MiniPatend

Instruction Manual

from software version 1.07
(instruction version 1.11)

GERMAN LIGHT
PRODUCTS

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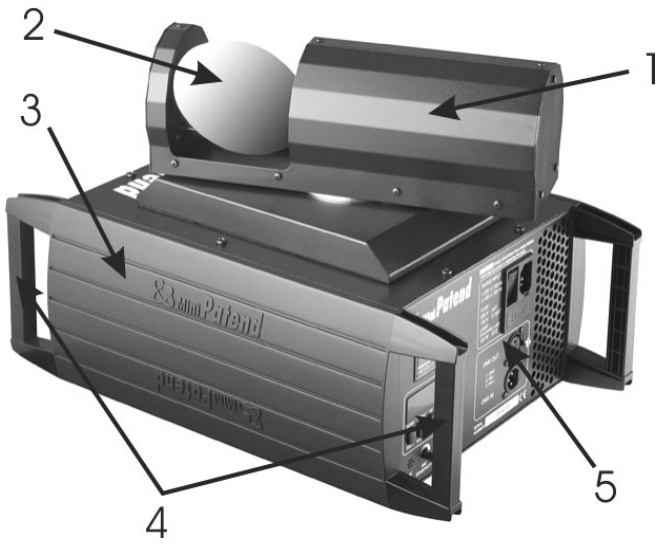

1. Roto Head
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1. Mode- button
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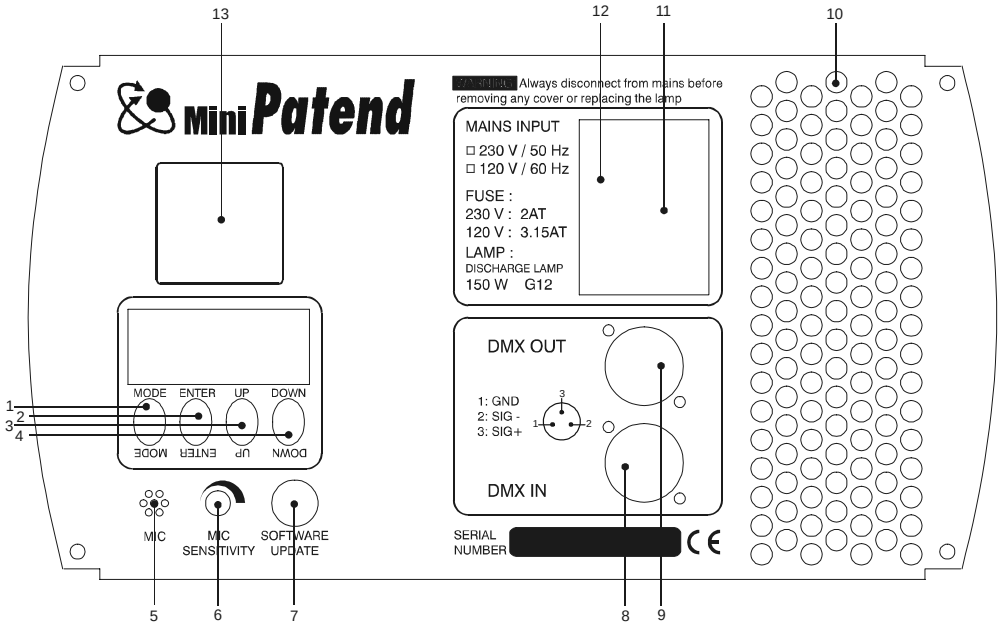


1.1 Safety Instructions

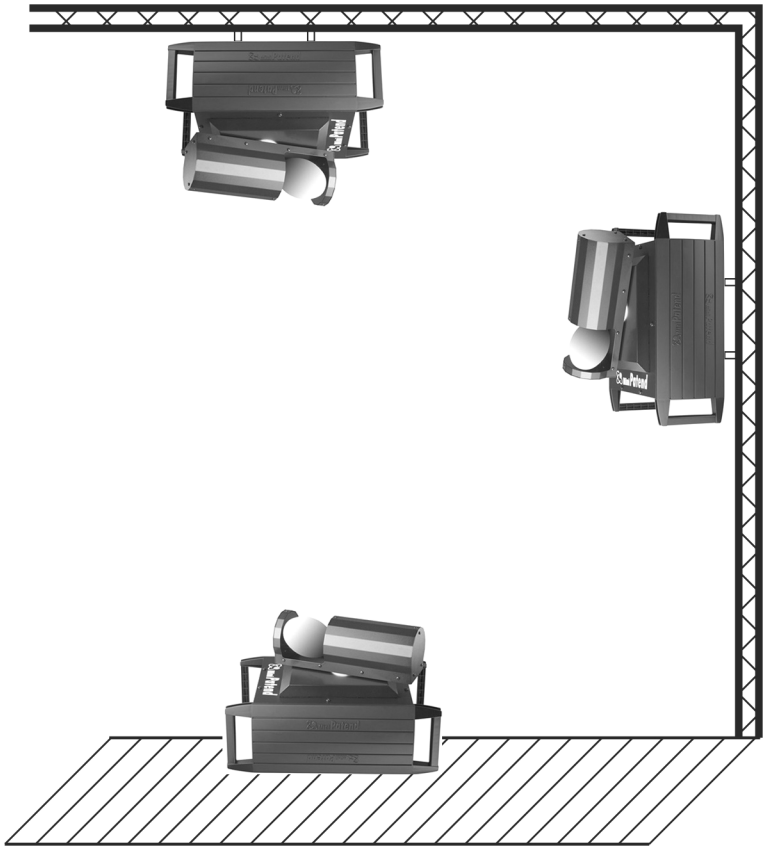
The **MINI PATEND** is a High-Tech product. To guarantee a smooth operation it is necessary to keep the following rules.
The manufacturer of this device will not take responsibility of damages through disregard of the information given in this manual. Warranty adjustments will be canceled.

1. Make sure before putting into operation that the fan and the air inlets are clean and not blocked by anything.
2. **Attention:** Don't touch the device during the operation. This can cause injuries or damages.
3. **Unplug the MINI PATEND from the AC outlet before any service.**
4. It is necessary to wait at least 30 minutes after disconnecting the AC before you open the **MINI PATEND**. Please do not touch the bulb of the lamp if you are not absolutely sure it is cold. **-Danger of BURNING-**
5. Never look directly into the beam of the lamp. You risk injury of your retina and blindness.
6. Pay attention of the maximum lamp operation time. You have to change it if the lamp shows any deformations or damages. The same is with all glass components, color filters, lenses and mirrors.
7. To allow a secure operation, follow also the installation guide described in chapter 2. Operating the **MINI PATEND** without suited safety aids like Safety cables or clamps/hooks can increase the risk of accident.
8. The installation should be done by qualified staff only. You need to pay attention to the common rules of technology that are not explicit mentioned in this manual.
9. Use only original spare parts. Any structural modification will cancel all warranty adjustments.

2 Preparation and Installation

2.1 Mounting

The **MINI PATEND** is fully operational whether it hangs or is mounted to the wall. It can also be operated while standing on the floor. Keep a safety distance of 0.5 m towards any easy inflammable materials (decoration etc.). Install a safety wire that can hold at least 10 times the weight of the fixture. Never use the carrying handles for secondary attachment.



Pay attention to the regulations of: BGV C1 (former VBG 70) and DIN VDE 0711-217 !
The installation should be done by qualified staff only.

2.1.1 Clamps

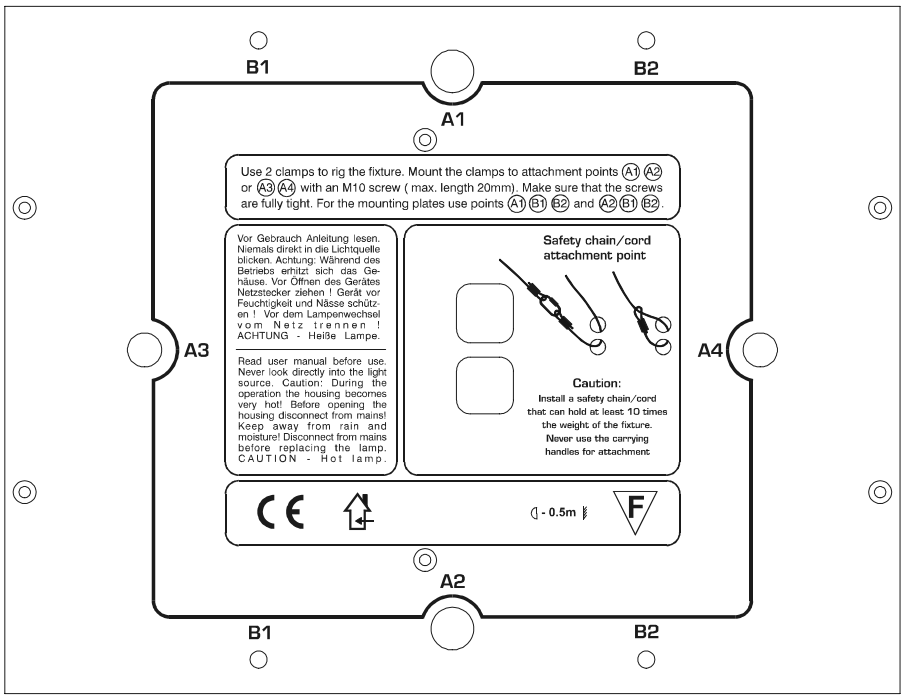
Use two clamps on the backside of the **MINI PATEND** to mount the unit on a truss (each two opposite threads max. M10x20). See also printing on the backside of the case.

2.1.2 Mounting plate

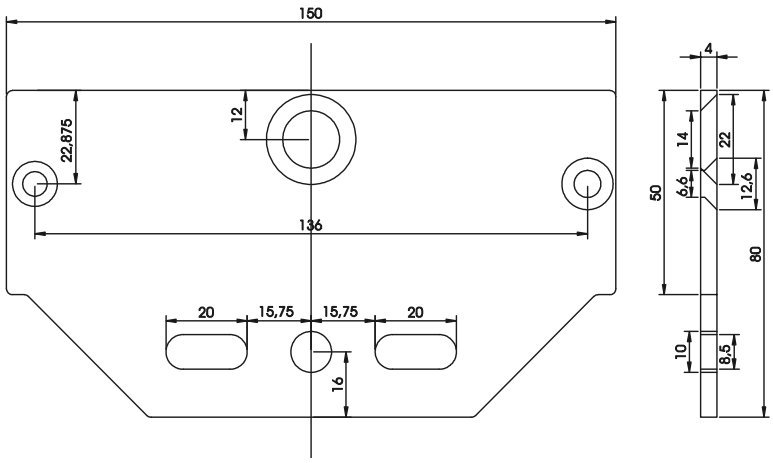
For a permanent installation of the **MINI PATEND** you can use a optional mounting plate to fix the unit on a wall. The plate uses 2x screws M6x10 and one M10x16 (the mounting plates are included in the delivery).

2.2 Secure the MINI PATEND

Regardless of the rigging of the **MINI PATEND** you have to use a stipulated safety wire. Therefore you have to thread two safety wires through to two provided holes on the backside of the fixture and connect it with the truss-support. Pay attention to a safe and proper fastening.



The mounting plates will be connected by two M6x10 and one M10x16 screws.



2.3 Connections

2.3.1 Power supply

230 Volt, 50 Hz,

Connected load 300W <=> 2 A (power factor corrected).

or 115V, 60 Hz,

Connected load 300W <=> 3.15 A (power factor corrected).

Please see printing on the case for the right Power supply !

2.3.2 DMX

DMX 512 Standard input/output. See also printing on the case for the right pin assignment.

[+] = Pin 3 / [-] = Pin 2 / [Ground] = Pin 1

The DMX- Addressing starts at the DMX- Address [001].

2.4 Fuse

The **MINI PATEND** electronic system is protected by two (live and neutral) 5x20 mm fuses.

230V / T 2A (EU model) or 115V / T 3.15A (US model)

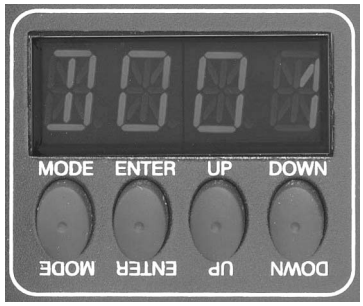
Please see the printing on the **MINI PATEND** for more details.

Attention:

- **Disconnect mains supply before replacing the fuse!**
- **Replace fuse with same type and rating only!**

3 The Menu Field

The control panel is located at the side part of the base. It allows you to make all necessary adjustments of the **MINI PATEND.** With the **Mode-**key you get into the main menu. Afterwards you can navigate through the menu with the **Up/Down-**keys. Push the **Enter-**key to get in the next menu level or to confirm your settings. Make them and set functions **ON/OFF** with the **Up/Down-**keys. Confirm and save it with the **Enter-**key (the display shows *OK*). Push the **Mode-**key to cancel the entry and go back to the main menu.



← DOWN - UP →

Level 1	Level 2	Level 3	Remark
DOO 1			Define the DMX start address
TEST			Test program of all functions
AUDI	ASLW		Self-running audio program (slow)
	AFST		Self-running audio program (fast)
	MSTR		Master for the audio program
LAMP			Switch on/off the lamp direct at the **MINI PATEND**
RESE			Reset
TIME	POWR		Running time of the fixture (no destructible)
	LA 1		Running time of the lamp (erasable)
	LA2		Running time of the lamp (no destructible)
RPAN			Reverse Pan-direction
RTLT			Reverse Tilt-direction
SPEC	MANU		Manual drive of all device functions
	LAAU		Automatic lamp start
	DLOF		Switch off lamp via DMX
	DMX1		Reed out actual DMX-values
	DISP	D ON	Display On/Off
		REV	Twist the display
	ADJU	CODE	Use the code for entering the calibration menu (for authorized person only)
		XXXX	
		COLO	Calibration of the color wheel
		GOBO	Calibration of the gobo wheel
		SHTR	Calibration of the shutter
		ARES	Adjust Reset
		CLRE	Settings in the internal memory (super-user only)
	DFSE		Call on the default function values
	EFLG		Correction of faults

3.1 Adjust the DMX- Address [DDD 1]

Right after turning on the **MINI PATEND** you can see the current DMX- address. If there is no DMX- signal the display flashes.

For the address setting please follow this procedure:

1. Switch ON the **MINI PATEND** and wait until the fixture reset has finished (the display is showing **'**RST**'**).
2. Press the **Mode-**key in order to access the main menu. Browse through the menu by pressing the **Up/Down-**keys until the display shows DDD 1. Confirm by pressing the **Enter-**key.
3. Use the **Up/Down-**keys to select the desired address. Confirm the setting by pressing the **Enter-**key (the display shows OK) or press the **Mode-**key to cancel.

The DMX- address is stored also while switching off the **MINI PATEND!**

3.2 The Test Program [TEST]

The **Test-**Program allows you to run a complete self test procedure of all functions. Press **Enter** to confirm or **Mode** to cancel.

3.3 The Audio Program [AUDI]

The **Audio-**menu allows you to run a stand alone audio program. This chaser can run either fast or slow. AFST: Every sound impulse on step of the chaser. ASLW: Every second sound impulse one step of the chaser.

If you want to run the systems simultaneously, one of the **MINI PATEND's** must be switched as the master. All others must be "Slave" Master = OFF.

Notice: The Audio function is only working when **no** DMX is connected. This can work as an emergency program.

3.4 Lamp On/Off [LAMP]

Use the **Up/Down-**keys to select lamp *ON* or lamp *OFF*. Press **Enter** to confirm or **Mode** to cancel and return to the main menu. (The lamp *OFF* command is only working if the shutter is closed at the same time. Use an external controller or the manual drive mode, see 3.9.1)

3.5 Reset [RESE]

Press the **Enter-**key to run a reset of all fixture functions (*RST* is shown in the display).

3.6 Running time of lamp and unit [TIME]

By this option can read out three different running times of the fixture.

POWR	Running time of the fixture (no destructible).
LA 1	Running time of the lamp (erasable). Push the **Up/Down-**keys at one time to delete this running time.
LA 2	Running time of the lamp (no destructible).

3.7 Invert Pan Movement [RPAN]

This function allows you to invert the Pan movement. Use the **Up/Down-**keys to select invert *ON* or *OFF*. Press **Enter** to confirm or **Mode** to cancel and return to the main menu.

3.8 Invert Tilt Movement [RTLT]

This function allows you to invert the Tilt movement. Use the **Up/Down-**keys to select invert *ON* or *OFF*. Press **Enter** to confirm or **Mode** to cancel.

3.9 Special Functions [SPEC]

This menu allows you to enter further special functions of the **Mini PATEND.**

In detail they are:

3.9.1 Manual Drive [MANU]

This function allows you to drive all the fixture functions manually. Select the desired function with the **Up/Down-**keys and confirm with **Enter**. Now choose the desired value with the **Up/Down-**keys and confirm again with **Enter** or cancel and return to the menu with the **Mode-**key.

Function	Value	Remark
PAN	000 - 255	Pan Position
TILT	000 - 255	Tilt Position
RPAN	000 - 255	Pan Rotation
RTLT	000 - 255	Tilt Rotation
COLO	000 - 255	Color wheel
GOBO	000 - 255	Gobo wheel
SHUT	000 - 255	Dimmer/Shutter/Strobe function (the lamp strikes at DMX 255)
FOCU	000 - 255	Focus
SPED	000 - 255	Speed Pan/Tilt
SPEC	000 - 255	Lamp Off, Reset, ...

3.9.2 Lamp On automatically [LAMP]

This function enables you to switch ON the lamp automatically after switching ON the fixture. Use the **Up/Down-**keys to select ON if you want to switch on the lamp automatically after switching on the fixture or OFF if you don't want this function. Press **Enter** to confirm or **Mode** to cancel and return to the menu.

If you have chosen OFF you have the possibility to start the lamp either via DMX or directly at the **Mini PATEND** in the Lamp menu.

3.9.3 Lamp Off via DMX [DLOF]

This function enables you to switch off the lamp via DMX or not. Use the **Up/Down-**keys to select *ON* if you want to switch off the lamp via DMX or *OFF* if you don't want this function. Press **Enter** to confirm or **Mode** to cancel and return to the menu.

If you have chosen *OFF* you have the possibility to switch off the lamp either directly at the **Mini PATEND** in the Lamp menu or switch off the main switch.

3.9.4 DMX Input [DMXI]

Readout DMX values of each channel received by the fixture. Use the **Up/Down-**keys to select desired channel and press **Enter** to read its value.

Function	Value	Remark
PAN	0 - 255	Pan Position
TILT	0 - 255	Tilt Position
RPAN	0 - 255	Pan Rotation
RTLT	0 - 255	Tilt Rotation
COLO	0 - 255	Color wheel
GOBO	0 - 255	Gobo wheel
SHUT	0 - 255	Dimmer/Shutter/Strobe function
FOCU	0 - 255	Focus
SPED	0 - 255	Speed Pan/Tilt
MOVE	0 - 255	Movement
SPEC	0 - 255	Lamp Off, Reset, ...

3.9.5 Display [DISP]

Use this function to choose between different display indications. Use the **Up/Down-**keys to select desired function and press **Enter** to confirm or **Mode** to cancel and return to the menu.

D ON	Display On/Off (If you've chosen *OFF*, the display will go out within 15 seconds after the last input. The next key touch will reactivate the display).
REV	Turn around the display

3.9.6 Adjustments and Calibrations [ADJU]

By this function you can adjust and calibrate the positions of the different wheels and other motors. This can be necessary after a service or repair work.

For this function you have to entry the fixture code. This work should be done only by authorized persons.

Use the **Up/Down-**keys to select the desired function and press **Enter** to confirm or **Mode** to cancel and return to the menu. Use now the **Up/Down-**keys to set the adjustment values and confirm once more with the **Enter-**key or cancel with the **Mode-**key.

Function	Value	Remark
COLO	- 99 - + 99	Color wheel
GOBO	- 99 - + 99	Gobo wheel
SHTR	- 01 - + 01	Shutter
ARES	To initiate a reset for adjustment of the Shutter. Unit must be turned off and on afterwards.	
CLRE	Adjustments in the internal circuit.	

3.9.7 Default Settings [DFSE]

Press **Enter** to reset all fixture personalities (not the adjusted functions) to the default values. On the display will appear OK to indicate that the defaults are set.

Function	Display	Default Settings	
DMX Address	DDD 1	DDD 1	
Pan reverse	RPAN	ON	OFF ✓
Tilt reverse	RTLT	ON	OFF ✓
Automatic lamp on	LAAU	ON	OFF ✓
Lamp on via DMX	DLOF	ON ✓	OFF
Display	DISP	D ON ✓	REV

3.9.8 Error Code [EFLG]

(Function available for authorized persons only)

3.10 Error and Information Messages

RSER	This message informs you that one of the fixture function wasn't able to complete its reset successfully (magnetic sensor, stepping motor, driver on the PCB, cables, etc.). Repair the defect and start the fixture again.

4 DMX Channel Selection (DMX Protocol)

Channel	Function	Time and Value	DMX	HEX	%
1) PAN-coarse	0 .. 360°	min. 1/5min. max. 4/sec.	0..255	00..FF	0..100
2) PAN-fine	High- Pos ... High- Pos (16 Bit)		0..255	00..FF	0..100
3) Tilt-coarse	0 .. 360°	min. 1/5min. max. 4/sec.	0..255	00..FF	0..100
4) Tilt-fine	High- Pos … High- Pos (16 Bit)		0..255	00..FF	0..100
5) Pan-Rotation	static, positioning with channel 1 and 2		0..1	0..1	1
	CW, slow - fast		2..127	2..7F	2..49
	CCW, fast - slow		128..255	80..FF	50..100
6) Tilt-Rotation	static, positioning with channel 3 and 4		0..1	0..1	1
	CW, slow - fast		2..127	2..7F	2..49
	CCW, fast - slow		128..255	80..FF	50..100
7) Color	open		0..1	00..01	0,2
	open / color 1		2..3	02..03	1,0
	color 1		4..5	04..05	1,8
	color 1 / color 2		6..7	06..07	2,5
	color 2		8..9	08..09	3,3
	color 2 / color 3		10..11	0A..0B	4,1
	color 3		12..13	0C..0D	4,9
	color 3 / color 4		14..15	0E..0F	5,7
	color 4		16..17	10..11	6,5
	color 4 / color 5		18..19	12..13	7,3
	color 5		20..21	14..15	8,0
	color 5 / color 6		22..23	16..17	8,8
	color 6		24..25	18..19	9,6
	color 6 / color 7		26..27	1A..1B	10,4
	color 7		28..29	1C..1D	11,2
	color 7 / color 8		30..31	1E..1F	12,0
	color 8		32..33	20..21	12,7
	color 8 / color 9		34..35	22..23	13,5
	color 9		36..37	24..25	14,3
	color 9 / color 10		38..39	26..27	15,1
	color 10		40..41	28..29	15,9
	color 10 / color 11		42..43	2A..2B	16,7
	color 11		44..45	2C..2D	17,5
	color 11 / color 12		46..47	2E..2F	18,2
	color 12		48..49	30..31	19,0
	color 12 / color 13		50..51	32..33	19,8
	color 13		52..53	34..35	20,6

Channel	Function	Time and Value	DMX	HEX	%
	color 13 / color 14		54..55	36..37	21,4
	color 14		56..57	38..39	22,2
	color 14 / color 15		58..59	3A..3B	22,9
	color 15		60..61	3C..3D	23,7
	color 15 / color 16		62..63	3E..3F	24,5
	color 16		64..65	40..41	25,3
	color 16 / color 17		66..67	42..43	26,1
	color 17		68..69	44..45	26,9
	color 17 / color 18		70..71	46..47	27,6
	color 18		72..73	48..49	28,4
	color 18 / color 19		74..75	4A..4B	29,2
	color 19		76..77	4C..4D	30,0
	color 19 / open		78..79	3E..4F	30,8
	open		80..127	50..7F	32..49
	color rotation, slow-fast, CW	min. 1 turn/5 sec.	128..191	80..BF	50..75
	color rotation, fast-slow, CCW	max. 1 turn/sec.	192..253	C0..FD	76..98
	Audio color chaser slow	each 4th sound impulse → new color	254	DE	99
	Audio color chaser fast	each sound impulse → new color	255	FF	100
6) Gobo	open		0..3	0..3	0,8
	Gobo 1		4..7	4..7	2,0
	Gobo 2		8..11	8..0B	3,8
	Gobo 3		12..15	0C..0F	5,0
	Gobo 4		16..19	10..13	7,0
	Gobo 5		20..23	14..17	8,4
	Gobo 6		24..27	18..1B	10
	Gobo 7		28..31	1C..1F	11
	Gobo 8		32..35	20..23	13
	Gobo 9		36..39	24..27	14,5
	Gobo 10		40..43	28..2B	16,2
	Gobo 11		44..47	2C..2F	17
	Gobo 12		48..51	30..33	19
	Gobo 13		52..55	34..37	20,8
	Gobo 14		56..59	38..3B	22,4
	Gobo 15		60..63	3C..3F	24,3
	Gobo 16		64..67	40..43	25,5
	Gobo 17		68..71	44.47	27,5
	Gobo 18		72..75	48..4B	29
	Gobo 19		76..79	4C..4C	30,5
	open		80..127	50..7F	32..49
	Gobo rotation, slow-fast, CW	min. 1 turn/5 sec.	128..191	80..BF	50..75
	Gobo rotation, fast-slow, CCW	max. 1 turn/sec.	192..253	C0..FD	76..98
	Audio Gobo chaser slow	each 4th sound impulse → new Gobo	254	DE	99
	Audio Gobo chaser fast	each sound impulse → new Gobo	255	FF	100
9) Shutter	Shutter closed		0..1	0..1	0,2
	Dimmer, closed - open		2..125	2..7D	0,5..49
	Shutter open		126..127	7E..7F	50..51
	Random Strobe		128..143	80..8F	52..56
	Audio Strobe		144..159	90..9F	57..62
	Strobe, slow - fast		160..239	A0..EF	63..93
	Shutter open		240..255	8C..FF	94..100
	Shutter open (lamp start)		254..255	FE..FF	100

Channel	Function			Time and Value	DMX	HEX	%
10) Focus	near - far				0..255	0..FF	0..100
11) Speed	Pan/Tilt relative movement				0..1	00..01	0..0,5
	Speed, slow - fast				2..255	02..FF	1..100
12) Move-ment	no movement				0	00	0
	Movement	**Size**	**Phase**				
	PAN	1	0°		01..01	01..01	0,5
		1	90°		02..03	02..03	1,0
		1	180°		04..05	04..05	1,7
		1	270°		06..07	06..07	2,5
	PAN	2	0°		08..09	08..09	3,3
		2	90°		10..11	0A..0B	4,1
		2	180°		12..13	0C..0D	4,9
		2	270°		14..15	0E..0F	5,7
	PAN	3	0°		16..17	11..11	6,5
		3	90°		18..19	12..13	7,3
		3	180°		20..21	14..15	8,0
		3	270°		22..23	16..17	8,8
	PAN	4	0°		24..25	18..19	9,6
		4	90°		26..27	1A..1B	10,4
		4	180°		28..29	1C..1D	11,2
		4	270°		30..31	1E..1F	12
	TILT		size / phase see also PAN		32..63	20..3F	13..25
	PAN / TILT		size / phase see also PAN		64..95	40..5F	26..37
	PAN / TILT (inverse)		size / phase see also PAN		96..127	60..7F	38..50
	Circle		size / phase see also PAN		128..159	80..9F	51..62
	Circle (inverse)		size / phase see also PAN		160..191	A0..BF	63..75
	lying eight		size / phase see also PAN		192..223	C0..DF	76..87
	random movement		size see also PAN		224..255	E0..FF	88..100
13) Special	n.a.				0..63	0..3F	0..25
	Special color chaser color -> color +1			slow - fast	64..79	40..4C	26..31
	Special color chaser color -> color +2			slow - fast	80..95	50..5F	32..73
	Pan/Tilt, audio-controlled			slow	96..111	60..6F	38..44
	Pan/Tilt, audio-controlled			fast	112..127	70..7F	45..49
	Pan/Tilt, random positioning				128..143	80..8F	50..56
	Lamp off			after 3 sec.	230..249	90..F9	57..97
	Reset			after 3 sec.	250.255	FA..FF	98..100

Lamp ON	Channel 9 Shutter open		254..255	FE..FF	100
Lamp OFF	Channel 13 (Special)	after 3 sec.	230..249	90..F9	57..97
Reset	Channel 13 (Special)	after 3 sec.	250.255	FA..FF	98..100

5 Change the Lamp

For a troublefree operation please read this chapter carefully and follow all instructions.

5.1 Safety Regulations

- **Pull out the main plug!**
- Wait at least 20 minutes after the last operation to cool down the fixture.
- Don't touch the bulb of the lamp with bare fingers (this can cause damages).
- Before you put the **MINI PATEND** into operation close the casing, otherwise your retina can be hurt!

5.2 Realize the Lamp Change

1. **Pull out the main plug!**
2. Open the 3 screws (A, B and C) at the lamp sheet and remove it.
3. Remove the old or broken lamp out of the socket.

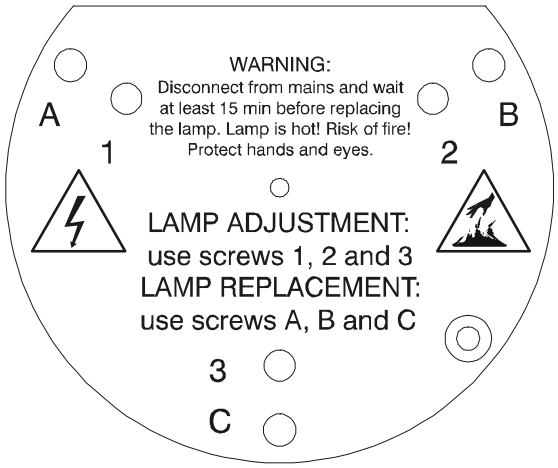
   Attention: The glass bulb of the lamp can splinter. For that reason remove the lamp with safety gloves or some cloth.
4. Put in the new lamp securely into the socket. **Attention:** Use only the original lamp type!
5. Close the **MINI PATEND** in reverse order.

5.3 Lamp adjustment

The optimum position of the lamp (no Hot-Spot and maximum brightness) inside the reflector must be controlled after every lamp change.

The **Mini PATEND** lamp holder is aligned at the factory. Due to differences between lamps, fine adjustments may improve light performance.

Pease follow this procedure:



1. Strike the lamp (for example in the LAMP menu) and wait a while until full intensity of the lamp.
2. Direct the beam straight on a flat and bright surface/wall (beam open, white, no gobo, no effects).
3. If the Hot-Spot (brightest part of the beam) is not in the middle and the beam is not max. bright, you can adjust this by turning the screws **1, 2** and **3.** Try to find the brightest position.

   Remark: A complete even beam can't be reached because of the design of the lamp.

6 Maintenance and Cleaning the MINI PATEND

It is absolutely essential that the fixture is kept clean and that dust, dirt and smoke-fluid residues must not built up on or within the fixture. Otherwise the fixture's light-output will be significantly reduced. Regular cleaning will not only ensure the maximum light-output but will also allow the fixture to function reliably throughout its life.

A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should alcohol or solvents be used!

The inside optical system should be maintained only by authorized persons. Please contact your local dealer.

6.1 Safety Regulations

- **Pull out the main plug!**
- Wait min. 20 minutes after the last operation to cool down the fixture.
- Before you put the **MINI PATEND** into operation close the casing, otherwise your retina can be hurt!

6.2 Circumference and Interval (rule-of-thumb)

The contamination of the fixture depends on the environment details. Therefore no general guidelines can be given. From this it follows that the intervals are only suggestions from our practice experience.

Position	Interval	In this way
Outside optic	weekly	soft cloth and glass cleaning fluid
Color filter	monthly	soft cloth and glass cleaning fluid
Gobos	yearly	vacuum cleaner, airbrush, etc.
Glass gobos	monthly	soft cloth and glass cleaning fluid
Prism	monthly	soft cloth and glass cleaning fluid
Dimmer/Shutter	yearly	vacuum cleaner, airbrush, etc.
Inside lens	monthly	soft cloth **no** glass cleaning fluid
Fan and air channel	monthly	vacuum cleaner, airbrush, etc.
Reflector	**never**	
Lamp	**never**	
Moveable parts	yearly	suitable fatty oil

Attention:

1. Never let optical parts come into contact with oil or grease.
2. Wait until all parts are dried up before operating the fixture.

6.3 Cleaning the Optical System

1. **Pull out the main plug!**
2. Wait at least 20 minutes after the last operation to cool down the fixture.
3. Remove the Roto Head by loosening the 6 head-screws.
4. Remove the inside optical plug-in by loosening the two hexagon socket screws and pull it out.
5. Clean all glasses, lenses and mirrors carefully.
6. Before you put the **MINI PATEND** into operation close the casing, otherwise your retina can be hurt!

7 Technical Specification

Power supply	
Power consumption	300 Watt (power factor corrected)
EU-model	AC 230V / 50 Hz~
Fuse protection	T2A, 250V, 5x20 mm (fine-wire fuse)
US-model	AC 115V / 60 Hz~
Fuse protection	T3.15A, 115V, 5x20 mm (fine-wire fuse)
Lamp	
Type 1	Philips, CDM/SA-T 150W, 6000h
Type 2	Osram, HSD150, 3000h
Optical system	
14° standard objective	
Lenses anti-reflex coated	
Color	
19 dichroic filter plus white	
Gobos	
19 fixed plus open	
Shutter / Strobe / Dimmer	
Strobe- effect with variable speed 0.5 - 5 flashes per second	
Continuously mechanical dimmer 0 - 100%	
Focus	
Motor driven focus from near to far away	
Drive	
Standard DMX-512, 3 pole XLR; [+] = Pin 3 [-] = Pin 2 [Ground] = Pin 1. The DMX- addressing starts at the DMX- address [001].	
Pan / Tilt	
Max- movement	**4 turns per second, 16 bit resolution**
Min- movement	**1 turn in 5 minutes, 16 bit resolution**
Weights and measures	
Width of the base	**425 mm**
Length of the base	**285 mm**
height (head vertical)	**290 mm**
Weight (net)	**11 kg**

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