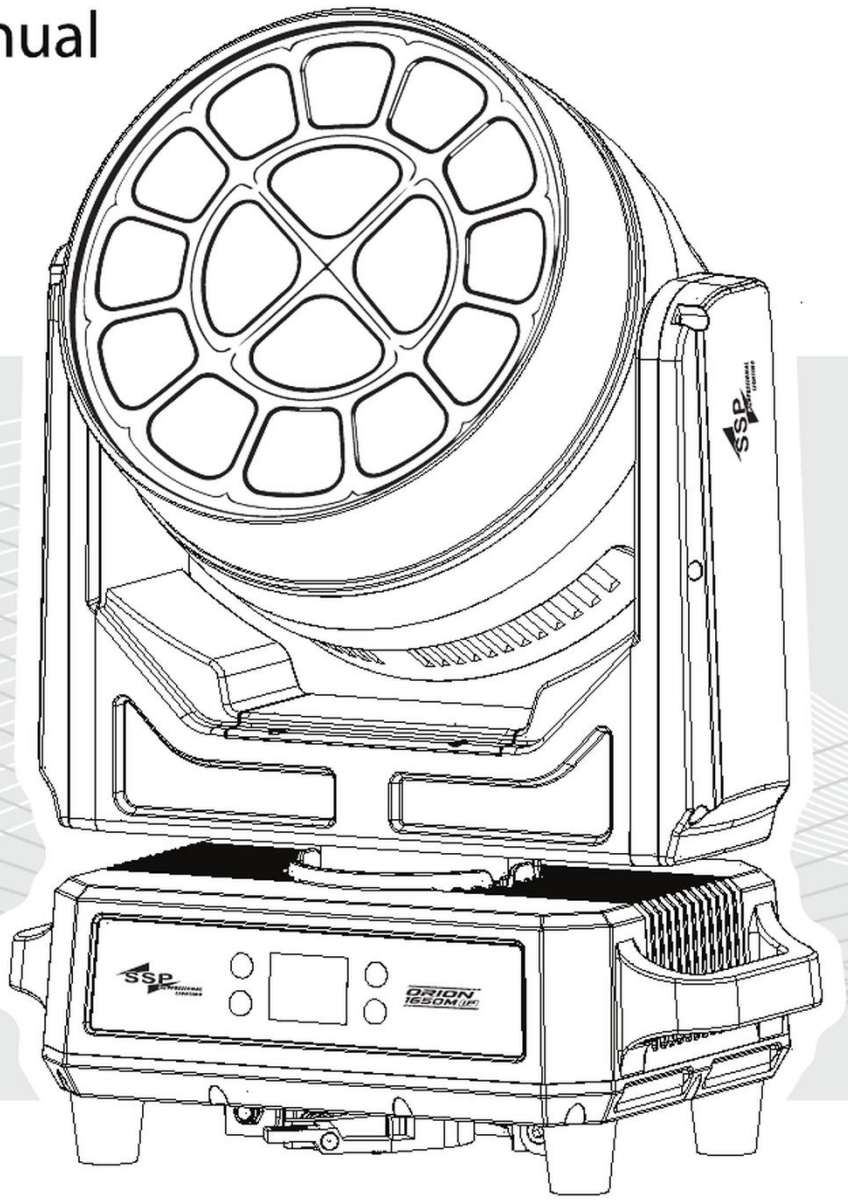
SSP PROFESSIONAL LIGHTING

ORION 1650M IP

User's Manual



LED MOVING HEAD

English

Please read the user manual carefully
before using the appliance.

ORION 1650 M IP USER MANUAL – INDEX

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ORION 1650 M IP USER MANUAL

1 Safety instruction

- Keep this guide for future reference. If you sell the unit, give this booklet to the new owner.
- Unpack and check for transport damage before use. Make sure the mains voltage and frequency match the unit.
- The yellow/green conductor must be earthed to avoid electric shock.
- Install the unit with adequate ventilation, at least 50 cm from adjacent surfaces. Do not block the ventilation slots.
- Disconnect the mains before replacing or servicing. Keep flammable materials away from the unit while it operates.
- Use a safety cable when fixing the unit. Carry the unit by its base, never by the head only.
- The maximum ambient temperature is Ta 40 °C. The surface can reach 85 °C. Do not touch the housing during operation.
- Turn the power off and wait about 15 minutes for the unit to cool before replacing or servicing it.
- Do not touch any wire during operation. Do not open the unit within five minutes of switching it off.
- Replace the housing, lenses or UV filter if they are visibly damaged.
- There are no user-serviceable parts inside. Never try to repair the unit yourself; contact an authorised service centre and use only the same type of spare parts.
- Stop using the unit immediately if a serious operating problem occurs.
- Mount the unit only through its screw holes on the bracket, fixed firmly to avoid vibration. The structure must hold 10 times the unit's weight. Use a safety cable rated for 12 times the unit's weight. Installation must be done by professionals, out of reach of people.

2 Technical specification

Item	Specification
Power voltage	AC 100–240 V, 50/60 Hz
Power consumption	900 W
Light source lifespan	50,000 hours
Light source	High-power TX 4-in-1 RGBL, 16 pcs 50 W LEDs + 204 pcs 0.3 W 3-in-1 RGB LEDs
Colour mixing	Uniform RGBL colour mixing system and rainbow effect
Zoom angle	4°–60°, linear zoom
Colour temperature	2700 K–8000 K
Pixel effect	Each LED and colour can be controlled individually
Dimmer	0–100 % linear
Strobe	1–30 times per second, electronic and random strobe
Pan / tilt	Pan 540°, tilt 270°
DMX channel modes	BASIC 24CH / STAND 44CH / EXTEND 48CH / EXTEND 91CH / EXTEND2 113CH
Control modes	DMX512, auto, master-slave
Protocols	DMX-512, RDM (bidirectional), Art-Net, sACN
Cooling	Temperature controlled, overheating protection
Display	OLED touch display
Connectors	Seetronic 3-pin XLR waterproof DMX in/out; Seetronic PowerCon waterproof power in/out; Seetronic Art-Net waterproof in/out
Housing	Whole die-cast aluminium
Product size	392 × 283 × 511 mm
Carton size	470 × 320 × 620 mm
Net weight / gross weight	21 kg / 23.7 kg

3 How to control the unit

3.1 Display and menu

The DMX512 controller is used to control several lights, connected DMX in and DMX out through 3-pin XLR connectors. Pin 1 is ground, pin 2 is negative signal (–) and pin 3 is positive signal (+).

Button	Function
MENU	Select the programming functions
DOWN	Move backward through the functions
UP	Move forward through the functions
ENTER	Confirm the selected function

The main menu includes Address, Settings, Manual, Calibration, Reset and Information.

3.2 Set DMX address

1. Press MENU to reach Set DMX Address, then press ENTER.
2. The display shows DMX Address 001. Press UP or DOWN to change the value.
3. Press ENTER to save and exit. Press MENU to exit without saving.

3.3 Main menu structure

Main menu	Secondary menu	Three-level menu / parameters
Address	—	001–512
System settings	Operation modes	DMX / Voice Control / Auto 1 / Auto 2
System settings	Channel mode	BASIC 24CH / STAND 44CH / EXTEND 48CH / EXTEND 91CH / EXTEND2 113CH
System settings	Art-Net set	Horizontal reversal; vertical reversal; hall error correction; optocoupler error correction; signal hold; screen saver — each Open / Off
System settings	Screen	Screen overturn: On / Off / Automatic; language: 中 / EN; screen lock: Open / Off
System settings	Dimming	Dimming speed: Standard / Fast; dimming curve: Curve 1–4; dimming frequency: 6K, 4K, 1K, 25K, 20K, 15K, 10K
System settings	Other	Synchronous update: Open / Off; factory data reset
Manual mode	The current channel mode	0–255
System calibration	Enter the password	Luminaire calibration
System reset	Effect motor reset / scan motor reset / reset all motors	Reset information: display a reset error message
System information	DMX data monitoring	Receive the channel values of the control console
System information	Sensor information	Hall information; pan optocoupler information; tilt optocoupler information

Main menu	Secondary menu	Three-level menu / parameters
System information	Hardware version	Display the hardware version
System information	Software version	Display the software version

3.4 Manual mode

Use this mode to control the current luminaire. Press OK to enter edit state, use UP and DOWN to change the channel value, then press OK again to save and exit. Press Exit to leave without saving. The screen can rotate automatically with gravity, and this function can be turned off.

3.5 System calibration

A password protects this menu from accidental changes by non-professionals; press OK to verify it. The range of each adjustment is 0 to 255, and 127 means no adjustment.

Option	Description
Initial position calibration	Adjusts the start positions of the X-axis, Y-axis and focus motors to compensate for installation errors.
Itinerary calibration	Adjusts the travel of the X-axis, Y-axis and focus motors.
Dynamics calibration	Adjusts the force of the X-axis, Y-axis and other motors.
Other calibration	MIC sensitivity calibration and password change.

3.6 System reset

Use Up and Down to choose the reset mode, then press OK to reset directly.

Option	Description
Effect motor reset	Resets the effects, except pan and tilt.
Scan motor reset	Pan and tilt reset.
All motor reset	Fixture reset.

3.7 System information

This menu displays DMX data monitoring, sensor information (Hall and optocoupler information for pan and tilt), the hardware version and the software version.

4 DMX channel

Set the channel mode in System settings. The tables below list each channel, its DMX range and its function. Ranges are inclusive from 0 to 255. Where the source chart does not give a channel, the table says so.

4.1 BASIC 24CH

CH	Function	DMX value	Description
1	Pan	0–255	Pan
2	Pan Fine	0–255	Pan fine
3	Tilt	0–255	Tilt
4	Tilt Fine	0–255	Tilt fine
5	P/T Speed	0–255	P/T speed, fast and slow
6	Background Red	0–255	Background red (0–100%)
7	Background Red Fine	0–255	Background red fine (0–100%)
8	Background Green	0–255	Background green (0–100%)
9	Background Green Fine	0–255	Background green fine (0–100%)
10	Background Blue	0–255	Background blue (0–100%)
11	Background Blue Fine	0–255	Background blue fine (0–100%)
12	Background White	0–255	Background white (0–100%)
13	Background White Fine	0–255	Background white fine (0–100%)
14	Flash	0–31	Turn off the light
		32–63	Open the light
		64–95	Flash from slow to fast
		96–127	Open the light
		128–159	Pulse flicker increases in speed
		160–191	Open the light
		192–223	Random flash
		224–255	Open the light
15	Dimmer	0–255	Dimming 0–100%
16	Dimming Fine	0–255	Dimming fine 0–100%
17	CTO	0–21	No function
		22–42	No function
		43–63	7500K
		64–84	7500K
		85–105	6500K
		106–126	6500K
		127–147	5500K
		148–168	5500K
		169–189	4500K

CH	Function	DMX value	Description
		190–210	4500K
		211–231	3500K
		232–255	3500K Channel DMX value Description
18	Color Presets	0–255	Color presets
19	Color Presets / RGBW Cross	0–0	Output is controlled by RGBW values
		1–254	Crossfade in/out between RGBW settings and color preset channels Fade
		255–255	Colors are controlled by color presets
20	Color Preset Cross Fade	0–4	No function
		5–255	Two-color preset cross-gradient ranging from 100 milliseconds to 5 seconds
21	Zoom	0–255	Zoom
22	Zoom Fine	0–255	Zoom fine
23	Reserved	0–255	Reserved
24	Reset / Internal Function	0–4	No function
		5–9	Power off the screen
		10–14	Open the screen
		15–19	Display reverse off
		20–24	Display reverse open
		45–49	Linear dimming curve
		50–54	Dimming curve square
		55–57	1K
		58–60	2.5K
		61–63	6K
		64–69	10K
		80–84	All motors reset
		85–87	P/T motor reset
		88–90	Amplifying motor reset
		25–44	Reset / Internal Function
		70–79	Reset / Internal Function
		91–255	Reset / Internal Function

4.2 STAND 44CH

CH	Function	DMX value	Description
1	Pan	0–255	Pan
2	Pan Fine	0–255	Pan fine
3	Tilt	0–255	Tilt
4	Tilt Fine	0–255	Tilt fine
5	P/T Speed	0–255	P/T speed, fast and slow
6	Background Red	0–255	Background red (0–100%)
7	Background Red Fine	0–255	Background red fine (0–100%)
8	Background Green	0–255	Background green (0–100%)
9	Background Green Fine	0–255	Background green fine (0–100%)
10	Background Blue	0–255	Background blue (0–100%)
11	Background Blue Fine	0–255	Background blue fine (0–100%)
12	Background White	0–255	Background white (0–100%)
13	Background White Fine	0–255	Background white fine (0–100%)
14	Flash	0–31	Turn off the light
		32–63	Open the light
		64–95	Flash from slow to fast
		96–127	Open the light
		128–159	Pulse flicker increases in speed
		160–191	Open the light
		192–223	Random flash
		224–255	Open the light
15	Dimmer	0–255	Dimming 0–100%
16	Dimming Fine	0–255	Dimming fine 0–100%
17	CTO	0–21	No function
		22–42	No function
		43–63	7500K
		64–84	7500K
		85–105	6500K
		106–126	6500K
		127–147	5500K
		148–168	5500K
		169–189	4500K
		190–210	4500K
		211–231	3500K
		232–255	3500K Channel DMX value Description
18	Color Presets	0–255	Color presets

CH	Function	DMX value	Description
19	Color Presets / RGBW Cross	0–0	Output is controlled by RGBW values
		1–254	Crossfade in/out between RGBW settings and color preset channels Fade
		255–255	Colors are controlled by color presets
20	Color Preset Cross Fade	0–4	No function
		5–255	Two-color preset cross-gradient ranging from 100 milliseconds to 5 seconds
21	Zoom	0–255	Zoom
22	Zoom Fine	0–255	Zoom fine
23	Reserved	0–255	Reserved
24	Reset / Internal Function	0–4	No function
		5–9	Power off the screen
		10–14	Open the screen
		15–19	Display reverse off
		20–24	Display reverse open
		45–49	Linear dimming curve
		50–54	Dimming curve square
		55–57	1K
		58–60	2.5K
		61–63	6K
		64–69	10K
		80–84	All motors reset
		85–87	P/T motor reset
		88–90	Amplifying motor reset
		25–44	Reset / Internal Function
		70–79	Reset / Internal Function
		91–255	Reset / Internal Function
25	Main Light Effect	0–9	No function
		10–14	Effect 1
		15–19	Effect 2
		20–24	Effect 3
		25–29	Effect 4
		30–34	Effect 5
		35–39	Effect 6
		40–44	Effect 7
		45–49	Effect 8
		50–54	Effect 9
		55–59	Effect 10 Channel DMX value Description

CH	Function	DMX value	Description
		60–64	Effect 11
		65–69	Effect 12
		70–74	Effect 13
		75–79	Effect 14
		80–84	Effect 15
		85–89	Effect 16
		90–94	Effect 17
		95–99	Effect 18
		100–104	Effect 19
		105–109	Effect 20
		110–255	Reserve
26	Main Light Effect Speed	0–125	Main effect speed forward, from fast to slow
		126–130	Stop
		131–255	Main effect speed reverse, from slow to fast
27	Main Effect Fade	0–255	Main effect fade function (0–100%)
28	Main Effect Length	0–255	Main effect length function
29	Main Effect Red	0–255	Main effect red (0–100%)
30	Main Effect Green	0–255	Main effect green (0–100%)
31	Main Effect Blue	0–255	Main effect blue (0–100%)
32	Main Effect White	0–255	Main effect white (0–100%)
33	Main Effect Dimmer	0–255	Main effect dimmer (0–100%)
34	Main Light Background	0–255	Main light background dimmer (0–100%) Dimmer
35	Main Effect Flash	0–31	Turn off
		32–63	Light on
		64–95	Flash speed from slow to fast
		96–127	Light on
		128–159	Pulse flash from slow to fast
		160–191	Light on
		192–223	Random flash
		224–255	Light on
36	Main Light Control	0–255	Crossfade between RGBW settings and single color channels
37	Main Red Ring 1	0–255	Main red ring 1 (0–100%)
38	Main Green Ring 1	0–255	Main green ring 1 (0–100%)
39	Main Blue Ring 1	0–255	Main blue ring 1 (0–100%)
40	Main White Ring 1	0–255	Main white ring 1 (0–100%)
41	Main Red Ring 2	0–255	Main red ring 2 (0–100%)
42	Main Green Ring 2	0–255	Main green ring 2 (0–100%) Channel DMX value Description

CH	Function	DMX value	Description
43	Main Blue Ring 2	0–255	Main blue ring 2 (0–100%)
44	Main White Ring 2	0–255	Main white ring 2 (0–100%)

4.3 EXTEND 48CH

CH	Function	DMX value	Description
1	Pan	0–255	Pan
2	Pan Fine	0–255	Pan fine
3	Tilt	0–255	Tilt
4	Tilt Fine	0–255	Tilt fine
5	P/T Speed	0–255	P/T speed, fast and slow
6	Background Red	0–255	Background red (0–100%)
7	Background Red Fine	0–255	Background red fine (0–100%)
8	Background Green	0–255	Background green (0–100%)
9	Background Green Fine	0–255	Background green fine (0–100%)
10	Background Blue	0–255	Background blue (0–100%)
11	Background Blue Fine	0–255	Background blue fine (0–100%)
12	Background White	0–255	Background white (0–100%)
13	Background White Fine	0–255	Background white fine (0–100%)
14	Flash	0–31	Turn off the light
		32–63	Open the light
		64–95	Flash from slow to fast
		96–127	Open the light
		128–159	Pulse flicker increases in speed
		160–191	Open the light
		192–223	Random flash
		224–255	Open the light
15	Dimmer	0–255	Dimming 0–100%
16	Dimming Fine	0–255	Dimming fine 0–100%
17	CTO	0–21	No function
		22–42	No function
		43–63	7500K
		64–84	7500K
		85–105	6500K
		106–126	6500K
		127–147	5500K
		148–168	5500K
		169–189	4500K
		190–210	4500K
		211–231	3500K
		232–255	3500K Channel DMX value Description
18	Color Presets	0–255	Color presets

CH	Function	DMX value	Description
19	Color Presets / RGBW Cross	0–125	Output is controlled by RGBW values
		126–130	Crossfade in/out between RGBW settings and color preset channels Fade
		131–255	Colors are controlled by color presets
20	Color Preset Cross Fade	0–4	No function
		5–255	Two-color preset cross-gradient ranging from 100 milliseconds to 5 seconds
21	Zoom	0–255	Zoom
22	Zoom Fine	0–255	Zoom fine
23	Reserved	0–255	Reserved
24	Reset / Internal Function	0–4	No function
		5–9	Power off the screen
		10–14	Open the screen
		15–19	Display reverse off
		20–24	Display reverse open
		45–49	Linear dimming curve
		50–54	Dimming curve square
		55–57	1K
		58–60	2.5K
		61–63	6K
		64–69	10K
		80–84	All motors reset
		85–87	P/T motor reset
		88–90	Amplifying motor reset
		25–44	Reset / Internal Function
		70–79	Reset / Internal Function
		91–255	Reset / Internal Function
25	Main Light Effect	0–9	No function
		10–14	Effect 1
		15–19	Effect 2
		20–24	Effect 3
		25–29	Effect 4
		30–34	Effect 5
		35–39	Effect 6
		40–44	Effect 7
		45–49	Effect 8
		50–54	Effect 9
		55–59	Effect 10 Channel DMX value Description

CH	Function	DMX value	Description
		60–64	Effect 11
		65–69	Effect 12
		70–74	Effect 13
		75–79	Effect 14
		80–84	Effect 15
		85–89	Effect 16
		90–94	Effect 17
		95–99	Effect 18
		100–104	Effect 19
		105–109	Effect 20
		110–255	Reserve
26	Main Light Effect Speed	0–125	Main effect speed forward, from fast to slow
		126–130	Stop
		131–255	Main effect speed reverse, from slow to fast
27	Main Effect Fade	0–255	Main effect fade function (0–100%)
28	Main Effect Length	0–255	Main effect length function
29	Main Effect Red	0–255	Main effect red (0–100%)
30	Main Effect Green	0–255	Main effect green (0–100%)
31	Main Effect Blue	0–255	Main effect blue (0–100%)
32	Main Effect White	0–255	Main effect white (0–100%)
33	Main Effect Dimmer	0–255	Main effect dimmer (0–100%)
34	Main Light Background	0–255	Main light background dimmer (0–100%) Dimmer
35	Main Effect Flash	0–31	Turn off
		32–63	Light on
		64–95	Flash speed from slow to fast
		96–127	Light on
		128–159	Pulse flash from slow to fast
		160–191	Light on
		192–223	Random flash
		224–255	Light on
36	Halo Ring Control	0–255	No function
37	Halo Ring Dimmer	0–255	Halo ring dimmer (0–100%)
38	Halo Ring Dimming Fine	0–255	Halo ring dimming fine tune (0–100%)
39	Halo Ring Effect Red	0–255	Halo ring effect red (0–100%)
40	Halo Ring Effect Green	0–255	Halo ring effect green (0–100%)
41	Halo Ring Effect Blue	0–255	Halo ring effect blue (0–100%)
42	Halo Ring Effect	0–9	No function Channel DMX value Description

CH	Function	DMX value	Description
		10–205	Effect
		1–97	(one effect every 2 numbers)
		206–255	Effect 98
43	Reserve	0–255	No function
44	Halo Ring Effect Speed	0–130	Halo ring effect speed forward, from fast to slow
		131–255	Halo ring effect speed reverse, from slow to fast
45	Halo Ring Effect Background	0–255	Halo ring effect background dimmer (0–100%) Dimmer
46	Halo Ring Effect Background	0–255	Halo ring effect background red (0–100%) Red
47	Halo Ring Effect Background	0–255	Halo ring effect background green (0–100%) Green
48	Halo Ring Effect Background	0–255	Halo ring effect background blue (0–100%) Blue

4.4 EXTEND 91CH

CH	Function	DMX value	Description
1	Pan	0–255	Pan
2	Pan Fine	0–255	Pan fine
3	Tilt	0–255	Tilt
4	Tilt Fine	0–255	Tilt fine
5	Pan/Tilt Speed	0–255	Pan/Tilt speed decreases from fast to slow
6	Zoom	0–255	Zoom
7	Dimmer	0–255	Dimmer (0–100%)
8	Strobe	0–31	Lights off
		32–63	Lights on
		64–95	Strobe speed increases from slow to fast
		96–127	Lights on
		128–159	Pulse strobe increases from slow to fast
		160–191	Lights on
		192–223	Random strobe
		224–255	Lights on
9	Main Red Ring 1	0–255	Main light red ring 1 (0–100%) / Main light effect red (0–100%)
10	Main Green Ring 1	0–255	Main light green ring 1 (0–100%) / Main light effect green (0–100%)
11	Main Blue Ring 1	0–255	Main light blue ring 1 (0–100%) / Main light effect blue (0–100%)
12	Main White Ring 1	0–255	Key light white ring 1 (0–100%) / Key light effect white (0–100%)
13	Main Red Ring 2	0–255	Main light red ring 2 (0–100%)
14	Main Green Ring 2	0–255	Main light green ring 2 (0–100%)
15	Main Blue Ring 2	0–255	Main light blue ring 2 (0–100%)
16	Main White Ring 2	0–255	Main light white ring 2 (0–100%)
17	Main Red Ring 3	0–255	Main light red ring 3 (0–100%)
18	Main Green Ring 3	0–255	Main light green ring 3 (0–100%)
19	Main Blue Ring 3	0–255	Main light blue ring 3 (0–100%)
20	Main White Ring 3	0–255	Main light white ring 3 (0–100%)
21	Main Red Ring 4	0–255	Main light red ring 4 (0–100%)
22	Main Green Ring 4	0–255	Main light green ring 4 (0–100%)
23	Main Blue Ring 4	0–255	Main light blue ring 4 (0–100%)
24	Main White Ring 4	0–255	Main light white ring 4 (0–100%)
25	Main Red Ring 5	0–255	Main light red ring 5 (0–100%)
26	Main Green Ring 5	0–255	Main light green ring 5 (0–100%)
27	Main Blue Ring 5	0–255	Main light blue ring 5 (0–100%)
28	Main White Ring 5	0–255	Main light white ring 5 (0–100%) Channel DMX value Description

CH	Function	DMX value	Description
29	Main Red Ring 6	0–255	Main light red ring 6 (0–100%)
30	Main Green Ring 6	0–255	Main light green ring 6 (0–100%)
31	Main Blue Ring 6	0–255	Main light blue ring 6 (0–100%)
32	Main White Ring 6	0–255	Main light white ring 6 (0–100%)
33	Main Red Ring 7	0–255	Main light red ring 7 (0–100%)
34	Main Green Ring 7	0–255	Main light green ring 7 (0–100%)
35	Main Blue Ring 7	0–255	Main light blue ring 7 (0–100%)
36	Main White Ring 7	0–255	Main light white ring 7 (0–100%)
37	Main Red Ring 8	0–255	Main light red ring 8 (0–100%)
38	Main Green Ring 8	0–255	Main light green ring 8 (0–100%)
39	Main Blue Ring 8	0–255	Main light blue ring 8 (0–100%)
40	Main White Ring 8	0–255	Main light white ring 8 (0–100%)
41	Main Red Ring 9	0–255	Main light red ring 9 (0–100%)
42	Main Green Ring 9	0–255	Main light green ring 9 (0–100%)
43	Main Blue Ring 9	0–255	Main light blue ring 9 (0–100%)
44	Main White Ring 9	0–255	Main light white ring 9 (0–100%)
45	Main Red Ring 10	0–255	Main light red ring 10 (0–100%)
46	Main Green Ring 10	0–255	Main light green ring 10 (0–100%)
47	Main Blue Ring 10	0–255	Main light blue ring 10 (0–100%)
48	Main White Ring 10	0–255	Main light white ring 10 (0–100%)
49	Main Red Ring 11	0–255	Main light red ring 11 (0–100%)
50	Main Green Ring 11	0–255	Main light green ring 11 (0–100%)
51	Main Blue Ring 11	0–255	Main light blue ring 11 (0–100%)
52	Main White Ring 11	0–255	Main light white ring 11 (0–100%)
53	Main Red Ring 12	0–255	Main light red ring 12 (0–100%)
54	Main Green Ring 12	0–255	Main light green ring 12 (0–100%)
55	Main Blue Ring 12	0–255	Main light blue ring 12 (0–100%)
56	Main White Ring 12	0–255	Main light white ring 12 (0–100%)
57	Main Red Ring 13	0–255	Main light red ring 13 (0–100%)
58	Main Green Ring 13	0–255	Main light green ring 13 (0–100%)
59	Main Blue Ring 13	0–255	Main light blue ring 13 (0–100%)
60	Main White Ring 13	0–255	Main light white ring 13 (0–100%)
61	Main Red Ring 14	0–255	Main light red ring 14 (0–100%)
62	Main Green Ring 14	0–255	Main light green ring 14 (0–100%)
63	Main Blue Ring 14	0–255	Main light blue ring 14 (0–100%)
64	Main White Ring 14	0–255	Main light white ring 14 (0–100%)
65	Main Red Ring 15	0–255	Main light red ring 15 (0–100%) Channel DMX value Description

CH	Function	DMX value	Description
66	Main Green Ring 15	0–255	Main light green ring 15 (0–100%)
67	Main Blue Ring 15	0–255	Main light blue ring 15 (0–100%)
68	Main White Ring 15	0–255	Main light white ring 15 (0–100%)
69	Main Red Ring 16	0–255	Main light red ring 16 (0–100%)
70	Main Green Ring 16	0–255	Main light green ring 16 (0–100%)
71	Main Blue Ring 16	0–255	Main light blue ring 16 (0–100%)
72	Main White Ring 16	0–255	Main light white ring 16 (0–100%)
73	CTO	0–21	No function
		22–42	8000K
		43–63	7500K
		64–84	7000K
		85–105	6500K
		106–126	6000K
		127–147	5500K
		148–168	5000K
		169–189	4500K
		190–210	4000K
		211–231	3500K
		232–255	2700K
74	Main Effect	0–9	No function
		10–14	Effect 1
		15–19	Effect 2
		20–24	Effect 3
		25–29	Effect 4
		30–34	Effect 5
		35–39	Effect 6
		40–44	Effect 7
		45–49	Effect 8
		50–54	Effect 9
		55–59	Effect 10
		60–64	Effect 11
		65–69	Effect 12
		70–74	Effect 13
		75–79	Effect 14
		80–84	Effect 15
		85–89	Effect 16
		90–94	Effect 17 Channel DMX value Description

CH	Function	DMX value	Description
		95–99	Effect 18
		100–104	Effect 19
		105–109	Effect 20
		110–255	Effect speed
75	Main Effect Speed	0–125	Main effect speed from fast to slow
		126–130	Stop
		131–255	Main effect speed from slow to fast
76	Halo LED Dimmer	0–255	Halo dimmer 0–100%
77	Halo Zone 1 Red	0–255	Halo zone 1 red (0–100%) / Halo ring effect red (0–100%)
78	Halo Zone 1 Green	0–255	Halo zone 1 green (0–100%) / Halo ring effect green (0–100%)
79	Halo Zone 1 Blue	0–255	Halo zone 1 blue (0–100%) / Halo ring effect blue (0–100%)
80	Halo Zone 2 Red	0–255	Halo zone 2 red (0–100%)
81	Halo Zone 2 Green	0–255	Halo zone 2 green (0–100%)
82	Halo Zone 2 Blue	0–255	Halo zone 2 blue (0–100%)
83	Halo Zone 3 Red	0–255	Halo zone 3 red (0–100%)
84	Halo Zone 3 Green	0–255	Halo zone 3 green (0–100%)
85	Halo Zone 3 Blue	0–255	Halo zone 3 blue (0–100%)
86	Halo Zone 4 Red	0–255	Halo zone 4 red (0–100%)
87	Halo Zone 4 Green	0–255	Halo zone 4 green (0–100%)
88	Halo Zone 4 Blue	0–255	Halo zone 4 blue (0–100%)
89	Halo Effect	0–9	No function
		10–205	Effects
		1–97	(one effect for every two numbers)
		206–255	Halo effect 98
90	Halo Effect Speed	0–130	Halo effect speed changes from fast to slow in forward rotation
		131–255	Halo effect speed changes from slow to fast in reverse rotation
91	Reset / Special Functions	0–4	No function
		5–9	Blackout
		10–14	Display on
		15–19	Display invert off
		20–24	Display invert on
		45–49	Dimming curve linear
		50–54	Dimming curve square
		55–57	1K
		58–60	2.5K
		61–63	6K
		64–69	10K

CH	Function	DMX value	Description
		80–84	All motors reset Channel DMX value Description
		85–87	Pan/Tilt reset
		88–90	Zoom reset
		25–44	Reset / Special Functions
		70–79	Reset / Special Functions
		91–255	Reset / Special Functions

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CH	Function	DMX value	Description
1	Pan	0–255	Pan
2	Pan Fine	0–255	Pan fine
3	Tilt	0–255	Tilt
4	Tilt Fine	0–255	Tilt fine
5	P/T Speed	0–255	P/T speed, fast and slow
6	Background Red	0–255	Background red (0–100%)
7	Background Red Fine	0–255	Background red fine (0–100%)
8	Background Green	0–255	Background green (0–100%)
9	Background Green Fine	0–255	Background green fine (0–100%)
10	Background Blue	0–255	Background blue (0–100%)
11	Background Blue Fine	0–255	Background blue fine (0–100%)
12	Background White	0–255	Background white (0–100%)
13	Background White Fine	0–255	Background white fine (0–100%)
14	Flash	0–31	Turn off the light
		32–63	Open the light
		64–95	Flash from slow to fast
		96–127	Open the light
		128–159	Pulse flicker increases in speed
		160–191	Open the light
		192–223	Random flash
		224–255	Open the light
15	Dimmer	0–255	Dimming 0–100%
16	Dimming Fine	0–255	Dimming fine 0–100%
17	CTO	0–21	No function
		22–42	No function
		43–63	7500K
		64–84	7500K
		85–105	6500K
		106–126	6500K
		127–147	5500K
		148–168	5500K
		169–189	4500K
		190–210	4500K
		211–231	3500K
		232–255	3500K Channel DMX value Description
18	Color Presets	0–255	Color presets

CH	Function	DMX value	Description
19	Color Presets / RGBW Cross	0–125	Output is controlled by RGBW values
		126–130	Crossfade in/out between RGBW settings and color preset channels Fade
		131–255	Colors are controlled by color presets
20	Color Preset Cross Fade	0–4	No function
		5–255	Two-color preset cross-gradient ranging from 100 milliseconds to 5 seconds
21	Zoom	0–255	Zoom
22	Zoom Fine	0–255	Zoom fine
23	Reserved	0–255	Reserved
24	Reset / Internal Function	0–4	No function
		5–9	Power off the screen
		10–14	Open the screen
		15–19	Display reverse off
		20–24	Display reverse open
		45–49	Linear dimming curve
		50–54	Dimming curve square
		55–57	1K
		58–60	2.5K
		61–63	6K
		64–69	10K
		80–84	All motors reset
		85–87	P/T motor reset
		88–90	Amplifying motor reset
		25–44	Reset / Internal Function
		70–79	Reset / Internal Function
		91–255	Reset / Internal Function
25	Main Light Effect	0–9	No function
		10–14	Effect 1
		15–19	Effect 2
		20–24	Effect 3
		25–29	Effect 4
		30–34	Effect 5
		35–39	Effect 6
		40–44	Effect 7
		45–49	Effect 8
		50–54	Effect 9
		55–59	Effect 10 Channel DMX value Description

CH	Function	DMX value	Description
		60–64	Effect 11
		65–69	Effect 12
		70–74	Effect 13
		75–79	Effect 14
		80–84	Effect 15
		85–89	Effect 16
		90–94	Effect 17
		95–99	Effect 18
		100–104	Effect 19
		105–109	Effect 20
		110–255	Reserve
26	Main Light Effect Speed	0–125	Main effect speed forward, from fast to slow
		126–130	Stop
		131–255	Main effect speed reverse, from slow to fast
27	Main Effect Fade	0–255	Main effect fade function (0–100%)
28	Main Effect Length	0–255	Main effect length function
29	Main Effect Red	0–255	Main effect red (0–100%)
30	Main Effect Green	0–255	Main effect green (0–100%)
31	Main Effect Blue	0–255	Main effect blue (0–100%)
32	Main Effect White	0–255	Main effect white (0–100%)
33	Main Effect Dimmer	0–255	Main effect dimmer (0–100%)
34	Main Light Background	0–255	Main light background dimmer (0–100%) Dimmer
35	Main Effect Flash	0–31	Turn off
		32–63	Light on
		64–95	Flash speed from slow to fast
		96–127	Light on
		128–159	Pulse flash from slow to fast
		160–191	Light on
		192–223	Random flash
		224–255	Light on
36	Halo Ring Control	0–255	No function
37	Halo Ring Dimmer	0–255	Halo ring dimmer (0–100%)
38	Halo Ring Dimming Fine	0–255	Halo ring dimming fine tune (0–100%)
39	Halo Ring Effect Red	0–255	Halo ring effect red (0–100%)
40	Halo Ring Effect Green	0–255	Halo ring effect green (0–100%)
41	Halo Ring Effect Blue	0–255	Halo ring effect blue (0–100%)
42	Halo Ring Effect	0–9	No function Channel DMX value Description

CH	Function	DMX value	Description
		10–205	Effect
		1–97	(one effect every 2 numbers)
		206–255	Effect 98
43	Reserve	0–255	No function
44	Halo Ring Effect Speed	0–130	Halo ring effect speed forward, from fast to slow
		131–255	Halo ring effect speed reverse, from slow to fast
45	Halo Ring Effect Background	0–255	Halo ring effect background dimmer (0–100%) Dimmer
46	Halo Ring Effect Background	0–255	Halo ring effect background red (0–100%) Red
47	Halo Ring Effect Background	0–255	Halo ring effect background green (0–100%) Green
48	Halo Ring Effect Background	0–255	Halo ring effect background blue (0–100%) Blue
49	Main Light Control	0–255	Crossfade between RGBW settings and single color channels
50	Main Red Ring 1	0–255	Main red ring 1 (0–100%)
51	Main Green Ring 1	0–255	Main green ring 1 (0–100%)
52	Main Blue Ring 1	0–255	Main blue ring 1 (0–100%)
53	Main White Ring 1	0–255	Main white ring 1 (0–100%)
54	Main Red Ring 2	0–255	Main red ring 2 (0–100%)
55	Main Green Ring 2	0–255	Main green ring 2 (0–100%)
56	Main Blue Ring 2	0–255	Main blue ring 2 (0–100%)
57	Main White Ring 2	0–255	Main white ring 2 (0–100%)
58	Main Red Ring 3	0–255	Main red ring 3 (0–100%)
59	Main Green Ring 3	0–255	Main green ring 3 (0–100%)
60	Main Blue Ring 3	0–255	Main blue ring 3 (0–100%)
61	Main White Ring 3	0–255	Main white ring 3 (0–100%)
62	Main Red Ring 4	0–255	Main red ring 4 (0–100%)
63	Main Green Ring 4	0–255	Main green ring 4 (0–100%)
64	Main Blue Ring 4	0–255	Main blue ring 4 (0–100%)
65	Main White Ring 4	0–255	Main white ring 4 (0–100%) 66 — — Not in source
66	Not in source	—	Channel not given in the source chart
67	Main Red Ring 5	0–255	Main red ring 5 (0–100%)
68	Main Green Ring 5	0–255	Main green ring 5 (0–100%)
69	Main Blue Ring 5	0–255	Main blue ring 5 (0–100%)
70	Main White Ring 5	0–255	Main white ring 5 (0–100%)
71	Main Red Ring 6	0–255	Main red ring 6 (0–100%)
72	Main Green Ring 6	0–255	Main green ring 6 (0–100%)
73	Main Blue Ring 6	0–255	Main blue ring 6 (0–100%)

CH	Function	DMX value	Description
74	Main White Ring 6	0–255	Main white ring 6 (0–100%) Channel DMX value Description
75	Main Red Ring 7	0–255	Main red ring 7 (0–100%)
76	Main Green Ring 7	0–255	Main green ring 7 (0–100%)
77	Main Blue Ring 7	0–255	Main blue ring 7 (0–100%)
78	Main White Ring 7	0–255	Main white ring 7 (0–100%) 79–105— — Rings
		8–14	(channels 79–105) not given in source
79	Not in source	—	Channel not given in the source chart
80	Not in source	—	Channel not given in the source chart
81	Not in source	—	Channel not given in the source chart
82	Not in source	—	Channel not given in the source chart
83	Not in source	—	Channel not given in the source chart
84	Not in source	—	Channel not given in the source chart
85	Not in source	—	Channel not given in the source chart
86	Not in source	—	Channel not given in the source chart
87	Not in source	—	Channel not given in the source chart
88	Not in source	—	Channel not given in the source chart
89	Not in source	—	Channel not given in the source chart
90	Not in source	—	Channel not given in the source chart
91	Not in source	—	Channel not given in the source chart
92	Not in source	—	Channel not given in the source chart
93	Not in source	—	Channel not given in the source chart
94	Not in source	—	Channel not given in the source chart
95	Not in source	—	Channel not given in the source chart
96	Not in source	—	Channel not given in the source chart
97	Not in source	—	Channel not given in the source chart
98	Not in source	—	Channel not given in the source chart
99	Not in source	—	Channel not given in the source chart
100	Not in source	—	Channel not given in the source chart
101	Not in source	—	Channel not given in the source chart
102	Not in source	—	Channel not given in the source chart
103	Not in source	—	Channel not given in the source chart
104	Not in source	—	Channel not given in the source chart
105	Not in source	—	Channel not given in the source chart
106	Main Red Ring 15	0–255	Main red ring 15 (0–100%)
107	Main Green Ring 15	0–255	Main green ring 15 (0–100%)
108	Main Blue Ring 15	0–255	Main blue ring 15 (0–100%)
109	Main White Ring 15	0–255	Main white ring 15 (0–100%)

CH	Function	DMX value	Description
110	Main Red Ring 16	0–255	Main red ring 16 (0–100%)
111	Main Green Ring 16	0–255	Main green ring 16 (0–100%)
112	Main Blue Ring 16	0–255	Main blue ring 16 (0–100%)
113	Main White Ring 16	0–255	Main white ring 16 (0–100%)

5 Trouble shooting

a. The unit does not work: no light and the fan does not run

1. Check the power connection and the main fuse.
2. Measure the mains voltage at the main connector.
3. Check the power LED.

b. The unit does not respond to the DMX controller

1. The DMX LED should be on. If not, check the DMX connectors and cables.
2. If the DMX LED is on but a channel does not respond, check the address settings and DMX polarity.
3. For intermittent DMX signal problems, check the pins of the connectors or the PCB of this unit or the previous one.
4. Try another DMX controller.
5. Check that DMX cables do not run alongside high-voltage cables, which can cause interference or damage to the DMX interface.

6 Fixture cleaning

Clean the internal and external optics and mirrors periodically to keep light output high. The frequency depends on the environment: damp, smoky or dusty surroundings cause more dirt to build up.

- Clean with a soft cloth and normal glass cleaning fluid.
- Dry all parts carefully after cleaning.
- Clean the external optics at least every 20 days. Clean the internal optics at least every 30 to 60 days.