



Mini MIDI Converter

User's Manual

July 1996

CE

Contents

1. Front Panel	3
2. Controlling Lightcommander 12/2, 24/6, 48/6	4
2.1 Using Program-Change-Data (Mode 0)	4
2.2 Using A of Note On/Off Data by KILL Function (Mode 1)	5
2.3 Using B of Note On/Off Data by KILL Function (Mode 2)	6
2.4 Using Note On/Off Data by ADD Function (Mode 3)	7
3. Controlling MA Scancommander.....	8
3.1 Using Program-Change Data (Mode 7)	8
3.2 Using Note On/Off Data (Mode 8)	9
4. Error Handling.....	10
5. Technical Data	10
6. Key Assignment of Keyboards.....	11
7. MIDI Format and MIDI Commands of MA Lighting Consoles.....	11
Scancommander	
Lightcommander 12/2	
Lightcommander 24/6, 48/6	
8. Safety Instructions	14
9. Declaration of Conformity.....	14

MADE IN GERMANY

MA Mini-MIDI-Converter

The MA Mini-Midi-Converter enables you to control the MA Lightcommander 12/2, MA Lightcommander 24/6 & 48/6, MA Scancommander and MA SC Extension by "normal" MIDI Note On/Off and Midi Program-Change commands.

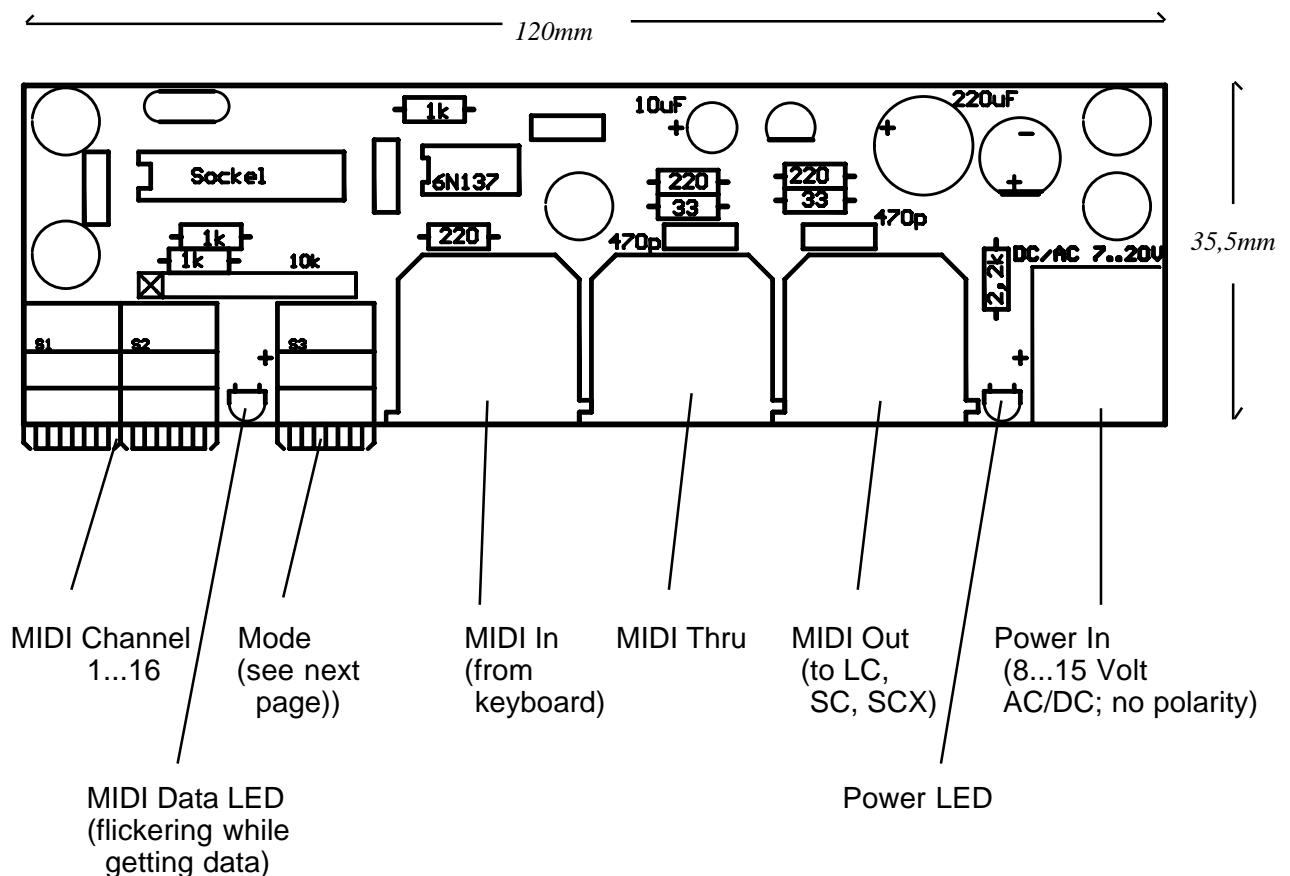
The Note On/Off commands are generated by every single pressing of a key of a synthesizer, masterkeyboard, etc..

Program-Change commands are generated by Midi footswitches and furthermore by keyboards when the programme is being changed.

(MA Lightcommander and Scancommander are working with "Control Change" commands because of the universal and complete controlling. These commands can be translated in manageable Note On resp. Program-Change commands by this Converter. Because most of the keyboards only have 76 keys only some selected functions can be remote controlled. For optimization, there are 6 different modes ->see next page)

NOTE: The PCB is working by low voltage (max. 15 V) and can therefore be touched without danger.

1. Front panel:



2. Controlling Lightcommander 12/2, 24/6, 48/6

2.1 Using Program Change Data (Mode 0)

Memories and pages can be called up separately

To control the MA Lightcommander by Program-Change Data please set the 3rd code switch to "0".

The other two turning wheels must be set to the used Midi channel.

MIDI-IN can be connected for example to a MIDI foot switch. The MIDI wire must be connected to MIDI OUT of the foot switch.

The MA Lightcommander (MIDI IN) will be connected to the MIDI OUT of the converter.

The following functions can be done:

Program-Change 0	controls	Memory 1 (actual page)
Program-Change 1	controls	Memory 2 (actual page)
etc.	....	....
Program-Change 15	controls	Memory 16 (actual page)
Program-Change 17	controls	Page 0 (LC12) resp. Page A (LC24)
Program-Change 18	controls	Page 1 (LC12) resp. Page B (LC24)
etc. etc. up to 26	....	....
Program-Change 27	starts	Chaser No. 1 (Attention, no step!)
Program-Change 28	starts	Chaser No. 2 (Attention, no step!)
etc. etc. up to 76	....	Chaser No. 50 (Attention, no step!)
Program-Change 77	controls	manual step
Program-Change 80	controls	automatic step "OFF"
Program-Change 81	controls	quick automatic step
Program-Change 82	controls	slightly slower automatic step
etc.	....	....
Program-Change 87	controls	very slow automatic step

Attention: Within this mode active memories will be switched off when the following memory is called up (KILL mode).
An already running chaser can only be stopped by calling an "empty" chaser.
Fading memories is not possible.

2. Controlling Lightcommander 12/2, 24/6, 48/6

2.2 Using Note ON/OFF data operating the KILL function (Mode 1) Memories and pages can be called up separately

To control the MA Lightcommander by Note ON/OFF data operating the KILL function please set the 3rd code switch to "1".

The other two turning wheels must be set to the used Midi channel.

MIDI-IN can be connected for example to a MIDI keyboard. The MIDI cable must be connected to MIDI OUT of the keyboard.

The MA Lightcommander (MIDI IN) will be connected to the MIDI OUT of the converter.

The following functions can be done (for a table of the notes of a keyboard see chapter 6):

Note E1	controls	Memory 1 (actual page)
Note F1	controls	Memory 2 (actual page)
etc.	....	....
Note G2	controls	Memory 16 (actual page)
Note C3	controls	Page 0 (LC12) resp. page A (LC24)
Note Cis3	controls	Page 1 (LC12) resp. page B (LC24)
etc. etc. up to A3	....	Page 9 (LC12)
Note E5	starts	Chaser no.1 (Attention, no step!)
Note F5	starts	Chaser no.2 (Attention, no step!)
etc. etc. up to Ais6	....	Chaser no.19 (Attention, no step!)
Note H6	controls	manual step
Note C7	controls	automatic step "OFF"
Note Cis7	controls	quick automatic step
Note D7	controls	slightly slower automatic step
etc.	....	....
Note G7	controls	very slow automatic step

Attention: Within this mode active memories will be switched off when the following memory is called up (KILL mode).
An already running chaser can only be stopped by calling an "empty" chaser.
Fading memories is not possible.

2. Controlling Lightcommander 12/2, 24/6, 48/6

2.3 Using Note ON/OFF data operating the KILL function (Mode 2) Memories and pages will be called up together

To control the MA Lightcommander by Note ON/OFF data operating the KILL function please set the 3rd code switch to "2".

The other two turning wheels must be set to the used Midi channel.

MIDI-IN can be connected for example to a standard keyboard. The MIDI cable must be connected to MIDI OUT of the keyboard.

The MA Lightcommander (MIDI IN) will be connected to the MIDI OUT of the converter.

The following functions can be done (for a table of the notes of a keyboard see chapter 6):

Note E1	controls	Memory 1 & page 0 (LC12) resp. A (LC 24)
Note F1	controls	Memory 2 & page 0 (LC12) resp. A (LC 24)
etc.	....	....
Note Dis2	controls	Memory 12 & page 0 (LC12) resp. A (LC 24)
Note E3	controls	Memory 1 & page 1 (LC12) resp. B (LC24)
Note F3	controls	Memory 2 & page 1 (LC12) resp. B (LC24)
etc. etc.		
Note Dis4	controls	Memory 12 & page 1 (LC12) resp. B (LC24)
up to Dis5	....	Memory 12 & page 3 (LC12) resp. D (LC24)
Note E5	starts	Chaser no.1 (Attention, no step!)
Note F5	starts	Chaser no.2 (Attention, no step!)
etc. etc. up to Ais6	....	Chaser no.19 (Attention, no step!)
Note H6	controls	manual step
Note C7	controls	automatic step "OFF"
Note Cis7	controls	quick automatic step
Note D7	controls	slightly slower automatic step
etc.	....	....
Note G7	controls	very slow automatic step

Attention: Within this mode active memories will be switched off when the following memory is called up (KILL mode).
An already running chaser can only be stopped by calling an "empty" chaser.
Fading memories is not possible.

2. Controlling Lightcommander 12/2, 24/6, 48/6

2.4 Using Note ON/OFF data operating the ADD function (Mode 3)

Memories and pages will be called up together

To control the MA Lightcommander by Note ON/OFF data operating the ADD function please set the 3rd code switch to "3".

The other two turning wheels must be set to the used Midi channel.

MIDI-IN can be connected for example to a standard keyboard. The MIDI cable must be connected to MIDI OUT of the keyboard.

The MA Lightcommander (MIDI IN) will be connected to the MIDI OUT of the converter.

The following functions can be done (for a table of the notes of a keyboard see chapter 6):

Note E1	controls	Memory 1 & page 0 (LC12) resp. A (LC 24)
Note F1	controls	Memory 2 & page 0 (LC12) resp. A (LC 24)
etc.	....	....
Note Dis3	controls	Memory 12 & page 0 (LC12) resp. A (LC 24)
Note E3	controls	Memory 1 & page 1 (LC12) resp. B (LC24)
Note F3	controls	Memory 2 & page 1 (LC12) resp. B (LC24)
etc. etc.		
Note Dis4	controls	Memory 12 & page 1 (LC12) resp. B (LC24)
up to Dis5	....	Memory 12 & page 3 (LC12) resp. D (LC24)
Note E5	starts	Chaser no.1 (Attention, no step!)
Note F5	starts	Chaser no.2 (Attention, no step!)
etc. etc. up to Ais6	....	Chaser no.19 (Attention, no step!)
Note H6	controls	manual step
Note C7	controls	automatic step "OFF"
Note Cis7	controls	quick automatic step
Note D7	controls	slightly slower automatic step
etc.	....	....
Note G7	controls	very slow automatic step

Attention: Within this mode active memories will not be switched off when the following memory is called up (ADD mode).
An already running chaser can only be stopped by calling an "empty" chaser.
Fading memories is not possible.

3. Controlling the Scancommander

3.1 Using Program Change data (Mode 7)

Memories and pages will be called up together

To control the MA Scancommander by program change data please set the 3rd code switch to "7".

The other two turning wheels must be set to the used Midi channel.

MIDI-IN can be connected for example to a MIDI footswitch or a synthesizer. The MIDI cable must be connected to MIDI OUT of the keyboard.

The MA Scancommander (MIDI IN) will be connected to the MIDI OUT of the converter.

The following functions can be done (for a table of the notes of a keyboard see chapter 6):

Program Change 0	controls	Memory 1 & Page A
Program Change 1	controls	Memory 2 & Page A
etc.	....	....
Program Change 100	controls	Memory 11& Page C
Program Change 101	controls	Sequence 1
Program Change 102	controls	Sequence 2
etc. etc. up to 116	controls	Sequence 16
Program Change 126	controls	Go+
Program Change 127	starts	Go-

Note: Mode 4, 5, 6, 9 without function!

3. Controlling the Scancommander

3.2 Using Note ON/OFF data (Mode 8)

Memories and pages will be called up together

To control the MA Scancommander by note ON/OFF data please set the 3rd code switch to "8".

The other two turning wheels must be set to the used Midi channel.

MIDI-IN can be connected for example to a standard keyboard. The MIDI cable must be connected to MIDI OUT of the keyboard.

The MA Scancommander (MIDI IN) will be connected to the MIDI OUT of the converter.

The following functions can be done (for a table of the notes of a keyboard see chapter 6):

Note E1	controls	Memory 1 & Page A
Note F1	controls	Memory 2 & Page A
etc.	....	....
Note H5	controls	Memory 26 & Page B
Note C6	controls	Sequence 1
Note Cis6	controls	Sequence 2
etc.	....	....
Note Dis7	controls	Sequence 16
Note Fis7	controls	Go+
Note G7	controls	Go-

Note: Mode 4, 5, 6, 9 without function!

4. Error Handling

In case of a power failure with the Mini MIDI Converter, please check the power LED. If the LED is not lit, please check the main power supply.

Faults can be caused by:

- Contact problems at cables or connectors
- Short circuit and /or wrong connections
- Voltage too high or too low
- Inappropriate cables and extreme cable length

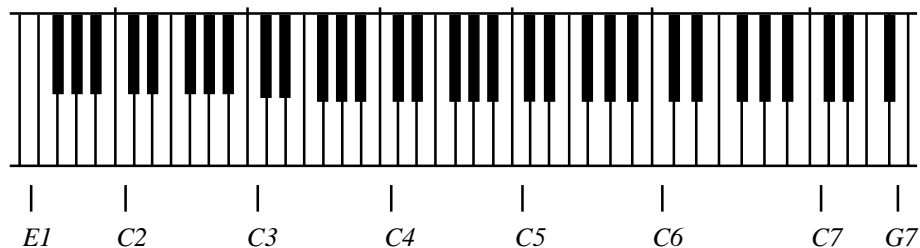
7. Technical data

Power:	230 VAC / 50Hz or 110VAC / 60Hz (factory setting), plug power supply
Voltage IN	8 - 15 Volt DC/AC
Signal input	MIDI to DIN 5pol
Signal output	MIDI to DIN 5pol
Dimensions (mm)	120 x 35,5

MADE IN GERMANY
-- Technical changes reserved --

6. Arrangement of the keys of a keyboard with 76 keys (example)

Note: Depending on the keyboard or the keyboard setup the arrangement can be shifted for one octave or can be higher or lower.



7. MIDI Data Format and MIDI Commands of MA Light Control Desks

Scancommander: MIDI Data Format and MIDI Commands

MIDI FORMAT: Control Change Data

Start byte: 1011nnnn (Control Change and MIDI channel) e.g. Channel 1 =B0=176

1.Data byte: 00000nnn (0= Memory A1 to B30, 1= C1 to D30
2= Sequence 1-16, 3= GO+/GO-)

2.Data byte: 0nnnnnnn (Number of the memory etc., starting at 0)

Example for MIDI Channel 1 :

hexadecimal:
decimal:

Memory A1 => B0 + 00 + 00
Memory A1 => 176 + 00 + 00

Statusbyte

1.Databyte

2.Databyte

Lightcommander 12/2: MIDI Format and MIDI Commands



- è MIDI exclusively deals with Controller Commands. In the MIDI menu two different sets of controller commands can be activated. Press Shift button within the MIDI menu.
- While MIDI OUT is turned on, all fader settings (Masters), memory buttons, the page and Chaser Program Numbers will be transferred to initiate MIDI.
- While MIDI IN is turned on or off, each internally activated Memory, the Chaser and Insert Fades will be removed.
- When MIDI IN is turned on, the Main Master, the Preset-A- and -B-Master will be turned to 100 %. The chaser master is set to 0 %.

è Commands:

The Status Byte to be transferred is always the Control Change Command.
 = 1011nnnn (Bn hex) (nnnn=MIDI Channel).
 Hence, two Data bytes are following:

Name:	1.	2. Data byte:
Memory Fader 1	00 (102)	+00-127 (Fader level)
Memory Fader 2	01 (103)	+00-127 (Fader level)
Memory Fader X	XX (XX)	+.....
Memory Fader 12	11 (113)	+00-127 (Fader level)
Main Master Fader	17 (119)	+00-127 (Fader level)
Preset A Master	18 (120)	+00-127 (Fader level)
Preset B Master	19 (52)	+00-127 (Fader level)
Chaser Master	20 (53)	+00-127 (Fader level)
Memory button 5-8	23 (54)	+08=Mem5 04=Mem6 02=Mem7 01=Mem8
Memory button 1-4	24 (55)	+08=Mem1 04=Mem2 02=Mem3 01=Mem4
Memory button 9-12	26 (57)	+08=Mem9 04=Mem10 02=Mem11 01=Mem12
Page 0-9	27 (58)	+00-09 (Page 0 9)
Solo Function	28 (59)	+16=Channel Flash 08=Zero +04=Memory Flash 02=Preset B Flash +01=Preset A Flash
Chaser Start (+No.)	32 (63)	+00-98 (Chaser number)
Chaser Step button	33 (20)	+00-XX (value doesn't matter)
Preset Mode ON	48 (29)	+00-XX (value doesn't matter)
X-Fader	49 (30)	+00-127 (Fader level)
X-Fade Insert	50 (31)	+00 = ON, -00 = OFF (unequal zero)
X-Fade Manual	51 (84)	+00 = ON, -00 = OFF (unequal zero)
Preset Flash buttons	52 (85)	+04=Preset A 02=Preset B 01=Zero
Sound to Light Mode	53 (86)	+00 = ON, -00 = OFF (unequal zero)
Sound to Light Pause	54 (87)	+00-127 (Fader level)
Sound to Light Bass	55 (88)	+00-127 (Fader level)
Sound to Light Mid	56 (81)	+00-127 (Fader level)
Sound to Light Treble	57 (90)	+00-127 (Fader level)
Chaser Speed Fader	58 (70)	+00-127 (Fader level)
Chaser Mode	59 (71)	+00 = Sound, 01 = Run, 02 = Manual

Numbers in brackets are the values for the second controller set.

Lightcommander 24/6 and 48/6: MIDI Format and MIDI Commands

- è The Lightcommander uses Control Change Data exclusively. Within the MIDI menu two different sets of control orders can be chosen. To avoid coincidences, either one or the other can be used.

As soon as MIDI OUT is switched on, all master adjustments and the page are sent as initialization. Chaser and X-fades are stopped.



As soon as MIDI IN is switched on, all internally running memories, chases and X-fades are cancelled. Main and Chaser fader will automatically be set to 100 %.

- è Commands:
The command 1011nnnn (Bn hex) (nnnn=MIDI channel) will always be sent as status byte.
The following two bytes are data bytes:

<u>Command</u>	<u>1.-</u>	<u>2.Data byte</u>
Memory fader 1	: 00 (102)	+ 00-127 (Fader value)
Memory fader 2	: 01 (103)	+ 00-127 (Fader value)
.	: . + . .	.
Memory fader 16	: 15 (117)	+ 00-127 (Fader value)
Grand Master fader	: 17 (119)	+ 00-127 (Fader value)
Chaser Master	: 20 (53)	+ 00-127 (Fader value)
Memory button 5-8	: 23 (54)	+ 08=Me.5 04=Me.6 02=Me.7 01=Me.8
Memory button 1-4	: 24 (55)	+ 08=Me.1 04=Me.2 02=Me.3 01=Me.4
Memory button 13-16	: 25 (56)	+ 08=Me.13 04=Me.14 02=Me.15 01=Me.16
Memory button 9-12	: 26 (57)	+ 08=Me.9 04=Me.10 02=Me.11 01=Me.12
Page A-H	: 27 (58)	+ 00-07 (Page A-H)
SWOP Blackout	: 28 (59)	+ 16= channel Flash 8=Switch Flash 4= Memory Flash 2=Preset2 Flash 1= Preset1 Flash
DBO	: 29 (60)	+ 00= no DBO 01= DBO Switchmemory Flash 01= DBO Switchmemory Toggle/Kill
Switch Memory 5-8	: 30 (61)	+ 08=SW5 04=SW6 02=SW7 01=SW8
Switch Memory 1-4	: 31 (62)	+ 08=SW1 04=SW2 02=SW3 01=SW4
Chaser ON (+No.)	: 32 (63)	+ 00-49 (Chaser number 1-50)
Chaser Step button	: 33 (20)	+ 00-127 (no specific value)
Chaser OFF	: 34 (21)	+ 00-127 (no specific value)
Sequ.ON (+No.)	: 35 (22)	+ 00-49 (Sequence number 1-50)
Sequ.Change (+No.)	: 36 (23)	+ 00-49 (Sequence number 1-50)
Sequ.Go	: 37 (24)	+ 00-127 (no specific value)
Sequ.Fadeout	: 38 (25)	+ 00-127 (no specific value)
Sequ.Off	: 39 (26)	+ 00-127 (no specific value)
Init Mem.Page (intern)	: 40 (27)	+ 00, 4Bit Memory 0-15, 3 Bit Page 0-7
Init Swh-Page (intern)	: 41 (28)	+ 00, 4Bit SwitchMem 0-7, 3 Bit Page 0-7

RESET : no Status Byte ; 255 (FF)

Numbers in brackets are the numbers for the alternative controller set.

Safety Instructions:

1. Read all the instructions in the user manual.
2. Keep the user manual for later use.
3. Follow all the instructions on the unit.
4. Pull the plug before cleaning the unit; do not use any liquid or spray cleanser. Clean with a damp cloth.
5. Do not use the unit near water.
6. Do not put the unit on unstable tables etc.. It might fall down and get damaged.
7. Do not block the unit's ventilation slots. Always ensure adequate ventilation when installing the unit in a rack.
8. The unit is provided with a safety plug. This plug can only be used with safety sockets. These safety measures should by all means be followed. In case the plug does not fit into the socket (e.g. with old sockets), the socket should be replaced by an electrician.
9. Do not place objects on the power cable.
10. In case you use an extension wire make sure the sum of the power consumption of the connected units does not exceed the maximum power of the wire. The sum of the units plugged in the socket should not exceed 10 Ampere.
11. Do not spill any liquid over the unit. Do not put any objects through the slots of the unit, as these might get in contact with parts that are live or might cause short circuits. This may cause fires and shocks.
12. Do not service the unit yourself, you run the risk of getting shocked. All services should only be carried out by a specialist.
13. If one of the following conditions occurs, please pull the plug and call the service:
 - A. Cable or plug is damaged or worn.
 - B. Liquid got into the unit.
 - C. The unit was exposed to rain or moisture.
 - D. The unit does not work properly even if you follow the instructions of the user manual.
 - E. The unit fell down and the case was damaged.
14. Only use cables which are marked safety proof.
15. Don't use the unit near transmitters.

DECLARATION OF CONFORMITY according to guide lines 89/336 EWG and 92/31 EWG:

Name of producer: MA Lighting Technology GmbH
 Address of producer: Dachdeckerstr. 16 D-97297 Waldbüttelbrunn
declares that the product
 Name of product: MA Mini MIDI Converter
 Type: Mini MIDI Converter
answers the following product specifications:
 Safety: EN60065, VDE0860, IEC65
 EMV (EMC): EN55103-1 (E1), EN50081-1
 EN55103-2 (E2), EN50082-1
 Additional information: All MIDI inputs and outputs must be shielded. The shielding of the MIDI connectors must be connected to the ground of the corresponding plug.

Waldbüttelbrunn, 13.09.96



Dipl. Ing. Michael Adenau