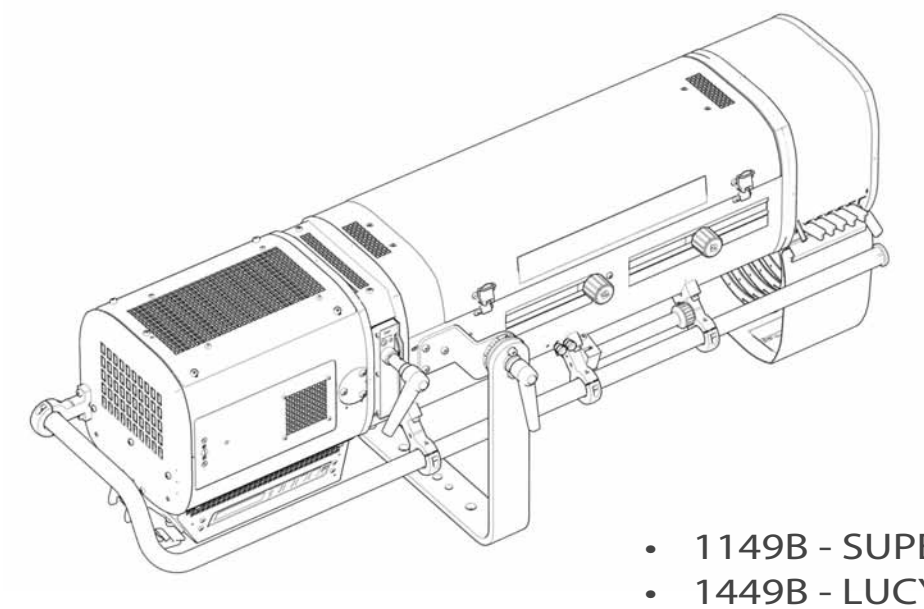
Manual

RJ NET

FOR COMPACT FOLLOWSPOT RANGE



- 1149B - SUPER KORRIGAN
- 1449B - LUCY
- 1159B - VICTOR
- 1459B - FLO

DMX-CONTROL OF MOTORISED DIMMER SHUTTER AND LAMP IGNITION

Product version :
- "LUCY" 1449 : V3
- "SUPER KORRIGAN" 1149 : V3
- 'FLO" 1459 : V3
- "VICTOR" 1159 : V4

Software version :
- Dimmer card : V1-03
- Control Board card : V1-06

VALIDATION : 01/01/10

DN40974701

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Summary :

1 User instructions

GENERAL INSTRUCTIONS

1. Not for residential use.
2. In addition to the instructions indicated on this page, relevant health and safety requirements of the appropriate EU Directives must be adhered to at all times.
3. This fixture is in compliance with section 17 – Lighting appliance for theatre stages, television, cinema and photograph studios. Standards NF EN 60598-1 and NF EN60598-2-17.
4. This fixture is rated as IP20, and is for indoor use only.

SERVICE

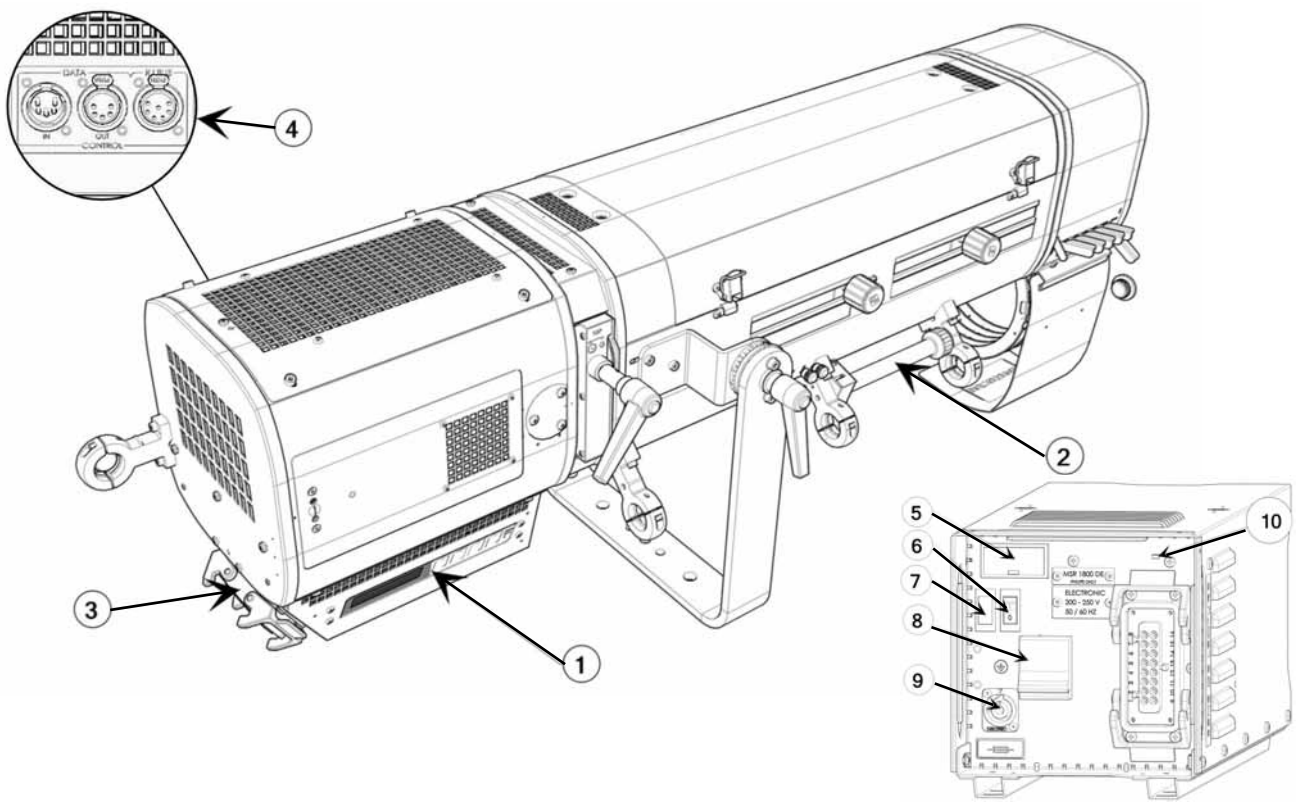
1. These fixtures must only be serviced by a qualified technician.
2. Disconnect from mains supply before servicing.
3. Use only with correct power supply.
4. Regularly remove dust from the product.

PLEASE NOTE

These products have been built in compliance with European standards relating to professional lighting equipment. Any modification made to our products will void the manufacturers' warranty.

2 Presentation

2.1 RJNET



Functions :	
1. RJNET control board 2. Dimmer local control 3. Followspot power connector 4. Data and accessories connectors	5. PSU Lamp hour counter 6. PSU lamp switch 7. PSU mains LED 8. PSU mains breaker 9. PSU power connector 10. PSU lamp on LED

2.2 Optional accessories

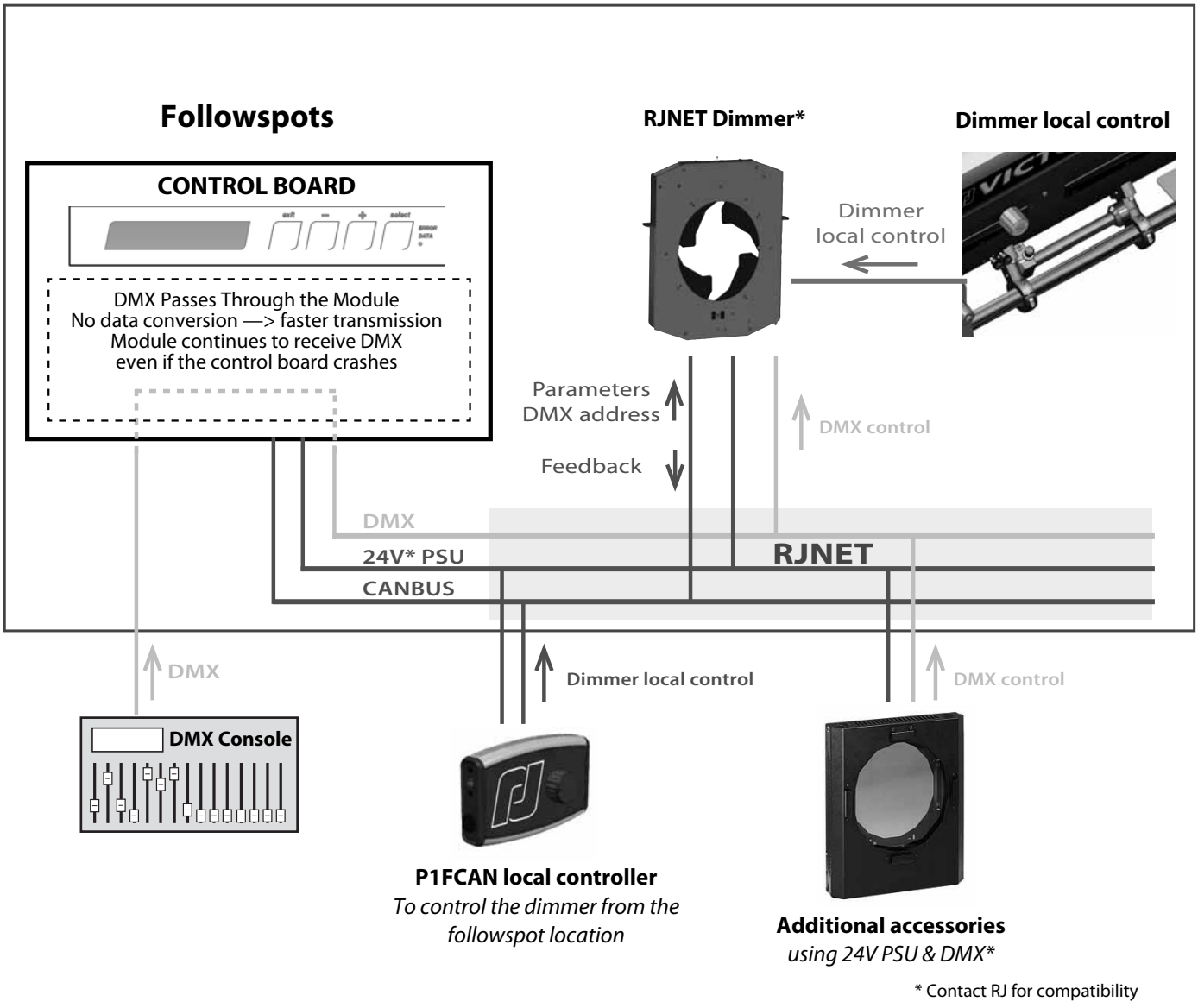
	Reference	Description
1	P1FCAN	Dimmer remote control for RJNET
2	Contact RJ	215x215mm gel frame holder for scroller

3 Installation

3.1 Mechanics

- No hardware installation is required. The network is already installed with the followspot.
- ***For followspot installation: please refer to followspot manual.***
- Maximum ambient temperature: 40°C.

3.2 Electrical



For followspot electrical connection: please refer to followspot manual.

3.2.1 Power supply

- RJNET includes a 24V – 60W PSU.
- Eletrical connection is made in the lamp house of using the main power supply of the followspot. No external connection is required.
- RJNET is powered on when PSU main breaker is on.

3.2.2 DMX

- Remote control uses USITT DMX 512-A protocol.
- Input and output connections are using XLR 5-pin connectors.

XLR 5-pin Description for DMX					
	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5
Cable identification	Foil & Braided Shield	1st conductor of 1st twisted pair	2nd conductor of 1st twisted pair	1st conductor of 2nd twisted pair	2nd conductor of 2nd twisted pair
Designation		DMX (-)	DMX (+)	unused	unused

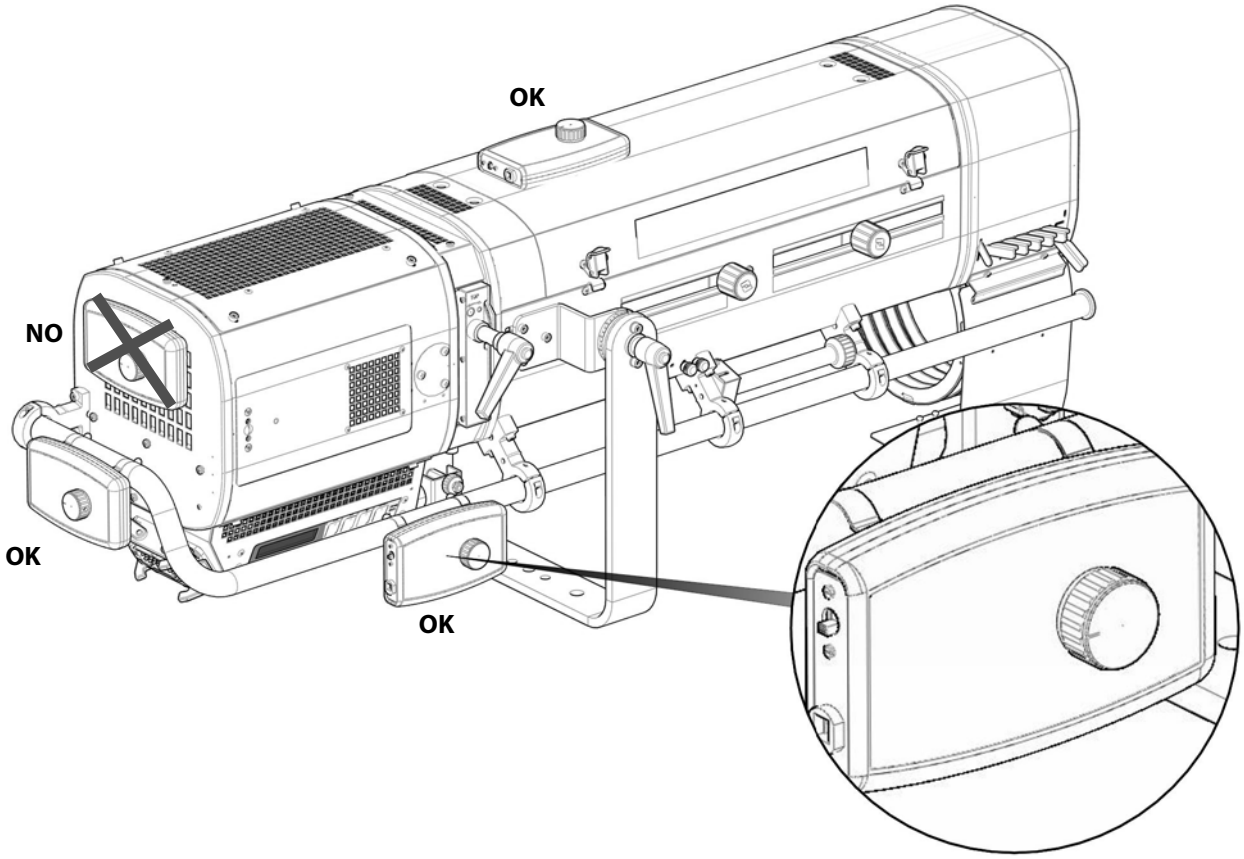
3.2.3 RJBUS

- P1FCAN controller or additional accessories are using RJBUS connection.
- External RJBUS connector is XLR 7-pin

XLR 7-pin Description for external RJBUS Accessories								
	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Housing
Cable identification	Data Conductor	1st conductor of 1st twisted pair	2nd conductor of 1st twisted pair	1st conductor of 2nd twisted pair	2nd conductor of 2nd twisted pair	Power Conductor	Power Conductor	Power Conductor
Colour cable	black	green	yellow	pink	gray	blue	red	green / yellow
Designation	0V	DMX (-)	DMX (+)	CAN Low	CAN High	0V	+24V	Ground

3.3 Accessories

3.3.1 P1FCAN



- PF1CAN controller can be attached to the handle thanks to the clips provided, or mounted to the housing with the included magnets.
  Warning: Never use the PF1CAN on the lamp house.
- Connect the XLR7 connector to the RJBUS connector.
- Switch has to be on *dimmer* position to operate from the PF1CAN.

3.3.2 Scroller colour changers

- 24Volt/DMX controlled accessories like scroller colour changers can be connected to the XLR7- connector (RJBUS).
- **Warning: maximum load = 30W.**
- Adaptor XLR7- to XLR4- is required by using pins 1-2-3-5-7.
- Front gel frame holder is available for standard scroller colour changer; please contact Robert Juliat for details.

4 Operation

4.1 Lamp

4.1.1 Lamp ignition

Lamp can be ignited (switched on) by using :

- local switch on power supply unit.
- local value on RJNET control board (cf. 4.3.2)*
- remote control by DMX protocol (cf. 4.4)*

→ If the power supply unit switch is on, it's not possible to turn off the lamp by RJNET control board or by DMX.

(*) 1800W model only

4.1.2 Lamp hour counter

- on power supply unit (PSU)
- on RJNET control board (cf. 4.3.1)

→ Power supply units can be swapped with other followspots. Refer to RJNET control board hour counter to have accurate information about the lamp.

4.1.3 Lamp strike counter

Number of strikes of the lamp (ignition) is given by the RJNET control board in the TEST menu (cf.4.3.2).

4.2 Dimmer shutter

4.2.1 Control

Dimmer shutter (light intensity) can be controlled by using :

- local value on RJNET control board
- local control handle
- P1FCAN local controller
- remote control by DMX protocol

→ HTP mode (Highest Takes Precedence): dimmer shutter value will be the highest value of the four sources.

Dimmer shutter is controlled on 16bits mode :

Luminous Flux	16bits DMX Value
Closed	0
25%	16383
50%	32767
75%	49151
100%	65535

4.2.2 Master control

In order to supervise the operator from the console, a 3rd DMX channel is used: Master control.
This channel limits the maximum value of the dimmer shutter.
By using this function, it's possible to obtain synchronised fades with several spots or to give intensity limits (minimum and maximum) to the operator . Master is only active when DMX is detected.

DMX 16Bits (DMX Ch.1 & 2)	**Master control (DMX Ch.3)**	**Local handle, Local value or P1FCAN**	**Dimmer aperture**
0%	0%	0 —> 100%	0%
0%	100%	0 —> 100%	0 —> 100%
0%	50%	0 —> 100%	0 —> 50%
20%	80%	0 —> 100%	20 —> 80%

4.2.3 4.2.3 Emergency mode

By unplugging the DMX IN connector, the following message will be displayed :

"Push select to reset DMX values"

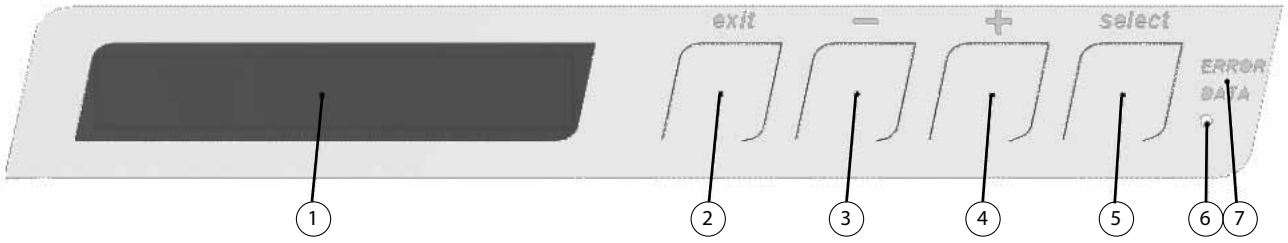
→ By pushing select, DMX values will be deactivated until DMX comes back, so local control values (local control handle, RJNET, P1FCAN) will control the module from 0 to 100%.

4.3 RJNET control board

The RJNET control board allows :

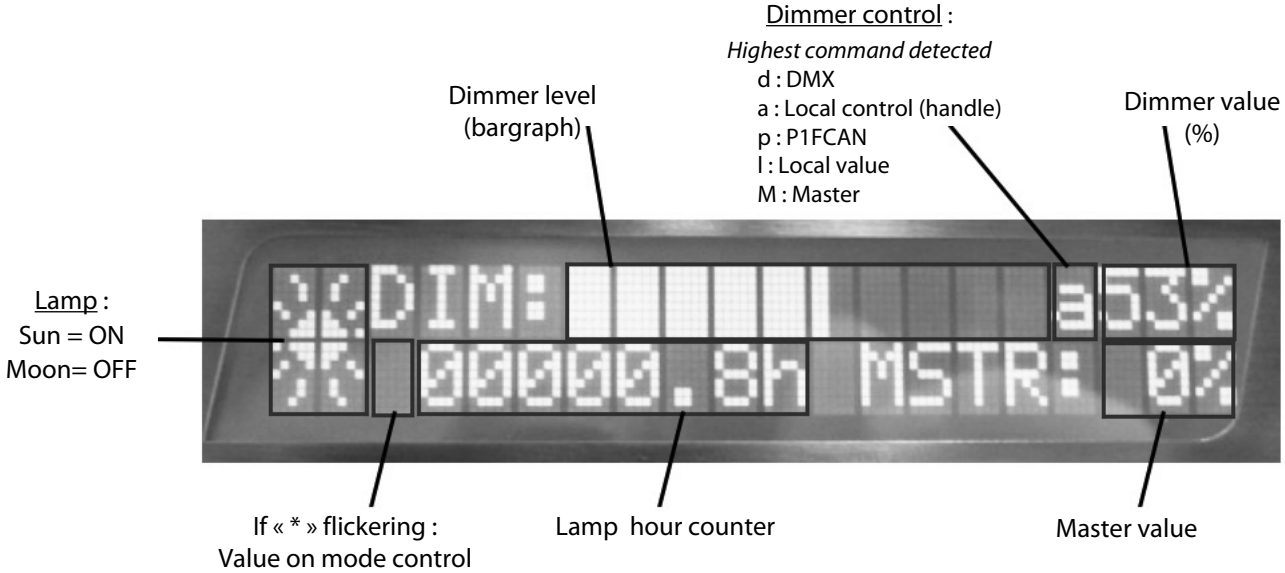
- set-up DMX address
- reset each module independently without turning off the unit
- see feedback information
- do tests and adjusts local values

4.3.1 Display and controls

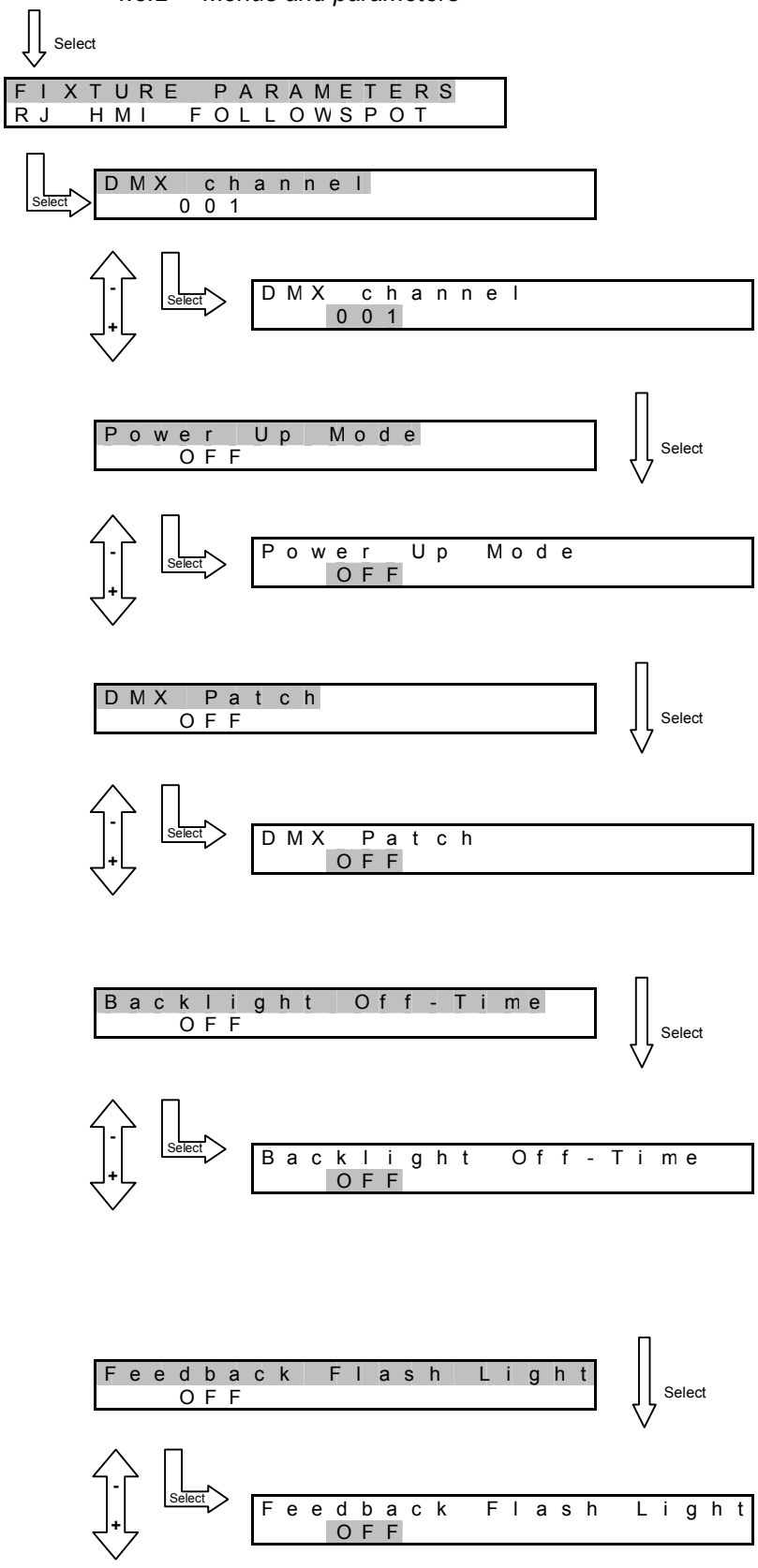


1	display	Display
2	exit	Exit the current menu option and/or go back
3	-	Scrolls through menus and/or Decrease blinking data value
4	+	Scrolls through menus and/or Increase blinking data value
5	select	Enter the current menu option and/or valid
6	reset	Hard CPU reset
7	Data	DMX LED feedback

Main view activated after 5 seconds of inactivity :



4.3.2 Menus and parameters



Access to followspot main parameters.

DMX address of the first channel.

Value (-/+)	Function
1 → 512	*DMX address*

Lamp switches on (ignition) automatically when unit is powered on.

Value (-/+)	Function
OFF	*Manual ignition*
ON	*Automatic ignition*

Allows to set-up independent DMX address for each channel.

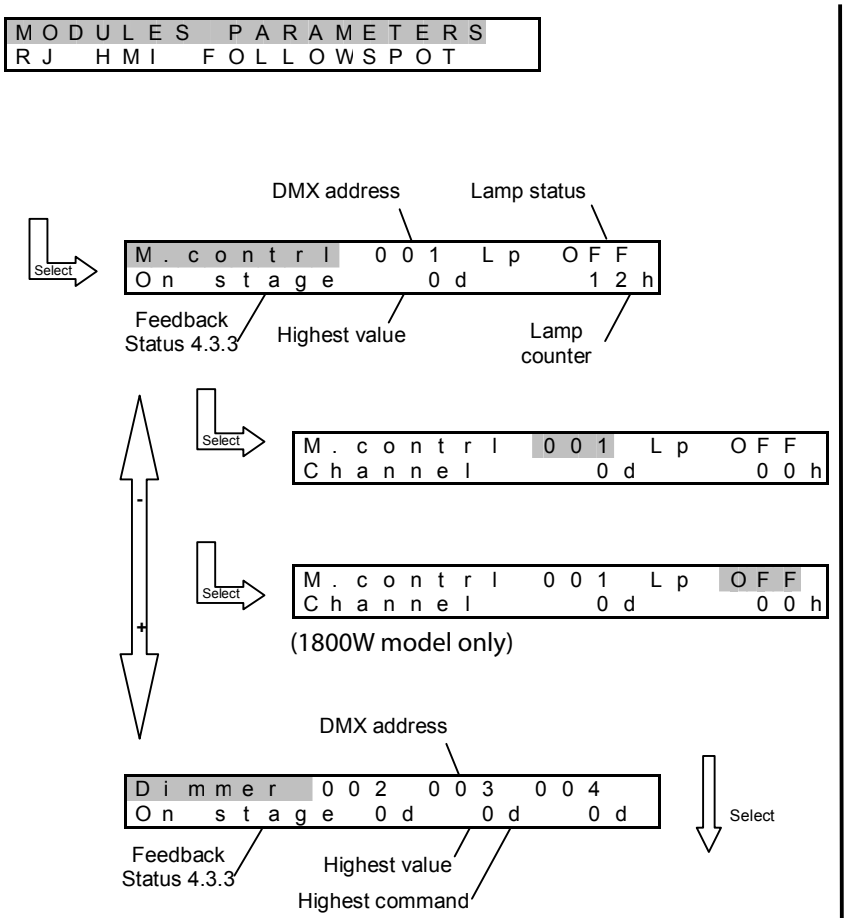
Value (-/+)	Function
OFF	*Access to the DMX address of the 1st channel only*
ON	*Possibilty to address each DMX channel independantly*

Display backlight switches off automatically after X secondes of inactivity.

Value (-/+)	Function
OFF	*Display backlight always on*
ON	*Display backlight switches off after X secondes*

Display backlight flashes when problem is detected on RJNET.

Value (-/+)	Function
OFF	*Disable display backlight feedback*
ON	*Enable display backlight feedback*



Access to each DMX channel:

- local values adjustment
- Individual DMX addressing
- Feedback information (see 4.3.3)

Access to main control channel :

Value (-/+)	Function
1 → 512	*Followspot DMX address*

Value (-/+)	Function
OFF	*Lamp OFF*
ON	*Lamp ignition (see 4.1)*

Access to dimmer shutter channel:

Dimmer (High Byte)*

Dimmer fine (Low Byte)*

Master function *

Value (-/+)	Function
1 → 512	*Channel DMX address**

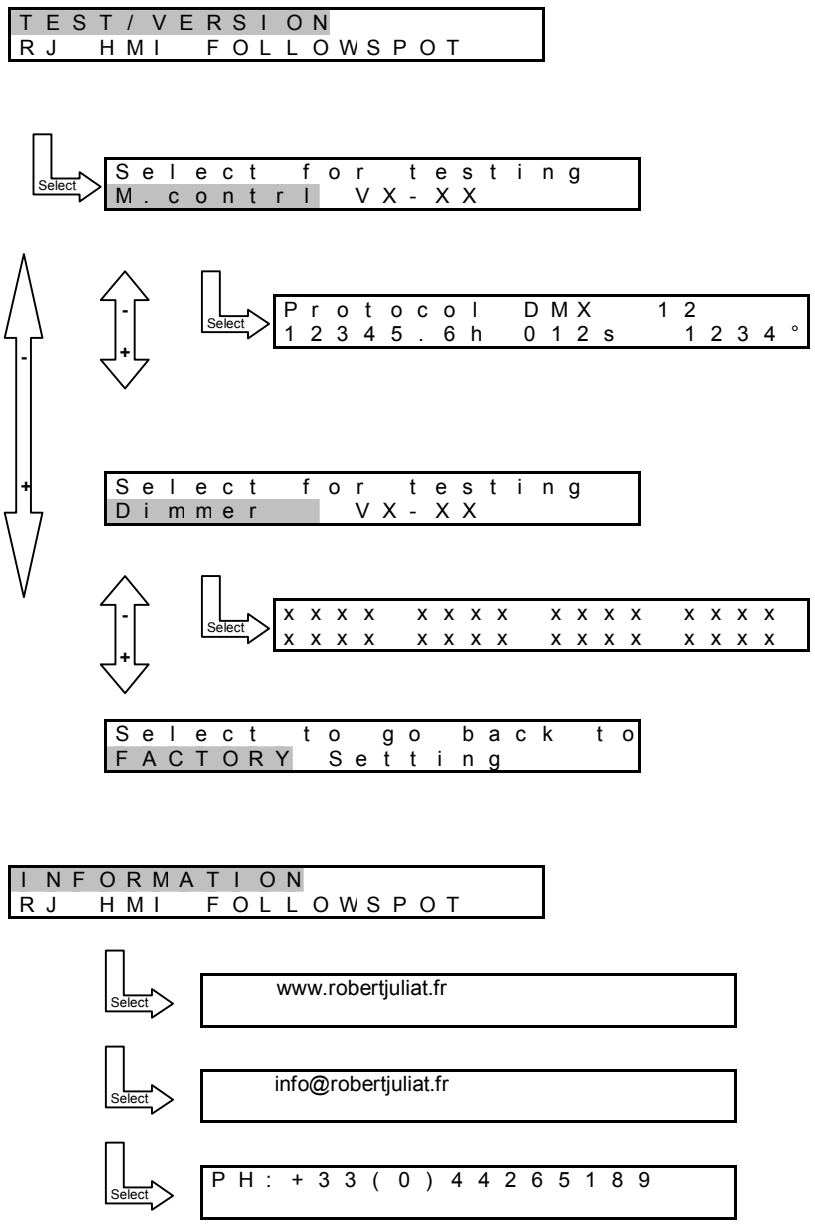
**if DMX patch activated*

Dimmer (High Byte)

Dimmer fine (Low Byte)

Master function

Value (-/+)	Function
0 → 255	*Channel level*



Test and reset of functions.
Information about system version.

RJNET test
VX-XX: RJNET version

- *Prototocol*: protocol detected and number of channel received
- *12345.6h*: lamp hour counter
- *012s*: lamp strike (ignition) counter
- *1234°:* RJ data

Dimmer shutter reset and test
VX-XX: dimmer version

Contact RJ service centre with this information in case of failure

Push select to reset all parameters and go back to factory settings

RJ contact details

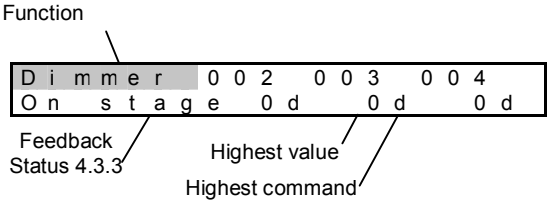
4.3.3 Feedback information

- *Error data* LED indicator:
  - Green = DMX 512 detected
  - Red = DMX problem

- *If DMX 512 not detected, the following message will be displayed on the screen:*
  "Push select to reset DMX values"
  By pushing *select,* DMX values will be deactivated until DMX comes back, so local control values (local control handle, RJNET, P1FCAN) will control the module from 0 to 100%.
  Master control is automatically deactivated when DMX is disconnected.

- Thanks to RJNET, it's possible to have feedback information for the following functions (modules):
  - RJNET control board (*M. control*)
  - Dimmer shutter

In *MODULE PARAMETERS* menu:



- Highest command and value:
  Current value recognized by the dimmer shutter (highest value of the 5 sources - HTP mode)

Symbol	Command
d	DMX
a	Local control (handle)
p	P1FCAN
l	Local value
M	Master

- Feedback status :
  Current status of the function

Symbol	Command
Discon.	Module not detected by the system
On stage	No problem detected
Failure	Problem detected on the module

→ In case of failure on module: push *select* to reset the module.

In the *main view*:

If *Feedback Flash Light* function is activated in *FIXTURES PARAMETERS* menu, backlight of the display will flash until any button pressed. Details and reset can be done from the *MODULE PARAMETERS* menu or by DMX.

4.4 Remote control by DMX protocol :

	DMX Channel	DMX value	Function
Mode control	1	134*	Dimmer Test
		135*	Dimmer Reset
		144*	CONTROL BOARD Test
		145*	CONTROL BOARD Reset
		150*	RJNET Reset
		220*	Local command = ON
		225*	Local command = OFF (DMX only)
		230*	Feedback flash light = OFF
		235*	Feedback flash light = ON
		240*	Backlight off-time = OFF
		245*	Backlight off-time = ON
		250*	Lamp OFF (1800W model only)
		255*	Lamp ON (1800W model only)
Dimmer	2	0 - 65535	Dimmer (High Byte)
	3		Dimmer fin (Low Byte)
	4	0 - 255	Dimmer Master

(*) Value has to be maintained for 3 seconds to activate the function.
Value 0 is required to activate second function.

5 Service

5.1 Preventive maintenance

5.1.1 Frequency

General maintenance should be performed at least once a year, or more frequently if the equipment is operated in adverse conditions (smoke, heat, humidity, touring, etc.).

5.1.2 General cleaning

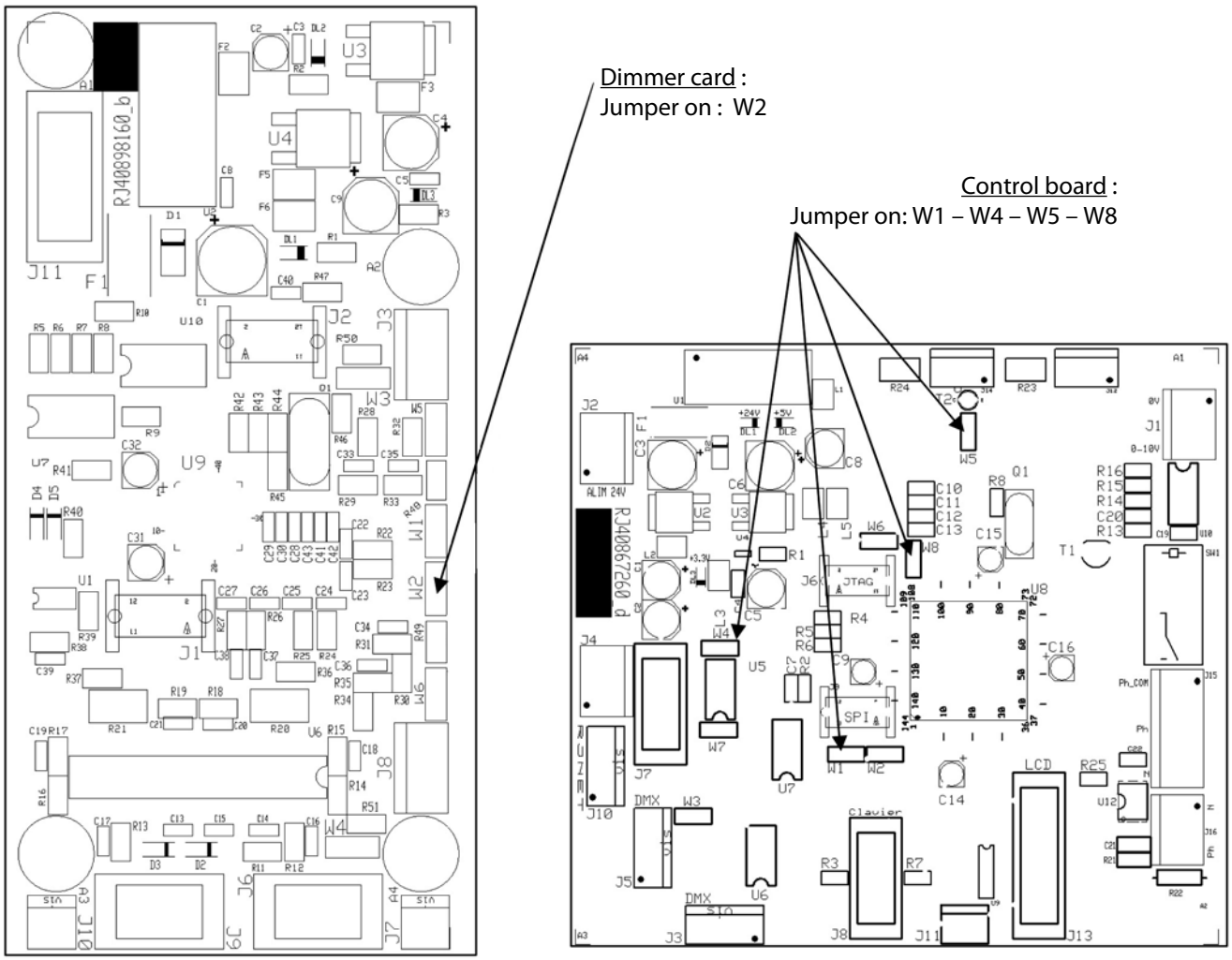
Remove dust from the unit (air vents, printed circuit cards, etc.).

5.1.3 General visual check

- No trace of heat.
- No loose contacts.
- No missing parts.
- Tighten mechanical assemblies (screws, bolts and nuts, ground connections, etc.).

5.1.4 Wiring & Connections

- Cable terminal screw: Visually check, tighten if necessary (do not over tighten).
- Electronic connectors: Visually check the position and the locking clips (if needed).
- Printed circuit board: Visually check all the components mounted in the sockets on the card.
- Jumper: Visually check if they are correctly mounted :



Dimmer card

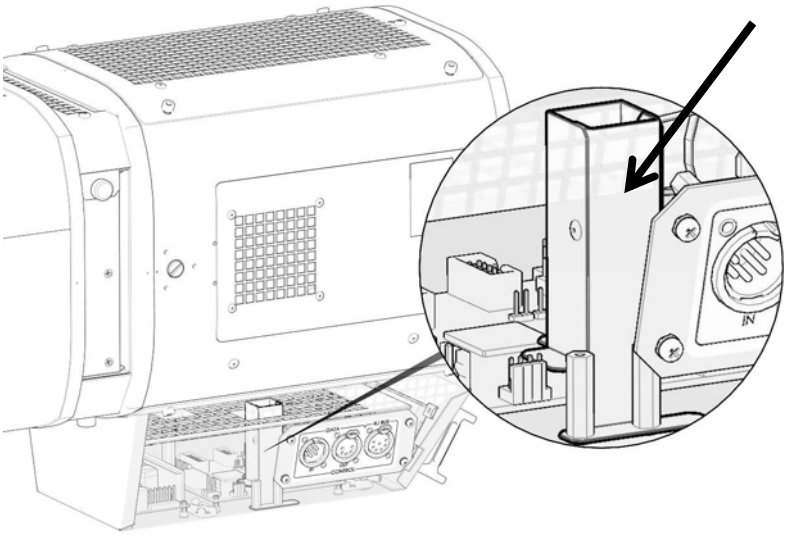
Control board card

5.1.5 PSU LED

3 red LED are located on each electronic card (RJ NET control board and motor).
LED on indicates PSU is OK.

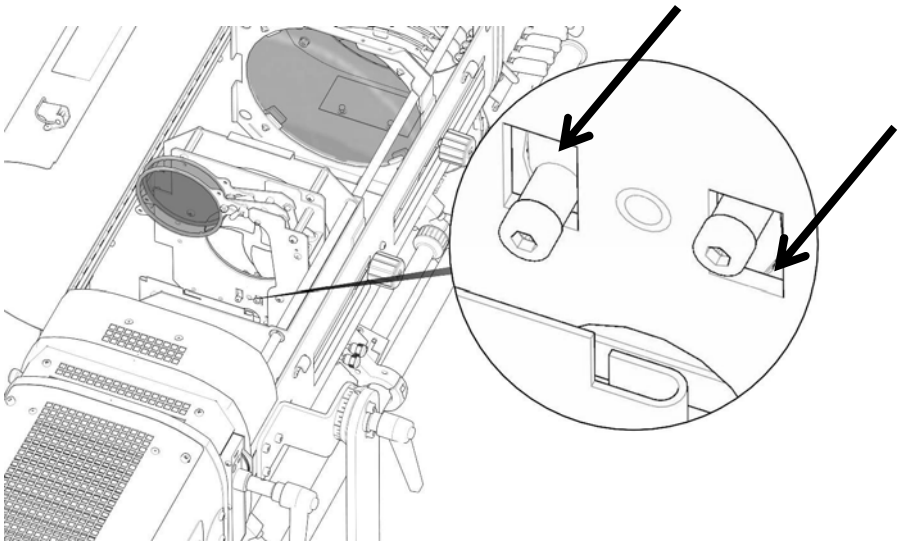
5.1.6 Light sensor

Remove dust from the light sensor conduct.



5.1.7 Shutter limit stop

Remove dust from shutter limit stops.



5.2 Analyse

In there is still a problem after the *Troubleshooting* procedures (Cf. 6.), contact RJ distributor with the following information:

- Model and serial number of the followspot.
- RJNET version*.
- Dimmer version*.
- Data given by the dimmer test*.
- Description of the problem.

*Values available in the TEST/VERSION menu (Cf. 4.3.2)

5.3 Spare parts

Code	Description
1159P20015	Control handle potentiometer with cable
CE0636C278	DMX driver for Control board card (U6) and Motor card (U7)
CE0682C250	CANBUS driver for Control board card (U5) and Motor card (U10)
ME03M37001	375mA fuse for Control board card (F1)
ME03002001	2A fuse for Motor card (F1)
COT0002201	Jumper

6 Troubleshooting

Please refer to followspot manual concerning light or PSU problems.

SYMPTOMS		POSSIBLE CAUSES	SOLUTIONS
Impossible to command the fixture by DMX	DMX LED feedback is red	DMX data wiring	Check connectors and data cable
	Protocol detected in *M.contrl* test is *DMX ERROR*	DMX protocol problem	Check data signal
	No response	DMX address	Check DMX address of the 1st channel in *FIXTURE PARAMETERS* menu
	Only mode control is activated by DMX	DMX patch on	Disable DMX Patch function I *FIXTURE PARAMETERS* menu
Impossible to completely close the dimmer with the local handle		DMX value sent by DMX	Disconnect DMX and push select to reset DMX. Check if DMX value on Master control channel
		Local value on RJNET control board	Check on *dimmer* view that no local value is entered (symbol: "I")
		PF1CAN controller has been disconnected with value different from 0	Connect the P1FCAN controller and turn the button to 0
Impossible to completely open the dimmer with the local handle		Iris closed	Open manually the iris
		Master value sent by DMX	Disconnect DMX and push select to reset DMX. Check if DMX value on Master control channel
Dimmer is fully opened when local handle is only at 50%		Dimmer W2 Jumper (dimmer card) off	Put W2 Jumper on
Impossible to switch the lamp off by RJNET control board or by DMX		Power supply unit switch is on	Switch off the lamp with power supply unit switch
Problem detected by control board			Go to *MODULES PARAMETERS*, check if *M.Contrl* or *Dimmer* are in failure mode. If yes, push select on corresponding view.
DMX LED feedback is red even if DMX unplugged		Faulty data driver component	Contact RJ service centre to change the componant