Wave]* button shifts the starting angle of the selected DMX devices each time when it is pressed. This forms a wave movement. To achieve this effect, the starting angle of the selected devices must be identical at first. This is the case, when you select a new effect. When you press *[Create Wave]* the first, the DMX devices move like in a wave.

When you press *[Create Wave]* the second time, each device swings around 180°.

When you press *[Create Wave]* the third time, the DMX devices move like in a wave, but in opposite direction.

When you press *[Create Wave]* the fourth time, the DMX devices return to their starting position.

**Example**

Being in the operation mode *'Program Mode'*, you have selected the desired DMX devices and have opened the effect generator. Using the faders, you set the value for pan and tilt to '128'. Now you can select the 'Sine up/down' effect and modify speed and size. All selected DMX devices now synchronously move in the same way (sine-wave-like vertical movement).

When you press *[Create Wave]* now, the synchronous movement changes to a wave movement that is propagated step by step from the first to the last DMX device. When you press *[Create Wave]* the next time, the group of DMX devices is split into two. These two groups perform movements in opposite directions. When you press *[Create Wave]* once more, the wave runs backwards. When you press *[Create Wave]* again, the wave disappears.

**Random function using the button 'Randomize'**

When you have selected an effect in the effect generator, the *[Randomize]* button changes the starting angles of the selected DMX devices randomly and independently from each other. This results in an apparent unordered movement. Each time you press *[Randomize]* again, the device creates a new set of values which results in a new pattern of movements.

To stop the random function, simply press the button related to the desired effect again, for example *[Triangle]*. The values for size and speed that you have entered the last time stay as they are.

**Example**

Being in the operation mode *'Program Mode'*, you have selected the desired DMX devices and have opened the effect generator. Using the faders, you set the value for pan and tilt to '128'. Now you can select the 'Wild' effect and modify speed and size. All selected DMX devices now synchronously move in the same way (complex asymmetric movement).

When you press *[Randomize]* now, the movement pattern starts to be randomized. All devices move, but in different way. If you combine this effect with a small point gobo, you can achieve a great searchlight effect.

**Modifying an effect**

Use this function to modify the settings of a predefined effect.

**1.** ▶ To switch to the operation mode 'Program Mode', press *[PROGRAM]* for three seconds.

**2.** ▶ Press *[FX Editor]*.

⇨ The control LEDs of the effect buttons light up.

**3.** ▶ Press the *[Fixture]* button related to the DMX devices which should be affected by the changes.

**4.** ▶ Press the effect button of the effect that you wish to modify.

**5.** ▶ Using the faders **FX Speed** and **FX Size** you can modify the speed and the size of the effect in eight steps.

Using ▲ | *[UP]* or ▼ | *[DOWN]* you can change the starting angles for pan and tilt movement in steps of 45° (for similar functions refer to ⮎ *'Wave movement using the button 'Create Wave'' on page 58* and ⮎ *'Random function using the button 'Randomize'' on page 59*).

**6.** ▶ Using the other faders you can adjust the DMX values, even when the effect generator is open. The values set here for pan and tilt will be the base for the effect.

Use *[PAGE]* to switch between channels 1…8 and 9…16.

**7.** ▶ If necessary, repeat steps 3 to 6 for additional DMX devices.

**8.** ▶ If you want to undo the changes made for the selected DMX devices, press *[FX Clear]*.

**9.** ▶ To close the effect generator press *[FX Editor]*.

**10.** ▶ To get back to the operation mode 'Play Mode', press *[PROGRAM]* for three seconds.

**Deleting an effect**

While you are in the operation mode 'Program Mode', you can delete the effect of the selected DMX devices at any time using *[FX Clear]*. It is not necessary to open the effect generator.

> *If you want to delete an effect related to a scene which is already stored, you have to load the scene first. Then delete the effect and store the scene again afterwards.*

## 8.7 Fading

The fading functions allows you to specify DMX channels which are moved slowly and steadily to their target values when changed. The device automatically creates all necessary intermediate values.

Fading is useful for movement and dimmer settings only. Therefore it is possible to specify the affected channels individually.

**Changing and storing fade time channels**

Proceed as follows to set up the fading function for a DMX channel:

1. ▶ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the menu item *'Fadetime'*. Now you can change the fading channels.

3. ▶ Press the *[Fixture]* button of the DMX devices which should be affected by the changes.

4. ▶ Use the *[Scene]* buttons to switch individual channels on or off. The display either shows *'CHxx: ON'* (meaning that fading will be assigned to the channel) or *'CHxx: OFF'* (meaning that the channel is not affected by the fading).

5. ▶ Use *[PAGE]* to switch between channels 1…8 and channels 9…16.

6. ▶ If necessary, repeat steps 3 to 5 for additional DMX devices.

7. ▶ Press *[Record]* to store the settings. Otherwise your modifications are currently active but not permanently stored.

8. ▶ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

9. ▶ Use the **Fade Time** fader to adjust the fade time.

**Deleting fade time channels**

Proceed as follows to remove the fading function from a DMX channel:

1. ▶ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the menu item *'Fadetime'* .

3. ▶ Press the *[Fixture]* button of the DMX devices for which you want to remove the fading.

4. ▶ Press *[Delete]*.

   ⇨ The related control LEDs quickly flash three times. The display shows the message *'Fadetime RESET'* .

5. ▶ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

## 8.8 Channel inversion

Channel inversion is primarily used for pan and tilt movements.

Each of the 256 DMX channels can be inverted individually. The inversion is switched on and off in the setup menu. The inversion will also be removed when you initialise the memory of the device ( ↻ *'Initialising the memory' on page 89*).

**Activating or deactivating channel inversion**

Proceed as follows to activate or deactivate the inversion of a DMX channel:

1. ▶ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the menu item *'Invert'*.

3. ▶ Press the *[Fixture]* button of the DMX devices which should be affected by the changes.

4. ▶ Use the *[Scene]* buttons to switch individual channels on or off. The display either shows *'Setup Inverted'* (meaning that channel xx will be inverted) or *'Setup Normal'* (meaning that channel xx will not be inverted).

5. ▶ Use *[PAGE]* to switch between channels 1…8 and channels 9…16.

6. ▶ If necessary, repeat steps 3 to 5 for additional DMX devices.

7. ▶ Press *[Record]* to store the settings. Otherwise your modifications are currently active but not permanently stored.

   ⇨ The related control LEDs quickly flash three times.

8. ▶ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

**Resetting channel inversion**    Proceed as follows to deactivate the inversion for all DMX channels:

**1.** ▷ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

**2.** ▷ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the menu item *'Invert'*.

**3.** ▷ Press all *[Fixture]* buttons.

**4.** ▷ Press *[Delete]*.

   ⇨   All control LEDs quickly flash three times.

**5.** ▷ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

## 8.9   Jog wheel configuration for pan and tilt movements

For each DMX device connected you can assign the **PAN** and **TILT** jog wheels to one of the 16 DMX channels. This way, the two jog wheels serve as additional control elements. The settings that you make with the jog wheels form the base for the values that the effect generator calculates for pan and tilt movement.

The assignment of the jog wheels to the DMX channels can be different for each DMX device, for example channel 1 and 2 for DMX device 1 and channel 5 and channel 6 for DMX device 2. Anyway, you can use the jog wheels to control pan and tilt movement of both DMX devices.

After initialisation of the memory, the jog wheels are assigned to channel 1 and channel 2 of all DMX devices ( ✋ *'Initialising the memory' on page 89*).

**Configuring the jog wheels**

Proceed as follows to assign the **PAN** and **TILT** jog wheels for pan and tilt movement:

**1.** To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

**2.** Select the menu item *'Pan'* or *'Tilt'*.

**3.** Press the *[Fixture]* button of the DMX devices which should be affected by the changes.

**4.** Use the *[Scene]* button, to assign a pan or a tilt channel, respectively. The display either shows *'Channel pan XY'* (meaning that the channel will be assigned to the **PAN** jog wheel) or *'Channel Tilt XY'* (meaning that the channel will be assigned to the **TILT** jog wheel).

**5.** Use *[PAGE]* to switch between channels 1…8 and channels 9…16.

**6.** If necessary, repeat steps 2 to 5 for additional DMX devices.

**7.** Press *[Record]* to store the settings. Otherwise your modifications are currently active but not permanently stored.

⇨ The related control LEDs quickly flash three times.

**8.** To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

**Using the jog wheels**

You may use the two jog wheels in the operation mode 'Play Mode' and in the operation mode 'Program Mode'. The DMX channels used change with the DMX device which is currently under control according to your assignment.

Using the *[Fine]* button, you can specify if turning the jog wheel results in one DMX step (*[Fine]* turned on) or in eight DMX steps (*[Fine]* turned off).

## 8.10 Play mode

**Accessing a scene manually**

1. ▶ Ensure that the device is in operation mode 'Play Mode' and that the control LED **MANUAL** lights up.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the bank with the desired scene.

3. ▶ Press one of the *[Scene]* buttons.

   Using *[Tap Sync Manual Go]* you can jump to next used scene in the bank. This function is also available when playing with auto beat or playing under sound control. This way, a scene can be 'released' during a calm phase of a piece of music.

**Playing a bank with auto beat**

Use this function to play a bank or a chase consisting of stored scenes in an endless loop.

1. ▶ Press *[AUTO]*.

   ⇨ The auto beat that stopped last will be used automatically and shown in the display.

   The LED *'AUTO'* lights up.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the desired bank

3. ▶ Adjust the play back speed using the **FX Speed** fader.

   The display shows the set time. Maximum step: 5 min.

4. ▶ Adjust the fade speed using the **Fade Time** fader. This adjusts in steps from 0 to 255 how fast the devices fade from one step to the next one. The longest possible fade time is 32 seconds. Smaller movements are performed faster.

5. ▶ To turn off the auto beat, press *[AUTO]* again.

**Playing a bank with sound control**

1. ▶ Press *[MUSIC BANK COPY]*.

   ⇨ The sensitivity last used will be used again automatically and shown in the display.

   The LED *'MUSIC'* lights up.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the desired bank

   ⇨ The used scenes of the bank will be played one after the other under sound control.

3. ▶ Use the **FX Speed** fader, to adjust the sensitivity of the sound control between 'fast' and 'slow'. Here, 'slow' reacts relatively sensitive while 'fast' reacts rather insensitive.

   This setting does not adjust the volume of the microphone (the hardware does that automatically), but the response to the music. In effect, the setting defines the minium distance between two bass beats that triggers the device.

   When device is turned on, the sensitivity is set to 'normal'. This is a good default value which nearly always fits.

4. ▶ Adjust the fade speed using the **Fade Time** fader. This adjusts in steps from 0 to 255 how fast the devices fade from one step to the next one. The longest possible fade time is 32 seconds. Smaller movements are performed faster.

5. ▶ To turn off the sound control, press *[MUSIC BANK COPY]* again.

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Using *[Tap Sync Manual Go]* you can jump to next used scene in the bank. This function is not available when playing with auto beat. This way, a scene can be 'released' during a calm phase of a piece of music.

**Overwriting channels manually using the faders**

During the play back you can use the faders to overwrite the automatically created values. This way you make small changes during a live performance without having to change the scene programming.

Proceed as follows to overwrite channels using the faders.:

1. ▶ Ensure that the device is in operation mode 'Play Mode'.

2. ▶ Press the *[Fixture]* button related to the desired DMX device. You can select more than one device.

3. ▶ Adjust the desired values using the faders.

4. ▶ Use *[PAGE]* to switch between channels 1…8 and channels 9…16.

5. ▶ Repeat steps 2 to 4 until all settings are as you like them.

6. ▶ The settings you made overwrite the programmed values. They are kept until you press *[Release]*.

**Accessing a chase manually**

A chase must have been programmed before you can call it (refer to ✋ *'Programming chases '*
*on page 39*). Empty chases cannot be started.

**1.** ▶ Press one of the *[Chaser]* buttons. If you press the button again, the chase will be deacti-
vated.

**2.** ▶ Ensure that auto beat and sound control are off.

⇨ The selected chase will be loaded and played, starting with its first step.

**3.** ▶ Using *[Tap Sync Manual Go]* you can jump to the next step in the chase.

> *You can select more than one chase at a time. They will be played one after the other.*
> *The right part of the first line of the display shows the number of the chase which is*
> *currently playing.*

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**Playing a chase with auto beat**

1. ▶ Press one of the *[Chaser]* buttons. If you press the button again, the chase will be deactivated.

2. ▶ Press *[AUTO]*.

   ⇨ The LED *'AUTO'* lights up.

3. ▶ Adjust the play back speed using the **FX Speed** fader, the **Fade Time** fader and the button *[Tap Sync Manual Go]*.

*You can select more than one chase at a time. They will be played one after the other. The right part of the first line of the display shows the number of the chase which is currently playing.*

**Playing a chase with sound control**

1. ▶ Press one of the *[Chaser]* buttons. If you press the button again, the chase will be deactivated.

2. ▶ Press *[MUSIC BANK COPY]*.

   ⇨ The LED *'MUSIC'* lights up.

> You can select more than one chase at a time. They will be played one after the other. The right part of the first line of the display shows the number of the chase which is currently playing.

**Freezing and restarting play back**

Use this function pause the play back and to start over again from the same location. All parameters set before are kept, for example settings for auto beat and sound control.

This function is available in the operation mode 'Play Mode' only.

1. ▶ To freeze (pause) the current play back, press *[FREEZE]*.

2. ▶ To restart the play back, press *[FREEZE]* again.

## 8.11    MIDI control

**Overview**

You can control the device with a MIDI keyboard or another MIDI device. The device receives MIDI notes and calls up the different functions. The following variants of MIDI control are available:

■    MIDI synthesizer assignment
    In this variant, the scenes of the first 15 banks are directly available using MIDI functions. In addition, chases and blackout can be controlled.

■    MIDI keyboard assignment
    In this variant, the 49 keys of a keyboard can control the functions of the device. The 30 banks and the six chases can be called up as programmes. In addition, functions such as overlay, freeze, auto beat and sound control are available.

Play back speed and fading time can be adjusted using the MIDI message types 'Pitch Wheel' and 'Modulation Wheel' in both variants of MIDI control.

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**Usage of 'Pitch Wheel'**

The values transmitted in the MIDI message 'Pitch Wheel' control the play back speed and the value selection for auto beat and for sound control sensitivity.

For auto beat, the value range is limited to 10.96 s. This simplifies the handling during live performance. Greater values are rarely required, on the other hand the granularity of most pitch wheels is not fine enough to generate smaller values with the necessary precision.

**Usage of 'Modulation Wheel'**

The values transmitted in the MIDI message 'Modulation Wheel' control the fade time in a range from 0 s to 30 s.

**MIDI synthesizer assignment**

| Assignment | MIDI note | Function |
|---|---|---|
| Bank 1 | 000 | Scene 1, Bank 1, on/off |
| | 001 | Scene 2, Bank 1, on/off |
| | 002 | Scene 3, Bank 1, on/off |
| | 003 | Scene 4, Bank 1, on/off |
| | 004 | Scene 5, Bank 1, on/off |
| | 005 | Scene 6, Bank 1, on/off |
| | 006 | Scene 7, Bank 1, on/off |
| | 007 | Scene 8, Bank 1, on/off |
| Bank 2 | 008 | Scene 1, Bank 2, on/off |
| | 009 | Scene 2, Bank 2, on/off |
| | 010 | Scene 3, Bank 2, on/off |
| | ⋮ | |

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| Assignment | MIDI note | Function |
|---|---|---|
| Bank 15 | 112 | Scene 1, Bank 2, on/off |
| | 113 | Scene 2, Bank 2, on/off |
| | 114 | Scene 3, Bank 2, on/off |
| | 115 | Scene 4, Bank 2, on/off |
| | 116 | Scene 5, Bank 2, on/off |
| | 117 | Scene 6, Bank 2, on/off |
| | 118 | Scene 7, Bank 2, on/off |
| | 119 | Scene 8, Bank 2, on/off |
| Chase 1 | 120 | Chase 1 on/off |
| Chase 2 | 121 | Chase 2 on/off |
| Chase 3 | 122 | Chase 3 on/off |
| Chase 4 | 123 | Chase 4 on/off |
| Chase 5 | 124 | Chase 5 on/off |

| Assignment | MIDI note | Function |
|---|---|---|
| Chase 6 | 125 | Chase 6 on/off |
| Chase off | 126 | All chases off |
| Blackout | 127 | Blackout on/off |

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**MIDI keyboard assignment**    It is no problem to change scenes using MIDI (synthesizer or computer) with 30 Hz. The MIDI functions of the device are fast enough for live performances.

| Key | MIDI note | Function |
|---|---|---|
| Keys 1…30 | 036 | Bank 1 on |
| (white and black) | 037 | Bank 2 on |
| | 038 | Bank 3 on |
| | 039 | Bank 4 on |
| | 040 | Bank 5 on |
| | ⋮ | |
| | 064 | Bank 29 on |
| | 065 | Bank 30 on |
| Keys 31…36 | 066 | Overlay 1, on/off |
| (white and black) | 067 | Overlay 2, on/off |

| Key | MIDI note | Function |
|---|---|---|
| | 068 | Overlay 3, on/off |
| | 069 | Overlay 4, on/off |
| | 070 | Overlay 5, on/off |
| | 071 | Overlay 6, on/off |
| Fourth-to-last black key | 073 | Freeze on |
| Fifth-to-last black key | 075 | Freeze off |
| Last three black keys | 078 | Auto-Beat on/off |
| | 080 | Sound control on/off |
| | 082 | Tapsync / manual step |
| Eight last white keys | 072 | Chase 1 on/off |
| | 074 | Chase 2 on/off |
| | 076 | Chase 3 on/off |
| | 077 | Chase 4 on/off |

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| Key | MIDI note | Function |
|-----|-----------|----------|
| | 079 | Chase 5 on/off |
| | 081 | Chase 6 on/off |
| | 083 | All chases off |
| | 084 | Blackout on/off |

**Assigning a MIDI channel and selecting the MIDI control mode**

**1.** ▶ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

⇨ You are in menu item *'Midi'*.

**2.** ▶ Use the **PAN** jog wheel to assign a MIDI channel.

**3.** ▶ Use the **TILT** jog wheel to select between the two variants of MIDI control ( *'Synthesizer'* , *'Keyboard'*).

**4.** ▶ Press *[Record]* to store the settings. Otherwise your modifications are currently active but not permanently stored.

**5.** ▶ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

## 8.12    Operation mode 'Easy Mode'

You can use the operation mode 'Easy Mode' to quickly test DMX devices.

In this operation mode, 16 DMX devices with ten channels each can be controlled. The values sent on these channels are set with the ten faders of the device (including the **FX Speed** and **Fade Time** faders. The *[Scene]* button can be used as flash button for the first eight channels of each DMX device.

The scene **Blackout** sets all 160 DMX channels to '0'. Other functions (up to the desk lock function) are deactivated.

**Using the operation mode 'Easy Mode'**

1. ▶ Press *[PROGRAM]* and *[Setup]* simultaneously for three seconds.

   ⇨ The display shows *'Ease'*.

2. ▶ Select the DMX device, the settings of which you want to change.

3. ▶ You can adjust ten DMX channels of this DMX device using the faders. The *[Page Select]* button has no function.

4. ▶ If necessary, repeat steps 2 and 3 for other DMX devices.

   This way, you can use the device as a 'dumb' DMX fader unit in larger DMX configurations.

5. ▶ The *[Scene]* buttons act as flash buttons. If you keep one of the *[Scene]* buttons pressed, the DMX value '255' is being sent on the respective channels. The display shows *'Flash'*.

## 8.13    Backup and restore data

**Backing up data**

**1.** ▶ Connect a USB drive to the device.

**2.** ▶ Press *[Record]* and ▲ | *[UP]* simultaneously for three seconds.

⇨    The display shows *'Saving File, waiting'* .

**3.** ▶ Press one of the fixture *[Fixture]* buttons to select the file to be stored. The display shows a progress bar. The control LED of the *[Fixture]* button lights up when data for this DMX device has been stored on the USB drive before.

**4.** ▶ After completion of the backup, all data is saved in the file 'CA-1616' on the USB drive.

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**Restoring data**

1. ▶ Copy the data to be restored to a USB drive and connect that drive to the device.

2. ▶ Press *[Record]* and ▼ | *[DOWN]* simultaneously for three seconds.

   ⇨ The display shows *'Loading File'* .

   The control LED of the *[Fixture]* button lights up when data for this DMX device is available on the USB drive.

3. ▶ Press one of the fixture *[Fixture]* buttons to select the file to be restored. The display shows a progress bar.

4. ▶ After successful completion of the restore the device is restarted automatically.

## 8.14    Additional functions

**Initialising the memory**     This function can be used to erase the memory of the device completely and to initialise it with default values. The table below shows the settings of the device after the initialisation.

| Setting | Status / value |
| --- | --- |
| Scenes | Empty |
| Chases | Empty |
| Overlay scenes | Empty |
| Blackout | '0' for all 256 channels |
| Channel inversion | Off for all 256 channels |
| Pan channel | 1 for all DMX devices |
| Tilt channel | 2 for all DMX devices |
| MIDI channel | 1 |

| Setting | Status / value |
|---|---|
| MIDI assignment | MIDI keyboard |
| Auto start function | Off |

Proceed as follows to initialise the memory:

1. ▶ Turn off the device.

2. ▶ Hold *[PROGRAM]* and *[Setup]* simultaneously and turn on the device.

3. ▶ Release the buttons.

   ⇨ All control LEDs quickly flash three times.

**Desk lock function**

The desk lock function can be used to block the user interface against all inputs, protecting your settings against accidental changes.

To activate the desk lock, press *[Page Select]*, *[PROGRAM]* and *[Setup]* simultaneously. While the desk lock is active, all buttons, faders and jog wheels have no function. MIDI control is available without any restriction.

To deactivate the desk lock, either press *[Page Select]*, *[PROGRAM]* and *[Setup]* simultaneously or turn the device off and on again.

If you like the desk lock function to be automatically active when the device is turned on, adjust the respective settings of the autostart function ( ♨ *'Autostart function' on page 92*).

**Autostart function**

Using the autostart function you can specify that device is in a predefined play back mode when you turn it on. It is also possible to activate the desk lock function immediately.

**Setting up the autostart function**

1. ▶ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the menu item *'Autostrt'*.

3. ▶ Use the **PAN** jog wheel to activate or deactivate the autostart function.

4. ▶ Press *[Record]* to store the settings. Otherwise your modifications are currently active but not permanently stored.

5. ▶ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

**Configuring the autostart function**

1. ▶ To switch to the operation mode 'Setup Mode', press *[Setup]* for three seconds.

2. ▶ Use ▲ | *[UP]* or ▼ | *[DOWN]* to select the menu item *'Autostrt'*.

3. ▶ Use the **TILT** jog wheel to activate or deactivate the desk lock together with the autostart function

4. ▶ Press *[Record]* to store the settings. Otherwise your modifications are currently active but not permanently stored.

5. ▶ To get back to the operation mode 'Play Mode', press *[Setup]* for three seconds.

**Using the current play back configuration for the autostart function**

You can store your current play back configuration to be automatically active again when the device is turned on. To do this, activate the autostart function first.

To store the current play back configuration press *[Record]* and *[Tap Sync Manual Go]* simultaneously. To confirm the setting, all control LEDs quickly flash three times.

**Editing the logo**

When you turn on the device, the display shows a text (the so-called logo). You can configure this text as you like. An individual text will not be deleted when you initialise the memory.

1. ▶ Ensure that the device is turned off.

2. ▶ Hold *[AUTO]*, then switch on the device.

3. ▶ Use the **PAN** jog wheel to move the cursor position in the display.

4. ▶ Use the **TILT** jog wheel to select a character at the cursor position.

5. ▶ Press *[Record]* to store the settings.

   ⇨ The display shows *'Logo Saved'*

6. ▶ Turn off the device and turn it on again.

**Resetting the logo**

Proceed as follows the reset the logo to the factory default value:

1. ▶ Ensure that the device is turned off.

2. ▶ Hold *[AUTO]*, then switch on the device.

3. ▶ Press *[Delete]*.

4. ▶ Press *[Record]* to store the settings.

5. ▶ Turn off the device and turn it on again.

# 9 Technical data

| Mains power supply | 12 V ⎓ (DC) |
|---|---|
| Dimensions (W × H × D) | 526 mm × 232 mm × 88 mm (4 rack units) (20.7 in. × 9.1 in. × 3.4 in.) |
| Weight | 3.5 kg (7.7 lbs) |

# 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 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.

Notes