MEGA COLOUR 2000

PR-4200

This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

INDEX

Please note that as part of our ongoing commitment to continuous product development, specifications are subject to change without notice. Whilst every care is taken in the preparation of this manual we reserve 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.

Every unit is tested completely and packed properly by the manufacturer. Please make sure the packing and / or the unit are in good condition before installation and use. Should there be any damage caused by transportation, consult your dealer and do not use the unit. Any damage caused by improper use will not be assumed by the manufacturer and / or dealer.

ACCESSORIES

These items are packed together with the projector:

Name	Quantity	Unit	Remark
XLR cable	1	Pc	3-pin plug
Mounting board	1	Pc	
Screws	6	Pcs	M10×25
G clamps	2	Pcs	
Safety cord	2	Pcs	
This manual	1	Pc	
Ω clamps	2	Pcs	Options

SAFE USAGE OF THE PROJECTOR

When unpacking and before disposing of the carton check there is no transportation damage before using the projector. Should there be any damage caused by transportation, consult your dealer and do not use the apparatus.

The projector is for indoor use only, IP20. Use only in dry locations. Keep this device away from rain and moisture, excessive heat, humidity and dust.

The projector is not designed or intended to be mounted directly on to inflammable surfaces.

The projector is only intended for installation, operation and maintenance by qualified personnel.

The projector must be installed in a location with adequate ventilation, at least 50cm from adjacent wall surfaces. Be sure that no ventilation slots are blocked.

Do not project the beam onto inflammable surfaces, minimum distance is 10m. ◁ 10m ∈

Avoid direct exposure to the light from the lamp. The light is harmful to the eye.

Do not attempt to dismantle and/or modify the projector in any way.

Electrical connection must only be carried out by qualified personnel.

Before installation, ensure that the voltage and frequency of power supply match the power requirements of the projector.

It is essential that each projector is correctly earthed and that electrical installation conforms to all relevant standards.

Do not connect this device to any other types of dimmer apparatus.

Make sure that the power-cord is never crimped or damaged by sharp edges. Never let the power-cord come into contact with other cables. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

Keep the lamp clean. Do not touch the lamp glass with bare hand.
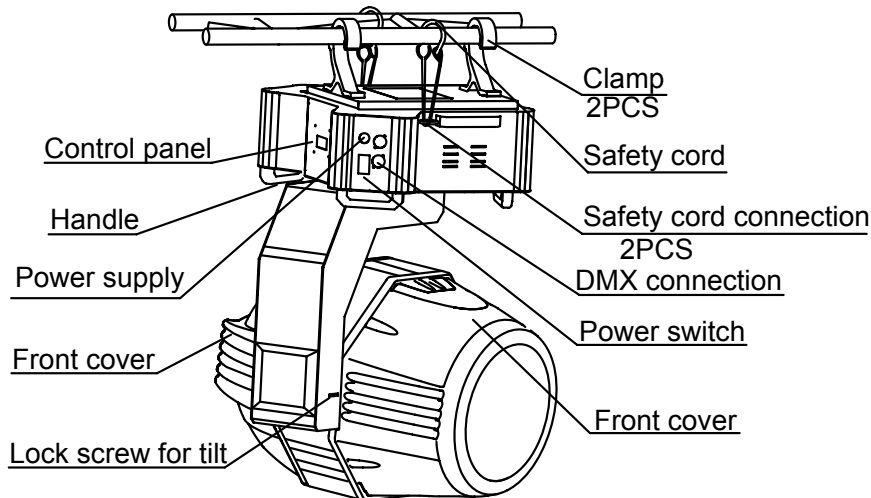
Never run the projector without a lamp.

During the initial start-up some smoke or smell may arise. This is a normal process and does not necessarily mean that the device is defective.

There is no user serviceable parts inside the projector, do not open the housing and never operate the projector with the covers removed.

Always disconnect from the mains, when the device is not in use or before cleaning it or before attempting any maintenance work !

If you have any questions, don't hesitate to consult your dealer or manufacturer.

INSTALL THE PROJECTOR

Clamp
2PCS

Control panel

Safety cord

Handle

Safety cord connection
2PCS

Power supply

DMX connection

Front cover

Power switch

Lock screw for tilt

Front cover

The unit was designed to make installation easy: it can be fitted on a floor or ceiling as required.

Take mounting board and 2 safety cords out from the package and mount the mounting board on the underside of fixture with 6 screws. Then mount 2 clamps on the underside of mounting board with 4 retainers. Hang the fixture on the structure and fasten the screws attached to each clamp. **WARNING: To pass 2 SAFETY CORDS through 2 HOLES for safety!** Always ensure that the projector is firmly anchored to avoid vibration and slipping whilst functioning. Always ensure that the structure that you are going to mount the projector is secure and is strong enough to support a weight of MEGA COLOUR 2000.

WARNING:

1. Unlock the PAN and TILT before the 1st application of projector for safety.

2. The projector MUST be lifted or carried by the HANDLES instead of clamps.

3. For safety the safety cord should afford 10 times of the unit's weight.

FITTING THE LAMP

Front cover

M10 nut

Fan group

Back cover

Lamp

Protection plate
for lamp

M10 nut
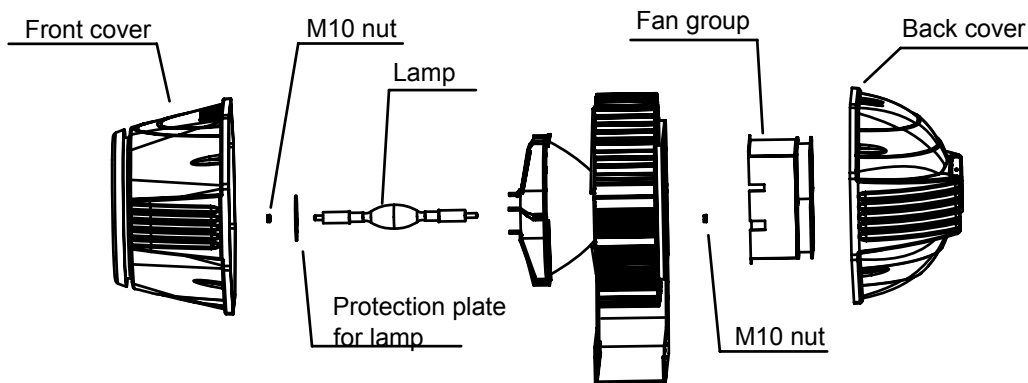
Lock the tilt before changing the lamp.

Remove the front cover and back cover by undoing the 16 lock catches and 8xM4 screws.

Undo fan group by undoing 6 screws.

Remove the protection plate of lamp by undoing the 3xM4 screws.

Do not change new lamp until old lamp has cooled.

Undo the 2xM10 screws from double ends of the lamp and then pull out the old lamp toward lamp cap.

Insert the new lamp in the lamp-holder, and ensure the little bubble on the lamp is at a right angle (90°) to the beam path.

Keep the lamp clean during installation.

Reinstall all the components before removing by retighten the screws.

POWER SUPPLY-MAINS

Connect the power cord as follows:
    L (live) =brown
    E (earth) =yellow/green
    N (neutral) =blue
Use the plug provided to connect the mains power to the projector paying attention to the voltage and frequency marked on the panel of the projector. It is recommended that each projector be supplied separately so that they may be individually switched on and off.

IMPORTANT
It is essential that each projector is correctly earthed and the electrical installation conforms to all relevant standards.

CONTROL CONNECTION

DMX512	
PIN	FUNCTION
1	GND
2	DATA -
3	DATA +
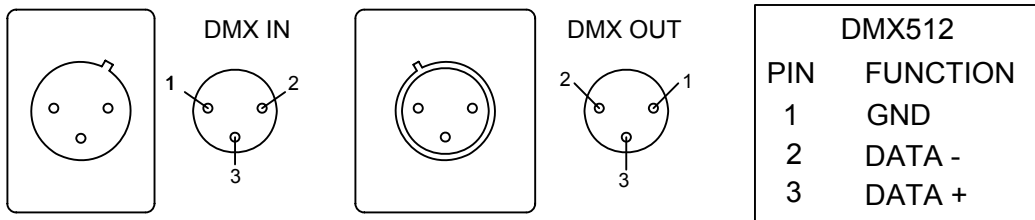
Connection between controller and projector and between one projector and another must be made with a 2 core-screened cable, with each core having at least a 0.5mm diameter. Connection to and from the projector is via cannon 3 pin (which are included with the projector) XLR plug and socket. The XLR's are connected as shown in the figure above.
Note: care should be taken to ensure that none of the pins touch the metallic body of the plug or each other. The body of the plug is not connected in any way. MEGA COLOUR 2000 accepts digital control signals in protocol DMX512 (1990).
Connect the controller's output to the first fixture's input, and connect the first fixture's output to the second fixture's input and connect the rest fixtures in the same way. Eventually connect the last fixture's output to a DMX terminator as shown in the figure below.
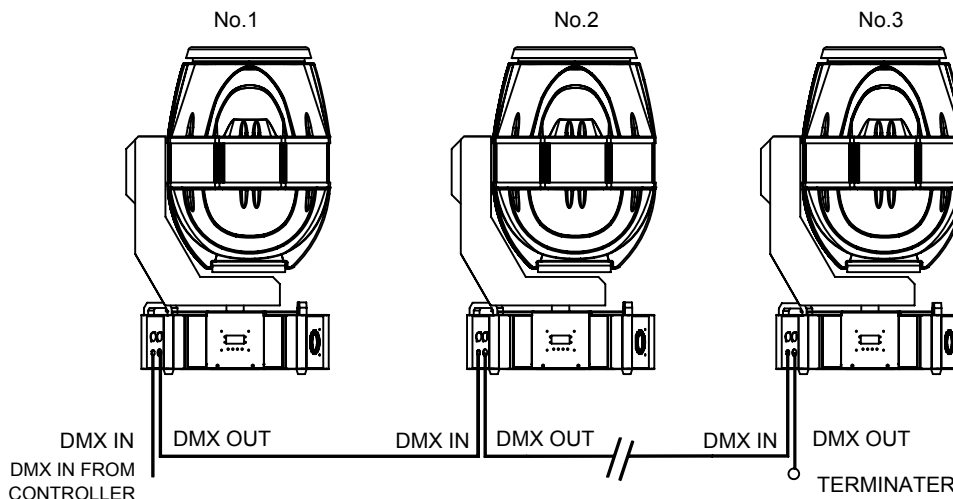
DMX TERMINATOR

In the Controller mode, at the last fixture in the chain, the DMX output has to be connected with a DMX terminator. This prevents electrical noise from disturbing and corrupting the DMX control signals.

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 output socket on the last projector in the chain. The connections are illustrated below.
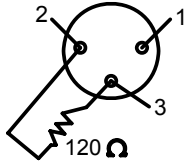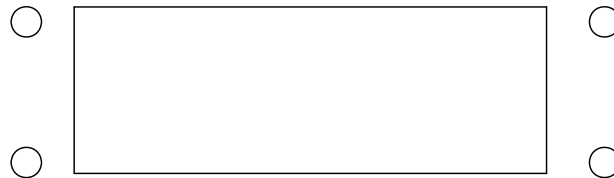
DMX TERMINATOR CONNECTION

Connect a 120Ω(OHM) resistor across pins 2 and 3 in an XLR plug and insert into the DMX out socket on the last unit in the chain.

PIN 2   PIN 3
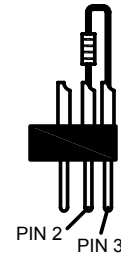
SETUP OPTIONS-PROJECTOR CONFIGURATION

FUNC   DOWN   UP   ENTER

Projector configuration can be set conveniently via pressbutton switch and LED display. Turn the projector on and the LED display will show DMX address you set and save last time and it can be reset and saved again as you please.

Launch the projector. Press button ENTER more than 5 seconds to unlock panel.

Press button UP or DOWN if you want to browse through the various Setup Options.

Press button ENTER to save your settings or enter the next menu.

Press button UP or DOWN to shift.

Press button FUNC, it will return to the upper menu one by one. If you do not, the system will display DMX start address after 60 seconds automatically.

TO SET THE DMX START ADDRESS

Each MEGA COLOUR 2000 must be given a DMX start address so that the correct projector responds to the correct control signals. This DMX start address is the channel number from which the projector starts to "listen" to the digital control information being sent out from the controller. The MEGA COLOUR 2000 has 2 DMX modes. There are standard mode and short mode. For example standard mode has 13 channels, so set the No. 1 projector's address 001, No. 2 projector's address 014, No. 3 projector's address 027, No. 4 projector's address 040, and so on.

Launch the projector. Press button ENTER more than 5 seconds to unlock panel.

Press button FUNC to display **DMX address**;

Press button UP and DOWN, you can set the address;

Press button ENTER to confirm.

The DMX start address can be set discretionarily under the STAND-ALONE control mode. It is recommended that the DMX start address must be set correctly so that the unit may be individually switched on and off when multi-projectors controlled by controller.

STAND-ALONE MODE

To operate the projector without connecting a controller, setup options master mode disabled, the projector will run in Stand-Alone mode automatically.

MASTER/SLAVE MODE

Without using a controller, many projectors can run synchronously in the Master/Slave mode by linking them with each other. Select one projector as the master with setting options master mode enabled but slaves. Regard the other projectors as the slaves with setting options slave mode enabled and all DMX start address "001".
Connect the controller's output to the first fixture's input, and connect the first fixture's output to the second fixture's input and connect the rest fixtures in the same way. Eventually connect the last fixture's output to a DMX terminator as shown in the figure below.

MASTER	SLAVE	SLAVE

DMX IN   DMX OUT   DMX IN   DMX OUT   DMX IN   DMX OUT

TERMINATER
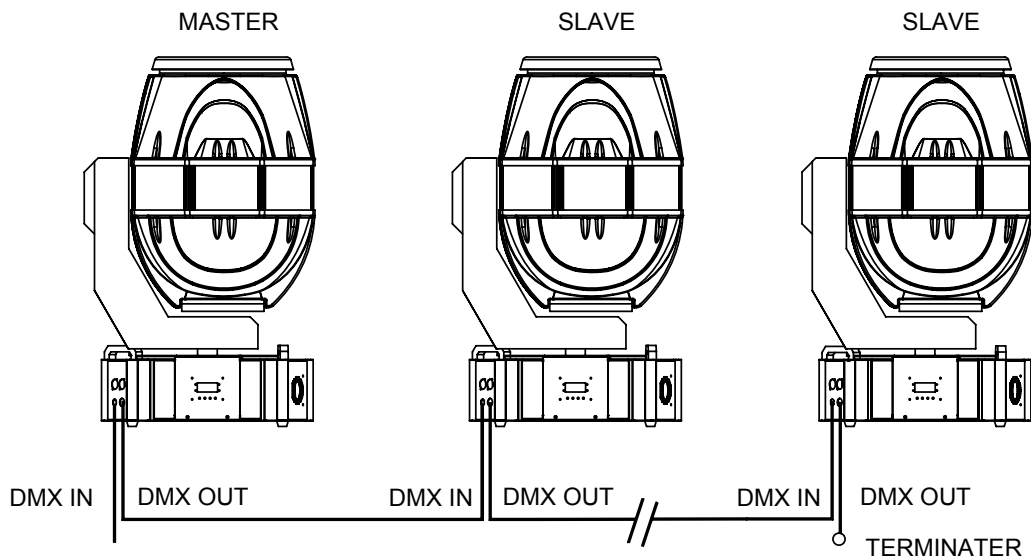
LED INDICATION

	On	DMX signal OK
Green	Off	No DMX signal
	Flash	DMX signal error
Yellow	On	Setting the panel
Blue	On	Power
Red/Green	Red	Running Slave mode or self test mode
	Green	Running Master mode

OPERATION MENU

1st LEVEL	2nd LEVEL	3rd LEVEL	4th LEVEL	5th LEVEL	6th LEVEL
PR LIGHTING MEGA COLOUR 2000	DMX Address=001				
PR LIGHTING DMX Address	PR LIGHTING DMX Address				
PR LIGHTING Reset	PR LIGHTING Reset Are You Sure?				
PR LIGHTING Config Settings	PR LIGHTING DMX Mode	PR LIGHTING DMX Mode Standard 16			
		PR LIGHTING DMX Mode Short 8			
	PR LIGHTING Lamp Control	PR LIGHTING Lamp Control By Control Channel			
		PR LIGHTING Lamp Control By Power On			
		PR LIGHTING Lamp Control By DMX Present			
PR LIGHTING Option Settings	PR LIGHTING Pan DMX Invert	PR LIGHTING Pan DMX Invert OFF			
		PR LIGHTING Pan DMX Invert ON			
	PR LIGHTING Tilt DMX Invert	PR LIGHTING Tilt DMX Invert OFF			
		PR LIGHTING Tilt DMX Invert ON			
	PR LIGHTING Pan Tilt Swap	PR LIGHTING Pan Tilt Swap OFF			
		PR LIGHTING Pan Tilt Swap ON			
	PR LIGHTING Defaults	PR LIGHTING Defaults OFF			
		PR LIGHTING Defaults Restore Defaults			
PR LIGHTING Display Options	PR LIGHTING Display Mode	PR LIGHTING Display On Always			
		PR LIGHTING Display Off After Delay			
	PR LIGHTING Display Dimming	PR LIGHTING Disp Dim Level Full			
		PR LIGHTING Disp Dim Level 9			

		PR LIGHTING Disp Dim Level 8			
		PR LIGHTING Disp Dim Level 7			
		PR LIGHTING Disp Dim Level 6			
		PR LIGHTING Disp Dim Level 5			
		PR LIGHTING Disp Dim Level 4			
		PR LIGHTING Disp Dim Level 3			
		PR LIGHTING Disp Dim Level 2			
		PR LIGHTING Disp Dim Level 1			
		PR LIGHTING Disp Dim Level Min			
	PR LIGHTING Display Contrast	PR LIGHTING Display Contrast XXX(1~36, Default is 16)			
PR LIGHTING Information	PR LIGHTING Lamp Hours	PR LIGHTING Lamp Hours = XX	PR LIGHTING Reset Lamp Hours Are You Sure?		
	PR LIGHTING Total Hours	PR LIGHTING Total Hours = XX			
	PR LIGHTING Temperature	PR LIGHTING Display Board	PR LIGHTING Display Board = XX℃		
		PR LIGHTING Driver Board 1	PR LIGHTING Driver Board 1 = XX ℃		
		PR LIGHTING Pan and Tilt	PR LIGHTING Pan and Tilt = XX ℃		
	PR LIGHTING Software Version	PR LIGHTING Display Board	PR LIGHTING Display Board = X.X.X		
		PR LIGHTING Driver Board 1	PR LIGHTING Driver Board 1 = X.X.X		
		PR LIGHTING Pan and Tilt	PR LIGHTING Pan and Tilt = X.X.X		
		PR LIGHTING Power Board	PR LIGHTING Power Board = X.X.X		
PR LIGHTING Test Modes	Test Modes Factory Setup	Factory Setup Off			
		Factory Setup On			
	Test Modes Self Test	Self Test Off			
		Self Test On			
PR LIGHTING Lamp Manual Control	Lamp Status	Status = XX Control= XX			

	PR LIGHTING Turn Lamp On				
	PR LIGHTING Turn Lamp Off				
PR LIGHTING Operation Mode	Mode= DMX512				
	Mode = Master mode	Select Memory User Memory 1			
		Select Memory User Memory 2			
		Select Memory Preset Memory 1			
		Select Memory Preset Memory 2			
		Select Memory Preset Memory 3			
	Mode = Slave mode	Select Memory User Memory 1			
		Select Memory User Memory 2			
		Select Memory Preset Memory 1			
		Select Memory Preset Memory 2			
		Select Memory Preset Memory 3			
	Mode = Static Scene				
User Memory	Edit User Memory	User Memory1	Scene XX	Cyan	Cyan XXX
				Yellow	Yellow XXX
				Magenta	Magenta XXX
				Focus	Focus XXX
				Frost	Frost XXX
				Dimmer	Dimmer XXX
				Strobe	Strobe XXX
				Pan High	Pan High XXX
				Pan Low	Pan Low XXX
				Tilt High	Tilt High XXX
				Tilt Low	Tilt Low XXX
				M-S peed	M-Speed XXX
				Delay	Delay XX Seconds （0.25s~100min）
				Link To Step	Link To Step XXX （1~32）
		User Memory 2	Scene XX （1~32）	Dimmer	Dimmer XXX

				Yellow	Yellow XXX（0~255）
				Magenta	Magenta XXX（0~255）
				Focus	Focus XXX
				Frost	Frost XXX
				Dimmer	Dimmer XXX
				Strobe	Strobe XXX
				Pan High	Pan High XXX
				Pan Low	Pan Low XXX
				Tilt High	Tilt High XXX
				Tilt Low	Tilt Low XXX
				M-Speed	M-Speed XX(001~255)
				Delay	Delay XX Seconds（0.25s~100min）
				Link To Step	Link To Step XXX（1~32）
		Static Scene	Cyan	Cyan XXX（0~255）	
			Yellow	Yellow XXX（0~255）	
			Magenta	Magenta XXX（0~255）	
			Focus	Focus XXX	
			Frost	Frost XXX	
			Dimmer	Dimmer XXX	
			Strobe	Strobe XXX	
			Pan High	Pan High XXX	
			Pan Low	Pan Low XXX	
			Tilt High	Tilt High XXX	
			Tilt Low	Tilt Low XXX	
	Init User Memory	Reset Static Scene	Reset Static Scn <Unlock> 2 3 & 4		
		Reset User Memory 1	Reset User 1 ? <Unlock> 2 3 & 4		
		Reset User Memory 2	Reset User 2 ? <Unlock> 2 3 & 4		

DMX PROTOCOL

SHORT MODE	STANDARD MODE	FUNCTION	DMX		DESCRIPTION
1	1	CYM-Cyan	000-255		Linear adjust from light to dark
2	2	CYM-Yellow	000-255		Linear adjust from light to dark
3	3	CYM-Magenta	C=Y=255	000-127	Linear adjust from light to dark
				128-255	CYM colour mixing Macros from fast to slow
			C≠255 Or Y≠255	000-255	Linear adjust from light to dark
4	4	Focus	000-255		Linearly adjustable from far to near
5	5	Pan	000-255		Pan rotation 400°
6	6	Tilt	000-255		Tilt rotation 250°
7	7	Strobe	000-010		white
			011-255		From slow to fast
8	8	E-Dimmer	000-255		Linearly adjustable from full power to half
9	9	Dimmer	000-255		Linearly adjustable from light to dark
	10	Pan & Tilt Speed	000-255		Pan&Tilt speed from fast to slow
	11	Pan Fine	000-255		Pan rotation in 16 precision
	12	Tilt Fine	000-255		Pan rotation in 16 precision
10	13	Control	000-048		Reserved
			049-080		Reset
			081-112		Reserved
			113-144		Lamp off (stop in DMX value for 10 s)
			145–168		Reserved
			169-200		Lamp power reduced to 50%
			201-223		Reserved
			224-255		Lamp on

MAINTENANCE

If the projector's 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, aged lamps run to the extremity of their life might explode. If the projector does not function, check the fuses on the power socket of the projector, they should only be replaced by fuses of the same specification. Should these be damaged call a qualified technician before replacement. The projector has thermal protection device that will switch off the projector in case of overheating, should either of these operate, check that the fans are not blocked, and if they are dirty clean them before switching on the projector again. Check that the fans are operational, if not call a qualified technician.

Any maintenance work should only be carried out by qualified technicians.

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 lens and dichroic colour filters should also be regularly cleaned to maintain an optimum light output. **Do NOT use any type of solvent on dichroic colour filters.**

Cleaning frequency depends on the environment in which the fixture operates: damp, smoke or particularly dirty surroundings can cause greater accumulation of dirt on the unit's optics. A soft cloth and typical glass cleaning products should be used in cleaning. It is recommended to clean the external optics at least once every 20 days and clean the internal optics at least once every 30 / 60 days.

Do not use any organic solvent, e.g. alcohol, to clean the reflector mirror, dichroic colour filters or housing of the apparatus.

TROUBLESHOOTING

PROBLEM	ACTION
The projector doesn't switch on	➢ Check the fuse on the power socket. ➢ Replace the lamp.
The projector only functions intermittently	➢ Make sure the fan is working and not dirty.
Defective projection	➢ Check the lenses are not broken. ➢ Remove dust or grease from the lenses.
The project image appears to have a halo	➢ Make sure the lamp is installed correctly. ➢ Carefully clean the optical group lenses and the projector components.
The beam appears dim	➢ Check the optics is clean. ➢ Replace with a new lamp of the specified type and rating.

TECHNICAL DATA

VOLTAGES:

220V AC，50/60Hz

Options:　　　230/240V AC，50/60Hz

POWER CONSUMPTION:

2650W@220V

LAMP:

Type	XQ2000
Colour Temperature	6000°K
Socket	Anode SFa27-14, Cathode SFc27-14, double ends
Manufacturers Rated Lamp Life	800 hours

COLOURS:

Smooth CYM colour mixing system

FOCUS:

DMX controlled focus

DIMMER:

0-100% linearly adjustable

SHUTTER:

1~17 F.P.S

BEAM ANGLE:

13°～22° adjustable

CONTROL:

DMX512

10 channels in short mode, 13 channels in standard mode, 3-pin DMX 512 interface

Master/Slave control mode

Stand-alone control mode

HEAD MOVEMENT:

Pan 400º, Tilt 250º with auto position correction

OTHER FUNCTIONS:

Programmable functions

Adjustable Pan & Tilt speed

Fixture and lamp usage time display

Overheating protection

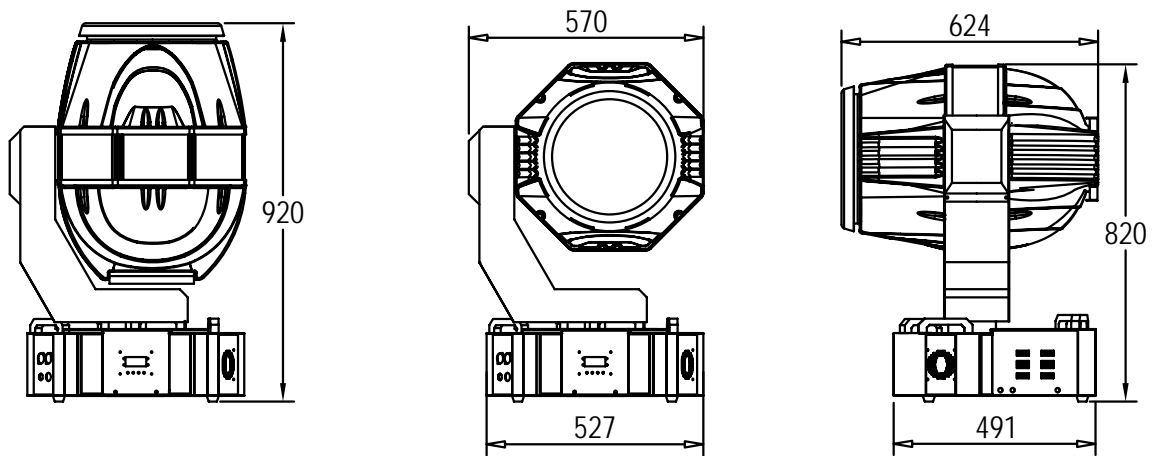Adjustable brightness and contrast of LCD display

HOUSING:

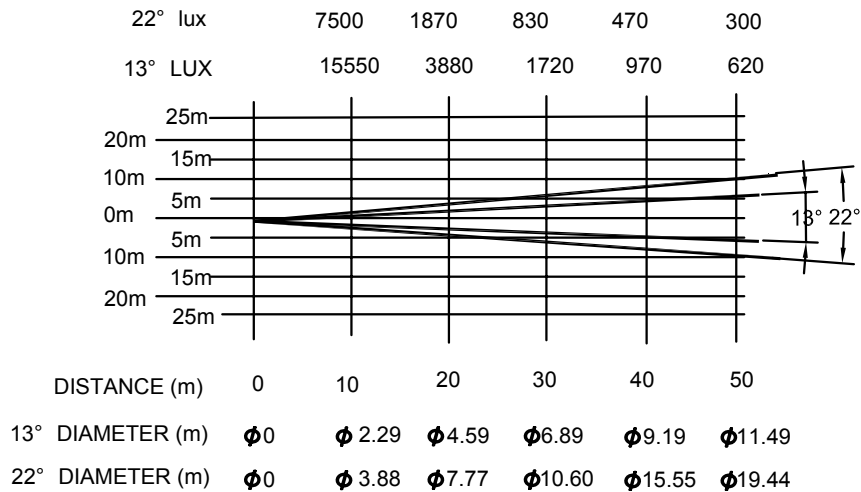High strength aluminium alloy and industrial plastic and composite plastic, IP20

WEIGHT:

58Kg

SIZES:

See at below

LIGHT OUTPUT:

| 22° lux | 7500 | 1870 | 830 | 470 | 300 |
| 13° LUX | 15550 | 3880 | 1720 | 970 | 620 |

DISTANCE (m)	0	10	20	30	40	50
13° DIAMETER (m)	φ0	φ2.29	φ4.59	φ6.89	φ9.19	φ11.49
22° DIAMETER (m)	φ0	φ3.88	φ7.77	φ10.60	φ15.55	φ19.44

ELECTRICAL DIAGRAM
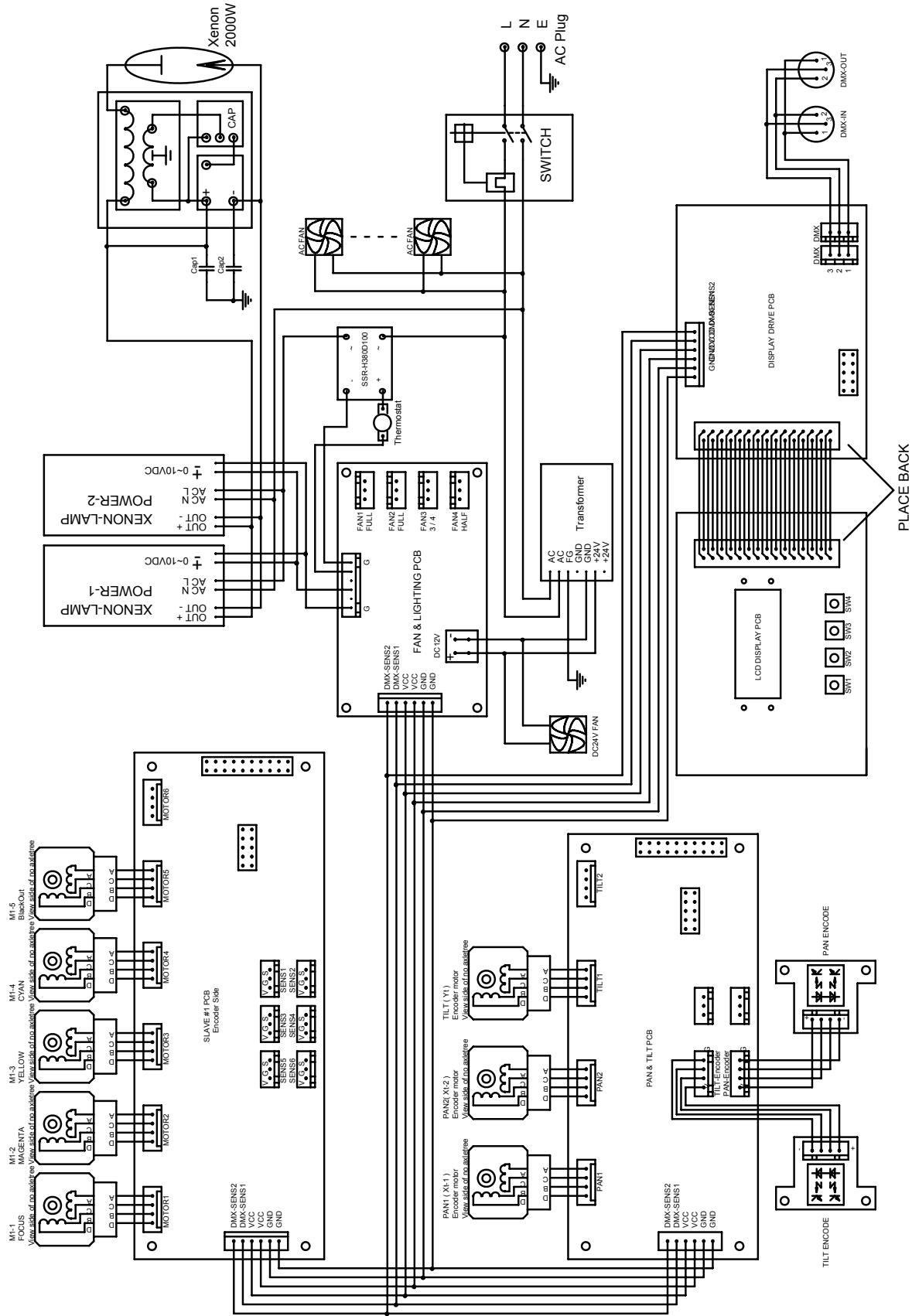
COMPONENT ORDER CODES

NAME	PART NO.	QUANTITY	REMARK
POWER SUPPLY	192010128	1	HCH120-24
IGNITOR	040090044	1	
POWER SUPPLY FOR LAMP	390120052	2	1000W
RELAY	192010026	1	H380D100
THERMOSTAT	190010054	1	250V-10A　95℃
TILT DRIVE BELT	290151221	2	HTD459-3M-6
PAN DRIVE BELT	290151243	1	HTD711-3M-10
FAN IN TOP BOX	030060022	2	230V/22W 120X120
FAN IN TOP BOX	030069010	2	3E-230B-W
FAN IN BASE	030069006	1	DV24V
LAMP	100060007	1	XQ2000W
CYAN RING	094990023	1	
YELLOW RING	094990022	1	
MAGENTA RING	094990024	1	
PAN MOTOR	030040130	2	23HS3030
TILT MOTOR		1	
CYM MOTOR	030040094	3	17HD0013-35L
FOCUS MOTOR		1	
DIMMER MOTOR		1	
PAN/TILT DRIVE PCB	230020201	1	
MOTOR DRIVE PCB	230020202	1	
DISPLAY DRIVE PCB	230020200	1	
POWER PCB	230020203	1	

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