BABY TOTEM

COMPACT & VERSATILE DIGITAL DIMMER

6 Ch x 2,5 Kw
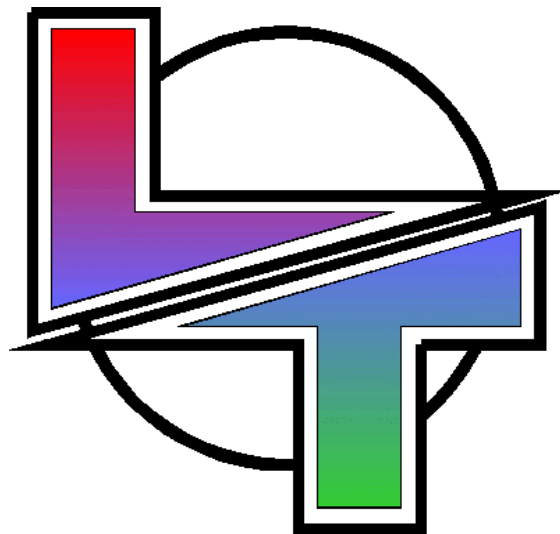
USER MANUAL

Version 1.5

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Baby TOTEM

Baby TOTEM, DIMMER PACK

Professional dimmers line, high performance and quality. Baby TOTEM is a dimmer completely digital and competitive in the actual market.

The **Baby TOTEM** dimmers have a new design concept, increasing the possibilities in its control and regulation.

Ideal response in tour (independently) or fixed installations (in 19" rack). Designed to answer to all necessities in Theatres, Auditoriums, Orchestras, Discotheques, TV studies and other Events.

Baby TOTEM:

TECHNICAL CHARACTERISTICS

- **Channels / Power:** 6 channels x 2,5 kW.

- Rearm slowly in the switch on (≈ 2 s).
- Automatic adjustment with the main input frequency: 40Hz - 70Hz.
- Zero crosses are generated by the microprocessor, in perfect synchronisation with the each input phase. This process permit us detect and isolate the possible input noise.
- Backup function: maintains the last DMX signal or actives one backup preset, when the DMX signal is missing or fault the communication.
- 3 input phases.
- Protection by channel dimmer: 2 pole circuit breaker, DPN, to protect the phase and to section the neutral (optionally, it is possible have 1 pole circuit breaker by channel).
- Forced ventilation.
- AMECON interference suppresser coils, with lineal response between the 25% and the 100% of the load, with a raise minimum time of 220 μs.
- Power devices: 25 A triac, by 2500 W channel.
- DMX-512 (1990) input control signal.
- MIDI-IN input control signal.
- 0 +10V input control signal.
- Manual test of channels. Modes: On/Off, Switch, Dimmer, and simulation of A.L. function). There are one key for each dimmer channel.
- Out witness Led by each channel.
- DMX input witness Led.
- Power supply witness Led (for internal circuits).
- Alphanumeric display: 4 high effectiveness digits, for general information and menus.
- 3 function keys to use the menus.
- 5 regulation curves: Lineal, square, invert square, on/off & park. These curves are self-adjustment with the input frequency.
- **Menus**:
    - Selection of the assigned function to the channel manuals keys.
    - Selection of the DMX direction.
    - Selection of the response curve, in generic mode or by channel.
    - Selection of the response times, in generic mode or by channel.
    - TEST functions for: DMX, MIDI, 0+10V, Outs, User and others.
    - Backup presets: to store presets and parameters set-up.
    - Configuration of the MIDI port (channel, note & mode).
    - A.L. function (for architectural or ornamental lighting).
    - Preheat function.
    - No lineal Patch.
    - Show: To store the current configuration of the dimmer.
- Main power input: 5 connection borne, for 4 mm section cables.
- Power output: Harting connector or connections borne.
- Size:
    - 2U x 19"
    - 15 Kg.
    - Paint in blue.

- Control Unit:
  - Microprocessor H8/3003 / 16 bits / 16MHz.
  - Program memory: 128 KB
  - Data memory: 8 KB

Electric Characteristics:
- Main power input: 3 phases + neutral + earth
  - 230V~ / 5kW 50/60Hz.   (1 phase).
  - 230/400V$_3$~ /15kW 50/60Hz.   (3 phases).
- Protection by input phase: 3 x T fuses (slowly response) 0,5A.
- Ambient conditions:
  - Ambient temperature: -10ºC a 35ºC.
  - Relative humidity, without condensation: 80%.
- Installation category: CAT II.

PROTECTIONS

Main Power Input:
3 fuses, in the rear panel, 1 by phase. The valour fuses: 500 mA/250V type T (slowly response).
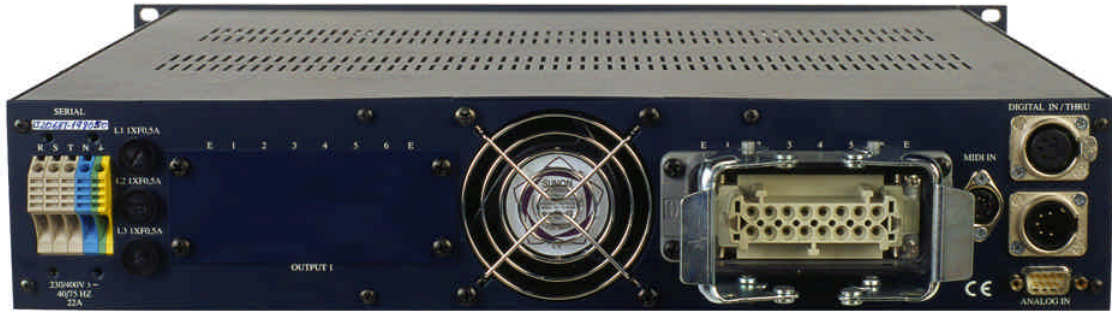
Channels:
2 poles circuit breaker, DPN, to protect the phase and to section the neutral.

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CONNECTIONS

All connections are placed in the rear of the dimmer:

CONTROL SIGNALS

DMX-IN & DMX-THRU.
2 XLR-5 standard connectors. Code:

GND.	Pin 1
Data -	Pin 2
Data+.	Pin 3

Always use data cables with shielded and 1 twisted pair, impedance of 120 Ω and low capacitance. The shield is connected to the pin 1 and the signals Data - & Data + in the same twisted pair.   Never use audio cables.

MIDI-IN.
Standard protocol. 1 DIN-5 180º. Code:

Pin 4-   MIDI in
Pin 5-   Return

Nota: All MIDI cables are compatibles. Always use MIDI standard cables.
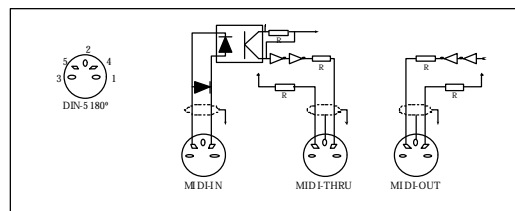
0 +10V.
SUBD-9 male. Code:

Pin 1	Channel 1
Pin 2	Channel 2
…	… …
Pin 6	Channel 6
Pin 7	N.C.
Pin 8	GND.
Pin 9	N.C.

N.C. is "no connected".

POWER INPUT & OUTPUTS

Main Input
Standard with 5 connections borne for 4 mm section cable:
Earth   (green-yellow)
Neutral (blue)
Phase R (brown)
Phase S (brown)
Phase T (brown)

Near these borne are the protections input fuses.
¡Always connect the earth to the dimmer pack!

Power output.
- Harting connector of 16 + earth terminal, 16 A. Optional: 2 Harting in parallel. Code:

Pin 1	Channel 1	Pin 9	Neutral 1
Pin 2	Channel 2	Pin 10	Neutral 2
Pin 3	Channel 3	Pin 11	Neutral 3
Pin 4	Channel 4	Pin 12	Neutral 4
Pin 5	Channel 5	Pin 13	Neutral 5
Pin 6	Cahnnel 6	Pin 14	Neutral 6
Pin 7	NC	Pin 15	NC
Pin 8	NC	Pin 16	NC

- 12 connections borne, for cable of 2,5mm-section, labelled in the rear panel.

In the power output borne there are 230V~.
Maximum load.- 2,5kW (3 phases) or 850W (1 phase)

To connect alone appliances that without accessible parts with tension and whose hi-fidelity possess double isolation or reinforced with respect to the main power input.

Baby TOTEM

OPERATION

The Baby TOTEM dimmer park is designed to obtain a precise regulation and without problems. Internal functions like:

        Auto-adjust with the input frequency.
        Zero crosses controlled by the microprocessor.
        Rearm slowly in the switch on…

Permit to the Baby TOTEM dimmer works in the more hard conditions, with electric generators, or in noise conditions.

The dimmer is capable to detect and isolate the input noise, avoiding blink in its outputs and absorbing the frequency variations.

FRONTAL PANEL AND INFORMATION
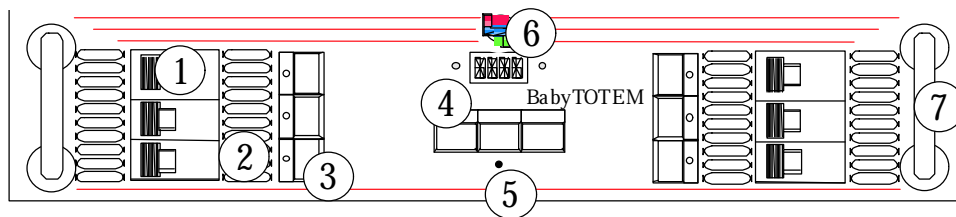
In the drawing:
1. Circuit breakers.
2. Frontal ventilation holes.
3. Manual control keys, with output witness LED by channel.
4. 3 function keys: MENU, ENTER & ↑.
5. Reset pushbutton.
6. 4 digit alphanumeric display, (general information & menus), near this:
        LED for DMX input.
        LED for power-supply (+5Vdc).
7. Handles to transport the dimmer pack.

The first time that we switch on the dimmer pack, in the display appears:

$$\_\ \_\ \_\ \mathbf{1}$$

See too SYSTEM COLD RESET (Pg. 28)

MANUAL TEST of the OUTPUT CHANNELS - MAN

From the frontal keys of your BABY TOTEM you can control the dimmer channels, by default, these keys work like channel Flash.
In the MAN menu, you can select the functionality for these keys.

The output of the manual control is added to the output controlled by the DMX, MIDI or 0+10V signals.

With these keys you can test the dimmer outputs, set-up a "scene" or simulate the external keys for A.L. function.

Select the operation of these keys in the **MAN** menu:

Key	Function	In Display...
MENU	Access to the dimmer menus. The first menu appears in the display	**MAN**
ENTER	Access to the **MAN** menu. The current option appears in the display (FLSH), marked with an asterisk, *	**FLS***

↑	Permit us to see the options of the MAN menu:
	    FLSH (Flash)
	    SWCH (Switch).
	    DIMM (Dimmer).
	    A.L. (Architectural or ornamental lighting- simulation)
	    NONE (Keys with any function).
	
	Place in the display the desired function, for example SWCH.
		FLSH
		SWCH
		DIMM
		A.L.
		NONE

ENTER	To select the showed potion like active option (marked with the asterisk).	**SWC***
MENU	Returns to the **MAN** menu. The second time, returns to the main display (---1).	**MAN**

Option FLSH:
Flash. Option by default. When you press and hold down one key, its channel outs to the 100% in stage. When you free the key the channel outs to the 0%.

Option SWCH:
Switch. When you press one key, if its channel is at 0% switches to 100%, if its channel is at 100% switches to 0%. Like a switcher.

Option DIM:
Dimmer. Permits us to fade the channel. If you press and hold down the key one time, its channel begins a fade up in stage, up to 100% or until the key is free. In the display you can see the current level.

If the key is pressed 2 times (double click), and hold down pressed, its channel begins a fade down in stage, up to 0% or until the key is free.

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Option A.L.:
Architectural or ornamental lighting simulation. In this case the frontal keys work like the external keys for A.L. function. **(See - page 20)**

Option NONE:
None. The frontal keys have not function. Very used when the dimmer is in places with free access the personal and materials.

DMX DIRECTION - DIR

The DIR menu permits us set-up the DMX direction, like the first DMX direction to receive by the Dimmer, like a linear patch.
The DMX direction can be between 1 and 1024. 1 DMX line only has 512 channels. The DMX direction 513 is equal to the 1.

Example: The Baby TOTEM has to answer to the DMX channels 13-18. For this, select the DMX direction 13:

MENU	Access to the dimmer menus. The first menu is showed in the display	MAN
↑	Up to place in the display the desired option **DIR**. Remember, the desired direction for this example is 0 0 1 3	MAN **DIR** CURV TIME TEST BACK MIDI A.L. PRHT PTCH SHOW
ENTER	Access to the selected menu. Now the number blinking can be edited with ↑. In the example this digit does not need edition.	0<u>0</u>01
ENTER	Accept the previous digit, and now the next digit is blinking. Now the digit blinking can be edited. Press ↑ one time, to edit this digit as 1.	00<u>0</u>1 00<u>1</u>1
ENTER	Accept the previous digit, and now the last digit is blinking. Press ↑ 2 times (to edit this digit as 3)	001<u>1</u> 001<u>3</u>

ENTER ó MENU	ENTER, to accept the edited direction and exit to the DIR menu.	**13**
	ó	**ó**
	Press **MENU**, to exit without accept the edited direction.	**1**

Notes: If the direction edited is not correct (like 0000) the dimmer shows a error message: *ER*.
At any time the edition can be aborted pressing **MENU**.
If DIR menu appears like DIR*, the patch is edited (see PTCH menu).

In the main display, always in tiny letters, we can see:

_ _ _1:
DMX direction, in the example, 1. Display by default. (1 - 1024)

m _ _1:
Appears when the dimmer works to MIDI signal, and the MIDI NOTE active appears in the display too.

a n l g:
Appears when there is 0 + 10V signal.

CURVE SELECTION - CURV

The Baby TOTEM has **5 curves**. You can select one curve for all channels or one curve for each channel. The available curves are:

LABEL	NAME	FUNCTION
LN	Lineal	The lineal response in power reference.
SQ	Square - Television	Start up quickly. The most used curve in television. The precision is better between the 70% and the 100%.
IN	Invert Square	Start up slowly. The precision is better between the 30% and the 50%.
ON	ON/OFF	Or curve "Non Dim". Used for HMI lamps.
PR	PARK	One channel with PARK curve **is always** to 100%. This curve is very used to work lights, private rooms or other elements always activates, and normally out of the stage. Is a power output at 220Vac.

To select the desired curves, access to the **CURV** menu:

MENU	Access to the dimmer menus. The first menu is showed in the display	`MAN`
↑	Up to places in the display the **CURV** option. (Press this key as many times as be necessary).	`CURV`
ENTER	Access to the selected menu. The current option appears in the display, by default, the lineal curve for all channels, (general). The asterisk only appears when the 6 channels have the same curve.	`GNL*`

↑	To see the current curve in each channel and in general mode (GN): GNL*: General. Lineal curve in channels 1-6. 1 L*: Lineal curve in channel 1. 2 L*: Lineal curve in channel 2. ... 6 L*: Lineal curve in channel 6. Select in the display the desired channel, or all channels, GNL*, to edit the current curve of the selected item. Example: Edit the curve of the channel 6 as curve ON/OFF.	`GNL*`
		`1 L*`
		`2 L*`
		`...`
		`6 L*`

ENTER	Access to curve edition for the selected channel/s. Now, the 2 last digits are blinking, these are the digits of the curve name.	`6 L*`

↑	Press this key to see all the possible curves, always for the selected channel 6. Place in the display the desired curve, in the example the ON/OFF curve. The curves are:
	      LN: lineal. **SQ**: square,
	      IN: invert square, **ON**: ON/OFF &
	      PR: park.
		`6 L*`
		`6 SQ`
		`6 IN`
		`6 ON`
		`6 PR`

ENTER	Accept the showed curve like current curve for the channel 6. An asterisk appears.	6 O*
MENU	Return to the previous menu	CURV

The curves in graphical mode:
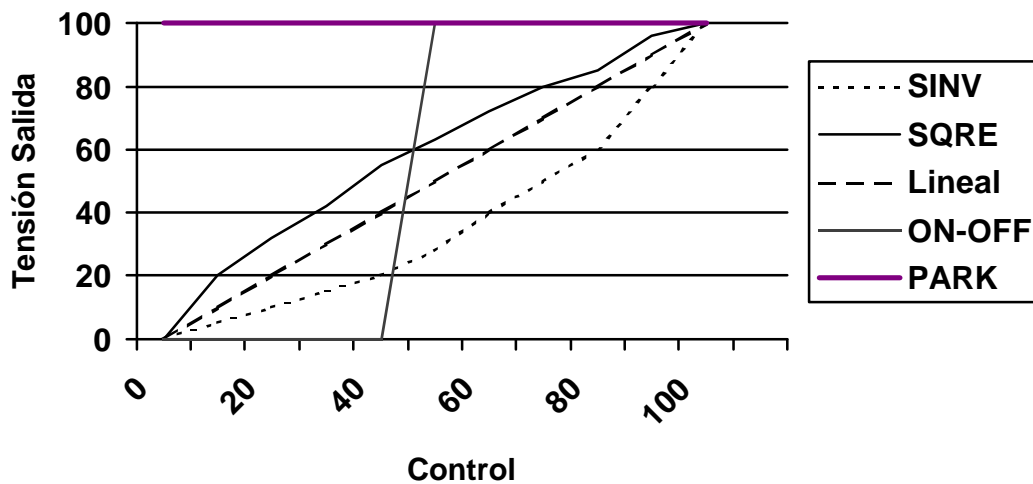
RESPONSE TIMES - TIME

The Baby TOTEM can work with different response times, in general mode or by channel. The response time indicates us the dimmer behaviour in a channel "Flash". Is the time used in jump up 100% from 0%.

Response times available:
- 30 ms. (03), this is the response time by default.
- 100 ms. (10)
- 300 ms. (30)
- 500 ms. (50)

MENU	Access to the dimmer menus. The first menu is showed in the display	MAN
↑	Up to places in the display the **TIME** option. (Press this key as many times as be necessary).	TIME
ENTER	Access to the selected menu. The current response time appears in the display, by default, 30ms in the 6 channels: GN03, marked with an asterisk.	GN0*

↑	Scroll the possible items of TIME menu for edition. These items are: To edit the time of the channels 1-6, general: **GN**0* To edit the time of the channel 1: **1** 0* To edit the time of the channel 2: **2** 0* ... To edit the time of the channel 6: **6** 0* Select in the display the desired item to edit it, for example, select the channel 5 to edit a response time of 300 ms.	**GN**0* **1** 0* **2** 0* **3** 0* **4** 0* ⌶**5** 0*⌶ **6** 0*
ENTER	Accept the showed item to edit its response time. The 2 last digits are blinking in the display, these are the response time digits.	5 **0***
↑	Selects the desired response time: **03 30ms, by default.** **10 100ms** **30 300ms** **50 500ms** Place in the display the 300ms option: 30.	5 **0*** 5 **10** ⌶5 **30**⌶ 5 **50**
ENTER	Accepts the edited item. An asterisk appears in the display. Note: In the general item, (GN) the asterisk is present only when all channels have the same response time. Now, edit others channels or exit of this menu.	GN03 1 0* 2 0* 3 0* 4 0* ⌶5 3*⌶ 6 0*
MENU	Returns to the previous menu.	**TIME**

TEST MENU

The available tests are:
- DMX. DMX input test, here we can see the received levels by DMX.
- ANLG. 0+10V input test, here we can see the received levels by 0+10V input.
- MIDI. MIDI input test, here we can see the received levels by MIDI.
- OUTS. Dimmer outputs test, here we can see the control source for each output channel.
- MEDI. Temperature test. No operative.
- USER. User test, here we can see the hours-count of the operation and the times that the dimmer has been switched on.

Access to the **TEST** menu:

MENU	Access to the dimmer menus. The first menu is showed in the display	**MAN**
↑	Press this key up to place the option **TEST** in the display.	**TEST**
ENTER	Access to the selected menu. The first option appears in the display. Note: If there is not DMX signal, the sign (—) appears near DMX.	**DMX**
↑	Permits us select one of the available tests. The selected test is the test showed in the display.	**DMX** ANLG MIDI OUTS MEDI USER
ENTER	Access to the selected test. For the test **DMX**, **ANLG**, **MIDI** & **OUTS:** In the display appears a 4 digits number, the 2 first digits are the channel number and the 2 last digits are the level or the control source indicator (only for OUTS test): **dm**: Channel controlled by DMX signal. **ba**: Channel controlled by the dimmer backup function. **an**: Channel controlled by the 0+10V input. **mi**: Channel controlled by MIDI signal. **##:** External key number for A.L. function that controls this channel. **pr**: Channel controlled by the dimmer preheat function. **pa**: Channel controlled by the dimmer park curve, always to 100%. (Nothing for channels with 0% level). To see the different channels press↑ **MEDI option**, temperature measurement, no operative in this version. **USER option**, in the display appear the times and the time that the dimmers has been working, in scrolling mode: T.ON: 02:33 N.ON:235	**1 50** (canal 1 al 50%) **2 FF** (canal 2 al 100%) **5 dm** (channel 5 controlled by DMX) **30ºC** **T.ON**
MENU	Returns to the previous menu.	**DMX**

BACKUP FUNCTION - BACK

Baby TOTEM has up to 9 backup presets. In case that the DMX signal is missing the user can select the behaviour of the dimmer: if the last DMX signal is maintained in the output or if one of the backup presets is activated. One backup preset is activated in 2 seconds, and the user can select a wait time for its activation.

By default the dimmer always maintains the last DMX signal. This is the option if we have not recorded backup presets.

- Access to the **BACK** menu:

MENU	Access to the dimmer menus. The first menu is showed in the display	**MAN**
↑	Press this key, as many times as be necessary, up to place the option **BACK** in the display.	**BACK**
ENTER	Access to the BACK menu. The options in this menu are: PLAY: Select the active preset for backup function. REC: Store the backup presets. WAIT: Edit the wait time for the preset activation. DEL: Delete all the recorded backup presets.	**PLAY** REC WAIT DEL

- Select the active preset for backup function:

...	Inside the BACK menu, placed in the first option.	**PLAY**
ENTER	Access to the selected option: PLAY. Inside this menu appears a **recorded** backup presets list and the option DMX (the option by default).	**DMX***
↑	To select the desired backup preset or the DMX option for the backup function.	**PR1**
ENTER	Accept the selected item like item to activate when the DMX is missing. (Press MENU to return to the previous menu: PLAY)	**PR1***

- Store the backup presets.

...	Inside the BACK menu, placed in the first option.	**PLAY**
↑	Press this key up to place the option **REC** in the display.	**REC**
ENTER	Access to **REC** menu. In this menu we find the recorded backup presets list (these presets can be modified) and the next empty backup preset. (Maximum 9 presets). The recorded presets have an asterisk.	**PR1**
↑	Selects the desired backup preset from the list. The first time that you access to this menu, only there is the preset 1 (PR1).	**PR1**
ENTER	The dimmer out is recorded in the selected backup preset, in the preset showed in the display. Appears the next empty preset in the list. Now, we can select PR2 using ↑, and record. (Exit with MENU).	**PR1*** PR2

- Edit the wait time for the preset activation.

...	Inside the BACK menu, placed in the first option.	**PLAY**
↑	Press this key up to place the option **WAIT** in the display.	**WAIT**
ENTER	Access to the selected menu. Now we can edit the wait time (0 -99 seconds) using: ↑ y Enter. This is the wait time that the backup preset waits before its activation in stage.	**WT00**
ENTER	Accepts the edited time and returns to the previous menu.	**WAIT**

- Delete all the recorded backup presets.

...	Inside the BACK menu, placed in the first option.	**PLAY**
↑	Press this key up to place the option **DEL** in the display.	**DEL**
ENTER	**Deletes all recorded backup presets!** When all presets has been erased, an asterisk appears.	**DEL***

MIDI CONFIGURATION - MIDI

Baby TOTEM permits us to select the MIDI CHANNEL (1-16) the first MIDI NOTE or first MIDI CONTROLLER (0-127), and select the working mode (1-8).

MENU	Access to the dimmer menus. The first menu is showed in the display	**MAN**
↑	Press this key up to place the option **MIDI** in the display.	**MIDI**
ENTER	Access to the selected menu. The first option, **CHAN**, permits us select the communication MIDI CHANNEL.	**CHAN** NOTE MODE
ENTER	Access to the selected menu. Now we can edit the MIDI CHANNEL using ↑ & ENTER, for each digit. The last ENTER accepts the edited data and returns to the previous menu: **CHAN.**	**MC01**
↑	Places the option **NOTE** in the display to edit the first MIDI NOTE. Similar to the DMX direction but for the MIDI line.	CHAN **NOTE** MODE
ENTER	Access to the **NOTE** menu. Now, we can edit the desired MIDI NOTE/CONTROLLER (0-127) using ↑ & ENTER, for each digit. The last ENTER accepts the edited number and returns to the previous menu: **NOTE**	**N000**

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↑	Places the option **MODE** in the display to select the desired working mode.	CHAN NOTE **MODE**
ENTER	Access to the **MODE** menu. Now, we can edit the desired working mode using ↑ & ENTER. The last ENTER accepts the edited number and returns to the previous menu: **MODE**	**MOD1** —
MENU	Returns to the previous menu. (This key aborts the edition process at any time).	**MIDI**

MIDI working modes:

MOD1:
Dimming. Works with NOTES & CONTROLLERS. Used with sequencers and MIDI light boards. The NOTE is like a channel Flash and the CONTROLLER is like a channel control fader. By default.

MOD2:
Flash with level control. Works with MIDI NOTES &VELOCITIES. Used with MIDI keyboards. The NOTE is like a channel Flash, and the level depends on the velocity parameter.

MOD3:
Flash at 100%. Works with MIDI NOTES (ON/OFF). Used with MIDI keyboards. The NOTE is like a channel Flash, always at 100%.

MOD4:
Switch mode with level control. Works with MIDI NOTES &VELOCITIES. Used with MIDI keyboards. The NOTE is like a Switcher key (HOLD), and the out level depends the velocity parameter. One NOTE ON actives the channel and the second NOTE ON deactivates this channel.

MOD5:
Switch mode at 100%. Works with MIDI NOTES (ON/OFF). Used with MIDI keyboards. The NOTE is like a Switcher key (HOLD), always at 100%. One NOTE ON actives the channel and the second NOTE ON deactivates it.

MOD6:
Switch mode with level control and time control. Works with MIDI NOTES &VELOCITIES. Used with MIDI keyboards. The NOTE is like a Switcher key (HOLD), and the out level depends the velocity parameter. One NOTE ON actives its channel and the second NOTE ON deactivates this channel or after 1 second any other NOTE ONTE deactivates this channel.

MOD7:
Switch mode at 100% and time control. Works with MIDI NOTES (ON/OFF). Used with MIDI keyboards. The NOTE is like a Switcher key (HOLD), always at 100%. One NOTE ON actives its channel and the second NOTE ON deactivates this channel or after 1 second any other NOTE ONTE deactivates this channel.

MOD8:
Modulation. This mode permits us modulate the light from the MIDI keyboard. Only use NOTE ON commands and its velocity information. The channel is switched off when the velocity of its NOTE ON is very small, in other word, when the MIDI key is pressed very soft.

Notes:

- The communication MIDI CHANNEL is selected in the CHAN menu (1-16). The dimmer only recives information by this selected channel.
- Each dimmer channel has assigned one MIDI NOTE, the 6 active NOTES for 1 dimmer are selected in the NOTE menu, here we edit the first desired NOTE, the NOTE assigned to the channel 1.
- Each dimmer channel has assigned one CONTROLLER (as a control fader), the controller assigned to the channel 1 is the same that the assigned NOTE (0-127).
- The Baby TOTEM dimmers work with the "Running status" to increase the communication speed.

ARCHITECTURAL AND ORNAMENTAL LIGHTING – A.L.

Inside the A.L. menu we can find 2 working modes:
MD1:   Is the mode for architectural lighting.
MD2:   Is the mode for ornamental lighting.
MD3:   is the mode for museum lighting (rooms).

To use this function we have 6 external key. These keys are connected to the dimmer by its "0+10V" input. These external keys can be simulated with the dimmer 6 frontal keys (in mode: MAN/**A.L.**)

The working modes are based in the 6 A.L. presets. These 6 presets, by default, are:

	Baby TOTEM					
A.L. Preset	1	2	3	4	5	6
Ch @ Level	1 @ 100	2 @ 100	3 @ 100	4 @ 100	5 @ 100	6 @ 100
Time	3 sg	3 sg	3 sg	3 sg	3 sg	3 sg
Attribute	Normal	Normal	Normal	Normal	Normal	Normal

And in 12/6/3 A.L. Links. These 6 Links (**only MD3 mode**), by default, are:

	Baby TOTEM					
A.L. Links	1	2	3	4	5	6
Ch @ Level	Empty	Empty	Empty	Empty	Empty	Empty
Wait	0 sg	0 sg	0 sg	0 sg	0 sg	0 sg

A.L. function / MD1 mode, each external key pressed actives/deactivates its assigned preset, this preset fades up/down in scene in the preset time and its attribute. The presets can have 3 attributes:
Normal (NO).- The preset fades up without affect to the rest of the AL active presets.
Solo (SO).- The preset fades up and the rest of the AL active presets fade down in the solo preset time.
Priority (PR).- This preset is not affected by the solo preset activation . Not affects to the rest of the AL active presets.

A.L. function / MD2 mode, each external key pressed actives its assigned Effect, and deactivates the current active Effect. The preset time is the step time/10 (If the preset time is 3, the step time is 0,3 seconds). The attributes are only for MD1 mode.

The 6 no-edited effects are:

Effect	Mode	Stage Sequence
1		Up.- P1, P2, P3, P4, P5, P6, P1...
2	Soft	Up/Down.- P1, P2, P3, P4, P5, P6, P5, P4, P3, P2, P1...
3		RAMDOM (P1 - P6) and RAMDOM times
4		Up.- P1, P2, P3, P4, P5, P6, P1...
5	Hard	Up/Down.- P1, P2, P3, P4, P5, P6, P5, P4, P3, P2, P1...
6		RAMDOM (P1 - P6) and RAMDOM times

A.L. function / MD3 mode: The MD3, of the A.L. function, is thought, mainly, for museums lighting.

The functioning of the MD3 is**:**
Baby TOTEM has 6 presets for A.L. (P1 to P6) and other 6 linked presets with these 6 firsts (L1 to L6) in the witch are stored the default scenes.
When the MD3 is activated (MD3*) all linked presets (L1 to L6) jump to scene.

These presets are linked, follow the next rule:
- P1 & L1 are controlled by the same control signal: the P1 signal.
- P2 & L2 are controlled by the same control signal: the P2 signal.
- ... ...
- P6 & L6 are controlled by the same signal control: the P6 signal.

This unique control signal avoids that its 2 related scenes (P1 & L1, for example) are in scene at the same time. So, when P1 is activated, L1 is deactivated, and after when P1 is deactivated, L1 is reactivated.
So, the control signals, which control the 6 special presets (P1 to P6) and their linked presets (L1 to L6), are the corresponding to the 6 analog inputs or to the 6 frontal keys (configured in MAN as A.L. mode).

When one control signal is activated, its associated preset (P1 to P6) fades in scene while its linked presets (L1 to L6) fades out scene. After, when this control signal is deactivated, the preset in scene (P1 to P6) waits the programmed time and begins its fading out scene, while the linked preset (L1 to L6) begins its fading in scene. The fading time are always the times programmed in the submenu TIME, and the wait times are always the stored times in the submenu WAIT.
If the control signal is activated and deactivated immediately, its presets begins its fading in scene, waits and, immediately after, begins its fading out scene, consecutively. While its linked preset, at the same times, begins its fading out scene, waits, and after begins its fading in scene.

This new mode, MD3, is thought to obtain the control signal from a presence detector or a movement detector.

By default, the linked presets (L1 to L6) are blackout presets (with the 6 channels of the dimmer at 0%).

Limitations:
The fading time, between a scene and its default, is unique (up/down).
The wait time, between a scene and its default is unique.

EXAMPLES FOR MD1: ARCHITECTURAL LIGHTING.
 Mode used in:
        Room light control, in Theatres, exhibitions...
        Multiuse room control.
        Meeting room control...

First, record the Al presets with the desired "scenes" edit their fade times and the desired attributes. For their activation or deactivation use the external keys or the dimmer frontal keys in mode MAN/A.L.
The key 1 is assigned to the preset 1. The key 2 with preset 2, and so on.
When you press one key, its assigned preset is activated in scene, and stays here until the key is pressed newly, or until a SOLO preset is activated.

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EXAMPLES FOR MD2: ORNAMENTAL LIGHTING.
 This mode permits to dimmer works like a basic **Effect programmer**:
        Shows.
        Exhibitions.
        Glass-cases.
        Circus.
        Etc.

If necessary, record the 6 AL preset and their times (remember that this time is divided by 10), and use the external keys or dimmer frontal keys (MAN/A.L.) to activates the assigned effects.
The key 1 is assigned to the Effect 1, the key 2 with the 2, and so on.
When you press one key, its assigned effects is activated in scene, and stays here until the key is pressed newly, or until other Effect is activated.

Note: The step time is 1/10 of the preset time, example a TIME = 5, is a step time of 0,5 seconds.

EXAMPLES FOR MD3: MUSEUM LIGHTING.
Suppose that in one museum room, we need a by default lighting and one special lighting. A presence detector activates the control signal for this special lighting. After, when the presence detector is deactivated (no people in the museum room), the dimmer returns to the by default lighting:
By default lighting is stored in L1: Ch 2@ 30%, Ch 4@ 20%.
The special lighting is stored in P1: Ch 2@ 90%, Ch 4@ 80%, Ch 6@ 100%.
The fading in/out time is 3 sec, and is associated to the preset 1: TIME/ **1** 03.
The wait time is the 60 seconds, and is associated to the preset 1: WAIT/ **1** 60.

The signal given from the presence detector must be connected to the analog input number 1. (Pin 1 of the SubD connector, and always the 0Vref must be connected to the pin 8 of this same connector).

When the MD3, in A.L. menu, is activated the contents of L1 jump to scene: Ch 2@ 30%, Ch 4@ 20%.
When the presence detector is activated (10 V) begins the crossfade between the L1 (out) and P1 (in) in the programmed TIME, 3 seconds, at the end of this crossfade only P1 is in scene: Ch 2@ 90%, Ch 4@ 80%, Ch 6@ 100%.
During the presence detector is activated, this situation is maintained in scene. After, when the presence detector is deactivated (0V), the scene waits 60 seconds, and immediately, begins the crossfade between the P1 (out) and L1 (in), in the programmed TIME, 3 seconds, at the end of this crossfade the L1 has returned to scene.

A.L. CONFIGURATION

MENU	Access to the dimmer menus. The first menu is showed in the display	`MAN`
↑	Places in the display the A.L. option, pressing this key as many times as be necessary.	`A.L.`

ENTER	Access to AL menu, inside this menu the options are:
	OFF*: AL function deactivation.
	MD1*: Selects the working mode MD1. (Presets). AL activation.
	MD2*: Select the working mode MD2. (Effects). AL activation.
	MD3*: Select the working mode MD3. (Museum). AL activation.
	REC: Store/Modify the AL presets.
	TIME: Edit the AL Presets times.
	WAIT: Edit the AL Links wait times.
	ATRB: Edit the AL presets attributes for mode MD1 (Presets).
		`OFF*`
		`MD1`
		`MD2`
		`MD3`
		`REC`
		`TIME`
		`WAIT`
		`ATRB`

↑	Selects the desired option of the previous list in the display. The mode options are OFF, MD1, MD2 & MD3, only one of them can be active. **Example**: Select the MD1 mode, placing it in the display.	`MD1`

ENTER	Activates this selected mode. An asterisk appears in the display.
	In this moment, the 0+10V inputs are the external AL keys inputs.
		`OFF`
		`MD1*`
		`MD2`
		`MD3`
		`...`

↑	Selects the REC option in the display to modify the AL presets.	`REC`

ENTER	Access to the AL presets list & al Links list.
	↑Places the desired preset in the display. Before its modification, set up the desired dimmer scene.
	
	The AL Links (L1 to L6) are only used in MD3 mode.
		`P1`
		`P2`
		`...`
		`P6`
		`L1`
		`L2`
		`...`
		`L6`

ENTER	**Stores the current dimmer output in the displayed preset**. An asterisk appears. Now we can follow modifying all the desired AL presets (or Link).	`P1*`
MENU	Returns to the previous menu.	`REC`

↑	Selects the TIME option to edit the AL presets times.	**TIME**
ENTER	Access to the AL presets-time list. ↑, To place in the display the desired preset-time to edit it. The first 2 digit is the preset number, and the 2 last digits are the time data. (GN: Generic, for all A.L. presets)	**GN**03 **1** 03 **2** 03 **3** 03 . . . **6** 03
ENTER	Access to the time edition of the displayed preset. Edit this data with ↑ & ENTER The last ENTER accepts the edited data and returns to the preset-time list (the first digit is blinking). Now, we can edit all the desired times.	1 **03**
MENU	Returns to the previous menu.	**TIME**
↑	Selects the WAIT option to edit the AL presets times.	**WAIT**
ENTER	Access to the wait times of the AL Links. ↑, To place in the display the desired wait-time to edit it. The first 2 digit is the Link number, and the 2 last digits are the wait-time data. (GN: Generic, for all A.L. Links)	**GN**00 **1** 00 **2** 00 **3** 00 . . . **6** 00
ENTER	Access to the time edition of the displayed Link. Edit this data with ↑ & ENTER. The last ENTER accepts the edited data and returns to the wait-time list (the first digit is blinking). Now, we can edit all the desired wait-times.	1 **00**
MENU	Returns to the previous menu.	**WAIT**
↑	Selects the **ATRB** option to edit the AL presets attributes.	**ATRB**
ENTER	Access to the AL presets-attribute list. ↑ To place in the display the desired preset-attribute to edit it. The first digit is the preset number, and the 2 last digits are the attribute.	**1** N* **2** N* **3** N* . . . **6** N*
ENTER	Access to the attribute edition of the displayed preset. Edit this data ↑ placing in the display the desired attribute: NO: Normal. SO: Solo or PR: Priority. Example SOLO (SO)	1 **N*** 1 **SO** 1 **PR**

ENTER	Accepts the edited attribute and returns to the preset-attribute list. An asterisk appears near to the edited attribute. Now we can edit all the desired attributes.	`1 S*`
MENU	Returns to the previous menu. The second press returns to the **A.L.** menu.	`ATRB`

EXTERNAL KEYS PANEL - CONNECTION

The external AL keys are connected to the 0+10V input. Connection code:

SUB-D 9   **Externals keys**
Pin 1   Key 1.
Pin 2   Key 2.
Pin 3   Key 3.
...
Pin 6   Key 6.
Pin 7   No connected
Pin 8   GND (0V ref.)
Pin 9   No connected

One key is not active when is at 0V.

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PREHEAT FUNCTION - PRHT

The Baby TOTEM dimmer has a lineal preheating (0%-100%). By default preheat is at 0%.

MENU	Access to the dimmer menus. The first menu is showed in the display	**MAN**
↑	Selects the **PRHT** option in the display.	**PRHT**
ENTER	Access to edit the preheat level. The first digit is blinking, edit it with ↑. ENTER accepts the edited digit and the second digit is blinking, ready for edition. Edit the second level digit with ↑. **ENTER** accepts de edited preheat level and returns to the **PRHT** menu. **The preheat level is active immediately** in all dimmer channels.	**0̲0** **1̲0** **PRHT**

DIMMER CHANNELS PATCH - PTCH

With this menu, we can assign no-consecutive dimmer directions to the 6 channels of the Baby TOTEM dimmer.

Any dimmer channel can be associated with any control channel. When the PATCH is edited, in the DIR menu, appears an asterisk, (**DIR***), this asterisk shows us that the PATCH is edited. Patch Edition:

MENU	Access to the dimmer menus. The first menu is showed in the display	**MAN**
↑	Selects the **PTCH** option in the display.	**PTCH**
ENTER	Access to the channels list, place in the display the desired channel to edition, with ↑.	**C1** **...** **C6**
ENTER	Select the channel in the display. Now you can edit its dmx direction with ↑ y ENTER, like in the DIR menu. When you accepts the last digit (ENTER) the system returns to the channels list, if necessary, select other channel to edition. Note: When the PATCH is edited (one or more channels), an asterisk appears in the DIR menu.	**0̲001** **C1** **DIR***

Note: The DMX directions are between 0 and 1024.

SAVING THE DIMMER PROGRAM: SHOW

From the 1.5 software version, it is possible to save the stored data in the own dimmer, as a show. For this, use the new menu: SHOW.

This menu, SHOW, has 3 options:
SAVE, LOAD and DEL.

The first time that you access to this menu, only the option SAVE is available (there is not a show saved), after, when there is a show saved, the options LOAD (to load the saved show) and DEL (to delete the saved show) are available too.

The objective of this function is permits us recover the stored data after a Cold Reset. Evidently, the SHOW data are not deleted in the Cold Reset process.

MENU	Access to the dimmer menus. The first menu is showed in the display	MAN
↑	Selects the **SHOW** option in the display.	SHOW
ENTER	Access to Show functions, place in the display the desired function, with ↑.	SAVE LOAD DEL
ENTER	With the option SAVE in the display, a new show is stored, storing all parameters edited in the dimmer Baby TOTEM. The previous show, if stored, is replaced with the new data. With the LOAD option in the display, the stored show is loaded. Restoring all the stored parameters in the dimmer (this option is available, only, when a show already stored. With the DEL option in the display, the stored show is deleted. Now, there is not stored show, and the functions LOAD and DEL don't appear in the display.	

The show is stored in the inner memory of the dimmer, and these data are not deleted in the Cold Reset process. The Show data are:
- Addressing and Patch.
- Response times and curves.
- Backup Presets.
- A.L. Presets.
- And the modes of MAN, A.L., MIDI, etc.
- ...

All programmed items are stored in the SHOW.

SYSTEM COLD RESET

The Reset pushbutton is placed in the frontal panel, under display.
The warm Reset:
- Press the Reset pushbutton.

All data memory is preserved only the output buffer and manual field is cleared with this Reset type.

The cold Reset:
- Press the Reset pushbutton, and press and hold down pressed the **MENU** key when the Reset pushbutton is released.

After a cold Reset the dimmer is completely initiated:
- DMX direction: 001
- Manual field keys: Flash mode
- MIDI channel: 1
- MIDI note: 0
- MIDI mode: 1
- Lineal curve (general)
- Backup presets: No
- Response time: 30 ms (general)
- A.L. deactivate. All AL preset by default.
- Preheat: 0%
- User test: **No affected by the cold Reset**.
- Stored Show: **No affected by the cold Reset**.

After a cold Reset, in the display appears:

1

or

anlg   If there is 0+10V signal.

m001   If there is MIDI signal.

INSTALLATIONS AND START UP

THE FIRST TIME:
- Unpack carefully the dimmer.
- If you observe some blow or transportation defects, you don't attempt switch on, and follow the normal process to solve this type of problems.
- The dimmer is supplied with a user manual and a document of factory quality control and the guarantee.
- Keep the originals pack if anticipates the need of transporting the dimmer.
- Read the user manual, especially the CONNECTIONS section.
- Connect the mains supply of the equipment, WITHOUT SERVICE, 3 phases 380V + neutral + ground with the corresponding screw terminals.
- Connect the power outputs.
- Connect the desired control signals: DMX, MIDI and/or 0 +10V.
- If the dimmer has been supplied into a rack, these previous steps will not be necessary.
- Observe that the ventilation grids of the dimmer are not obstructed.
- Observe that all the circuit breakers are in position OFF[1].
- Switch on the main supply line from its external protection devices.
- Your Baby TOTEM, already it is operating. Press the RESET push button as safety measure. The display shows us the number **1**. The dimmer is the dmx direction: 1.
- Put the circuit breakers in their position ON.
- Switch on the desired control desk.
- From anyone of the possible controls, including the manual test keys, test the correct operation of all the channels.
- Compliment the Guarantee document supplied with the equipment.

AFTER THE FIRST TIME:
- Switches on/off the dimmer from the external devices of general protection in the mains supply line.

Note: If the user uses the dimmer in a way unspecified by the manufacturer, the protection of the equipment can result committed.

Utilisation notes:
- Maintain clear the ventilation grids of the dimmer.
- The mains supply must be protected adequately.
- Not work ever with the dimmer if some of the protection systems do not operate correctly.
- Use cables of the correct section for each case.
- Work always with ground contact.

---

[1] If the circuit breaker of you dimmer have only one pole, you will have to protect all the circuits of the installation with a DPN of 15 A, locating these in accessible and visible place.

TECHNICAL SUPPORT AND MAINTENANCE

To manipulate the dimmer, switch off completely the equipment.

<u>CLEANING</u>

External surfaces: Cleanliness with a soft cloth wetted in water.
Internal surfaces: Cleanliness through aspiration or air jet to pressure.

<u>MAINTENANCE</u>

Internal cleanliness: One time per year. In ambient especially "dirty" (powder accumulation, smoke, confetti…) 3 or 4 times per year.

Squeeze the screw terminals, one time per year.

<u>REPLACEABLE MATERIALS CHANGE:</u>

Triacs change:
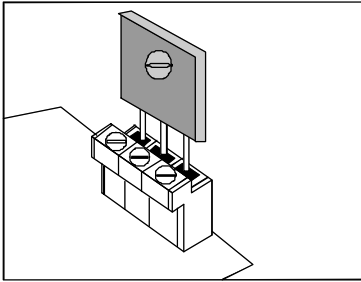
Switch off the dimmer. Located the dimmer over a plane surface.
Remove the upper cover.
In the triac that you want replace remove the screw from fixing from this to the refrigerator.
Remove the screws that hold the triac pins to the connector (in the printed circuit).
Remove the triac and substitute it exactly equal.
Squeeze the screws of the connector.
Screw the triac to the refrigerator.

<u>TECHNICAL SERVICE:</u>

The rest of Baby TOTEM parts, power supply, printed circuits, CPU and electrical connections must be checked by the official technical service.

<u>TECHNICAL SERVICE POINTS</u>:

MADRID **BEN-RI Electrónica S.A.**	C/ Matilde Hernández Nº 31 3ºC Edificio JAEN 28019 MADRID Tel: (91) 472 06 66
ZARAGOZA **BEN-RI Electrónica S.A.**	Pol. Ind. Malpica-Alfinden C/ Los Almendros, 61 50171 La puebla de Alfinden - ZARAGOZA Tel: (976) 10 89 59

```
  1
anlg
m001
```

MENU

MAN **ENTER**

FLSH	Manual field in Flash mode
SWCH	Manual field in Switch mode
DIMM	Manual field in dimming mode
A.L.	Manual field like external keys for A.L. function.
NONE	Manual field without function, deactivated.

DIR **ENTER** **0001** DMX direction. To edit each digit with ↑ & ENTER.

CURV **ENTER** **GNLN** **ENTER**

	GN: Generic, for all dimmer channels
GN**LN**	Lineal curve
GN**SQ**	Square curve
GN**IN**	Invert square curve
GN**ON**	ON/OFF curve
GN**PR**	PARK curve

1 LN	To edit only the channel 1 curve
... ...	**...**
6 LN	To edit only the channel 6 curve

TIME **ENTER** **GN03** **ENTER**

	GN: Generic, for all dimmer channels
GN**03**	Response time: 30ms
GN**10**	Response time: 100ms
GN**30**	Response time: 300ms
GN**50**	Response time: 500ms

1 03	To edit only the channel 1 response time
... ...	**...**
6 03	To edit only the channel 6 response time

TEST **ENTER** **DMX** **ENTER**

1 ##	DMX input for channel 1
...	...
6 ##	DMX input for channel 6

ANLG **ENTER**

1 ##	0+10V input for channel 1
...	...
6 ##	0+10V input for channel 6

MIDI **ENTER**

1 ##	MIDI input for channel 1
...	...
6 ##	MIDI input for channel 6

OUTS **ENTER**

	About the control source:
1 dm	**dm**:dmx **ba**: backup
	an:0+10V **mi**:midi
...	**ma**:manual **pr**:preheat
6 dm	**##:** number Al key **pa**:park

MEDI [ENTER]	30°C	Not available
	R220	R phase voltage reading
	S220	S phase voltage reading
	T220	T phase voltage reading
USER [ENTER]	**T.ON**	The time and times that the dimmer is switched on.
PLAY [ENTER]	**DMX**	When the DMX is missing: Play the last DMX frame
	PR1	Play the backup preset nº 1
	• • •	Appear the recorded presets.
REC [ENTER]	**PR1**	[ENTER] **PR1*** Appear the recorded presets and the next free preset
	• • •	
WAIT [ENTER]	**WT##**	Edit each digit of the wait time with ↑ & ENTER.
DEL [ENTER]	**DEL***	All backup presets are deleted
CHAN [ENTER]	**MC01**	Edit channel with ↑ & ENTER.
NOTE [ENTER]	**N000**	Edit note with ↑ & ENTER.
MODE [ENTER]	**MOD1**	Edit mode with ↑ & ENTER.

BACK [ENTER]

MIDI [ENTER]

A.L. | ENTER | **OFF** Deactivate the A.L. function.
MD1 Activate the A.L. function in mode MD1. Presets.
MD2 Activate the A.L. function in mode MD2. Effects.

REC | ENTER | **P1** | ENTER | **P1***
• • • Edition of Preset in display
P6 Preset 6, in display, edition
L1 Edition of Link in display
• • • ...
L6 Link 6, in display, edition

TIME | ENTER | **GN**03 ENTER permit us edit:
P1 to P6 times, generic.
1 03 P1 time, ↑ & ENTER.
• • • Time of P in display
6 03 P6 time, ↑ & ENTER.

WAIT | ENTER | **GN**03 ENTER permit us edit:
L1 to L6 wait-times, generic.
1 03 L1 Wait, ↑ & ENTER.
• • • Wait-time of P in display
6 03 L6 wait, ↑ & ENTER.

ATRB | ENTER | **1** NO | ENTER | 1 **NO:** Normal
1 **SO:** Solo
1 **PR:** Priority
• • • Attribute edition
6 NO Preset 6 attribute edition

PRHT | ENTER | **00** | ENTER | Accept the edited data and this output level is activated immediately for all dimmer channels.

PTCH | ENTER | **C1** | ENTER | **0001** ↑ & ENTER to edit the DMX direction
• • •
C6 Select the channel to edit its DMX direction.

SHOW | ENTER | **SAVE** | ENTER | To store a show with the current edited parameters in the TOTEM
LOAD To load the stored show
DEL To delete the stored show.

↑ To scroll the options lists, represented in columns, and to edit the numeric data.

A.L. PARAMETERS

Baby TOTEM

A.L/ MD1	CH1	CH2	CH3	CH4	CH5	CH6	TIME	ATRIB
P 1	100%						3 sg	Normal
P 2		100%					3 sg	Normal
P 3			100%				3 sg	Normal
P 4				100%			3 sg	Normal
P 5					100%		3 sg	Normal
P 6						100%	3 sg	Normal

A.L/ MD2	CH1	CH2	CH3	CH4	CH5	CH6	TIME/10
P 1	100%						0.3 sg
P 2		100%					0.3 sg
P 3			100%				0.3 sg
P 4				100%			0.3 sg
P 5					100%		0.3 sg
P 6						100%	0.3 sg

A.L/ MD3	CH1	CH2	CH3	CH4	CH5	CH6	TIME	WAIT
P 1	100%						0.3 sg	--
P 2		100%					0.3 sg	--
P 3			100%				0.3 sg	--
P 4				100%			0.3 sg	--
P 5					100%		0.3 sg	--
P 6						100%	0.3 sg	--
L1							--	0 sg
L2							--	0 sg
L3							--	0 sg
L4							--	0 sg
L5							--	0 sg
L6							--	0 sg
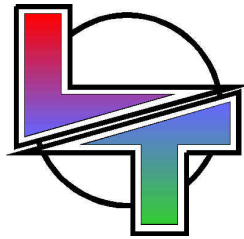
Because your successes are ours

www.dimmer.de