



PRO EFFECT SERIES

M24

7 x 40 W RGBW PIXEL-CONTROLLED BEE-EYE ZOOM MOVING HEAD
MOTORIZED ZOOM / ROTATING LENS EFFECT / 540° PAN / 270° TILT



7 x 40 W RGBW 4-IN-1 / PIXEL CONTROL / ZOOM + ROTATING LENS EFFECTS

350 W
RATED POWER

23 / 35 / 51 CH
DMX MODES

7 x 40 W RGBW
4-IN-1 LEDs

AC 90-240 V
50-60 Hz INPUT

PRODUCT OVERVIEW

The M24 is a high-output RGBW bee-eye moving head designed for stage, club, touring and event applications. Seven individually controllable 40 W RGBW 4-in-1 LEDs provide saturated color mixing, smooth dimming and pixel effects. Motorized zoom and a rotating optical system add dynamic beam-shaping and kaleidoscopic-style motion, while 16-bit pan/tilt control supports precise positioning. Three DMX personalities - 23CH, 35CH and 51CH - allow programming from compact fixture control to full individual-pixel operation.

BEFORE POWERING ON

Inspect the housing, mounting points, lenses, power cable, ventilation openings and safety attachment point. Confirm that the mains supply is within AC 90-240 V, 50-60 Hz.

LED / MOVING-HEAD SAFETY

Avoid staring into the LEDs or concentrated optical output. Keep clear of flammable materials, provide ventilation, and use an independent safety cable for overhead mounting.





TECHNICAL PARAMETERS

Item	Specification
Product Model	M24
Product Type	RGBW pixel-controlled bee-eye zoom moving head with rotating optical effects
Power Supply	AC 90-240 V, 50-60 Hz
Rated Power	350 W
Light Source	7 x 40 W RGBW 4-in-1 LEDs
DMX Channel Modes	23CH / 35CH / 51CH
Control Modes	DMX512 / Master-Slave / Sound Active
Pan / Tilt	Pan: 540° / Tilt: 270°
Strobe	1-25 Hz synchronized strobe plus random strobe effects
Display	Color display
Optical / Effect Control	Motorized focus/zoom, rotating lens effect, color temperature and built-in static/dynamic effects

DISPLAY MENU - MAIN FUNCTIONS

MenuGroup	Item	Options / Range	Purpose
Address Setting	DMX Address	001-512	Set the fixture starting address.
Fixture Settings	Channel Mode	23CH / 35CH / 51CH	Select the DMX personality.
Fixture Settings	Run Mode	DMX / Master / Sound	Choose external DMX, master operation or sound-active mode.
Fixture Settings	Pan Reverse	Off / On	Reverse pan direction.
Fixture Settings	Tilt Reverse	Off / On	Reverse tilt direction.
Fixture Settings	Sound Sensitivity	0-30	Adjust microphone response for sound-active operation.
Manual Control	Pan / Pan Fine	000-255	Manually position the pan axis and fine channel.
Manual Control	Tilt / Tilt Fine	000-255	Manually position the tilt axis and fine channel.
Manual Control	Additional Functions	000-255	Firmware may expose focus, rotation, dimmer, color and effect controls for manual testing.





FIXTURE INFORMATION, CALIBRATION AND RESET

MenuGroup	Item	Options / Status	Purpose
Fixture Information	Power-On Time	xxx H	Displays operating time since power-up.
Fixture Information	Total Time	xxx H	Displays accumulated operating hours.
Sensor Test	Pan / Tilt / Focus Sensor	Error / Normal	Checks position-sensor status.
Sensor Test	Temperature / Fan Sensor	Error / Normal	Checks thermal and cooling monitoring.
Temperature	Head Temperature	xxx °C	Displays head temperature.
Software Version	Panel Version	Vx.xx	Displays installed display-panel firmware version.
Factory Settings	Password Input	000-255	Accesses calibration items; service use only.
Calibration	Pan / Tilt / Focus / Rotation	000-255	Fine calibration for the corresponding mechanism.
Calibration	Red / Green / Blue / White	000-255	Factory-level color/output calibration.
Fixture Reset	Motor Reset	Cancel / Execute	Re-home motors and sensors.
Fixture Reset	Factory Reset	Cancel / Execute	Restore factory settings.
Display Settings	Language	Chinese / English	Select menu language.
Display Settings	Display Reverse	Reverse / Normal	Rotate the screen orientation.
Display Settings	Display Mode	60 sec / Always On	Select display timeout behavior.

QUICK DMX SETUP

- 1 Connect a DMX controller output to the M24 DMX input using a suitable shielded DMX cable.
- 2 Set the fixture to DMX mode and choose 23CH, 35CH or 51CH according to your showfile.
- 3 Set the starting address from 001 to 512. Make sure consecutive fixtures do not overlap unless identical operation is intended.
- 4 Raise the master dimmer and the required RGBW, pattern/background or pixel channels above zero.
- 5 For long cable runs, terminate the final fixture and avoid passive star wiring unless a proper DMX splitter is used.

PROGRAMMING NOTE

The fixture is specified for up to 270° physical tilt travel. Depending on firmware and calibration, the active DMX travel may be limited or mapped differently. Verify the actual fixture response before building final production showfiles.





DMX512 CHANNEL FUNCTIONS - 23CH MODE

CH	Function	DMXValue	Description / Remark
1	Pan	0-255	Pan positioning across the 540° travel.
2	Pan Fine	0-255	16-bit fine pan control.
3	Tilt	0-255	Tilt positioning across the calibrated fixture travel; physical specification is up to 270°.
4	Tilt Fine	0-255	16-bit fine tilt control.
5	Pan / Tilt Speed	0-255	Movement speed from fast to slow.
6	Focus / Zoom	0-255	Linear adjustment from narrower to wider optical effect.
7	Lens Rotation	0-127	Indexed rotation from 0 to approximately 60°.
7	Lens Rotation	128-191	Continuous counterclockwise rotation, fast to slow.
7	Lens Rotation	192-199	Reserved / no documented function.
7	Lens Rotation	200-255	Continuous clockwise rotation, slow to fast.
8	Master Dimmer	0-255	Linear dimming from dark to full output.
9	Strobe	0-3	Open / steady light.
9	Strobe	4-200	Synchronized strobe, slow to fast.
9	Strobe	201-215	Low-speed random strobe.
9	Strobe	216-234	Medium-speed random strobe.
9	Strobe	235-255	High-speed random strobe.
10	Red Dimmer	0-255	Red output from dark to bright.
11	Green Dimmer	0-255	Green output from dark to bright.
12	Blue Dimmer	0-255	Blue output from dark to bright.
13	White Dimmer	0-255	White output from dark to bright.
14	Color Temperature	0-255	Linear color-temperature adjustment.
15	Color Wash / Fade	0-255	Built-in color gradient / wash effect.
16	Static Effect	0-255	Built-in static effects; source chart indicates one effect per 5 DMX values.
17	Dynamic Effect	0-255	Built-in dynamic effects; source chart indicates one effect per 5 DMX values. Forward-
18	Dynamic Effect Speed	0-127	direction effect speed, fast to slow.
18	Dynamic Effect Speed	128-255	Reverse-direction effect speed, slow to fast.
19	Background Red	0-255	Background red dimming.
20	Background Green	0-255	Background green dimming.
21	Background Blue	0-255	Background blue dimming.
22	Background White	0-255	Background white dimming.
23	Reset	0-199	No function.
23	Reset	200-205	Fixture reset; hold within this range for approximately 5 seconds.
23	Reset	206-255	No function.





DMX512 CHANNEL FUNCTIONS - 35CH MODE (1-19)

CH	Function	DMXValue	Description / Remark
1	Red	0-255	Red dimmer.
2	Red Fine	0-255	Fine red control.
3	Green	0-255	Green dimmer.
4	Green Fine	0-255	Fine green control.
5	Blue	0-255	Blue dimmer.
6	Blue Fine	0-255	Fine blue control.
7	White	0-255	White dimmer.
8	White Fine	0-255	Fine white control.
9	Color Temperature	0-255	Linear color-temperature adjustment.
10	Color Macro	0-255	Built-in color macro function.
11	Strobe	0-3	Blackout.
11	Strobe	4-103	Synchronized strobe, 1-25 Hz, slow to fast.
11	Strobe	104-107	Open / steady light.
11	Strobe	108-207	Pulse / segmented strobe, 1-25 Hz, slow to fast.
11	Strobe	208-212	Open / steady light.
11	Strobe	213-225	Low-speed random strobe.
11	Strobe	226-238	Medium-speed random strobe.
11	Strobe	239-251	High-speed random strobe.
11	Strobe	252-255	Open / steady light.
12	Master Dimmer	0-255	Linear dimming from dark to full output.
13	Dimmer Fine	0-255	Fine dimmer control.
14	Pan	0-255	Pan control.
15	Pan Fine	0-255	Fine pan control.
16	Tilt	0-255	Tilt control.
17	Tilt Fine	0-255	Fine tilt control.
18	Function	0-255	Reserved.
19	Reset	0-199	No function.
19	Reset	200-205	Fixture reset; hold approximately 5 seconds.
19	Reset	206-255	No function.





DMX512 CHANNEL FUNCTIONS - 35CH MODE (20-35)

CH	Function	DMX Value	Description / Remark
20	Focus / Zoom	0-255	Motorized optical focus/zoom control.
21	Lens Rotation	0-127	Indexed rotation from 0 to approximately 60°.
21	Lens Rotation	128-191	Continuous clockwise rotation.
21	Lens Rotation	192-255	Continuous counterclockwise rotation.
22	Pattern Select	0-255	Select built-in pattern / rotating optical effect.
23	Pattern Effect Speed	0-255	Controls pattern effect speed.
24	Pattern Effect Fade	0-255	Controls pattern effect fading / transition softness.
25	Pattern Effect Red	0-255	Red level for the pattern effect.
26	Pattern Effect Green	0-255	Green level for the pattern effect.
27	Pattern Effect Blue	0-255	Blue level for the pattern effect.
28	Pattern Effect White	0-255	White level for the pattern effect.
29	Pattern Dimmer	0-255	Pattern intensity from 0 to 100%.
30	Background Dimmer	0-255	Background intensity from 0 to 100%.
31	Pattern Transition	0-255	Pattern change / transition control.
32	Pattern Angle / Position	0-255	Pattern translation / angle adjustment.
33	Foreground Strobe	0-255	Foreground strobe; follows the strobe behavior documented for channel 11.
34	Background Strobe	0-255	Background strobe; follows the strobe behavior documented for channel 11.
35	Background Select	0-255	Select background effect / appearance.

35CH PROGRAMMING NOTES

- **16-bitcolor and dimmercontrol:** Channels 1-8 and 12-13 provide coarse/fine control for smoother fades and camera-sensitive applications.
- **Foreground vs background:** The 35CH profile separates pattern color/dimming from background dimming and strobe, making layered bee-eye effects easier to program.
- **Lens rotation:** Use indexed values for repeatable optical positions or continuous ranges for motion effects. Program speed gradually to avoid abrupt visual changes.





DMX512 CHANNEL FUNCTIONS - 51CH MODE (1-23)

CH	Function	DMXValue	Description / Remark
1	Pan	0-255	Pan positioning across the 540° travel.
2	Pan Fine	0-255	16-bit fine pan control.
3	Tilt	0-255	Tilt positioning across the calibrated fixture travel; physical specification is up to 270°.
4	Tilt Fine	0-255	16-bit fine tilt control.
5	Pan / Tilt Speed	0-255	Movement speed from fast to slow.
6	Focus / Zoom	0-255	Linear optical adjustment from narrower to wider effect.
7	Lens Rotation	0-127	Indexed rotation from 0 to approximately 60°.
7	Lens Rotation	128-191	Continuous rotation in one direction, fast to slow.
7	Lens Rotation	192-199	Reserved / no documented function.
7	Lens Rotation	200-255	Continuous reverse rotation, slow to fast.
8	Master Dimmer	0-255	Linear dimming from dark to full output.
9	Strobe	0-3	Open / steady light.
9	Strobe	4-200	Synchronized strobe, slow to fast.
9	Strobe	201-215	Low-speed random strobe.
9	Strobe	216-234	Medium-speed random strobe.
9	Strobe	235-255	High-speed random strobe.
10	Red Dimmer	0-255	Overall red dimming.
11	Green Dimmer	0-255	Overall green dimming.
12	Blue Dimmer	0-255	Overall blue dimming.
13	White Dimmer	0-255	Overall white dimming.
14	Color Temperature	0-255	Linear color-temperature adjustment.
15	Color Wash / Fade	0-255	Built-in color gradient / wash effect.
16	Static Effect	0-255	Built-in static effects; source chart indicates one effect per 5 DMX values.
17	Dynamic Effect	0-255	Built-in dynamic effects; source chart indicates one effect per 5 DMX values. Forward-
18	Dynamic Effect Speed	0-127	direction effect speed, fast to slow.
18	Dynamic Effect Speed	128-255	Reverse-direction effect speed, slow to fast.
19	Background Red	0-255	Background red dimming.
20	Background Green	0-255	Background green dimming.
21	Background Blue	0-255	Background blue dimming.
22	Background White	0-255	Background white dimming.
23	Reset	0-199	No function.
23	Reset	200-205	Fixture reset; hold approximately 5 seconds.
23	Reset	206-255	No function.



DMX512 CHANNEL FUNCTIONS - 51CH MODE (INDIVIDUAL PIXELS 24-51)

CH	Function	DMXValue	Description / Remark
24	R1 LED Dimmer	0-255	Pixel 1 red output from dark to bright.
25	G1 LED Dimmer	0-255	Pixel 1 green output from dark to bright.
26	B1 LED Dimmer	0-255	Pixel 1 blue output from dark to bright.
27	W1 LED Dimmer	0-255	Pixel 1 white output from dark to bright.
28	R2 LED Dimmer	0-255	Pixel 2 red output from dark to bright.
29	G2 LED Dimmer	0-255	Pixel 2 green output from dark to bright.
30	B2 LED Dimmer	0-255	Pixel 2 blue output from dark to bright.
31	W2 LED Dimmer	0-255	Pixel 2 white output from dark to bright.
32	R3 LED Dimmer	0-255	Pixel 3 red output from dark to bright.
33	G3 LED Dimmer	0-255	Pixel 3 green output from dark to bright.
34	B3 LED Dimmer	0-255	Pixel 3 blue output from dark to bright.
35	W3 LED Dimmer	0-255	Pixel 3 white output from dark to bright.
36	R4 LED Dimmer	0-255	Pixel 4 red output from dark to bright.
37	G4 LED Dimmer	0-255	Pixel 4 green output from dark to bright.
38	B4 LED Dimmer	0-255	Pixel 4 blue output from dark to bright.
39	W4 LED Dimmer	0-255	Pixel 4 white output from dark to bright.
40	R5 LED Dimmer	0-255	Pixel 5 red output from dark to bright.
41	G5 LED Dimmer	0-255	Pixel 5 green output from dark to bright.
42	B5 LED Dimmer	0-255	Pixel 5 blue output from dark to bright.
43	W5 LED Dimmer	0-255	Pixel 5 white output from dark to bright.
44	R6 LED Dimmer	0-255	Pixel 6 red output from dark to bright.
45	G6 LED Dimmer	0-255	Pixel 6 green output from dark to bright.
46	B6 LED Dimmer	0-255	Pixel 6 blue output from dark to bright.
47	W6 LED Dimmer	0-255	Pixel 6 white output from dark to bright.
48	R7 LED Dimmer	0-255	Pixel 7 red output from dark to bright.
49	G7 LED Dimmer	0-255	Pixel 7 green output from dark to bright.
50	B7 LED Dimmer	0-255	Pixel 7 blue output from dark to bright.
51	W7 LED Dimmer	0-255	Pixel 7 white output from dark to bright.

PIXEL CONTROL MAP

Channels 24-51 provide 28 independent color channels: four RGBW channels for each of the seven LEDs. This mapping is expanded from the documented first-pixel channels (24-27) and final-pixel channels (48-51), following the continuous four-channel-per-pixel sequence.

PIXEL 1 24 R / 25 G / 26 B / 27 W	PIXEL 2 28 R / 29 G / 30 B / 31 W	PIXEL 3 32 R / 33 G / 34 B / 35 W	PIXEL 4 36 R / 37 G / 38 B / 39 W	PIXEL 5 40 R / 41 G / 42 B / 43 W	PIXEL 6 44 R / 45 G / 46 B / 47 W	PIXEL 7 48 R / 49 G / 50 B / 51 W
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CONTROL MODE SUMMARY

Mode	HowtoSelect	Main Use
DMX Manual	Set DMX mode, channel profile and starting address.	Full control of movement, dimmer, color, strobe, zoom/rotation, effects and pixels.
Master / Slave	Set one fixture as master and compatible fixtures to slave/DMX follow mode.	Synchronized operation across multiple fixtures.
Sound Active	Select Sound mode and set sensitivity from 0-30.	Built-in movement and effects react to the internal microphone.

SAFETY, INSTALLATION AND MAINTENANCE

DISCONNECT POWER

Disconnect the fixture from mains power before installation, inspection, cleaning, maintenance or internal service. Allow the housing and optical components to cool before touching them.

- Use only a properly grounded power supply within AC 90-240 V, 50-60 Hz.
- For overhead mounting, use a rated clamp and an independent safety cable attached to the designated safety point.
- Keep ventilation openings clear. Do not operate the fixture in a sealed enclosure or near flammable materials.
- Keep the unit dry and protect it from rain, liquid splash and prolonged high humidity unless the specific enclosure rating states otherwise.
- Do not stare directly into the LEDs or concentrated optical output. Avoid aiming intense light at people at close range.
- Stop operation if there is abnormal noise, smell, heat, damaged optics, irregular movement, or a sensor/fan error.
- Internal repairs, calibration and component replacement should be performed only by qualified service personnel.

RECOMMENDED CLEANING AND INSPECTION

Interval	Procedure
After dusty use / as needed	Remove dust from ventilation openings using a soft brush, low-pressure air or suitable vacuum. Do not force debris deeper into the fixture.
Monthly	Clean optical surfaces gently with lens tissue or a soft lint-free cloth. Avoid aggressive solvents that can damage coatings or plastics.
Monthly	Check fan operation, ventilation paths, power cable, DMX connectors and mounting hardware.
Before overhead use	Inspect screws, yoke, clamp, safety cable and attachment points for wear or looseness.
As required	Perform motor reset if positioning is abnormal. If pan/tilt/focus/fan/temperature sensors report Error, discontinue use until inspected.

TROUBLESHOOTING QUICK REFERENCE

Symptom	Check
No power	Mains input, power cable, outlet, protective device/fuse and rated voltage.
No DMX response	DMX mode, start address, channel personality, cable wiring, termination and controller patch.
Sound mode does not respond	Sound mode selection, microphone sensitivity (0-30), music level and microphone opening.
Movement error	Run motor reset; check for obstruction and inspect pan/tilt sensor status.
Weak/uneven output	Master dimmer, RGBW channel levels, optical cleanliness, temperature and fan status.

STARSHINE LIGHTS SUPPORT

Product Model: M24 | Website: www.starshinelights.com

Keep the product serial number, purchase information and firmware version available when requesting support.

