

VHW0404KA

VHW0808KA

4K UHD HDMI Matrix Switch

UserManual V1.1

VHW0404KA



VHW0808KA



■ Package Contents

- 1 x **VHW0404KA** or **VHW0808KA**
- 1 x User Manual
- 1 x AC Power Cord
- 4 x Foot Pads
- 1 x IR Receiver
- 1 x Remote Control
- 2 x Rack-Mount Bracket
- 6 x Screws (for Bracket)

■ Overview

The HDMI MATRIX is a high-performance HDMI Matrix switcher equipment. It is used for input/output cross switching of signals or transmits the input signal to each output equipment. It provides high-performance video and audio up to 4K Ultra HD 60Hz resolution and supports various EDID modes select and sound source extractor. Besides it also supports RS-232, IR and LAN communication ports enable convenient communication with remote control equipment to switch the image signals.

■ Features

- Supports resolution up to 4K Ultra HD 60Hz (4:4:4).
- Supports pixel clock up to 600MHz.
- Supports HDR.
- Supports 3D pass-through.
- HDCP 1.4/2.2 compliant.
- Audio extractor supports analog stereo and digital output.
- Diverse EDID Management.
- Supports RS-232 control.
- Supports IP control via Telnet, TCP interface.
- Support IR Remote Control to routing Inputs to Outputs.
- Supports firmware upgrade.
- Supports Preset can up to 8 sets (**VHW0404KA** Only 4 sets).
- 1U rack.

■ Specifications

Function	VHW0404KA	VHW0808KA
HDMI Output	4	8
HDMI Input	4	8
RS-232 control	DB9 x 1	
LAN control	RJ45 x 1	
IR control	3.5mm Phone jack x 1	
Analog Audio Output	3.5mm Phone jack x 4	3.5mm Phone jack x 8
Digital Audio Output	Optical x 4	Optical x 8
Display	LCD Module	
Max. Resolution	4Kx2K60Hz (4:4:4 8bit, 4:2:2/4:2:012bit)	
HDCP Compliance	HDCP 1.4 / 2.2	
Audio Support	Analog : 32K~192K 2ch PCM Digital : Dolby TrueHD, Dolby Digital/Plus/EX,DTS, DTS-HD...	
Baud Rate	115200 bps; 8 data bits, 1 stop bit, no parity	
IP control	Telnet, TCP, Web	
Power Supply	100V~240VAC	
Weigh	2.7Kg	3.4Kg
Dimensions	440x198x43mm	

■ Front Panel



OUT Keys: Specify the Channel for HDMI signal Output.

IN Keys: Specify the Channel for HDMI signal Input.

ALL Key: This key allows user to set single input channel to all outputs channels.

OFF Key: Disable LCD Module backlight or with the OUT Keys to use.

The usage of ALL key is the same as output keys.

- Press the OUT keys or ALL key. (LCD will flash to indicate selection)
- Select the one of the IN keys or OFF Key.

The selected IN x key will transfer the input signal to the selected outputs. You can also press the ALL key and then press the OFF key to disable all the displayed switching settings.

SAVE Key: The saves all current output/input corresponding relations up to 4/8 sets.

LOAD Key: The key can load all settings that are saved in the preset.

- Press the OUT keys or IN keys to selected preset.

EDID Key: The key can the selected EDID modes.

Step1 : Press EDID KEY

Step2 : Select IN<x> port

Step3 : Press ENTER KEY to select EDID mode

(VHW0404KA EDID Mode item)

- EDID 0 : Full HD 2CH.
- EDID 1: Copy OUT1.
- EDID 2: Copy OUT2.
- EDID 3: Copy OUT3.
- EDID 4: Copy OUT4.
- EDID 5: 4K UHD 2CH.
- EDID 6: 4K HDR 2CH.

(VHW0808KA EDID Mode item)

- EDID 0 : Full HD 2CH.
- EDID 1 : Copy OUT 1.
- EDID 2 : Copy OUT 2.
- EDID 3 : Copy OUT 3.
- EDID 4 : Copy OUT 4.
- EDID 5 : Copy OUT 5.
- EDID 6 : Copy OUT 6.
- EDID 7 : Copy OUT 7.
- EDID 8 : Copy OUT 8.
- EDID 9 : 4K UHD 2CH.
- EDID 10 : 4K HDR 2CH.

MENU Key: This key can switch menus to get information or settings. Different menus can display the input/ output link status, IP address, keypad lock setting, reset to factory default and firmware version.

***Auto Down:** Automatically down scaling to 1080p based on each output EDID (VXW0808KA only).

ENTER Key: Confirm the setting with the MENU Key to use.

EXIT Key: Press this key to go back to main screen

■ Rear Panel



Power Port: The Power Port is applicable for 100V ~240VAC connected to the outlet of power source.

Power Switch: Power ON/OFF.

RS-232: Use a 9-pin RS-232 cable to connect both computer serial port and Matrix Switcher RS-232 communication port. The computer can be deployed to control the Matrix Switcher.

LAN: Use the RJ45 connection cable to connect the Internet and the Matrix Switcher. The entire PCs at the same network can control the Matrix Switcher through the LAN port.

IR EXT: Used to connect the IR Receiver Cable for the Matrix Switcher Remote Controller.

Phone jack 3.5mmOUT: Output analog audio source.

Optical OUT: Output digital audio source.

HDMI IN: Matrix Switcher Input jacks are connected to HDMI source devices such as the Blu-ray players, DVD players, PC, and more.

HDMI OUT: Matrix Switcher Output jacks are connected to HDMI sink devices such as HDTVs, projectors, and more.

DIP Switch:

Pin 1: Switch RS-232 port connection.

Pin 2: Switch LAN port connection.

Pin 3: Reserve.

Pin 4: Reset the web server IP address to the factory default value. The IP address will be restored to the default value: 192.168.0.3

The steps are as below:

1. Please adjust the pin 4 to ON and reboot the Matrix Switcher.
2. After the Matrix Switcher power on about 10 seconds.
3. Please adjust the pin 4 to OFF and reboot the Matrix Switcher again.
4. The IP address will be restored to the default value: 192.168.0.3

■ RS-232 Configuration

Follow the steps as below to log into the Matrix Switcher by means of a RS-232 terminal emulation program (the example as below is for Hyper Terminal):

1. Please switch the DIP Switcher PIN 1 to ON for RS-232 control.
2. Connect the Matrix Switcher to your control PC with RS-232 cable.
3. Power on both Matrix Switcher and PC.
4. Launch a terminal emulation program (e.g. HyperTerminal) on your PC.
5. The New Connection – Hyper Terminal screen will appear. Input the connection name and select a representative icon. Then click OK.
6. Select the connecting port that you want to use, click OK. Default port is COM1.
7. Set the Baud Rate to 115200, Data Bits to 8 (Default), Parity to None (Default), Stop bits to 1 (Default) and Flow Control to None from the drop-down list, click OK.

Description	Setting
Baud Rate	115200
Data Bits	8
Parity	None
Stop bits	1
Flow Control	None

Note: The RS-232 Connector is defined by DCE and only TXD, RXD, and GND pins are used.

■ Network Configuration

The Matrix Switcher supports IP-based control using Telnet, TCP, or the built-in Web Server interface. Network settings can be configured via web or Telnet command. The default network settings are as follows:

Description	IP Address / Port
IP Address	192.168.0.3
Subnet Mask	255.255.255.0
Gateway	192.168.0.1
DNS Server	8.8.8.8
DHCP Client	Disable
TCP Port	12789
Telnet Port	23
HTTP Port	80

Note: Depending upon the network, all related IP, Telnet, and TCP settings will need to be assigned. Consult your network administrator to obtain the proper settings.

■ Telnet Configuration

You can operate and configure the Matrix Switcher via a remote terminal session using Telnet. Follow the steps as below to log into the Matrix Switcher by means of a Telnet session:

1. Please switch the DIP Switcher PIN 2 to ON for LAN configuration.
2. Connect the Matrix Switcher to LAN port of your network with RJ45 cable.
3. Power on both Matrix Switcher and control PC.
4. Launch a terminal session (command line) on your control PC.
5. Key in the Matrix Switcher's IP address as below:

```
telnet [IP Address]:192.168.0.3
```

6. Press Enter

Note: Telnet port is 23.

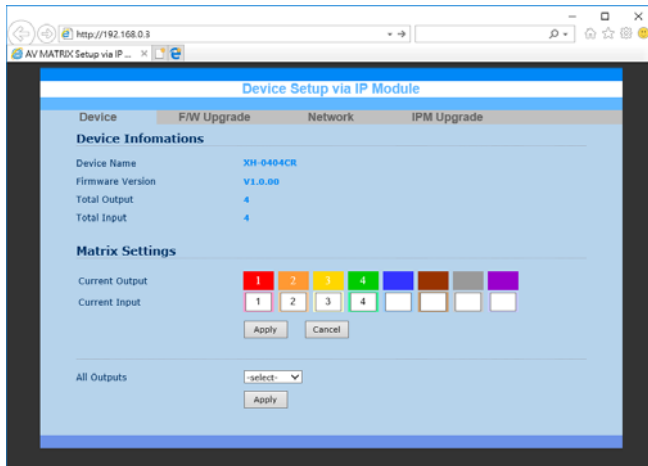
■ TCP Configuration

For programmer familiar with network communication, you can program your own TCP/IP application to control Matrix Switcher.

Note: TCP port is 12789.

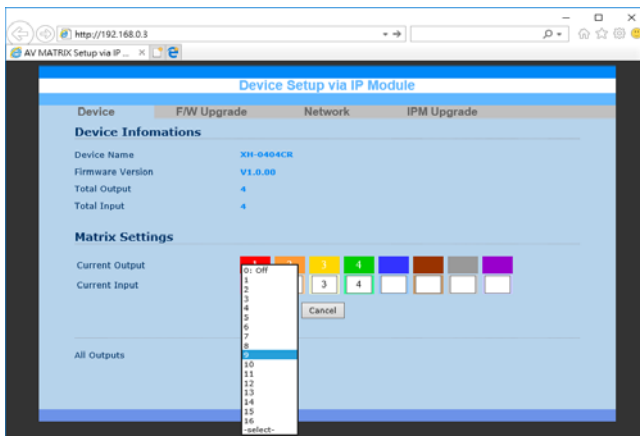
■ Web Control

1. Open the **Browsers** such as Internet Explorer on your PC and key in the **Website default IP address** <http://192.168.0.3/> to connect the **IPM web**.



Note: HTTP port is 80.

2. Please key in the selected input number in the Matrix Settings Current **Input** fields, and then click **“Apply”** button.
3. To switch all Outputs to the same Input, select from the All Outputs drop-down menu at the bottom, and then click **“Apply”** button.



■ Installation

- Connect the HDMI cable with the BD player or PC and the <IN> port.
- Connect the HDMI cable with the UHDTV and the <OUT> ports.
- Connect the power cord and turn on the matrix series.
- Turn on the BD player or PC and UHDTV.

■ RS-232 and TCP/IP Console Command

This command is based on ASCII code for RS-232, Telnet and TCP Interfaces. Every command must include a carriage return (0d) at the end to be executed the command. If a new command is received, a prompt should be sent back.

1. Command List

Once the connection with Matrix Switcher is established, type "help" in the Hyper Terminal screen, and then press "Enter" Key to show the command list.

```
-----  
Command      Description  
-----  
help         : Display help information  
reset        : Reset the device  
info         : Display device information  
status       : Display device status  
  
r            : Set the routing status  
rs           : Display device routing status  
save         : Save the current routing settings to Preset  
laod        : Load routing settings from Preset  
edid        : Set device input EDID mode  
default     : Reset to factory default settings
```

For more information, type '/h' or '?' after each commands.

2. Command Usage Description

2-1 command "r"

Usage:

r : Display current switch routing status

r x : Set Input x to all Outputs

r x y : Set Input x to Output y

x = [0-8] (0: disable), y = [0-8] (0: all outputs) * **VHW0404KA** Only[0-4]*

Examples: r 1 2<CR>

2-2 command "rs"

Usage:

rs :Display current switch routing status

rsx :Display Preset x switch routing status

rs x y :Display Preset x Output y switch routing status

x = [0-8] ((Preset, 0: current status)

y = [0-8] (Output, 0: all outputs) * **VHW0404KA** Only [0-4] *

Examples: rs 0

2-3 command "save"

Usage:

save x : Save current route status to Preset x

x = [1-8] (Preset Position)

Examples: save 1

2-4 command "load"

Usage:

load x : Load the route status from Preset x

x = [1-8] (Preset Position)

Examples: load 1

2-5 command "edid"

Usage:

edid : Display device Input current EDID mode

edidx : Set EDID mode x for all Inputs

edid x y : Set EDID mode x for Input y

FOR **VHW0404KA** EDID mode command

x = [0-6] 0: Full HD, 2CH PCM

1: Copy from Output 1

2: Copy from Output 2

3: Copy from Output 3

4: Copy from Output 4

5: 4K UHD, 2CH PCM

6: 4K HDR, 2CH PCM

y = [0-4] (0: all inputs)

Examples: edid 1 2<CR>

Examples: edid 1<CR>

FOR **VHW0808KA** EDID mode command

x = [0-10] 0: Full HD, 2CH PCM

1: Copy from Output 1

2: Copy from Output 2

3: Copy from Output 3

4: Copy from Output 4

5: Copy from Output 5

6: Copy from Output 6

7: Copy from Output 7

8: Copy from Output 8

9: 4K UHD, 2CH PCM

10: 4K HDR, 2CH PCM

y = [0-8] (0: all inputs)

Examples: edid 1 2<CR>

Examples: edid 1<CR>

3. Other commands have no parameters.

4. TCP/IP Configuration (Telnet Console Only)

ipconfig Display the TCP/IP configuration.

setip Renew the IP Address.

setmask Renew the Subnet Mask.

setgateway Renew the Default Gateway.

setdns Renew the DNS Servers.

setdhcp Set DHCP client Enable or Disable.

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