LED 3x3 Matrix MOVING HEAD
User's Manual

Viking VK910

Professional Entertainment Technology

1. Safety Instructions

WARNING

Please read carefully the instructions, which includes important information about the installation,usage and maintenance

- Please keep this User Guide for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet
- **DO NO**T connect this product to the mains via a Dimmer
- Unpack and check carefully there is no transportation damage before using the unit.
- Before operating, ensure that the voltage and frequency of power supply match the power requirements of the unit
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- The unit is for indoor use only. Use only in a dry location
- The unit must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked
- Disconnect main power before replacement or servicing.
- Make sure there are no flammable materials close to the unit while operating as it is fire hazard.
- Use safety bonds when hanging this unit. Don't handle the unit by taking its head only, always hold by the base handles.
- Maximum ambient temperature is 40°C. Don't operate it where the temperature is higher than this.
- Unit surface temperature may reach up to 85°C. Don't touch the housing bare-hand during its operation. Turn off the power and allow about 15 minutes for the unit to cool down before replacing or serving.
- In the event of a serious operating problem, stop using the unit immediately. Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest Viking Dealer for assistance.
- To prevent or reduce the risk of electrical shock or fire, do not expose the unit the rain or moisture. The unit is for indoor use only. Use only in a dry location.
- The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.

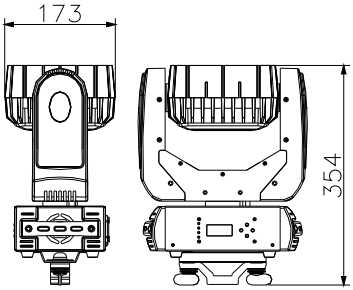
Caution
There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself. In the unlikely event your unit may require service, please contact your nearest Viking Lighting dealer.

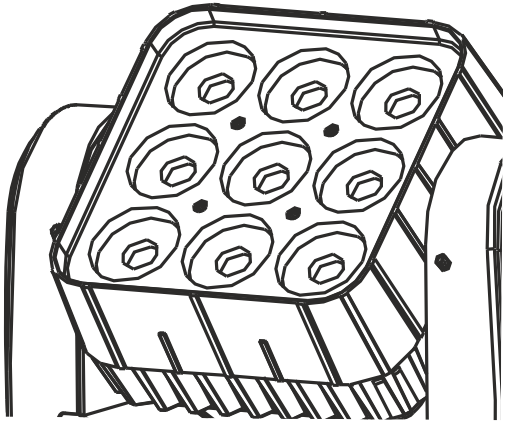
Installation
The unit should be mounted via its screw holes on the omega bracket. Always ensure that the unit is firmly fixed to avoid vibration and slipping white operating.

Make sure that the structure to which you are attaching the unit is secure and is able to support a weight of 10 times of the unit's weight. Also always use a safety cable rated to 15kg SWL when installing the fixture from the Omega Hanging Bracket.

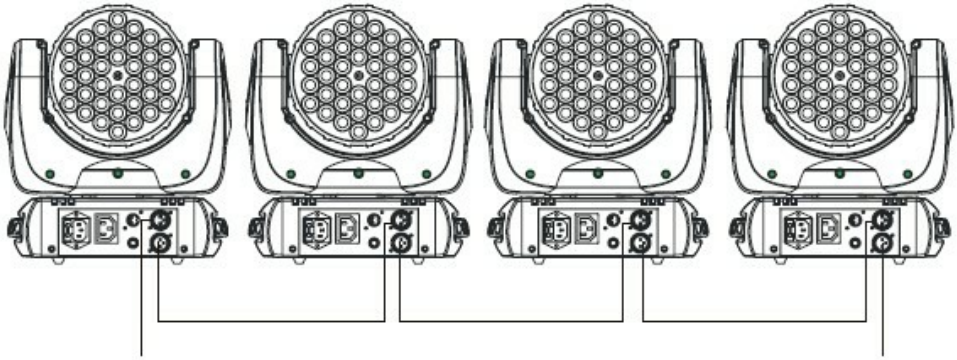
The equipment must be fixed by professionals who have accessed it's use is safe and proper.

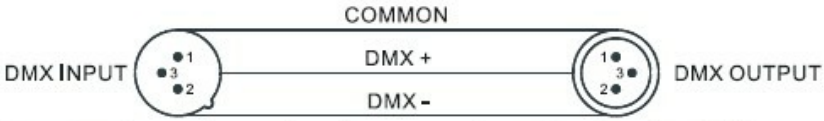
2. Technical Specification
- Extremely small, fast and powerful LED Moving beam.
- DMX Channels:1/16/48 Channel Modes
- Master, Slave, Sound & DMX Modes
- Pan/Tilt: 540 /270 degrees speed adjustable
- Smooth electronic dimming:0-100%
- Electronic strobe with pulse and random effects
- High efficiency, low power consumption, low noise
- Super compact, low weight, fast moving
- Powercon in and out connectors
- DMX on 3 pin in and out XLR connectors
- All 9 Led individually controllable
- Built In Programs
- 9 x 10w 4in1 Quad Colour LED
- Weight: 7.5kg
- Voltage: 100-240v 50/60hz 120w
- Fuse: External T6.3a 20mm
- Dimensions: 292x187x324mm





3 DMX512 Connection





Termination reduces signal errors and avoids signal transmission problems & interference. It is always advisable to connect a DMX signal terminator At the end of the signal run. (See Point 2 below)

1. If you using a controller with 5 pins DMX output, you need to use a 5 to 3 pin adapter-cable. Route signal cables away from mains cables to avoid signal interference - commonly viewed as lights flickering randomly.
2. At the last unit, the DMX cable has to be terminated with a terminator. Solder a 120 ohm 1/4w resistor between pin 2(DMX-)and pin 3(DMX+)into a 3-pin XLR-plug and plug it in the DMX-output of the last unit
3. Connect the unit together in a daisy chain by XLR plug from the output of the unit to the input of the next unit. The cable cannot branched or split to a 'Y'cable. DMX512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the systems.
4. The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units power is disconnected.
5. Each light needs to have an address set to receive the data sent by the controller. The address number is between 1-512
6. 3 pin XLR connectors are equally as popular as 5 pin XLR
   In both cases the following protocol applies;
   XLR: Pin 1:GND Pin 2:Negative signal(-) Pin 3:Positive signal(+)

Display
To show the various menus and the selected functions

LED

DMX	On	DMX Input Present
MASTER	On	Master Mode
SLAVE	On	Slave Mode
SOUND	Flashing	Sound Activation

Button

MENU	To select the appropriate option
DOWN	To go backward in the selected function
UP	To go forward in the selected function
ENTER	To confirm the selected value or function

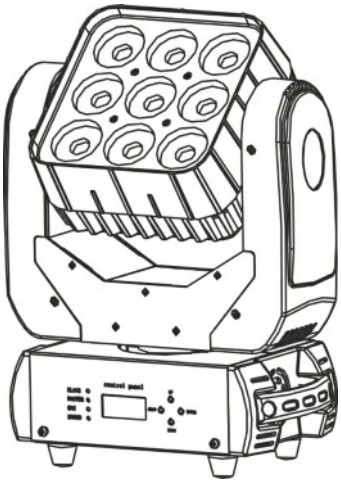
4. Main Function

To select any of the given functions, Press the **MENU** button until the required function is showing on the display. Select the function by pressing the **ENTER** button and the display will blink.

Use the **DOWN** and **UP** button to change the mode. Once the required mode has been selected, press the **ENTER** button to confirm selection or to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

The main functions are showing overleaf:

Display	Value	Function
DMX Address	0-512	Select DMX starting address for the light
Channel Set	Xch	Select DMX Channel Mode 10 13 or 17 control channels
Show Mode	Show x	Select inbuilt show 1 2 3 or 4
Slave Set	SlaveX	Select either slave1 (normal) or slave2 for light show slave
Blackout	Yes / No	Select if you wish the unit to blackout in loss of DMX signal
Sound Mode	On / Off	Select if the auto sound trigger is on or off
Sound Sense	0 / 100	Select sensitivity of built in mic to trigger sound activation
Pan Inverse	Yes / No	Invert Pan on Head
Tilt Inverse	Yes / No	Invert Tilt on Head
Back Light	On / Off	Select if LCD backlight is to be constantly on or auto off
White Balance	R/G/B 0-255	Reset the head to factory defaults
Fixture Test	Function 0-255	Manual test RGBW Dimmer & Strobe functions
Temp		Shows the internal temperature of the head
Defaults	Yes/No Pro/Auto	Reset to factory defaults - either Pro or Auto (basic) level
Fixture Reset	Yes/No	Reset fixture



DMX Address

Select **DMX Address**,Press the **ENTER** button to confirm, the present address will blink on the display. Use the **UP** and **DOWN** button to adjust the address from **1** to **512**. Once the address has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

DMX Channel Set

Select **Channel Set**,Press the **ENTER** button to confirm, the present set will blink on the display. Use the **UP** and **DOWN** button to select channel 1**/16/48.** Once the set has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Show Mode

Select **Show Mode,**Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Show 1** or **Show 2** or **Show 3** or **Show 4** mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Slave Mode

Select **Slave Mode,**Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Slave 1**(normal) or **Slave 2** (2 light show)mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Black Out (DMX Fail)

Select **Slave Mode,**Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Yes**(yes blackout) or **No** (no blackout)mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Sound State (Mic on/Off)

To set sound control on or off (disenabled) select **Sound State,** Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **On**(Sound On) or **Off** (Sound Off)mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Sound Sense (Sensitivity)

To set the sensitivity of the built in microphone select **Sound Sense,** Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **0…100** mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Pan Inverse

Select **Pan Inverse,**Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Yes**(Pan Inversion) or **No**((Normal)mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Tilt Inverse

Select **Tilt Inverse,**Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Yes**(Tilt Inversion) or **No**((Normal)mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

Back Light (LCD backlight)

Select **Back Light,**Press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **On**(LED On) or **Off**((LED Off)mode. Once the mode has been selected,press the **ENTER** button to setup,to go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode

White Balance

Select **White Balance**, press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Red** or **Green** or **Blue**. Once the mode has been selected, press the **ENTER** button to setup, use the **DOWN** and **UP** button to change the value (125~255). Once the mode has been selected, press the **ENTER** button to setup, go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

Manu Test (Manual Test)

Select **Manu Test**, press the **ENTER** button to confirm, present mode will blink on the display. Use the **DOWN** and **UP** button to select the **Pan/ Tilt**/ **Red**/ **Green**/ **Blue/ White/Dimmer** or **Strobe**. Once the mode has been selected, press the **ENTER** button to setup,use the **DOWN** and **UP** button to change the value (0~255). Once the mode has been selected, press the **ENTER** button to setup, go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

Fixture Test

Select **Manu Test**, press the **ENTER** button to confirm, present mode will blink on the display. Once the mode has been selected, press the **ENTER** button to setup, go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

Temperature

Press the **MENU** button up to when the **Temp** is blinking on the display. Pressing **ENTER** button and the display will show the temperature of the unit. To go back to the functions press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

Defaults Setting

Press the **MENU** button to show **Defaults** on the display. Press the **ENTER** button and the display will blink. Use the **DOWN** and **UP** button to select the **YES** or **No**. Once the **Yes** has been selected, press the **ENTER** button and use the **UP** and **Down** button to select the **PRO Defaults** or **AUTO Defaults**.

PRO Defaults: For professional users:

Slave Mode = Slave 1
Black Out = Yes
Sound State = Off
Pan Inverse = No
Tilt Inverse = No
Back Light = Off
Function Delay = 3S Delay

AUTO Defaults: Mostly automatic mode, for non professional users:

Slave Mode = Slave 1
Black Out = No
Sound State = On
Pan Inverse = No
Tilt Inverse = No
Back Light = On

Reset

Press the **MENU** button until **Reset** is blinking on the display. Pressing the **ENTER** button will reset the head and all channels of the unit will return to their standard position.

5. How to Control The Unit

You can operate the unit in two ways:

1. Master/Slave built-in preprogram function
2. Universal DMX controller

There is no need to turn the unit off when you change the DMX address, as new DMX address settings will take effect at once. Every time you turn the unit on, it will show **"A|PO"**on the display and move all the motors to their **"HOME"** position. You may hear some noises for about 20 seconds after which the unit will have completed it's reset and will be ready to receive DMX signal or run the built in programs.

Master/Slave Built In preprogrammed Function

By using the units in master/slave configuration, the first unit will control the other units to give an automatic, sound activated, synchronized light show. This function is ideal when you want an instant show.

You have to set the first unit to master **Show Mode** and select **Show 1, Show 2, Show 3** or **Show 4** mode. Its DMX input socket **MUST** have nothing plugged into it, and its master LED will be constantly on and sound LED will flash to the music. The other units will have to be set to **Slave mode** and select **Slave 1**(normal) or **Slave 2** (2 light show) mode,Their DMX cables plugged into the DMX input sockets (daisy chained) and the slave led lights will be constantly on.

2-Light Show

In **Slave mode**, **Slave 1** means the unit works normally and **Slave 2** means 2-light show. In order to create a great light show,you can set **Slave 2** on the second unit to get contrast movement to each other,even if you have two units only. You can decide which lights are to be Slave 1 and Slave 2 and build an interesting display with no controller required.

DMX Controller

By using a universal DMX Controller to control the units, you will need to set DMX address from 1 to 512 so that the units can receive a DMX signal

Press the **MENU** button until the **DMX Address** is showing on the display. Pressing **ENTER** button and the display will blink. Use **DOWN** and **UP button** to change the DMX512 address. Once the address has been selected, press the **ENTER** button to store the address. To go back to the functions without any change press the **MENU** button again. Hold and press the **MENU** button about one second or wait for one minute to exit the menu mode.

6. Troubleshooting

Following are a few common problems that may occur during operation. Here are some suggestions for easy troubleshooting

A. The unit does not work, no light and the fan does not work

1. Check the connection of power and main external use
2. Check the Powercon Plug is lock-twisted correctly
3. Check the power on LED.

B. Not responding to DMX controller

1. DMX LED should be on. If not, check DMX connectors, cables etc to see if it is linked properly
2. If the DMX LED is on and no response to the channel, check the address setting and DMX polarity and also desk profile is correct for the mode.
3. If you have intermittent DMX signal problems, check the pins on connectors or on PCB of the unit or the previous one.
4. Try to use another DMX controller or know light on same settings & address
5. Check if the DMX cables run near or run alongside to high voltage cables that may cause damage or interference to DMX interface circuit.

C. Some units don't respond to the easy controller

1. You may have a break in the DMX cabling. Check the LED for the response of the Master/Slave mode signal.
2. Wrong DMX address in the unit. Set the proper address.

D. No response to the sound

1. Make sure the unit does not receive a DMX Signal - this overrides the sound
2. Check microphone to see if it is good by tapping the microphone

E. One of the channels is not working well

1. The stepper motor might be damaged or cable connected to PCB is broken.
2. The wrong profile or DMX mode is set on the controller

7. Fixture Cleaning

The cleaning of internal and external optical lenses and/or lenses must be carried out periodically to optimize light output. Cleaning frequency depends on the environment in which the fixture operates: damp, smoky or particularly dirty surroundings can cause greater accumulation of dirt on the unit’s optics

- Clean with soft cloth using normal glass cleaning fluid
- Always dry the parts carefully
- Clean the external optics at least every 20 days. Clean any dust from intake air vents or fan surrounds.

8. DMX Channels (1)

Channel	Value	Function
1	000-007	Blackout
	008-067	Show 1
	068-127	Show 2
	128-187	Show 3
	188-247	Show 4
	248-255	Random Show

DMX Channels (16)

Channel	Value	Function
1	0-255	Pan (0-630 Degree)
2	0-255	Pan Fine
3	0-255	Tilt (0-240 Degree)
4	0-255	Tilt Fine
5	0-255	Pan/Tilt Speed
6	0-015	No Effect
	016-035	Macro 1
	036-055	Macro 2
	056-075	Macro 3
	076-095	Macro 4
	096-115	Macro 5
	116-135	Macro 6
	136-155	Macro 7
	156-175	Macro 8
	176-195	Macro 9
	196-215	Macro 10
	216-235	Macro 11
	236-255	Macro 12
7	000-255	Pan/Tilt Macro Speed

DMX Channels (16 Channels continued…)

Channel	Value	Function
8	000-069	No Function
	070-079	Enable Blackout while Pan/Tilt Move
	080-089	Disenable Blackout while Pan/Tilt Move
	090-199	No Function
	200-209	Reset All
	210-239	No Function
	240-255	Stand Alone
9	000-255	Master Dimmer
10	000-015	Strobe Open
	016-131	Strobe Slow to Fast
	132-139	Open
	140-181	Strobe Fast Close - Slow Open
	182-189	Open
	190-231	Strobe Fast Open - Slow Close
	232-239	Open
	240-247	Random Strobe
	248-255	Open
11	000-255	All Led's Red
12	000-255	All Led's Green
13	000-255	All Led's Blue
14	000-255	All Led's White
15	000-007	No Effect
	008-127	Colour 1-32
	128-191	Colour Macro 1-16
	192-255	Colour Fade Macro 1-16
16	000-255	Colour Macro Speed

DMX Channels (48 Channels)

Channels 1 to 10 as per the 16 channel mode

Channel	Value	Function
11	0-255	Led 1 Red
12	0-255	Led 1 Green
13	0-255	Led 1 Blue
14	0-255	Led 1 White
15-46……. Led 2-9 Colour RGBW		
47	000-007	No Effect
	008-127	Colour 1-32
	128-191	Colour Macro 1-16
	192-255	Colour Fade Macro 1-16
48	000-255	Colour Macro Speed