ProSpot

1^ edizione settembre 1999
1st edition september 1999

ProSpot

numero di serie/serial number

data di acquisto/date of purchase

fornitore/retailer

indirizzo/address

cap/città/suburb

provincia/capital city

stato/state

tel./fax/

Prendete nota, nello spazio apposito, dei dati relativi al modello e al rivenditore del vostro **ProSpot**: in caso di richiesta di informazioni, pezzi di ricambio, servizi di riparazione o altro ci permetteranno di assistervi con la massima rapidità e precisione.

Please note in the space provided above the relative service information of the model and the retailer from whom you purchased your **ProSpot**: This information will assist us in providing spare parts, repairs or in answering any technical enquiries with the utmost speed and accuracy.

ATTENZIONE: la sicurezza dell'apparecchio è garantita solo con l'uso appropriato delle presenti istruzioni, pertanto è necessario conservarle.

WARNING: the security of the fixture is granted only if these instructions are strictly followed; therefore it is absolutely necessary to keep this manual.

Index

Congratulations on having purchased a **tas** product. You have assured yourself of a fixture of the highest quality, both in componentry and in the technology used. We renew our invitation to you to complete the service information on the previous page, to expedite any request for service information or spares (in case of problems encountered either during, or subsequent to, installation). This information will assist in providing prompt and accurate advice from your **tas** service centre.

1. Packaging

Following the instructions and procedures outlined in this manual will ensure the maximum efficiency of this product for years to come.

Open the packaging and ensure that no part of the equipment has suffered damage in transit. In case of damage to the equipment, contact your carrier immediately by telephone or fax, following this with formal notification in writing.

packing list
Ensure the packaging contains:

1 **ProSpot**
1 **additional mounting plate**
1 **instruction manual**

2. Transportation

The **ProSpot** should be transported in its original packaging or in a tas approved flight case.
We recommend the use of a suitable flight case which will stop the articulated movement of the **ProSpot** during transportation.

3. Important safety information

Fire prevention:

1. **ProSpot** utilises a Philips MSD 200w or 250w MH or equivalent lamp; use of any other lamp is not recommended and will null and void the fixture's warranty
2. Never locate the fixture on any flammable surface.
3. Minimum distance from flammable materials: 0,5 m.
4. Minimum distance from the closest illuminable surface: 2 m.
5. Replace any blown or damaged fuses only with those of identical values. Refer to the schematic diagram if there is any doubt.
6. Connect the projector to main power via a thermal magnetic circuit breaker.

Prevention of electric shock:

1. High voltage is present in the internals of the unit. Isolate the projector from mains supply prior to performing any function which involves touching the internals of the unit, including lamp replacement.
2. For mains connection, adhere strictly to the guidelines outlined in section 7 of this manual.
3. The level of technology inherent in the **ProSpot** requires the use of specialised personnel for all service applications; refer all work to your authorised **tas** service centre.
4. A good earth connection is essential for proper functioning of the projector. Never operate the unit without proper earth connection.
5. The fixture should never be located in an exposed position, or in areas of extreme humidity. A steady supply of circulating air is essential.

Protection against ultraviolet radiation:

1. Never turn on the lamp if any of the lenses, filters, or the housing is damaged; their respective functions will only operate efficiently if they are in perfect working order.
   Never look directly into the lamp when it is operating.

Safety:

1. The projector should always be installed with bolts, clamps, and other fixings which are suitably rated to support the weight of the unit.
2. Always use a secondary safety chain of a suitable rating to sustain the weight of the unit in case of the failure of the primary fixing point.
3. The external surface of the unit, at various points, may exceed 80°C. Never handle the unit until at least 10 minutes have elapsed since the lamp was turned off.
4. Always replace the lamp if any physical damage is evident.
5. Never install the fixture in an enclosed area lacking sufficient air flow; the ambient temperature should not exceed 45°C.
6. A hot lamp may explode. always wait for at least 10 minutes to elapse after the unit has been turned off prior to attempting to replace the lamp.
   Always wear suitable hand protection when handling the lamp.

4. Lamp: Installation and replacement

ProSpot utilises a Philips MSD 200W or 250W MH or equivalent.
The lamp is available from your authorised tas sales agent:

tas cod.	**LM 5210**
wattage	200 w
luminous flux	13500 lm
colour temperature	6600° K
base	GY 9,5
approximate life	3000 hours
tas cod.	**LM 5214**
wattage	250 w
luminous flux	17000 lm
colour temperature	6600° K
base	GY 9,5
approximate life	2000 hours

Attention
Disconnect mains prior to opening up the unit

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The fixture's internal temperature can reach 150° C after 5 minutes, with a maximum peak of 350° C; ensure that the lamp is cold prior to attempting removal. The fixture should be allowed to stand and cool for 10 minutes prior to its removal.
MSD lamps are part of the mercury vapour family of discharge lamps and must be handled with great care. The lamp operates at high pressure, and the slight risk of explosion of the lamp exists if operated over its recommended life.
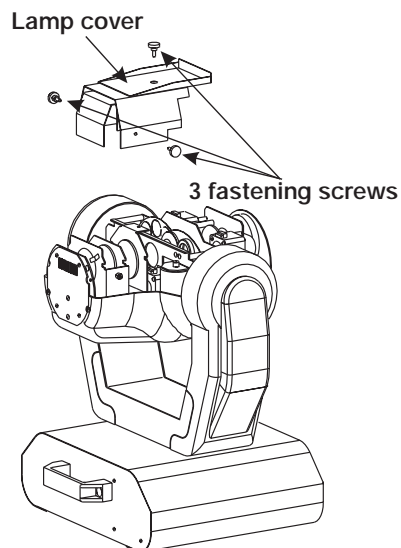We recommend, therefore, that the lamp be replaced within the manufacturer's specified lamp life.
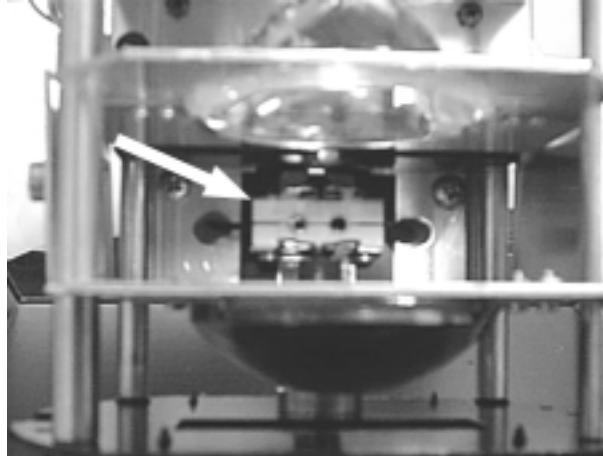
mounting the lamp

1) Using a Philips head screwdriver remove the 4 which affix the top cover, located as shown in the following diagram.
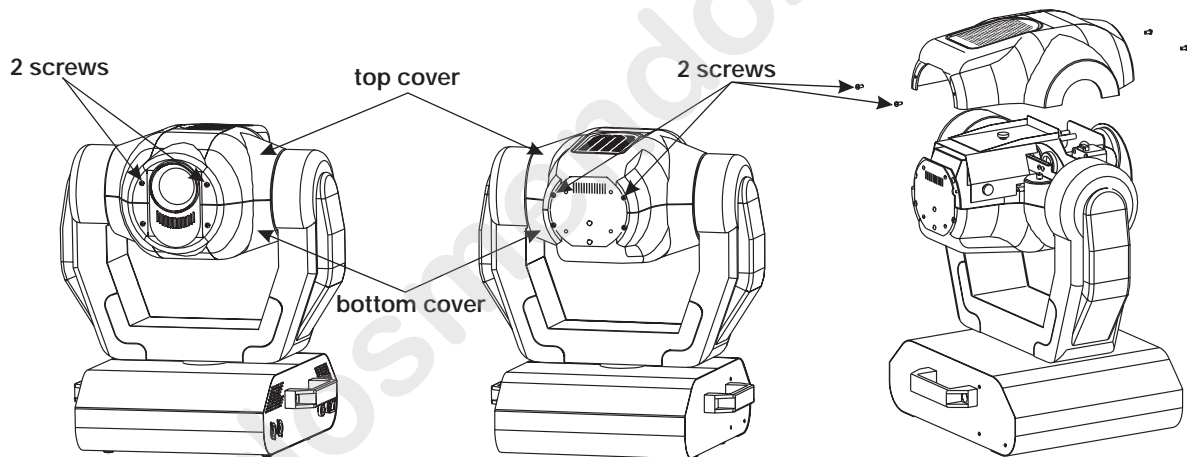
2) Remove the lampcover by removing the three thumbscrews as shown in the diagram.

3) Locate the lampholder

4) Insert the lamp. The lamp is manufactured from quartz glass and should be hand-led with care; always adhere to the instructions supplied in the lamp's packaging. Never touch the glass directly, use the tissue provided in the lamp's packaging. The GY 9.5 lampholder is asymmetrical in construction, therefore make sure that the correct pin is lined up into its respective socket. DO NOT USE UNDUE FORCE. In case of difficulty, re-read the instructions and repeat the procedure.

5) The optimal distance between the lamp and the lense is 1-1,5 mm. Should this not be the case, use the adjusters located on the fixture to rectify this situation. See chapter **14 "Aligning the lamp in the optical path"**.

6) Reposition the lampcover and refasten the three thumbscrews. Next replace the fixture's housing and refasten the four screws.
Prior to igniting the new lamp, reset the lamp life counter as described in section **11 "Display panel functions."**
Attention: we recommend that the lamp be realigned in the optical train of the unit to avoid overheating of the dichroic filters and other internal components of the unit. refer to section 14 for instructions about this procedure.

5. Operating voltage and frequency

The projector may operate at either 208, 230 or 240 V.at 50 or 60 Hz; **tas** presets (barring specific requests), a voltage of 230 V and a frequency of 50 Hz.
If this preset does not correspond with the conditions in your particular country of operation, follow the instructions in the sections which follow.
Incorrect frequency and voltage selection will detrimentally affect the operation of the projector.

5.1 Setting the operating frequency on the ballast of the ProSpot.

1) Remove the four screws (**A**) on the side plate of the projector's base, using a Philips head screwdriver; remove the plate, thereby allowing complete internal access to the base of the **ProSpot**.
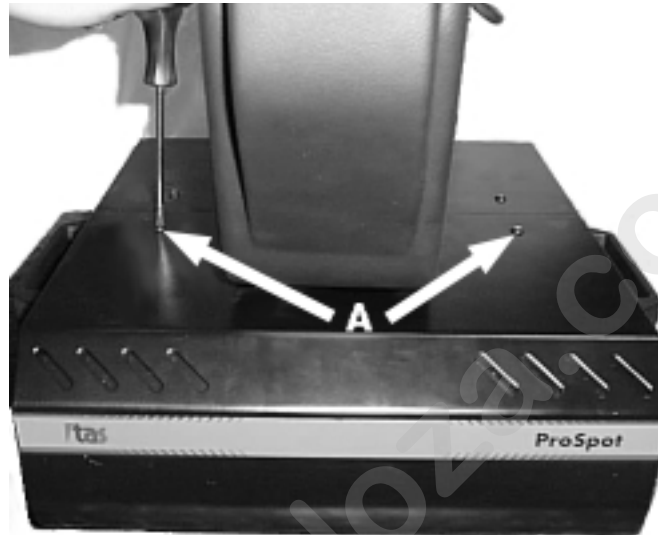
4) Locate the terminal block labeled 50 or 60Hz to which the cable determining operating frequency is attached.

5) Move this cable to either the 50 or 60Hz position as required.

6) After having moved the cable and tightened it firmly in place, replace the housing and refasten the screws (A).

6. Mounting the unit

mounting

ProSpot can operate in any mounting position.

The structure from which the unit is hung should be of sufficient rating to hold the weight of the unit, as should any clamps used to hang the unit.

The structure should also be sufficiently rigid so as not to move or shake whilst the ProSpot moves during its operation.

The **M8** mounting holes in the base of the **ProSpot** marked **A1 A2 B1 B2** allow the projector to have hook clamps fitted for the purpose of hanging.

The mounting plate shown below may be affixed to the base of the **ProSpot** using **M10 bolts,** the slots allowing varying angles of mounting to be attained as well as being able to be mounted on truss of various dimensions.
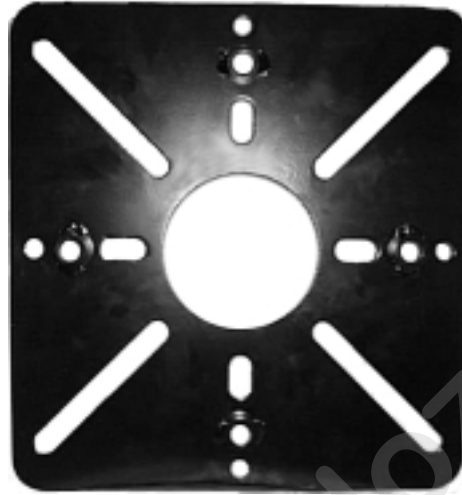
protection against liquids

The projector contains electric and electronic components that must not come into contact with water, oil, or any other liquid.

movement

The projector has a movement of 530° in the base and 280° in the yoke; **DO NOT place any obstructions in the path of the projector's movement.**

safety chain

The use of two safety chains (cod. 069) - fixed to the **ProSpot** and to the primary suspension point, is highly recommended to protect against accidental failure, however unlikely, of the primary suspension point.

If using an after-market safety chains not manufactured by **tas**, ensure that they are of sufficient rating to hold the weight of the fixture.

The safety chains are affixed via the 2 holes provided in the base of the unit, as shown in the following diagram.

risk of fire

Each fixture produces heat and must be installed in a well-ventilated position. The minimum recommended distance from flammable material is: 0.5m. Minimum distance from the object being illuminated is: 2 m.

forced ventilation

You will note that the projector's housing contains several air entry points and fan outlets, positioned both on the head and the base of the unit; under no circumstances should any of these points be obstructed!

Obstruction of any of these points will result in the overheating of the unit, detrimentally and seriously affecting the proper operation of the **ProSpot**.

On this point, read section **17.3 Internal temperature monitor (tEMP)**.

7.Mains connection

cabling
The mains cable provided is thermally resistant, complying to the most recent international standards
NB: In case of cable replacement, similar cable with comparable thermal resistant qualities must be used exclusively (cable 3x1.5 ø external 8 mm, rated 300/500V, tested to 2KV, operating temperature -40° +180°).
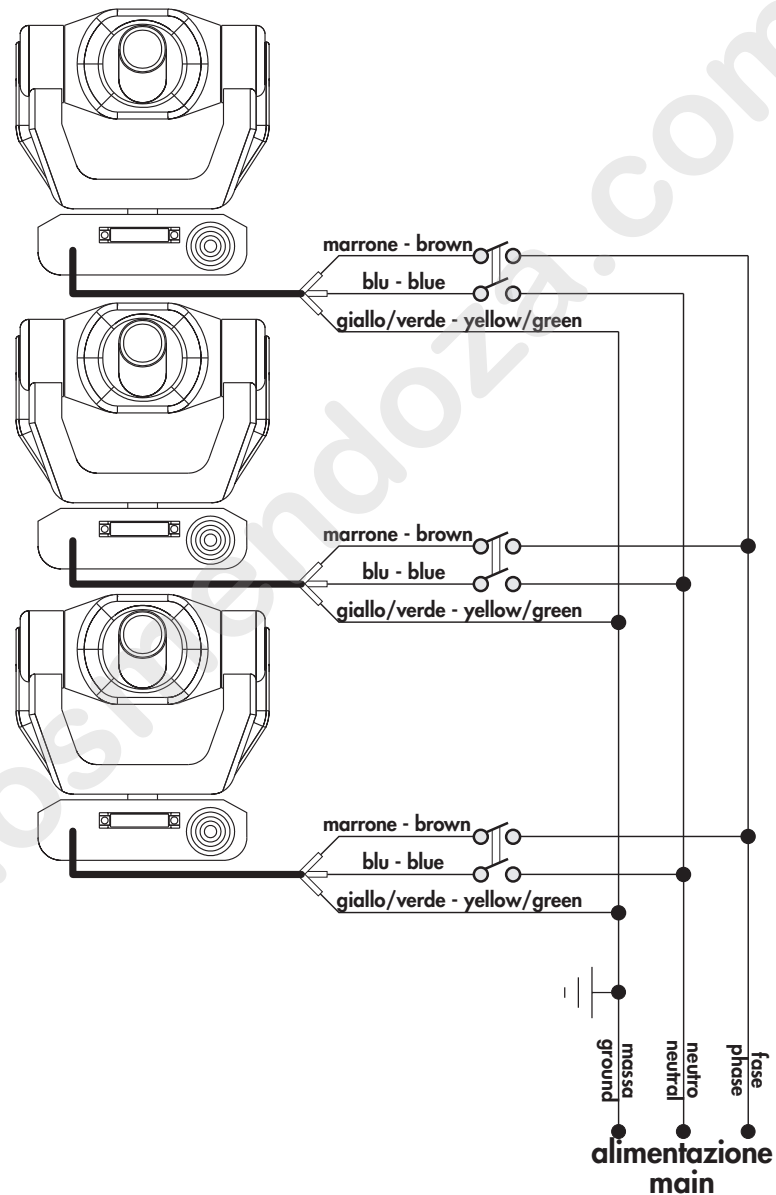
mains connection
ProSpot can operate at voltages from 208V-230V-240V at 50 or 60Hz (operating voltage and frequency can be selected as described in section 5 of this manual).
Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available to you.
For connection purposes, ensure your plug is of a suitable rating: 3 amps.
Locate the mains cable which exits the base of the unit and connect as shown below:
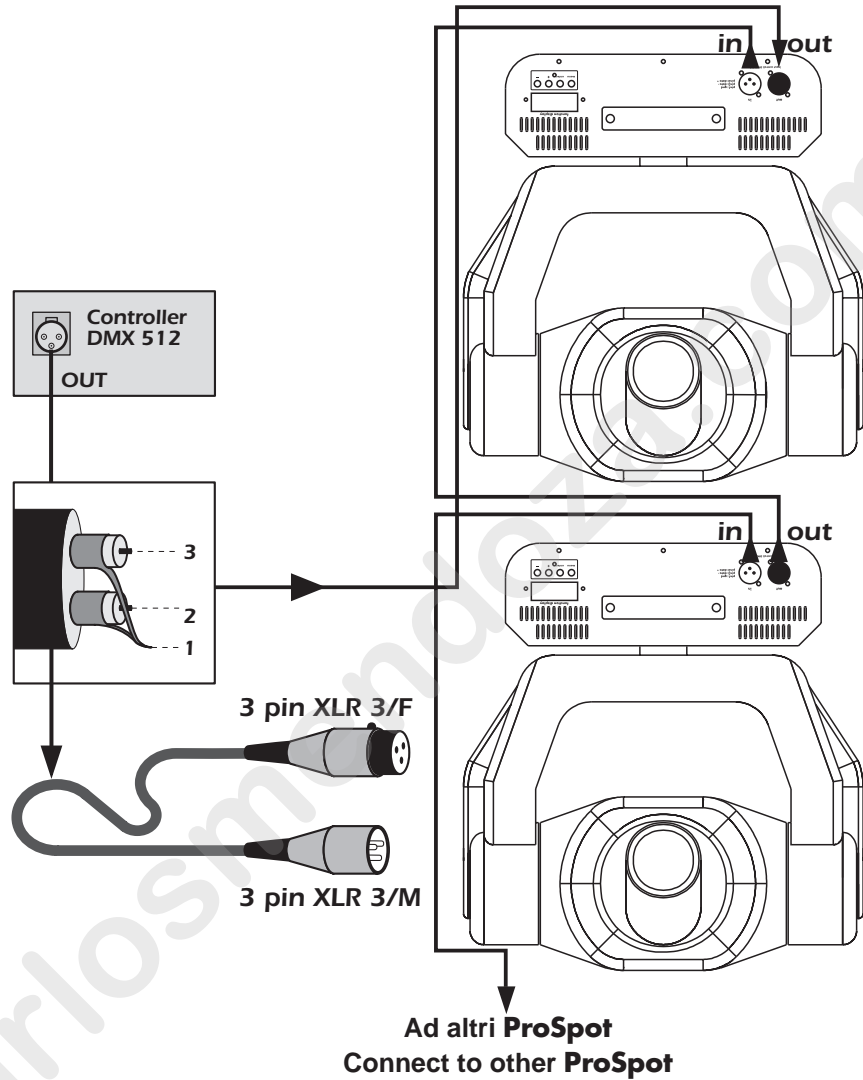
marrone - brown
blu - blue
giallo/verde - yellow/green

marrone - brown
blu - blue
giallo/verde - yellow/green

marrone - brown
blu - blue
giallo/verde - yellow/green

massa
ground
neutro
neutral
fase
phase

alimentazione
main

protection
The use of a thermal magnetic circuit breaker is recommended for each **ProSpot.**
A good earth connection is essential for the correct operation of the fixture. Strict adherence to regulatory norms is strongly recommended.

8. Signal connection

Control signal is digital, and is transmitted via two pair screened ø0.5mm cable. Signal type is **DMX 512**, conforming to international standards; in order to reduce production costs and to allow easy worldwide availability of parts, **tas** utilises only XLR 3 plugs and sockets for signal connection. Pin connection conforms to international standards:
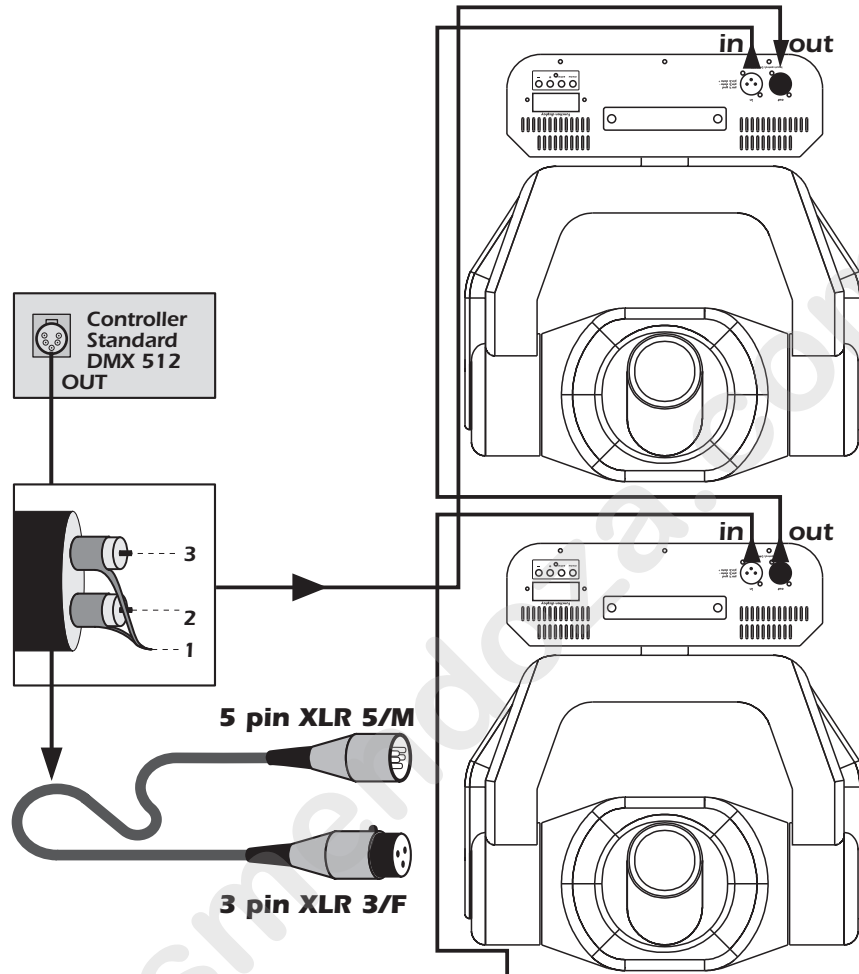
pin 1= screening 0 V
pin 2= data -
pin 3= data +

Controller
DMX 512

OUT

3
2
1

in   out

in   out

3 pin XLR 3/F

3 pin XLR 3/M

Ad altri ProSpot
Connect to other ProSpot

Should your **DMX 512** controller utilise only XLR 5 sockets, the polarity of pins 1, 2 and 3 must be preserved as shown. Do not connect pins 4 e 5.

pin 1= screening 0 volt   pin 4= not connected
pin 2= data -   pin 5= not connected
pin 3= data +

Controller Standard DMX 512 OUT

3
2
1

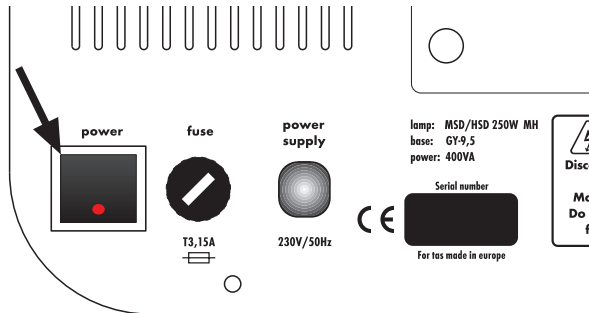**5 pin XLR 5/M**

3 pin XLR 3/F

in   out

in   out

Ad altri ProSpot
Connect to other ProSpot

Ensure that all data conductors are isolated from one another and the metal housing of the connector.

**Note: the housing of the cannon XLR 3 must be isolated.**

9. Powering up

After having followed the preceding steps, turn on the DMX 512 controller which will be used to control the **ProSpot**. Following this, turn on the power to the projector, and turn on the projector's power switch.**The projector will perform a reset function on all the internal and external motors. This will last some few seconds, after which it will be subject to the external signal from the controller.**

power   fuse   power supply

lamp: MSD/HSD 250W MH
base: GY-9,5
power: 400VA

Serial number

For tas made in europe

T3,15A

230V/50Hz

DMX reception

The display will be static on to indicate that **DMX 512** signal is being correctly received.

menu   enter   +   −
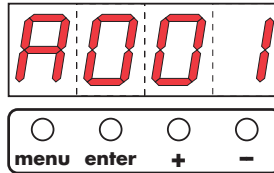
If the display flashes, the projector is not receiving signal. Check your cabling and the controller for correct functioning.

10. DMX addressing

Each **ProSpot** utilises **14** (8 bit) or **16** (16 bit) **channels of DMX 512 signal for complete control.**
To ensure that each projector accesses the correct signal, it is necessary to correctly address each fixture. Any number between 1 and 512 can be generated via the multifunction panel of the **ProSpot**.
This procedure must be carried out on every **ProSpot** being used.
When powered up initially, each projector will show **A001** which indicates **DMX address 1**

Using **8 bit resolution**, a projector addresses as **A001** will respond to commands on channels **1** to **14** from the **DMX 512 controller**. A second projector should be addressed as **15**, the third as **29** and so on until the final **ProSpot** is addressed.

Using **16 bit resolution**, a projector addresses as **A001** will respond to commands on channels **1** to **16** from the **DMX 512 controller**. A second projector should be addressed as **17**, the third as **33** and so on until the final **ProSpot** is addressed.

altering the dmx address
1) Press the **enter** button. The letter A in the display will flash.
2) Press the **+** or **-** buttons until the desired **DMX** address is displayed. The letter A in the display will flash to indicate the selected address is not stored in memory.
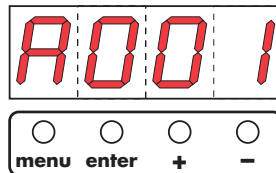
3) Press the **enter** button to confirm your selection; the display will stop flashing and the projector will now respond to the new DMX address.
4) To better understand the function of each channel, we refer you to section 12 "Control channel functions from a DMX 512 controller".
5) To alter the functioning from 8 to 16 bit refer to section **11 "Display panel functions"**.

Important Note: Keeping the **+** or **-** button pressed will cause the display to alter at increased speed, allowing a faster selection to be effected.

By pressing the **-** button, you may inadvertently select a DMX address which is not being communicated to the fixture by the controller, for example 405. If this is the case, the display will flash. You may solve this problem by altering the incorrect DMX setting.

11. Display panel functions

The display panel on the base of the **ProSpot** is used to display and set function information and various parameters.

Altering the **tas** factory settings may vary the functioning of the projector, causing it to not respond to external **DMX 512** signal. Please read and familiarise yourself with the following information very carefully before altering any selections.
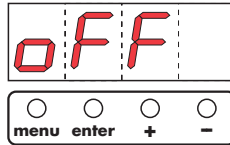
rpan

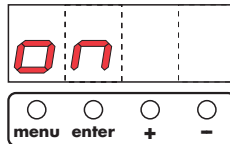This function inverts the movement for horizontal (pan) movements.

1) Press the **+** or **–** buttons until **rpan** (for pan direction) is displayed.
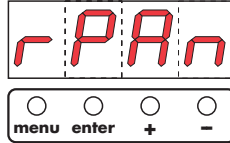
2) Press the **enter** button to confirm your selection; the display will show **off** (for clockwise – standard operating mode).

3) Press the **+** or **–** buttons; the display will show **on** (for counter-clockwise).

4) Press the **enter** button to confirm your choice of pan movement.

rtilt

This function inverts the movement for vertical (tilt) movements.

1) Press the **+** or **–** buttons until **rtilt** (for tilt direction) is displayed.

2) Press the **enter** button to confirm your selection; the display will show **off** (for clockwise - standard operating mode).

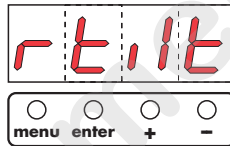3) Press the **+** or **–** buttons; the display will show **on** (for counter-clockwise).

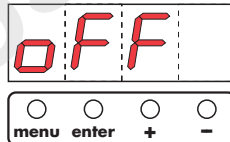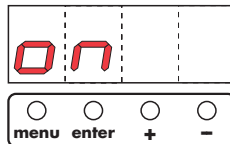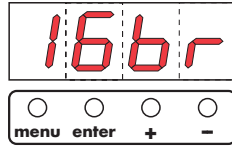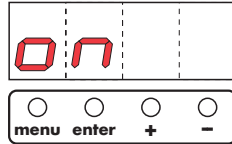4) Press the **enter** button to confirm your choice of tilt movement.

16br

This function varies the movement resolution from 16 bit to 8 bit. The number of channels utilised by the projector thus become either 14 (8 bit resolution) or 16 (16 bit resolution).
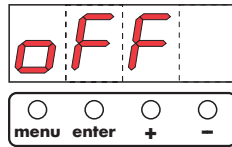
1) Press the **+** or **−** buttons until **16br (for resolution) is displayed**.

2) Press the **enter** button
3) Press the **+** or **−** buttons until **on is displayed** (**16 bit** resolution).
4) Press the **enter** button to confirm your selection.

5) Press the **+** or **−** buttons until **off** is displayed (**8 bit** resolution).

6) Press the **enter** button to confirm your selection.

LAti

This function provides information on the number of hours of operation of the lamp in the unit.

1) Press the **+** or **−** buttons until **LAti** (for lamp life).
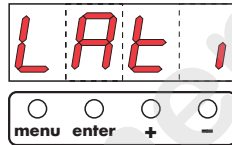
2) Press the **enter** button to confirm your selection; the display will show a numerical value which is the length of time in hours that the lamp has been operated since the counter was last reset.

The lamp life counter needs to be reset to zero at every lamp change to provide accurate information on lamp life

3) To perform a reset for this function, simultaneously press the **+** and **-** buttons and the display will automatically reset.
4) Press **enter** to confirm the lamp life counter reset operation (**LAti**).

POti

This function displays the total number of hours which the ProSpot has been operated

1) Press the **+** or **−** buttons to display **POti** (for hours).
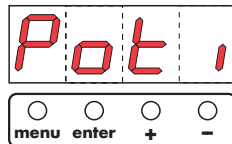
2) Press the **enter** button to confirm your selection; the display will show a numerical value which corresponds to the number of hours which the fixture has been connected to mains power. Unlike LAti this function is not resettable.

LAMP

This function allows for the on/off control of the lamp via DMX512 signal, or for the permanent on (disenabling DMX control of this function) of the lamp.
1) Press the **+** or **−** buttons to display **LAMP** (for lamp).

LAMP

menu enter + −

2) Press the **enter** button to confirm your selection; the display will show **off** (for lamp off).

oFF

menu enter + −

3) Press the **+** or **−** buttons to display **on** (for lamp on).

on

menu enter + −

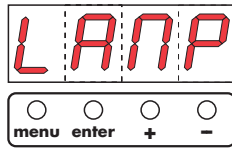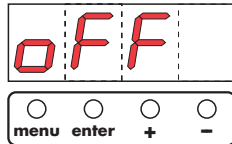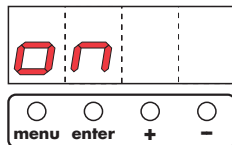4) Press the **enter** button to confirm your selection. The lamp will come on if you selected **on** and will remain off if you selected **off**.

dEMo

This function allows two types of self-test procedures to be carried out without the need for an external controller.
Mod 1 is used to test single functions at the choice of the operator of the unit.
Mod 2 is used to run an automated test sequence of all the functions of the **ProSpot**.
1) Press the **+** or **−** buttons to display **dEMo** (for demonstration).

dEMo

menu enter + −
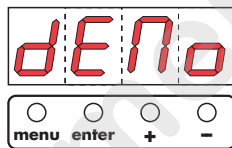
2) Press the **enter** button

Mod1

1 Press the **+** or **−** buttons to display **Mod1** if you wish to test single functions.

Mod 1

menu enter + −
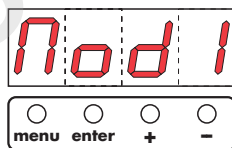
2) Press the **enter** button
3) Press the **+** or **−** buttons to display **Pan** (dEmo Pan movement).

PAn

menu enter + −
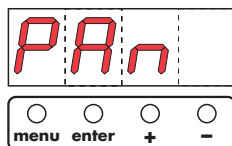
4) Press the **enter** button**.**
5) The number of the display corresponds to the position of the projector. Press the **+** or **−** buttons and the number will change in the range from 0 to 255 displaying the complete movement of the projector in the pan direction.
6) Press the **+** or **−** buttons to display **tilt** (dEMo tilt movement).

tiLt

menu enter + −
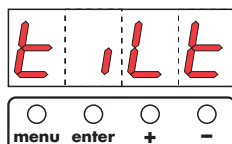
7) Press the **enter** button
8) The number of the display corresponds to the position of the projector. Press the **+** or **−** buttons and the number will change in the range from 0 to 255 displaying the complete movement of the projector in the tilt direction.
9) Press the **+** or **−** buttons to display **Foc** (dEMo focus function).

```
Foc
○    ○    ○    ○
menu enter  +    −
```
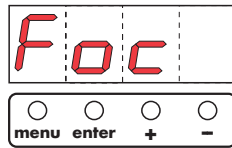
10) Press the **enter** button
12) The number of the display corresponds to the position of the focus lens. Press the **+** or **−** buttons and the number will change in the range from 0 to 255 displaying the complete movement of the focus lens.
13) Press the **+** or **−** buttons to display **Go** (dEMo gobos).

```
Go
○    ○    ○    ○
menu enter  +    −
```
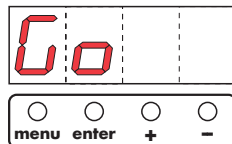
14) Press the **enter** button.
15) All the gobos or effects in the gobo wheel will be displayed in turn. Whilst this is being undertaken, the display will show **run**.
4) To return to normal operation, press the **menu** button repeatedly.

Mod2
1) Press the **+** or **−** buttons to display **Mod2** (this function tests all the features of the **ProSpot** and allows all the features of the unit to be viewed).

```
Mod2
○    ○    ○    ○
menu enter  +    −
```
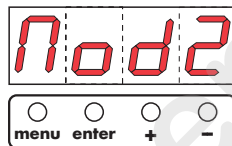
2) Press the **enter** button.
3) The display will show **run** and all the features of the fixture will be run.

rESE
This function causes a reset to occur in the case (however unlikely) that one or more of the motors should lose its reference point.
1) Press the **+** or **−** buttons to display **rESE** (for reset).

```
rESE
○    ○    ○    ○
menu enter  +    −
```
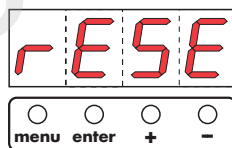
2) Press the **enter** button to confirm your selection; all the motors will perform a reset.

12. DMX 512 channel functions

If all procedures have been correctly carried out to this point, your DMX 512 controller will have control over all the functions of the ProSpot, as shown in the table which follows. The difference between 16 or 8 bit operation depends upon what selection you made in section 11 of this manual.

channel 16 bit	channel 8 bit	function	type of control	effect	decimal
1	1	Base (pan) coarse	proportional	coarse control of the base movement	0-255
2	2	Yoke(tilt)coarse	proportional	coarse control of the Yoke movement	0-255
3		Base (pan) fine	proportional	fine control of the base movement	0-255
4		Yoke(tilt)fine	proportional	fine control of the Yoke movement	0-255
5	3	Speed pan/tilt movement	step	Max speed (tracking mode)	0
			proportional	Max speed from max. to min. vector mode)	1-249
			step	Max. speed, black-out while PAN, TILT moving or color changes (tracking mode)	250-255
6	4	lamp on/off, reset, fans speed control	step	open, max. speed of fan	0
			proportional	open, min. speed of fan (silent operation) from 0 to 127 decreasing speed of fan	127
			step	Lamp ON, reset, open position	128-139
			step	No function	140-229
			step	Lamp Off after 3 sec.	230-239
			step	No function	240-255
7	5	colours	proportional	Open/white	0
			proportional	Turquoise	10
			proportional	Red	21
			proportional	Cyan	32
			proportional	Green	42
			proportional	Magenta	53
			proportional	Light Blue	64
			proportional	Yellow	74
			proportional	Green	85
			proportional	Pink	96
			proportional	Blue	106
			proportional	Orange	117
			proportional	Forwards rainbow effect from fast to slow	128-190
			step	No rotation	191-192
			proportional	Backwards rainbow effect from slow to fast	193-255
8	6	no function	step	No function	0-255
9	7	effect-wheel	step	Open position (hole)	0-95
			step	3-facet rotating prism	96-159
			step	Prism/Gobo macros	160-255
			step	Macro 1	160-167
			step	Macro 2	168-175
			step	Macro 3	176-183
			step	Macro 4	184-191
			step	Macro 5	192-199
			step	Macro 6	200-207
			step	Macro 7	208-215
			step	Macro 8	216-223
			step	Macro 9	224-231
			step	Macro 10	232-239
			step	Macro 11	240-247
			step	Macro 12	248-255

channel 16 bit	channel 8 bit	function	type of control	effect	decimal
10	8	3 facet prism rotation control	step	No rotation	0
			proportional	Forwards rotation from fast to slow	1-126
			step	No rotation	127-128
			proportional	Backwards rotation from slow to fast	129-255
11	9	Rotating gobos, selection	step	Open	0-31
			step	Rot. gobo 1 (multicolor dichroic)	32-63
			step	Rot. gobo 2 (glass)	64-95
			step	Rot. gobo 3 (metal)	96-127
			step	Rot. gobo 4 (metal)	128-159
			step	Rot. gobo 5 (metal)	160-191
			step	Rot. gobo 6 (metal)	192-223
			step	Rot. gobo wheel cont. rotation slow to fast	224-255
12	10	Gobo rotation & fine positioning	proportional	Gobo indexing	0-127
			proportional	Forwards gobo rotation from fast to slow	128-191
			step	No rotation	192
			proportional	Backwards gobo rotation from slow to fast	193-255
13	11	no function		no function	0-255
14	12	Focus	proportional	Proportional focus control	0-255
15	13	Shutter, Strobe	step	Shutter closed	0-31
			step	No function (Shutter open)	32-63
			proportional	Strobe-effect from slow to fast (max. 10 flashes/second)	64-95
			step	No function (Shutter open)	96-127
			proportional	Pulse-effect in sequences	128-159
			step	No function (Shutter open)	160-191
			proportional	Random strobe-effect from slow to fast	192-223
			step	No function (Shutter open)	224-255
16	14	Dimmer intensity	proportional	Gradual adjustment of the dimmer intensity from 0 to 100%	0-255

13. Aligning the lamp in the optical system

Aligning the lamp in the optical system is achieved via the 2 adjusters at the rear of the projector.

This procedure should be undertaken to properly align the lamp in the optical system and to avoid the possible overheating of the internal components due to the incorrect focusing of the beam onto components not intended to be exposed to this.

alignment procedure

Alignment is effected via the two adjusters **A** and **B** operating in conjunction with each other. The lamp should be on, black-out and dimmer fully open, and no colour filters inserted
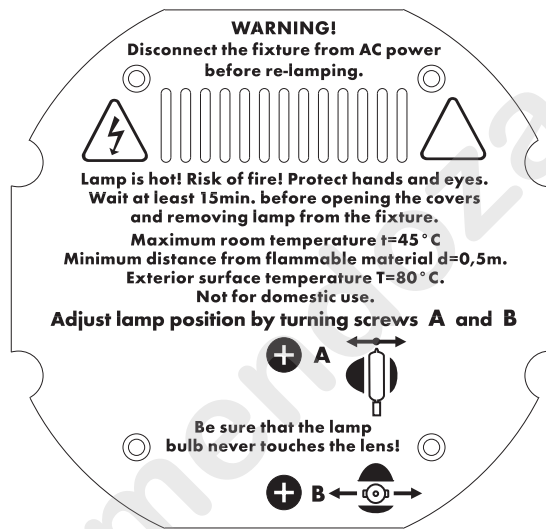
If the lamp is not correctly aligned, a hot-spot will be noticeable. This is a function of the lamp's positioning and the adjusters should be used to create a flat beam.

vertical adjustment

Adjuster (**A**) acts on a lever and spring assembly to position the lamp via a vertical movement within the reflector; rotate it until correct positioning is achieved.

horizontal adjustment

Adjuster (**B**) acts on a lever and spring assembly to position the lamp via a horizontal movement within the reflector; rotate it until correct positioning is achieved.

WARNING!
Disconnect the fixture from AC power before re-lamping.

Lamp is hot! Risk of fire! Protect hands and eyes.
Wait at least 15min. before opening the covers and removing lamp from the fixture.
Maximum room temperature t=45°C
Minimum distance from flammable material d=0,5m.
Exterior surface temperature T=80°C.
Not for domestic use.
Adjust lamp position by turning screws A and B

A

Be sure that the lamp bulb never touches the lens!

B

14. Automatic repositioning feature

An encoder system based on 4 position indicators allows the **ProSpot** to return to its correct position if it is accidentally moved during operation.

This is particularly useful if the projector is to be mounted on the floor in a position where the performer or artist may accidentally bump the unit.

15. Gobo replacement

ProSpot allows gobos to be replace via a simple gobo retention spring system.

Replacement gobos should be manufactured from dichroic glass or metal.
The **tas** reseller network carries a wide range of replacement gobos.

replacing gobos on the rotating gobo wheel
Gobos may be replaced as required to produce special effects as required.
Gobo replacement should always be carried out with the power to the unit shut off, and the top and bottom housing removed as described in section 16 **"Maintenance"**.

1) Rotate the gobo wheel until you locate the gobo you wish to remove.
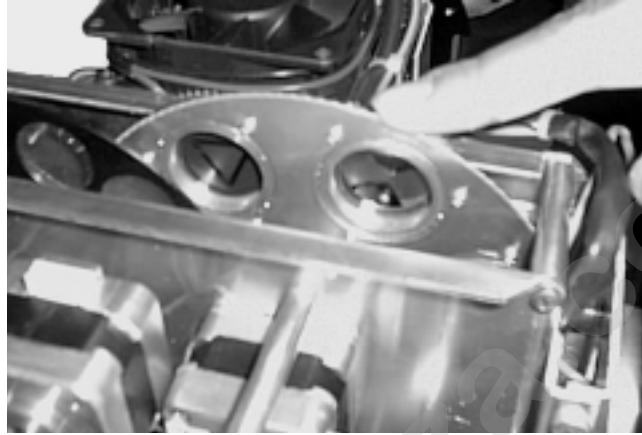
2) Remove the retaining spring and remove and then replace the gobo.
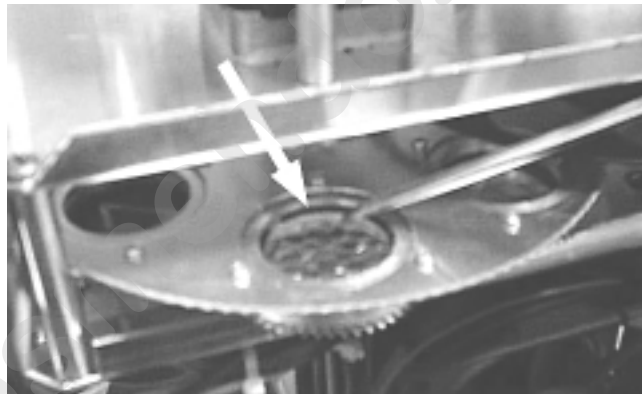
3) Replace the retaining spring, ensuring that it is seated correctly.

16. Maintenance

Whilst every possible precaution has been taken to ensure the trouble-free operation of your **ProSpot**, the following periodic maintenance is highly recommended. Prior to undertaking any maintenance procedure, make sure the fixture is disconnected from mains power.

Attention
Disconnect mains power prior to opening the housing.

Opening the housing:
1) Using a Philips screwdriver, remove the screws which fix the top and bottom housing located at the front and rear of the unit, as shown in the diagram.

2 screws   top cover   2 screws

bottom cover
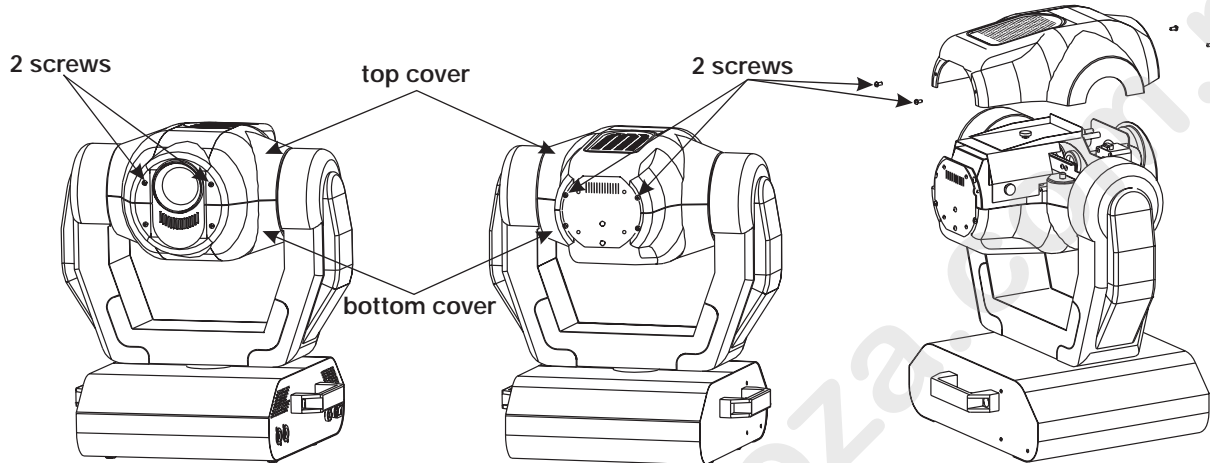
replacing the fuse
Locate the lamp protection fuse, located in the base of the unit.
Use a multimeter to check the condition of the fuse, replacing it with one of similar value if required.

periodic cleaning
lenses and reflectors
Even a fine layer of dust can reduce the luminous output substantially. Regularly clean all lenses and the reflector using a soft cotton cloth, dampened with a specialist lens cleaning solution.

fans and air passages
The fans and air passages must be cleaned approximately every 6 weeks; the period for this periodic cleaning will depend, of course, upon the conditions in which the projector is operating. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor.

periodic maintenance
lamp
The lamp should be replaced if there is any observable damage or deformation due to heat. This will avoid the danger of the lamp exploding.

mechanicals
Periodically check all mechanical devices for wear and tear; gears, guides, belts, etc., replacing them if necessary. Periodically check the lubrication of all components, particularly the parts subject to high temperatures. If necessary, lubricate with suitable lubricant, available from your tas distributor.
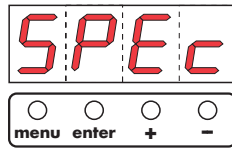
electrical components
Check all electrical components for correct earthing and proper attachment of all connectors, refastening if necessary.

17. Test

The display panel on the **ProSpot** allows several tests to be performed which may be useful when installing or testing a projector.

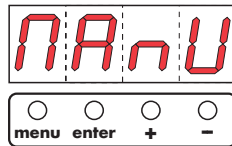1) Press the **+** or **−** buttons to display **SPEC** (for special).

```
 SPEc
 ○    ○    ○    ○
 menu enter  +    −
```

2) Press the **enter** button.

17.1 Manual testing of each motor (MAnU)
This test allows access to testing of each motor used in the **ProSpot**

From the **SPEC function** (point 2)
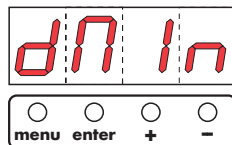3) Press the **+** or **−** buttons to display **MAnU** (for manual).

```
 MAnU
 ○    ○    ○    ○
 menu enter  +    −
```

4) Press the **enter** button.
5) Press the **+** or **−** buttons to display the motor which you wish to test:
   - **Pan** (base motor movement). From **Pan1** to **Pan3** for 3 different positions
   - **tilt** (yoke motor movement).From **tilt1** to **tilt3**.
   - **SPEd** (movement speed). From **1** to **5**.
   - **CoLo** (color). From **1** to **18** for single colours and rotation of colour wheel
   - **EFEC** (prism). From **PriS** (for testing with the prism wheel) to **HOLE** (without the prism wheel).
   - **Prot** (prism rotation).from **Pro1** to **Pro9**.
   - **rGob** (rotating gobo wheel). From **rGo0** to **rGo7**.
   - **Grot** (rotating gobos). From **Gro1** to **Gro9**.
   - **Foc** (focusing). From **Foc1** to **Foc5**.
   - **Stro** (strobe effect). From **Open** to **Stro9**.
   - **dinr** (dimmer). From **din0** to **dinC**.
6) Press the **enter** button. At this point, you have noted the facility available to test every motor function of the **ProSpot**.

17.2 DMX level readout (dMin)
This function allows the level of each DMX channel being received by the **ProSpot**.to be read.

From the **SPEC function** (point 2)
3) Press the **+** or **−** buttons to display **dMIn** (DMX values).

```
 dMIn
 ○    ○    ○    ○
 menu enter  +    −
```

4) Press the **enter** button to confirm your selection.
5) Press the **+** or **−** buttons to display the DMX channel you wish to read a level, from 0 a 255:
   - **Pan** (for base movement).**.**
   - **tilt** (for yoke movement).
   - **SPEd** (movement speed).
   - **CoLo** (color).
   - **EFEC** (prism and macro).
   - **Prot** (prism rotation).
   - **rGob** (rotating gobo wheel).
   - **Grot** (rotating gobos).
   - **Foc** (focusing).
   - **Stro** (strobe effect).
   - **dinr** (dimmer).

17.3 Internal temperature readout (tEMP)

This function allows the internal temperature of the **ProSpot** in degrees Celsius to be inspected. If the temperature is below 70°, this is acceptable. If, however, the temperature is 70° or above, the lamp must be switched off. Note that the external temperature should note exceed 45°.

From the **SPEC function** (point 2)
3) Press the **+** or **−** buttons to display **tEMP** (for temperature).
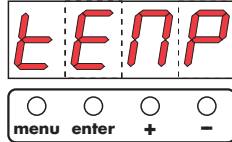
4) Press the **enter** button to view the internal temperature of the **ProSpot**.

18. Function settings

The display panel of the **ProSpot** allows several parameter settings to be altered, which may prove useful on installation or later.

ATTENTION! Altering the **tas** factory settings may vary the functioning of the projector, causing it to not respond to external **DMX 512** signal. Please read and familiarise yourself with the following information very carefully before altering any selections.

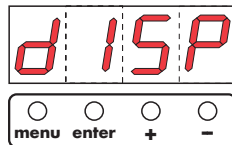1) Press the **+** or **–** buttons to display **SPEC** (for special).

```
 5PEc
 ○    ○    ○    ○
menu enter  +    –
```
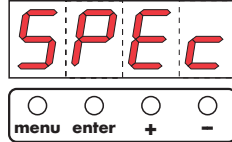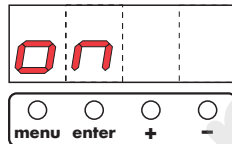
2) Press the **enter** button.

18.1 Turning off the display (dISP)

This function allows the display to be switched off should it be distracting.
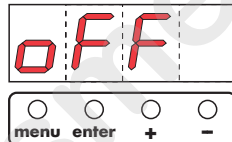From the SPEC function (point 2)
3) Press the **+** or **–** buttons to display **dISP** (for display).

```
 d 1SP
 ○    ○    ○    ○
menu enter  +    –
```

4) Press the **enter** button.
5) Press the **+** or **–** buttons to display **On** if you wish the display to stay on.

```
 on
 ○    ○    ○    ○
menu enter  +    –
```

6) Press the **+** or **–** buttons to display **Off** if you wish the display to be off.

```
 oFF
 ○    ○    ○    ○
menu enter  +    –
```

7) Press the **enter** button to confirm your selection. the display will turn off after 2 minutes.

Pressing any of the 4 **menu** display buttons will cause the display to switch on again.

18.2 Adjusting display intensity (dint)

This function allows the display's intensity to be adjusted.
From the SPEC function (point 2)
3) Press the **+** or **–** buttons to display **dint** (for display intensity).

```
 d int
 ○    ○    ○    ○
menu enter  +    –
```
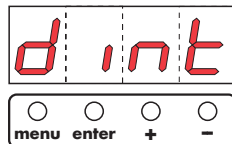
4) Press the **enter** button to confirm your selection.
5) Press the **+** or **–** buttons to display the intensity level (from 20 to 100) required.
6) Press the **enter** button to confirm your selection of intensity.

18.3 Inhibiting lamp on/off via DMX (dLoF)

This function controls the lamp on/off switching via DMX.
From the SPEC function (point 2)

3) Press the **+** or **–** buttons to display **dLOF** (for Lamp Off Via DMX).

```
dLoF
○    ○    ○    ○
menu enter  +    –
```
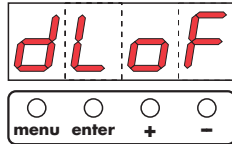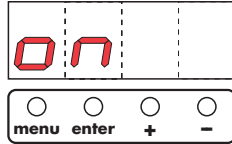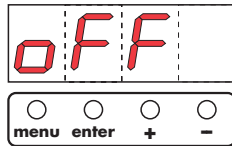
4) Press the **enter** button to confirm your selection.
5) Press the **+** or **–** buttons to display **On** if you wish the lamp to be switched off via DMX.

```
on
○    ○    ○    ○
menu enter  +    –
```

6) Press the **+** or **–** buttons to display **Off** if you wish to inhibit lamp on/off via DMX.

```
oFF
○    ○    ○    ○
menu enter  +    –
```

7   Press the **enter** button to confirm your selection.
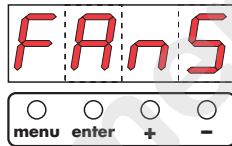
18.4 Adjusting fan speed (FAnS)
This function allows the selection of 3 different minimum fan speeds for the **ProSpot** cooling fan.

The 3 possibilities are:
rEG, **LoOF**, **LoHI**.
From the SPEC function (point 2)
3) Press the **+** or **–** buttons to display **FAnS**.

```
FAnS
○    ○    ○    ○
menu enter  +    –
```

rEG
This function allows the fan speed to be adjusted automatically by the unit, in order for the unit to maintain its own optimum internal temperature **ProSpot.**
From the **FAnS** function (point 3)
4) Press the **enter** button
5) Press the **+** or **–** buttons to display **rEG**.

```
rEG
○    ○    ○    ○
menu enter  +    –
```
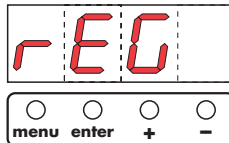
6) Press the **enter** button to confirm your selection.

LooF
This function allow the fan level to be maintained at a minimum level as determined by the operator (via DMX).
When maximum operating temperature is reached, the lamp will turn off automatically without adjusting the fan speed.
From the **FAnS** function (point 3)
4) Press the **enter** button
5) Press the **+** or **–** buttons to display **LooF**.

```
LooF
○    ○    ○    ○
menu enter  +    –
```

6) Press the **enter** button to confirm your selection.

LoHI

This function allow the fan level to be maintained at a minimum level as determined by the operator (via DMX).
When maximum operating temperature is reached, the fan will automatically switch to maximum speed.
From the **FAnS** function (point 3)
4) Press the **enter** button
5) Press the **+** or **−** buttons to display **LoHI**.

6) Press the **enter** button to confirm your selection.

18.5 Automatic lamp on when fixture is switched on (LAAU)

This function allows the lamp turning on automatically (**ON**) when the fixture is switched on.
From the SPEC function (point 2)
3) Press the **+** or **−** buttons to display **LAAU** (Lamp on automatically).

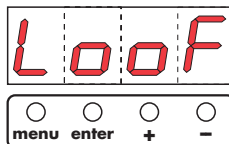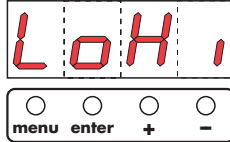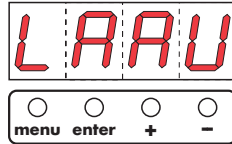4) Press the **enter** button then press the **+** or **−** buttons to display **on** for automatic lamp on when the projector is turned on.
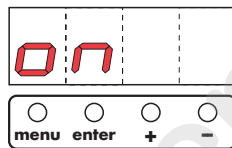
5) Press the **enter** button then press the **+** or **−** buttons to display **off** to inhibit the lamp turning on when the projector is turned on.
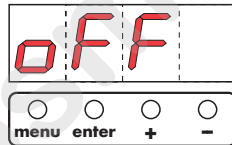
6) Press the **enter** button to confirm your selection.

18.6 Resetting default function settings.(dFSE)

This function resets the function settings of the **ProSpot** which **tas** has determined as factory presets, with the exception of **AdJ** (adjustment)
From the SPEC function (point 2).
3) Press the **+** or **−** buttons to display **dFSE**;
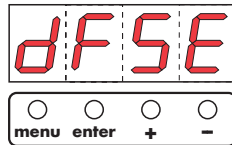
4) Press the **enter** button to confirm your selection. **ProSpot** begins a reset procedure, the display during this will show **rst**.

Personality	Display	Default values (SHADED)
Pan reverse	rPAn	On
		OFF
Tilt reverse	rtilt	On
		OFF
Movement resolution	16br	On
		OFF
Lamp on automatically	LAAu	On
		OFF
Automatic black-out of display	diSP	On
		OFF
Display intensity	dint	20 40 60 80 100
Lamp Off via DMX	dLOF	On
		OFF
Fan speed operating	FAnS	HIGH
		rEG
		LoOF

19. Electronic motor alignment

The display panel on the **ProSpot** allows for the electronic alignment of the projector's motors. this procedure is performed by **tas** at the factory. It may be useful to perform this procedure in the case of internal components being replaced.
Altering the factory settings may radically alter the functioning of the projector. Carefully read all of the following prior to attempting any changes.

AdJ

This function allows for the calibration and adjustment of the colour wheel, the gobos and effects (prism) into their correct standard position.
You may effect a calibration either via the display panel or via external signal.

19.1 Calibrating via an external signal source

A DMX512 control source must be connected to the **ProSpot**.
1) Press the **+** or **–** buttons to display **SPEC** (for special).
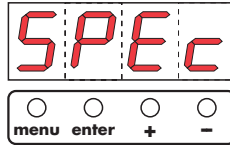
2) Press the **enter** button.
3) Press the **+** or **–** buttons to display AdJ (for adjustment).
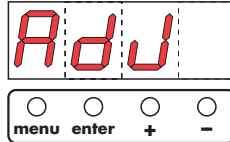
4) Press the **enter** button to confirm your selection.
5) Press the **+** or **–** buttons to display **FCAL** (for fixture calibration).
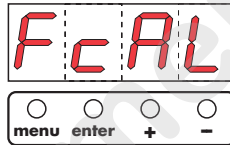
6) Press the **enter** button to confirm your selection.
7) Press the **+** or **–** buttons to display **Colo**, **EFEC**, **rGob**, **Grot**.
8) Press the **enter** button.

9) You may now calibrate the color wheel, effects wheel, gobo wheel, and rotating gobos by altering the DMX signal level according to the parameters described in the following table, using the first 5 channels for calibration whilst channels 6 to 16 maintain standard function control.

DMX Channel	Function		
1	COL.	SMOOTH / MICROSTEP / MOVEMENT	Calibration 0-255
2	—		
3	EFEC.		Calibration 0-255
4	RGOB.		Calibration 0-255
5	GROT		
6	—		
7	COLOURS	STANDARD PROTOCOL	
8	—		
9	EFFECT (PRISM)	STANDARD PROTOCOL	
10	PRISM ROTATION	STANDARD PROTOCOL	
11	ROTATING GOBOS	STANDARD PROTOCOL	
12	GOBO ROTATION	STANDARD PROTOCOL	
13	—		
14	FOCUS	STANDARD PROTOCOL	
15	STROBO	STANDARD PROTOCOL	
16	DIMMER	STANDARD PROTOCOL	

10) Centre the wheels in the optical path of the projector to achieve correct image projection.
11) Press the **+** or **-** buttons until **ArES** (for registering the new calibrated settings into memory) is displayed.

12) Press the **enter** button to confirm your selection.
13) After completing the calibration procedure, restart the projector and ensure that all settings are as required.

19.2 Calibrating via ProSpot's on-board controls
This allows calibration to be performed even if there is no external DMX source available **ProSpot**
1) Press the **+** or **–** buttons to display **SPEC** (for special).

2) Press the **enter** button.
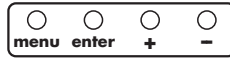3) Press the **+** or **–** buttons to display **AdJ** (for adjustment).

4) Press the **+** or **–** buttons to display **PAn**, **Tilt**, **SPEd**, **Colo**, **EFEC**, **Prot**, **rGOB**, **Grot**, **Foc**, **Stro** and **dimr**, via which it is possible to adjust the position of the **ProSpot** to where required, with the dimmer open and any effect, colour or gobo in place.
5) Press the **enter** button to confirm your selection of motor which you wish to adjust to position.
6) Press the **+** or **–** buttons to vary the level from 0 to 255 thereby adjusting the particular motor selected above.
7) Repeat points 3,4 and 5, to adjust your **ProSpot** to the desired position.
8) Press the **+** or **–** buttons to display **FCAL** (for calibration)

9) Press the **enter** button.
10) Press the **+** or **–** buttons to display **Colo**, **EFEC**, **rGob**, **Grot**.
11) Press the **enter** button.
12) Press the **+** or **–** buttons which will allow an adjustment from 0 to 255 corresponding to an adjustment in the position of the particular motor being calibrated.
Centre the wheels in the optical path of the projector.

11) Press the **+** or **-** buttons until **ArES** (for registering the new calibrated settings into memory) is displayed.

12) Press the **enter** button to confirm your selection.
13) After completing the calibration procedure, restart the projector and ensure that all settings are as required.

20. Error messages

HEAt

This message will appear should you attempt to reignite the lamp prior to 5 minutes passing since the unit was switched off. In this instance, the lamp may still be too hot to reignite. This message will appear in the display if the lamp does not ignite within 28 seconds. When **ProSpot** has given this message, it will attempt to reignite the lamp automatically.

LAEr

If lamp ignition does not occur within seven attempts (the **HEAt** message has been displayed six times), the display will show **LAEr**, indicating that the lamp may be damaged, failed, or absent.
This message is designed to protect the lamp ignition circuitry.
We recommend either installing or replacing the lamp. If the **LAEr** message continues to appear in the display, check the external temperature, fan operation, air passages, or contact your **tas** agent.

MbEr

This message indicates that the motherboard within the unit is not communicating properly with the control source.

CoEr (Color-wheel error)

This message may appear after a reset has been performed on the **ProSpot** if the magnetic position indicator is not operating (either not operating or not reading properly) or the stepper motor is faulty (either defective or its cabling is not connected properly).
The colour wheel will not have repositioned itself correctly after the reset.

rGEr (Rotating gobo-wheel error)

This message may appear after a reset has been performed on the **ProSpot** if the magnetic position indicator is not operating (either not operating or not reading properly) or the stepper motor is faulty (either defective or its cabling is not connected properly).
The gobo wheel will not have repositioned itself correctly after the reset.

IGEr (Rotating gobo indexing error)

This message may appear after a reset has been performed on the **ProSpot** if the magnetic position indicator is not operating (either not operating or not reading properly) or the stepper motor is faulty (either defective or its cabling is not connected properly).
The rotating gobo will not have repositioned itself correctly after the reset.

EFEr (Prism-wheel error)

This message may appear after a reset has been performed on the **ProSpot** if the magnetic position indicator is not operating (either not operating or not reading properly) or the stepper motor is faulty (either defective or its cabling is not connected properly).
The prism wheel will not have repositioned itself correctly after the reset.

FfEr

This error message indicates that the projector has overheated and that the lamp has been automatically switched off by the protection circuitry. The message will remain on the display until the temperature has fallen to an acceptable level. Subsequently, the display will show **HEAt**, indicating that the lamp is too hot (see above).
Should this message appear, the projector should be either moved to a more suitable position or, more simply, the air passages and fans should be checked.

SnEr

This message indicates that the lamp ignition sensor is not operating properly. This message indicates the need for attention from your tas service agent.

PoEr

This error message indicates that the projector has momentarily been disconnected from mains power.

FrEr

This error message indicates that the main voltage's frequency is other than the normal 50 or 60 Hz.

21. Spare parts

All the components of the **ProSpot** are available as replacement spares from your authorised **tas** sales agent.

Accurate description of the fixture, model number, and type will assist us in providing for your requirements in an efficient and effective manner.

CE

tas si riserva il diritto di apportare modifiche senza preavviso.
tas reserves the right to effect modifications without prior notification.

manuale istruzioni
instruction manual

ProSpot

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