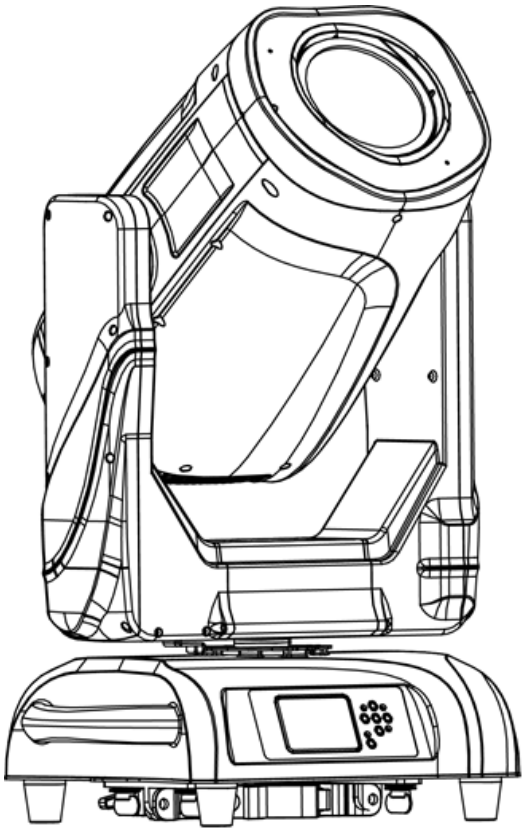
HAVOCHIP420G

420W Globe Beam Spot Wash Moving Head

USER MANUAL



For your safety, please read this user manual carefully before use.

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www.event-lighting.com.au Version 1.1

Safety Instructions

Warning

- Do not open this device, there are no user-serviceable parts inside. Risk of electric shock.
- Do not look directly at the light source from close range.
- Avoid contact with the unit during operation, as the housing will become hot. Allow the fixture to cool for at least 15 minutes after turning off before touching.
- Install this device in a location with adequate ventilation, at least 50cm from adjacent surfaces.
- Do not operate this device, within 7m of any flammable material.
- Use a safety chain when mounting this device overhead.
- Do not operate this device if the housing, lenses, or cables appear damaged.
- Do not connect this device to a dimmer or rheostat.
- Do not operate this device at temperatures outside -15°C to 45°C.
- **Only** connect this device to a grounded and protected circuit.
- **Only** use the hanging bracket to carry this device.
- Stop using this device immediately if a serious operating problem becomes apparent.

Important

Only use a Seetronic Outdoor DMX cable in the device's DMX outport. The use of other DMX cables will result in the cable becoming stuck in the port, requiring the unit to be repaired.

Power Input and Linking

This device has an auto-switching power supply work with input voltage range of 100~240 VAC, 50/60 Hz. Link up to the maximum 10A. DO NOT exceed this number.

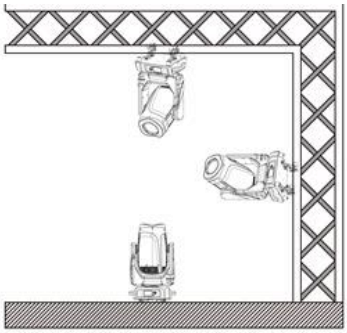
Fuse Replacement

If the fine-wire fuse of the device fuses, replace the fuse with one of the same rating. Before replacing the fuse, unplug the device from the power source.

Fuse Replacement Steps

1. Unscrew the fuse holder located on the rear panel from the housing.
2. Remove the old fuse from the holder.
3. Install the new fuse into the holder.
4. Place the fuse holder back into the housing and secure tightly.

Product Installation



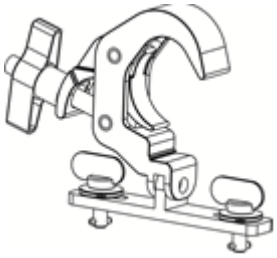
This product can be mounted in many orientations, provided each individual device is secured by the use of the correct mounting bracket.

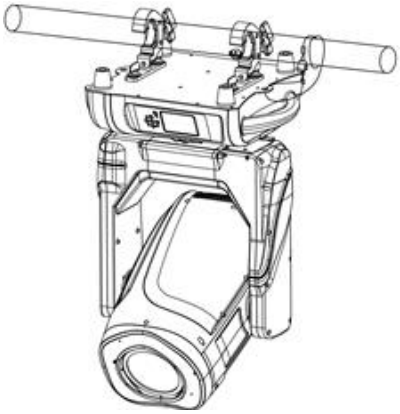
The mounting point must be able to support a weight of 10 times the unit's weight. When the fixture is hung, always also secure the device with a safety chain. Fasten the safety chain at a position so that limits maximum fall of the projector to 20cm.

Step 1
Fix the clamp onto the supplied omega bracket.

Step 2
Fix the clamp and bracket on the bottom of panel then fasten the quick-locks.

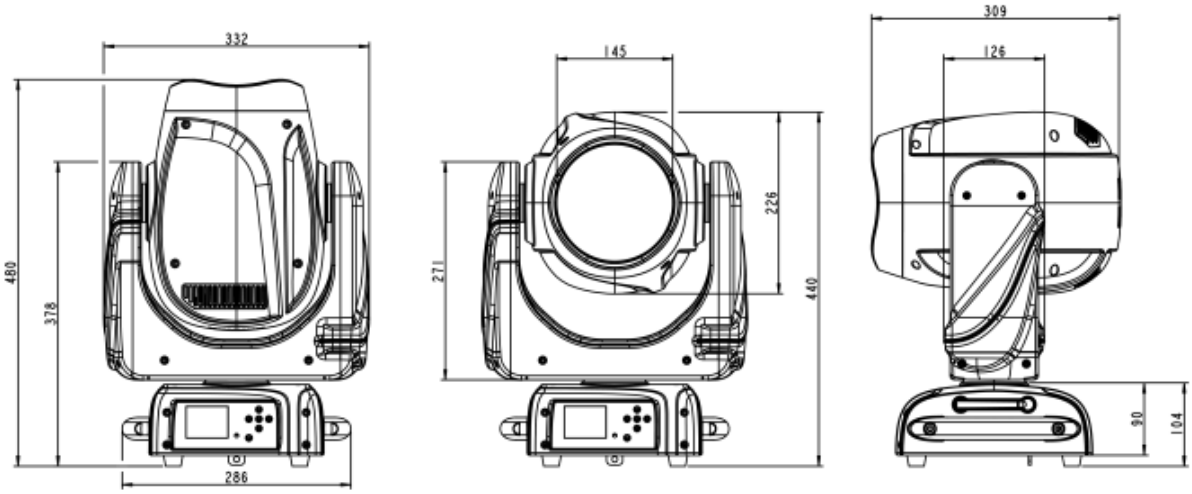
Step 3
Fix the whole device onto appropriate truss and fasten the clamps, loop safety chain using the truss or other fixing point.





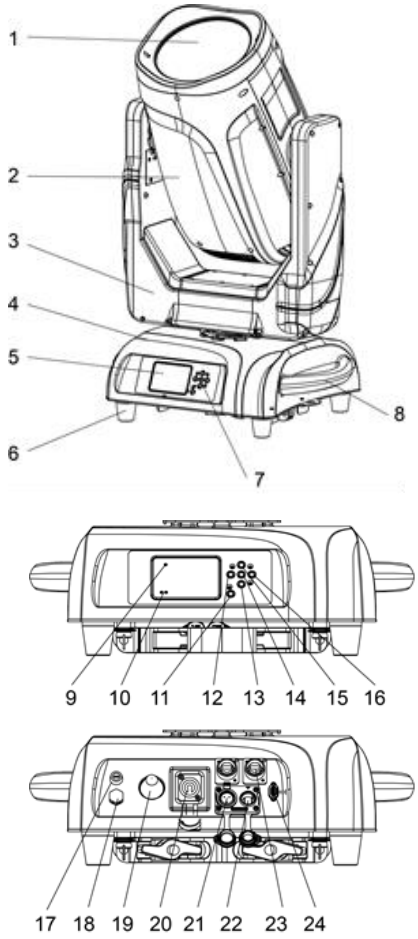
Dimensions

Dimensions in millimetres (mm)



Product Appearance

1. Project lens
2. Head
3. Arm
4. Base
5. Display
6. Foot stand
7. Operation button
8. Handle
9. Wireless Indicator
10. Ethernet
11. Battery indicator
12. Left button
13. Down button
14. Enter button
15. Up button
16. Right button
17. Fuse
18. Vent
19. Antenna
20. Power in
21. Ethernet
22. 3-pin DMX in
23. 3-pin DMX out
24. USB



Lux Chart

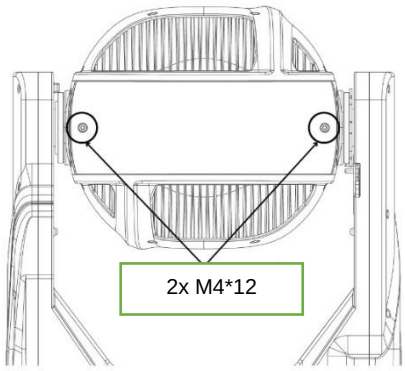
Lux			
	5.0m	10.0m	15.0m
@1°	Ø0.17	Ø0.29	Ø0.45
Spot	701,600	317,200	141,600
Beam	601,300	185,100	78,030
@14°	Ø1.32	Ø2.57	Ø3.85
Spot	20,200	5,150	2,270
Beam	11,600	2,990	1,290

Lux			
	5.0m	10.0m	15.0m
@4°	Ø0.46	Ø0.8	Ø1.05
Spot	244,900	87,500	47,900
Beam	236,600	86,600	48,400
@25°	Ø2.86	Ø5.7	Ø6.65
Spot	8,100	2,070	937
Beam	8,130	2,060	900

Globe Replacement

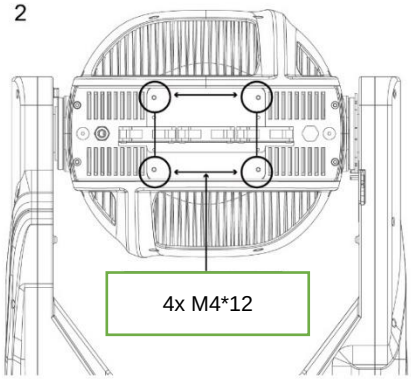
Step 1
Power off the fixture then use a hex screw driver to remove the two Hexagon M4*12 screws that fix the rear panel to the housing. Remove the rear panel.

1



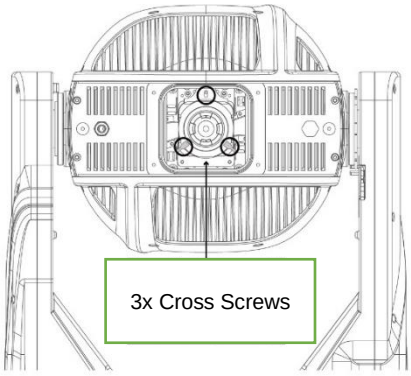
Step 2
Locate the 4 hexagon screws that mount the head fan to the housing and carefully loosen the screws to remove the fan. Do not disconnect fan cable.

2



Step 3
Locate and loosen adjustable pressing plate using a cross head screwdriver. Remove the lamp and disconnect positive and negative cables from it. Replace lamp and reconnect cabling then proceed to tighten pressing plate. Power on fixture.

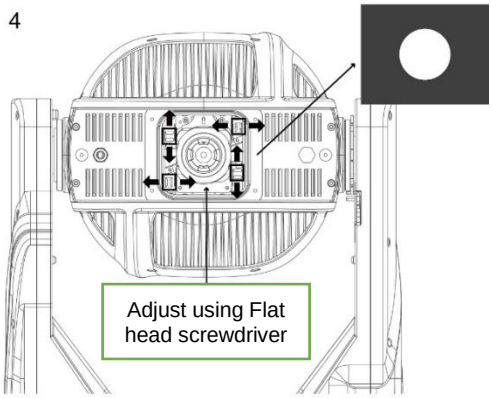
3



Step 4
After 5 minutes, check the hot spot indicator to ensure correct positioning of lamp. If the lamp requires adjustment, use a flat head screw driver to align lamp as shown in image 4.
Warning – Lamp will be hot – use insulated gloves when adjusting lamp.

Once lamp adjustment is finalised, re-install the fan and rear housing.

4



Colour & Gobo Wheels

No.	Colour	Description
1		Open
2		Red
3		Orange
4		Cyan
5		Light Green
6		Light Yellow
7		Green
8		Magenta
9		Dark blue
10		Dark yellow
11		Blue
12		CTO 5600K
13		CTO 6500K
14		UV

Position	Static	Rotating
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

Control Board Operation

Menu Map

Description of icons in the menu.

CONNECT	SET	INFOMATION	LIGHT	PROGRAM
				

Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Connect	Address	Value (1-512)		
	Control Protocol	DMX/W-DMX/ SACN/ ARTNET		
	DMX Mode	Standard		
	Wireless	WDMX On/Off	On/Off	
		WDMX Mode	Transmitter/ Receiver	
		TX Link	On/Off	
		TX Unlink	On/Off	
		RX Reset	On/Off	
		DMX To WDMX (TX)	On/Off	
		WDMX To DMX (RX)	On/Off	
	Ethernet Setting	ARTNET Settings	Ip Address	2.xxx.xxx.xxx
			NET	xxxxx
			SUBNET	xxxxx
			UNIVERSE	xxxxx
		SACN Settings	IP Address	xxxxx
			Universe	xxxxx
			Merge Mode	OFF/HTP/ LTP
		Ethernet to DMX	ON/OFF	
Setup	Fixture Settings	Lamp	Turn On	
			Automatic On	
		DMX Fault	Hold/Blackout	
		Temperature Unit	Fahrenheit /Celsius	
		Hibernation	Off, 01m~99m(15min)	

		Fan Mode	Auto/High/Silent	
		Dimmer Curve	Linear/ S-Curve/ Square Law/ Inverse Square Law	
		Dimmer Speed	Auto/Fast/Medium/ Slow	
		Led Frequency	600hz/1200 Hz/2000 Hz/4000 Hz/6000hz/25khz/ 50khz	
		Menu Language	En/Fr/Sp/简/繁 (En)	
		Transfer Configuration	Without DMX Address	
			With DMX Address	
	Movement	Pan Reverse	On/Off	
		Tilt Reverse	On/Off	
		Pan/Tilt Feedback	On/Off	
		Pan/Tilt Mode	Slow/Medium/Fast	
		Totem Mode	Off/Up/Down	
	Screen	Backlight	On/10s/20s/30s	
		Flip Display	On/Off/Auto	
		Status Led	On/Off	
		Key Lock	On/Off	
Information	Fixture Time	Fixture Hours	Total	(Only read)
			Partial	(Read & reset)
		Current Hours	Total	(Only read)
			Partial	(Read & reset)
		Lamp Hours	Total	(Only read)
			Partial	(Read & reset)
		Power On Cycle	Total	(Only read)
			Partial	(Read & reset)
	Temperature	Near Source Temp, Driver PCB Temp, Led PCB Temp, …		
	Lamp Parameters	Voltage Current Power		

	Fan Speed	Near Source Fan, Base Fan, …		
	Channel Value	Pan...		
	Error Message	Pan, Tilt...		
	Fixture Model	xxxxxxxxxx		
	RDM UID	(Read And Reset)		
	Software Ver	1u01 V1.0.00...		
Service	Reset	All		
		Pan & Tilt		
		...		
	Calibration	Password	=xxx	
		Pan	=xxx	
		...		
		Focus	=xxx	
		Gobo 1	Focus	
		…	…	
		Gobo 8	Focus	
		Encoder Reset		
	Manual	Pan		
	Control	...		
	Reload Default	Basic Reload	On/Off	
		Program Reload	On/Off	
		Password		
		Factory Reload	On/Off	
	Transfer Software			
Factory	RDM PID Code	xxx		
	Locking	Password		
		xxx Hours		
		Unlocking Code		
	Calibration	Password	=xxx	
		Pan	=xxx	
		...		
		Zoom		
		Focus		
		Gobo 1 Focus	Focus	
		…		
		Gobo 8 Focus	Focus	

		Gobo 1 Index	Index	
		…		
		Gobo 8 Index	Index	
		…		
		Max Temperature	80~139°C/176~282°C	
	Reset All Data	xxx		
Program	Play	DMX Receive		
		Slave Receive	Set Slave Receive 1-3	
		Sequence	Set Master/Alone	
		Music	Set Master/Alone	
	Select Chase	Select Chase part 1 Select Chase part 2 Select Chase part 3	Select Chase 1 - 8	
	Edit Chase	Select Chase 1 to 8	Chase Test	
			Select Step 1 - 64	Set Scene 1 - 250
	Edit Scenes	Select Edit Scene 001 - 250	Select function to edit, pan, tilt, shutter, ….	Set Function 0 - 255
	Scenes Record	Select ScXX= to ScXX		

More functions

- RDM - With this function, users can remotely control functions of the device, such as changing DMX address, reverse pan/tilt settings and check information such as temperature, power consumption, fan speed, etc. Every device has a unique RDM code programmed at manufacture to distinguish from each other. It is not recommended for users to change this code.

- Software upgrade function via DMX cable. If there is any new firmware for this device, it can be upgraded simply via a software upgrade box, no need to change any mechanical parts. The upgrade box is not included in the package, if need any further assistance please just contact your authorized dealer.

- Hibernation. The device will enter sleeping mode if activated after a period of disconnecting DMX signal to save the power consumption, and will return immediately as soon as the DMX signal is sent again.

- Battery Charge Metre. This function is pre-programmed in the display PCB as an option for installation of a 10440 600mAh 3.7V rechargeable lithium battery. Users could then power on the display and change settings without connecting to mains power.

- Display back-up communication IC. There is a back-up communication IC installed in the display PCB.

- Display Flip. Press the UP and DOWN buttons for 3 seconds and the display will be flipped.

DMX

The device is controlled by universal DMX 512 protocol, DMX address is the start channel used to receive instructions from the external controller. For independent control, each fixture must be assigned its unique address control channels. For example, this device has 24 channels and there are several fixtures that need to be independently controlled, the first fixture is set at 1, and second fixture at 25 third one at 49 etc. If the devices have the same address, they will behave synchronically, display will flash when no DMX signal is received.

DMX Chart

Channel St	name	function	Min DMX	Max DMX
1	Pan	Pan Coarse	0	255
2	Pan fine	Pan Fine	0	255
3	Tilt	Tilt Coarse	0	255
4	Tilt fine	Tilt Fine	0	255
5	XY speed	Fastest to Slowest	0	255
6	Shutter	Shutter closed	0	1
		Strobe effect slow to fast	2	62
		No function (shutter open)	63	64
		Pulse in from slow to fast	65	125
		No function (shutter open)	126	127
		Pulse out from slow to fast	128	188
		No function (shutter open)	189	190
		Random strobe effect slow to fast	191	251
		No function (shutter open)	252	255
7	Dimmer	Dimmer (0->100%)	0	255
8	Dimmer Fine	Dimmer (0->100%)	0	255
9	Colour	Indexed		
		Position 1 (Open)	0	9
		Position 2	10	11
		Position 3	12	13
		Position 4	14	15
		Position 5	16	17
		Position 6	18	19
		Position 7	20	21
		Position 8	22	23
		Position 9	24	25
		Position 10	26	27
		Position 11	28	29
		Position 12	30	31
		Position 13	32	33
		Position 14	34	35
		Position 15	36	37

		Position 16	38	39
		Position 17	40	41
		Position 18	42	43
		Position 19	44	45
		Position 20	46	47
		Position 21	48	49
		Position 22	50	51
		Position 23	52	53
		Position 24	54	55
		Position 25	56	57
		Position 26	58	59
		Position 27	60	61
		Colour Bounce		
		Position 1 to 3(Slow to Fast)	62	67
		Position 2 to 4(Slow to Fast)	68	72
		Position 3 to 5(Slow to Fast)	73	77
		Position 4 to 6(Slow to Fast)	78	82
		Position 5 to 7(Slow to Fast)	83	87
		Position 6 to 8(Slow to Fast)	88	92
		Position 7 to 9(Slow to Fast)	93	97
		Position 8 to 10(Slow to Fast)	98	102
		Position 9 to 11(Slow to Fast)	103	107
		Position 10 to 12(Slow to Fast)	108	112
		Position 11 to 13(Slow to Fast)	113	117
		Position 12 to 14(Slow to Fast)	118	122
		Position 13 to 15(Slow to Fast)	123	127
		Position 14 to 16(Slow to Fast)	128	132
		Position 15 to 17(Slow to Fast)	133	137
		Position 16 to 18(Slow to Fast)	138	142
		Position 17 to 19(Slow to Fast)	143	147
		Position 18 to 20(Slow to Fast)	148	152
		Position 19 to 21(Slow to Fast)	153	157
		Position 20 to 22(Slow to Fast)	158	162
		Position 21 to 23(Slow to Fast)	163	167
		Position 22 to 24(Slow to Fast)	168	172
		Position 23 to 25(Slow to Fast)	173	177
		Position 24 to 26(Slow to Fast)	178	182
		Position 25 to 27(Slow to Fast)	183	187
		Wheel Spin		
		CW Fastest to Slow	188	219
		Stop	220	223
		CCW Slow to Fastest	224	255
10	Rot Gobo	Indexed		

		Gobo 1 (Open)	0	1
		Gobo 1 (Spot Open)	2	7
		Gobo 2	8	12
		Gobo 3	13	17
		Gobo 4	18	22
		Gobo 5	23	27
		Gobo 6	28	32
		Gobo 7	33	37
		Gobo 8	38	42
		Gobo 9	43	47
		Gobo 10	48	52
		Indexed With Shake		
		Gobo 1 (From Slow to Fast)	53	67
		Gobo 2 (From Slow to Fast)	68	82
		Gobo 3 (From Slow to Fast)	83	97
		Gobo 4 (From Slow to Fast)	98	112
		Gobo 5 (From Slow to Fast)	113	127
		Gobo 6 (From Slow to Fast)	128	142
		Gobo 7 (From Slow to Fast)	143	157
		Gobo 8 (From Slow to Fast)	158	172
		Gobo 9 (From Slow to Fast)	173	187
		Wheel Spin		
		CW Fastest to Slow	188	219
		Stop	220	223
		CCW Slow to Fastest	224	255
11	Gobo Rot	Indexed		
		Linearly from 0° to 360°	0	187
		Gobo Rot Spin		
		CW Fastest to Slow	188	219
		Stop	220	223
		CCW Slow to Fastest	224	255
12	Gobo Rot Fine	Linearly from 0° to 360° (Indexed)	0	255
13	Gobo	Indexed		
		Gobo 1 (Open)	0	9
		Gobo 2	10	13
		Gobo 3	14	17
		Gobo 4	18	21
		Gobo 5	22	25
		Gobo 6	26	29
		Gobo 7	30	33
		Gobo 8	34	37
		Gobo 9	38	41
		Gobo 10	42	45

		Gobo 11	46	49
		Gobo 12	50	53
		Gobo 13	54	57
		Gobo 14	58	61
		Indexed With Shake		
		Gobo 1 (From Slow to Fast)	62	70
		Gobo 2 (From Slow to Fast)	71	79
		Gobo 3 (From Slow to Fast)	80	88
		Gobo 4 (From Slow to Fast)	89	97
		Gobo 5 (From Slow to Fast)	98	106
		Gobo 6 (From Slow to Fast)	107	115
		Gobo 7 (From Slow to Fast)	116	124
		Gobo 8 (From Slow to Fast)	125	133
		Gobo 9 (From Slow to Fast)	134	142
		Gobo 10 (From Slow to Fast)	143	151
		Gobo 11 (From Slow to Fast)	152	160
		Gobo 12 (From Slow to Fast)	161	169
		Gobo 13 (From Slow to Fast)	170	178
		Gobo 14 (From Slow to Fast)	179	187
		Wheel Spin		
		CW Fastest to Slow	188	219
		Stop	220	223
		CCW Slow to Fastest	224	255
14	Prism 1	Open	0	127
		Prism insert	128	255
15	Prism 1 Rotation	Indexed		
		Linearly from 0° to 360°	0	187
		Prism Rotation Spin		
		CW Fastest to Slow	188	219
		Stop	220	223
		CCW Slow to Fastest	224	255
16	Prism 2	Open	0	127
		Prism insert	128	255
17	Prism 2 Rotation	Indexed		
		Linearly from 0° to 360°	0	187
		Prism Rotation Spin		
		CW Fastest to Slow	188	219
		Stop	220	223
		CCW Slow to Fastest	224	255
18	Frost	Continuous		
		Linearly from 0% to 100%	0	255
19	Zoom	Linearly from in to out	0	255
20	Zoom Fine	Linearly from in to out	0	255

21	Focus	Linearly from in to out	0	255
22	Focus Fine	Linearly from in to out	0	255
23	Beam Mode	Spot	0	127
		Beam	128	255
24	Control	No Function/Safe	0	5
		Pan Reverse On	6	7
		Pan Reverse Off	8	9
		Tilt Reverse On	10	11
		Tilt Reverse Off	12	13
		XY Speed Mode Fast	14	15
		XY Speed Mode Medium	16	17
		XY Speed Mode Slow	18	19
		XY Blackout On	20	21
		XY Blackout Off	22	23
		Colour Wheel Blackout On (index)	24	25
		Colour Wheel Blackout Off (index)	26	27
		Rot Gobo Wheel Blackout On (index)	28	29
		Rot Gobo Wheel Blackout Off (index)	30	31
		Fixed Gobo Wheel Blackout On (index)	32	33
		Fixed Gobo Wheel Blackout Off (index)	34	35
		All Blackout On	36	37
		All Blackout Off	38	39
		Flip Display On	40	41
		Flip Display Off	42	43
		Flip Display Auto	44	45
		No Signal Hold	46	47
		No Signal Blackout	48	49
		Status Led On	50	51
		Status Led Off	52	53
		Reset All	54	55
		Reset Pan/Tilt	56	57
		Reset Colour	58	59
		Reset Gobo	60	61
		Reset Shutter	62	63
		Reset Other	64	65
		Lamp Off	66	67
		Lamp On	68	69
		Defogging Fan from low speed to high speed	70	85
		Defogging Fan off	86	87
		Reserved	88	253
		FACTORY DEFAULT OF CONTROL FUNCTIONS	254	255

Technical Specifications

Photometrics

- Light Source: USHIO NSL421 Lamp, 6,500 K
- Beam Angle: 1°-14°
- Spot Angle: 4° - 25°
- Output 14734 lumen
  Spot Mode:701600 lux at 5m at 1°
  Beam Mode: 236600 lux at 5m at 4°
- Lamp Lifespan: 2500 hrs at 380w, 3000h at 290w, 6000hr at hybrid power mode

Colour

- 13 Colours + Open
- Interchangeable
- Indexable
- Bidirectional rainbow

Gobos

- Fixed: 14 + Open
- Rotating: 9+ Open
- Animation

Effects

- Dimming: 0~100%
- Strobe: 0.5~26 Hz
- Focus: Motorised
- Prism: 6-linear + 8 facets overlapping
- Frost: Yes
- Zoom: Yes

Movement

- 8/16 bit Auto Reposition
- Pan: 540° (3.47 sec)
- Tilt: 265° (2.2 sec)

Power

- Input Voltage: 100~240 V AC, 50/60 Hz, 541 W
- Connection: Neutrik® PowerCON in/out
- Fuse: T8 A, 250 V

Control

- Operational Modes: DMX, auto, sound active, master/slave
- Control Protocol: DMX512, RDM (optional: W-DMX™)
- DMX Channels: 24
- Interface: 3-pin XLR,
- RDM function to change DMX address, display flip, X/Y reverse etc.
- Display: 2.4″ colour LCD control panel with battery power.
- Software Upgrade via DMX: Yes

Housing

- Materials: ABS & Steel, matte black finish
- Dimensions: 455x349x761mm
- Cooling: Multi sensor thermostat controlled variable speed fan
- IP rating: IP65
- Net Weight: 39.5 kg
- Rigging: 2x omega brackets with 1/4-turn quick locks

Warranty

Please refer to your local dealer or please contact Event Lighting Pty Ltd
Website: http://www.event-lighting.com.au