

# OMX-07HMHM0006 MANUAL

## 4K@60HZ 4:4:4 HDMI 4X4 MATRIX & VIDEO WALL CONTROLLER WITH EDID MANAGEMENT





9001-2015

Export Information US ECCN: EAR99 HTS Code: 8544.42 US Dept. of Commerce CCATS: N.a A Division of Tower Products Incorporated Revision #01



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## **Safety Precautions**

Please read all instructions before installing or operating this equipment and connecting the power supply.

Please keep the following in mind as you unpack and install the unit:

1. To prevent fire or shock hazards, do not expose this equipment to high humidity and/or dust. Do not use in an unprotected outdoor installation nor any area classified as overly damp or wet.

2. The temperature for installation should be kept between -4°F and 140°F (-20°C and 60°C). Avoid direct sunlight exposure or extreme temperature changes over a short period of time.

3. Do not disassemble or place the unit on an unstable base.

4. Do not drop the unit and avoid heavy impacts.

5. This unit should not be permanently installed unless proper ventilation is provided. Any enclosure openings must not be blocked or covered as they protect the unit from overheating.

6. Before cleaning, turn off the power and unplug the unit from all connections. Use a damp cloth. Do not use liquid cleaners or aerosol cleaners.

7. Do not overload outlets and extension cords, as this may result in a risk of fire or electric shock.

8. Never push objects of any kind, including liquids, into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.

9. Do not attempt to open or service this unit yourself; opening or removing covers may expose you to dangerous voltage and other hazards.

10. The unit does not contain user-serviceable parts. Contact your authorized dealer or an authorized repair service company if it requires service.



## Introduction

The Ocean Matrix OMX-07HMHM0006 is an HDMI 4x4 matrix and video wall controller that supports up to 4K@60Hz 4:4:4 resolutions. The unit can function as a 4x4 seamless matrix switcher and also supports ten video wall modes. The OMX-07HMHM0006 also features a web browser interface module for control and configuration of the matrix when used as a stand-alone unit or with a third party control system. The OMX-07HMHM0006 can be controlled via the front-panel push buttons, IR remote control, RS-232 interface, and TCP/IP.

## In the Box





- 1 x OMX-07HMHM0006
- 1 x Matrix IR Remote
- 1 x 3pin-3.81mm Phoenix Connector (male)
- 1 x 20-60KHz IR Wideband Receiver Cable (1.5 meters)
- 2 x Mounting Ears 4 x Machine Screws (KM3\*4)
- 1 x 12V/2.5A Locking Power Adapter

## Features:

- HDMI 2.0b and HDCP 2.2 / 1.4 Compliant
- Seamless Video Switching
- Video Input Supports all Industry Standard Resolutions Including GA-WUXGA (up to 1920x1200 @60Hz) and 480i-4K (3840x2160 @60Hz 4:4:4, 4096x2160 @60Hz 4:4:4)
- HDMI Output Supports Upscaling or Downscaling to any Resolution, up to 4096x2160@60Hz 4:4:4
- Supports LPCM, DD, DD+, DTS, Dolby TrueHD, and DTS HD-master Audio
- Built-In EDID Management
- Control and Configure the Matrix Through the Web Interface Module
- Control via Front Panel Buttons, Infrared Remote Control, RS-232 and TCP/IP



## **Specifications:**

| Technical   |  |  |  |  |  |
|---|--|--|--|--|--|
| HDMI Compliance   | HDMI 2.0b  |  |  |  |  |
| HDCP Compliance   | HDCP 2.2/1.4   |  |  |  |  |
| Video Bandwidth   | 564MHz/18Gbps  |  |  |  |  |
|   | Input: VGA-WUXGA (up to 1920x1200@60Hz), 480i-4k<br>(3840x2160@60Hz,4:4:4, 4096x2160@60Hz 4:4:4)   |  |  |  |  |
| Video Resolution  | Output:4096x2160p60, 4096x2160p50, 3840x2160p60,<br>3840x2160p50, 3840x2160p30, 1920x1080p60, 1920x1080p50<br>1920x1080i60, 1920x1080i50, 1920x1200p60rb, 1360x768p60,<br>1280x800p60, 1280x720p60, 1280x720p50, 1024x768p60, auto |  |  |  |  |
| Color Space   | RGB, YCbCR 4:4:4/4:2:2, YUV 4:2:0  |  |  |  |  |
| Color Depth   | 8/10/12-bit  |  |  |  |  |
| IR Level  | 12Vр-р   |  |  |  |  |
| IR Frequency  | 38KHz  |  |  |  |  |
| HDMI Audio Formats LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, D<br>DTS-96/24, DTS High Res, DTS-HD Master Audio |  |  |  |  |  |
|   | Connection   |  |  |  |  |
| Inputs  | 4x HDMI Type A[19-pin female]  |  |  |  |  |
| Outputs   | 4x HDMI Type A[19-pin female]  |  |  |  |  |
| Control   | 1x RS-232 [3-pin-3.81mm phoenix connector]<br>1x TCP/IP [RJ45]<br>1x IR EXT [3.5mm Stereo Mini-jack]   |  |  |  |  |
|   | Mechanical   |  |  |  |  |
| Housing   | Metal Enclosure  |  |  |  |  |
| Dimensions (LxWxH)  | 10.625 x 6.5 x 1.192in   |  |  |  |  |
| Weight  | 2.625lbs (1189g)   |  |  |  |  |
| Power supply  | Input: AC 100-240V 50/60Hz<br>Output: DC 12V/2.5A (US/EU Standard, CE/FCC/UL certified)  |  |  |  |  |
| Power Consumption   | 19.56W (Max)   |  |  |  |  |
| Operating Temperature   | 32°F to 104°F (0°C to 40°C)  |  |  |  |  |
| Storage Temperature   | 32°F to 104°F (0°C to 40°C)  |  |  |  |  |



## **Installation Requirements:**

- 1. Source device: Signal source with HDMI output interface, such as PS4, TV box, PC, etc.
- 2. Display device: 4K or 1080P display device with HDMI input interface, such as TV or projector.

## **Panel Description**





#### **Remote Control:**



**Power on or Standby:** Power on the Matrix or set it to standby mode.

**INFO:** Press this button to display the serial port, baud rate, and IP address in the upper right corner of the screen. (The information will disappear after 5 seconds)

#### **INPUT/OUTPUT:**

**INPUT 1/2/3/4:** Select the signal input channel

</>: Select the last or next signal input channel.

**OUTPUT 1/2/3/4:** Select the signal output channel.

**ALL:** Select all output channels simultaneously. For example, when you press the "ALL" button and then press Input "1", at this time, the input "1" source will be output to all display devices. **Res:** Press this button to switch the output channel resolution.

**Matrix Mode:** Press **OUTPUT 1/2/3/4** or **ALL**, then press **Res** to switch the output resolution circularly.

**Video wall mode:** Press **Res** directly to switch the output resolution for four (4) output channels simultaneously.

**Operation Instruction:** You need to press the OUTPUT button first and then the INPUT button to select the corresponding input source. For example, Press OUTPUT-X (X means output button from 1 to 4, including "ALL" button), then press INPUT-Y (Y means input button from 1 to 4) **VIDEO WALL:** 

**Video Wall mode selection:** Press the video wall mode button directly to enter the corresponding mode.

Source selection for the video wall group: Press OUTPUT 1/2/3/4 or </> to select the video wall group first, then press INPUT 1/2/3/4 or </> to select the input source.

**Bezel Adjustment:** Press </> of H-BEZEL/V-BEZEL to adjust the bezel.



#### Installation and Connection Connection Instructions:

- 1. Connect the source devices to the HDMI input ports with HDMI cables
- 2. Connect the display devices to the HDMI output ports with HDMI cables
- 3. Power on the Devices to get started

## **Connection Diagram**





## Video Wall

The Matrix supports up to 10 categories of display modes, that is switchable via IR remote, Web GUI or RS-232 commands.





2x1





4x1

Matrix











1x3





## Installation and Connection EDID Management

This Matrix has 12 factory defined EDID settings, 2 user-defined EDID modes and 4 copy EDID modes. You can select defined EDID mode or copy EDID mode to input port through RS-232 control or Web GUI.

The defined EDID setting list of the product is shown as below:

| EDID Mode | EDID Description            |
|-----------|-----------------------------|
| 1         | 4k2k60_444,Stereo Audio 2.0 |
| 2         | 4k2k60_444,dolby/dts 5.1    |
| 3         | 4k2k60_444,hd audio 7.1     |
| 4         | 4k2k30_444,stereo audio 2.0 |
| 5         | 4k2k30_444,dolby/dts 5.1    |
| 6         | 4k2k30_444,hd audio 7.1     |
| 7         | 1080p stereo audio 2.0      |
| 8         | 1080p,dolby/dts 5.1         |
| 9         | 1080p,hd audio 7.1          |
| 10        | 1920x1200,stereo audio 2.0  |
| 11        | 1360x768,stereo audio 2.0   |
| 12        | 1024x768,stereo audio 2.0   |
| 13        | user define 1               |
| 14        | user define 2               |
| 15        | copy from hdmi output 1     |
| 16        | copy from hdmi output 2     |
| 17        | copy from hdmi output 3     |
| 18        | copy from hdmi output 4     |



The OMX-07HMHM0006 can be controlled by Web GUI. The operation method is shown below:

Step 1: Get the current IP Address.

The default IP address is 192.168.0.100. You can get the current Matrix IP address in two ways:

The first way is to get the IP address via the remote control. Press the "INFO" button, and the IP address will appear in the upper right corner of the screen.

The Second way is to get the IP address via RS-232 control. Send the ASCII command " r ip addr!" through a Serial Command tool; then you'll get the feedback information as shown below :

ip address:192.168.0.100

IP:192.168.0.100 in the above figure is the current Matrix IP address (This IP address is variable, depending on what specific machine returns).

Step 2: Connect the TCP/IP port of the Matrix to a PC with a UTP cable (as shown in the following figure), and set the IP address of the PC to be in the same network segment as the



Step 3: On your PC, input the Matrix's current IP address into your browser to access the Web GUI Page.

😵 http://192.168.0.100 🕴 🗸



After entering the Web GUI page, there will be a Login page, as shown below:

|   | Username: Admin ><br>Password: LOGIN<br>Language: English > |
|---|---|
| l | 18Gbps 4x4 HDMI Seamless Matrix Switcher                    |

Select the Language from the drop-down list to choose English.

Select the Username from the drop-down list and enter the password. The default passwords are:



After entering the password, click the "LOGIN" button, and the following status page will appear.



#### **Status Page**

The status page provides basic information about the product model, installed firmware version, and device network settings.

| -iomr           | 18Gbps 4x4 HDMI Seamless Matrix Switcher |                   | Admin |
|-----------------|--|-------------------|-------|
| IMEDA INTORINES | Status                                   |                   |       |
| Status          | Model                                    | HDC-MXB44SL       |       |
| Input           | Firmware Version                         | V1.00.13/V2.00.21 |       |
| Video Mode      | Hostname                                 | IP-module-17CFD   |       |
| Network         | IP Address                               | 192.168.0.100     |       |
| System          | Subnet Mask                              | 255.255.0.0       |       |
|                 | Gateway                                  | 192.168.0.1       |       |
|                 | MAC Address                              | 6C:DF:FB:00:C3:34 |       |
|                 |  |                   |       |

#### Input Page

| нәті       | 18Gbps 4x4 HDMI Seamle | ss Matrix Switcher |          |                             |              |          | Admin | Log out | Power on |
|------------|------------------------|--------------------|----------|-----------------------------|--------------|----------|-------|---------|----------|
| Status     | Input Setting          |                    |          |                             |              |          |       |         |          |
|            | Inputs                 | Active             | Name     | EDID                        |              |          |       |         |          |
| Input      | HDMI 1                 | •                  | Input1   | 4K2K60 444,Stereo Audio 2.0 |              |          |       |         |          |
| Output     | HDMI 2                 | •                  | Input2   | 4K2K60 444,Stereo Audio 2.0 |              |          |       |         |          |
|            | HDMI 3                 | 0                  | Input3   | 4K2K60 444,Stereo Audio 2.0 | ~            |          |       |         |          |
| Video Mode | HDMI 4                 | 0                  | Input4   | 4K2K60 444,Stereo Audio 2.0 |              |          |       |         |          |
| Network    |                        |                    |          |                             |              |          |       |         |          |
| System     | Load EDID to user ma   | Browse             |          | Select Destination:         | User Define1 | V Upload |       |         |          |
|            | DownLoad EDID to y     | our computer       |          |                             |              |          |       |         |          |
|            | Select EDID File: HDM  | 4I IN1 ~           | Download | l                           |              |          |       |         |          |



#### Input Page

You can do the following operations on the Input Page:

Inputs: Input channel of the device

**Active:** It indicates whether the channel is connected to a signal source. When the input port is connected to the signal, it shows green; otherwise, it shows gray.

**Name:** the input channel's name. You can modify it by entering the input box's corresponding name (Max length: 31 characters.).

EDID: You can set the current channel's EDID. Click drop-down list to select.

Load EDID to user memory: Set EDID for the User.

Click the "Browse" button, then select the bin file. If you select the wrong EDID file, a prompt will appear, as shown in the following figure.



Make sure to select the correct file; then you can check the selected file's name. Select "User 1" or "User 2", then click "Upload". After successful setting, it will prompt as the following:



#### Download EDID to your computer:

Click the drop-down box of "Select EDID file" to select the corresponding input channel. Then click "Download" to download the corresponding EDID file.



#### Output page

| Status     | Output Setting |       |         |                   |             |       |          |          |        |
|------------|----------------|-------|---------|-------------------|-------------|-------|----------|----------|--------|
| Input      | Outputs        | Cable | Name    | Output Resolution | Color Space | HDCP  | H mirror | V mirror | Stream |
|            | HDMI 1         | •     | Output1 | AUTO 🗸            | RGB 4:4:4   | 1.4 ~ | OFF ON   | OFF ON   | 017 01 |
| Output     | HDMI 2         |       | Output2 | AUTO 🗸            | RGB 4:4:4   | 1.4 ~ | OFF ON   | OFF ON   | OFF ON |
| /ideo Mode | HDMI 3         |       | Output3 | AUTO 🗸            | RGB 4:4:4   | 1.4 ~ | OFF ON   | OFF ON   | OFF ON |
|            | HDMI 4         |       | Output4 | AUTO 🗸            | RGB 4:4:4   | 1.4 ~ | OFF ON   | O/7 ON   | 017 01 |
| Network    |                |       |         |                   |             |       |          |          |        |

You can do the following operations on the Output page:

Outputs: Output channel of the device

**Cable:** It indicates the connection status of output ports. When the output port is connected to the display, it shows green; otherwise, it shows gray.

**Name:** The current output channel's name. You can modify it by entering the corresponding name (Max Length: 12 Characters) in the input box.

**Output Resolution:** Set the current output resolution mode. Click the drop-down list to select. **HDCP:** The HDCP version that the current output port supports. Click the drop-down list to select.

**Stream:** Turn on/off the output stream.

Note: The user cannot set each output resolution separately in video wall mode.

#### Video Mode Page





#### Video Mode Page

You can do the following operations on the Video Page:

Matrix: click to select Matrix Mode.

Video Wall: Click to select any Multiview display mode.

Video Wall Adjustment: Display the input and output information.

Input Source: Three methods to select the input source:

Method 1: Drag input 1/2/3/4 Pattern to any box of Video Wall Adjustment.

**Method 2:** Select any box in Video Wall Adjustment, then click Input 1/2/3/4/Pattern in Input Source.

**Method 3:** Click </> to select the last or next signal source.

**Bezel Adjustment:** Click +/- to adjust the corresponding Horizontal/Vertical Bezel (Up to 10 levels)

**Output Resolution:** Set the resolution of all current output ports. Click the drop-down list to select.

#### **Network Page**

| Hami                      | 18Gbps 4x4 HDMI S  | eamless Matrix Switche                 | ar -  |                      |                        |                   | Admin Log out Power on |
|---------------------------|--|--|-------|----------------------|------------------------|-------------------|------------------------|
| Status<br>Input<br>Output | IP Setting<br>IP Mode<br>IP Address<br>Subnet                                    | Static<br>192.168.0.100<br>255.255.0.0 | DHCP  |                      | Gateway<br>Teinet Port | 192.168.0.1<br>23 |                        |
| Video Mode                | TCP Port   | 8000                                   |       |                      |                        |                   |                        |
| Network<br>System         | Web Login Settin<br>Username<br>Old Password<br>New Password<br>Confirm Password | User<br>HDC-MX844SL                    | Admin |                      |                        |                   |                        |
|                           |  |  |       | Set Network Defaults | Save                   |                   |                        |



#### Network Page

You can do the following operations on the Network Page:

#### Modify Network Setting:

Modify the IP Mode Address/Gateway/Subnet Mask/Telnet Port as required, click "Save" to save the settings, and then it will go into effect.

After modification, if the Mode is "Static," it will switch to the corresponding IP Address; if the Mode is "DHCP," it will automatically search for and switch to the IP Address assigned by the router.

| IP Setting |             |       |         |    |
|------------|-------------|-------|---------|----|
| IP Mode    | Static DHCP |       |         |    |
| IP Address |             | Gate  | way     |    |
| Subnet     |             | Teine | Ht Port | 23 |
| TCP Port   | 8000        |       |         |    |

#### Modify User Password:

Click the "User" button, enter the correct Old Password, New Password, and Confirm Password, and click "Save." After successful modification, a prompt will appear, as shown in the following figure.



**Note:** Input rules for changing passwords:

- 1. The password can't be empty.
- 2. The New Password can't be the same as the Old Password.
- 3. The New Password and Confirm Password must be the same.



#### Set the Default Network:

Click "Set Network Defaults" button, and there will be a prompt, as shown in the following figure:



Click "OK" to search the IP address again, as shown in the following figure:

| нат                                     |  |                                       |  |
|---|--|---------------------------------------|--|
| Status<br>Input<br>Output<br>Video Mode | IP Setting           IP Mode         Static         DHCP           IP Address         192.168.0.100         Static         DHCP           Subnet         255.255.0.0         TCP Part         8000         Static         Static | Gateway 192.168.0.1<br>Telnet Port 23 |  |
| Network                                 | Web Login Setting  |                                       |  |
| System                                  | Username User Admin Old Password New Password Confirm Password   | 카운<br>Searching IP                    |  |
|   | Product Model HDC-MXB44SL  |                                       |  |
|   |  | Set Network Defaults Save             |  |

After searching, it will switch to the login page, the default network setting is completed.



#### System Page

| Homr                 | 18Gbps 4x4 HDMI Seamles       | ss Matrix Switcher |           |            |       |             | 👗 Admin | Log out | Power on |
|----------------------|-------------------------------|--------------------|-----------|------------|-------|-------------|---------|---------|----------|
| Status               | Panel Lock                    | ON                 |           |            |       |             |         |         |          |
| Output<br>Video Mode | Beep                          | 01                 |           |            |       |             |         |         |          |
| Network              | Pattern                       | UN                 |           |            |       |             |         |         |          |
|                      | Black screen Serial Baud Rate | Blue screen        | Color bar | Gray Scale | Cross | Cross Hatch |         |         |          |
|                      | 4800                          | 9600               | 19200     | 38400      | 57600 | 115200      |         |         |          |

You can do the following operations on the System page:

**Panel Lock:** Click to lock/unlock panel buttons. "ON" indicates that panel buttons are unavailable; "OFF" indicates panel buttons are available.

**Beep:** Click to turn on/off the beep.

Pattern: Click to select 6 patterns.

Serial Baud Rate: Click the value to set the Serial Baud Rate.

**Firmware Update:** Click "Browse" to select the update file, then click "Update" to complete firmware update.

Factory Reset: You can reset the machine to factory defaults by clicking "Reset"

Reboot: You can reboot the machine by clicking "Reboot".

**Note:** After reset/reboot, it will switch to the login page.



#### Installation and Connection RS-232 Control

The OMX-07HMHM0006 supports RS-232 command control. Connect the RS-232 port of the product to a PC with a 3-pin phoenix connector cable.



Open a Serial Command tool on PC to send ASCII commands to control the unit. The ASCII Command list about the OMX-07HMHM0006 is shown below:

| ASCII Command   |                           |                |  |                 |
|---|---------------------------|----------------|--|-----------------|
| Serial port protocol:<br>Baud Rate: 115200<br>Data Bits: 8<br>Stop Bits:1<br>Check bit: 0 | (Default)                 |                |  |                 |
| x - Parameter 1<br>y - Parameter 2<br>! - Delimiter                                       |                           |                |  |                 |
| Command Code  | Function Description      | Example        | Feedback   | Default Setting |
|   | 1                         | System Setting |  |                 |
| help!   | Lists all commands        | help!          |  |                 |
| r status!   | Get device current status | r status!      | get the unit all status:<br>power,beep,lock,in/out<br>connection,<br>video/audio<br>crosspoint,edid,scaler,<br>network<br>status |                 |
| r type!   | Get device model          | r type!        | 4x4 hdmi seamless<br>matrix  |                 |
| r fw version!   | Get firmware version      | r fw version!  | mcu fw version x.xx.xx   |                 |



| Command Code     | Function Description   | Example          | Feedback   | Default Setting       |  |
|------------------|--|------------------|--|-----------------------|--|
|                  | S  | ystem settings   | •  |                       |  |
| s power z!       | Power on/off the device,<br>z=0-1 (z=0 power off, z=1<br>power on)         | s power1 !       | power on<br>System initializing<br>initialization<br>finished! Mcu fw<br>version x.xx.xx                     |                       |  |
| r power!         | Ger current power state  | r power!         | power on/off   | 3840x2160p60          |  |
| s beep z!        | enable/disable buzzer<br>function, z=0-1<br>(z=0 beep off, z=1 beep<br>on) | s beep 1!        | beep on<br>beep off  | beep on               |  |
| r beep!          | Get buzzer state   | r beep!          | beep on/beep off   | beep on               |  |
| s lock z!        | Lock/unlock front panel<br>button, z=0-1<br>(z=0 lock off, z=1 lock on)    | s lock 1!        | panel button lock<br>on<br>panel button lock off   | panel button lock off |  |
| r lock!          | Get panel button lock state  | r lock!          | panel button lock<br>on/off  |                       |  |
| s reboot!        | Reboot the device  | s reboot!        | Reboot<br>system<br>initializing<br>initialization<br>finished! Mcu fw<br>version x.xx.xx                    |                       |  |
| s reset!         | Reset to factory defaults  | s reset!         | reset to factory<br>defaults system<br>initializing<br>initialization<br>finished! mcu fw<br>version x.xx.xx |                       |  |
| Output setting   |  |                  |  |                       |  |
| s in x av out y! | Set input x to output y,<br>x=1-4, y=0-4 (0=all)                           | s in 1 av out 2! | input1 -> output 2   | ptp                   |  |
| r av out y!      | Get output y signal status<br>y=0-4 (0=all)                                | r av out0!       | input 1->output 1<br>input 2->output 2<br>input 3->output 3<br>input 4->output 4                             |                       |  |



| Command Code      | Function Description  | Example           | Feedback                           | Default Setting |  |  |
|-------------------|---|-------------------|------------------------------------|-----------------|--|--|
|                   | Output setting  |                   |                                    |                 |  |  |
| s output y res x! | Set output y resolution<br>(y=0-4, x=1-16)<br>y=0 output all<br>y=1 output 1<br>y=2 output 2<br>y=3 output 3<br>y=4 output 4<br>1. 4096x2160p60,<br>2. 4096x2160p50,<br>3. 3840x2160p50,<br>5. 3840x2160p50,<br>5. 3840x2160p30,<br>6. 1920x1080p60,<br>7. 1920x1080p60,<br>8. 1920x1080i60,<br>9. 1920x1080i60,<br>9. 1920x1080i60,<br>10. 1920x1200p60rb,<br>11. 1360x768p60,<br>12. 1280x800p60,<br>13. 1280x720p50,<br>15. 1024x768p60,<br>16. auto | s output 1 res 3! | output resolution:<br>3840x2160p60 | 3840x2160p60    |  |  |
| r output y res!   | Get output y resolution<br>(y=0-4)<br>y=0. output all<br>y=1.output 1<br>y=2. output 2<br>y=3.output 3<br>y=4. output 4   | s output 1 csc1!  | output resolution:<br>3840x2160p60 |                 |  |  |
| s output y csc x! | Set output y color<br>space<br>(y=0-4, x=1-4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=1. rgb444<br>x=2. ycbcr444<br>x3.=ycbcr422<br>x=4. ycbcr420   | s output 1 csc 1! | output 1 csc: rgb444               | rgb444          |  |  |
| r output y csc!   | Get output y color<br>space status. (y=0-4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4  | r output 1 csc!   | output 1 csc:rgb444                |                 |  |  |



| Command Code         | Function Description   | Example                 | Feedback                                     | Default Setting |
|----------------------|--|-------------------------|--|-----------------|
|                      | Outpu  | ut setting              |  |                 |
| s output y hdcp x!   | Set output hdcp<br>(y=0-4, x=1-4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=1. hdcp 1.4<br>x=2. hdcp 2.2<br>x=3. follow sink<br>x=4. follow source | s output 1<br>hdcp1!    | output 1<br>hdcp:<br>hdcp 1.4                | hdcp 1.4        |
| r output y hdcp!     | Get output y hdcp status (y=0-4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4  | r output 1 hdcp!        | output 1<br>hdcp:<br>hdcp 1.4                |                 |
| s output y stream x! | Set output y stream<br>enable/disable (y=0-4, x=0-1)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=0. stream disable<br>x=1. stream enable             | s output 1<br>Stream 1! | output 1<br>stream:<br>enable                | enable          |
| r output y stream!   | Get output y stream status.<br>(y=0-4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4  | r output 1<br>stream!   | output 1<br>stream:<br>enable                |                 |
| s output bg x!       | Set output no signal background<br>display mode (x=1-6)<br>x=1. black screen<br>x=2. blue screen<br>x=3. color bar<br>x=4. gray scale<br>x=5. cross<br>x=6. cross hatch                              | s output bg 1!          | output<br>background<br>:<br>black<br>screen | black screen    |
| r output bg!         | Get output no signal background display mode   | r output bg!            | output<br>background<br>:<br>black<br>screen |                 |



| Command Code         | Function Description  | Example                 | Feedback                              | Default Setting |  |  |
|----------------------|---|-------------------------|---------------------------------------|-----------------|--|--|
|                      | Output setting  |                         |                                       |                 |  |  |
| s output y stream x! | Set output y stream<br>enable/disable (y=0-4,<br>x=0-1)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4<br>x=0. stream disable<br>x=1. stream enable | s output 1<br>Stream 1! | output 1 stream:<br>enable            | enable          |  |  |
| r output y stream!   | Get output y stream<br>status.<br>(y=0-4)<br>y=0. output all<br>y=1. output 1<br>y=2. output 2<br>y=3. output 3<br>y=4. output 4  | r output 1<br>stream!   | output 1 stream:<br>enable            |                 |  |  |
| s output bg x!       | Set output no signal<br>background display mode<br>(x=1-6)<br>x=1. black screen<br>x=2. blue screen<br>x=3. color bar<br>x=4. gray scale<br>x=5. cross<br>x=6. cross hatch                  | s output bg 1!          | output<br>background:<br>black screen | black screen    |  |  |
| r output bg!         | Get output no signal<br>background<br>display mode  | r output bg!            | output background:<br>black screen    |                 |  |  |



| Command Code        | Function Description   | Example      | Feedback   | Default Setting |  |  |
|---------------------|--|--------------|--|-----------------|--|--|
| EDID Setting        |  |              |  |                 |  |  |
| s edid in x from z! | Set hdmi input x edid mode<br>(x=0-4, z=1-18)<br>x=0. all input<br>x=1. input1<br>x=2. input2<br>x=3. input3<br>x=4. input4<br>z=1. 4k2k60_444,stereo audio<br>2.0<br>z=2. 4k2k60_444,hd audio 7.1<br>z=3. 4k2k60_444,hd audio 7.1<br>z=4. 4k2k30_444,stereo audio<br>2.0<br>z=5. 4k2k30_444,dolby/dts 5.1<br>z=6. 4k2k30_444,hd audio 7.1<br>z=7. 1080p,stereo audio 2.0<br>z=8. 1080p,dolby/dts 5.1<br>z=9. 1080p,hd audio 7.1<br>z=10. 1920x1200,stereo audio<br>2.0 z=11. 1360x768,stereo<br>audio 2.0 z=12.<br>1024x768,stereo audio 2.0<br>z=13. user define1<br>z=14. user define2<br>z=15. copy from hdmi output 1<br>z=16. copy from hdmi output 3<br>z=18. copy from hdmi output 4 | r output bg! | output background:<br>black screen   |                 |  |  |
| r edid in x!        | Get input x edid mode<br>(x=0-4)<br>x=0. all input<br>x=1. input1<br>x=2. input2<br>x=3. input3<br>x=4. input4   | r edid in 0! | input 1 edid:<br>4k2k60_444,stereo<br>audio 2.0<br>input 2 edid:<br>4k2k60_444,stereo<br>audio 2.0<br>input 3 edid:<br>4k2k60_444,stereo<br>audio 2.0<br>input 4 edid:<br>4k2k60_444,stereo<br>audio 2.0 |                 |  |  |



| Command Code          | Function Description   | Example                  | Feedback   | Default Setting                        |  |  |
|-----------------------|--|--------------------------|--|--|--|--|
| Video wall setting    |  |                          |  |  |  |  |
| s tw mode x!          | Set tv wall display mode<br>(x=1-10)<br>x=1. 2x2 mode<br>x=2. 2x1 mode<br>x=3. 2x1-2 mode<br>x=4. 1x2 mode<br>x=5. 1x2-2 mode<br>x=6. 3x1 mode<br>x=7. 4x1 mode<br>x=8. 1x3 mode<br>x=9. 1x4 mode<br>x=10. matrix mode   | s tw mode 1!             | tv wall mode: 2x2  | tv wall mode: 2x2                      |  |  |
| r tw mode!            | Get tv wall display mode   | r tw mode!               | tv wall mode: 2x2  | hdmi all oumode                        |  |  |
| s tw h bezel x!       | set tv wall horizontal<br>bezel (x=0-10.+)   | s tw h bezel 0!          | tv wall horizontal<br>bezel: 0   | tv wall horizontal<br>bezel: 0         |  |  |
| r tw h bezel!         | Get tv wall row bezel  | r tw h bezel!            | tv wall horizontal<br>bezel: 0   |  |  |  |
| s tw v bezel x!       | set tv wall vertical bezel<br>(x=0-10.+)   | s tw v bezel 0!          | tv wall vertical bezel:<br>0   |  |  |  |
| r tw v bezel x!       | Get tv wall vertical bezel   | r tw v bezel!            | tv wall vertical<br>bezel:0  | hdmi all oumode                        |  |  |
| s tw group y input x! | Set tv wall group y<br>display<br>which source input<br>(y=0-4, x=1-4)<br>y=0. tv wall group all<br>y=1. tv wall group 1<br>y=2. tv wall group 2<br>y=3. tv wall group 3<br>y=4. tv wall group 4<br>x=1. hdmi input 1<br>x=2. hdmi input 2<br>x=3. hdmi input 3<br>x=4. hdmi input 4 | s tw group 1<br>input 1! | tv wall group 1 input:<br>hdmi input 1   | tv wall group 1 input:<br>hdmi input 1 |  |  |
| r tw group y source!  | Get tv wall group y<br>display which source<br>input (y=0-4)<br>y=0. tv wall group all<br>y=1. tv wall group 1<br>y=2. tv wall group 2<br>y=3. tv wall group 3<br>y=4. tv wall group 4   | r tw group 0<br>source!  | tv wall group 1 input:<br>hdmi input 1<br>tv wall group 2 input:<br>hdmi input 2<br>tv wall group 3 input:<br>hdmi input 3<br>tv wall group 4 input:<br>hdmi input 4 |  |  |  |



| Command Code              | Function Description   | Example                     | Feedback   | Default Setting |  |  |  |
|---------------------------|--|-----------------------------|--|-----------------|--|--|--|
|                           | Video wall setting   |                             |  |                 |  |  |  |
| s tw res x!               | Set tv wall resolution<br>(x-1-15)<br>1. 4096x2160p60,<br>2. 4096x2160p50,<br>3. 3840x2160p50,<br>5. 3840x2160p50,<br>5. 3840x2160p30,<br>6. 1920x1080p60,<br>7. 1920x1080p50,<br>8. 1920x1080i50,<br>10. 1920x1200p60rb,<br>11. 1360x768p60,<br>12. 1280x800p60,<br>13. 1280x720p60,<br>14. 1280x720p50,<br>15. 1024x768p60 | s tw res 3!                 | tv wall resolution:<br>3840x2160p60  | 3840x2160p60    |  |  |  |
| r tw res!                 | Get tv wall resolution   | r tw res!                   | tv wall resolution:<br>3840x2160p60  | 3840x2160p60    |  |  |  |
|                           |  | Network setting             | _  |                 |  |  |  |
| r ipconfig!               | Get the current ip configuration   | r ipconfig!                 | ip mode: Static<br>ip: 192.168.0.100<br>subnet mask:<br>255.255.255.0<br>gateway: 192.168.0.1<br>tcp/ip port=8000<br>telnet port=23<br>mac address:<br>00:1c:91:03:80:01                           |                 |  |  |  |
| r mac addr!               | Get network mac<br>address   | r mac addr!                 | mac address:<br>00:1c:91:03:80:01  |                 |  |  |  |
| s ip mode z!              | Set network up mode to<br>static ip or dhcp, z=0-1<br>(z=0 static, z=1 dhcp)   | s ip mode 0!                | set ip mode: static,<br>(please use "s net<br>reboot!" command or<br>repower device to<br>apply new config!)   |                 |  |  |  |
| r ip mode!                | Get network ip mode  | r ip mode!                  | ip mode: static  |                 |  |  |  |
| s ip addr<br>xxx.xxx.xxx! | Set network ip address   | s ip addr<br>192.168.0.100! | Set up address:<br>192.168.0.100<br>(please use "s net<br>reboot!" command or<br>repower device to<br>apply new config!)<br>dhcp on, device can't<br>config static address,<br>set dhcp off first. |                 |  |  |  |
| r ip addr!                | Get network ip address   | r ip addr!                  | ip address:<br>192.168.0.100   |                 |  |  |  |



| Command Code                  | Function Description                   | Example                    | Feedback   | Default Setting |
|-------------------------------|--|----------------------------|--|-----------------|
|                               | N                                      | letwork setting            |  |                 |
| s subnet<br>xxx.xxx.xxx!      | Set network subnet mask                | s subnet<br>255.255.255.0! | set subnet mask:<br>255.255.255.0<br>(please use "s net<br>reboot!" command or<br>repower device to<br>apply new config!)<br>dhcp on, device can't<br>config subnet mask,<br>set dhcp off first  |                 |
| r subnet!                     | Get network subnet mask                | r subnet!                  | subnet mask:<br>255.255.255.0  |                 |
| s gateway<br>xxx.xxx.xxx.xxx! | Set network gateway                    | s gateway<br>192.168.0.1!  | set gateway:<br>192.168.0.1 (please<br>use "s net reboot!"<br>command or repower<br>device to apply new<br>config!) dhcp on,<br>device can't config<br>gateway, set dhcp off<br>first.           |                 |
| r gateway!                    | Get network gateway                    | r gateway!                 | gateway: 192.168.0.1   |                 |
| s tcp/ip port x!              | Set network tcp/ip port<br>(x=1-65535) | set tcp/ip<br>port:8000!   | set tcp/ip port:8000   |                 |
| r tcp/ip port!                | Get network tcp/ip port                | r tcp/ip port!             | tcp/ip port:8000   |                 |
| s telnet port x!              | Set network telnet port<br>(x=1-65535) | s telnet port 23!          | set telnet port:23   |                 |
| r telnet port!                | Get network telnet port                | r telnet port!             | telnet port:23   |                 |
| s net reboot!                 | Reboot network modules                 | s net reboot!              | network<br>reboot<br>ip mode: static<br>ip: 192.168.0.100<br>subnet mask:<br>255.255.255.0<br>gateway:<br>192.168.0.1<br>tcp/ip port=8000<br>telnet port=10<br>mac address:<br>00:1c:91:03:80:01 |                 |



## **Support & Warranty**

Ocean Matrix products are warrantied for one (1) year from the date of purchase, with parts and labor included. Our objective is to maintain engineering excellence and an R&D laboratory dedicated to the latest technology compliance testing. We strive for exceptional quality every day to ensure your confidence in our products and our commitment to your success.

This warranty is limited to defects or failures in hardware workmanship, materials, or functionality and does not cover customer damage, abuse, or unauthorized modification. If this product fails or does not perform as warranted, your recourse shall be repair or replacement. Under no condition shall Ocean Matrix be liable for any damage incurred through the use of this product. This damage includes but is not limited to lost profits, lost savings, or incidental or consequential damage arising from the use of or inability to use this product.

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