

ETR Lighting
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Version 3.1 1.
1996

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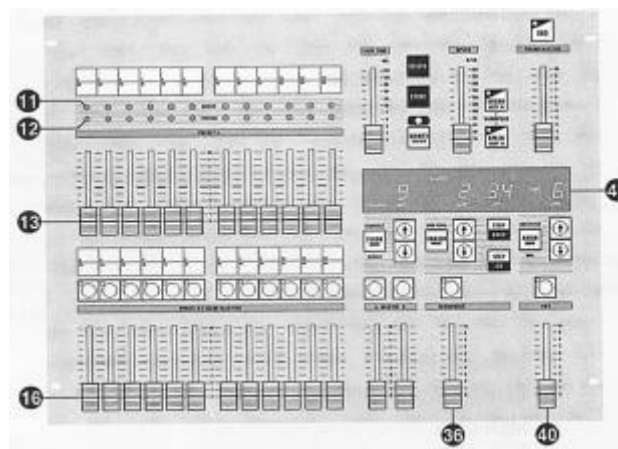
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GENERAL DESCRIPTION

Introduction

Congratulations and thank you for choosing LUNA 24. You use a lighting control desk which is state-of-the-art as it combines manual operation with advanced microprocessor controlled features. This makes LUNA 24 suitable for a wide range of applications. Its possibility to store and recall scenes and sequences in the memory mode gives you great flexibility during the live-show as well as in changing from one production to another.

This manual describes step by step the features and the operation of LUNA 24. Please read it carefully before installation and operation and get acquainted with the knobs and controls.



LUNA 24 is a 12/24-channel lighting control desk. In manual operation the 24 faders **13+16** are used to individually control the output-channels. These can be grouped into two presets of 12 channels each. In memory operation each fader controls a scene - a combination of up to 24 channels. The scenes created during rehearsals can be recalled, modified, and stored during live-operation.

The different operation modes are activated by push buttons and comprehensive combinations of these buttons. The large display **41** with indicators and text read-out clearly identifies the actual status. Two LED's for each channel indicate the status of the output **11** and act as preview **12** for a new scene. This helps adapting the scene to the desired values before switching it to the outputs.

For automated operation, LUNA 24 offers 10 chasers **36** with up to 99 steps. (There is a maximum of 500 memory locations.) The speed of the chaser is controlled manually or via the music. Additional variations can be realised with the 4-channel running-light **40** triggered by the pitch (divided into four frequency-bands) and/or the level of the music.

The outputs are equipped with the DMX-512 interfaces. Each output can be assigned to a DMX-channel from 1 to 96 in four patches.

LUNA 24 offers a series of additional features: MIDI input for the control via MIDI-equipment - audio-input jack, 1/4") with automatic and manual control of the input sensitivity - edit functions - recall function for setting the fader positions according to a stored scene - RS-232 interface for storage to a computer - connector for a two-step foot-switch - DBO - flash-buttons - built-in power-supply.

Precautions and Safety Instructions

Avoid storing or using the lighting control desk in conditions of excessive heat or cold, or in positions where it is likely to be subject to vibration, dust or moisture.

Important! In all cases, refer servicing to qualified personnel.

Check that the operating voltage of your unit is identical with the voltage of your local power supply. If voltage adoption is required, consult your ETR dealer or qualified personnel.

Always switch the power supply off before connecting or disconnecting the desk power cord. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

- green-and-yellow: earth
- blue: neutral
- brown: live

Transport and Installation

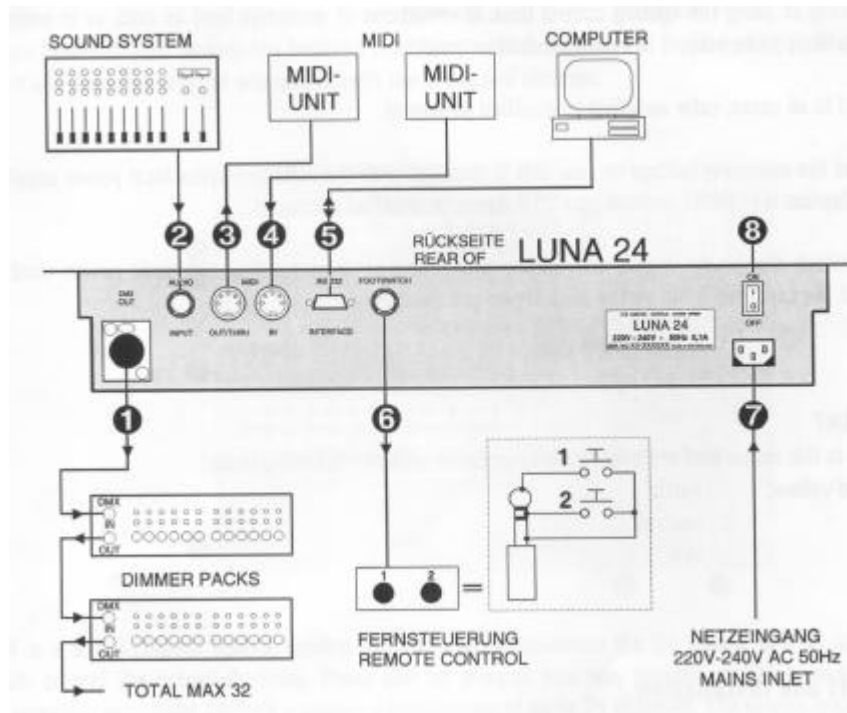
If it is necessary to move the control desk any distance after installation it is recommended that the supplied packing is used to protect it. Be sure to disconnect all cabling before moving. If the desk is to be regularly moved (e. g. for touring) we recommend that it is installed in a foam line flight case. At all times avoid applying excessive force to any knobs, switches or connectors.

LUNA 24 is designed for reliability, high performance and built to the highest standards. Whilst great care has been taken to ensure that installations are made as trouble-free as possible, care taken at this stage, followed by correct setting up will be rewarded by a long life and reliable operation.

Before switching on your LUNA 24, check that the mains voltage indicated on the desk corresponds to the mains voltage for your area. In case of malfunction or overload, LUNA 24 will turn off automatically. Before turning on again, please wait a few minutes. Should the protection circuit trigger again, a thorough investigation of the malfunction and eventually repair is necessary. Please consult qualified personnel.

For optimum performance high-quality cables are necessary. Avoid mechanical strain on cables and connectors. Before connecting, make sure that the power of each piece of equipment is turned off. To disconnect the cable, pull it out by grasping the plug. Never pull the cable itself.

Connections



- 1 DMX-512/1990-Output
- 2 Audio-input
- 3 MIDI OUT/THRU
- 4 MIDI IN
- 5 RS-232 Interface
- 6 Remote control
- 7 Mains-inlet
- 8 Mains-switch

OPERATION

Four Operating Modes

LUNA 24 operates in four modes. The actual mode is denoted with a number from 1 to 4 on the display.

* 1 - 12-channel A-B-operation

With the faders of the preset A and the preset B you can create two independent scenes. They are (cross-) faded with the faders MASTER A and MASTER B.

* 2 - 12-channel memory-mode

In this mode the PRESET A remains active. The faders of the PRESET B act as memory-faders. MASTER B is the memory-master.

* 3 - 24-channel single preset-operation

The faders of the PRESET A control the channels 1-12, the faders of the PRESET B control the channels 13-24. The OUTPUT-LED's display the status of the channels 1-12, and the PREVIEW-LED's the status of the channels 13-24. The fader MASTER A is the master-fader. MASTER B acts as crossfader to fade in and out the stored scenes.

* 4 - 24-channel memory-mode

PRESET A is used to modify the memories. It can be routed to the outputs via the PRESET A master. In this case, switching the channels 1-12 to 13-24 is also active to the outputs. With PRESET B you have 12 memories at hand, each built up with 24 channels.

Selecting an Operating Mode

Depressing the buttons MODIFY and DBO simultaneously activates the operate-select-mode. In this mode the MODIFY-LED lights green. The LED of the DBO-button flashes. The chosen mode is indicated on the right-hand side of the display (position "PROG"). The buttons AUX-UP and -DOWN change from one mode to another.

Each operating-mode allows the selection of specific options. After selecting an operating-mode, the available options are shown on the display.

Operating-Mode 1

In this mode, the fader MASTER B can be operated inversely to the fader MASTER A. The **inverse operation** allows a smooth crossfade. It is turned on and off with the buttons CUE-PAGE-UP/DOWN. When turned on, a 'C' lights up in the display (position "PAGE").

Sequencer- and audio-programs can be used in operating-mode 1 in addition to the A-B-operation. The number of usable programs is determined with the SEQUENCER-UP/DOWN-buttons and displayed on the position "PROG". Up to ten programs are available. (The number of the activated sequencer-programs also determines the number of the active audio-programs.) The display shows the corresponding number 0 to 9. A dash denotes that no program is available.

Operating-Modes 2 - 4:

As in operating-mode 1, the desired number of **sequencer- and audio-programs** is determined by the Sequencer-UP/DOWN-buttons.

Additionally, the buttons CUE-PAGE-UP/DOWN determine the available number of **cue-pages**. The number is displayed at the position "PAGE".

Pressing STORE **saves** all **options** activated in the operate-select-mode and exits this mode.

Pressing MODIFY exits the operate select-mode without storing any changes.

Manual Operation

Operating-mode 1 allows the classical A-B-operation. Scenes are created and routed to the 12 output-channels by means of the 12 faders of the PRESET A and the 12 faders of the PRESET B. They are crossfaded by the faders MASTER A and MASTER B. The time for a crossfade is determined with the FADETIME-fader. The display shows at the position "PAGE" the status of the ongoing crossfade. The two elements on the left side denote preset A and the two elements on the right side the preset B. On each side the upper element denotes fade-in and the lower element fade-out. The actual status on the outputs is shown by the 12 OUTPUT-LED's. In some applications it may be helpful to invert the characteristic of the MASTER B fader. In this inverts operation the preset B is at its minimum in the upper fader-position and at 100% in the lower position (see "Selecting an Operating-Mode"). Any channel having identical values in both presets is crossfaded without change in brightness (dipless-made).

In operating-mode 3, the **24-channel single preset-mode**, the 12 faders of the PRESET A control the channels 1-12, the 12 faders of the PRESET B control the channels 13-24. The fader MASTER A is the master-fader for the 24 channels. The OUTPUT-LED's display the status of the channels 1-12, and the PREVIEW-LED's the status of the channels 13-24. MASTER B acts as crossfader. For details, please refer to the section "Crossfades".

Program Operation

Operating-mode 2 allows **12-channel memory-operation**. The 12 faders of the PRESET A and the MASTER A control the 12 channels as a manually operated preset. The 12 faders of the PRESET B serve as memory-faders; MASTER B is the memory-master. The FADE-TIME-fader determines the fade-in- and fade-out-times of the memories. Up to 10 memory-pages can be activated with the CUE-PAGE-UP/DOWN-buttons. The display shows at the location "PAGE" the number of the page. If you select a new page before the actual scene is faded-out completely, the FLASH-LED of this scene will flash. As soon as the scene is faded-out completely, the LED will go off. The scene of the new page is now available at this fader. **A scene is created** with PRESET A. After pressing STORE together with the desired FLASH-button, the scene and all other data present at the outputs (from sequencer, aux or another memory-fader) are stored into the corresponding memory and displayed on the PREVIEW-LED's. (Make sure, that the overwrite-protection is disabled.)

To **change an existing scene** press the MODIFY-button together with the corresponding FLASH-button. The MODIFY-LED will light up green together with the LED of the FLASH-button.

The scene is altered with the faders of the PRESET A. (The fader MASTER A thereby controls the output, but not the scene.) After a change the MODIFY-LED lights up red. To recall the stored scene, you vary the faders of the PRESET A according to the colour of the PREVIEW-LED's (**recall-function**). The stored value is recalled, when the LED lights green. When red, the fader has to be moved up, when yellow, it has to be moved down (except when the value is 0). Now you can change the scene and find new values. They are stored by pressing STORE together with MODIFY. Of course you can store new values without first recalling the old scene. If you don't want to store the new scene, just press MODIFY or MODIFY and the corresponding FLASH-button to change to the modification of another scene. When pressing STORE together with the actual FLASH-button, you store the status of the outputs (while STORE and MODIFY stores just the - modified - scene). Pressing MODIFY again exits the modify-mode and the MODIFY-LED goes off.

To delete a complete scene, press DELETE for two seconds while in the modify-mode (MODIFY- and corresponding FLASH-button).

Operating-mode 4 allows **24-channel memory-operation**. Its operation is similar to operating-mode 2. However, PRESET A requires the selection of output-channels 1-12 or 13-24. The faders, the OUTPUT- and PREVIEW-LED's work for the channels according to the selection, which is done by the CUE-PAGE-UP/DOWN buttons. The display shows either 'CH. 1-12' or 'CH. 13-24'. The assignment of the FLASH-buttons to the channels change accordingly.

To create or modify a scene, you have to enter the modify-mode (MODIFY- and corresponding FLASH-button). The channels 1-12 or 13-24 you want to modify are selected and changed as described above. LUNA 24 keeps the settings so you can switch the channels without saving. By moving the SCENE-faders up you can control the settings on stage.

Saving, deleting, and leaving the modify-mode are as in operating-mode 2.

Crossfades

In operating-mode 3 the MASTER B-fader can be used as crossfader. Scenes created in this operating-mode can be stored to any memory location, as long as the FLASH-buttons are in the PREVIEW-mode. This is selected with the FLASH-MODE-button and displayed left to the CUE-PAGE (refer also to "FLASH-MODE" in "PARTS AND CONTROLS").

By pressing a FLASH-button, its memory-contents can be previewed on the LED's. By pressing STORE together with a FLASH-button, the scene active on the outputs is stored to the corresponding memory-location. The CUE-PAGE-UP/DOWN-buttons select the desired PAGE.

The MASTER B-fader, which works as **crossfader**, routes the stored scenes to the outputs. With every movement of the fader - be it up or down - a scene at the output is crossfaded into another scene. In the display a LED-bar shows the position of the fader (or the crossfade). As

long as the LED-bar is displayed a crossfade can be reversed. The crossfade is terminated when the MASTER B-fader is at its top or bottom position. The LED-bar goes off. Moving the fader again, crossfades into the next scene.

The FADE-TIME-fader determines the crossfade-time. While crossfading, the dot in the CUE-PAGE-display flashes. The LED of the FLASH-button which is lit shows the memory-location of the active scene.

While pressing MASTER B-FLASH, the following scene can be previewed. The crossfade is to next higher memory-location. From cue 12 the crossfade goes to cue 1 of the following page. Cue 12 of the last cuepage crossfades into cue 1 of page 0.

It is possible to crossfade to any memory-location. To do so, you first choose the cuepage. If it is different from the actual, the FLASH-LED's of the scene flashes. The chosen scene can be previewed by pressing the corresponding FLASH-button and altered by selecting another one. The crossfade is started by pressing the FLASH-button together with the MASTER B-FLASH-button.

If you don't choose a new scene the next crossfade will be to the next scene.

By pressing both PAGE-UP- and -DOWN-buttons, the CUE-PAGE-display starts flashing, indicating that the next crossfade will be to dark. There will be no scene routed to the outputs. This selection can be undone by pressing MODIFY. After a crossfade to dark a line lights up in the CUE-PAGE-display.

To **change an existing scene** press the MODIFY-button together with the MASTER B-FLASH-button. The MODIFY-LED will light up green together with the FLASH-LED of the selected scene. Now you can select any scene by pressing the corresponding FLASH-button together with the MASTER B-FLASH-button.

The scene is altered with the 24 PRESET-faders. (The fader MASTER A thereby controls the output, but not the scene.) After a change the MODIFY-LED lights up red. To change a stored value it has to be caught and then changed by the corresponding fader.

The new selections are stored by pressing STORE together with MODIFY. Channels that were not altered keep their values. The next scene is then loaded automatically for modification. If you don't want to store the now scene, just press MODIFY or change to the next scene you want to modify by pressing MASTER B-FLASH together with the corresponding FLASH-button.

By pressing STORE alone the status of the outputs is stored (whereas STORE together with MODIFY stores the scene or the altered scene).

Pressing MODIFY again exits the modify-mode and the MODIFY-LED goes off.

To delete a complete scene, press DELETE for two seconds while in the modify-mode. The MODIFY-LED changes from green to yellow and - after deleting - back to green.

In the MODIFY-mode you can **copy scenes** from other cues onto to the scene being modified. The scene to be copied is selected with the corresponding FLASH-button. As long as this button is pressed, its contents is shown by the LED's. By pressing STORE while keeping the FLASH-button depressed, the scene is copied to the previously selected location.

To take full advantage of the crossfade-function, it is useful to store the scenes in the order they will be used during the show. This makes it necessary to insert or delete scenes on specific locations. A **scene is inserted** before the scene which is selected while in the MODIFY-mode. By pressing CHASERMODE (ADD STEP) for 2 seconds, an empty memory-location is inserted at this point (the MODIFY -LED changes from green to yellow and then back to green again). This memory location now can be processed as mentioned above. All following scenes are shifted one position to the right, the last one to the next cuepage. With DELETE a complete scene is deleted. The memory location however is retained. Pressing DELETE again for 2 seconds, deletes also the memory location. The following scenes are shifted one position to the left.

The Chaser

As a running-light, the chaser sequences scenes to the outputs. It is mostly driven by either the rhythm or the level of the music.

Three different transitions can be selected by the CHASER-MODE-button:

switching transition. The display shows 'CHASER'.

soft transition: fade-in and fade-out. The display shows 'CHASER' and 'SOFT'.

impulse transition. The scene is switched on and faded-out. The display shows 'CHASER' and 'IMP.'.

The fade-times vary according to the position of the SPEED-fader. This is also true when controlled via an audio-signal.

There are five options to determine the **sequence** of the chaser.

The trigger-speed can be adjusted in **beats per minute** (BPM) with the SPEED-fader. The LED of the SPEED-button flashes in the rhythm of the BPM-value. Pressing the SPEED-button starts the running light. The LED lights permanently.

The running-light can be triggered with the rhythm of the **audio-signal** input to the jack-socket. The LED of the SPEED-button flashes in the rhythm of the audio-signal. Pressing the SPEED-button starts the running-light. The LED lights permanently. In addition a dot flashes where the step-number is indicated on the display (position "PROG") in the rhythm of the music to indicate this operating-mode.

The **sensitivity of the** audio-input can be adjusted after pressing MODIFY together with SOUND. The display shows an LED-bar acting as VU-meter. The SPEED-fader adjusts the sensitivity. In its 0-position, the level of the audio-signal is controlled automatically. The display shows at the position "STEP" a 'A'. To adjust the level manually, the SPEED-fader first has to be set to its lowest value. Then you can use it as a gain-control. The LED-bar indicates the level. A new level is immediately active. Without moving the SPEED-fader you can check the level of the audio-signal. MODIFY (ESCAPE) exits the level-adjustment-mode.

If you press SPEED together with SOUND, the running-light is triggered by a combination of both rhythms.

Pressing STOP/BACK **stops** the running-light. Pressing STOP/BACK again **decrements one step**. STEP/GO triggers a single step. This **single-mode** is also active together with the other trigger-modes.

The **chaser** is **used** by first choosing the desired program and the desired first step (with STOP and STEP) or one of the trigger-modes. By moving up the SEQUENCER-fader, the chaser becomes active as long as the fader is up. Any changes in the trigger-mode or the speed will be effective. If you select a new program with the SEQUENCER-UP/DOWN-buttons while the chaser is running, the display 'NEXT' flashes. The number of the new program - or an 'E' for empty - appears in the display at the position "STEP". The buttons and faders are now active on the new program (or the crossfade), the program- and step-numbers are valid for the new program. The actual program can now be modified in its brightness only.

The **new program** is previewed by pressing the SEQUENCER-FLASH-button. STOP stops the program; STOP and STEP select the desired first step. SOUND and SPEED determine the trigger-mode. The new program can be modified with the MODIFY- and FLASH-buttons. You start the program by first pulling down the fader completely and then moving it up.

Programming the chaser is activated by pressing MODIFY together with SEQUENCER-FLASH. 'CHASER' flashes in the display. The LEDS of the SEQUENCER-FLASH-button and the MODIFY-LED (green) light up. If a code is active, it has to be confirmed. When the SEQUENCER-fader is moved up, the actual chaser-program

or the crossfade-scene remain active on the outputs during programming. However, another crossfade or a change of the chaser-trigger is not possible while the chaser-modify-mode is active. PRESET A, and in A-Operation also PRESET B, MIDI-data, cue-memories and another step of the chaser can be assigned to the outputs.

The step of the program is selected with STOP/BACK and STEP/GO. Its contents is shown in the PREVIEW and can be routed to the outputs as long as no crossfade or chaser-program is active. The PRESET A-faders change the preview (with the possibility of a recall) as in the memory-modify. Pressing STORE together with MODIFY stores the new values. The modify-mode remains active. An existing scene (from the sequencer, a cue-page etc.) can be loaded, changed and stored back to its previous location.

The desired step of the program can be selected with STOP/BACK and STEP/GO. Its contents is shown on the PREVIEW and can be activated at the output with the SEQUENCER-fader (but only if no crossfade or chaser-program is activated). The preview is changed by the faders of the PRESET A as in the memory modify-mode. If desired, you can use the recall-function. You store the new scene by pressing STORE together with MODIFY without leaving the modify-mode. It is also possible to select an existing scene (from the sequencer, a cue etc.), to change it and then store it into the previously selected location. A step of the sequencer is selected with SOUND and SPEED. The display shows 'NEXT'. Now you can select another program and within this program another step by using SEQUENCER-UP/DOWN. STORE together with SEQUENCER-FLASH stores the status of the outputs without leaving the modify-mode. The 'STEP'-display advances one step.

You delete a step by pressing DELETE for 2 seconds. The MODIFY-LED changes from green to yellow. After deleting the LED goes back to green. The PREVIEW displays the next step.

You can insert a new step between two existing steps. You select the position where the new step is to be inserted. Pressing CHASER-MODE [ADD-STEP] for 2 seconds inserts the step.

The existing step is shifted to the next upper position. During the insert the MODIFY-LED changes from green to yellow and then back to green.

The chaser runs through to the last stored step and then starts again from the beginning. Empty steps may be programmed. To allow **single or partial** runs, every step of a chaser-program can be marked with a stop. The chaser runs through to the marked step and then stops. Pressing SOUND or SPEED again starts the chaser until it reaches the next stop. To mark a step you press MODIFY together with SPEED while in the modify-mode. The display shows to the left of 'PROG' an "S" (also while the chaser is running). The mark is deleted by pressing MODIFY and SPEED.

You delete a complete program by pressing DELETE and SEQUENCER-FLASH for 2 seconds. The display goes off for a short time and then shows step '01'. While deleting, the MODIFY-LED changes from green to yellow and then back to green.

Pressing MODIFY exits the modify-mode.

AUX

The Aux-section has three functions.

Audio-master. The lighting is controlled by an audio-signal.

DMX-patch. To assign the output-channels to the DMX-channels. Four patches are available. 96 channels can be selected.

MIDI-master. To control the outputs with the incoming MIDI-data.

Audio-Master

The audio-master gives you an audio-controlled section at hand. It is selected by pressing the AUDIO-MODE button. The signal input at the audio-jack controls the section. The input-sensitivity is adjusted with MODIFY and SOUND (see section 'Chaser'). After activating the audio-mode, the preview-mode remains active until the AUX-fader is moved down completely. You can choose among five modes or ways of triggering by pressing the AUDIO-button again. The programs (pages) are available. They are selected with **AUX-UP/DOWN** (displayed at the location 'PROG').

Sound is a **4-channel moving-light**, subdivided into the four frequency-band bass, low-mid, high-mid and treble. A 12- or 24-channel-scene can be assigned to each of these bands. The actual band is displayed with one of four LED's ('1' to '4') above the location 'PROG'.

Chase is a **4-channel running-light**. It features the same frequency-bands and assignments as sound. The running-light is triggered by the bass-beat.

Sound-chase is also a **4-channel running-light** triggered by the bass-beat. In addition, the brightness of the outputs is controlled by the level of the music (1-channel moving-light). "SOUND" and "CHASE" light up in the display.

VU controls channels 1-4 and LED's 1-4 according to the level. The number of the activated channel increases with the level.

Sound-VU controls the four channels and the four LED's according to the frequency-bands bass, low-mid, high-mid, and treble.

To **program** the audio-master you enter the modify-mode by pressing MODIFY and AUX-FLASH. Then you choose the desired program with AUX-UP/DOWN. The AUDIO-MODE-button selects one of the four scenes (1-4) which is modified and saved as in the other modes. A scene is deleted by pressing DELETE (2 seconds), a complete program by pressing DELETE and AUX-FLASH (2 seconds).

DMX-Patch

Four DMX-patches are available. The actual patch is displayed at the location 'PROG' by pressing AUDIOMODE [DMX-PATCH] together with AUX-UP. AUX-UP/DOWN selects one of the four patches which is activated with STORE (thereby leaving the DMX-select-mode). Running programs are not interrupted, and the function of the AUX4ader is not changed.

You can **change a patch** after pressing MODIFY and AUX-FLASH in the DMX-select-mode. The desired DMXchannel (out of 96) is selected with STOP/BACK and STEPIGO. You can speed up the selection of a channel by holding one of the buttons. Pressing both buttons together selects DMX-channel 1. SEGUENCER-FLASH routes the selected channel to the output. This helps in finding the desired channel. The mixer-channel which you want to assign to this DMX-channel is selected with SEGUENCER-UP/DOWN (displayed at the location 'PROG'; two dashes denote that the DMX-channel is turned off). As soon as you alter the assignment, the MODIFY-LED changes from green to red. The selection of a DMX-Channel and the assignment to a mixerchannel is repeated for every channel. The patch is stored by pressing STORE. (The MODIFY-LED changes from red to green.) MODIFY (ESCAPE) exits the modify-mode back to the DMX-select-mode. (If you didn't press STORE no change is saved.) Pressing MODIFY (ESCAPE) (or AUDIO-MODE) again exits the DMX-selectmode. The previous operating-mode is now active.

Selecting a channel needs two steps. To display the DMX-channels, to which a selected mixer-channel is assigned, you press CHASER-MODE in the DMX-select-mode. After releasing CHASER-MODE, the display shows the next DMX-channel patched to this mixer-channel. If there is no further DMX-channel patched, the display shows the number of the last patched channel. You can select another mixer-channel without patching by pressing CHASER-MODE together with SEQUENCER-UP/DOWN. After releasing these two buttons, the display shows the DMX-channel patched to this mixer-channel. If no DMX-channel is patched to this mixerchannel (the display shows '- -'), the lowest unpatched DMX-channel will be displayed after pressing CHASERMODE again ('- -' is displayed for the mixer-channel). Both channels - the DMX-channel and the selected mixerchannel - are displayed after pressing CHASER-

MODE again. This configuration can be patched by pressing CHASER-MODE together with STOP or STEP. If you press CHASER-MODE without pressing STOP or STEP, the next unpatched DMX-channel is displayed. Now you can patch this one.

MIDI-Master

Allmost every function of LUNA 24 can be controlled by MIDI. Even a simple MIDI-keyboard can be used to change the light according to its signals. Each key within an octave (within two octaves for 24channel operation) corresponds to one lighting-channel. For more information about MIDI-data, please refer to the appendix.

AUDIO-MODE together with AUX-DOWN selects the **MIDI-mode**. The display shows "MIDI".

The AUDIO-section can be active, i.e. it is not necessary to move the AUX-fader down before selecting the MIDI-mode. If the AUDIO-section is active, the "MIDI"-display and the AUDIO-display alternate each other. Left to the "MIDI"-display, a horizontal LED-bar denotes the direction in which to move the AUXfader to catch the value of the MIDI-section. Move the AUX-fader till the LED-bar extinguishes. After getting the correct value, LUNA 24 switches to the MIDI-mode. The display stops flashing.

When receiving MIDI-data, the "MIDI"-display flashes in any mode. In the MIDI-mode, the "MIDI"-display lights permanently and goes off when MIDI-data is received (inverse flashing). The AUX-FLASH-button shows the incoming MIDI-data on the preview. The AUX-F ader routes them to the outputs.

It is possible to switch to the AUDIO-section while the MIDI-section is active. Its faderposition then has to be restored.

Selecting a MIDI-channel

After pressing the MODIFY-button together with the AUX-FLASH-button, the display shows (above the STOP-button) the selected MIDI-channel. It can be changed with STEP/GO or STOP/BACK and saved with STORE.

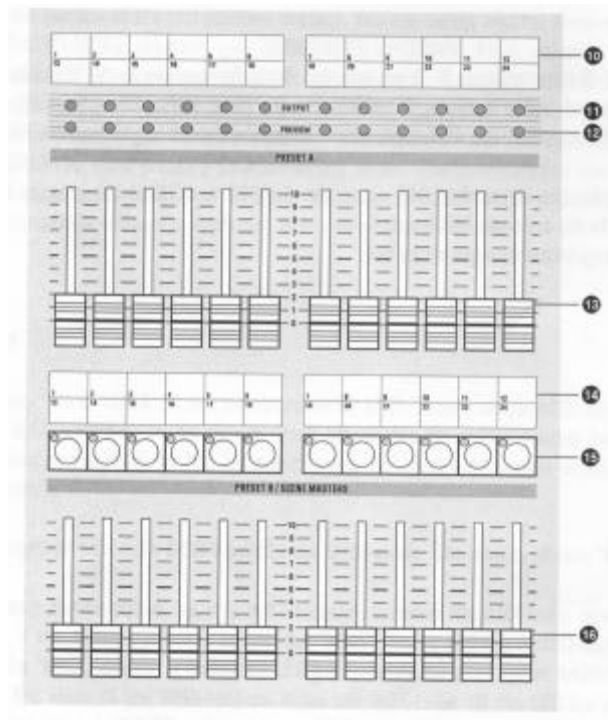
Connecting a MIDI foot-controller

LUNA 24 can be operated by foot when a MIDI foot-controller is connected to the desk. It responds to the incoming program changes. With MIDI a total of 128 program changes (0 - 127) can be transmitted. There fore most of the foot-controllers have 12 banks, each of them containing 10 numbers.. The banks correspond to the first two digits (hundreds and tens), the numbers to the last digit of the 128 program changes. This scheme has been incorporated to ensure a correct operation even with the simplest foot-controllers.

With the bank numbers 0 - 9 the cue-pages 0 - 9 are selected. With the numbers 1 - 10 the cues 1 - 10 of the selected PAGE are routed to the outputs.. In addition to the cues, the numbers 6 to 10 route the selected running light to the outputs. The AUX-master determines the overall brightness, the FADE-TIME-fader the crossfade-time.

Numbers of program changes larger than 100 route the cues 11 and 12 to the outputs. For more information, please refer to the appendix "MIDI-data".
The number 120 of the program changes darks out.

PARTS AND CONTROLS



Labelling-Fields - 10

OUTPUT - LED - 11

These LED's show the actual status at the outputs. In the 24-channel operating mode, they can be switched to show either channels 1-12 or 13-24 (refer to CUE-PAGE-UP/DOWN-button).

PREVIEW - LED - 12

These LED's show the contents of a memory location while the FLASH-button associated with the memory location is depressed. When modifying a stored scene they serve to recall the stored fader-positions. When their colour is green, the fader-position corresponds to the stored value. Red and yellow indicate that the fader has to be moved up and down respectively.

PRESET A - fader - 13

These faders determine the relative brightness of the output-channels and are used to create a scene in the 24-channel memory-made.

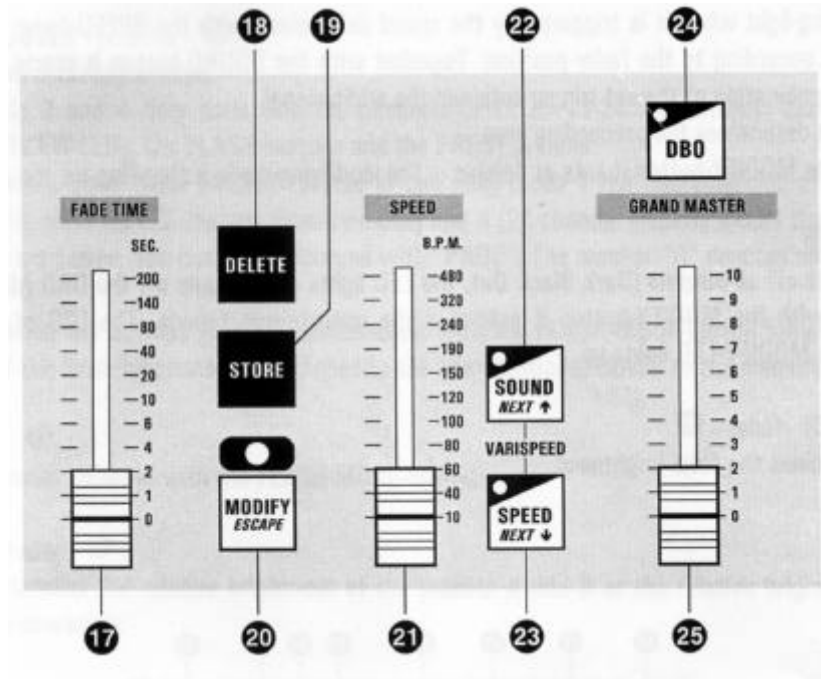
Labelling-Fields - 14

FLASH-buttons - 15

They activate the function, which has been selected with the FLASH-MODE-button. Depressing this button in the memory-mode displays the corresponding scene on the PREVIEW-LED's.

PRESET BISCENE MASTER - fader - 16

These faders determine the relative brightness of the preset B in A-B-operation, the relative brightness of the channels 13-24 in 24-channel operation and the relative brightness of a stored scene in memory-operation.



FADE-TIME - fader - 17

This fader determines the time for crossfade in the range between 0 and 200 seconds.

DELETE - button - 18

Deletes a program-step of the chaser. Deletes - together with SEAUENCER-FLASH - a complete program in the chaser. Deletes - together with AUX-FLASH - a complete program in the audio-master. Deletes in the modify-mode together with SCENE-flash a complete scene.

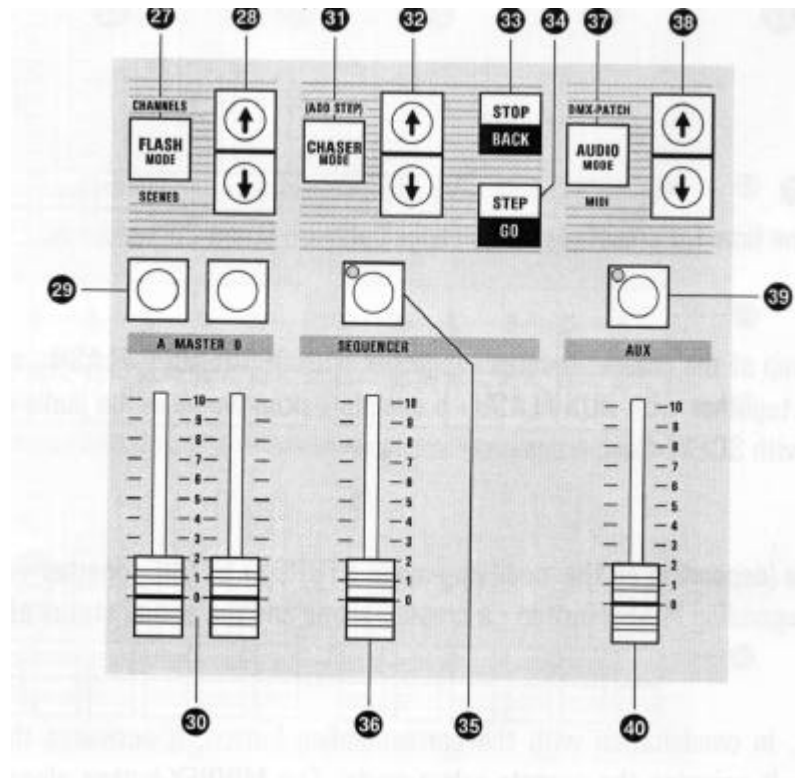
STORE - button - 19

Stores modified settings (depending on the modifying-mode STORE or STORE together with MODIFY). Stores together with the corresponding FLASH-button - a created scene and the actual status of the outputs.

MODIFY - button - 20

Used for modifications. In combination with the corresponding button, it activates the modifying-mode. In combination with DBO, it activates the operate-select-mode. The MODIFY-button alone exits the modifying-mode without storing the modifications.

Together with the SPEED-button it sets or deletes in the modifying-mode a stop-f lag for the chaser



SPEED - fader - 21

Determines the speed of the running-light and the speed of a 'SOFT' or 'IMP' crossfade in the chaser. Determines the input-sensitivity of the audio-input (see chapter 'Chaser').

SOUND - button - 22

Starts the running light when it is triggered by an audio-signal. Before starting, the LED flashes according to the rhythm of the music. Together with the SPEED-button it starts the running light triggered by a combination of the set trigger-rate and the audio-signal. In some modes it determines the following step.

SPEED - button - 23

Starts the running light when it is triggered by the speed determined with the SPEED-fader. Before starting, the LED flashes according to the fader-position. Together with the SOUND-button it starts the running light triggered by a combination of the set trigger-rate and the audio-signal.

In some modes it determines the proceeding step.

Together with the MODIFY-button it sets or deletes in the modifying-mode a stop-flag for the chaser.

DBO - button - 24

Immediately turns off all outputs (Dark Black Out, the LED lights up) or turns off the DBO (the LED goes off). In combination with the MODIFY-button it activates the operate-select-mode. The LED of the DBO-button flashes while the MODIFY-LED lights up.

GRAND-MASTER - fader -25

This fader determines the total brightness.

FLASH-MODE - button - 27

[CHANNELS] [SCENES]

Determines the flash-function: channel-flash ("CHANNEL" and "FLASH" lights up in the display), channel solo ("CHANNEL" and "SOLO" light up in the display), memory-flash ("FLASH" lights up in the display), memory solo (in the display "SOLO" lights up), memory preview ("PREVIEW" lights up in the display).

In memory-operation the button toggles in combination with the CUE-PAGE-UP/DOWN-buttons between channel- and memory-mode of the flash-functions.

CUE-PAGE-UP/DOWN - buttons - 28

They increase and decrease a value.

In operation-mode 3 and 4 they determine the channels (1-12 or 13-24 respectively) associated with the OUTPUT- and PREVIEW-LED's, the FLASH-buttons and the PREST A-fader.

In the operate-select-mode these buttons reverse in operating-mode 1 the characteristic of the MASTER B fader. In operating modes 2 (12-channel memory-mode) and 4 (24-channel memory-mode) they determine how many cue-pages are active. The number is displayed with "PAGE". The number "0" denotes one page and is the lowest value.

In memory-operation the buttons toggle in combination with the FLASH-MODE-button between channel- and memory-mode of the flash-functions (UP switches to the channel-made, DOWN to the memory-made).

FLASH-buttons - 29

Activate the function selected with the FLASH-MODE-button.

A MASTER B - fader - 30

These faders determine the relative brightness of the presets A and B or the relative brightness of a stored scene in memory-operation.

CHASER-MODE - button - 31

[ADD STEP] [X-FADE]

Determines the crossfade-mode (indicated on the display with 'CHASER' for switching, 'CHASER' and 'SOFT' for soft transition, 'CHASER' and 'IMP' for impulse transition.

Inserts a new step into an existing chaser-program in the 'ADD STEP'-function.

SEQUENCER-UP/DOWN - button - 32

They increase and decrease a value.

In the operate-select-mode they determine for operating-mode 1 (12-channel A-B-operation) the number of usable sequencer- and audio-programs. Up to ten programs are available, denoted with numbers from 0 to 9 in the display (position "PROG"). A dash in the display denotes that all programs are disabled.

STOP/BACK - button - 33

Stops the running light or a crossfade.

When the running light is stopped: decrements one step.

Selects together with the STEP/GO-button a MIDI-channel.

STEP/GO - button - 34

Increments a stopped running light one step.

Selects together with the STOP/BACK-button a MIDI-channel.

SEQUENCER-FLASH-button - 35

For previewing a sequencer-program before it is routed to the outputs.

Together with the MODIFY-button: enters the chaser-modify-mode.

Together with the STORE-button: the actual status at the outputs is stored into the corresponding step of the program.

Together with DELETE: deletes a chaser-program completely.

SEQUENCER - fader - 36

Routes the sequencer to the outputs. As soon as the fader is moved down completely, the program is active at the outputs and controlled by the fader-position.

AUDIO-MODE - button - 37

[DMX-PATCH] [MIDI]

Selects the audio-operating-mode.

Together with the AUX-UP-button: enters the mode to change DMX-options. The display shows 'DMX'.

Together with the AUX-DOWN-button: enters the mode to change MIDI-options. The display shows 'MIDI'.

AUX-UP/DOWN - buttons - 38

They increment and decrement numeric values.

In the operate-select-mode (after pressing MODIFY-DBO), UP and DOWN select the operating-mode. It is displayed on the right side with a number from 1 to 4.

- 1) 12-channel A-B-operation
- 2) 12-channel memory-operation
- 3) 24-channel operation
- 4) 24-channel memory-operation

AUX-FLASH-button - 39

Together with MODIFY: enters the mode to change the audio-section (AUDIO, DMX, MIDI).

Together with DELETE: deletes a program of the audio-section completely.

AUX - fader - 40

Routes the audio-master or the MIDI-master to the outputs.

APPENDICIES

Care and Maintenance

With normal operation, LUNA 24 does not needs special maintenance. However, you should clean the surface lightly regularly with a dry soft cloth. Avoid using or storing the desk in conditions of excessive dust, since it could damage the faders, and moisture.

MIDI-Data

In mode 1 and 2, an octave comprises the channels 1-12, in mode 4, two octaves comprise the channels 1-24.

STATUS	1. Value	2.Value
Note On \$9n	channel	brightness

The brightness corresponds to twice the MIDI-value and overwrites the output-channel of the desk, if larger. Master-fader is the AUX-fader.

Note Off \$Bn	channel	xxx
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The corresponding channel is switched off, if no value from another module is applied.

Controller \$Bn	contr-.nr.	value
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The following controller overwrite the faders, if larger and if every Modify-made = Off.

Contr.-nr.	Fader	Contr.-nr.	f ader	
\$00 #0	Master A	\$13 *19	Manual B Channel	1
\$01 #1	Master B	\$14 *20		2
\$02 #2	Sequencer	\$15 *21		3
\$03 #3	Not used	\$16 *22		4
\$04 #4	Fade Time	\$17 *23		5
\$05 #5	Speed	\$18 *24		6
\$06 #6	Grand Master	\$19 *25		7
\$07 #7	Manual A channel 1	\$1A *26		8
\$08 #8	2	\$1B *27		9
\$09 #9	3	\$1C *28		10
\$OA #10	Manual A channel	4 \$10 *29	Manual B channel	11
\$OB #11	5	\$1E *30		12
\$OC #12	6	\$1F *31	Effect Master	
\$00 #13	7	\$20 *32	MIDI Master	
\$DE #14	8			
\$OF #15	9			
\$10 #16	10			
\$11 #17	11			
\$12 #18	12			

Controlle \$Bn

Contr.-nr

Value

The following controllers are used for different functions.

Contr.-nr.		Function	Value	
\$21	#33	Flashmode	0	= Channel Flash
			1	= Channel Solo
			2	= Channel Preview
			3	= Preset Flash
			4	= Preset Solo
			5	= Preset Preview
			6 - 127	= no function
\$22	#34	Page	0 - 9	= Page Number
			10 - 127	= no function
\$23	#35	Chaser Mode	0	= Hard
			1	= Soft
			2	= Impulse
			3 - 127	= no function
\$24	#36	Chaser Program	0 - 9	= Chaser 0 -9
			10 - 127	= no function
\$25	#37	Next Step	0	= Step 1
			1 - 99	= Step 1- 99
			100 - 127	= no function
\$26	#38	Trigger Mode	0	= both off
			1	= Speed on, Sound off
			2	= Sound on, Speed off
			3	= both on
			4 - 127	= no function
\$27	#39	Effect Mode	0	= Sound
			1	= Chase
			2	= VU
			3	= Sound-VU
			4	= Sound Chase
			5 - 127	= no function
\$28	#40	Effect-Program-Number	0 - 9	= Effect Program 0 - 9
			10	= Effect off
			11 - 127	= no function
\$29	#41	STEPIGO-button	0 - 127	= single shot
\$2A	#42	STOP/BACK-button	0 - 127	= single shot, trigger off
\$2B	#42	Change Chaser	0 - 127	= change of the program without pulling down the SEQUENCER-fader

MIDI data for program changes (for MIDI foot-controller)

Please refer to the chapter "Connecting a MIDI foot controller".

Remarks: In the following list the program changes start with 000. However, some MIDI equipment starts with 001 and ends with 128. If this is the case with your equipment, just add 1 to the numbers of the program change.

Factory Presets

The factory-presets are predefined scenes for the cue-page "0", the chasers "0" and "1", and the audio-program "0". The DMX-patches "1" and "2" are also preset. To load the presets, first turn off the mains-switch, then turn it on again while pressing MODIFY and STORE. The display shows "FACT". Release both buttons. Press STORE again for two seconds, till the display goes off. **Attention! This operation deletes all settings!** Before loading the presets with STORE, you can quit the procedure by pressing MODIFY.