

AL1019WR

19 x 15 W LED Bee Eye Moving Head

RGBW 4-IN-1 - ZOOM - ROTATING HONEYCOMB LENS - USER MANUAL

Beam, wash and individually controlled pixel effects in one moving-head fixture



READ BEFORE USE Keep this manual with the fixture. Installation, operation and service must be performed by qualified personnel.

English Edition - Specifications subject to change without notice

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MODEL IDENTIFICATION This manual is for model AL1019WR. Confirm the model, voltage, firmware and product-label ratings before installation or programming.

1 Safety Information

DANGER Disconnect AC power and allow the fixture to cool before opening, cleaning, inspection or service.

- This professional fixture must be installed, operated and serviced by qualified personnel.
- Use only AC 100-240 V, 50/60 Hz. Connect to a protected, correctly grounded Class I supply.
- Do not operate with a damaged housing, lens, connector, cable, mounting point or safety attachment.
- After a large temperature change, keep the fixture disconnected until it reaches ambient temperature and condensation has evaporated.
- Do not look directly into the LEDs at close range. Flashing light may affect susceptible people.
- Keep combustible material at least 0.5 m away and keep every ventilation opening unobstructed.
- For overhead installation, use rated clamps and an independently rated secondary safety cable.
- Carry the fixture by its fixed handles or base. Never lift it by the moving head.
- Do not modify the fixture or bypass protective devices. Refer internal repair to qualified service personnel.

IP20 / PROTECTED INDOOR USE The source specifies IP20. Keep the fixture away from rain, splashing water, condensation and excessive dust.

2 Product Overview and Specifications

The AL1019WR combines nineteen individually controlled 15 W RGBW LEDs with a 4°-60° motorized zoom and a continuously rotating honeycomb lens. It produces narrow beams, broad washes, color mixing and animated kaleidoscopic pixel effects for stages, theatres, clubs, broadcast studios and rental productions.

2.1 Technical Specifications

Parameter	Specification
Input voltage	AC 100-240 V, 50/60 Hz
Rated power	450 W
Light source	19 x 15 W high-power RGBW 4-in-1 LEDs; individual LED control
Optics	Motorized 4°-60° zoom; continuously rotating honeycomb lens
Dimming / strobe	0-100% linear dimming; 0-20 Hz electronic strobe
Control	DMX512 / Auto / Sound-active / Master-slave
DMX personalities	21CH / 23CH / 35CH / 78CH / 92CH / 97CH / 99CH
Pan / tilt	540° pan and 270° tilt; 16-bit fine control
Display	Color LCD; English / Chinese; automatic screen inversion
Cooling / protection	Temperature-controlled fan; temperature sensing; position memory and correction
Ingress protection	IP20
Fixture dimensions	415 x 275 x 425 mm
Carton dimensions	530 x 420 x 510 mm; 1 fixture per carton
Net / gross weight	14.95 kg / 18.1 kg
Options	Rechargeable display battery; Art-Net

2.2 Main Functions

- RGBW color mixing with linear color-temperature and macro controls.
- Individual LED pixel control and built-in static/dynamic effects.
- Forward or reverse continuous lens rotation for kaleidoscopic effects.
- Beam, wash and effect-light operation from one fixture.
- Smooth 16-bit pan/tilt, position memory and automatic correction.
- Seven DMX personalities for compact, pattern and full pixel programming.

2.3 Supplied Items

Package contents: AL1019WR fixture x 1; DMX signal cable x 1; hanging brackets x 2; power cable x 1; safety cable x 1; user manual x 1.

3 Setup and Installation

3.1 AC Power

Before connecting power, verify that the product-label voltage and frequency match the local supply. Complete mounting and data connections before applying power. Disconnect by holding the plug, not by pulling the cable.

3.2 Rigging

STRUCTURAL RATING The support, mounting hardware and every attachment must be rated for at least ten times the fixture load or the higher factor required by local regulations.

1. Inspect the fixture, Omega brackets, rated clamps, M10 fasteners, mounting points, safety cable and support structure.
2. Attach rated clamps to the brackets and lock the brackets securely into the base.
3. Attach an independently rated safety cable to the designated point and the supporting structure.
4. Confirm unobstructed clearance for complete pan, tilt, zoom and lens-rotation movement.
5. Recheck every attachment before applying power and inspect the installation regularly.

3.3 DMX512 Connection

Use shielded twisted-pair cable designed for RS-485/DMX512. Connect the controller to DMX IN, then link DMX OUT to the next fixture. Assign a unique start address to every independently controlled fixture.

3-pin XLR	Signal
Pin 1	Shield / signal common
Pin 2	Data -
Pin 3	Data +

TERMINATION At the final fixture in a long or electrically noisy chain, connect a 120 ohm resistor between pins 2 and 3 of a male XLR plug and insert it into DMX OUT.

4 Control Panel and Menu

Use MENU to move back through the menu, UP/DOWN to change an item or value, and ENTER to open or save it. Menu wording may vary slightly with firmware revision.

Menu	Item	Option / Range	Operation
Address	DMX Address	001-512	Set the fixture start address.
Run Mode	Operating Mode	DMX / Sound / Auto 1 / Auto 2	Select controlled or standalone operation.
System Setup	Channel Mode	21 / 23 / 35 / 78 / 92 / 97 / 99CH	Select the controller footprint.
System Setup	Invert Pan / Tilt	On / Off	Reverse pan or tilt direction.
System Setup	Hall Correction	On / Off	Enable or disable position-sensor correction.
System Setup	Encoder Correction	On / Off	Enable or disable encoder correction.
System Setup	Signal Keep	On / Off	Hold the last state when DMX is lost.
System Setup	Screen Saver	On / Off	Enable or disable the screen saver.
System Setup	Invert Screen	Auto / On / Off	Set display orientation.
System Setup	Update Slave	On / Off	Firmware/service function.
System Setup	Language	EN / Chinese	Select the display language.
System Setup	Load Default	Confirm	Restore factory settings.
Manual	Channel Control	Per channel	Control each channel manually.
Motor Calibration	Pan / Tilt / Zoom / Rotation / RGBW balance / Power / MIC	Calibration values	Service calibration; change only when necessary.
System Information	Note	Status information	View fixture information.
Reset	Effect / Scan / All	Confirm	Reset a subsystem or the complete fixture.

CALIBRATION CAUTION Do not change motor, color-balance, power or microphone calibration data unless instructed by qualified service personnel.

5 DMX512 Channel Reference

Select the same personality on the fixture and controller. DMX values run from 000 to 255 unless a narrower range is shown. Fine channels provide 16-bit resolution when paired with their coarse channel.

5.1 21-Channel Personality

CH	Function	DMX Value	Description
1	Red	000-255	0-100%
2	Red Fine	000-255	16-bit fine
3	Green	000-255	0-100%
4	Green Fine	000-255	16-bit fine
5	Blue	000-255	0-100%
6	Blue Fine	000-255	16-bit fine
7	White	000-255	0-100%
8	White Fine	000-255	16-bit fine
9	Linear CTO	000-255	Linear color-temperature adjustment
10	Color Macro	000-255	Built-in color macro
11	Strobe	000-003 / 004-203 / 204-255	Open / synchronized slow-fast / random
12	Master Dimmer	000-255	0-100%
13	Dimmer Fine	000-255	16-bit fine
14	Pan	000-255	Position
15	Pan Fine	000-255	16-bit fine
16	Tilt	000-255	Position
17	Tilt Fine	000-255	16-bit fine
18	Reserved / Function	000-255	No source-defined action
19	Reset	000-250 / 251-255	No function / reset; hold 5 seconds
20	Zoom	000-255	4° to 60°
21	Lens Rotation	000-127 / 128-191 / 192-255	0°-60° position / CW fast-slow / CCW fast-slow

5.2 23-Channel Personality

CH	Function	DMX Value	Description
1	Pan	000-255	Position
2	Pan Fine	000-255	16-bit fine
3	Tilt	000-255	Position
4	Tilt Fine	000-255	16-bit fine
5	Pan / Tilt Speed	000-255	Fast to slow
6	Zoom	000-255	4° to 60°
7	Lens Rotation	000-127 / 128-191 / 192-255	0°-60° position / CW fast-slow / CCW fast-slow
8	Master Dimmer	000-255	0-100%
9	Strobe	000-003 / 004-203 / 204-255	Open / synchronized slow-fast / random
10	Red	000-255	0-100%
11	Green	000-255	0-100%
12	Blue	000-255	0-100%
13	White	000-255	0-100%
14	Linear CTO	000-255	Linear color-temperature adjustment
15	Color Macro	000-255	Built-in color macro
16	Static Effect	000-255	Each 5-value block selects one static effect
17	Dynamic Effect	000-255	Each 5-value block selects one dynamic effect
18	Dynamic Speed	000-255	Slow to fast
19	Background Red	000-255	0-100%
20	Background Green	000-255	0-100%
21	Background Blue	000-255	0-100%
22	Background White	000-255	0-100%
23	Reset	000-250 / 251-255	No function / reset; hold 5 seconds

5.3 35-Channel Personality

CH	Function	DMX Value	Description
1	Red	000-255	0-100%
2	Red Fine	000-255	16-bit fine
3	Green	000-255	0-100%
4	Green Fine	000-255	16-bit fine
5	Blue	000-255	0-100%
6	Blue Fine	000-255	16-bit fine
7	White	000-255	0-100%
8	White Fine	000-255	16-bit fine
9	Linear CTO	000-255	Linear color-temperature adjustment
10	Color Macro	000-255	Built-in color macro
11	Strobe	000-003 / 004-203 / 204-255	Open / synchronized slow-fast / random
12	Master Dimmer	000-255	0-100%
13	Dimmer Fine	000-255	16-bit fine
14	Pan	000-255	Position
15	Pan Fine	000-255	16-bit fine
16	Tilt	000-255	Position
17	Tilt Fine	000-255	16-bit fine
18	Reserved / Function	000-255	No source-defined action
19	Reset	000-250 / 251-255	No function / reset; hold 5 seconds
20	Zoom	000-255	4° to 60°
21	Lens Rotation	000-127 / 128-191 / 192-255	0°-60° position / CW fast-slow / CCW fast-slow
22	Shape Selection	000-255	Select built-in shape
23	Shape Speed	000-255	Shape speed
24	Shape Fade	000-255	Shape fade
25	Shape Red	000-255	0-100%
26	Shape Green	000-255	0-100%
27	Shape Blue	000-255	0-100%
28	Shape White	000-255	0-100%
29	Shape Dimmer	000-255	0-100%
30	Background Dimmer	000-255	0-100%
31	Shape Transition	000-255	Transition control
32	Shape Offset	000-255	Offset control
33	Foreground Strobe	000-255	Foreground strobe control
34	Background Strobe	000-255	Background strobe control
35	Background Selection	000-255	Background selection

5.4 Pixel Personalities

The expanded personalities retain a complete base personality and then assign direct channels to each of the nineteen LED pixels. LEDs are numbered 1-19 in the fixture's internal order.

Mode	Base channels	Pixel channels	Pixel components
78CH	1-21 = 21CH	22-78	19 pixels x RGB
92CH	1-35 = 35CH	36-92	19 pixels x RGB
97CH	1-21 = 21CH	22-97	19 pixels x RGBW
99CH	1-23 = 23CH	24-99	19 pixels x RGBW

5.4.1 78CH Pixel Map

CH	Function	DMX Value	Description
22-24	LED 1	000-255 each	R / G / B; 0-100% per component
25-27	LED 2	000-255 each	R / G / B; 0-100% per component
28-30	LED 3	000-255 each	R / G / B; 0-100% per component
31-33	LED 4	000-255 each	R / G / B; 0-100% per component
34-36	LED 5	000-255 each	R / G / B; 0-100% per component
37-39	LED 6	000-255 each	R / G / B; 0-100% per component
40-42	LED 7	000-255 each	R / G / B; 0-100% per component
43-45	LED 8	000-255 each	R / G / B; 0-100% per component
46-48	LED 9	000-255 each	R / G / B; 0-100% per component
49-51	LED 10	000-255 each	R / G / B; 0-100% per component
52-54	LED 11	000-255 each	R / G / B; 0-100% per component
55-57	LED 12	000-255 each	R / G / B; 0-100% per component
58-60	LED 13	000-255 each	R / G / B; 0-100% per component
61-63	LED 14	000-255 each	R / G / B; 0-100% per component
64-66	LED 15	000-255 each	R / G / B; 0-100% per component
67-69	LED 16	000-255 each	R / G / B; 0-100% per component
70-72	LED 17	000-255 each	R / G / B; 0-100% per component
73-75	LED 18	000-255 each	R / G / B; 0-100% per component
76-78	LED 19	000-255 each	R / G / B; 0-100% per component

5.4.2 92CH Pixel Map

CH	Function	DMX Value	Description
36-38	LED 1	000-255 each	R / G / B; 0-100% per component
39-41	LED 2	000-255 each	R / G / B; 0-100% per component
42-44	LED 3	000-255 each	R / G / B; 0-100% per component
45-47	LED 4	000-255 each	R / G / B; 0-100% per component
48-50	LED 5	000-255 each	R / G / B; 0-100% per component
51-53	LED 6	000-255 each	R / G / B; 0-100% per component
54-56	LED 7	000-255 each	R / G / B; 0-100% per component
57-59	LED 8	000-255 each	R / G / B; 0-100% per component
60-62	LED 9	000-255 each	R / G / B; 0-100% per component
63-65	LED 10	000-255 each	R / G / B; 0-100% per component
66-68	LED 11	000-255 each	R / G / B; 0-100% per component
69-71	LED 12	000-255 each	R / G / B; 0-100% per component
72-74	LED 13	000-255 each	R / G / B; 0-100% per component
75-77	LED 14	000-255 each	R / G / B; 0-100% per component
78-80	LED 15	000-255 each	R / G / B; 0-100% per component
81-83	LED 16	000-255 each	R / G / B; 0-100% per component
84-86	LED 17	000-255 each	R / G / B; 0-100% per component
87-89	LED 18	000-255 each	R / G / B; 0-100% per component
90-92	LED 19	000-255 each	R / G / B; 0-100% per component

5.4.3 97CH Pixel Map

CH	Function	DMX Value	Description
22-25	LED 1	000-255 each	R / G / B / W; 0-100% per component
26-29	LED 2	000-255 each	R / G / B / W; 0-100% per component
30-33	LED 3	000-255 each	R / G / B / W; 0-100% per component
34-37	LED 4	000-255 each	R / G / B / W; 0-100% per component
38-41	LED 5	000-255 each	R / G / B / W; 0-100% per component
42-45	LED 6	000-255 each	R / G / B / W; 0-100% per component
46-49	LED 7	000-255 each	R / G / B / W; 0-100% per component
50-53	LED 8	000-255 each	R / G / B / W; 0-100% per component
54-57	LED 9	000-255 each	R / G / B / W; 0-100% per component
58-61	LED 10	000-255 each	R / G / B / W; 0-100% per component
62-65	LED 11	000-255 each	R / G / B / W; 0-100% per component
66-69	LED 12	000-255 each	R / G / B / W; 0-100% per component
70-73	LED 13	000-255 each	R / G / B / W; 0-100% per component
74-77	LED 14	000-255 each	R / G / B / W; 0-100% per component
78-81	LED 15	000-255 each	R / G / B / W; 0-100% per component
82-85	LED 16	000-255 each	R / G / B / W; 0-100% per component
86-89	LED 17	000-255 each	R / G / B / W; 0-100% per component
90-93	LED 18	000-255 each	R / G / B / W; 0-100% per component
94-97	LED 19	000-255 each	R / G / B / W; 0-100% per component

5.4.4 99CH Pixel Map

CH	Function	DMX Value	Description
24-27	LED 1	000-255 each	R / G / B / W; 0-100% per component
28-31	LED 2	000-255 each	R / G / B / W; 0-100% per component
32-35	LED 3	000-255 each	R / G / B / W; 0-100% per component
36-39	LED 4	000-255 each	R / G / B / W; 0-100% per component
40-43	LED 5	000-255 each	R / G / B / W; 0-100% per component
44-47	LED 6	000-255 each	R / G / B / W; 0-100% per component
48-51	LED 7	000-255 each	R / G / B / W; 0-100% per component
52-55	LED 8	000-255 each	R / G / B / W; 0-100% per component
56-59	LED 9	000-255 each	R / G / B / W; 0-100% per component
60-63	LED 10	000-255 each	R / G / B / W; 0-100% per component
64-67	LED 11	000-255 each	R / G / B / W; 0-100% per component
68-71	LED 12	000-255 each	R / G / B / W; 0-100% per component
72-75	LED 13	000-255 each	R / G / B / W; 0-100% per component
76-79	LED 14	000-255 each	R / G / B / W; 0-100% per component
80-83	LED 15	000-255 each	R / G / B / W; 0-100% per component
84-87	LED 16	000-255 each	R / G / B / W; 0-100% per component
88-91	LED 17	000-255 each	R / G / B / W; 0-100% per component
92-95	LED 18	000-255 each	R / G / B / W; 0-100% per component
96-99	LED 19	000-255 each	R / G / B / W; 0-100% per component

6 Photometric Data

Source illuminance measurements at the 4° beam angle:

Color	2.5 m	5 m	7.5 m
Red	83,700 lx	2,550 lx	1,150 lx
Green	13,800 lx	3,800 lx	1,780 lx
Blue	15,300 lx	4,460 lx	1,970 lx
White	18,000 lx	5,300 lx	2,320 lx
RGBW	50,400 lx	15,500 lx	6,680 lx

MEASUREMENT NOTE Photometric values are source measurements and may vary with LED binning, calibration, mains conditions, optical cleanliness and measurement method.

7 Routine Maintenance

DISCONNECT POWER Allow the fixture to cool before inspection or cleaning. There are no user-serviceable parts inside.

- Inspect mounting screws, clamps, brackets, safety cable, housing, lenses and installation points for corrosion, wear, deformation or looseness.
- Inspect moving parts for unusual wear, imbalance, noise or restricted movement.
- Inspect power and data cables for damage, fatigue, overheating or contamination.
- Clean internal and external optical surfaces regularly with a soft, lint-free cloth. Never use alcohol or solvents.
- Keep fans, air inlets and outlets clean. Cleaning frequency must suit the dust level and operating environment.
- Have the electrical system and internal connections inspected periodically by a qualified technician.

8 Troubleshooting and Service

Symptom	Checks / corrective action
No power or display	Verify the supply, breaker, cable, connector and product-label voltage. Disconnect power before inspecting.
No DMX response	Confirm DMX mode and start address, cable pinout, controller output and chain termination.
Unexpected movement	Check pan/tilt inversion, free movement, Hall/encoder correction and reset the fixture.
Low or uneven output	Check dimmer/color channels, lens cleanliness, temperature status and airflow.
Fixture stops when hot	Disconnect power, clear airflow, clean the fans and allow the fixture to cool. Refer persistent temperature faults to service.
Lens rotation or zoom fault	Remove obstructions, reset the fixture and check calibration only if qualified to do so.

SERVICE Use genuine replacement parts. Refer internal repair, calibration and persistent faults to the dealer or a qualified service technician.