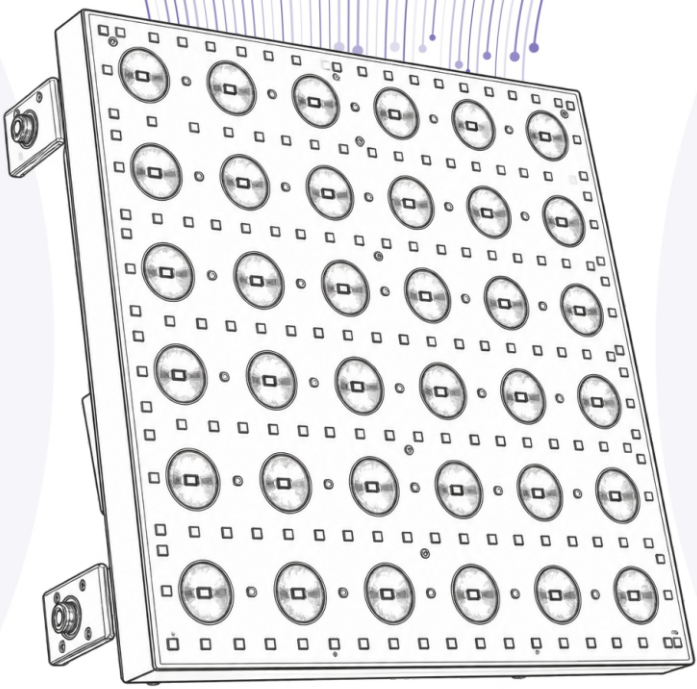
series DJ by FLASH



USER MANUAL

MATRIX BEAM

F9700344

1. INTRODUCTION

THANK YOU FOR PURCHASING THE **FLASH DJ MATRIX BEAM**. FOR SAFETY REASONS AND TO ENSURE RELIABLE OPERATION AND THE BEST POSSIBLE PERFORMANCE OF THE DEVICE, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE USE.

2. SAFETY INSTRUCTIONS

The device is intended for indoor use only. Protect it from water, moisture, and excessive dust.

Do not operate the device at ambient temperatures exceeding 60°C.

If the device has been exposed to a significant change in temperature, for example during transportation from a cold to a warm environment, do not connect it to the power supply immediately.

Condensation forming inside the device may cause damage. Before switching the device on, allow it to reach ambient temperature.

The device is designed to operate with a supply voltage of 100–240 V AC. Before connecting the device, make sure that the mains supply parameters correspond to the values specified on the device.

The device must only be connected to a properly installed mains outlet equipped with a protective earth connection.

Regularly check the condition of the power cable. Do not use a cable that is damaged, cut, excessively bent, or has damaged insulation.

Route all cables in such a way that they are protected against mechanical damage and do not pose a hazard to people in the vicinity.

Disconnect the device from the power supply before cleaning or maintenance and when it will not be used for an extended period.

Do not make any unauthorized modifications to the device.

Unauthorized modifications may result in damage to the device, short circuit, fire, or electric shock.

Repairs and servicing that require opening the housing must only be carried out by qualified personnel.

Do not install the device in locations exposed to strong shocks, vibrations, or unstable mounting structures.

Before operating the device, familiarize yourself with its functions and operating procedures.

Avoid impacts and excessive force during transportation, installation, and operation.

The device should only be operated by persons with appropriate knowledge of its proper and safe use.

Improper operation may damage the device and pose a risk to the user.

WARNING



CAUTION! Before installing and operating the device, read this user manual carefully.



DANGER! Hazardous voltages are present inside the device. Do not open the housing. Servicing must only be carried out by qualified personnel.



CAUTION! The device has an IP20 protection rating and is intended for indoor use only. Protect the device from water and moisture.



CAUTION! When the device is installed overhead, particularly above areas where people may be present (e.g. on a truss, stage structure, or ceiling), always use suitable mounting hardware and an independent secondary safety attachment, such as a safety cable.



CAUTION! INTENSE LIGHT. Do not look directly into the light source while the device is operating and do not direct the intense light output into anyone's eyes.

3. PRODUCT INFORMATION

□ Power supply: AC 100–240 V, 50–60 Hz
□ Power consumption: 300 W
□ Main light source: 49 × 3 W RGBW LED
□ Additional light source: 441 × 0.2 W RGB LED
□ Color mixing: RGB / RGBW
□ Dimming: Electronic, 0–100%
□ Strobe: 1–20 Hz
□ Pixel control: Full matrix / individual pixel control
□ Pixel flip: 0° / 90° / 180° / 270°
□ DMX modes: 5 / 15 / 209 / 1375 / 1379 CH
□ Control protocols: DMX512, RDM, Art-Net
□ Operating modes: DMX, Auto, Sound
□ User interface: LCD display + physical buttons
□ Power IN / OUT: PowerCON
□ DMX IN / OUT: 3-pin XLR
□ Ethernet IN / OUT: Rj45
□ IP rating: Ip20
□ Housing material: Aluminium
□ Housing color: Black
□ Cooling: Active
□ Dimensions: 500 × 500 × 80 mm
Weight: 6.6 kg

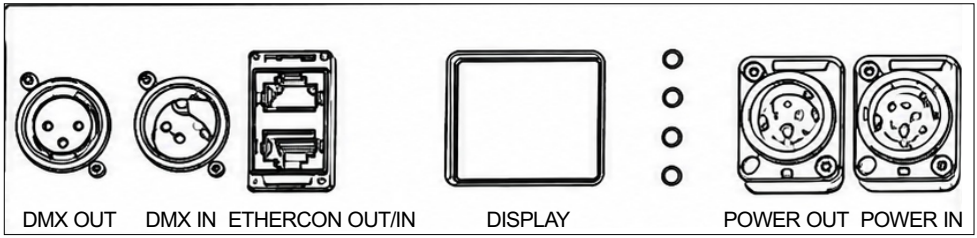
4. INSTALLATION

After removing the device from the packaging, check it for any damage that may have occurred during transport. Before connecting the device to the mains power supply, make sure that it is securely and safely mounted. The manufacturer shall not be held responsible for damage caused by improper or unstable installation of the device.

When using the device, ensure that it is correctly connected to the mains power supply and properly grounded. Make sure that the mains supply parameters comply with the requirements of the device. All electrical connection work should be carried out by qualified personnel.

5. CONNECTIONS

5.1. Connection panel



5.2. Connecting the power supply

The device is designed to operate with a supply voltage of AC 100–240 V, 50/60 Hz. Power consumption is 300 W. The device must only be connected to a properly grounded Class I mains outlet. The POWER IN connector is used to connect the power supply, while the POWER OUT connector allows power to be supplied to the next device. Before connecting the device, check the condition of the power cable. Do not use cables with damaged insulation.

5.3. Power specification

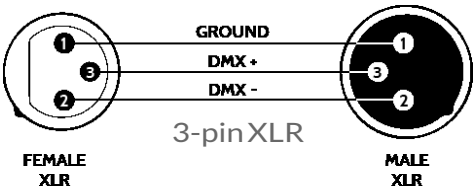
Supply voltage	Power consumption	Power frequency
100~240V AC	300W	50/60Hz

5.4. DMX signal connection

The DMX IN and DMX OUT connectors are used to control the device via the DMX512 protocol. Devices should be connected in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next device.

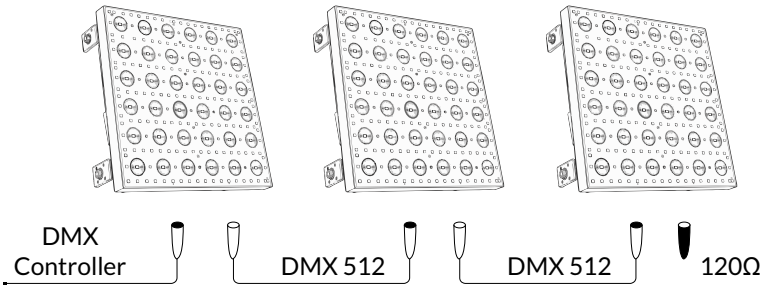
For signal transmission, use a shielded RS-485 compliant cable with a characteristic impedance of 120 Ω, 22–24 AWG conductors, and low capacitance. Do not use standard microphone cables.

For long DMX lines or operation in environments subject to interference, it is recommended to use a 120 Ω DMX terminator connected to the DMX OUT of the last device in the line.



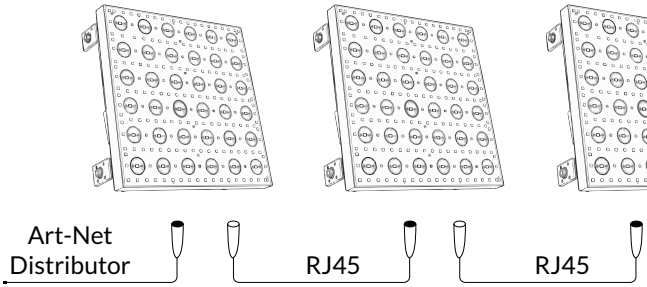
CAUTION! The DMX signal must be terminated at the last device in the line. Solder a 120 Ω resistor between signal (–) and signal (+) in an XLR connector and connect it to the DMX OUT.

Diagram of daisy-chained DMX connection



5.5. Ethernet / Art-Net connection

Diagram of device connection using RJ45 (Ethernet) cables



The device supports control via the Art-Net protocol. The ETHERNET IN and ETHERNET OUT (RJ45) connectors are used for network connection.

After connecting the device to the network, configure the parameters in the Network Settings menu. The following settings are available:

IP Address – device IP address
Subnet Mask – subnet mask
Universe 1 – primary Art-Net universe, available for all channel modes
Universe 2 and Universe 3 – additional universes used in extended channel modes requiring data transmission over more than one universe.

Before starting control, make sure that the device's IP address, subnet mask and Universe settings match the configuration of the Art-Net network and controller.

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6. PIXEL MAP

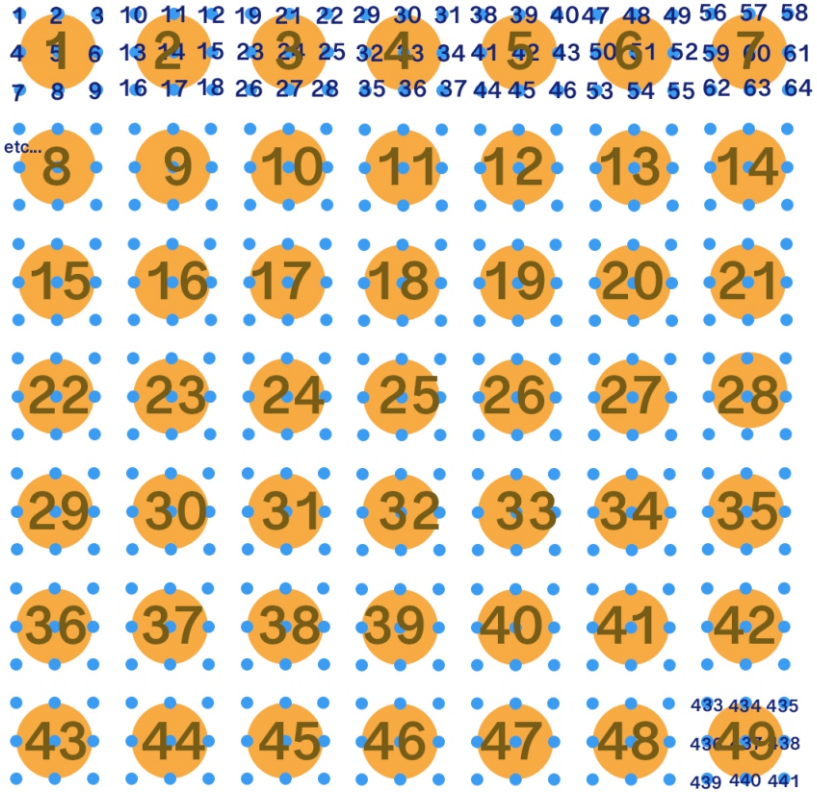
The FLASH DJ Matrix Beam uses two independent light source arrays: 49 main RGBW pixels arranged in a 7 × 7 matrix and 441 additional RGB pixels positioned between them.

The diagram below shows the numbering and physical arrangement of the pixels used for individual control via DMX / Art-Net.

Large pixels: 1–49 – main RGBW LED sources
Small pixels: 1–441 – additional RGB LED sources

The pixel mapping orientation can be changed in the device menu using the Pixel Flip function: 0° / 90° / 180° / 270°.

°.



7. DMX CHARTS

mode 5 ch

Ch	Function	Value	Description	Default	Highlight / locate
1	Dimmer	0-255	Dimmer	0	255
2	Red	0-255	Red min - max	0	255
3	Green	0-255	Green min - max	0	255
4	Blue	0-255	Blue min - max	0	255
5	Beam amber	0-255	Beam min - max	0	255

mode 15 ch

Ch	Function	Value	Description	Default	Highlight / locate
1	Dimmer	0-255	Dimmer	0	255
2	Red	0-255	Red min - max	0	255
3	Green	0-255	Green min - max	0	255
4	Blue	0-255	Blue min - max	0	255
5	Beam amber	0-255	Beam min - max	0	0
6	Shutter	0-255		0	0
7	CTC	0-255		0	0
8	Color macro	0-255		0	0
9	Beam shape static	0-255		0	0
10	Beam shape dynamic	0-255		0	0
11	Beam shape dynamic speed	0-255		0	-
12	Pixel shape static	0-255		0	0
13	Pixel shape dynamic	0-255		0	0
14	Pixel shape dynamic speed	0-255		0	-
15	Control	0-255		0	-

mode 209 ch

Ch	Function	Value	Description	Default	Highlight / locate
1	Dimmer master	0-255	Dimmer	0	255
2	Dimmer beam	0-255	Dimmer	0	255
3	Dimmer pixel	0-255	Dimmer	0	255
4	Red 1	0-255	Red min - max	255	255
5	Green 1	0-255	Green min - max	255	255
6	Blue 1	0-255	Blue min - max	255	255
7	Beam amber 1	0-255	Beam min - max	255	255
8	Red 2	0-255	Red min - max	255	255
9	Green 2	0-255	Green min - max	255	255
10	Blue 2	0-255	Blue min - max	255	255
11	Beam amber 2	0-255	Beam min - max	255	255
...					
196	Red 49	0-255	Red min - max	255	255
197	Green 49	0-255	Green min - max	255	255
198	Blue 49	0-255	Blue min - max	255	255
199	Beam amber 49	0-255	Beam min - max	255	255
200	Shutter	0-255		0	0
201	No function				
202	No function				
203	Beam shape static	0-255		0	0
204	Beam shape dynamic	0-255		0	0
205	Beam shape dynamic speed	0-255		0	-
206	Pixel shape static	0-255		0	0
207	Pixel shape dynamic	0-255		0	0
208	Pixel shape dynamic speed	0-255		0	-
209	Control	0-255		0	-

mode 1375 ch					
Ch	Function	Value	Description	Default	Highlight / locate
1	Beam amber 1	0-255	Beam min - max	0	255
2	Beam amber 1	0-255	Beam min - max	0	255
..					
49	Beam amber 49	0-255	Beam min - max	0	255
50	Red 1	0-255	Red min - max	0	255
51	Green 1	0-255	Green min - max	0	255
52	Blue 1	0-255	Blue min - max	0	255
53	Red 2	0-255	Red min - max	0	255
54	Green 2	0-255	Green min - max	0	255
55	Blue 2	0-255	Blue min - max	0	255
...					
1373	Red 441	0-255	Red min - max	0	255
1374	Green 441	0-255	Green min - max	0	255
1375	Blue 441	0-255	Blue min - max	0	255

mode 1379 ch

Ch	Function	Value	Description	Default	Highlight / locate
1	Beam amber 1	0-255	Beam min - max	255	255
2	Beam amber 1	0-255	Beam min - max	255	255
..					
49	Beam amber 49	0-255	Beam min - max	255	255
50	Red 1	0-255	Red min - max	255	255
51	Green 1	0-255	Green min - max	255	255
52	Blue 1	0-255	Blue min - max	255	255
53	Red 2	0-255	Red min - max	255	255
54	Green 2	0-255	Green min - max	255	255
55	Blue 2	0-255	Blue min - max	255	255
...					
1373	Red 441	0-255	Red min - max	255	255
1374	Green 441	0-255	Green min - max	255	255
1375	Blue 441	0-255	Blue min - max	255	255
1376	Dimmer master	0-255	Dimmer min - max	0	255
1377	Dimmer all beams	0-255	Dimmer beams min - max	0	255
1378	Dimmer all pixels	0-255	Dimmer pixels min - max	0	255
1379	Control	0-255		0	-

8. DEVICE MENU AND SETTINGS

8.1. Control panel



1) DMX address
Displays the currently set DMX address in the range 001–512. In the example shown, the address is set to 001.

2) DMX mode
Displays information about the DMX mode.

3) Control buttons
UP – move up / increase value
MENU – return to the previous menu
ENTER – confirm selection
DOWN – move down / decrease value

CAUTION: Do not press or strike the display surface with sharp or pointed objects, as this may damage the display.

8.2. Main menu screen

The main menu screen contains 6 items. Use the UP and DOWN buttons to select the desired item, then press ENTER to open the selected menu.

1) Address – DMX address
Allows you to set the DMX address of the device. Use the UP and DOWN buttons to increase or decrease the address value. The selected value is automatically updated on the main screen.

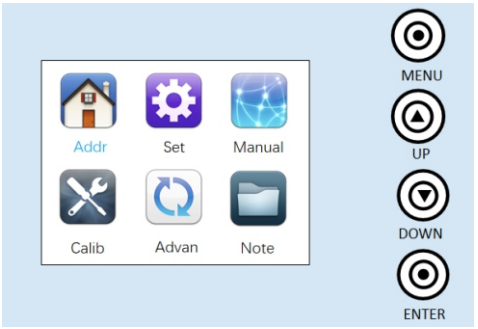
2) Settings – system settings
Allows you to change the operating mode, operating parameters, and display settings of the device.

3) Manual – manual control
Allows you to manually control the device functions. Detailed information about individual functions can be found in the channel tables.

4) Calibration – calibration
Access to the calibration menu is password-protected. The menu allows you to adjust device parameters such as light source power and sound control sensitivity.

5) Advanced – advanced settings
Provides access to advanced functions related to programs stored on the SD card.

6) Note – system information
Displays information about system errors and the device software and hardware versions.



9. MENU STRUCTURE

primary menu	Secondary menu	Level 3 menu/parameters
address	001 - 512	(Add or subtract 1 each time)
System Settings	running mode	DMX/ self-walk 1 / self-walk 2 / voice control
	channel pattern	5CH/15CH/209CH/1375CH/ 1379CH
	network settings	IP/subnet mask/domain
	Pixel flip	0°/90°/180°/270°
	Signal hold	On/off
	Screen protection	On/off
	Screen flips	On/off
	Synchronize updates	On/off
	language	CN /EN
	factory data reset	Confirm/cancel
manual mode	Current channel mode channel	0-255
system calibration	enter password	Lamp calibration
advanced setup	Record the performance	Switch / 1-50
	Play the performance	Guan/1-Number of effective performances
	Synchronous performance	On/Off/1-Number of effective performances / All
system info	Reset information	Device error message
	DMX data monitoring	Receive the channel value from the console
	SD card information	SD card status information
	Hardware version	Displays the hardware version
	software release	Displays the software version

Option	Setting	Description
Running mode	DMX	Device control via DMX signal
	Auto 1	Automatic operation using built-in program 1
	Auto 2	Automatic operation using built-in program 2
	Sound	Sound control; when a sufficiently strong audio signal is detected, the device runs a scene from the built-in program
Channel pattern	5CH / 15CH / 209CH / 1375CH / 1379CH	DMX channel mode selection
Network settings	IP Address	Set the device IP address
	Subnet Mask	Set the subnet mask
	Universe 1	Range 000–32767; available for all channel modes
	Universe 2	Range 001–32767; used in 1375CH and 1379CH modes
	Universe 3	Range 002–32767; used in 1375CH and 1379CH modes
Pixel Flip	0° / 90° / 180° / 270°	Set the pixel mapping orientation
Signal Hold	OFF	When the DMX signal is lost, the device does not retain the last received data frame
	ON	When the DMX signal is lost, the device retains the last received data frame
Screen Protection	OFF	The display remains on
	ON	The display turns off automatically after a specified period of inactivity
Screen Flip	OFF	Standard display orientation
	ON	Reversed display orientation
Synchronize Updates	OFF	Synchronization disabled
	ON	Synchronization of settings and calibration parameters between devices connected via DMX cable
Language	CN / EN	Menu language selection: Chinese / English
Factory Reset	Cancel	Cancel the operation
	Confirm	Restore factory settings

CAUTION: When using the Synchronize Updates function, the devices must be connected using DMX cables. The DMX cable connected to the controller must be disconnected beforehand.

9.1. System calibration

To access the system calibration menu, enter the password "6688". Use the UP and DOWN buttons to change the values of individual parameters. The calibration menu allows you to adjust the device power, white balance, and sound control sensitivity, as well as change the access password.

Device white balance – allows adjustment of the white balance for the R, G, B, and W components. The adjustment range is 0–255. A value of 255 means no correction.

Power – allows you to set the maximum power of the device. A value of 255 corresponds to maximum power.

Main LED white balance – allows adjustment of the white balance of the main LED sources 1–49. The adjustment range is 0–255. A value of 255 means no correction.

Sound control sensitivity – allows adjustment of the sound control sensitivity. A value of 0 indicates the highest sensitivity.

Change password – allows you to set a new password for accessing the system calibration menu.

9.2. Advanced settings

The Advanced menu allows you to record, play back, and synchronize saved programs. Use the UP and DOWN buttons to select the desired function, then press ENTER to confirm the selection.

Program recording – allows you to record the control sequence. Once the function is activated, recording of the control signal begins. Press ENTER to stop recording.

Program playback – allows you to select and play back a previously recorded program. Press ENTER to stop playback.

Program synchronization – allows you to synchronize a previously recorded program with the server.

10. TROUBLESHOOTING AND NOTES

10.1. Troubleshooting

The device contains specialized electronic components and a power supply operating at hazardous voltage. For safety reasons, do not disassemble the device or attempt to carry out repairs inside the housing. Servicing should only be performed by qualified personnel.

1) Light output is noticeably reduced

Check that the optical components of the device are clean. Remove dust and other contaminants from the optical components. Clean and maintain the device regularly.

2) The device operates irregularly or switches off intermittently

Check that the fans are operating correctly. Check that the fans and ventilation openings are not dirty or blocked. Ensure adequate ventilation and conditions that allow proper heat dissipation.

3) The device does not respond to DMX control

Check that the DMX address is set correctly. Check the DMX signal cable and make sure it is connected correctly. Check that the DMX connectors are not loose or damaged. For long DMX lines, an appropriate signal amplifier may be used. Use a 120 terminator at the end of the DMX line.

4) The device does not start

Check that the device is properly connected to the power supply. Check the power cable and the supply voltage parameters. If the problem persists, disconnect the device from the power supply and contact qualified service personnel.

10.2. Usage notes

Before connecting the device, make sure that the mains supply parameters comply with the rated power supply requirements of the device.

Do not use power cables with damaged insulation.

The device uses active cooling. Regularly clean the fans and ventilation openings to prevent dust accumulation and restricted airflow.

During installation, make sure that all mounting components are properly tightened. For suspended installation, an additional fall protection device, such as a suitably rated safety cable, must be used.

If any abnormal operation is detected, stop using the device and disconnect it from the power supply.

10.3. RDM usage notes

RDM (Remote Device Management) is an extension of the DMX512-A protocol, enabling bidirectional communication between the controller and devices connected to the DMX line.

When using RDM, the following rules must be observed:

Use a controller or other host device that supports the RDM protocol.

When using a signal amplifier, use a device that supports bidirectional RDM communication.

A standard unidirectional DMX signal amplifier may prevent return data transmission.

All devices should be set to DMX mode, and only one host device should be present on a single signal line.

A 120 Ω terminator should be connected between pins 2 and 3 of the DMX connector at the end of the DMX line.

If the device responds correctly to DMX control but is not detected via RDM, check the signal amplifier and the DMX cable connections, particularly the connections on pins 2 and 3.



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