VOYAGER 1200

Instruction Manual

model:

PF 1225	VOYAGER 1200
DPF 1225	VOYAGER 1200 - 200V

ATTENTION

This instruction manual contains important information about the installation and use of the projector. Please read and follow these instruction carefully.

ATTENTION

Always ensure that the power to the projector is disconnected before opening the projector or commencing any maintenance work.

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Please note that as part of F.A.L.'s ongoing commitment to continuous product development, specifications are subject to change without notice. Whilst every care is taken in the preparation of this manual F.A.L. reserves the right to change specifications in the course of product improvement. The publishers cannot be held responsible for the accuracy of the information herein, or any consequence arising from them.

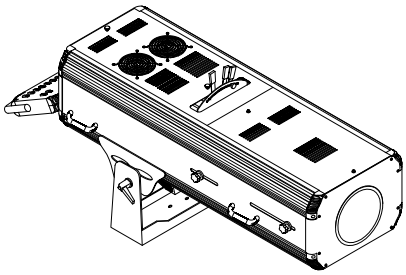
01 – SAFE USAGE OF THE PROJECTOR

- Do not attempt to dismantle and modify the projector.
- Do not allow contact with water or any other fluids, or metallic objects (IP 20).
- Do not install the projector in areas of high humidity.
-  Not allowed to be mounted directly on inflammable surfaces.
- Keep at least 0.5m distance between the projector and adjacent inflammable surfaces.
- The lighting apparatus must be used only with its protective shield.
- Protective grill, lenses, U.V. filters should be replaced if they are visibly damaged to the point at which their effectiveness is diminished, for example by becoming cracked or deeply scratched.
- The lamp must be replaced if it becomes damaged or deformed by heat.
- 5 m Keep at least 5m between the lamp and the illuminated surfaces.
- Avoid direct exposure to the light from the lamp. The light is harmful to the eye.
- Note:- The lamp reaches very high temperatures, allow at least 15 minutes for the lamp to cool completely before attempting to handle it.
- To ensure the reliability of the projector, it is recommended that the fans should be cleaned every 15 days. The lens, reflector and dichroic colour filters should also be regularly cleaned to maintain an optimum light output (every 2 months).

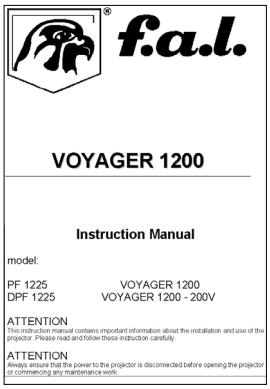
02 – GETTING STARTED

In this section you will find some brief steps to follow to start using immediately the projector. These few instructions are essential for connecting and supplying the projector, but do not exhaust the several functions the apparatus is capable to do. You are strongly invited to read the rest of this instructions manual once installed the projector, so as to get more insight and acquire full control on the fixture functionalities. For further deepening on single steps, you are send back to the relevant section, indicated in the brackets.

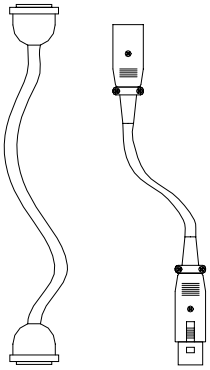
1. Open the shipping carton and verify that all equipment necessary to operate the system has arrived intact. Refer to the following packing list for information on what items are included with your model. If any equipment is missing or damaged, contact your F.A.L. dealer immediately).



Voyager 1200



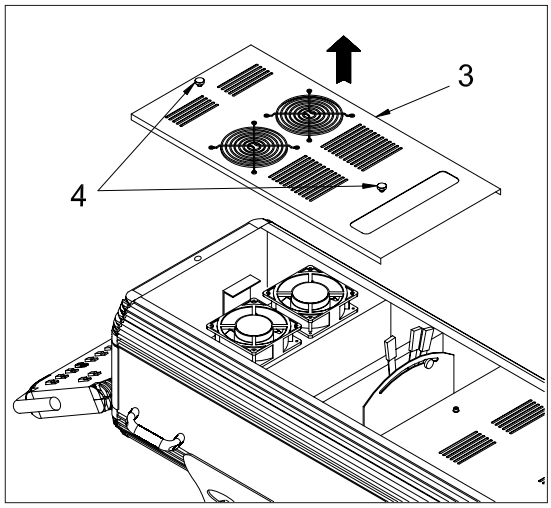
Instruction manual

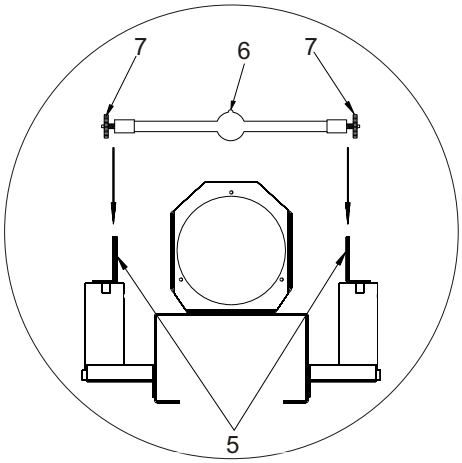


Connections cables

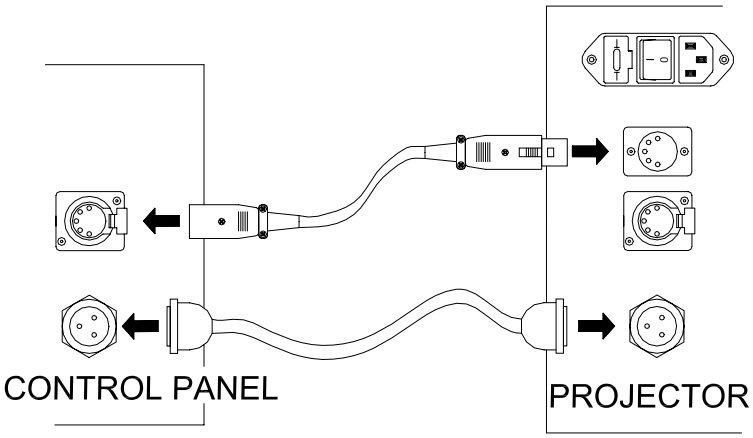
Before beginning initial setup of your Voyager 1200, make sure that there is no evident damage caused by transportation. In the event that the unit's housing or cable is damaged, do not plug it in and do not attempt to use it until after contacting your F.A.L. dealer for assistance.

2. Insert the HMI 1200/GS lamp into the projector (see section 04).

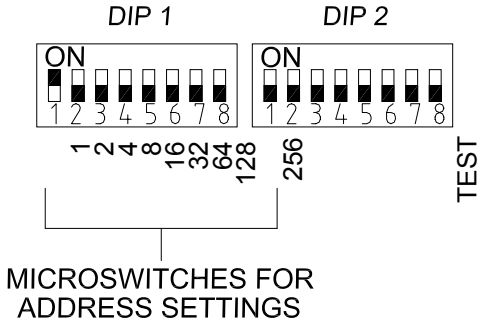




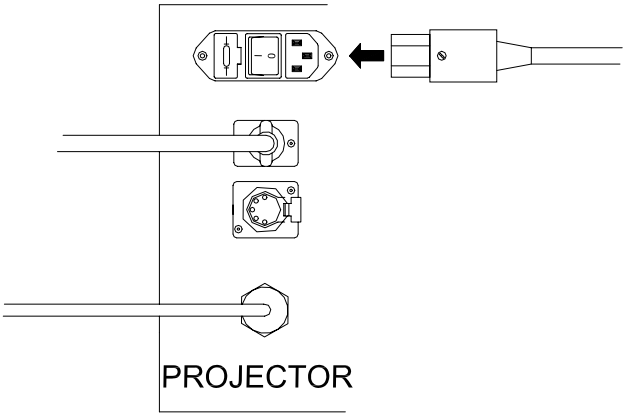
3. Position the projector and secure it firmly (see section 03).
4. Connect the control panel to the projector (see section 06).



5. Set the digital start address to 1 on the dip switches array (see section 11).

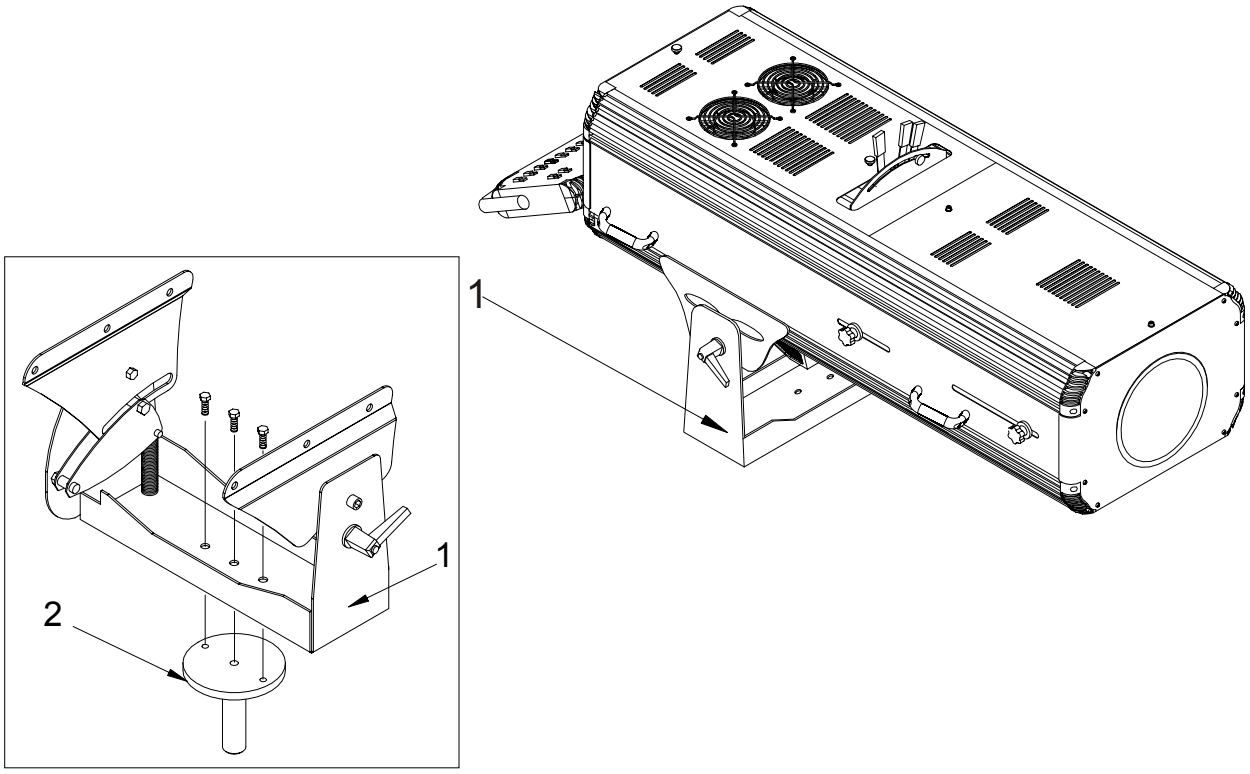


6. Connect the mains power to the projector (see section 05), paying attention to the voltage and frequency marked on the panel of the projector.



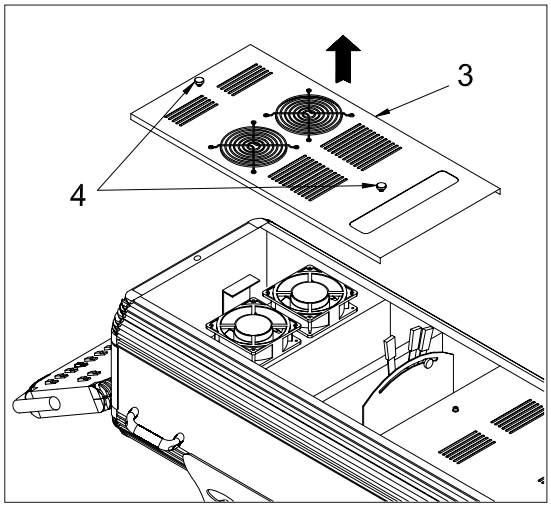
03 – INSTALLING THE PROJECTOR

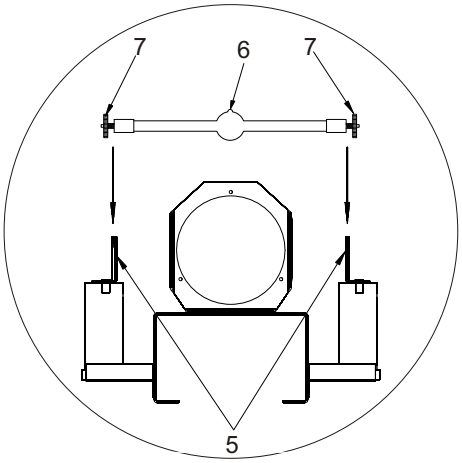
The projector should be fixed on an appropriate stand which will remain stable on an incline of up to 15°. Always ensure that the stand or structure to which you are attaching the projector is secure and is able to support a weight of 48kg for each followspot. The unit should be fixed using the bracket (1), some stand types may require the optional spigot adapter (2).



04 – FITTING THE LAMP

The lamp access hatch (3) is released by undoing the fastening screws (4), the hatch may then be lifted upwards. Insert the HMI 1200/GS lamp in its socket (5) taking care not to touch the glass of the lamp. If the glass is accidentally touched, follow the manufacturers instructions for cleaning the lamp before you use it, otherwise the lamp life may be significantly reduced.

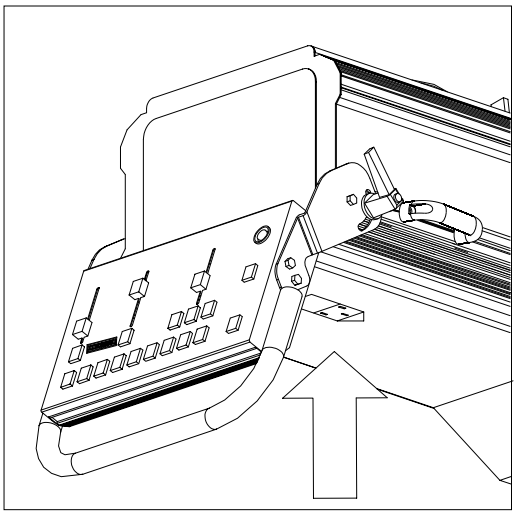


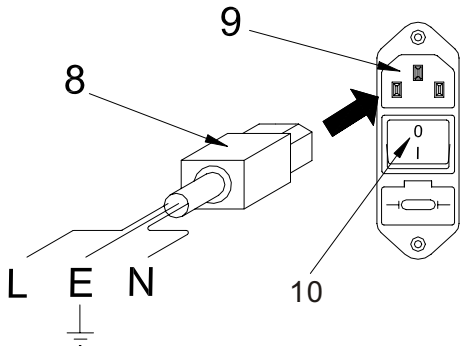


Once the lamp has been inserted make sure the glass pip (6) on the bulb is facing upwards (figure on the right); this ensures uniform light distribution, then tighten the two knurled nuts (7) on the lamp. Close and fasten the lamp access hatch. Ensure that the screws are well fastened. To ensure optimum light output we recommend that only high quality lamps should be used. The HMI 1200/GS is a high pressure lamp with external igniter. Care should always be taken when handling this lamp. Always read the manufacturers "Instructions for use" enclosed with the lamp.

05 – POWER SUPPLY - MAINS

Use the plug provided (8) to connect the mains power to the projector paying attention to the voltage and frequency marked on the back panel of the projector. The mains socket (9) is located on the bottom of the projector and the wires should be connected as shown in the table below. Connect the plug into the socket. The projector may be switched on via the power switch (10). It is recommended that each projector is supplied separately so that they may be individually switched on and off.





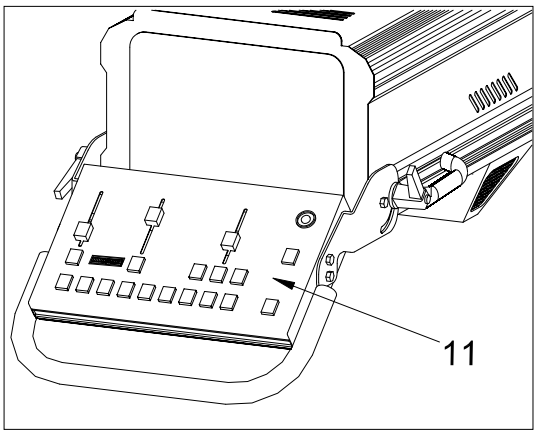
L = Brown
E = Yellow / Green
N = Blue

IMPORTANT
It is essential that each projector is correctly earthed and that electrical installation conforms to all relevant standards. Power consumption of the Voyager 1200 is 1900VA.

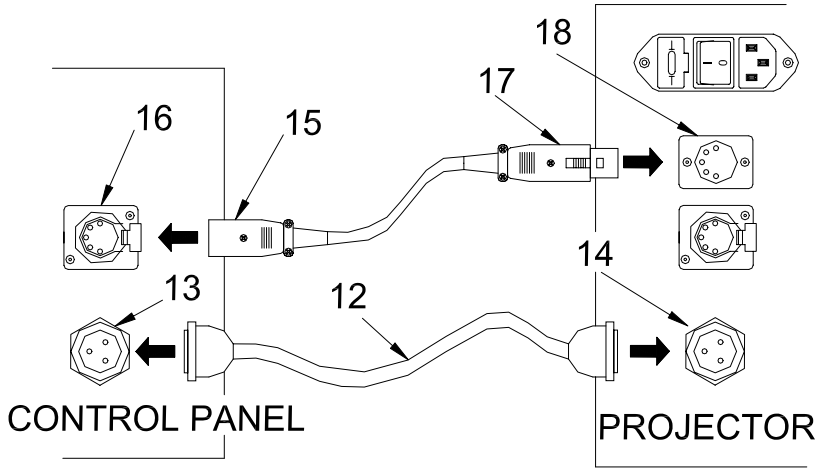
WATCHDOG SYSTEM
When the projector is switched on the electronics perform a reset, this function allows the microprocessor control system to register the positions of all motors under its control. When the lamp strikes and "fires up" it can create a certain amount of electrical noise within the projector that has the potential to disturb the microprocessor. The Voyager 1200 is fitted with an electronic watchdog system that monitors the microprocessor and will initiate a reset if the functioning of the microprocessor has been disturbed. This system ensures that the reset is performed successfully and that once completed the projector is ready to receive control instructions and operate without problem.

06 – CONNECTING THE CONTROL PANEL

The control panel (11) is located on the back of the projector, and from this panel all the main functions of the projector may be controlled.

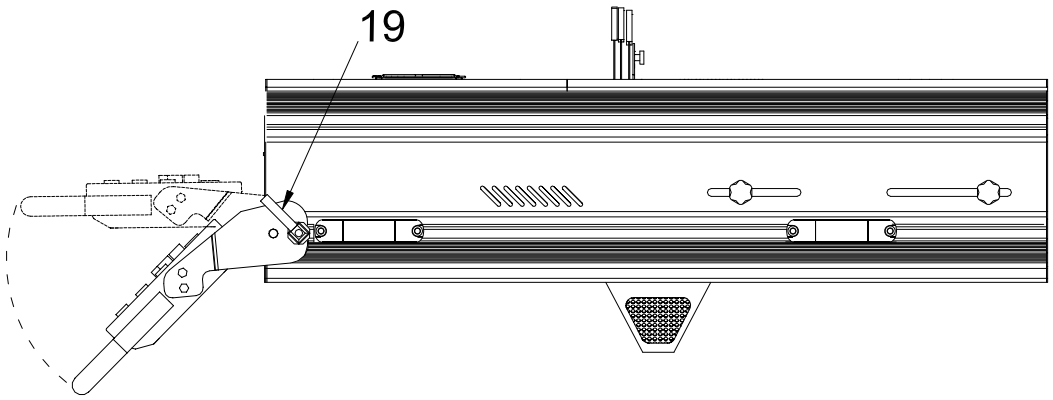


Connect the 3 pin power cable (12) to the 3 pole socket (13) on the rear of the control panel and to the 3 pole socket (14) on the bottom of the projector; this cable supplies the control panel and carries the beam preview (see section 09) signal.
The control panel is a DMX controller itself, so it must be connected to the DMX input of the projector using the DMX cable provided. Plug the connector (15) into the output socket (16) of the control panel and plug the connector (17) into the input socket (18) of the projector.



07 – ADJUSTING THE CONTROL PANEL

The control panel may be adjusted with respect to the projector's working position / angle. Undo the knob (19), tilt the control panel as desired and then tighten the knob.



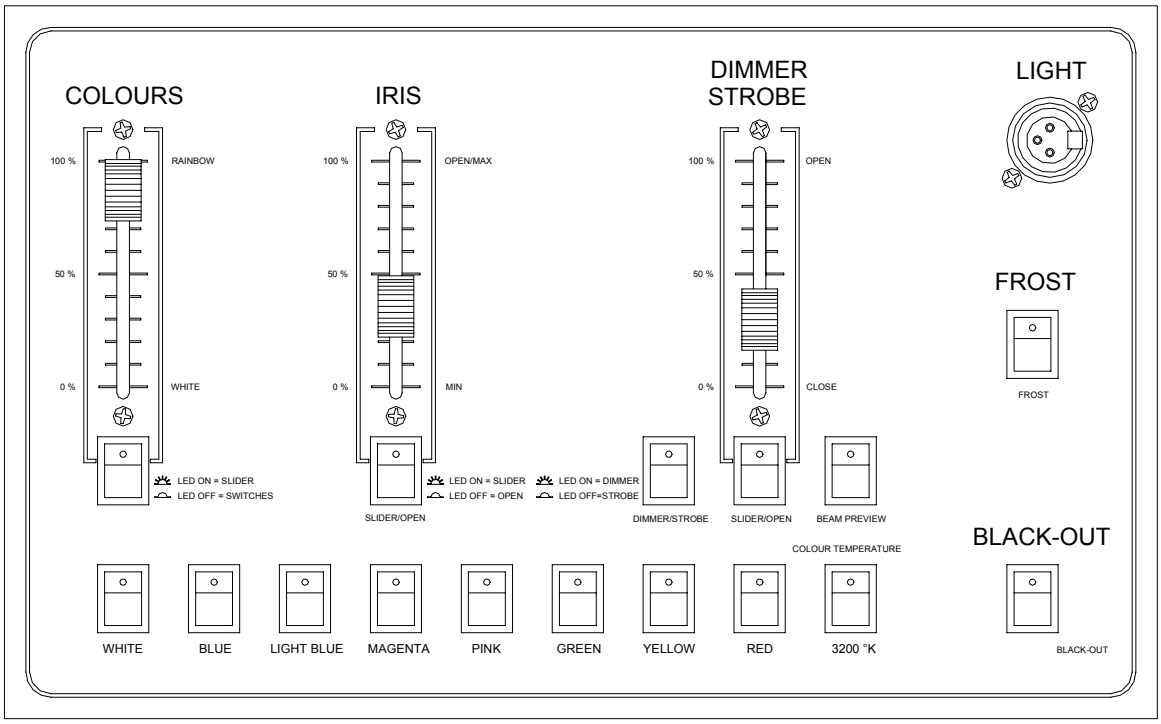
08 – DISABLE AND ENABLE THE CONTROL PANEL

To disable the control panel (because you are remotely controlling the functions via DMX, for example) press and hold briefly the buttons marked WHITE, RED and BLACK-OUT. To enable the control panel simply repeat the operation.

NOTE

The back panel controls are effectively a DMX controller which sends a DMX signal to the motor controllers inside the projector. For the motor controllers to receive control signals from the back panel, the DMX address on the dip-switches must be set to 1, (dip switch 1 ON). When using and external controller (see section 10) the address may be set as required.

09 – OPERATION



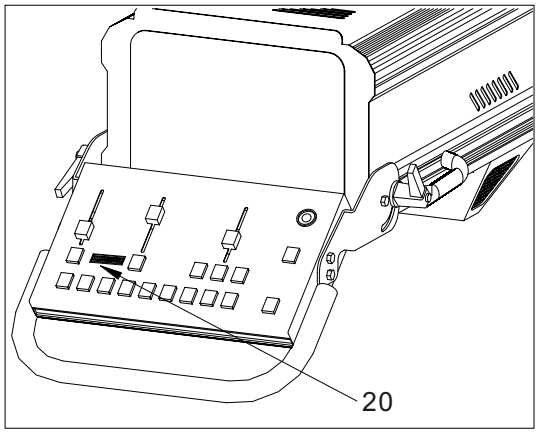
BLACK-OUT
The Black-Out button will close shutter and black-out the beam, the LED is illuminated when this function is active. This button has priority over all other functions except Beam Preview, see below.

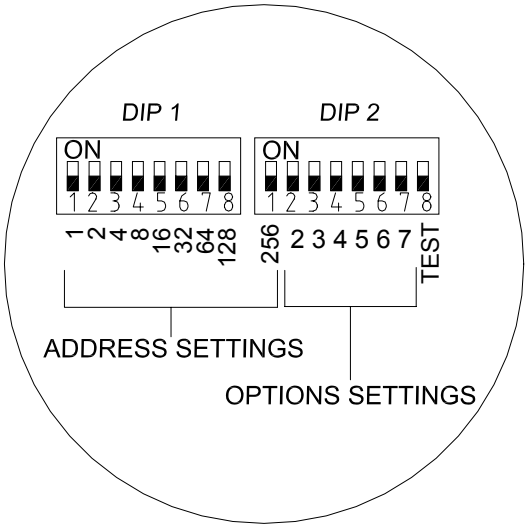
DIMMER-STROBE
In this section there are three buttons and a slider.
With the button marked **BEAM PREVIEW** the beam is reduced to a minimum in size and brightness allowing the operator to find an artist or point before opening the beam, for example at the beginning of a show or song etc. This button has priority over all others and will function at any time.
The **DIMMER-STROBE** button selects the function available on the slider. If the LED is lit the slider controls the dimming level, if the LED is off the slider controls the strobe speed. Both these choices are only available if the **SLIDER/OPEN** button is on, LED illuminated. For both the dimmer and the strobe functions, the slider at maximum will open the shutter fully, and at minimum will close the shutter completely.
The **SLIDER/OPEN** button selects between slider control of either dimming or strobe speed (depending on the setting of the **DIMMER-STROBE** button) or the shutter being fully open. When the LED is lit the slider will function, when the LED is off the shutter will be fully open.

IRIS
In this section there is one button and one slider. If the button marked **SLIDER/OPEN** is active (LED illuminated), the slider will control the iris from 0% where the iris is fully closed, to 100% where the iris is fully open. If the **SLIDER/OPEN** button is switched off, LED not lit, the iris will be fully open.

COLOURS
Colour selection is via a slider and/or ten buttons.
The button located under the slider selects whether the slider or the colour switches are active. When the LED is lit the slider is active and permits selection of colours, split colours and rainbow (continuous rotation of the colour wheel at various speeds). If the LED is off then colour selection is via the eight buttons along the bottom of the panel, each selecting an individual colour.
Finally there is the **COLOUR TEMPERATURE** button, marked 3200°K which allows the insertion of a colour temperature correction filter into the beam effectively doubling the number of colours available, this function works together with any colour already selected.

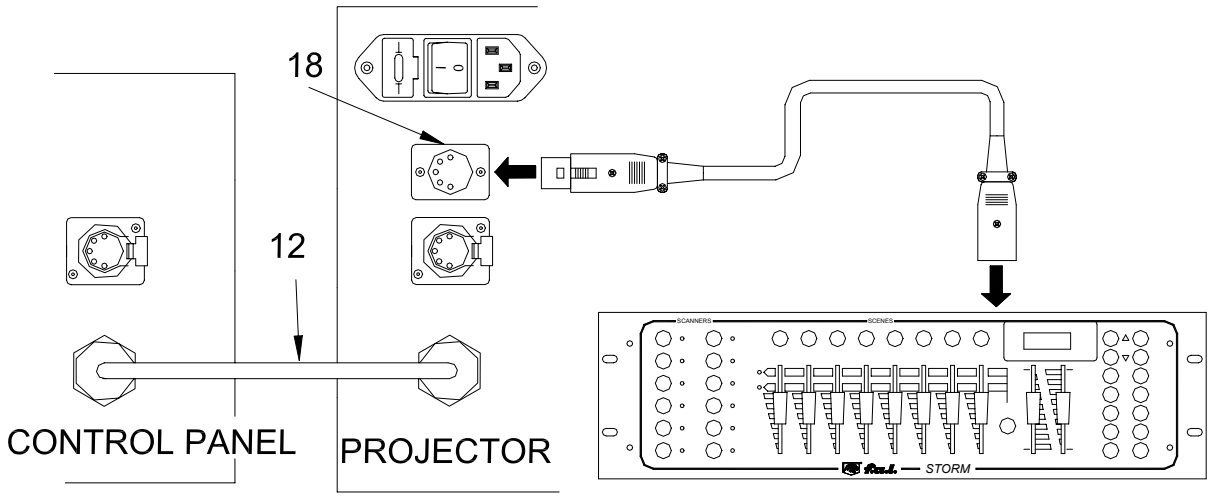
SETTINGS
The dip-switches (20) for DMX address setting and set-up option selections are located in the settings section on the rear side of the projector.
They allow you to set the digital start address (see section 11) for remote control and to choose the projector options (see section 12).





10 – USING AN EXTERNAL CONTROLLER

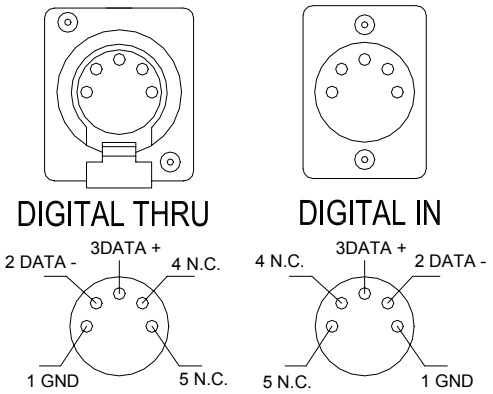
The Voyager 1200 may be controlled via a standard digital DMX 512 (1990) signal.
If the projector is to be remotely controlled the control panel on the back of the projector must be disabled as described above, to prevent conflicts between it and the external controller. Disconnect the DMX cable from the control panel of the projector (see section 06) and connect the DIGITAL IN socket (18) to the light controller.



NOTE
The Beam Preview button on the Voyager 1200 will function even when the projector is being remotely controlled and the back panel disabled, this allows the followspot operator to always find the target even though the unit is being controlled from elsewhere.

Connection between controller and projector and between one projector and another must be made with 2 core screened cable, with each core having at least a 0.5mm^2 cross section. Connection to and from the projector is via cannon 5 pin XLR plugs and sockets which are included with the projector. The XLR's are connected as shown in the table below. Note, care should be taken to ensure that none of the connections touch the body of the plug or each other. The body of the plug is not connected in any way. Connect the control signal to the socket marked DIGITAL IN on the underside of the projector, and then from the socket marked DIGITAL THRU to the DIGITAL IN socket of the next projector.

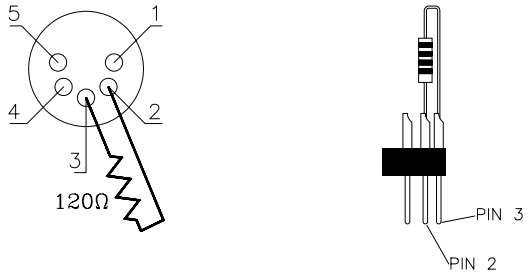
DMX512 CONTROL



DMX 512 SIGNAL	
PIN	FUNCTION
1	GND
2	DATA -
3	DATA +
4	N.C.
5	N.C.

DMX TERMINATION

For all installations having long signal cables or in the presence of electrical noise, for example a discotheque, it is recommended practice to use a DMX terminator: this assists in preventing corruption of the digital control signal by external noise. The DMX terminator is simply an XLR connector with a 120Ω (Ohm) resistor connected across pins 2 and 3, which is then plugged into the DIGITAL THRU socket on the last projector in the chain. The connections are illustrated below.

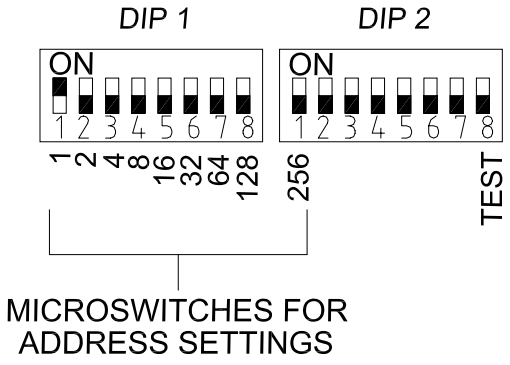


DMX TERMINATOR CONNECTOR
Connect a 120Ω resistor across pins 2 and in an XLR plug and insert into the DIGITAL THRU socket on the last unit in the chain.

11 – DIGITAL ADDRESS SETTING

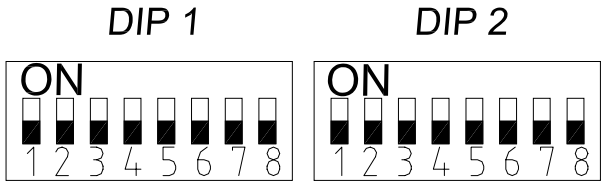
Each Voyager 1200 requires 6 control channels. Each projector must be given a digital start address number so that the correct projector responds to the correct control signals. This digital start address is the channel number from which the projector starts to “listen” to the digital control information being sent out from the controller. This digital encoding must be done on each projector.

REMEMBER :- For the back panel controls to function, the digital start address must be set to 1, dip switch 1 must be set to ON as in the figure below and the back panel must be enabled, too.



For the external control signals to be correctly sent to the right projector, instead, the control panel **must be disabled**. The start address is assigned by selecting the right number on the dip switch array on the panel. For example, projector 1 address 1, projector 2 address 7, projector 3 address 13, etc. To define the start address value, turn “ON” the proper switches, so that the sum of their weight is the desired number. The switch weight is shown in the following table.

Switch ON	Weight
1 *DIP1*	1
2 *DIP1*	2
3 *DIP1*	4
4 *DIP1*	8
5 *DIP1*	16
6 *DIP1*	32
7 *DIP1*	64
8 *DIP1*	128
1 *DIP2*	256

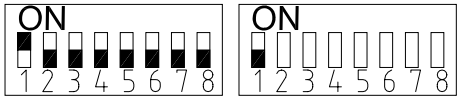


The addresses reserved to each projector are shown in the following table; it is also remarked the start address to assign to the projector in the encoding operations. Note that the start address is not a casual number, but it is displaced by multiples of 6 from address 1, just because each projector uses 6 DMX channels.

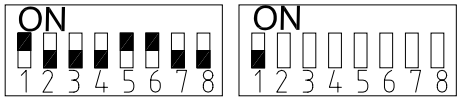
Projector #	**Channels**	**Base address**
1	1 - 6	1
2	7 - 12	7
3	13 - 18	13
4	19 - 24	19
5	25 - 30	25
6	31 - 36	31
7	37 - 42	37
8	43 - 48	43
9	49 - 54	49
10	55 - 60	55
⋮	⋮	⋮

Examples:

Base address **1**

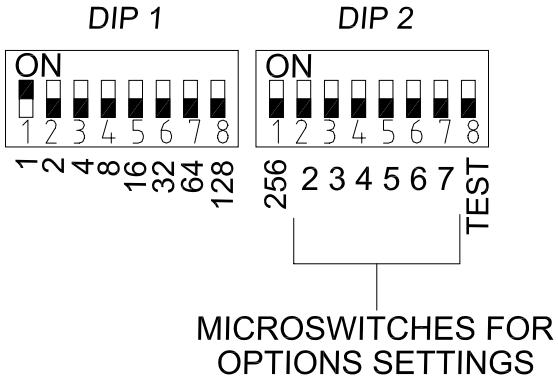


Base address **49**



12 – SETUP OPTIONS

Two options are available for modifying the operating characteristics of the projector.



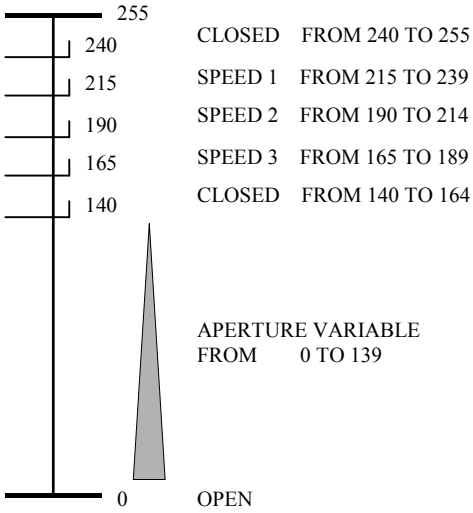
SHUTTER ON COLOUR CHANGE

Dip switch 7, located in the option settings section beside TEST, will, if set in the ON position, permit the beam to be blacked out during colour change, re-opening the shutter when the colour wheel arrives at the new colour. With this dip switch in the off position the beam will remain visible while the colour wheel turns.

PULSING BEAM

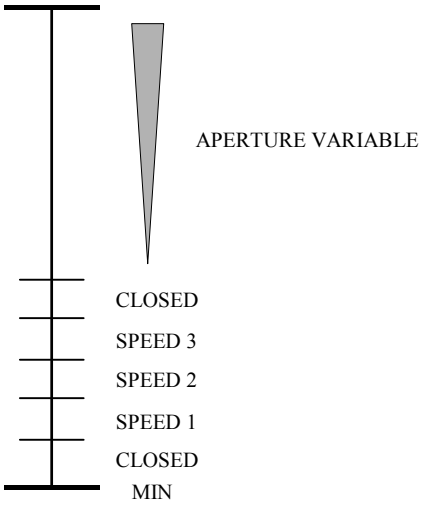
Setting dip switch 6 to the ON position modifies the operation of the iris. In this case the DMX table for the channel that controls the iris is changed, as shown below, to include three speeds of continuous opening and closing movements. These functions are also available on the slider on the back panel controls. Please note that the action of the slider is inverted from that shown for DMX remote control in that moving the slider on the back panel upwards opens the iris and moving it downwards closes the iris.

DMX CONTROL



Control values for **Iris** with dip switch 6 ON, in DMX units.

SLIDER CONTROL



Slider functions of the **Iris** with dip switch 6 ON.

TEST

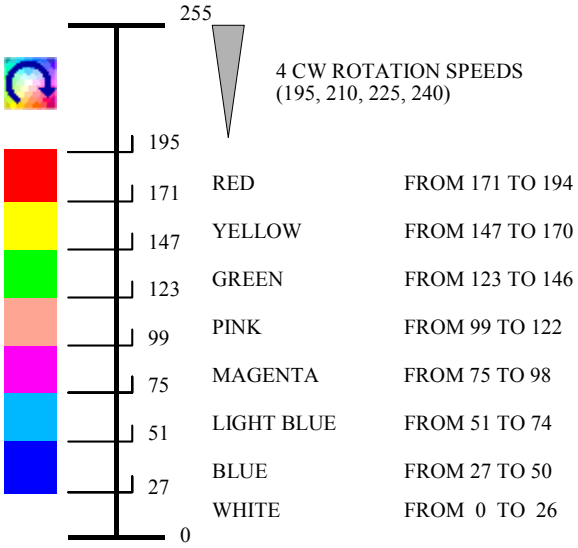
The final DIP switch is marked TEST and if switched ON will open the shutter and is at present only used for setup during the manufacture of the projectors. **During normal operation, it must be set to OFF, otherwise the projector will not respond to any DMX control signal.**

13 – DMX CHANNEL FUNCTIONS

Channel	Function
1	Colours
2	Iris
3	Not used
4	Dimmer/Strobe/Dimmer
5	Colour temperature correction filter
6	Frost filter

In the following diagrams you will find the control values in DMX units (0-255) for all the channels of the projector. Some channels present fixed values (e.g. colours, strobe speeds, etc): in this case intermediate values are added to the vertical bar; the number indicates the **starting** DMX value for the next step. So, for example, in the colour channel the numbers 171-195 means that the red ranges from DMX 171 to DMX 194, because 195 is the starting value for the “Rainbow”.
On the left of the vertical bar you will find an icon as you might see in the new computerized lighting controller FAL ShowMaster 2002; this icon suggests you the effect for that particular DMX value.

CHANNEL 1 – COLOURS

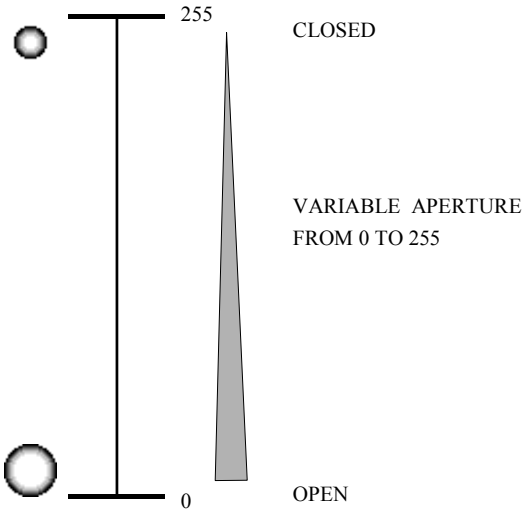


Control values for the **Colour wheel**, in DMX units.

REMOTE REQUESTED RESET - SOFT RESET

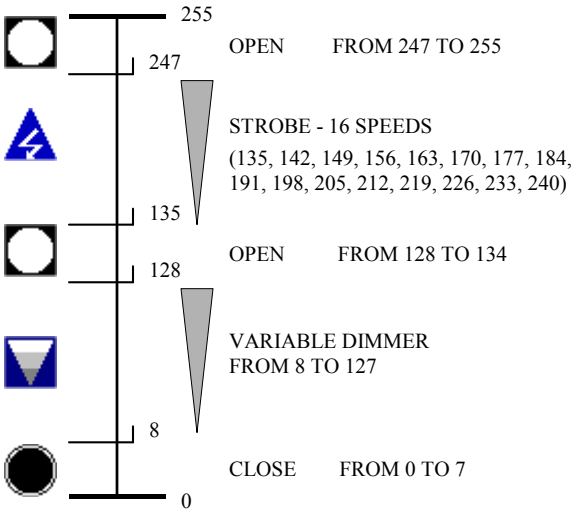
If the DMX value sent on this channel stays in the range from 4 to 6 for more than 6 seconds, the projector will start a reset sequence (Remote Requested Reset). The electronics are re-started and all motors moved to their home positions exactly as they do when the power is first switched on but the lamp is not switched off in this sequence, although the beam will be blacked out.

CHANNEL 2 – IRIS



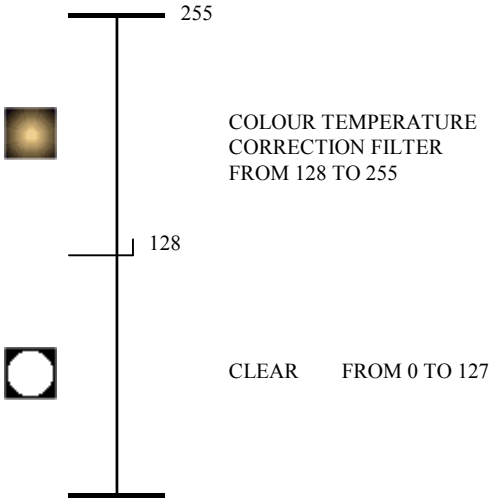
Control values for the **Iris**, option 6 OFF, in DMX units.

CHANNEL 4 – SHUTTER/STROBE/DIMMER



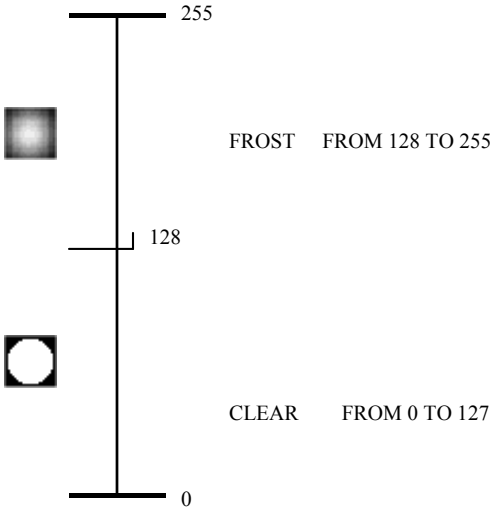
Control values for **Shutter, Dimmer, Strobe**, in DMX units.

CHANNEL 5 – TEMPERATURE FILTER



Control values for **3200K C.T.C. Filter**, in DMX units.

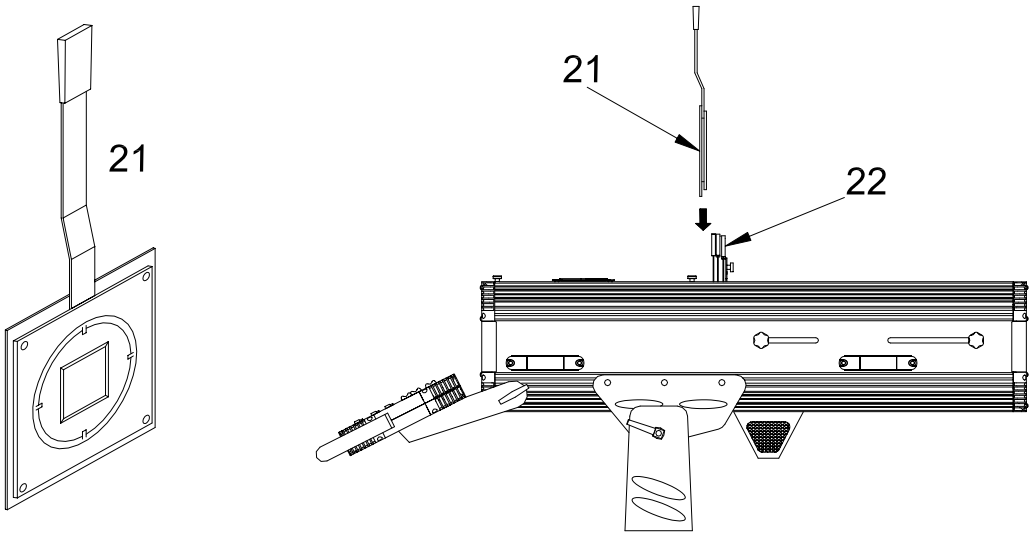
CHANNEL 6 – FROST FILTER



Control values for **Frost filter**, in DMX units.

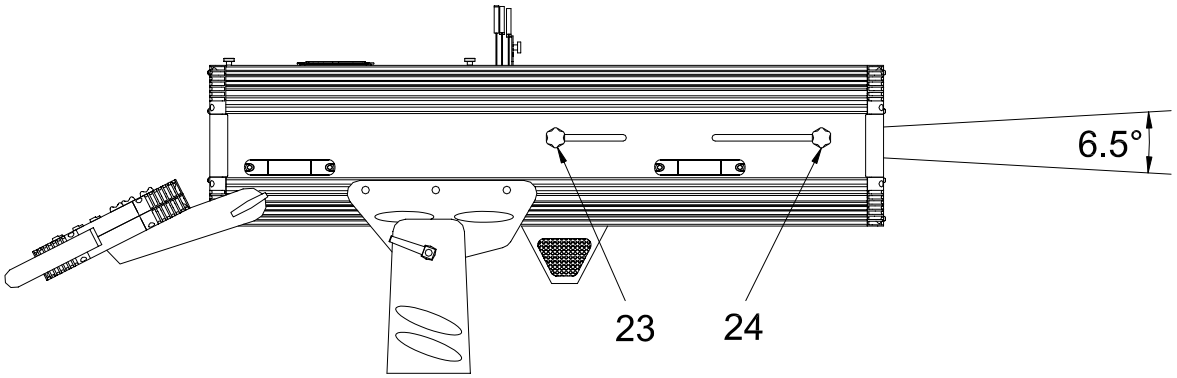
14 – GOBO HOLDER

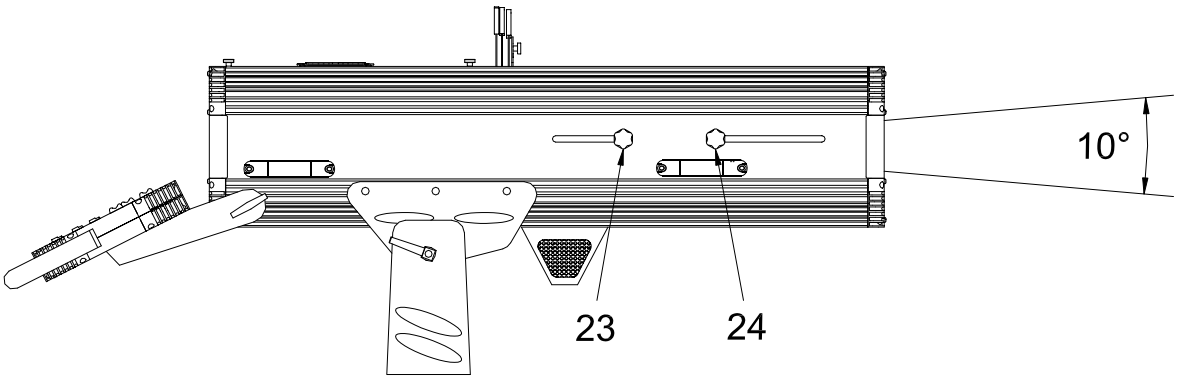
An adjustable gobo holder (21) is available for the Voyager 1200. It is an optional extra and should be ordered separately (FAL code PF 815). The slot for insertion of the gobo holder is located in the upper side of the projector, near the profile system (22), as shown in the figure below. Insert the gobo holder vertically, following the guides in the slot.
The gobo holder accepts standard G size gobos which have an outer diameter of 66mm.



15 – ZOOM AND FOCUS

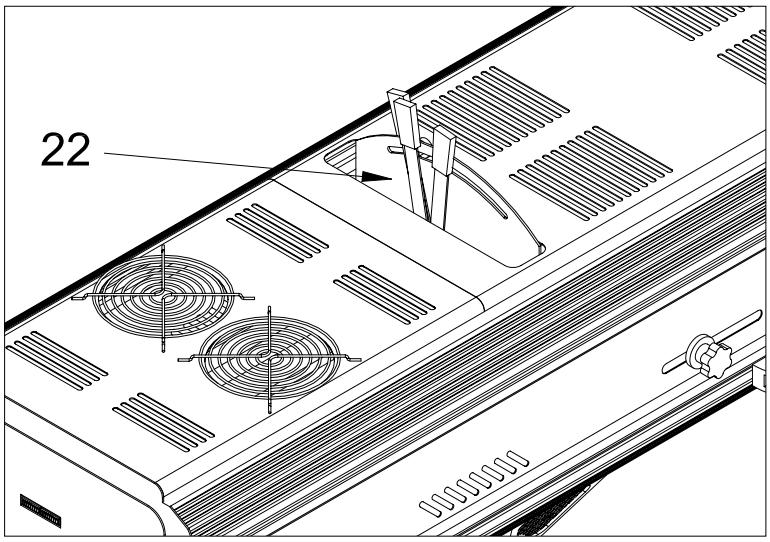
Zoom and focus of the light beam are obtained using the 2 knobs (23-24) located on the right side of the projector. The beam spread can be adjusted from 6.5° (handles apart) to 10° (handles together).

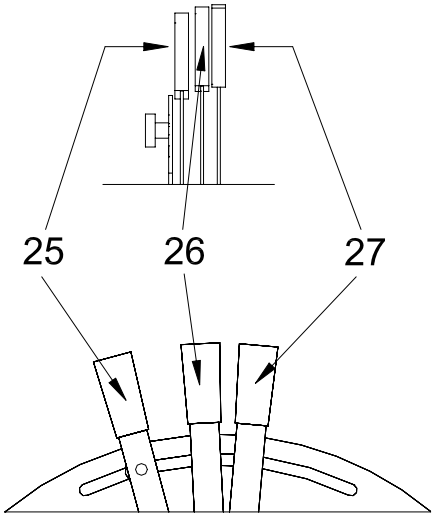




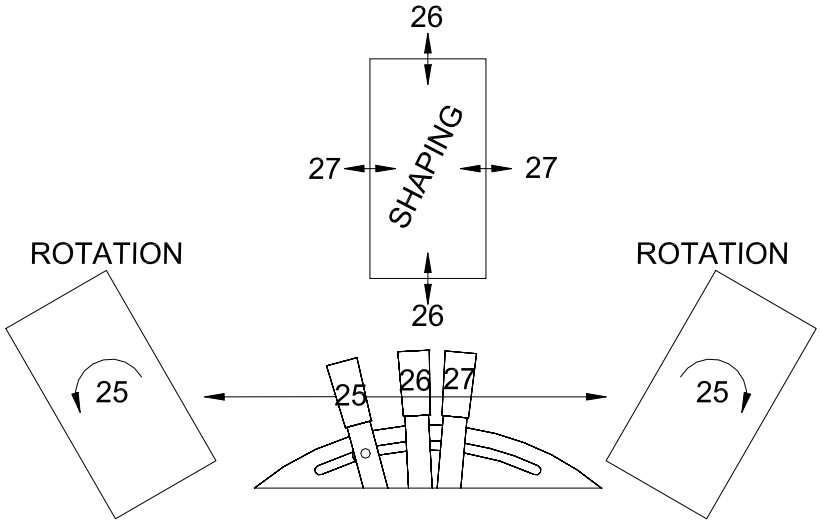
16 – PROFILE SYSTEM

The Voyager 1200 is provided with a profile system (22) of 4 profile blades. It consists of three levers located in the upper side of the projector, near the gobo slot. The profile blades are adjusted with the two lever (26-27) to cut the beam to the required shape, while the lever (25) tilts the shaped beam around the optical axis.





The lever (27) is the one nearer the operator and moves the blades horizontally, the lever (26) is the one in the middle and moves the blades vertically.



17 – MAINTENANCE

If the projectors' lens becomes damaged or broken it should be replaced.
If the lamp becomes damaged or deformed in any way it must be replaced.
If the light from the lamp appears dim this would normally indicate that it is reaching the end of its life and it should be changed at once, old lamps run to the extremity of their life can explode.
If the projector does not function, check the fuses located near the mains socket on the projector, they should only be replaced by fuses of the same value as that marked on the back panel. On the electronics card (pcb) inside the projector is a fuse rated at 3.15 A F (fast blow), should this be damaged call a qualified technician before replacement. The Voyager 1200 also has a thermal protection device that will switch off the projector in case of overheating, should this operate, check that the fans are not blocked, and if it is dirty clean it before switching on the projector again.
Check that the fans are operational, if not call a qualified technician.

18 – KEEPING THE PROJECTOR CLEAN

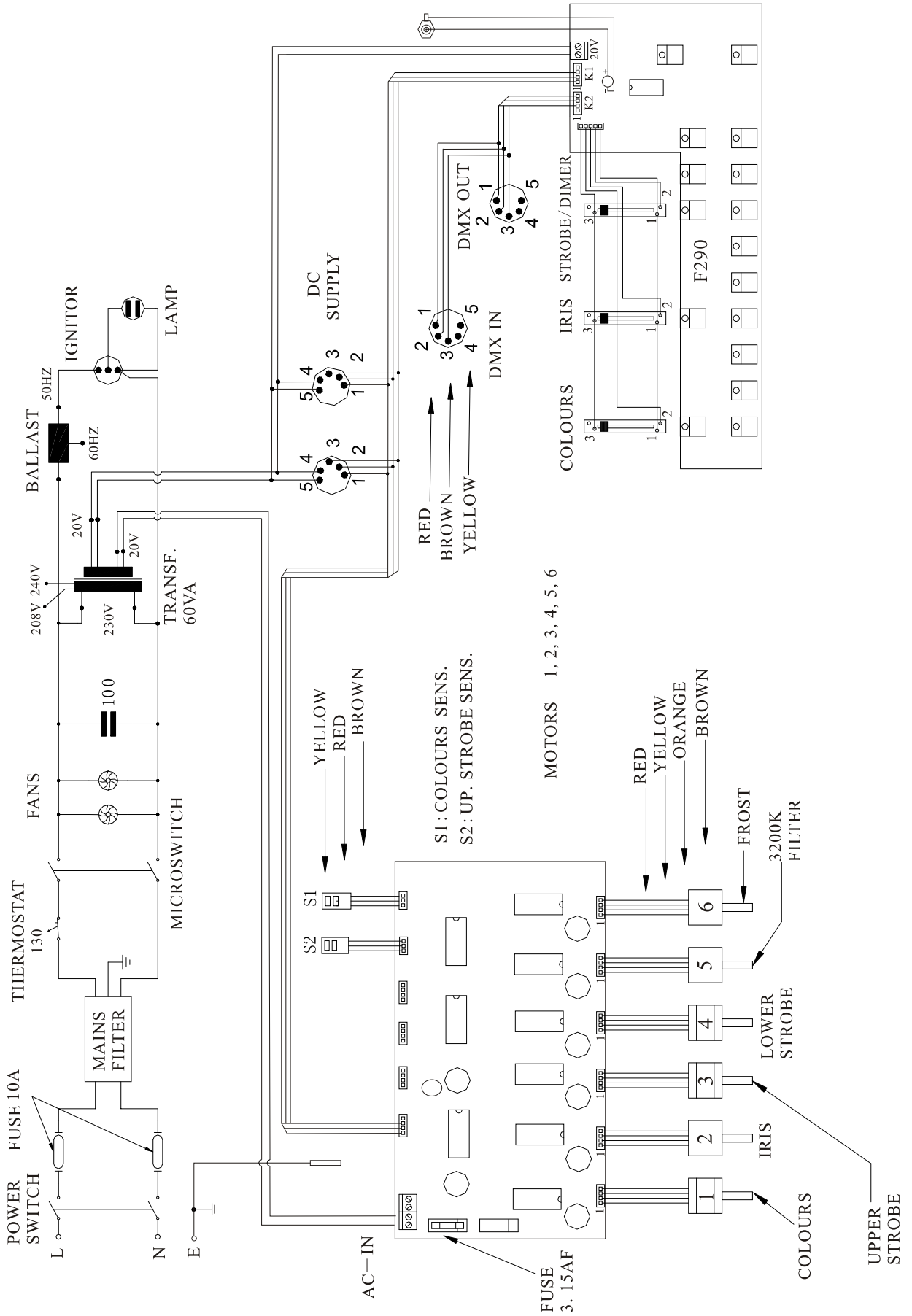
To ensure the reliability of the projector it should be kept clean. It is recommended that the fans should be cleaned every 15 days. The lenses and dichroic colour filters should also be regularly cleaned to maintain an optimum light output. Do NOT use any type of solvent on the dichroic colour filters.

19 – TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTION
The projector does not start	Check the fuses by the mains socket.
The lamp comes on but the projector does not respond to the controller	Check the digital start address (section 11) and check the wiring of the control cable (section 10). Check the control panel is not disabled (section 08).
The projector only functions intermittently	Check the fans are working and not dirty.
The projected image appears to have a halo	Check the lamp is installed correctly (section 04).
The beam appears dim	The lamp may be at the end of its life and should be replaced. Check the optics are clean.
The electronics do not respond to control input either from the back panel or from remote DMX.	It is possible that the microprocessor has been blocked by electrical noise caused by trying to hot re-strike the lamp. In this situation the normal soft reset will not function. It is possible to force a reset of the electronics in the following way. Move the dip switch marked TEST to the ON position. Move the dip switch marked 2 in the Option Settings section to the ON position. The electronics will perform a reset. As soon as the reset starts switch the dip switch marked TEST to the OFF position and then the dip switch marked 2 to the OFF position.

Any other maintenance should only be performed by a qualified person.

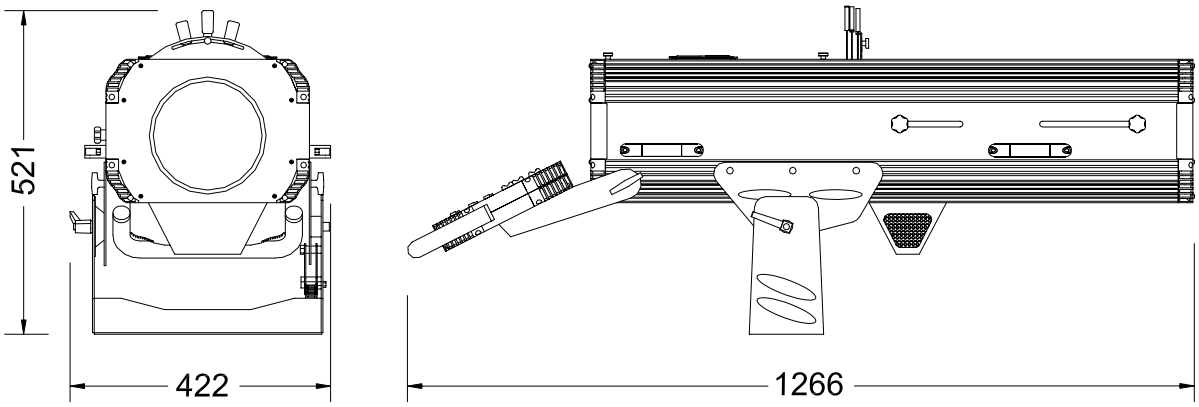
20 – ELECTRICAL DIAGRAM



Voyager 1200 – 200V

21 – TECHNICAL SPECIFICATIONS

POWER SUPPLY:	230V 50/60Hz (PF1225). 200V 50/60Hz (DPF1225).
POWER CONSUMPTION:	1900VA at 230V.
LAMP:	HMI 1200 GS DE (Osram). Colour temperature 6100K. Socket SFc 15.5 life 1000 hours (manufacturer ratings).
COLOURS:	7 dichroic filters with high chromatic yield + white. Variable speed continuous colourwheel rotation to produce rainbow effect.
IRIS:	Variable iris system.
PROFILE SYSTEM:	Profile system of two levers with the possibility to rotate through 45°.
SHUTTER, STROBE, DIMMER:	Fast action shutter for beam blackout also provides strobe effect with strobe speed fully adjustable from 1 to 7 flashes per second. Shutter also acts as a linear mechanical dimmer from 0 to 100%.
FOCUS:	Manual focus system.
TEMPERATURE FILTER:	1 colour temperature correction filter for 3200K.
FROST FILTER:	1 frost filter.
GOBO HOLDER:	Optional gobo holder (FAL code PF 815) for M size 66mm gobos.
GOOSENECK LAMP:	3 pin XLR power socket for optional gooseneck 24V 3W lamp (FAL code LA 201). Compatible with Littlite 12X-HI.
ZOOM:	Manually adjustable from 6.5° to 10°.
MOTORS:	6 stepper motors controlled via microprocessor.
CONTROL:	Digital DMX 512 or manually from back panel.
COOLING:	Forced cooling by axial fans.
OPERATING CONDITIONS:	Projector can work tilted up to +/- 15° from the horizontal. Maximum ambient temperature 25°C.
HOUSING:	Extruded aluminium with epoxy paint finish. Easy access to lamp and main components. Protection IP20.
DIMENSIONS:	1266mm L x 422mm W x 381mm H (521mm including bracket). Weight 48kg.
REFERENCE NORM:	CE



Important information for the correct recycle/treatment procedures of this equipment

The European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), requires that old lighting fixtures must not be disposed of the normal unsorted municipal waste stream. Old appliances must be collected separately in order to optimise the recovery and recycling of the materials they contain and reduce the impact on human health and the environment.
The crossed out ″wheeled bin″ symbol on the product reminds you of your obligation, that when you dispose the appliance it the must be separately collected.
Consumer should contact their local authority or retailer for information concerning the correct disposal of their old appliance.



