

MX-5004MZ2-UF

**4x2 HDMI 2.0a Quad-View Video Processor
with 4K2K60 4:4:4 & USB 3.0 FHD Video
Capture Function**

User Manual



rev: 190506
Made in Taiwan



Safety and Notice

The **MX-5004MZ2-UF 4x2 HDMI 2.0a Quad-View Video Processor with 4K2K60 4:4:4 & USB 3.0 FHD Video Capture Function** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment, the **MX-5004MZ2-UF** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



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INTRODUCTION

The **MX-5004MZ2-UF 4x2 HDMI 2.0a Quad-View Video Processor with 4K2K60 4:4:4 & USB 3.0 FHD Video Capture Function** provides the most flexible and cost effective solution in the market to route ultra-high definition video source from any of the four UHD HDMI sources to the remote display at the same time. Using powerful built-in USB 3.0 capture & auto scale down features, users can broadcast up to 1080p video & 2ch audio thru real-time on line software, such as skype. This unique function makes this 4K video processor perfectly work as a live switch for either educational or multiple commercial applications. This solution is also well suited for use in digital signage, conference room presentation systems or other similar settings or applications.

With up to 4K2K60 4:4:4 output resolution, users can display the mixed video with improved presentation quality. In the meantime, the unit can be controlled thru the popular serial port and Ethernet port to provide the most flexible control way to fit into any applications.

- Supports video resolution up to 1080p 60Hz (Video stream over USB 3.0)
- Supports HDMI loopout from 640x480 to 4K2K@60 (YUV 4:4:4), interlaced or progressive
- Supports HDMI audio extraction
- Recording Video Format: H.264 (Software Compression)
- Works on multiple operating system platforms (Windows 7/8.1/10, Mac and Linux OS)
- Compatible with most 3rd party software such as OBS Studio and AMCap
- Supports USB 3.0 (MJPG/YUY2) and USB 2.0 (MJPG)



*Cloud support is thru an encrypted communication to provide the best private protection when using MX-5004MZ2-UF

FEATURES

- 4x HDMI inputs and 2x HDMI outputs
- Input resolutions support from 640x480 to 4096x2160@60Hz (4:4:4 8bits), interlaced or progressive
- Output resolutions support up to 4K2K@60Hz (4:4:4 8bits)
- Adjustable size & position through software and Cloud
- Supports PIP, PBP, POP, full screen & quad-view display
- HDCP 1.4/2.2 compliant
- Firmware upgradable to support of new features and technology enhancements
- Titles, borders and colored backgrounds
- Supports Background picture & logo update
- Resize, position, zoom & pan and blend output video
- Supports seamless, fade-in-&-out, wipe and dissolve switching on full screen mode
- Perfect as a video converter and a live video switcher
- Pure unaltered uncompressed 7.1ch digital HDMI
- Software control through RS-232 and Ethernet
- Supports IR remote and front panel control
- Supports Cloud Control*
- Supports USB 3.0 FHD Video Capture
 - HDMI video and audio streams over USB 3.0
 - Supports UVC1.0

PACKAGE CONTENTS

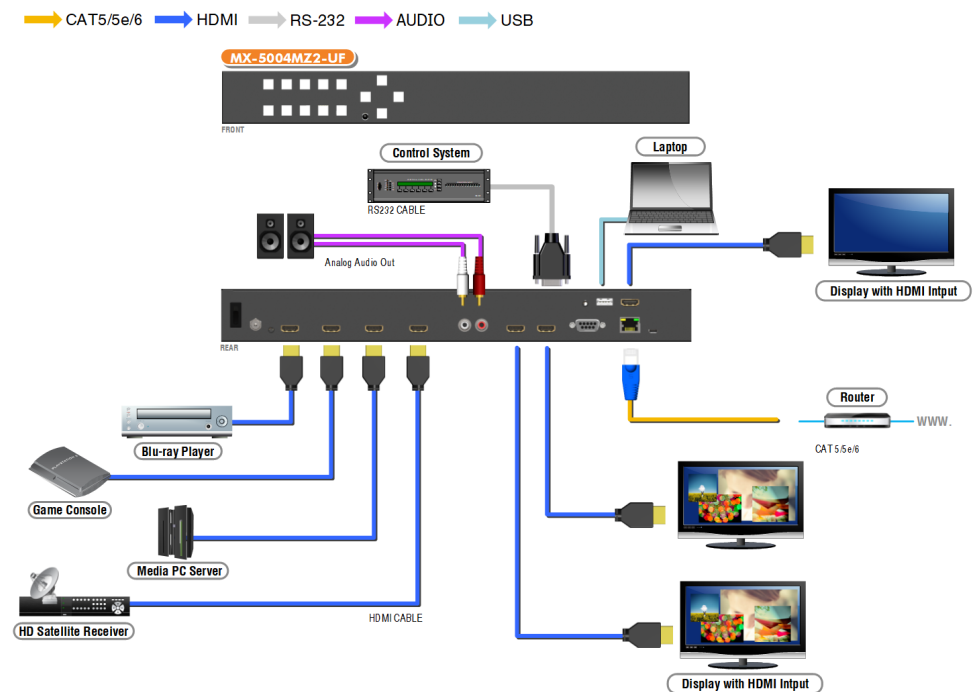
- 1x MX-5004MZ2-UF
- 1x DC 12V 5A
- 1x Installation software CD
- 1x User Manual
- 1x IR Remote control (28 keys)
- 1x IR Receiving cable
- 1x USB 3.0 A to A Cable (host to device)

Model Name		MX-5004MZ2-UF
Technical		
Role of usage	Multiplexer / video processor	
Background picture update	Yes	
HDCP compliance	1.4 / 2.2	
HDMI compliance	HDMI 2.0a	
Video bandwidth	HDMI [600MHz [18Gbps]	
Output Video Support	Up to 4K2K@60 (4:4:4 8bits)	
Video support(USB)	Up to 1080p60	
Input Video Support	Up to 4K2K@60 (4:4:4 8bits)	
Video Format Support	HDMI 2.0	
Audio support	Bypass	
Control	RS-232/ Ethernet/ IR/ Front panel Control/ Cloud	
Embedded video mixer	Yes	
Input TMDS signal	1.2 Volts [peak to peak]	
Recording Mode	Software Compression	
Recording Video Format	YUY2 (USB3.0), MJPG (USB2.0/3.0)	
ESD protection	Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]	
Input	4x HDMI + 1xRS-232 + 1x RJ-45(Ethernet) + 1x 3.5mm (IR)	
Output	3x HDMI + 1x USB + 2x RCA + 1x 3.5mm	
HDMI connector	Type A [19-pin female]	
USB connector	USB 3.0 Type A (SuperSpeed USB)	
RS-232 connector	DE-9 [9-pin D-sub female]	
RJ-45 connector	WE/SS 8P8C	
Software compatibility (not complete list)(Video Capture Function)	OBS Studio (Windows, Linux), AMCap (Windows), Potplayer (Windows), VLC (OS X, Linux), XSplit Boardcast (Windows), Skype (Windows, OS X), Zoom (Windows), Hangout (Windows), TeamViewer (Windows)	
OS Support (Video Capture Function)	Windows 7 /8.1 /10, Mac and Linux OS	
Mechanical		
Housing		Metal enclosure
Dimensions (L x W x H)	Model	390 x 248 x 44mm [1'3" x 9.8" x 1.7"]
	Package	526 x 318 x 156mm [1'7" x 12.5" x 6.1"]
	Carton	543 x 335 x 344mm [1'8" x 13.2" x 1'1"]
Weight	Model	2.2 kg [5 lbs]
	Package	3.5 kg [7.8 lbs]
Power supply		12V 5A DC
Power Consumption		22 Watts [max]
Operation temperature		0~40°C [32~104°F]
Storage temperature		-20~60°C [-4~140°F]
Relative humidity		20~90% RH [no condensation]

MX-5004MZ2-UF as master

1. Connect all sources to HDMI Inputs on the MX-5004MZ2-UF.
2. Connect the display to HDMI Output on the MX-5004MZ2-UF.
3. Connect the +12V 5A DC power supply to the MX-5004MZ2-UF.

CONNECTION DIAGRAM



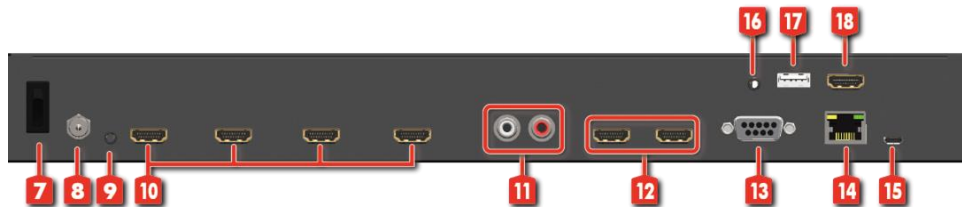
MX-5004MZ2-UF

Front Panel



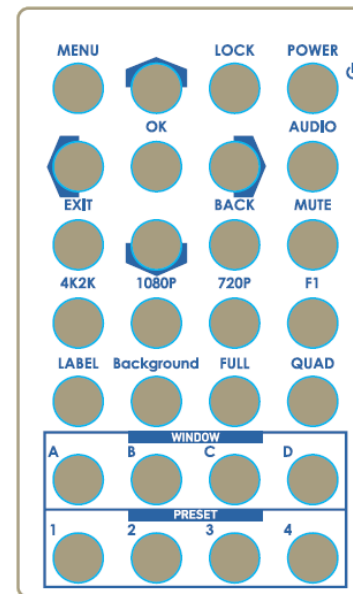
1. **Windows Source Selection A-D:** Window A-D source selection (from the left to the right is D, C, B, A)
2. **Presets:** User preset 2 and user preset 1
3. **Quad:** Fast switch to quad-view mode
4. **Full Screen:** Switch Window in full screen mode
5. **IR SENSOR:** IR sensor for receiving the IR commands from IR remote
6. **OSD Button**

Rear Panel



7. **Power switch:** Power On/Off
8. **+12V DC:** 12V DC power jack
9. **IR Receiver:** 3.5mm socket for plugging in the extension cable of IR receiver
10. **SOURCE 1-4:** HDMI inputs
11. **Stereo audio output – L/R**
12. **OUTPUT 1-2:** HDMI outputs
13. **RS-232:** RS-232 control port
14. **Ethernet:** Ethernet control port
15. **Micro USB:** For F/W update
16. **STEREO AUDIO OUT:** Audio extracts from selected HDMI input
17. **USB OUT:** Connect to a USB host (PC, NB, MAC...)
18. **HDMI LOOPOUT:** Connect to a HDMI display

Method A: IR Remote Control



Button	Function
POWER	Power on/off the device
LOCK	Lock/unlock the device
▲	Arrow button (up)
MENU	OSD menu
AUDIO	Select audio sources
▶	Arrow button (right)
OK	Trigger the setting
◀	Arrow button (left)
MUTE	Turn off the audio
BACK	Back to previous page of OSD menu
▼	Arrow button (down)
EXIT	Exit from the menus
F1	Reserved
720P	Switch output resolution to 720p 60Hz
1080P	Switch output resolution to 1080p 60Hz
4K2K	Switch output resolution to 4K2K 60Hz
QUAD	Fast switch to quad-view mode
FULL	Fast switch to full screen mode
Background	To set up the background picture of window
LABEL	Window label ON/OFF
D	Select source D to be the input source
C	Select source C to be the input source
B	Select source B to be the input source
A	Select source A to be the input source
P4	User preset 4
P3	User preset 3
P2	User preset 2
P1	User preset 1

Method B: Software Control through RS-232 / Ethernet port

1. System Requirement

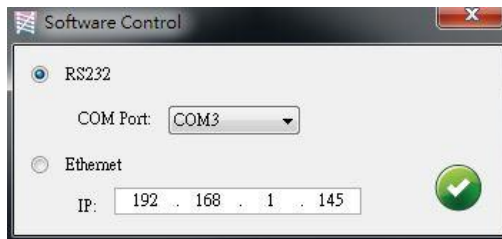
- (1) OS information: MS Win XP/7/8/10
- (2) Baud rates: 115200
- (3) Software size: 10 MB
- (4) Minimum RAM requirement: 256MB

2. Control interface

When clicking on the executable file, the following dialog will pop-up (under Microsoft Windows 7, please run as administrator)

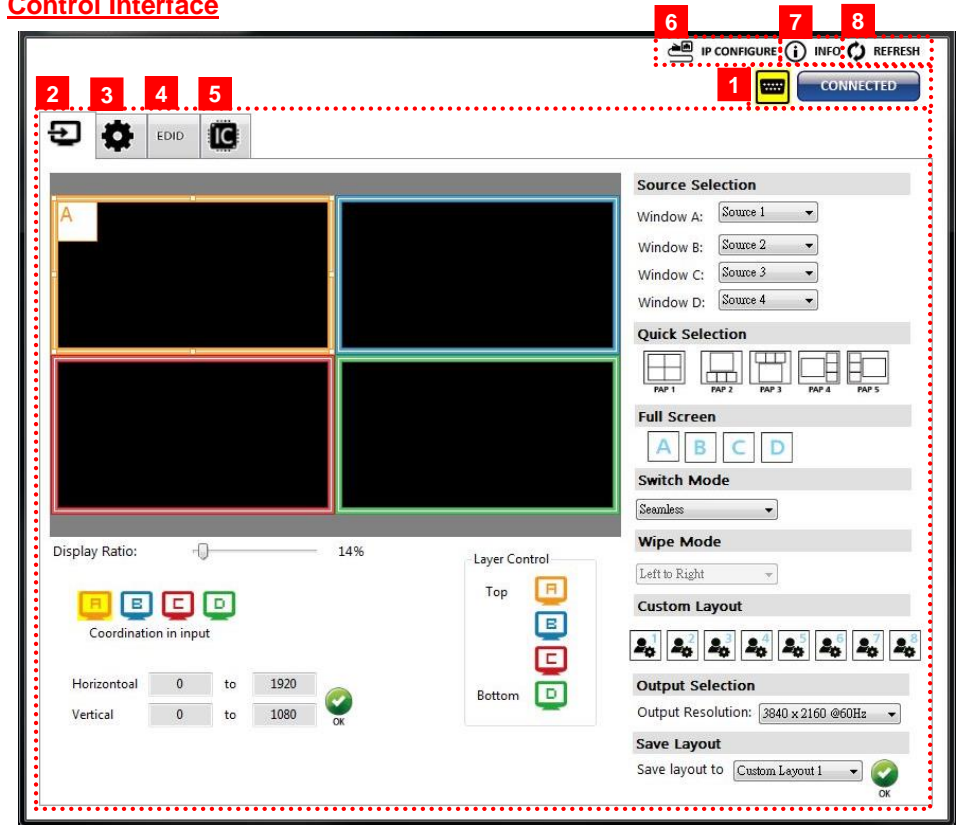
RS-232 serial Mode: Use RS-232 to connect the port on device and computer. Select correct COM port and click the OK button.

Ethernet Mode: Enter the IP address of the device and click the OK button.






After the software control setting is accomplished, it will enter directly to control interface.

Control Interface



1. Connection Status:

Show the connect information and status. If users use RS-232 serial Mode to connect device, the graph is . In contrast, the graph of Ethernet is . In addition, if users would link to change the control method, users can click on the  button to change.

2. Output Settings

In this section, users can set up the coordinate for inputs, the source of window A~D, output resolution, layout setting (PAP or full screen) and switch mode.

(1) Source Selection

For each display window, you can assign arbitrary video source here.

Source Selection

Window A:

Window B:

Window C:

Window D:

(2) Quick Selection

We provide 9 default modes, 8 custom modes and 4 switching effects (Seamless, Fade in/out, Dissolve, Wipe) for user to select.

Quick Selection

PAP 1 PAP 2 PAP 3 PAP 4 PAP 5

Full Screen

A B C D

Switch Mode

Seamless

Wipe Mode

Left to Right

Custom Layout

1 2 3 4 5 6 7 8

(3) Output Resolution

Set the output resolution.

Output Selection

Output Resolution:

3840 x 2160 @60Hz
3840 x 2160 @50Hz
1920 x 1080 @60Hz
1920 x 1080 @50Hz
1280 x 720 @60Hz
1280 x 720 @50Hz
720 x 576 @50Hz
720 x 480 @60Hz

(4) Save Layout

We provide 8 custom layout space for users to save the frequently used scenarios into the flash memory.

Save Layout

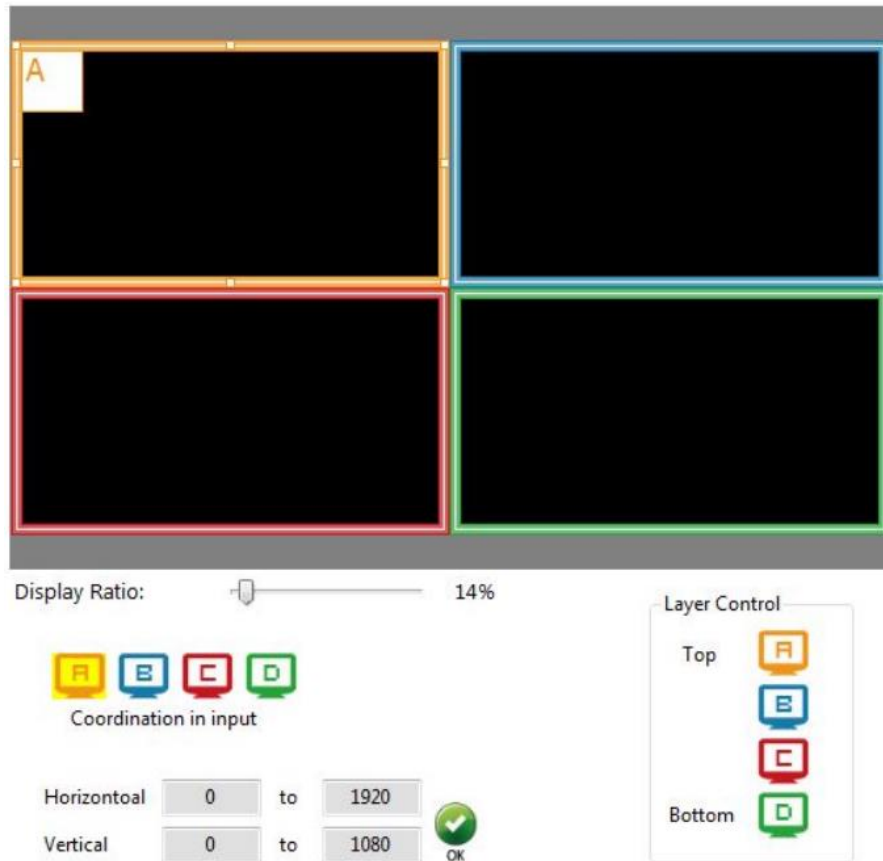
Save layout to

Custom Layout 1
Custom Layout 2
Custom Layout 3
Custom Layout 4
Custom Layout 5
Custom Layout 6
Custom Layout 7
Custom Layout 8

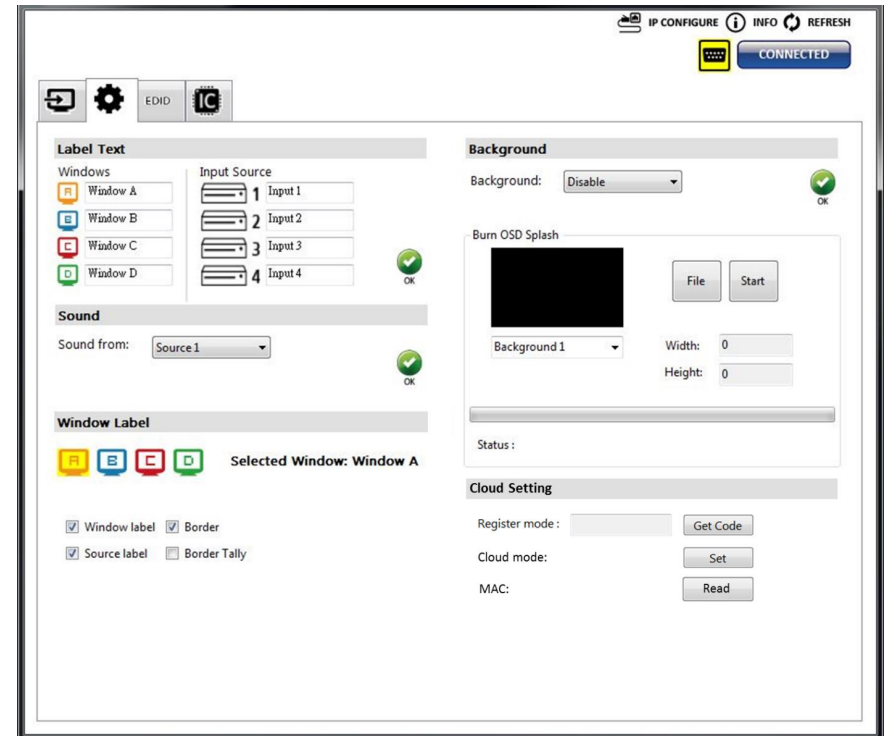
OK

(5) Display Panel

In the left part of control interface, user can customize the display mode thru control. The different colors of frame represent the different input windows. The information of coordinate shows the position of input source screen. In addition, we provide display ratio for users to set the display panel sizes. If you want to change window layer, please drag window icon in Layer Control section.

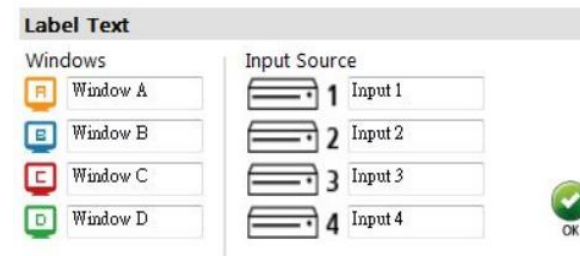


3. Advanced Setting



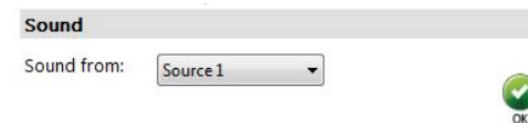
(1) Label Text

In here, users can input the texts to be shown with the video.



(2) Sound

To set up the audio source of the output and R/L channels.



(3) Window Label

In this function, users can determine if the window's label/border is turned on or off.



Window Label


Selected Window: Window A

Window label Border

Source label Border Tally

(4) Background

To set up the background of window. We provide 4 empty space for user to upload background pictures. User can click **File** button to load the picture which you want to use and click **Start** button to write this picture into the device.



Background

Background:

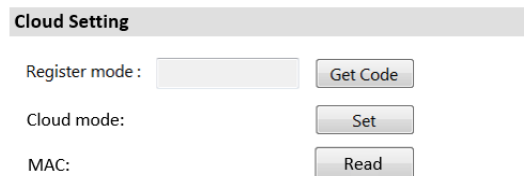
Burn OSD Splash

Background 1 Width:

Height:

Status :

(5) Cloud Setting



Cloud Setting

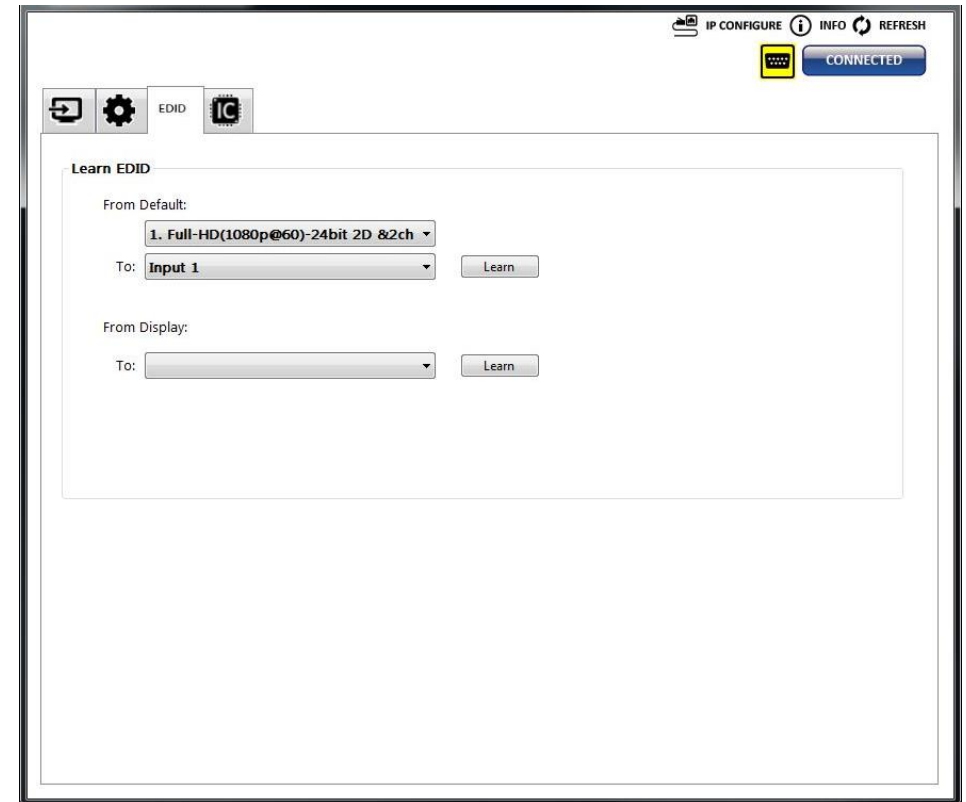
Register mode:

Cloud mode:

MAC:

- Register mode
To get an "association code". The device can use this code to pair with cloud server.
- Cloud mode
To reset cloud after a successful pairing
- MAC
Read the device's MAC address information.

4. EDID (Extended display identification data)



IP CONFIGURE INFO REFRESH

CONNECTED

EDID

Learn EDID

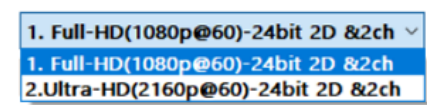
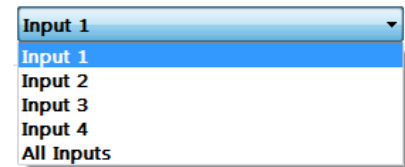
From Default:

To:

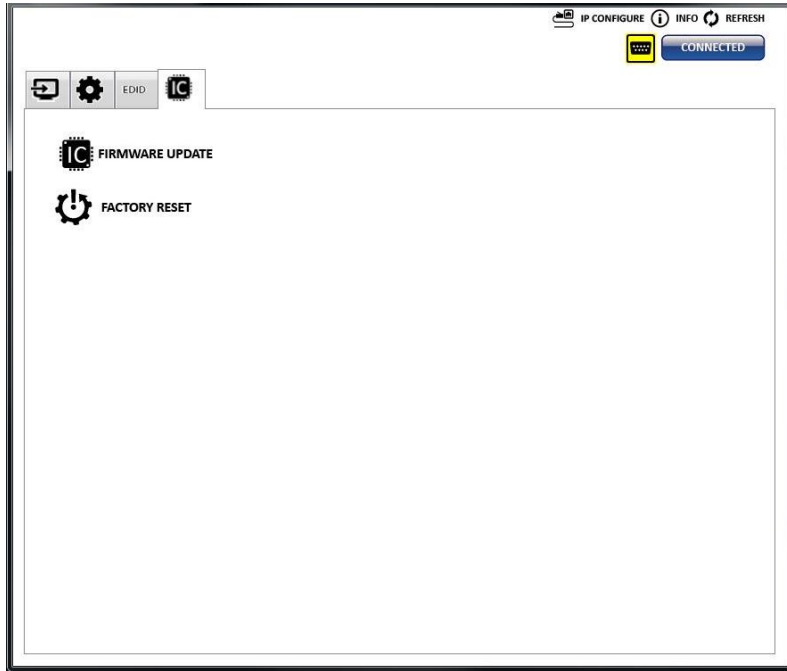
From Display:

To:

(1) Learn EDID from Default

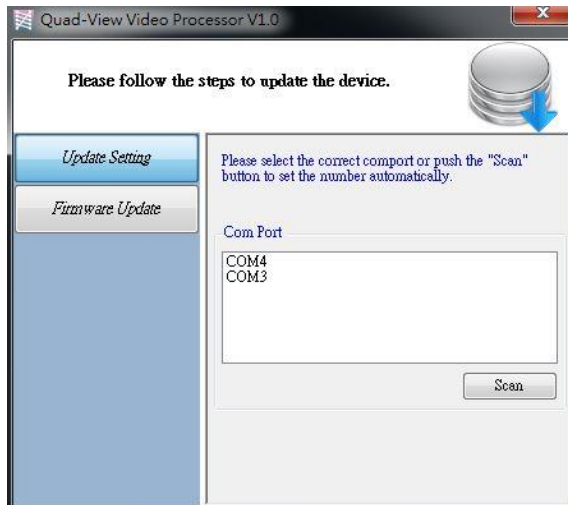
- Select Default EDID
- 
- Select Input
- 
- Click button to learn default EDID.

5. System Setting



(1) Firmware Update

- Click **FIRMWARE UPDATE** button to do firmware update.
- The "Firmware update" window shows up as below.



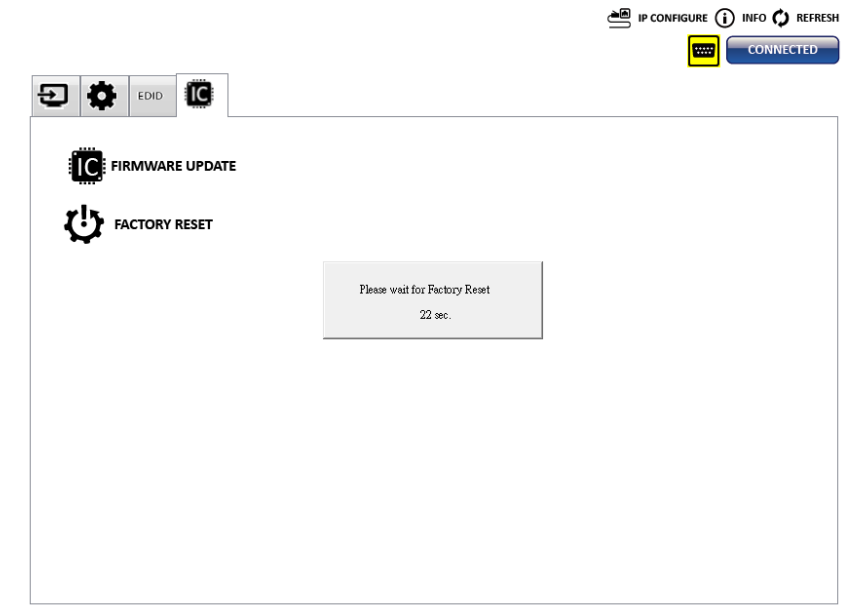
- Please select the correct COM port or click "Scan" button to connect device.

- Click "update" button to do firmware update.





(2) Factory Reset

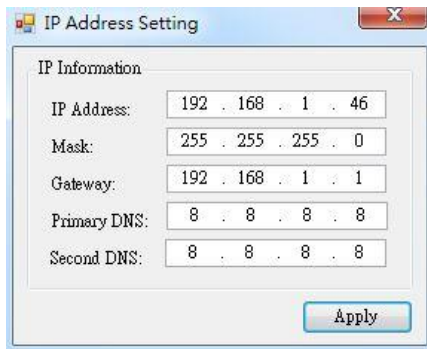
- Click **FACTORY RESET** button to do factory default reset.
- The process of default reset will take about 25 seconds.



6. IP Configure

User also can use the WEB to control the mixer. Firstly, user should click on the  IP CONFIGURE to setup network set. Next, users can setup the Ethernet for the unit as below example shows. After the step of IP configuration, please click the 

The default IP: 192.168.1.46



The screenshot shows a window titled "IP Address Setting" with a close button (X) in the top right corner. It contains a section labeled "IP Information" with the following fields:

IP Address:	192 . 168 . 1 . 46
Mask:	255 . 255 . 255 . 0
Gateway:	192 . 168 . 1 . 1
Primary DNS:	8 . 8 . 8 . 8
Second DNS:	8 . 8 . 8 . 8

At the bottom right of the dialog is an "Apply" button.

7. Info

Read the Software and firmware version.



The screenshot shows a window titled "Software/Firmware Version" with a close button (X) in the top right corner. It contains two sections:

Version

Software Version:	Ver 1.0
Firmware Correct Version - 1:	Ver 1.06

Status

Firmware Device Version - 1:	Ver 1.06
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*Software/firmware information subject to change without notification.

8. Refresh

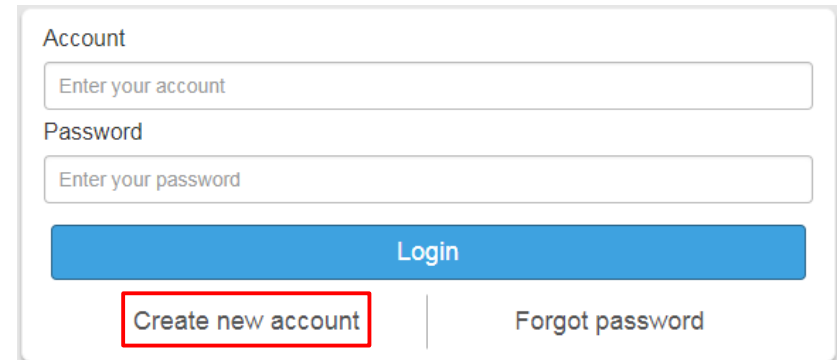
This function can get all information of the device and update this software state.

Method C: Cloud Control (Eagleyes) through Ethernet Port

Create Account

The first time to use the Eagleyes service, please create a new account.

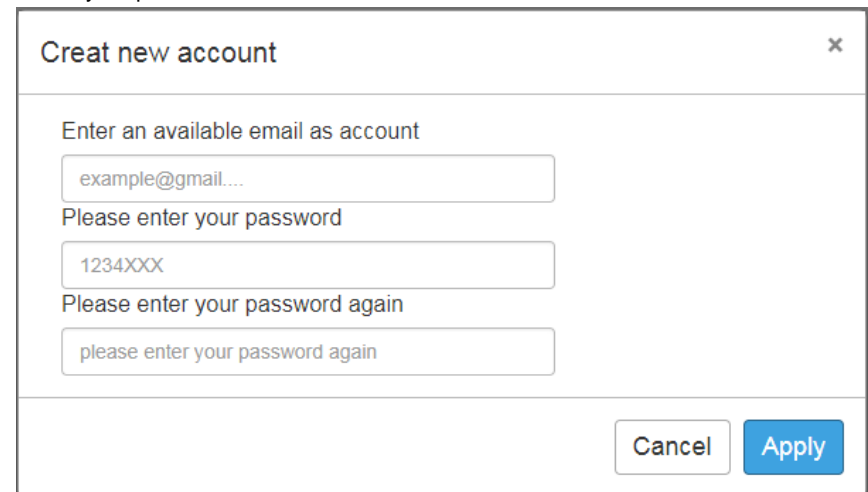
1. Access Eagleyes (<http://www.eagleyes.io>) and click "Create new account".



The screenshot shows a login page with the following elements:

- An "Account" section with a text input field labeled "Enter your account".
- A "Password" section with a text input field labeled "Enter your password".
- A blue "Login" button.
- A red-bordered button labeled "Create new account".
- A link labeled "Forgot password".

2. The Registration page will pop up and please fill in your email and password information to create your private account.



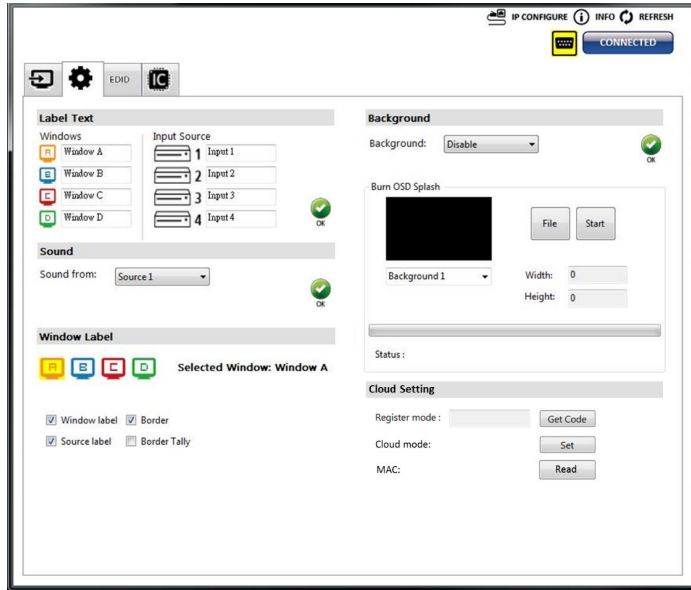
The screenshot shows a dialog box titled "Creat new account" with a close button (X) in the top right corner. It contains the following fields:

- A text input field labeled "Enter an available email as account" with the example "example@gmail...".
- A text input field labeled "Please enter your password" with the example "1234XXX".
- A text input field labeled "Please enter your password again" with the placeholder "please enter your password again".

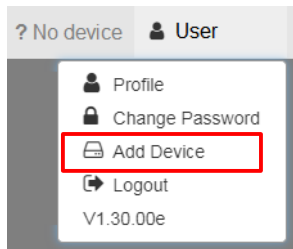
At the bottom right are "Cancel" and "Apply" buttons.

Add Device to Eagleyes

1. Firstly, please make sure the device is connected to the Ethernet. Then please executing the software with device to get the register code (Note: the status of software is connected).



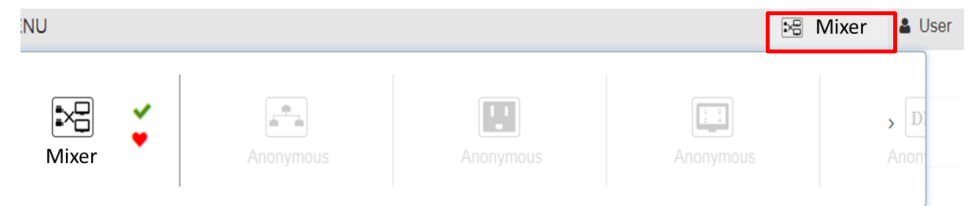
2. Access Eagleyes (<http://www.eagleyes.io>), and then log in your account on the right top corner. Click **Add device** to add the device which you just got its association code.



3. Enter the Installer Email for online support in the future, and the Association Code for pairing with your device.

A screenshot of the 'Add new device' dialog box. The dialog box has a title bar with a close button (X). It contains two input fields: 'Installer Email' with the value 'installer@gmail.com' and 'Association Code' which is empty. At the bottom right, there are two buttons: 'Close' and 'Apply'.

4. After adding the device, the list of device related to your account will show on the right top corner. You can click the button to switch device for control.





	P1		P2
VBUS	1	↔	1
D-	2	↔	2
D+	3	↔	3
GND	4	↔	4
SSRX-	5	↔	5
SSRX+	6	↔	6
GND	7	↔	7
SSTX-	8	↔	8
SSRX+	9	↔	9
Shield	SHELL	↔	SHELL

The SELLER warrants the **MX-5004MZ2-UF 4x2 HDMI 2.0a Quad-View Video Processor with 4K2K60 4:4:4 & USB 3.0 FHD Video Capture Function** free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the MX-5004MZ2-UF features and specifications is subject to change without further notice.**