MA
LIGHTING

Lightcommander I 24 & 48

User´s Manual

0. Introduction

The Lightcommander controls light dimmers of either 24 or 48 single channels. All dimmers using a 0-10 Volt analogue output, can be successfully interfaced with the console. Depending on the dimmer, several units can be connected in parallel to one output channel, so that the overall capacity will not be restricted to 24 or 48 x 2KW respectively.

0.1 Channels

The upper CHANNEL faders are used to control the single channels. Both MAIN-Master as well as CHANNEL-Master have to be up. In the SINGL FLASH mode the FLASH keys can be used to turn a channel off or on.

0.2 Memories (Real Level Memories)

After activating the MEMORY-Master, the lower faders are used to dim the memories (pre-recorded scenes). With deactivated SINGL FLASH function, memories can also be controlled with the respective FLASH keys. A total of 144 (288) separate pictures can be permanently stored on 6 memory banks; the first 24 (48) memories are available on BANK 1. Switching to another bank, another 24 (48) new memories can be controlled via the lower faders and FLASH keys, if SINGL FLASH is not activated.

Memory Bank Selection:

Bank 1:	Pic.1	up to 24 (48)	- press BANK 1 key
Bank 2:	Pic.25(49)	up to 48 (96)	- press BANK 2 key
Bank 3:	Pic.49(97)	up to 72 (144)	- press BANK 1 and BANK 2 keys at the same time

For the selection of banks 4 - 6 press MEMORY in the programming section. One decimal point will then appear after the first two numbers on the alphnumeric display.

Bank 4:	Pic.73(145)	up to 96 (192)	- press BANK 1 key
Bank 5:	Pic.97(193)	up to 120 (249)	- press BANK 2 key
Bank 6:	Pic.121(241)	up to 144(288)	- press BANK 1 and BANK 2 keys at the same time

You can return to banks 1 - 3 by pressing MEMORY again.

0.3 Chaser

The Lightcommander can permanently store 2 different kinds of chaser programmes. Programmes with ON-OFF steps and programmes with REAL-LEVEL-MEMORY steps.

Lightcommander 24:   10 ON-OFF Chasers (Progr.No. 1-10) á 40 Steps

                       35 MEMORY Chasers (Progr.No. 11-45) á 80 Steps

Lightcommander 48:   20 ON-OFF Chasers (Progr.No. 1-29) á 40 Steps

                       60 MEMORY Chasers (Progr.No. 21-80) á 99 Steps

In CHASER mode, the display will show the number of the CHASER programme on the left side and the number of the upcoming step on the right side. After selecting the programme number by pressing either the "+" or the "-" key, the CHASER can be started or stopped with the CHASER key in the !!lower!! key bank. CHASER sequences always start with Step 1, even if they had been stopped in the middle of the programme before. Brightness can be adjusted via the separate CHASER Master. The CHASER beat can be set to either MANUAL, AUTOMATIC or LIGHT-TO-SOUND.

Automatic   Modification of beat frequency via the SPEED button (LED Indicator)

Manual   Change scene by pressing the STEP button (can be used at any time)

Sound   Chaser follows signal connected to XLR-input (line level). LINE LEVEL, FREQUENCY (left = bass; right = approx. 1000 HZ) and minimum timing between two steps (HOLD OFF) have to be tuned to each other.

When changing from one CHASER programme to another, the new number and the decimal point will be shown on the display. Nevertheless the former programme will continue, until it will be switched off with the lower CHASER push button. Switching back on will start the new programme sequence.

When running an ON-OFF-CHASER programme, the AUTOFADE function will produce a slow fade from one step to the next. The AUTOFADE time can be checked with OLD and can be modified by simultaneously pressing OLD and either "+" or "-". AUTOFADE can not be used with MEMORY chasers.

0.4 Fader, Key, Knob and Switch functions

Upper Fader bank: Channel Dimmers

Lower Fader bank: Memory Dimmers

Flash Keys: Will switch on channels or memories (see SINGL FLASH)

0.5 Programming and Master Module

- Lower Bank -

Bank 1	Enables to change from Memory 1-24 to
Bank 2	25-48 or
Bank 3	49-72, if both are being pressed simultaneously
Chaser	Chaser on and off
Flashmaster	Pressing one or more FLASH keys, all other functions will be oppressed
Step	Manual step-through of chaser steps
Blackout	Stage lamps will switch off

- Master Section -

Channel	Master for channel dimmer
Memory	Master for Memory dimmer
Chaser	Master for Chaser
Main	Overall Master for all functions (Flash-Master will only be dimmed via the Main-Master)

- Chaser Section -   (See Chaser Control)

- Special Section -

"A" - "D"	Four freely assignable ON-OFF channels for the control of accessories (DC +10 Volt via Multicore, 10 mA max.)
SINGL-FLASH OFF	Flash keys control the respective Memories
SINGL-FLASH ON	Flash keys control the respective channels
AUTOFADE	Automatic fading between chaser steps (only with ON-OFF chaser programmes)

- Programming Section -

Memory	Enables you to switch between memory banks 1-3 and 4-6 and vice versa
Old	Shows Autofade Time in 1/10 sec on the display, Time can be modified by pressing OLD simultaneously with either the "+" or the "-" key
"+" and "-"	Chaser Programme selection
Preheat	Stage Lamp preheating up to 10% of full output
Keyswitch	Access to the Programming Mode

All described functions (with the exception of FLASH MASTER on) work on a precedence principle, i.e. which ever fader is highest - CHANNEL or MEMORY - is the level that will appear at the console's output. The Module LEDs show stage lamp brightness directly.

When only the CHASER programme is selected, all other MASTER faders should be completely off.

0.6 Programming

The MA Lightcommander can permanently store 144 (288) complete scenes with flexible brightness as well as 45 (80) chaser programmes. All lights can remain switched on during programming for better control of the programmed stage scenes at any time.

Blind programming is also possible, i.e. during the set-up of new scenes with the CHANNEL faders, the MEMORY faders and the CHANNEL function can be used to light the stage. Switching between NORMAL and PROGRAMMING mode is done by help of the keyswitch (LED flashes). The flashing keys are used to select between CHASER or MEMORY programming.

The instruction consists of two parts, each containing:

- a detailed description

- a summary

- a description of specialities

0.7 Memory Programming

a)   Switch keyswitch and MEMORY key to ON

   - Press 1 x   =   Blind programming

   - Press 2 x   =   Memories and Chaser switched off; only the channel faders
                                                        control LEDs and stage

b)   Select Memory number by pressing the respective FLASH key. Select Memory bank. The flashing
      memory number will appear on the right side of the display. It can flexibly be modified during the
      programming procedure. For banks 2 - 6 the numbers 1 - 24(48) will be shown. Please be aware of
      the respective bank chosen.

c)   If a memory has already been programmed, the former picture can be viewed with the help of the
      OLD button (does not work in BLIND MODE).

d)   Channel faders (upper) are used to set up new light pictures. Brightness of single channels can be
      freely chosen and saved. This works also in Blind Mode, and in contrast to normal programming here
      the CHANNEL Master can be set to zero. This means, that the setting does not show on stage at this
      moment, but will be stored upon pressing the SAVE button.

e)   If required, the Memory number can now be modified again.

f)   By pressing the SAVE button, the scene will now be saved under the number shown on the display.

g)   The unit is still in the programming mode for memories. If no further programming is required, you
      can return to normal mode with the help of the keyswitch.

Summary Memory Programming

*   Keyswitch ON

*   PRESET Button (1 x for Blind Programming, 2 x for ON LINE)

*   BANK and FLASH Buttons for selection of number

*   Create scene with CHANNEL faders

*   Press SAVE Button

*   Keyswitch OFF or next Memory

Additional Possibilities:

Correcting or copying a memory can only be done
        by comparison with the former memory (OLD Button)

Important basic settings
        are at all times accessable, if they are being stored during the programming by saving the same
        fader settings on all banks.
        (for example: "Stage in red" on Memory 10 on Bank 1,2,3 etc.)

You can erase a memory by overwriting.

0.8 Chaser Programming

a)   Set Keyswitch and CHASER button to ON

b)   Select programme number by pushing "+" or "-". The display will now show the respective programme number (flashing) and the first step can now be entered. The selection of the programme number determines whether you can enter memories or ON-OFF pictures as single steps.

c)   If this step has already been programmed, you can view the former picture with OLD.

d)   The required stage scene can be programmed by help of the FLASH button. With the first 10(20) programmes you can determine per step, which channels are supposed to be ON and which should be OFF (ON-OFF Chaser, i.e. brightness can not be adjusted). With the MEMORY Chasers in contrast you can take over each previously saved REAL-LEVEL-MEMORY as one single step. Here the selection is done via the FLASH buttons.

e)   By pressing the CHASER button in the programming section, the upcoming chaser step will be intermediately saved. (If you wish to take a former scene as single step, hold the OLD button until you have gone over to the next step with the CHASER button.) The display now shows the next step (continue with instruction c).

f)   When the Chaser programme is complete (latest when you have reached the maximum number of permitted steps; otherwise the display will report error in form of XX), you can still modify at this point the number with "+" or "-" under which the chaser shall be saved.

g)   Only by pressing the SAVE button, the complete programme, which has so far only been stored intermediately, will then be saved in full.

h)   The unit is still in chaser programming mode. If you do not wish to programme any further chasers, the keyswitch will bring you back to normal mode.

Summary Chaser Programming

*   Keyswitch ON

*   Press CHASER button in the programming section

*   Select programme number ("+" or "-")

*	Create step 1	Press CHASER button
	Create step 2	Press CHASER button
	....	....
	Create last step	Press CHASER button

*   Press SAVE button

*   Keyswitch OFF or next chaser programming

Additional Options

Chaser programme modification
-      Select the respective programme within the programming mode
-      Single steps, not to be modified, can be taken over with the OLD key, the rest can be changed
-      Be careful to press SAVE only after all steps have been stepped through.

Copying a chaser programme
-      Go through all steps keeping the OLD key pressed
-      Now select the new programme number
-      Save

The takeover of single parts into another programme
     can be achieved by copying and modifying. You can freely jump between the already existing programmes. Step 1-6 for example will be taken from programme 1, step 7-24 from programme 5 and step 25-28 will be newly created by help of the FLASH buttons. The new chaser programme will then be saved under a free or no longer used programme number by pressing SAVE.

Coupling of various programmes in any other way than described above is not possible,
     as for example step 1 can only be transfered to step 1 of another programme.

Save time with recurring steps
     First of all, all steps will be programmed and saved in the same setting. In a second round this recurring step will be taken over at the required position using the OLD key.

Deleting a programme
     is done by overwriting it with a new programme or by the early use of the SAVE button.

After the completion of programming turn the keyswitch OFF (LED OFF) in order to avoid tampering!

0.9 MIDI Instructions

Lightcommander control boards are MIDI compatible. The 48-channel version is generally equipped with the MIDI interface while offering the interface for the 24-channel version as an extra. MIDI can be used to store a complete programme at a MIDI Sequencer and play back at the next performance. But it can also be used to connect two or more consoles and have the ability to work with 96 or 144 channels.

General Information

MIDI Channel Selection
> By pressing the SAVE button, the display will show the MIDI channel number. You can change the number by pressing SAVE and either "+" or "-" simultaneously.

MIDI Out
> Press SAVE and CHASER simultaneously (upper key bank; 4. Decimal point flashes on the display)

MIDI In
> Press SAVE and MEMORY (3. Decimal point)

> Both functions will be deactivated by pressing the same key combination again.

MIDI Signal Dimming
> MIDI In Signals can only be dimmed by the Main Master Fader.

Master-Slave Operation
> Connecting two consoles by MIDI (Master Board = MIDI Out, Slave Board = MIDI In), you can control the Memory Functions of both boards from the Master board. For this you only have to use the Memory Fader on the Master board. The corresponding memory of the Slave board will react the same way. The addition of single channels or chaser programmes has to be done on the respective board. With MIDI THRU you can connect more than two consoles.

Memory Programming
> - Switch both consoles to Memory Programming
> - Select the same memory number and bank on both consoles
> - Store the memory on both consoles with SAVE

Preparations for Master-Slave Operation
> - Connect MIDI OUT of the Master console with MIDI IN of the Slave via a 5pol DIN cable
> - Select the same MIDI channel on both boards with SAVE and "+" or "-" (factory setting = 1)
> - Activate the MIDI OUT mode on the Master with SAVE and CHASER (4. Decimal point appears on the display)
> - Activate the MIDI IN mode on the Slave with SAVE and MEMORY (3. Decimal point appears on the display)
> - Do not forget: Select the memory bank on the Master console in any case and confirm where the first memory has to be activated. Otherwise the Slave console might be operating on a different bank than the Master console.

Master-Slave Operation
- When moving a Memory fader on Master board, the respective fader on the Slave board will do the same simultaneously. Every change of the memory bank will also be transmitted to the Slave automatically.
- Pressing a Memory FLash button will also be transfered to the Slave.
- Single channel faders and Single channel Flash must be operated separately on the respective console.
- Chaser programmes with all 96 channels can not be synchronised by MIDI. This has to be done by adjustment and simultaneous activation.

Storing Lightshows on a Sequencer
When saving a complete lightshow on a sequencer, you can only and exclusively work with memories. During the Playback of the programme, you can still add single channels, memories and chasers. Switching banks in this case does only have internal effect, i.e. on a MIDI controlled console you can add memories from just any selected bank.

MIDI OUT Data
All values of each memory, resulting from the position of the Memory faders and the Memory Flash buttons, are being transmitted. Flashmaster function for memories and switching banks is activated. Single Channel Fader- and SINGL FLASH-values are not being transmitted. The SINGL FLASH MASTER function is not active in combination with MIDI (the flashing FLASH MASTER LED reminds you of that). All chaser data is not being transfered either.

Connector Pin Layout on Lightcommander 24

Siemens Connector	Socapex Connector	Channel
a1 to a8	1-8	Channel 1 to 8
b1 to b8	9-16	Channel 9 to 16
c1 to c8	17-24	Channel 17 to 24
a9	25	Channel "A"
b9	26	Channel "B"
c9	27	Channel "C"
a0	28	Channel "D"
b0 and c0	36 + 37	Ground

Connector Pin Layout Lightcommander 48

Wieland 64pol	Socapex Connector	Channel
A1 to A16	1-16 (I)	Channel 1 to 16
B1 to B8	17-24 (I)	Channel 17 to 24
B9 to B16	1-8 (II)	Channel 25 to 32
C1 to C16	9-24 (II)	Channel 33 to 48
D1	25 (II)	Channel "A"
D2	26 (II)	Channel "B"
D3	27 (II)	Channel "C"
D4	28 (II)	Channel "D"
D15 and D16	36 + 36 (I + II)	Ground

Sound Input XLR Connector

Pin 3	Signal
Pin 1 + 2	Ground

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