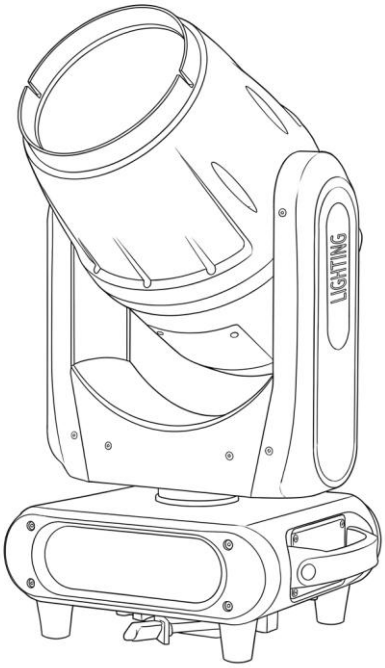
GRANITE X500IP BEAM

IP65 PROFESSIONAL MOVING-HEAD BEAM LIGHT



MODEL **Granite X500IP Beam**
MANUFACTURER **FX Lighting**
PROTECTION **IP65**
POWER **580 W**

USER'S GUIDE

(Read the instructions carefully and keep them for future reference)

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01 Product Overview & Specifications

The Granite X500IP Beam is an IP65-rated professional moving-head beam luminaire, engineered for outdoor stages, touring and large-scale events. It pairs a high-output 420 W discharge lamp with precision optics, a full colour and gobo system, dual rotating prisms and an advanced electronic focus — all housed in a rugged, weatherproof body.

Technical Specifications	
Power supply	AC 90–240 V · 50/60 Hz
Total power	580 W
Light source	420 W discharge lamp
Dimming	0–100% linear
Strobe	Dual-plate, 0.5–9 times/sec
Pan / Tilt	540° / 270°, electronic error correction
Optical lens	180 mm high-precision dual-lens
Focus	Electronic focus
Colour wheel	1 fixed wheel, 13 colours + white, rainbow, half-step
Gobo wheel	1 fixed wheel, 13 patterns + white, bi-directional rotation
Prism disc	Two prisms stackable, bi-directional rotation
Channel mode	17 CH / 19 CH
DMX connector	3-pin XLR
Operation mode	DMX512 / Auto / Voice control
Display	LCD
Protection rating	IP65
Dimensions (L·W·H)	370 × 270 × 640 mm
Weight	22 kg

Key features

- **Precision optics** — 180 mm dual-lens combination for a tight, uniform beam and crisp gobo projection.
- **Colour system** — Fixed wheel with 13 colours + white, adjustable-speed rainbow and half-step colour effect.
- **Gobo wheel** — 13 patterns + white, bidirectional variable-speed rotation.
- **Dual prism** — Two prism effects can be stacked and combined; switchable by bi-directional rotation.
- **Strobe & dimming** — Dual-plate strobe (0.5–9 Hz) and 0–100% linear dimming.
- **IP65 outdoor rated** — Sealed housing for resistance to rain and dust.

> **READ BEFORE USE**
> This fixture is for professional use only. Before powering on, verify that the supply voltage matches the rating, that the fixture is securely mounted with a safety cable, and that all DMX cabling uses shielded twisted-pair cable with a 120 Ω terminator fitted at the last fixture. See Section 03 for installation.

02 Precautions & Installation

1.1 Declaration

Thank you for choosing our product! This product was shipped in perfect working order and with its packaging intact. For your safe and effective use, please carefully read this instruction manual before using this product. This manual contains important information for installation and use. Please install and operate the product according to the instructions. Please also keep this manual safe for future reference. Our company is not liable for any damage to the lighting fixture or other performance issues caused by personal error during installation, use, or maintenance that does not follow the instructions.

This manual is subject to technical changes without notice.

1.2 Maintenance and Care

- Please disconnect the power supply before performing maintenance.
- This lamp should be kept dry and should not be used in humid environments.
- Intermittent use will effectively extend the life of this lamp.
- To achieve good ventilation and lighting effects, it is important to clean the fan, fan blades, and lenses regularly.
- Do not wipe the lamp housing with alcohol or other organic solvents, as this may cause damage.

1.3 Product Precautions

- This lighting fixture is for professional use only.
- Before operation, ensure that the power supply voltage matches the equipment's required power supply voltage.
- Do not place this product in places where it is easily loosened or subject to vibration.
- If any abnormality occurs during use, the lamp should be stopped immediately.
- To ensure the product's lifespan, do not place it in damp or leaky areas, and do not operate it in environments with temperatures exceeding 60 degrees Celsius.
- When using the bulb, the power supply voltage should not vary by more than ±10%. If the voltage is too high, it will shorten the bulb's lifespan; if the voltage is too low, it will affect the bulb's light color.
- After a power outage, the light fixture must be allowed to cool down completely for 20 minutes before it can be powered on again.
- The rotating parts and adhesive accessories of the lamps must be inspected regularly. If any looseness or wobbling is found, they should be tightened in time to prevent accidents.
- To ensure the proper use of this product, please read this instruction manual carefully.

1.5 Signal Line Connection

The luminaires are equipped with standard 3-pin or 5-pin XLR sockets for DMX input and output. Please use shielded twisted-pair signal cable specifically designed for DMX 512; the signal cable connection distance is generally 150 meters. For long-distance signal transmission, a DMX 512 signal amplifier must be added.

Use a shielded twisted-pair signal cable to connect the controller's DMX output port to the DMX input port of the first device, and from the first device's DMX output port to the second device's DMX input port, and so on, until all luminaires are connected. Then, install a termination plug on the last 3-pin output jack of each connection. (Solder a ¼ W, 120 Ω resistor between pins 2 and 3 of the 3-pin XLR connector).

> **IMPORTANT NOTE**
> The wires must not touch each other or the metal casing.

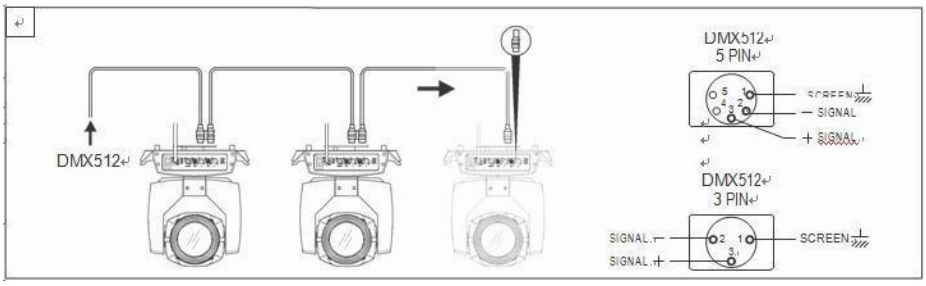


Figure 1 — Schematic diagram of DMX signal line connection

Lighting Fixture Starting Address Code Calculation Method

The starting address code of the current lighting fixture equals (the starting address code of the previous lighting fixture) + (the number of channels of the lighting fixture).

Explanation:

- The starting address code value of the first lighting fixture is A001.
- The basic number of channels on the controller should be greater than or equal to the total number of channels used by the lighting fixture.
- Note: When using any controller, each lighting fixture must have its own starting address code. For example, if the starting address code of the first lighting fixture is set to A001 and the number of channels is 16 CH; then the starting address code of the second lighting fixture would be set to A017; the starting address code of the third lighting fixture would be set to A033; and so on. (This setting method needs to be determined according to different controllers.)

1.6 Lighting Fixture Installation

- The light fixture can be placed horizontally, hung at an angle, or upside down. When hanging at an angle or upside down, pay close attention to the installation method.
- As shown in Figure 2, before positioning the light fixture, ensure the installation site is stable. When installing inverted, ensure the light fixture does not fall from the support frame. Use a safety rope threaded through the support frame and the fixture's handle for auxiliary sustenance to ensure safety and prevent the fixture from falling or sliding.
- Pedestrians are prohibited from passing under the light fixture during installation and testing. Regularly check for wear on the safety rope and loosening of the hook screws.
- Our company will not be liable for any consequences arising from the light fixture falling due to unstable installation.

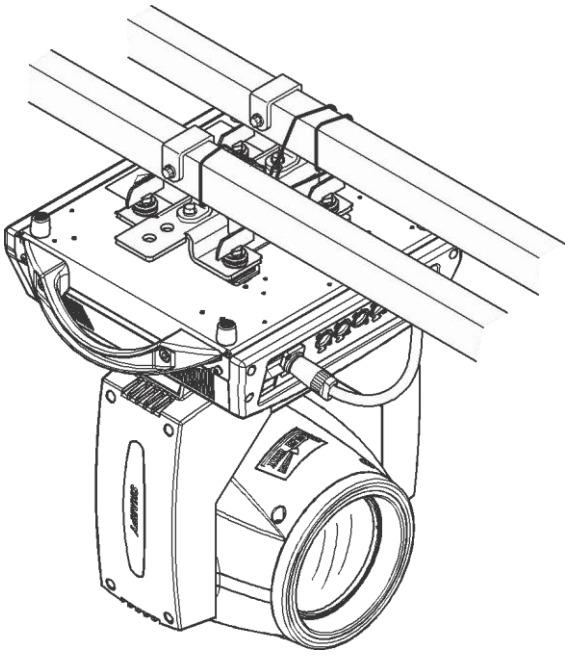


Figure 2 — Schematic diagram of inverted light fixture

> **SAFETY REMINDER**
> Always use a secondary safety cable (safety rope) through the support frame and the fixture's handle. Never allow people to stand or pass beneath the fixture during installation and testing.

03 Control Panel

2.1 Button Instructions

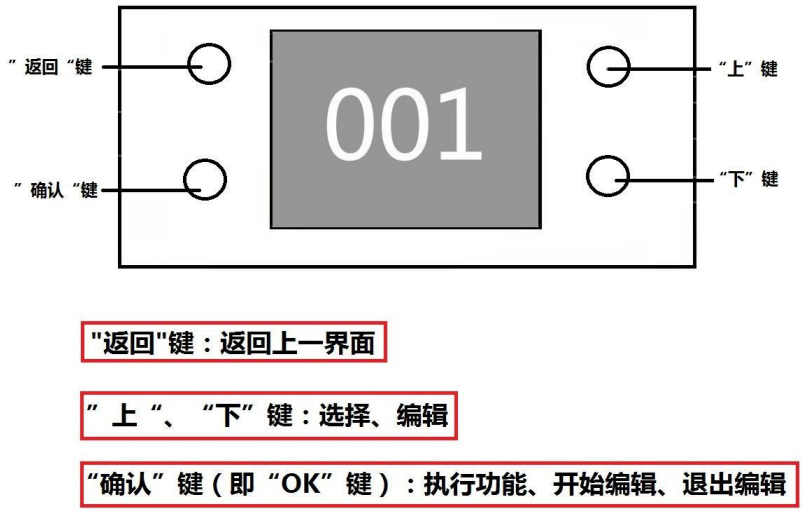


Figure 3 — Diagram illustrating the panel buttons

The following explains how to use the buttons:

1. If you are not currently on the main screen, press the "Back" button (once or multiple times) to return to the main screen.
2. On the main screen, press the "Up" or "Down" button to select the "Settings" button.
3. Press the "OK" button to enter the "Settings" interface.
4. In the "Settings" interface, press the "Up" or "Down" button to select "Menu".
5. Press the "OK" button to enter edit mode.
6. Press the "Up" or "Down" button to modify the menu.
7. Press the "OK" button to save and exit edit mode.

2.2 Menu Description



Figure 4 — Main Menu Diagram

2.2.1 Set up

Options	Value	Illustration
Run	DMX	Slave status: Receives DMX signals from the console or host.
	Scene	Master status: Self-running and sending DMX signals to slave devices.
Scene settings	Self-propelled	Up to 20 scenes can be manually set.
	Voice control	
DMX address	1–512	Press the "OK" button to enter edit mode. Currently, the hundreds digit is selected. Use the "Up" and "Down" buttons to change the address code. Press "OK" again to select the tens digit for editing. Press "OK" again to select the units digit for editing. Press again to exit edit mode.
Light bulb	Close / Open	Turn off / Turn on the light bulb.
Motor reset		Light fixture reset.
Channel	Standard 16 CH	Standard 16-channel mode.
Language	English / Chinese	Set to English interface / Set to Chinese interface.
Screen flip		Front display / Screen inverted display.
X flipped	Close / Open	Rotate the X motor 180 degrees.
Y flipped	Close / Open	Rotate the Y motor 180 degrees.

Options	Value	Illustration
XY Switch	Open / Close	Swap the X and Y axis channels (including fine-tuning).
XY Encoder	Open / Close	Use an encoder (optical coupler) to detect out-of-step and automatically correct the position / Position correction without using encoder (optical coupler).
DMX signal	Keep / Clear	Continue operating as before / The motor returns to its original position and stops running.
Power-on bulb	Close / Open	The light bulb does not illuminate / illuminates after powering on.
Color linearity	Open / Close	Color wheel linear change / Non-linear color wheel variation, half-color variation.
Clear scene data	Open	Clear scene data.
Restore defaults	Close	After clicking "OK", a confirmation dialog box will appear. Click "OK" again to restore the default settings.

Scene Setup Instructions

Options	Value	Illustration
Scene	01–20	You can choose from scenarios 1 through 20 for programming.
Scene Time	0–255	Set the runtime of the current scene, up to a maximum of 255 seconds.
Scene running	Open / Close	Default "On" — executes automatically during runtime. "Off" — skips the current scene and runs the next scene.
Scene	0–255	Set the console value to 0–255.
Scene Time	0–255	
Scene Execution	0–255	
1. Color Palette	0–255	
…	0–255	
15. Fog/Rainbow	0–255	

2.2.2 Manual Control

This interface is used to control the current lighting fixture (which does not receive DMX signals) and its corresponding channel. Refer to the channel table for details.

Options	Value	Explanation
1 CH.	0–255	Press the "OK" button to enter edit mode. Currently, the hundreds digit is selected. Use the "Up" and "Down" buttons to change the channel value. Press "OK" again to select the tens digit for editing. Press "OK" again to select the units digit for editing. Press again to exit edit mode.
……	0–255	
15 CH.	0–255	
……	0–255	

2.2.3 Information

Options	Illustration
Ver — Software version	Display board software version.
DIS	Motor board software version.
MT	Record the cumulative bulb lighting time and the lamp usage time.
Time information	1. Total number of light bulbs. 2. Total number of bulbs used.
System error	If the red ERR indicator light is on, it indicates a problem with the lighting fixture. Details can be viewed in the sub-interface. After viewing, press the "Clear" button to clear the error log.
Blower speed	Displays the current blower speed.
Hall status	The value is 0 when magnetism is detected, and 1 otherwise. (e.g. 11100010)
X encoding step value	When moving in the forward direction, the step value should increase; when moving in the reverse direction, the step value should decrease. It's normal for the step value to be the same each time you reach the same point.
Y encoding step value	When moving in the forward direction, the step value should increase; when moving in the reverse direction, the step value should decrease. It's normal for the step value to be the same each time you reach the same point.
Permission duration	9999 is unencrypted; other values have encrypted usage time.

A. Error Message Description

Common Error Messages	Illustration
MT board connection failed	The motor board is not responding. There is a problem with the serial communication line connecting the display board and the motor board, or there is a problem with the motor board itself.
X-axis reset failed	The problem may be with the X-axis photoelectric switch, the X-axis motor, or the motor board.
Y-axis reset failed	The problem may be with the Y-axis photoelectric switch, the Y-axis motor, or the motor board.
X-axis Hall error	The X-axis Hall sensor may be faulty, or there may be a problem with the motor board.
Y-axis Hall error	The Y-axis Hall sensor may be faulty, or there may be a problem with the motor board.
Color wheel reset failed	The color wheel Hall sensor or the color wheel motor may be faulty.
Pattern wheel reset failed	The pattern panel Hall effect sensor or the pattern panel motor may be faulty.
Focusing reset failure	The problem may be with the focusing Hall sensor or the focusing motor.
Light bulb control failure	The bulb failed to light up or extinguish, indicating a problem with the igniter or the bulb itself.

2.2.4 Factory

Calibration	Sub-item	Illustration
Data download	X-axis	After replacing the display board, download the calibration data from the original display board from the motor board.
	Y-axis	
Calibration	Color · Pattern · Focusing · Dimming · Prism 1 zero · Prism 1 travel · Prism 2 zero · Prism 2 travel · Frost zero · Frost travel · Rainbow Mirror travel	After entering the sub-interface, you can adjust the reset position of the X-axis, Y-axis and other motors to compensate for errors in hardware installation. The adjustment range is −128 to +127, and +0 indicates that no adjustment has been made.
Clear	Close / Open	Data recovery default values.
X Hall	Close / Open	Close: X Hall reports an error / Open: X Hall Error Reporting.
Y Hall	Close / Open	Close: Y Hall reported an error / Open: Y Hall reported an error.
Half power	Close / Open	Close: No half-power function / Open: Half-power function.

> **ABOUT THE CALIBRATION RANGE**
> The adjustment range is −128 to +127; a value of +0 indicates that no adjustment has been made.

04 Channel Functions

19 Channel Mode (Mode 1)

CH	Value	Function
1	**000–255**	Horizontal 0°–540°
2	**000–255**	Horizontal fine adjustment
3	**000–255**	Vertical 0°–260°
4	**000–255**	Vertical 0°–260°
5	**000–255**	Vertical fine-tuning
6	**000–007**	The speed of the X and Y axes decreases from fast to slow.
Color palette		
6	**008–011**	Consecration
	012–015	Color 1
	016–019	Color 2
	020–023	Color 3
	024–027	Color 4
	028–031	Color 5
	032–035	Color 6
	036–039	Color 7
	040–043	Color 8
	044–047	Color 9
	048–051	Color 10
	052–055	Color 11
	056–059	Color 12
	060–063	Color 13
	064	Color 14 — white
	065–074	White+color1, color1, color1+color2, color2 … (half-step color between adjacent colors)
	075–093	Color5+color6 … Color11+color12 (half-step color between adjacent colors)

CH	Value	Function
	094–127	Color12+color13, color13
	128–189	Color13+color14, color14, color14+white, white
	190–193	Color wheel slide
	194–255	Rotate counter-clockwise, from fast to slow

CH	Value	Function
Gobo wheel		
7	**000–007**	Light on
	008–011	Gobo 1
	012–014	Gobo 2
	015–018	Gobo 3
	019–021	Gobo 4
	022–025	Gobo 5
	026–028	Gobo 6
	029–032	Gobo 7
	033–035	Gobo 8
	036–039	Gobo 9
	040–042	Gobo 10
	043–049	Gobo 11
	050–056	Gobo 12
	057–063	Gobo 13
	064–067	Gobo 1, shaking, from slow to fast
	068–071	Gobo 2, shaking, from slow to fast
	072–075	Gobo 3, shaking, from slow to fast
	076–079	Gobo 4, shaking, from slow to fast
	080–083	Gobo 5, shaking, from slow to fast
	084–087	Gobo 6, shaking, from slow to fast
	088–091	Gobo 7, shaking, from slow to fast
	092–095	Gobo 8, shaking, from slow to fast
	096–099	Gobo 9, shaking, from slow to fast
	100–103	Gobo 10, shaking, from slow to fast
	104–111	Gobo 11, shaking, from slow to fast
	112–119	Gobo 12, shaking, from slow to fast

CH	Value	Function
	120–127	Gobo 13, shaking, from slow to fast
	128–189	Rotate clockwise, from fast to slow
	190–193	Stop
	194–255	Rotate counterclockwise, from slow to fast

CH	Value	Function
Homogenization sheet — CH 8		
8	**000–007**	Consecration
	008–131	Homogenization sheet 1
	132–255	Homogenization sheet 2
8 Prism — CH 9 / 8 Prism rotation — CH 10		
9	**000–007**	Close
	008–255	Open
10	**000–127**	Prism slide
	128–189	Rotate clockwise, from fast to slow
	190–193	Stop
	194–255	Rotate counterclockwise, from slow to fast
24 Prism — CH 11 / 24 Prism rotation — CH 12		
11	**000–007**	Close
	008–255	Open
12	**000–127**	Prism slide
	128–189	Rotate clockwise, from fast to slow
	190–193	Stop
	194–255	Rotate counterclockwise, from slow to fast
Atomizing mirror — CH 13		
13	**000–007**	Close
	008–255	Open
Focus — CH 14 / 15		
14	**000–255**	0%–100%
15	**000–255**	Fine-tuning of focus

CH	Value	Function
Strobe — CH 16		
16	**000–007**	Light off
	008–015	Light on
	016–131	Strobe, from slow to fast
	132–139	Light on
	140–181	Slow on, fast off, from slow to fast
	182–189	Light on
	190–231	Fast on, slow off, from slow to fast
	232–239	Light on
	240–247	Random strobe, from slow to fast
	248–255	Light on
Dimming — CH 17 / 18		
17	**000–255**	0%–100%
18	**000–255**	Dimming fine adjustment
Special Functions — CH 19		
19	**000–129**	No Function
	130–139	Light Bulb On
	140–149	X/Y Axis Reset
	150–159	Head Motor Reset
	160–199	No Function
	200–209	All Motors Reset
	210–211	Shortcut: Enabled
	212–213	Pattern Shortcut: Disabled
	214–215	Color Shortcut: Enabled
	216–217	Color Shortcut: Disabled
	218–229	No Function
	230–239	Light Bulb Off

CH	Value	Function
	240–255	No Function

17 Channel Mode (Mode 2)

CH	Value	Function
1	**000–255**	Horizontal 0°–540°
2	**000–255**	Horizontal fine adjustment
3	**000–255**	Vertical 0°–260°
4	**000–255**	Vertical 0°–260°
5	**000–255**	Vertical fine-tuning
6	**000–003**	The speed of the X and Y axes decreases from fast to slow.
Color palette — CH 6 / 7		
6	**004–007**	Color palette
7	**008–011**	Consecration
	012–015	Color 1
	016–019	Color 2
	020–023	Color 3
	024–027	Color 4
	028–031	Color 5
	032–035	Color 6
	036–039	Color 7
	040–043	Color 8
	044–047	Color 9
	048–051	Color 10
	052–055	Color 11
	056–059	Color 12
	060–127	Color 13
	128–189	Color 14
	190–193	Color wheel slide
	194–255	Rotate counter-clockwise from fast to slow

CH	Value	Function
Gobo wheel — CH 7 (continued)		
7	**000–007**	Stop
	008–010	Rotate clockwise, from slow to fast
	011–013	Light on
	014–016	Gobo 1
	017–019	Gobo 2
	020–022	Gobo 3
	023–025	Gobo 4
	026–028	Gobo 5
	029–031	Gobo 6
	032–034	Gobo 7
	035–037	Gobo 8
	038–040	Gobo 9
	041–043	Gobo 10
	044–046	Gobo 11
	047–049	Gobo 12
	050–052	Gobo 13
	053–055	Gobo 14
	056–059	The white light flickered, gradually increasing in speed
	060–063	Gobo 1, shaking, from slow to fast
	064–067	Gobo 2, shaking, from slow to fast
	068–071	Gobo 3, shaking, from slow to fast
	072–075	Gobo 4, shaking, from slow to fast
	076–079	Gobo 5, shaking, from slow to fast
	080–083	Gobo 6, shaking, from slow to fast
	084–087	Gobo 7, shaking, from slow to fast
	088–091	Gobo 8, shaking, from slow to fast

CH	Value	Function
	092–095	Gobo 9, shaking, from slow to fast
	096–099	Gobo 10, shaking, from slow to fast
	100–103	Gobo 11, shaking, from slow to fast
	104–107	Gobo 12, shaking, from slow to fast
	108–111	Gobo 13, shaking, from slow to fast
	112–115	Gobo 14, shaking, from slow to fast
	116–119	Gobo 15, shaking, from slow to fast
	120–127	Gobo 16, shaking, from slow to fast
	128–189	Rotate clockwise, from fast to slow
	190–193	Stop
	194–255	Rotate counterclockwise, from slow to fast

CH	Value	Function
8 Prism — CH 8 / 8 Prism rotation — CH 9		
8	**000–007**	Off
	008–255	On
9	**000–127**	Prism slide
	128–189	Rotate clockwise, from fast to slow
	190–193	Stop
	194–255	Rotate counterclockwise, from slow to fast
24 Prism — CH 10 / 24 Prism rotation — CH 11		
10	**000–007**	Off
	008–255	On
11	**000–127**	Prism slide
	128–189	Rotate clockwise, from fast to slow
	190–193	Stop
	194–255	Rotate counterclockwise, from slow to fast
Strobe — CH 12		
12	**000–007**	Light off
	008–015	Light on
	016–131	Strobe, from slow to fast
	132–167	Slow on, fast off, from slow to fast
	168–203	Fast on, slow off, from slow to fast
	204–239	Jumping / Random flashing, from slow to fast
	240–247	Consecration
	248–255	Light on
Dimming — CH 13 · Focus — CH 14 / 15		
13	**000–255**	Dimming 0%–100%
14	**000–255**	Focus 0%–100%
15	**000–255**	Fine-tuning of focus
Atomizing mirror — CH 16		

CH	Value	Function
16	**000–007**	Off
	008–255	On
Special Functions — CH 17		
17	**000–007**	No Function
	008–129	Light Bulb On
	130–139	X/Y Axis Reset
	140–149	Head Motor Reset
	150–159	Recover homogenized sheet
	160–169	Homogenization sheet 1
	170–179	Homogenization sheet 2
	180–199	No Function
	200–209	All motors reset
	210–211	Enable Pattern Shortcut
	212–213	Disable color shortcuts
	214–215	Enable color shortcuts
	216–217	Color Shortcut: Disabled
	218–229	No Function
	230–239	Light Bulb Off
	240–255	No Function

05 Common Faults

Solutions are provided for some common faults. Any problems that cannot be resolved should be handled by a professional. Disconnect the power supply before servicing the lights.

1. Bulb not lit

- Check if the voltage is compatible with the lamp;
- Check if the power supply connection or control switch of the lamp has poor contact;
- Check if the power supply is insufficient;
- Check if the DMX512 controller has sent commands.

2. The lamp does not accept control from the console after a normal reset

- Check if the lamp's digital start address value and function options are correct;
- Check if the communication control line connection is correct, if the communication line is too long, or if it is interrupted;
- Check if the control equipment is malfunctioning, and if the connected signal amplifier is faulty;
- Check if the communication line is too long or if there is interference from other devices;
- Optimize the wiring, shorten the length of the control signal line, and separate high-voltage and low-voltage lines;
- Add a signal amplifier;
- Use high-quality shielded twisted-pair cable for the signal line;
- Connect a 120-ohm signal terminating resistor at the end of the lamp.

3. Light Fixture Fails to Start

- Check if the power supply parameters match the light fixture;
- Check if the light fixture has suffered from poor contact or detachment due to compression, deformation, internal component vibration, or moisture during long-distance transportation;
- Check if the internal wiring and connectors of the light fixture are loose or detached;
- Check if the electronic components of the light fixture (such as electronic transformer, PCB board, motor control board, etc.) are loose, short-circuited, or burnt out.

4. During operation, the X-axis or Y-axis movement of the lamp is abnormal

- Check each step in the previous section;
- Check if the drive belts corresponding to the X and Y axes inside the lamp are detached or broken;

- Check if the data feedback receivers (optical couplers) corresponding to the X and Y axes inside the lamp are damaged;
- Reset the lamp by restarting it.