LIGHTING

User's manual
product code: 991225

INDEX

FOLLOWSPOT 1200 HMI DMX

INTRODUCTION

We thank you for choosing the FOLLOWSPOT 1200 HMI DMX.

Characterized by an attracting design and an incredible optic system, the FOLLOWSPOT 1200 HMI DMX is suitable for any kind of ambient.

A modern and reliable electric circuit gives stability and functioning safety for long time.

To make the most of this unit and to make it work correctly in the years, before connecting it to its source and using it, we suggest you to carefully read this manual.

In this way you could be more familiar with its commands and connections so to easily use it.

All the sections of this manual have been studied to make as easy and complete as possible the use of the FOLLOWSPOT 1200 HMI DMX.

To make the manual more clear and easy to consult, we have used the following symbols and conventions:

IMPORTANT very important warnings, to be read with the maximum attention;

! important parts of the text that give details and/or explanations on the use of the FOLLOWSPOT 1200 HMI DMX.

practical advices for an efficient use of the FOLLOWSPOT 1200 HMI DMX.

The safety of the unit is guaranteed only strictly following the instructions, so it is recommended to accurately preserve them.

SAFETY PRECAUTIONS

⚠ IMPORTANT

READ ALL CAUTIONS AND WARNINGS PRIOR TO OPERATE THIS EQUIPMENT.
INSTRUCTIONS TO PREVENT INJURIES OR DAMAGES DUE TO FIRE, ELECTRIC SHOCKS, MECHANICAL HAZARDS AND UV RADIATIONS HAZARDS.

•PROTECTION AGAINST FIRE

1) This unit has been made to work only with the Lamp: **HMI 1200W GS (OSRAM)**.

! ABSOLUTELY NEVER USE OTHER KIND OF LAMPS.

2) Keep a minimum distance of 0,5 mt. from walls or any inflammable surface.

3) Keep a minimum distance of 5 mt. from lighted objects.

4) Replace the fuses with others of the same kind and value:
(MAIN FUSE 5x20 250V 10A; ELEC FUSE 5x20 250V 3.15A).

5) Do not install the projector close to heat sources. Do not lay the connection cables on the projector when it is hot.

•PROTECTION AGAINST ELECTRIC SHOCKS

1) This projector must be earthed.

2) Class I equipment. The protection conductor must be part of the power supply cable.

3) For the connection to the main power supply proceed as in fig. 2/a, page 6.

4) Disconnect the power supply before the Lamp replacement or before opening the unit.

5) Do not install the projector outdoors, exposed to rain or moisture.

•PROTECTION AGAINST MECHANICAL HAZARDS

1) When installing the projector use a safety chain.

2) To avoid explosion risks, open the projector only after 15 minutes after the lamp is off.

3) The temperature of the projector can reach high levels. Wait for almost 15 minutes before operating on it.

4) Replace the Lamp if it is damaged or deformed by the heat.

•PROTECTION AGAINST UV RADIATIONS HAZARDS

1) Do not start on the projector without the protecting screen or if the lenses and the ultra-violet filters are damaged.

2) The protecting screens, the lenses and the ultra-violet filters must be replaced if visibly damaged and if their efficiency has been reduced, for example by slits or deep cuts.

3) Do not directly look at the Lamp when it is on.

•WARNINGS

1) Do not dismantle and modify the unit.

2) To avoid any inflammable liquids, water or metal objects entering the unit.

YOUR REFERENCE

Cite the model and the serial number anytime you contact your retailer to ask for information or assistance.

STANDARD PACKAGE

The standard package of the FOLLOWSPOT 1200 HMI DMX contains:

1) Projector
2) Mains connector
3) Connection cables (pc. 2)
4) User's manual
5) Guarantee

ON REQUEST:
* Lamp (code 060268)
* Stand (code 083540)
* Adjustable 66 mm gobo-holder (code 040113)
* Flexible lamp 24V 3W (code 040115)
* Flight case with wheels (code 194991)

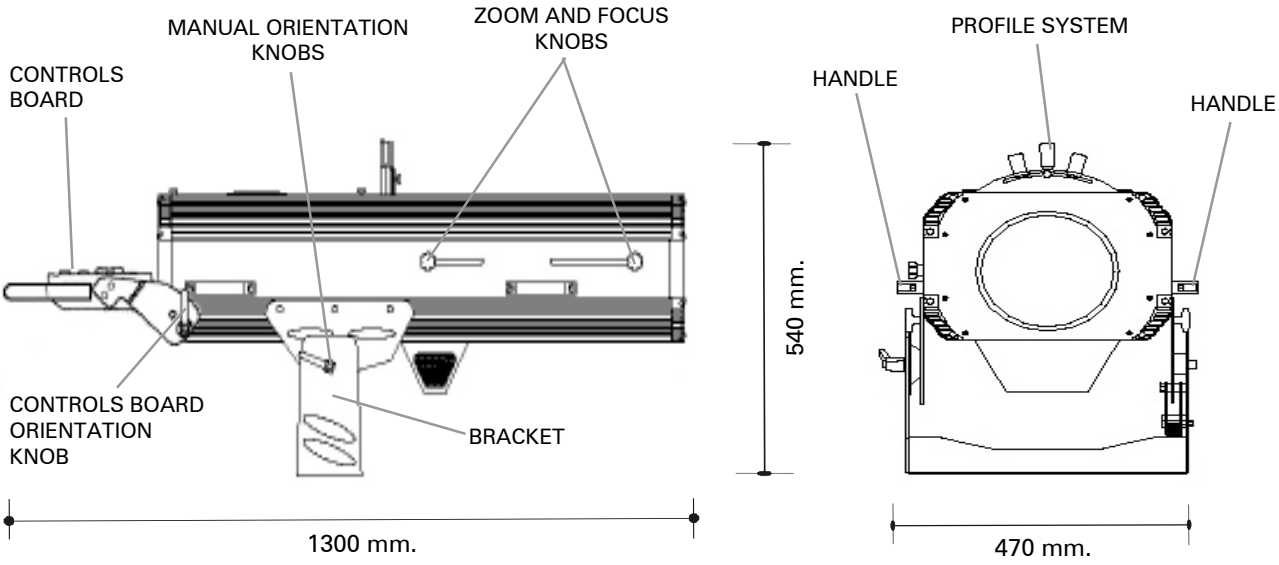
⚠ IMPORTANT

Make sure that the unit has not been damaged during the transportation.
In case it has happened or in case the unit does not work correctly, immediately contact the Retailer.
If the unit has been directly sent to you , immediately contact the Freight Company.
Only the final receiver (the person or the Company that receive the unit) is in the position to complain for the above inconveniences.

TECHNICAL FEATURES

LAMP	Discharge lamp HMI 1200W GS (OSRAM) Colour temperature: 5.600° K Average lamp life: 750 hours
ZOOM AND FOCUS	Manual.
LIGHT BEAM AMPLITUDE	6.5° / 10° (fig.4, page 7).
MOVEMENT	6 Stepper motors. Thanks to a sophisticated movement control system of the micro-steps of the stepper motors, the movements are extremely linear and accurate.
VERTICAL MOVEMENT	+16°/- 16° Manual orientation.
COLOUR WHEEL	7 COLOURS + WHITE. 8 BICOLOURED COMBINATIONS. It is possible to regulate the rotation speed of the colous wheel (rainbow effect).
COLOUR CONVERSION FILTER	1 (3200°K).
PROFILE SYSTEM	Two levers and with the possibility to rotate the profiling of 45°. Manual profiling.
IRIS	Mechanical iris (motorized).
STROBO/BLACKOUT/ DIMMER	BLACKOUT effect; STROBO effect with an adjustable frequency (min. 1 flash/sec, max. 7 flash/sec). The SHUTTER could work even as DIMMER 0 - 100%.
FROST	Medium, independent.
INPUT POWER	• Nominal operating voltage: 230 Vac; 50 Hz. • Rated power supply: 1900 W. • Nominal current: 10 A (230 Vac).
WORKING POSITION	On a stand.
DIMENSIONS (W x D x H)	mm. 470 x 1300 x 540 (fig. 1, page 5).
WEIGHT	Kg. 48
BODY	Steel and aluminium.

fig. 1



ASSEMBLING

! Before installing the FOLLOWSPOT 1200 HMI DMX make sure that the carrying structure is safe and able to support the weight of the unit.

The FOLLOWSPOT 1200 HMI DMX is equipped with a bracket with three eyes (diam. 10mm) to place it on stand (fig. 1).

To orientate the unit, follow these instructions:
1) Unscrew the lateral knob of the bracket (fig. 1);
2) orientate the unit in the preferred position;
3) screw the above said knob.

! Once finished make sure that the unit is correctly fixed and stable.

! Do not install the unit outdoor directly exposed to rain or moisture.

! To avoid installing the projector close to heat sources.

! The unit must be at a minimum distance of 50 cm. from the walls or from any inflammable material and 5 mt. from lighted objects.

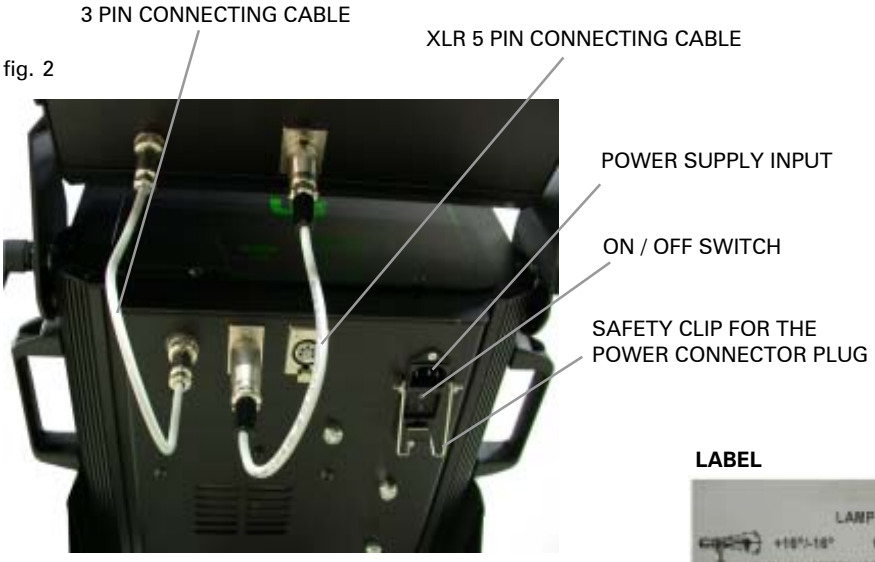
! The unit must be placed where it could be easily aerated. To avoid obstructing the in/out air gratings.

The FOLLOWSPOT 1200 HMI DMX is equipped with a controls board placed at its back (fig. 1).

To orientate the controls board do as follows:
1) unscrew the lateral knobs of the controls board (fig. 1);
2) orientate the controls board as you prefer;
3) screw the knobs.

CONNECTION TO THE POWER SUPPLY

fig. 2



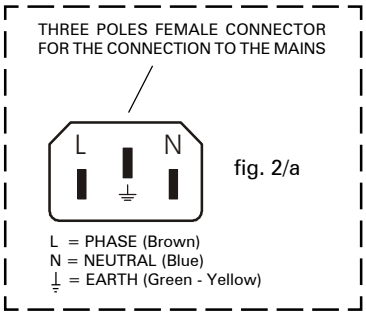


fig. 2/a

LABEL

(The label is placed on the back panel of the projector - fig. 3, page 7)

BEFORE USING THE PROJECTOR

IMPORTANT **The unit must be connected to the earth. The inobservance of these instructions automatically makes the guarantee expiring.**

! Carefully read the precautions on page 3 before installing the projector.

In particular read the following points:

1) Disconnect the power supply before replacing the lamp or doing any maintenance job.
2) Do not open the projector if are not passed at least 15 minutes after it went off.
3) Always wear protective gloves and goggles to replace the lamp or to work inside the projector.
4) The protecting screens, the lenses and the ultra-violet filters must be replaced if visibly damaged. Slits or deep cuts remarkably reduce their efficiency.
5) To avoid any bad performance of the projector or that the lamp breakage could damage its optic, replace the lamp as soon as it reaches its average life time (750 hrs).
6) Periodically clean the in/out air grates.
7) Always handle the projector through its handles not through the bracket (fig. 1, page 5).
8) Do not install the projector outdoors, directly exposed to rain and moisture.
9) Before connecting the projector to the main power supply, make sure that the working voltage and frequency correspond to the values indicated on the label (fig. 3 , page 7).
   The FOLLOWSPOT 1200 HMI DMX is supplied to work at a working voltage of 230V 50Hz, (60Hz on request); 10A.
   For being supplied with a voltage of 100-120V it is absolutely necessary an auto-transformer with the following characteristics:
   • Output voltage 230V.
   • Output current 11A.
10) The connection of the projector to the mains is described in fig. 2/a:
   10 a) Do not install the projector close to heat sources. Do not lay the connection cables on the projector when it is hot.
   10 b) The unit must be placed where it could be easily aerated. To avoid obstructing the in/out air gratings.
   10 c) The projector must be distanced almost 0,5 mt. from walls or any inflammable surface and almost 5 mt. from lighted objects.
   10 d) After connecting the female plug to the projector power socket, fix it with the appropriate safety clip (fig. 2), to avoid the projector disconnecting while using it.

To start ON/OFF the projector there is the apposite switch (fig. 2).

MOUNTING AND REPLACING THE LAMP

IMPORTANT **In case of replacement of the Lamp or maintenance, never open the unit unless are passed at least 15 minutes after it went off.**

1) Disconnect the projector before replacing the lamp. Wear protective gloves and goggles.
2) Unscrew the locking knobs placed on the top panel (fig. 3).
3) Take out the cover (fig. 3).
4) Undo the two lateral bushes of the lamp and take it out (fig. 3/a).
   Before mounting the new lamp, make sure that into the lamp holder there is not anything that may cause interruptions to the thermic and electrical conduction.
5) Undo the two lateral bushes of the new lamp and insert it in the lamp holder positioning up the bulb protuberance, fasten the lamp bushes.

! Avoid touching the new lamp with the nude hands; in case it accidentally happens, clean the bulb with the proper tissue given with the replacement lamp.

6) Put back the cover and screw the locking knobs.

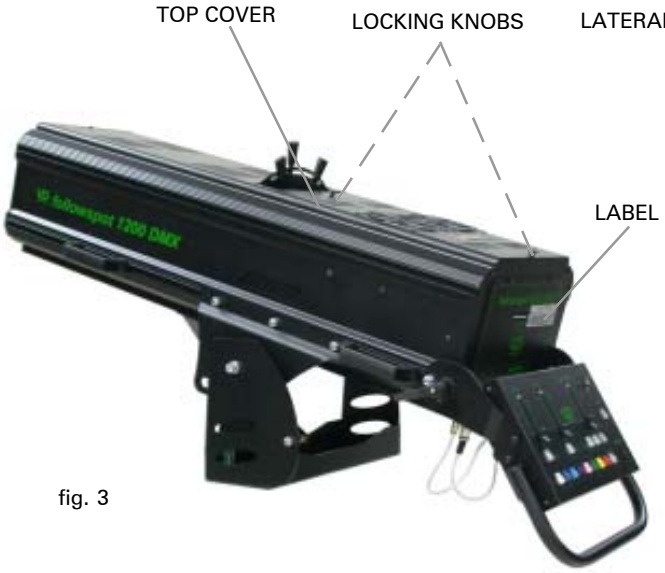
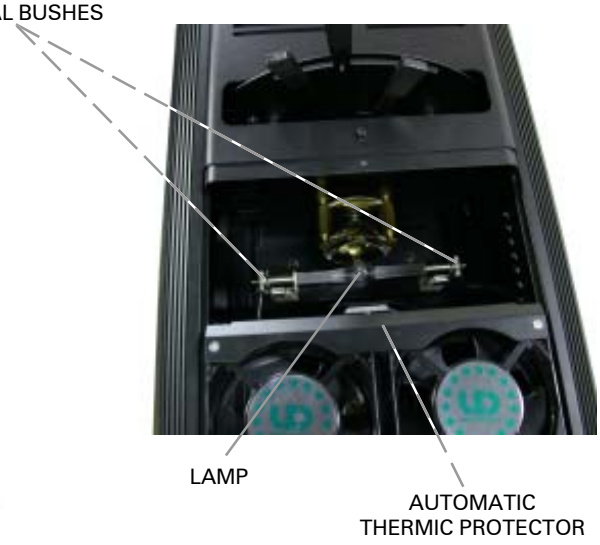


fig. 3

fig. 3/a

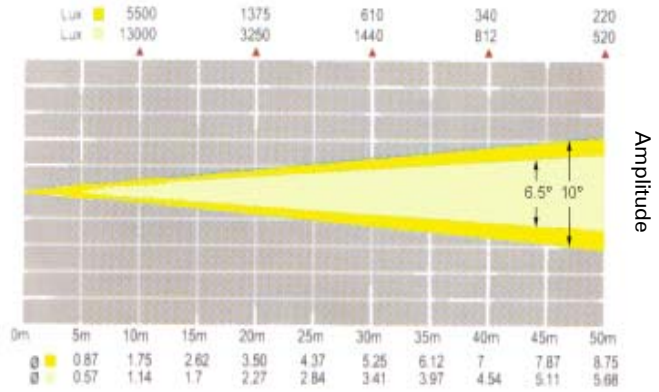


ZOOM AND FOCUS

To regulate the zoom and focus use the two knobs (fig. 1, page 5) placed on the right side of the projector. The light beam amplitude can be regulated from a minimum of 6,5° to a maximum of 10°.

LIGHT BEAM AMPLITUDE RELATED TO DISTANCES

fig. 4



Distance in mt.

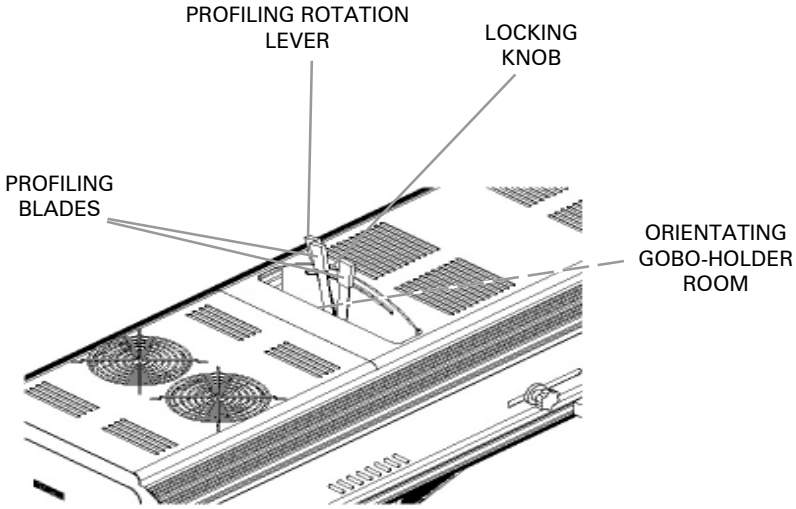
PROFILE SYSTEM

The FOLLOWSPOT 1200 HMI DMX is equipped with a profiling system: four profiling blades controlled by three levers placed on the top of the projector (fig. 5).

The four blades cut the light beam and are controlled by the two levers closer to the user. One lever, the one closer to the back part of the projector, moves horizontally two blades and the other one vertically the other two.
The third lever rotates the light beam of 45° and is provided with a locking knob (fig. 5) to be fastened after having chosen the light beam inclination.

Behind the profiling system levers (fig. 5), there is an appositely made room with a track where to assemble an orientating gobo-holder (available on request, ref. to "standard package", page 4).

fig. 5



CONNECTION TO THE CONTROLS BOARD

At the back of the projector there is the CONTROLS BOARD (fig. 6) to operate on the main functions of the projector.

To connect the controls board to the power and to the projector, do as follows:

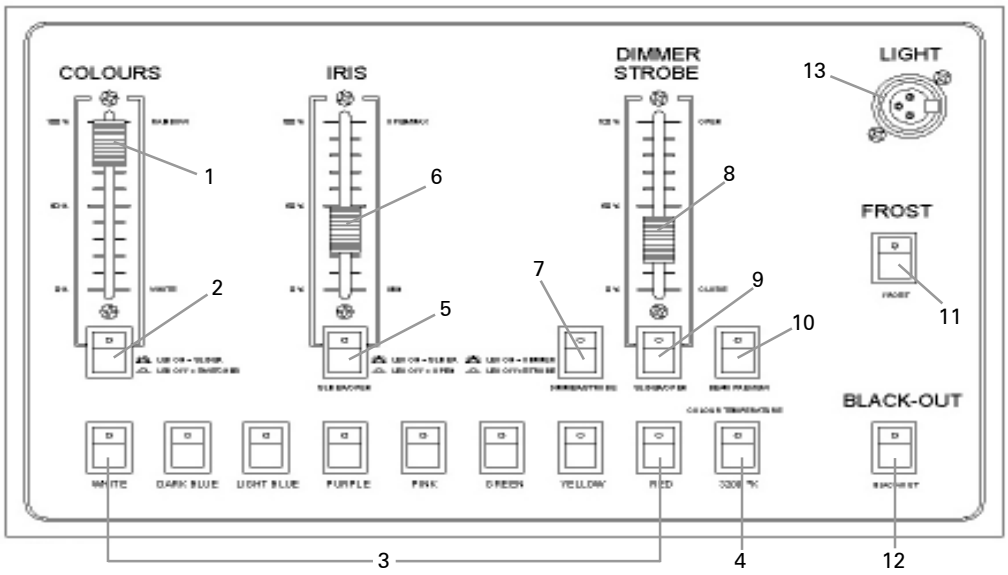
1) Connect the supplied cable with the 3 pins plugs (fig. 2, page 6), from the controls board to the projector (in their 3 pins sockets) and tighten their bushes. This cable supplies the power to the controls board.
2) Connect the supplied cable with the XLR 5 pins plugs (fig. 2, page 6), from the controls board to the projector (in their XLR 5 pins sockets). This cable makes you able to set the main functions of the projector.

fig. 6

CONTROLS BOARD FUNCTIONING

The controls board through its DMX signal makes you control the main function of the projector.
To control the projector through its controls board, put On the dip-switch 1 ADDRESSES SETTINGS (fig. 9, page 11), placed in the rear panel of the projector (fig. 6, page 8).
To activate the controls board it is necessary to put On the projector through its switch On/Off (fig. 2, page 6).
Once the projector is On, it goes on auto-setting and once it is settled, just press any key from the controls board to put it in function.

fig. 7



The complete list of the DMX values of the sliders of the controls board is in the APPEDIX "B", page 19.

CONTROLS BOARD FUNCTIONS

COLOURS: Regulated by the slider "1" and by the keys "2" and "3".
If the key "2", placed under the slider "1", is On (led On), it activates the same slider "1" that controls the colours functions: 8 colours, 8 bi-colours combinations and the rainbow effect (the speed is adjustable); if the key "2"is Off (led Off), it activates the eight colours keys "3" that give the possibility to immediately select the colour that you like.

COLOUR TEMPERATURE: Regulated by the key "4".
If the key "4" is On (led On), it activates the filter of the colour conversion of 3200° K, that gives the possibility to double the quantity of the available colours; if the key "4" is Off (led Off), the filter is not activated.

IRIS: Regulated by the slider "6" and by the key "5".
If the key **SLIDER/OPEN** "5", placed under the slider "6", is On (led On), it activates the same slider "6", that controls the iris functions: 0% - iris all closed; 100% - iris all open.
If the key **SLIDER/OPEN** "5" is Off (led Off), the iris will be always 100% - all open.

DIMMER-STROBE: Regulated by the slider "8" and by the keys "7" and "9".
If the key **DIMMER/STROBE** "7" is On (led On), it activates the slider "8" as a dimmer from 0% to 100%; if the key **DIMMER/STROBE** "7" is Off (led Off), it activates the strobe effect and the slider "8" regulates the flashes frequency, from 1 to 7 flashes per sec. The dimmer/strobe functions are activated if the key **SLIDER/OPEN** "9" is On (led On), if it is Off (led Off), the dimmer is at 100% and it is not possible to have the strobe effect.

BEAM PREVIEW: Regulated by the key "10".
If the key "10" is On (led On), it allows the operator to get a weak and thin light beam, not visible by the public, that helps him to localize an artist at the beginning of a show; if the key "10" is Off (led Off), the light beam is like it was.
This key has the priority on all the other keys.

FROST: Regulated by the key "11".
If the key "11" is On (led On), it activates the filter of the frost to get a diffuse lighting; if the key "11" is Off (led Off), the filter of the frost is not activated and the light beam is like it was.

BLACK-OUT: Regulated by the key "12".
If the key "12" is On (led On), it obscures the light beam; if the key "12" is Off (led Off), the light beam is like it was. This key has the priority on all the other keys except for the **BEAM PREVIEW** one.

LIGHT: In the section "13" it is possible to install a flexible lamp (available on request, ref. to "standard package", page 4). It is useful to the operator to look at the controls board in dark ambient.

DMX SIGNAL CONNECTION

The FOLLOWSPOT 1200 HMI DMX works through a digital DMX 512 signal. In case you want to control the projector through an external controller not disturbing the DMX signal, you have to put Off the controls board (press, at the same time, the keys WHITE, RED, BLACK-OUT, ref. to fig. 7, page 9), to activate again the controls board do as you put it Off.
Even if the controls board BEAM PREVIEW function will be always On, to allow the operator to always localize the wanted object.

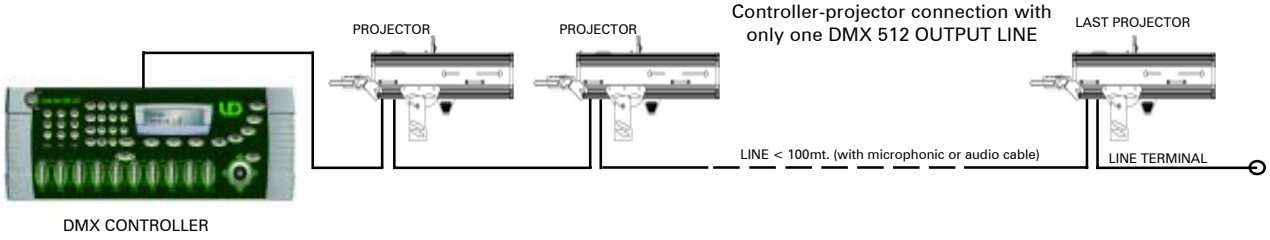
DMX LINE TERMINAL

IMPORTANT

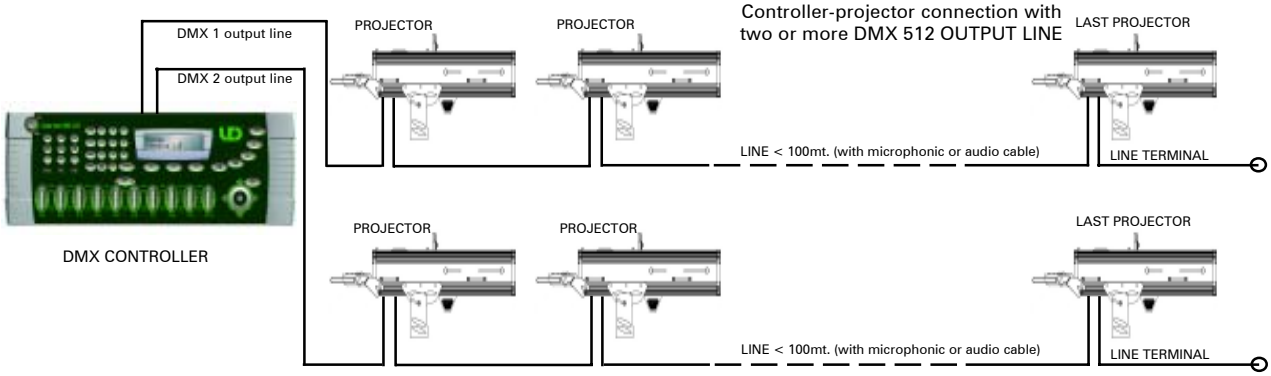
Do not connecting or wrongly connecting the DMX line terminal is probably the most common cause of a defective functioning of a DMX line.
The DMX line terminal is a resistance placed between the two data pin 2 and 3 at the end of the line.
The terminal resistance should ideally have the same value of the impedance of the DMX connecting cable.
It is recommended, for all DMX system, to insert the line terminal into the DMX output connector of the last connected projector .

It is suggested to use a DMX line terminal with a resistance value of 100/120 Ohm.
We supply, on request, a DMX line terminal with a resistance value of 120 Ohm.

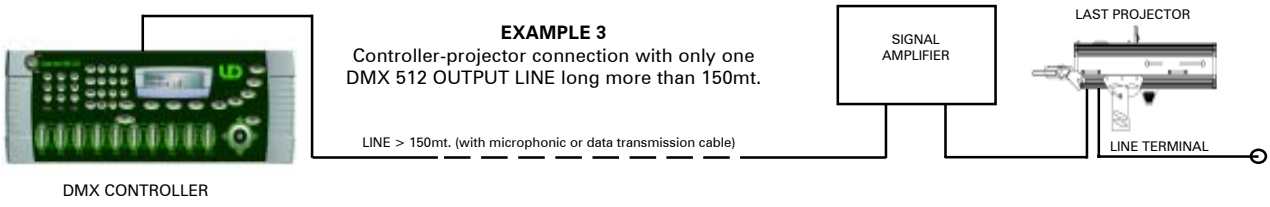
EXAMPLE 1
Controller-projector connection with only one DMX 512 OUTPUT LINE



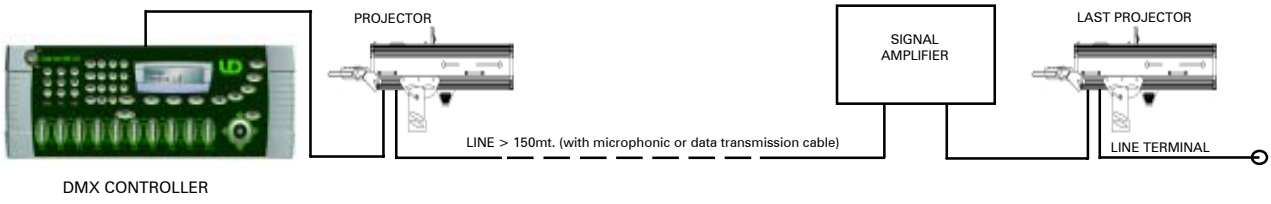
EXAMPLE 2
Controller-projector connection with two or more DMX 512 OUTPUT LINE



EXAMPLE 3
Controller-projector connection with only one DMX 512 OUTPUT LINE long more than 150mt.



EXAMPLE 4
Controller-projector connection with only one DMX 512 OUTPUT LINE long more than 150mt.



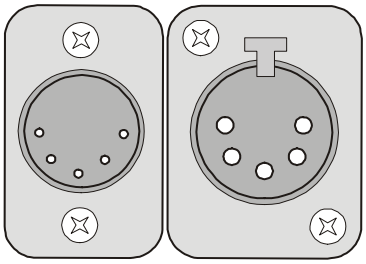


fig. 8

PIN	WIRE	SIGNAL
1	SHIELD	GROUND/RETURN/OV
2	INNER CONDUCTOR	DATA COMPLEMENT (-, INVERTED)
3	INNER CONDUCTOR	DATA TRUE (+, NON INVERTED)
4		N.C.
5		N.C.

fig. 8/a

DMX SIGNAL CONNECTION

The DMX signal connection to the FOLLOWSPOT 1200 HMI DMX must be done through the input signal connectors XLR 5 pins, placed on the rear panel of the projector (fig. 8).
The nomenclature of the pins of the DMX input connectors is listed in the table reported in fig. 8/a.
To avoid any problem in the transmission of the signal it is recommended to use a cable for very fast data transmissions.
A normal audio cable is suitable only for lines long not more than 100mt.
The best performances and the maximum stability are obtained using a shielded microphonic cable which section must be of at least 2x0,25mm, or, a data transmission cable.
In case of lines long more than 150/200mt. it is recommended to use a DMX Repeater Amplifier.

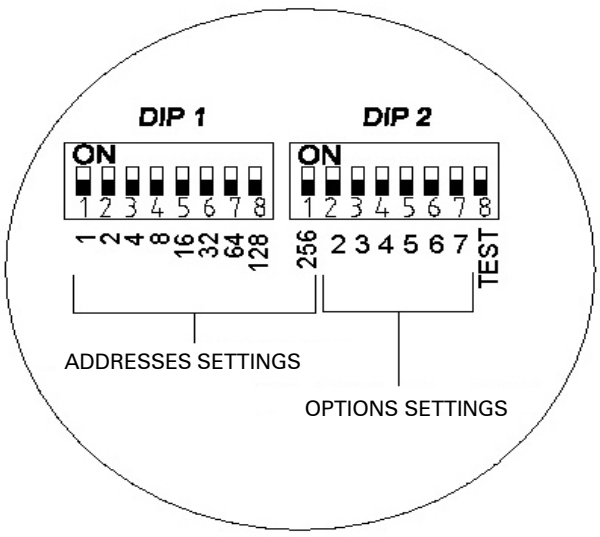
CONFIGURATION AND CONTROLS

On the rear panel of the projector (fig. 6, page 8) there are the switches to be used to configure it.

SWITCHES

- **ADDRESSES SETTINGS** to set the DMX addresses.
- **OPTIONS SETTINGS** to put On/Off the optional functions.

fig. 9



SWITCH "OPTIONS"

On the rear panel of the projector there are some switches - switch "OPTIONS SETTINGS " (fig. 10) - to be used to activate or not activate the following options:

- **DIP-SWITCH "2"** ON: not codified;
  OFF: not codified.
- **DIP-SWITCH "3"** ON: not codified;
  OFF: not codified.
- **DIP-SWITCH "4"** ON: not codified;
  OFF: not codified.
- **DIP-SWITCH "5"** ON: not codified;
  OFF: not codified.
- **DIP-SWITCH "6"** ON: with pulsating light beam;
  OFF: with not pulsating light beam.
- **DIP-SWITCH "7"** ON: with the shutter on the colours changer;
  OFF: without the shutter on the colours changer.
- **DIP-SWITCH "8"** ON: test On;
  OFF: normal mode.

OPTIONS DESCRIPTION:

PULSATING LIGHT BEAM:
(DIP-SWITCH 6)

Activating the DIP-SWITCH 6, the normal functioning of the iris of the projector is modified. In this case the DMX table of the channel that controls the iris motor will be modified. With this function, through the slider "6" on the controls board (fig. 7, page 9), it is possible to have both the normal effect and the pulsating effect of the iris, with the possibility to regulate three different speeds of the pulsations.

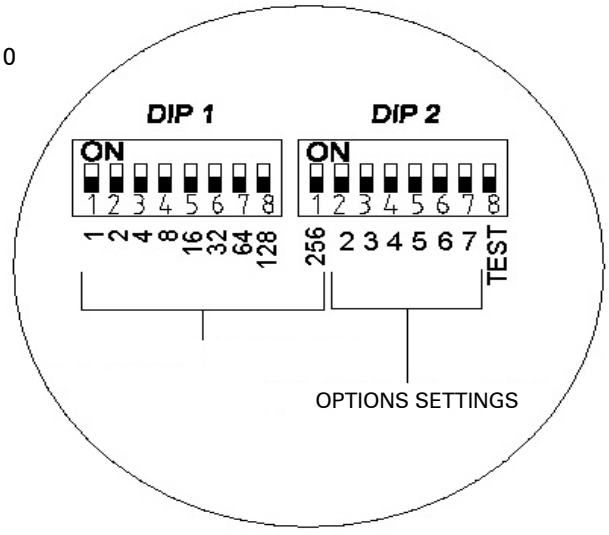
SHUTTER ON THE COLOURS CHANGER:
(DIP-SWITCH 7)

Through the DIP-SWITCH 7 it is possible to activate this function, that allows to obscure the light beam for all the time that the colours changer wheel takes to change each colour. If this function is Off, the light beam is not obcured and it is visible even during the colours changing.

TEST:
(DIP-SWITCH 8)

At the moment, this option is only used when the projector is manufactured. During its normal use this function must be always Off, otherwise the projector will not respond to any signal.

fig. 10



DMX CHANNELS FUNCTIONS

The FOLLOWSPOT 1200 HMI DMX needs of six channels to control its functions.

The connection between the channels and the functions of the projector is reported in the below table:

CHANNEL N°	PROJECTOR FUNCTION
1	COLOURS
2	IRIS
3	NOT IN USE
4	DIMMER / STROBO
5	COLOURS TEMPERATURE FILTER
6	FROST FILTER

The full list of the DMX values is in the APPENDIX “A”, page 17.

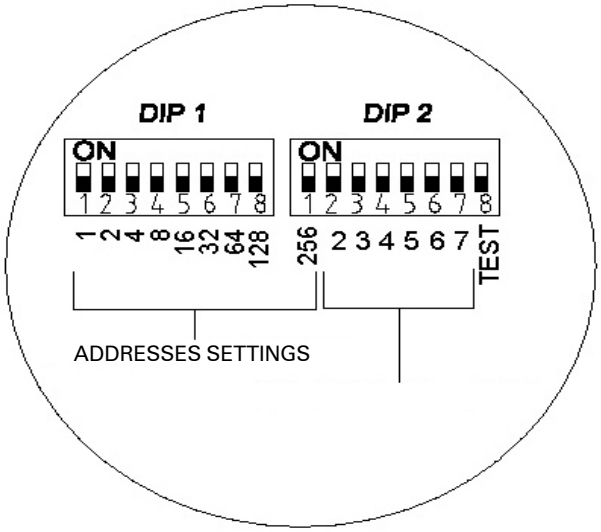
ADDRESS SELECTION

To fix the DMX addresses use the switches “ADDRESSES SETTINGS” (fig. 11), placed on the rear panel of the projector.

In the following table are reported the correct channels for using four projectors FOLLOWSPOT 1200 HMI DMX (6 channels) in DMX 512.

PROJECTOR NUMBER	CHANNELS	SWITCH "ADDRESSES SETTINGS"								
		DIP-SW "1"	DIP-SW "2"	DIP-SW "3"	DIP-SW "4"	DIP-SW "5"	DIP-SW "6"	DIP-SW "7"	DIP-SW "8"	DIP-SW ("1")
		1	2	4	8	16	32	64	128	256
PROJECTOR N.1	1 - 6	**ON**	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PROJECTOR N.2	7 - 12	**ON**	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF	OFF
PROJECTOR N.3	13 - 18	**ON**	OFF	**ON**	**ON**	OFF	OFF	OFF	OFF	OFF
PROJECTOR N.4	19 - 24	**ON**	**ON**	OFF	OFF	**ON**	OFF	OFF	OFF	OFF

fig. 11



TROUBLESHOOTING

TABLE 1 - GENERAL PROBLEMS

PROBLEMS	PROBABLE REASONS	CONTROLS	SUGGESTED SOLUTIONS
The projector does not start.	The power supply is missing.	Measure the power supply tension on the principal connector.	Supply the projector with the right power.
	Defective power supply cables and/or connectors.	Check cables and connectors status.	Replace cables and/or connectors.
	The general fuse is interrupted.	Check the fuse status.	Replace the fuse (if defective)
The projector works correctly but the lamp does not turn on or intermittently turns off (the thermic protector is On).	The fan is not working.	Check the fan status.	Wait for the projector cooling down. Replace the fun (if defective) and wait for the automatic activation of the thermic protector.
	Obstructed air gratings.	-	Wait for the projector cooling down. Clean the air gratings and wait for the automatic activation of the thermic protector.
	Defective lamp.	Check the lamp status.	Replace the lamp.
	The lamp is too hot to turn on.	-	Wait for the lamp cooling.
	Ambient temperature over 45°C.	-	Put down the ambient temperature to the normal one for the projector to work correctly (max 40°C).
	Too low power supplied.	Measure the power supplied.	Check the power source.
	Defective igniter.	Check the igniter status.	Replace the igniter.
	Wrong ballast connections.	Check the ballast connections.	Connect the ballast correctly.
One of the functions of the projector is defective (i.e. Colours).	Damaged stepper motor.	Execute the tests described at page 16.	Replace the stepper motor.
	Damaged motor driver (PBL3771).		Replace the motor driver (PBL3771).
	Wrong COLOUR wheel rotation.	Disconnect the power supply and manually check that the COLOUR wheel rotation flowing and regular.	-

TABLE 2 - PROBLEMS TO THE CONNECTION DATA LINK

PROBLEMS	PROBABLE REASONS	CONTROLS	SUGGESTED SOLUTIONS
None of the FOLLOWSPOTs respond to the DMX controller.	TEST activated (switch "OPTIONS" - DIP-SW "8" is On).	Make sure that the TEST is not activated (switch "OPTIONS" - DIP-SW "8" on Off).	Put the TEST Off (switch "OPTIONS" - DIP-SW "8" on Off).
	DMX controller disconnected from the projectors.	Check if the connection of the DMX controller to the first of the FOLLOWSPOT is correct.	Connect properly the DMX controller.
	Interrupted connection cable from the DMX controller to the first FOLLOWSPOT.	Use an already tested cable and connect one projector per time, until the interrupted cable is found out.	Replace the DMX cable.
	Pin 2 and 3 of the connector of the connecting cable are inverted.	Use an already tested cable and connect one projector per time, until the defective cable is found out.	
	Connecting cable in short circuit.	Use an already tested cable and connect one projector per time, until the cable in short circuit is found out.	
One or more FOLLOWSPOT do not execute the inputs of the DMX controller or do it wrongly.	Wrong DMX address.	Check if the DMX address of the projector correspond to the DMX channel of the controller.	Configure properly the DMX address.
	One projector has a defective DMX pc board.	Use an already tested cable and take out from the line one projector per time, until the one with the defective DMX pc board is found out.	Replace the defective DMX pc board.
	The DMX line has not a DMX terminator.	Check if on the last projector there is a DMX terminator.	Put a DMX terminator on the last projector (page 10).

MOTORS PC BOARD

PROBLEMS AND SOLUTIONS

- If one of the Stepper Motors does not move (i.e. the COLOUR wheel):

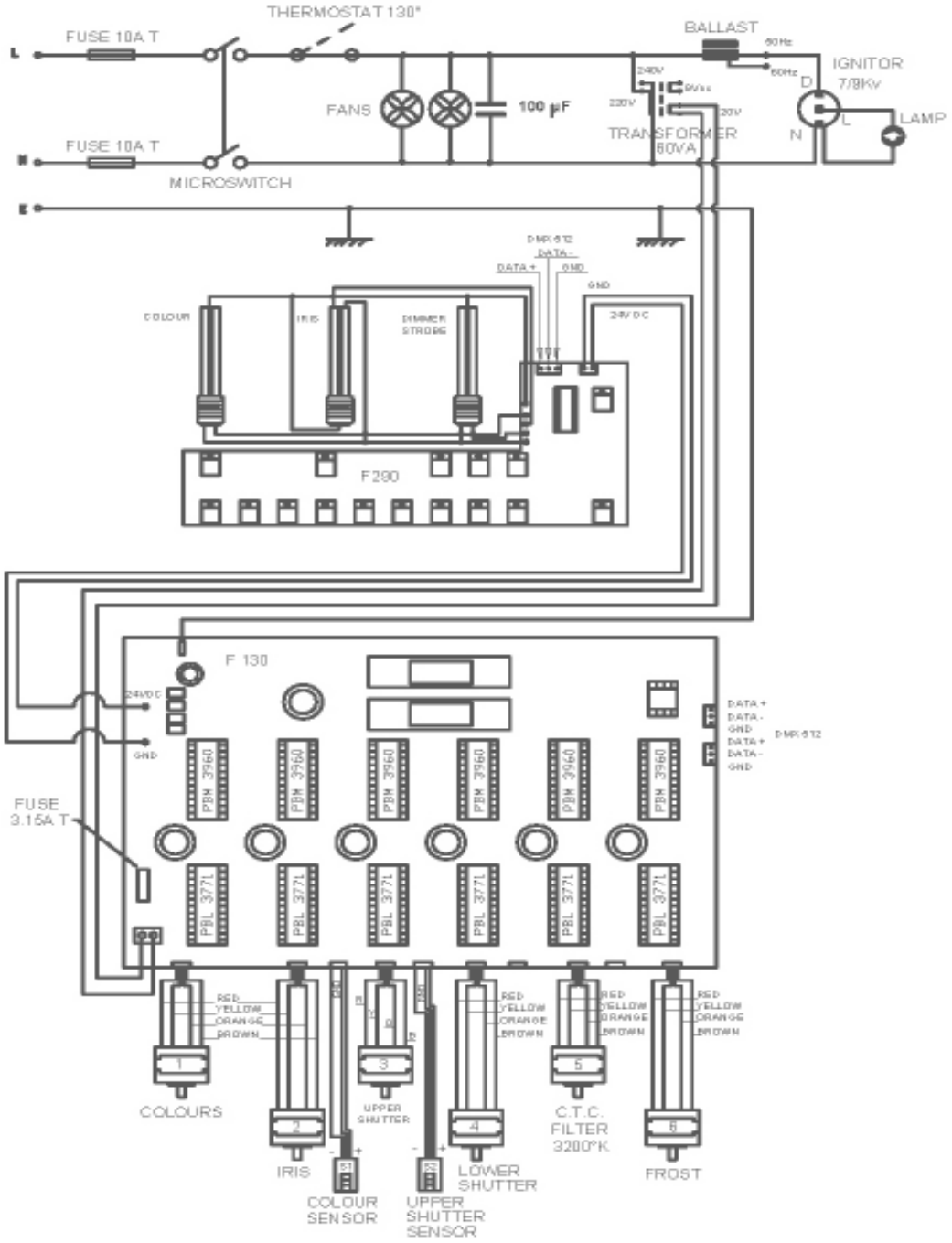
  1) put off the projector and disconnect the connecting cables of the COLOUR wheel and of the IRIS.

  2) connect the cable of the COLOUR wheel to the IRIS connector.

  3) start on the projector:

  3a) if the motor of the COLOUR wheel works properly, it is necessary to replace U16 (PBL3771).

  3b) if the COLOUR motor still does not work, it is necessary to carefully check it, so as all the connections circuits (cable and connectors).



MAINTENANCE

For operating a correct maintenance of the FOLLOWSPOT 1200 HMI DMX follow these instructions:

1) Periodically clean the in/out air grates;

2) Make sure the fans are properly working;

3) Periodically clean the lenses and the dichroic filters using antistatic cloths and products.

! Do not absolutely use solvents or abrasive products.

APPENDIX "A"

DMX CHANNELS FUNCTIONS

DMX channels functions complete list (6 ch. - page 13).

DMX CHANNEL	FUNCTION	DESCRIPTION	DECIMAL	PERCENTAGE
1	**COLOUR WHEEL**	**COLOUR WHEEL**		
		COLOUR A	000..015	00%..06%
		COLOUR A-B	016..027	07%..11%
		COLOUR B	028..039	12%..15%
		COLOUR B-C	040..051	16%..20%
		COLOUR C	052..063	21%..25%
		COLOUR C-D	064..075	26%..29%
		COLOUR D	076..087	30%..34%
		COLOUR D-E	088..099	35%..39%
		COLOUR E	100..111	40%..43%
		COLOUR E-F	112..123	44%..48%
		COLOUR F	124..135	49%..53%
		COLOUR F-G	136..147	54%..58%
		COLOUR G	148..159	59%..62%
		COLOUR G-H	160..171	63%..67%
		COLOUR H	172..183	68%..72%
		COLOUR H-A	184..195	73%..76%
		RAINBOW I speed	196..210	77%..82%
		RAINBOW II speed	211..225	83%..88%
		RAINBOW III speed	226..240	89%..94%
		RAINBOW IV speed	241..255	95%..100%
2	**IRIS**	**IRIS**		
		OPEN	000..001	00%..01%
		ADJUSTABLE	002..253	02%..98%
		CLOSED	254..255	99%..100%
	IRIS WITH PULSATIONS (DIP-SW "6" OPTIONS SETTINGS, activated, page 12)	**DIAFRAMMA**		
		OPEN	000..001	00%..01%
		ADJUSTABLE	002..140	02%..55%
		CLOSED	141..165	56%..65%
		PULSATIONS III speed	166..190	66%..74%
		PULSATIONS II speed	191..215	75%..84%
		PULSATIONS I speed	216..245	85%..96%
		CLOSED	246..255	97%..100%
3	**NOT IN USE**	-	-	-

DMX CHANNEL	FUNCTION	DESCRIPTION	DECIMAL	PERCENTAGE
4	**BLACK-OUT DIMMER STROBE**	**SHUTTER DIMMER STROBE** BLACK-OUT DIMMER from 1% to 99% OPEN STROBE from 1 to 16 speeds OPEN	 000..007 008..127 128..134 135..246 247..255	 00%..03% 04%..50% 51%..53% 54%..96% 97%..100%
5	**TEMPERATURE FILTER**	**COLOUR TEMPERATURE FILTER** OFF ON	 000..128 129..255	 00%..50% 51%..100%
6	**FROST FILTER**	**FROST FILTER** OFF ON	 000..128 129..255	 00%..50% 51%..100%

APPENDIX "B"

Complete list of the DMX values of the sliders of the controls board (page 9).

SLIDER	FUNCTION	DESCRIPTION	PERCENTAGE
COLOURS (key SLIDER/SWITCHES activated, led On)	**COLOUR WHEEL**	**COLOUR WHEEL**	
		COLOUR A	00%..06%
		COLOUR A-B	07%..11%
		COLOUR B	12%..15%
		COLOUR B-C	16%..20%
		COLOUR C	21%..25%
		COLOUR C-D	26%..29%
		COLOUR D	30%..34%
		COLOUR D-E	35%..39%
		COLOUR E	40%..43%
		COLOUR E-F	44%..48%
		COLOUR F	49%..53%
		COLOUR F-G	54%..58%
		COLOUR G	59%..62%
		COLOUR G-H	63%..67%
		COLOUR H	68%..72%
		COLOUR H-A	73%..76%
		RAINBOW I speed	77%..82%
		RAINBOW II speed	83%..88%
		RAINBOW III speed	89%..94%
		RAINBOW IV speed	95%..100%
IRIS (key SLIDER/OPEN activated, led On)	**IRIS**	**IRIS**	
		OPEN	00%..01%
		ADJUSTABLE	02%..98%
		CLOSED	99%..100%
	IRIS WITH PULSTATIONS (DIP-SW "6" OPTIONS SETTINGS, activated, pag. 12)	**IRIS**	
		CLOSED	00%..04%
		PULSATIONS I speed	05%..12%
		PULSATIONS II speed	13%..21%
		PULSATIONS III speed	22%..31%
		CLOSED	32%..41%
		ADJUSTABLE	42%..98%
		OPEN	99%..100%
DIMMER / STROBE (key SLIDER/OPEN activated, led On)	**DIMMER (key DIMMER/STROBE activated, led On)**	**DIMMER**	
		CLOSED	00%..03%
		DIMMER from 1% to 99%	04%..96%
		open	97%..100%
	STROBE (key DIMMER/STROBE not activated, led Off)	**STROBE**	
		CLOSED	00%..03%
		STROBE from 1 to 16 speeds	04%..96%
		OPEN	97%..100%

NOTES