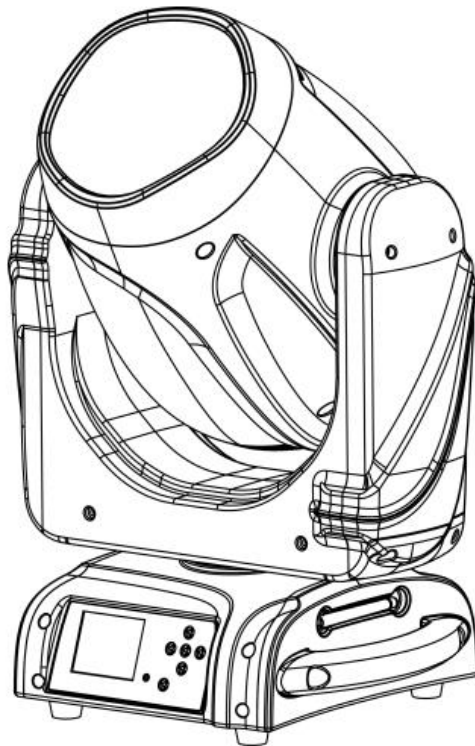# EVENT LIGHTING

HAVOCB120

120W LED Beam Moving Head

USER MANUAL

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

Event Lighting reserves the right to revise the manual at any time. Information and specifications within this manual are subject to change without notice. Event Lighting assumes no liability or responsibility for any errors or omissions. Please consult Event Lighting for any clarification or information regarding this item.

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 may 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, or connect this device to power, within 50cm of any flammable material.
- Use a safety chain when mounting this device overhead.
- Do not operate this device outdoors where excessive dust, heat, water, or humidity may affect it.
- 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.

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. The maximum number of units that can be power linked is 13 units at 240V.

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.
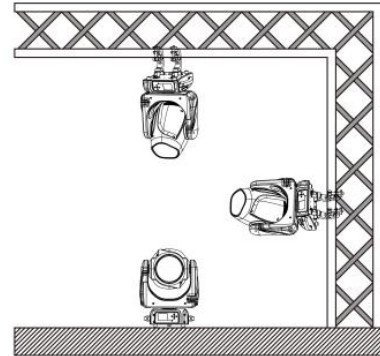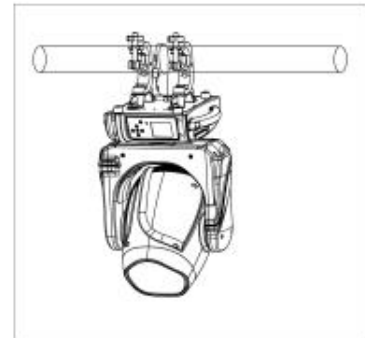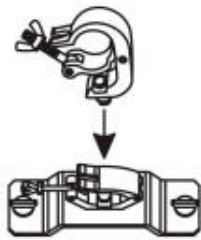
Step 1
Fix the clamp onto the supplied omega bracket.

Step 2
Fix the clamp and bracket on the bottom of panel then fasten the quick-locks.
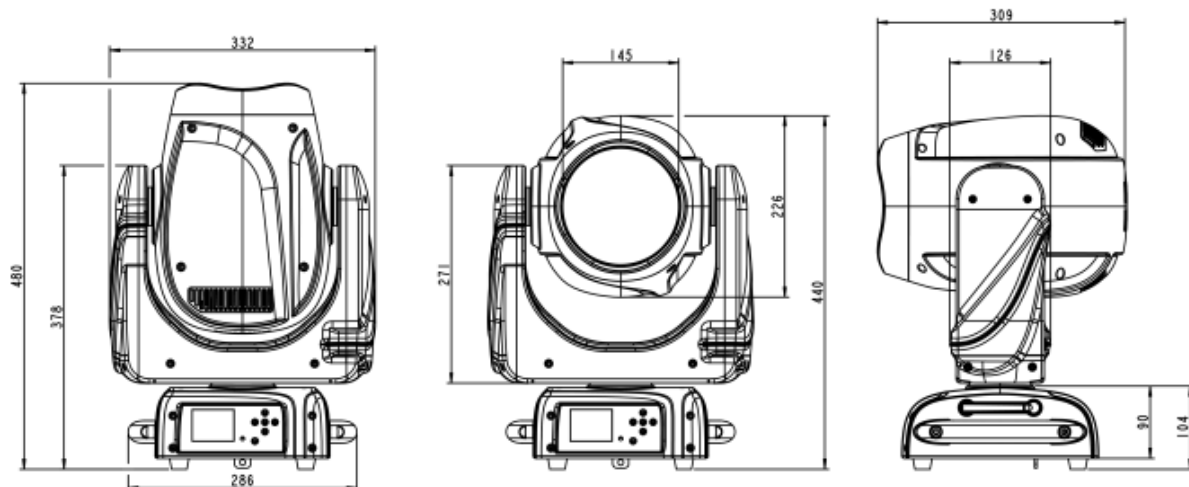
Step 3
Fix the whole device onto appropriate truss and fasten the clamps, loop safety chain using the truss or other fixing point.
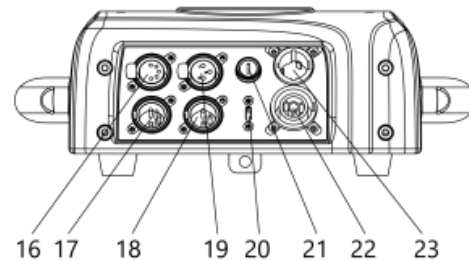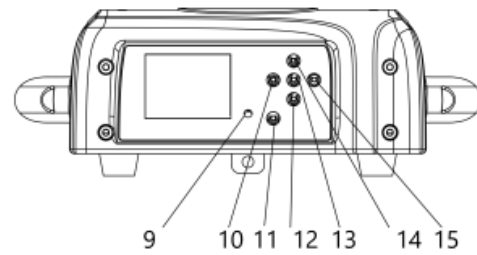
Dimensions
Dimensions in millimetres (mm)

Product Appearance

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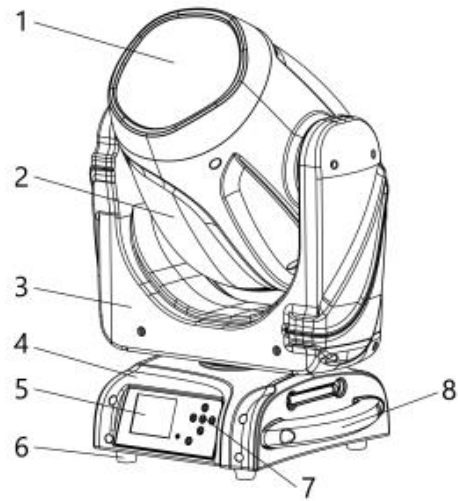
Lux Chart

Lux	@ 1°		
	5.0m	7.0m	10.0m
	Ø0.15	Ø0.22	Ø0.3
Full	150,000	82,000	40,900

Colour & Fixed Gobo Wheels

No.	DMX Position	Colour	Description
1	1		White
2	2		Red
3	4		Blue
4	6		Green
5	8		Orange
6	10		Cyan
7	12		Magenta
8	14		Cool White
9	16		Warm White
10	18		UV Filter
11	20		Pink
12	22		Lime
13	24		Bright Yellow
14	26		Dark Yellow
15	28		Dark Blue

No.	DMX Position	Gobo	Description
1	0		Open
2	2		Gobo 2
3	5		Gobo 3
4	8		Gobo 4
5	11		Gobo 5
6	14		Gobo 6
7	17		Gobo 7
8	20		Gobo 8
9	23		Gobo 9
10	26		Gobo 10
11	29		Gobo 11
12	32		Gobo 12
13	35		Gobo 13
14	38		Gobo 14
15	41		Gobo 15
16	44		Gobo 16
17	47		Gobo 17
18	50		Gobo 18

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 /Extended		
	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	
			NET	0
			SUBNET	0
			UNIVERSE	0
		SACN Settings	IP Address	
			Universe	0
			Merge Mode	OFF/HTP/ LTP
		Ethernet to DMX	ON	
			OFF	
Setup	Fixture Settings	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)
		Led 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,…		
	Fan Speed	Near Source Fan, Base Fan,…		
	Channel Value	Pan...		
	Error	Pan, Tilt...		

	Message			
	Fixture Model	xxxxxxxxxx		
	RDM UID	(Read And Reset)		
	Software Ver	1u01 V1.0.00...		
Service	Reset	All		
		Pan & Tilt		
		...		
	Calibration	Password		
		Pan		
		...		
		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		
		Pan		
		...		
		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 1 - 8	
		Select Chase part 2		
		Select Chase part 3		
	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		

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 two channel modes: 14/16, if we set the mode at 14 channel mode, and there are several fixtures that need to be independently controlled, the first fixture is set at 1, and second fixture at 15 third one at 29 etc. If the devices have the same address, they will behave synchronically, display will flash when no DMX signal is received.

DMX Chart

| Channel | | Name | Function | Min DMX | Max DMX |
Std	Ex				
1	1	Pan	Pan Coarse	0	255
2	2	Pan Fine	Pan Fine	0	255
3	3	Tilt	Tilt Coarse	0	255
4	4	Tilt Fine	Tilt Fine	0	255
5	5	XY Speed	Fastest To Slowest	0	255
6	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	7	Dimmer	Dimmer (0->100%)	0	255

	8	Dimmer Fine	Dimmer (0->100%)	0	255
8	9	Colour	Indexed		
			Position 1 (Open)	0	1
			Position 2 (Open/Red)	2	3
			Position 3 (Red)	4	5
			Position 4 (Red/Blue)	6	7
			Position 5 (Blue)	8	9
			Position 6 (Blue/Green)	10	11
			Position 7 (Green)	12	13
			Position 8 (Green/Orange)	14	15
			Position 9 (Orange)	16	17
			Position 10 (Orange/Cyan)	18	19
			Position 11 (Cyan)	20	21
			Position 12 (Cyan/Magenta)	22	23
			Position 13 (Magenta)	24	25
			Position 14 (Magenta/CTB)	26	27
			Position 15 (CTB)	28	29
			Position 16 (CTB/CTO)	30	31
			Position 17 (CTO)	32	33
			Position 18 (CTO/OPEN)	34	35
			Position 19 (Open)	36	37
			Position 20 (Open/Pink)	38	39
			Position 21 (Pink)	40	41
			Position 22 (Pink/Lime)	42	43
			Position 23 (Lime)	44	45
			Position 24 (Lime/Bright Yellow)	46	47
			Position 25 (Bright Yellow)	48	49
			Position 26 (Bright Yellow/Dark Yellow)	50	51
			Position 27 (Dark Yellow)	52	53
			Position 28 (Dark Yellow/Dark Blue)	54	55
			Position 29 (Dark Blue)	56	57
			Colour Bounce		
			Position 2 To 4 (Slow to Fast)	58	62
			Position 3 To 5 (Slow to Fast)	63	67
			Position 4 To 6 (Slow to Fast)	68	72
			Position 5 To 7 (Slow to Fast)	73	77
			Position 6 To 8 (Slow to Fast)	78	82
			Position 7 To 9 (Slow to Fast)	83	87
			Position 8 To 10 (Slow to Fast)	88	92
			Position 9 To 11 (Slow to Fast)	93	97
			Position 10 To 12 (Slow to Fast)	98	102
			Position 11 To 13 (Slow to Fast)	103	107
			Position 12 To 14 (Slow to Fast)	108	112
			Position 13 To 15 (Slow to Fast)	113	117

			Position 14 To 16 (Slow to Fast)	118	122
			Position 15 To 17 (Slow to Fast)	123	127
			Position 16 To 18 (Slow to Fast)	128	132
			Position 17 To 19 (Slow to Fast)	133	137
			Position 18 To 20 (Slow to Fast)	138	142
			Position 19 To 21 (Slow to Fast)	143	147
			Position 20 To 22 (Slow to Fast)	148	152
			Position 21 To 23 (Slow to Fast)	153	157
			Position 22 To 24 (Slow to Fast)	158	162
			Position 23 To 25 (Slow to Fast)	163	167
			Position 24 To 26 (Slow to Fast)	168	172
			Position 25 To 27 (Slow to Fast)	173	177
			Position 26 To 28 (Slow to Fast)	178	182
			Position 27 To 29 (Slow to Fast)	183	187
			Wheel Spin		
			CW Fastest to Slow	188	219
			Stop	220	223
			CCW Slow to Fastest	224	255
9	10	Gobo	Indexed		
			Gobo 1 (Open)	0	1
			Gobo 2	2	4
			Gobo 3	5	7
			Gobo 4	8	10
			Gobo 5	11	13
			Gobo 6	14	16
			Gobo 7	17	19
			Gobo 8	20	22
			Gobo 9	23	25
			Gobo 10	26	28
			Gobo 11	29	31
			Gobo 12	32	34
			Gobo 13	35	37
			Gobo 14	38	40
			Gobo 15	41	43
			Gobo 16	44	46
			Gobo 17	47	49
			Gobo 18	50	51
			Indexed With Shake		
			Gobo 2 (From Slow to Fast)	52	59
			Gobo 3 (From Slow to Fast)	60	67
			Gobo 4 (From Slow to Fast)	68	75
			Gobo 5 (From Slow to Fast)	76	83
			Gobo 6 (From Slow to Fast)	84	91

			Gobo 7 (From Slow to Fast)	92	99
			Gobo 8 (From Slow to Fast)	100	107
			Gobo 9 (From Slow to Fast)	108	115
			Gobo 10 (From Slow to Fast)	116	123
			Gobo 11 (From Slow to Fast)	124	131
			Gobo 12 (From Slow to Fast)	132	139
			Gobo 13 (From Slow to Fast)	140	147
			Gobo 14 (From Slow to Fast)	148	155
			Gobo 15 (From Slow to Fast)	156	163
			Gobo 16 (From Slow to Fast)	164	171
			Gobo 17 (From Slow to Fast)	172	179
			Gobo 18 (From Slow to Fast)	180	187
			Wheel Spin		
			CW Fastest to Slow	188	219
			Stop	220	223
			CCW Slow to Fastest	224	255
10	11	Prism 1	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
11	12	Prism 2	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
12	13	Frost	Linearly From in to Out	0	255
13	14	Focus	Linearly From in to Out	0	255
	15	Focus Fine	Linearly From in to Out	0	255
14	16	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

				Fixed Gobo Wheel Blackout On (Index)	28	29
				Fixed Gobo Wheel Blackout Off (Index)	30	31
				All Blackout On	32	33
				All Blackout Off	34	35
				Flip Display On	36	37
				Flip Display Off	38	39
				Flip Display Auto	40	41
				No Signal Hold	42	43
				No Signal Blackout	44	45
				Status Led On	46	47
				Status Led Off	48	49
				Reset All	50	51
				Reset Pan/Tilt	52	53
				Reset Colour	54	55
				Reset Gobo	56	57
				Reset Other	58	59
				Reserved	60	253
				Factory default of control functions	254	255

More functions

- RDM. RDM stands for "Remote Device Management", with this function, users can realize remote control of the device, such as remotely changing DMX address, reverse pan/tilt setting, check a lot of useful information such as temperature, power consumption, fan speed. Etc. Every single 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.

- Display battery, this function is prepaid in the display PCB, users just need to install a normal 10440 600mAh 3.7V rechargeable lithium battery, then users could power on the display and change settings without connecting to main power.

- Display back-up communication IC. There is a back-up communication IC installed in the display PCB, so users could replace at once if the original one is broken.

- Display flip. By press up and down button for more than 3 seconds, the display will flip automatically, this function is useful to read menu conveniently when device is hung.

Technical Specifications

Photometrics

- Light Source: 120 W White LED Module, 6,500 K
- Beam Angle: 1°
- Output: 2170 lumen, 150,000 lux on @ 5m
- PWM: 1200Hz
- LED Lifespan: 60,000 hours

Colour

- 14 Colours + Open
- Colour bounce effects

Gobos

- Fixed: 17 + Open Fixed Gobo Wheel

Effects

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

Movement

- 8 / 16 bit Auto Reposition

- Pan: 630° (4.3 sec) or 540° (3.9 sec)
- Tilt: 233° (2.2 sec)

Power

- Input Voltage: 100~240 V AC, 50/60 Hz, 172 W
- Connection: Neutrik® PowerCON in/out
- Fuse: T 3.15 A, 250 V

Control

- Operational Modes: DMX, auto, sound active, master/slave
- Control Protocol: DMX512, RDM (optional: W-DMX)
- DMX Channels: 14/16
- Interface: 3-pin XLR, 5-pin XLR
- RDM: Change DMX address, display flip, X/Y reverse.
- Display: 2.4″ colour LCD control panel with battery power.
- Software Upgrade via DMX: Yes

Housing

- Materials: ABS & Steel, matte black finish
- Cooling: Multi sensor thermostat controlled variable speed fan
- IP rating: IP20
- Net Weight: 12.75 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