120M H.265 AV over IP Extender work with CMP System

Max resolution 4K@30HZ,4:4:4

Support Video Wall, Multi Viewer, Matrix





Catalogue

| Dear Customer |
|---|
| 1. Features |
| 2. Specifications |
| 3. Package Contents |
| 4. Panel Descriptions |
| 4.1. Encoder: |
| 4.2. Decoder: |
| 5. Application: |
| 6. CMP System:5 |
| 6.1. Installation process description:5 |
| 6.2. Registration and login platform |
| 6.2.1. Registration |
| 6.2.2. Login |
| 6.2.3. Retrieve the Password9 |
| 6.2.4. Enter CMP System9 |
| 6.3. Add Device Instruction10 |
| 6.3.1. Specific steps 11 |
| 6.4. User Management Instruction: |
| 6.4.1. Create Account: |
| 6.5. Live Preview Instruction: |
| 6.6. Basic Instruction: |
| 6.6.1. Select Language:24 |
| 6.6.2. OSD Switch: |
| 6.7. Video Scheme Instruction: |
| 6.7.1. Matrix Configuration |
| 6.7.2. Screen Divide: |
| 6.7.3. Screen Splice: |
| 6.7.4. KVM/IR/RS232 configuration: |
| 7. WEB Instruction: |
| 7.1. Change the IP address of your PC |
| 7.2. System Setting: |
| 7.3. Network configuration |
| 7.4. Audio configuration |
| 7.5. Video configuration |
| 7.6. OSD configuration |
| 7.7. Time configuration |
| 7.8. Video Wall |
| MAINTENANCE |
| PRODUCT SERVICE |
| WARRANTY |

Dear Customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

1. Features

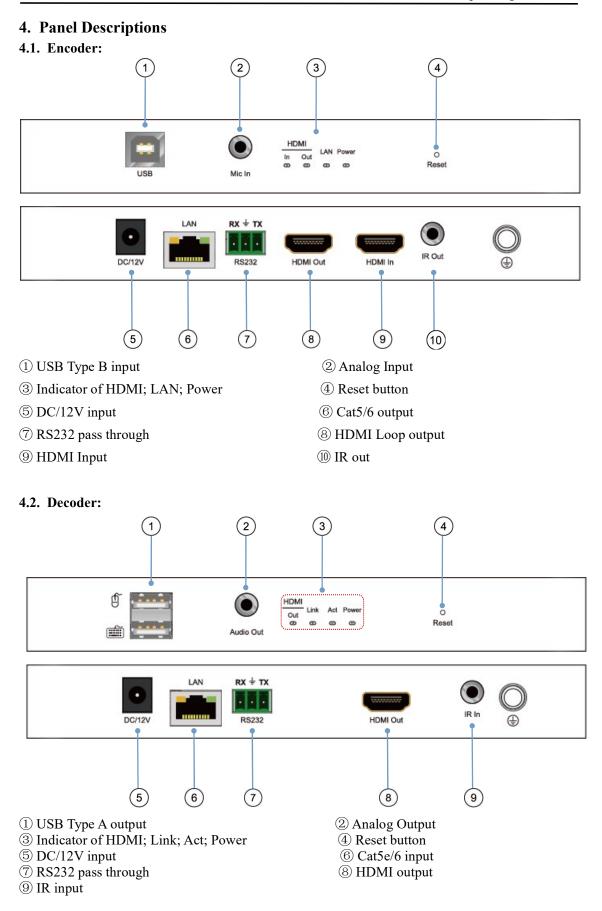
- Compression Technology: H.265
- ➤ Max resolution 4K@30HZ YUV 4:4:4
- Latency Time (from TX to RX) less than 200 millisecond
- > Transmit up to 120m over single Cat5e/6 cable, with 1x looping HDMI output
- Request for (many to many mode) IGMP Switch
- Support IP/ICMP/IGMP/TCP/UDP Control (PC Tool)
- Support KVM RS232, IR, Local HDMI output on TX
- Additional Features VLC / Looping HDMI output
- Support RTSP/RTMP protocol
- Support Video Wall, Multi Viewer, Matrix work with CMP system supports real-time switch OSD; Displaying firmware version, IP address, MAC address, etc
- Support Multicast(one to many, many to many), Unicast (one to one)
- DC12V Power supply

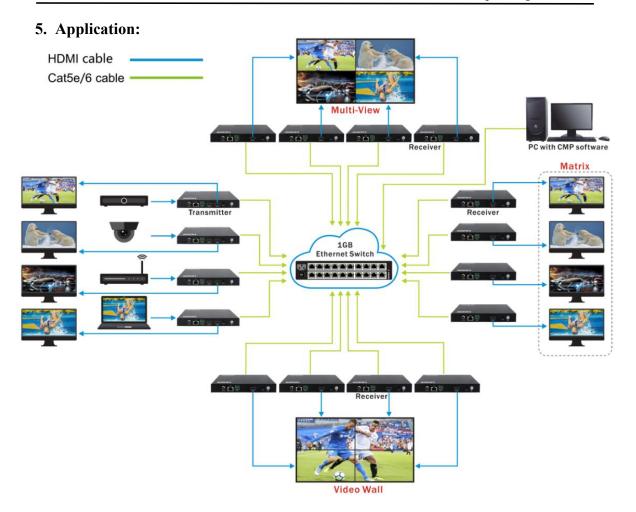
| Performance | |
|------------------------------------|---|
| Protocol | H.265 Encoder over TCP/IP |
| Video format | 480P/720P/1080P/4K2K/800*600/1280*1024@60hz etc |
| Audio format | Analog Embedded and Analog Extractor |
| Streaming Bit Rate | 0-100Mbps Default: 20Mbps |
| IR frequency | 38Khz |
| RS232 Baud Rate | 115200 |
| IP SETTING | |
| Request for Switch/Router | Support IGMP, support DHCP |
| Environmental & Power Requirements | |
| Operating temperature | -5 to +35 °C (+23 to +95°F) |
| Operating Humidity Range | 5 to 90%RH (No Condensation) |
| Power supply | 12V1A Support POE |
| Power consumption | TX: 4.68W; RX: 3.36W |
| Dimension | TX&RX: 184*95*24mm |
| Net Weight | TX: 465g; RX: 465g |

2. Specifications

3. Package Contents

- 1). Main Unit Encoder and Decoder x1
- 2). Power Adapter DC12V1A x2
- 3). IR TX cable X1; IR RX cable X1; Phoenix terminal x2; Fixed Hanger x4
- 4). Disk (PC TOOL; User manual; Update software; CMP system) x1





6. CMP System:

6.1. Installation process description:

Before connecting the product, copy "CMP plate-setup" from the CD, double-click the software in the installation package to run, and install the platform on the computer.

Take Win7 operating system as an example, the installation process is as follows

| DotNetFX40 | |
|---------------------|----------------------|
| DotNetFX40Client | |
| vcredist_x86 | |
| WindowsInstaller3_1 | |
| setup.exe 🚽 instal | 443,904 192,25 |
| Setup1.msi | 42,231,808 40,754,2. |



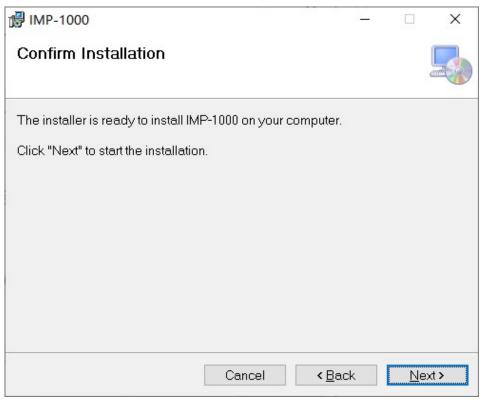
| i MP-1000 | <u></u> | | × |
|---|----------|-----------|---------|
| Welcome to the IMP-1000 Setup Wizard | | | 5 |
| The installer will guide you through the steps required to ins computer. | stall IM | P-1000 c | in your |
| WARNING: This computer program is protected by copyrin international treaties. Unauthorized duplication or distributio any portion of it, may result in severe civil or criminal penalt prosecuted to the maximum extent possible under the law. | on of th | is progra | |
| Cancel < <u>B</u> a | ck | Ne | oxt > |
| CMP (P2) | | | |
| ⊮ IMP-1000 | <u></u> | | × |
| Select Installation Folder | | | 5 |

The installer will install IMP-1000 to the following folder.

To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

| C:\Program Files (x8 | 6)\IMP-1000\ | B <u>r</u> owse |
|---------------------------|------------------------------|-----------------|
| | | Disk Cost |
| | | |
| | self, or for anyone who uses | this computer: |
| nstall IMP-1000 for yours | self, or for anyone who uses | this computer: |

CMP (P3)



CMP (P4)

| IMP-1000 | <u> </u> | | × |
|---|----------|----------|-----|
| Installation Complete | | | 5 |
| IMP-1000 has been successfully installed. | | | |
| Click "Close" to exit. | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| Please use Windows Update to check for any critical upd Framework. | ates to | the .NET | Г |
| Cancel < <u>B</u> a | ack | | ose |

CMP (P5)

6.2. Registration and login platform

6.2.1. Registration

Double-click the mouse to open imp-1000 integrated management platform, and the registration window will pop up when it is opened for the first time.Enter username, password, confirmation password, and any questions and answers.To retrieve the password if you forget.



| 🔍 Register Super Use | r X |
|----------------------|--|
| | |
| User Name | |
| Password | |
| Confirm | |
| | ease fill out the real information, which will ord quickly by answering those questions. |
| Question | University student |
| Answer | |
| | Register Cancel |

6.2.2. Login

After registration, the login interface will pop up, enter the registered user name and password, and you can choose to log in automatically or remember the password.Click login to log in to the main interface of the platform.



6.2.3. Retrieve the Password

If you enter a wrong password or forget your password in the login interface, the system will automatically pop up a prompt to retrieve your password. You can enter the password retrieval interface, enter the answer to the question you filled in during registration, and reset your password.

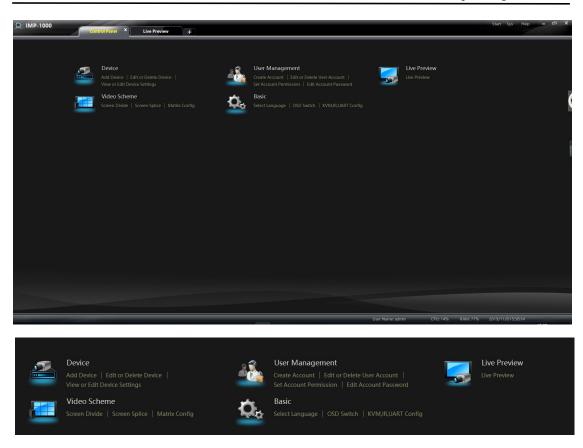
| IMP-1000 | |
|------------------|---|
| 8 | Login failed. Reason: Wrong password. Whether to retrieve the password? |
| | Yes No |
| Retrieve Pass | sword |
| | |
| Question | University student ID numbe |
| Answer | |
| New Password | |
| Confirm Password | |
| 0 | Retrieve Password Cancel |

6.2.4. Enter CMP System

Enter the user name and password correctly and enter the main function interface.



Operating Instruction



6.3. Add Device Instruction

| Device Add Device Edit or Delete Device View or Edit Device Settings | <u> </u> | User Management Create Account Edit or Delete User Account Set Account Permission Edit Account Password | 5 | Live Preview Live Preview |
|--|----------------|---|---|------------------------------|
| Video Scheme Screen Divide Screen Splice Matrix Config | Q _o | Basic Select Language OSD Switch KVM,IR,UART Config | | |

According to the above diagram, connect the products to the switch. And the router LAN port is connected to the switch through the network cable. And the network property IPV4 is set as automatic acquisition. Because the product default DHCP is ON, the router DHCP address pool can automatically assign IP addresses to the product and computer. Then the computer can open the software platform to manage and operate.

To login to the platform for the first time, click add device in device management, and you can choose to add device quickly (automatically scan all devices in the regional network) or manually. Quick add only need to check add, manually add need to input network parameters and other settings can be successfully added.

6.3.1. Specific steps

3.1 Open the software of the control platform, enter the account and password, enter the verification into the main interface, and click "Add Device" with the mouse.

Quick add: Click refresh key will automatically search all product IP address in LAN

Manually add: Enter known IP address, protocol (TX/RX), port, default username/password admin.

Enter the correct IP address and other parameters by clicking "test connection" to ensure that the device added is correct.

| © IMP-1000 | Control Panel × Live Preview + |
|----------------------|--|
| A Control Panel Home | |
| | Add, Edit or Delete Device |
| | Add device or select the device from the list to edit or delete. The changing item contains the local configuration of the device. |
| | Add Device 🖉 Edit 👕 Delete |
| | Device Name 🔺 Type IP Address MAC Address Online state |
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| Add Device | | | | | | |
|------------|-------------|------|-------------|----------|---------|-------------------|
| Quickly ac | ld Manually | add | | | | Refresh |
| 1 | IP Address | Port | MAC Address | Protocol | Version | Device Identifier |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| Select Are | a 🏫 root | | | | | Add Cancel |

| Operating | Instruction |
|-----------|-------------|
|-----------|-------------|

| Quickly add | Manually add | | | | | | | |
|-------------|-------------------------|--------------|-------|-----------|----------|-----------|--------|------|
| Device Name | IP/Domain/Serial number | Protocol | Port | User Name | Password | Test Link | Main S | Dele |
| New Device | 0.0.0.0 | shunxun-tx 🗸 | 26214 | admin 🗸 | **** | Test Link | | |
| | | | | | | | | |
| | | | | | | | | |
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When the device is restarted or reassigned to a new IP address, the original IP address will be temporarily invalid (reassigned to a new IP address requires the device to be added), and the platform will indicate that the device is not online with a dialog box and online status, gray means not online, and green means online

3.2 Edit:

| IMP-1000 | ontrol Panel X | Live Preview | Ŧ | | | |
|----------------------|----------------|--------------------------|------------------------|-----------------------|-------------------------|----------------------------------|
| ♠ Control Panel Home | | | | | | |
| | | Delete Device | | | | |
| | Add devic | e or select the device f | rom the list to edit c | r delete. The changin | g item contains the loo | cal configuration of the device. |
| | 🚢 Add Device | 🖉 Edit 👕 Delet | te | | | |
| | Device Name | Type | IP Address | MAC Address | Online state | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| Edit Device Name | | | |
|----------------------------|------------------------|--|--|
| Edit Device Address | New Device001 | | |
| Edit Device Port Number | 192.168.1.168 26214 | | |
| Edit Device Password | admin | | |
| | | | |
| Edit Time Configuration | | | |
| Edit Network Configuration | | | |
| Video Configuration | | | |
| Audio Configuration | | | |
| OSD Configuration | | | |
| System status | | | |
| Password Configuration | | | |
| Reset device | | | |
| Reboot device | | | |
| Upgrade device | | | |

In Edit page, device parameters can be configured.

3.2.1 After each device was set, click "View or Edit the Information of Other Devices" to return, and select other devices for parameter setting.

3.2.2 Edit device Name, Edit Device Address, Edit Device Port Number, Edit Device Password (the default user name/password of all devices is admin), change the password of the login device, and it will take effect immediately after it is confirmed. The above change function is only used for the platform when the device is manually added, the parameter error can be quickly modified here, and the parameter of the device itself cannot be changed.

3.2.3 Edit Time Configuration

Default check the NTP server synchronization. You can check the NTP server synchronization to select time zone or un-check the NTP server synchronization for manual calibration.

| Time Configuration of Dev | | 01" |
|----------------------------|---|------------------------------------|
| Date and Time Setting | | |
| Time Zone ☑ Sync Time v | GMT+08 Beijing, Hong I with NTP Server | Kong, Shanghai,T 🔽 Manual Input |

3.2.4 Edit Network Configuration

1. UDP port, RTSP port, Auto get IP address, IP address, Sub-net mask, Gateway and Domain name server can be implemented in the network configuration. Once the network configuration is modified, need manually restart of the device to take effect.

2. Provide two video streaming protocols: RTSP primary and secondary bit streams and RTMP live streaming protocols

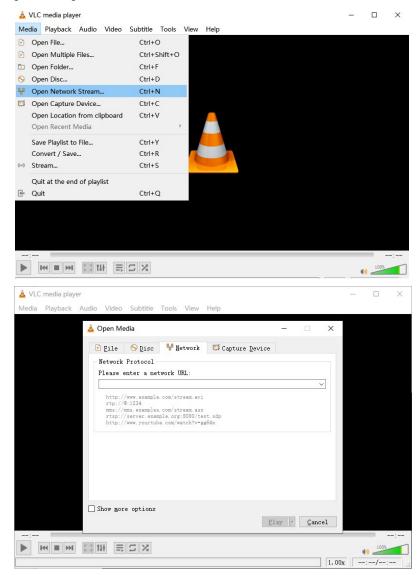
3.RTSP anonymous access: check means that there is no need to enter account and password when receiving video stream; otherwise, you need to enter account and password when you do not check 4. Default account and password: admin

Note: the modified IP address cannot be the same as the IP address of all connected devices in the network

5. RTSP usage instructions:

Pre-install and open the VLC player (download address: http://www.videolan.org/) in the computer, then select media \rightarrow open the network streaming as shown in the figure below, enter the device RTSP code stream address, click play as shown in the figure below, you can successfully play the video stream encoded by the device. The device stream address is composed of IP address and RTSP port number.

Specific steps are as follows:



Operating Instruction



3.2.5 Video Configuration

| 🧕 IMP-1 | 1000 | Control Panel | × + | | | |
|---------|---------------|---------------|----------------------------|------------|----------|--------------------------|
| | | | | | | |
| ۰ | Stream Params | | | | | |
| | | | | | | |
| | | | | | | |
| | Main | | | Sub | | |
| | Encodeing | h.265 | | Encodeing | h.264 | |
| | Resolution | 3840x2160 | | Resolution | 1280x720 | |
| | FPS | 30 | | FPS | 30 | |
| | Bitrate | cbr | | Bitrate | cbr | |
| | Bitrate | 20480 | Bitrate range64-102400kbps | Bitrate | 256 | Bitrate range64-4096kbps |
| | GOP | 60 | GOP range5-300 | GOP | 60 | GOP range5-300 |
| | | | | | | |
| | | | | | | |
| | | | ок | Cancel | | |
| | | | | | | |
| | | | | | | |

In video configuration, the parameters of the main and sub streams can be set as shown in the figure.Once the parameter modification is confirmed, it can take effect immediately Note: these Settings are valid only if the encoding type is set to h.264.

3.2.6 Audio Configuration

| () IMP | -1000 | Control Panel | + | | | | |
|--------|---------------------|---------------|------------|----------------|--------|--|--|
| | | | | | | | |
| ۹ | Audio Configuration | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Audio | HDMI | | | | | |
| | Sample | 48000 | 2 | | | | |
| | Bitrate | 320 | Bitrate Ra | inge32-320kbps | | | |
| | Encoder | AAC | 3 | | | | |
| | Analog Vol | 50 | Analog V | ol range0-100 | | | |
| | | | | | | | |
| | | | 01 | ĸ | Cancel | | |
| | | | | | | | |
| | | | | | | | |

3.2.7 OSD Configuration

| 🔘 IMP-1000 | Control Panel | × | | | |
|-------------|---------------|------------------|-------------------------------|---------------------------------|----------------|
| | | | | | |
| | | | | | |
| 😌 OSD Paran | ns | | | | |
| | | | | | |
| | | | | | |
| Select | Region 1 | | | | |
| Switch | Closed | | | | |
| Туре | Text | | | | |
| X : | 0 | [0-3840],Be care | ful not to exceed the resolut | ion width, otherwise it will no | ot be visible. |
| Y: | 0 | [0-2160],Be care | ful not to exceed the resolut | ion width, otherwise it will no | ot be visible |
| Text | | [0-128] | | | |
| Font Size | 0 | [1-2000] | | | |
| Transpare | ent O | [0-255] | | | |
| Backgrou | ind color | lor sel | | | |
| Foregrou | nd color | lor sel | | | |
| | | | | | |
| | save | | return | | |
| | | | | | |
| | | | | | |

3.2.8 System Status

3.2.9 Password Configuration

| | _ | _ | _ | _ |
|-----------------|---|----|--------|---|
| Modify password | | | | |
| | | | | |
| Old password | | | | |
| New password | | | | |
| New password | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | ОК | Cancel | |

1. The default password for communication between platform and device is admin

2. After the device password is changed, the connection between the platform and the device will go offline

3. Return to the device function panel, select the login device password input, enter the newly modified password to enter confirmation

4. After the device and platform verify the password successfully, it will automatically restore to the online state

3.3.0 Reset Device

Once the reset device is determined, the device will restore factory Settings and all parameters will be restored to the initial state.

Note: if factory Settings are restored, the router will reassign the IP address of the product. If the original address fails, the device should be added again

| Reset device | | | |
|-------------------------------|----|--------|--|
| | | | |
| Restore the device to factory | | | |
| | | | |
| | | | |
| | ок | return | |
| | | | |

3.3.1 Reboot Device

The parameters previously set will be saved on restart. The device can also be restarted through the restart button on the product.

The platform will be offline for a short time with the device, and the online state of the device will be automatically restored after the restart

| P Reboot device | | | |
|--|----|--------|--|
| Please wait for 30 second after reboot | | | |
| | | | |
| | | | |
| | ок | return | |
| | | | |

3.3.2 Upgrade Device

Select the path to find the upgrade file (bin format) and complete the software upgrade after confirmation. The platform upgrade device will not change the previous parameter configuration. Successful upgrade will be prompted and restart.

| 🕘 Upgrade devi | ce | | | |
|----------------|----|--------|-------------|--|
| Upgrade | | | Select path | |
| | | | | |
| | | | | |
| | ок | return | | |

6.4. User Management Instruction:



Access to user accounts and permissions through the function panel, you can create accounts, edit or delete user accounts, set account permissions, edit account password

6.4.1. Create Account:

Super administrators can create other administrators or operators and set permissions as needed. To login to the created account, you must either logout of the current user or switch the user to the login screen in the upper right corner of the screen.

Specific operation steps:

1. Open the platform and enter the main function interface

2. Select "Create Account", fill in new account name and password, set account type (administrator, operator) and click confirm

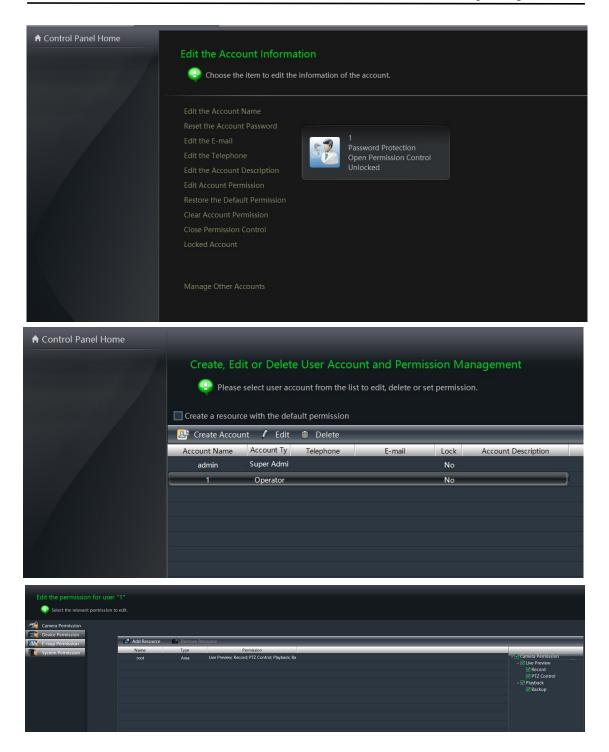
3. Return to the main function interface and click "user account and permission"

4. Check the list of accounts created after entering

5. If the account is wrong, can click on a group of accounts to select and delete them.

Note: the first created account is super administrator by default.

| (IMP-1000) | ontrol Panel × | Live Preview + | Start Sys Help 🗕 🗖 🗙 |
|----------------------------------|----------------------------|---|----------------------|
| Create Account | etup its basic information | | |
| New Account Name Password | | *Limited to 1-60 characters Limited to 16 characters | |
| Confirm Password Account Type | Administrator | Operator | |
| Locke | d Account | | |
| E-mail Telephone | | Limited to 60 characters | |
| Account Description | | | |
| | | | Cancel |
| | User Name: admin | CPU: 9% RAM: 675 | % 2019/11/811:33:13 |



6.5. Live Preview Instruction:



The Live Preview can monitor the input signal source image in real time, so that it can be used as a monitoring function.

Live Preview area: can accommodate 1-100 groups of signal source devices access and view at the same time (with one key to close all and full screen)

Each group of devices can select the following functions by right mouse button:

- 1. Capture (capture five identical images in a row)
- 2. Switch between primary and secondary streams
- 3. Image setting (brightness, contrast, hue, saturation)
- 4. Turn on sound and turn off sound
- 5. Close preview
- 6. Full screen

Specific steps are as follows:

- 1. Open Live preview in the function panel
- 2. A list of TX device names will be displayed on the left

3. Long press the left button to select a group of devices and drag the current device name into the segmentation box

4. Complete live preview

Noted: right mouse button to select the resolution of the main stream will automatically enter the full screen state.Switch to other segmentation image to recover sub stream automatically.

| @ IMP-1000 | Live Preview Control P | anel Live Preview | Start Sys Help - 🗆 🗙 |
|---------------------|------------------------|-------------------|----------------------|
| Camera Camera Searc | | | |
| | 1 de 20 de 225 336 | CPU: 7% RAM: 67% | 2019/11/811:57:37 |

Operating Instruction

| Q IMP-1000 | Control Panel Start Syn Help - Cl X |
|-----------------|--|
| Comma ◀ Sear | Superior State Sta |
| | |

| | © IMP-1000 | 功能面板 | 则···································· | 开始 系统 帮助 🗕 🗆 🗙 |
|---|---|------|---|----------------|
| | ▲ ▲ root → 新建设备001 → 新建设备002 → 新建设备003 → 新建设备003 → 新建设备004 | | 密修设置 完度 0 100 对比度 0 100 会调 0 100 管相度 0 100 | |
| 用户名: admin CPU: 20% 内存: 47% 2019/5/8 15:16:20 | | | | |

6.6. Basic Instruction:

| Device Add Device Edit or Delete Device View or Edit Device Settings | | User Management Create Account Edit or Delete User Account Set Account Permission Edit Account Password | 5 | Live Preview Live Preview |
|--|----|---|---|------------------------------|
| Video Scheme Screen Divide Screen Splice Matrix Config | Ö, | Basic Select Language OSD Switch KVMJR.UART Config | | |

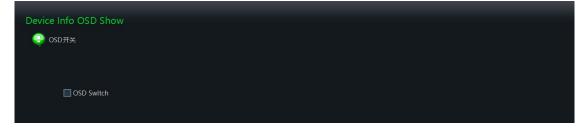
6.6.1. Select Language:

The platform supports switching between Chinese and English. If the switching is completed, the platform needs to be restarted.

| IMP-1000 | Preview | ntrol Panel × + | | Start Sys | Help – C | X |
|----------------------------|-------------------------|-----------------|--------------|----------------|----------|---|
| | | | | | | |
| System Startup and Mainter | nance Settings | | | | | |
| Select Language | | | | | | |
| Select Language | English (United States) | | | | | |
| | | | | | | |
| | | | | | | |
| | | ок | Cancel | | | |
| | User Name: admin | CPU: 7% | RAM: 65% | 2019/11/813:46 | 5-03 | |
| | oser Marrie, aumin | Cr0.7% | 10/101 00 /0 | 2013/11/013.40 | | |

6.6.2. OSD Switch:

For large screen segmentation, large screen splicing, matrix configuration to find RX IP address and other information, in order to quickly operate the configuration.



6.7. Video Scheme Instruction:



6.7.1. Matrix Configuration

Before use RX with the platform. Set up the matrix configuration on the platform. Many-to-many or one-to-many can be preset as video matrix.

Factory default OSD interface is as follows:

The current software version information, RX IP address and RX MAC address are displayed in the light blue background

```
[Device Info]
F/W VERSION: 1.0.3
RX IPv4: 192.168.1.168
RX MAC: 96:02:B2:2C:EF:72
```

Specific steps are as follows:

1. Open the function panel and select matrix configuration

2. The top of the left column represents the preview window, and the bottom of the left column represents the TX device list information

3. The middle represents the group channel ID, and the right column represents the RX device list information

4. Click any device in the TX list once with the left mouse button, and the upper window will take the real-time preview image as the current signal source

5. Customize the channel ID of TX device (click the blank in the list to unselect it with the left mouse button)

6. The RX list corresponds to the TX device channel set to be consistent

7. Completion of matrix configuration

Operating Instruction

| <u>۱</u> ۱ () | IP-1000 | 1 | Control Panel X | Screen Splice | * + | | | | | |
|---------------|--------------------------------|--------------|--------------------------------|----------------------|--------------|--------------------------------|--------------|--------------------------------|---------------------|--|
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Matrix Config | | | | | | | | | |
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| In | nage Preview | | | | | | | | | |
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| - | P | | | 10 | | | | | | |
| - | TX(Encoder) | Chan | IP address | MAC a | Channel: 001 | RX(Decoder) | Chan | IP address | MAC | |
| | New Device002 | Unde | 192.168.1.251 | 46:58:4E | | New Device001 | Unde | 192.168.1.246 | 46:58:4 | |
| | New Device003 New Device004 | Unde Unde | 192.168.1.250 192.168.1.243 | 46:58:4E 96:02:B2 | | New Device006 | Unde | 192.168.1.248 | 46:58:41 | |
| | New Device004 | Unde | 192.168.1.243 | 96:02:82 96:02:82 | | New Device007 New Device008 | Unde Unde | 192.168.1.244 192.168.1.241 | 46:58:41 96:02:8 | |
| | New Deviceous | | | 50.02.01 | | New Device008 | Unde | 192.106.1.241 | 90:02:8 | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| • | | | | • | | 4 | | | | |
| | | | | | | | | | | |
| | | | | Apply | | Return | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

6.7.2. Screen Divide:

Large screen divide means that multiple groups of signal sources are displayed in one screen. See the example image below:

- 1). Each group of video sources is presented as a sub stream within the large screen divide.
- 2). Up to 36 groups of signal source segmentation can be supported



Specific steps are as follows:

1) open the CMP integrated management platform and enter the main interface of the functional panel;

2) select the "OSD switch" option, check the OSD switch and return to the main interface of the functional panel;

3) select the "Screen Divide" option to enter the large-screen divide interface;

4) set the required number of divide boxes (1, 4, 16, 25, 36);

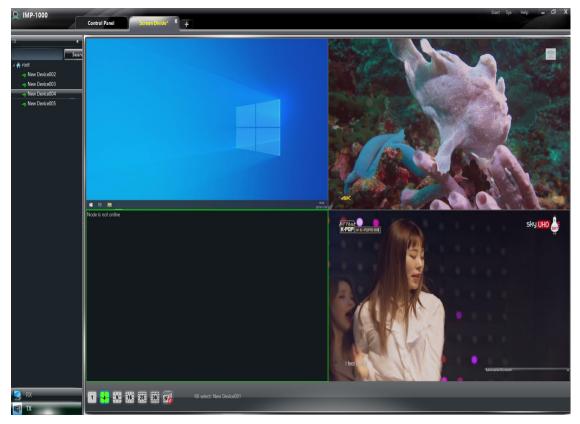
5) select the RX device to be divided according to the IP address displayed by OSD;

6) open the RX device list in the monitoring point area (left side), select the required RX device, and long press the left mouse button to drag it into the divide box;

7) open the TX device list in the monitoring point area, select the required TX device, and long press the left mouse button to drag it into the divide box;

8) large screen divide operation is completed.

Note: if the RX returns to normal one-to-many or many-to-many, it can be restored by re-entering the matrix configuration. Exit will prompt you to save the view.



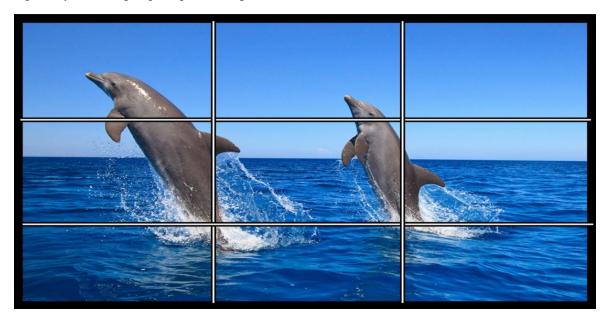
6.7.3. Screen Splice:

A large screen splice consists of a single signal source splicing multiple sets of RX (TV) into a single image.See the example image below

1) . Under large screen splicing, the maximum resolution of each group of RX devices supports 4K30.

2). The current maximum support is 9×9 splicing

3). Edge shielding (screen width, screen height, display width and display height) can be set separately for each group of spliced images.



Specific steps are as follows:

1) Open the CMP integrated management platform and enter the main interface of the functional panel;

2) Select the "OSD switch" option, check the OSD switch and return to the main interface of the functional panel;

3) Select the "Screen Splice" option to enter the big-screen splicing interface;

4) Select the required number of splicing boxes (1, 4, 16, 25, 36);

5) Select the RX device signal source required to be spliced first according to the IP address displayed by OSD;

6) Open the TX device list in the monitoring point area, select the required TX device, and long press the left mouse button to drag it into the splicing box;

7) Open the RX device list in the monitoring point area, select the required RX device, and long press the left mouse button to drag it into the splicing box;

8) Large screen splicing operation is completed.

Note: if RX returns to normal one-to-many or many-to-many, that is, reentry into matrix configuration can be restored, exit will prompt whether to save the view.

Operating Instruction

| IMP-1000 | Control Panel Start 1 | Sys Help 🗕 🗗 |
|----------|---------------------------------------|--------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| TX RX | · · · · · · · · · · · · · · · · · · · | 11: 2019/ |



6.7.4. KVM/IR/RS232 configuration:

KVM:

Devices can be pre-configured one to one, one to many, or many to many when paired with KVM capabilities.

Specific operating instructions:

1) open the CMP integrated management platform and enter the main functional interface;

2) select the option of "KVM, infrared and serial port configuration" to enter the interface of KVM, infrared and serial port configuration;

3) in the configuration interface of KVM, infrared and serial ports, there are image preview window, TX device list window, RX device list window and function selection window

As shown below:

| Image Preview | | | | | | |
|------------------------------|-----------------------------|--------------------------------|-------|------------------------------|-----------------------------|------------------------------|
| | | | | | | |
| TX(Encoder) New Device002 | IP address 192.168.1.251 | MAC address 46:58:4E:AF:79: | KVM 💌 | RX(Decoder) New Device001 | IP address 192.168.1.246 | MAC addres 46:58:4E:A6:4F |
| New Device002 | 192.168.1.250 | 46:58:4E:AF:64: | | New Device000 | 192.168.1.248 | 46:58:4E:AD:3C |
| New Device004 | 192.168.1.243 | 96:02:B2:0D:46; | | New Device007 | 192.168.1.244 | 46:58:4E:A3:83 |
| New Device005 | 192.168.1.242 | 96:02:B2:99:68: | | New Device008 | 192.168.1.241 | 96:02:82:2C:EF |
| | | | | | | |
| ₹. | | | | | | |

1) select "KVM" in the function selection window

2) select the TX device to be configured in the TX list window;

3) in the RX list window, select the RX device to be configured (click the left mouse button to select the device, hold down the Ctrl key, then select the device with the left mouse button for multiple selection, and click the right mouse button to cancel the current selection in the blank in the window), and then click apply.

4) after the selected TX device and RX device are configured, the rx-connected keyboard and mouse will normally control the tx-connected computer.

| IR: | | | | | | |
|-------------------|---------------|-----------------|------|------------------------------|-----------------------------|------------------------------|
| VM,IR,UART Config | | | | | | |
| Image Preview | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| TX(Encoder) | IP address | MAC addres: | | | | |
| New Device002 | 192.168.1.251 | 46:58:4E:AF:79: | IR 🗖 | RX(Decoder) New Device001 | IP address 192.168.1.246 | MAC addres 46:58:4E:A6:4F |
| New Device003 | 192.168.1.250 | 46:58:4E:AF:64: | | New Device006 | 192.168.1.248 | 46:58:4E:AD:3C |
| New Device004 | 192.168.1.243 | 96:02:B2:0D:46: | | New Device007 | 192.168.1.244 | 46:58:4E:A3:83 |
| New Device005 | 192.168.1.242 | 96:02:B2:99:68: | | New Device008 | 192.168.1.241 | 96:02:B2:2C:EF |
| | | | | | | |
| | | | | | | |
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| 4 | | • | | 4 | | |
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| | | | | | | |
| | | Apply | | leturn | | |
| | | | | | | |

RS232:

| KVM,IR,UART Config | | | | | | |
|--------------------|---------------|-----------------|------------------|---------------|---------------|--|
| Image Preview | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| TX(Encoder) | IP address | MAC address | UART | RX(Decoder) | IP address | MAC addres |
| New Device002 | 192.168.1.251 | 46:58:4E:AF:79: | | New Device001 | 192.168.1.246 | 46:58:4E:A6:4F |
| New Device003 | 192.168.1.250 | 46:58:4E:AF:64: | 115200 | New Device006 | 192.168.1.248 | 46:58:4E:AD:3C |
| New Device004 | 192.168.1.243 | 96:02:B2:0D:46: | 4800 | New Device007 | 192.168.1.244 | 46:58:4E:A3:83 |
| New Device005 | 192.168.1.242 | 96:02:B2:99:68: | 9600 | New Device008 | 192.168.1.241 | 96:02:B2:2C:EF |
| | | | | | | |
| | | | 38400 | | | |
| | | | 57600 | | | |
| | | | 115200 | | | |
| | | | | | | |
| M | | | 230400 | 4 | | E Contraction de la contractio |
| 4 | | • | 230400 460800 | 4 | | |
| • | | | 230400 460800 | | | |

7. WEB Instruction:

7.1. Change the IP address of your PC

Before configuring the device through the web side, it is necessary to configure the IP address of the computer configured with the device (mainly to ensure that the computer and the device are set in the same network segment).

1. Open the network control center and set the computer's IP address:

| ŧ | 疑 网络和共享中心 ← → ◇ ↑ 媒 > 控制画板 > 网络和 Internet > 网络和共享中心 | | · · · · · · · · · · · · · · · · · · · | - □ × 20 接緊控制面板 P |
|-------------|---|----|--|--|
| 11 | 查看基本网络信息并设置连持 | | Q 以太网 属性 × | Internet 协议版本 4 (TCP/IPv4) 雇性 × |
| 超 マ コ 形 愛 4 | 常规 達接 IPv4 連接: Internet IPv6 连接: 无规简切问切限 媒体状态: 已品用 持续时间: 01:58:59 通度: 1.0 Gbps 详细信息(t) | 或证 | 网络 進録时便用: | 常规 毎用監置 如果网络支持出功能、则可以获取目动指版的 IP 设置。否则,你需要从网 结系统管理员处获得适当的 IP 设置。 ●自动获得 IP 地址(0) 使用下面的 IP 地址(5): IP 地址(0): 子柯相與(0): 正 可能确(0): 正 |
| | 活动 |] | Internet 物辺底主化 (TCP/IP-4) ▲ Microsoft LLDP 协辺版功億序 ● Microsoft LLDP 协辺版功億序 ● Internet 物辺底主 6 (TCP/IP-6) ● Status 安爽(N) Status 「 Status ● Internet 物辺底主 6 (TCP/IP-6) ● Status ● Internet 物辺底主 6 (TCP/IP-6) ● Status ● Internet 物辺底主 6 (TCP/IP-6) ● Status ● Status | |

2. Choose to use Static IP, with the IP address set to 196.168.1.x (x ranges from 0 to 254, but cannot be consistent with the device's IP address),

- 3. Subnet mask set to 255.255.255.0
- **4.** Gateway set to 192.168.1.1

| ternet 协议版本 4 (TCP/IPv4) 属性 | | > | | | | | | |
|---|--------------------|---|--|--|--|--|--|--|
| 常规 | | | | | | | | |
| 如果网络支持此功能,则可以获取自动排 格系统管理员处获得适当的 IP 设置。 | 訴派的 IP 设置。否则,你需要从网 | | | | | | | |
| ○ 自动获得 IP 地址(O) | | | | | | | | |
| ●使用下面的 IP 地址(S): | | | | | | | | |
| IP 地址(I): | 192.168.1.101 | | | | | | | |
| 子网掩码(U): | 255.255.255.0 | | | | | | | |
| 默认网关(D): | 192.168.1.1 | | | | | | | |
| ○ 自动获得 DNS 服务器地址(B) | | | | | | | | |
| ●使用下面的 DNS 服务器地址(E): | | | | | | | | |
| 首选 DNS 服务器(P): | · · · | | | | | | | |
| 备用 DNS 服务器(A): | • • • | | | | | | | |
| □ 退出时验证设置(L) | 高级(V) | | | | | | | |
| | 确定 取消 | | | | | | | |

5. Enter the device's IP address in the web browser for the device configuration interface

Note: TX Static default IP: 192.168.1.10, RX default IP: 192.168.1.15 (device and computer directly connected by network cable).

Device DHCP default open, if there is a router will directly assign IP address.

7.2. System Setting:

1) System Status

In the "System", you can view the system status and device version

Note: the current system state does not support real-time refresh. If you want to get another refresh after entering the system, you need to reload the page.

And select the language of the interface, change the channel of the device, upgrade the device, restart the device, and restore the factory Settings.

2) Language Switching

• In the "System" interface, the language of the interface can be switched

• Select the language we need, after the selection is completed, we can switch the interface language (support Chinese and English)

3) Channel

• The channel of the device can be configured in advance in the "System" before configuring to use the RX device;

• If the TX and RX devices are configured on the same channel, the display connected to the RX device can play the audio and video signals from the TX device

• Through channel configuration, Can set one-to-many, many-to-many video matrix (Note: channels between TX devices and TX devices cannot be set to be consistent, otherwise channel conflict will be caused).

4) Upgrade Equipment

In the "system configuration" interface, you can upgrade the device

• Find the file (bin format) to upgrade by selecting the path, and complete the software upgrade after confirmation.

• The platform upgrade device will not change the previous parameter configuration.

Reset Device

• After confirming to Reset Device Settings, the device will restore factory Settings and all parameters will be restored to the original state;

• Reset Device Settings, and the product will be re-assigned the IP address by the router. If the original address is invalid, the device IP address should be re-entered in the web browser address bar.

6) Reboot Device

• The parameters set before reboot will be saved when reboot;

• After Reboot Device, the platform and the device will be temporarily offline, and the online state of the device will be restored automatically after the restart

| System | Network | Audio | Video | OSD | Time |
|-------------------------|-------------------|-----------|-------|-----|------|
| -System state | | | | | |
| Produ | ct model Encod | er(TX) | | | |
| Runn | ning time 01:19:4 | 45 | | | |
| CP | U usage 12.87% | 6 | | | |
| Memo | ry status 38.58M | M/231.73M | | | |
| | Version 1.4.1 | | | | |
| -Language Sv | vitch | | | | |
| (| English | • | | | |
| Channel swit | ching | | | | |
| | | • applica | tion | | |
| | | | | | |
| Upgrade | 2011/01/2012 | | | | |
| Select file P Upload | lease upload | | | | |
| | | | | | |
| -System Oper | | | | | |
| Reset device | Reboot device | | | | |
| -User passwo | rd | | | | |
| Current P | assword | | | | |
| New P | assword | | | | |
| | | | | | |
| Confirm P | assword | | | | |
| | Deter | mine | | | |
| | | | | | |

7.3. Network configuration

1) In the "Network" configuration, UDP, RTSP, Network address, Sub-net Mask, Gateway and Domain name server can be modified; After the network configuration is confirmed, the device needs to be restarted manually to take effect. (note: only when the static network address can be modified)

2) Two video streaming protocols are provided: primary and sub-code streams of RTSP; RTMP live streaming protocol.

3) RTSP anonymous access: check the box to indicate that there is no need to enter the account and password when receiving the video stream; otherwise, Need enter the account and password when not checked.

4) Default account and password: admin

5) Note: the modified IP address cannot be the same as the IP address of all connected devices in the network.

| System Netw | ork Audio | Video | OSD | Time | |
|---------------------------|---------------------|--------------|-----|--------|---|
| UDP port | 26214 | | | | |
| RTSP port | RTSP port 554 | | | | |
| Acquisition mode | OStatic IP Address | OHCP | | | |
| Network Address | 192.168.1.10 | | | | |
| Subnet Mask | 255.255.255.0 | | | | |
| Gateway | 192.168.1.1 | | | | |
| Preferred DNS | 114.114.114.114 | | | | |
| Alternate DNS Server | 8.8.8.8 | | | | |
| MAC address | 46:58:4E:AF:64:09 | | | | |
| RTSP Anonymous Acc ess | | | | | |
| Main Stream RTSP | rtsp://192.168.1.10 | | | | |
| Sub Stream RTSP | rtsp://192.168.1.10 | | | | |
| RTMP Address | rtmp://192.168.1.5 | 5:8899/live/ | | Enable | ¥ |
| | Save | | | | |

Note: How to use RTSP and RTMP refer to the operating steps of the platform

7.4. Audio configuration

Digital audio (HDMI) and ANALOG audio (ANALOG) can be configured on the "Audio" interface

HDMI: audio of the source (Default)

- ANALOG: ANALOG audio embedding
- Sampling rate: 48000 (default), 41000

• Coder: ACC

• Analog audio volume: used to adjust analog audio output volume, default is 50, volume range 0-100

• ANALOG embedding: access audio equipment (such as mobile phone) through 3.5mm audio line, connect to TX's ANALOG audio input, then open audio configuration, set the audio input as ANALOG audio input, then output audio will be ANALOG audio.

| System | Netwo | rk Au | dio | Video | OSD | Time |
|--------|-------|-------|-----|------------|---------------|------|
| A | udio | HDMI | ٣ | | | |
| Sar | mple | 48000 | v | | | |
| Bit | trate | 180 | | Bitrate32~ | -320kbps | |
| Enc | oder | AAC | Ŧ | | | |
| Analog | y Vol | 40 | | Analog Vo | ol range0~100 | |
| | | Save | | | | |

7.5. Video configuration

| System | Network | Audio | Video | OSD | Time | | | |
|-----------------|-----------|-------|-----------------|-------|-----------------|----------|---|--------------------|
| Main | | | | | Sub | | | |
| Encodeing | h.264 | • | | | Encodeing | h.264 | • | |
| Resolving power | 1920*1080 | ¥ | | | Resolving power | 1280*720 | • | |
| FPS | 30 | ¥ | | | FPS | 30 | • | |
| Bitrate | vbr | ¥ | | | Bitrate | cbr | Ŧ | |
| Bitrate | 4096 | | Bitrate64~10240 | 0kbps | Bitrate | 256 | | Bitrate64~4096kbps |
| GOP | 60 | | GOP range5-300 |) | GOP | 60 | | GOP range5-300 |
| | Save | | | | | | | |
| | | | | | | | | |

7.6. OSD configuration

| System Netw | ork Audio | Video | OSD | Time |
|------------------|-----------|----------|-------------------|--|
| Select | Region 1 | v | | |
| Switch | closed | • | | |
| Туре | Text | • | | |
| Х | 0 | [0-3840] | Be careful not to | exceed the resolution width,otherwise it will not be visible |
| Y | 0 | [0-2160] | Be careful not to | exceed the resolution width,otherwise it will not be visible |
| Text | | [0-128] | | |
| Font Size | 0 | [1-2000] | | |
| Transparent | 0 | [0-255] | | |
| Background color | | Color se | t | |
| foreground color | | Color se | t | |
| | Save | | | |

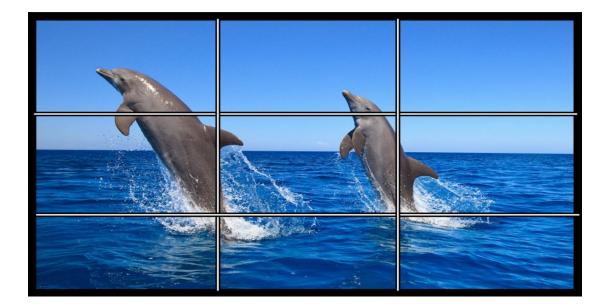
7.7. Time configuration

| System | Network | Audio | Video | OSD | Time |
|-------------------|---------|-----------------------------------|------------------------------------|------------|------|
| B | та смт | Г-10 Hawaii,Aleu | utian Isl. | | ٣ |
| | GMT | T-12 West of ID | L | | |
| rver synchronizat | | T-11 Midway isla | | | |
| | GMT | T-10 Hawaii,Ale | utian Isl. | | |
| | | T-09 Alaska | | | |
| | | | San Francisco, | | |
| | | | enver,Salt Lake allas,New Orlea | | |
| | | T-06 Mexico Cit | | IIIS | |
| | | T-05 Cuba | y | | |
| | GMT | F-05 New Your, | Toronto, Washing | gton DC | |
| | GMT | T-04 Atlantic tim | ie | | |
| | 0 | T-04 Cuiaba | | | |
| | | - | n,La Paz,Mana | us,Sanjuan | |
| | | T-04 Asuncion | | | |
| | | T-04 Santiago | Deule | | |
| | | T-03 Brasilia,Sa | | teles | |
| | | I-03 Buenos All I-03 Greenland | res,Kayenne,Fo | rtalez | |
| | 0 | T-03 Montevide | | | |
| | | T-02 Noronha,N | | | |

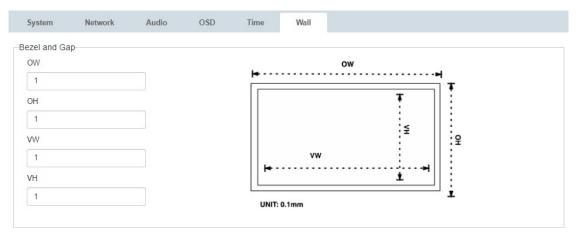
7.8. Video Wall

1) In Video wall interface, One source splicing into a picture by multiple groups of RX devices.

2) The maximum resolution of each group of RX devices is 4K30hz



3) Edge shielding (screen width, screen height, display width and display height) can be set separately for each group of splicing images.



4) Step of doing Video Wall

• Configure the corresponding TX and RX devices as the same channel in the system configuration interface

• In the "Video Wall" interface of RX, select the required number of splices

Number of vertical monitors: $0 \sim 10$ (up to 8 monitors can be spliced in one column) Number of horizontal monitors: $0 \sim 10$ (up to 8 monitors can be spliced in one row) • Select the position of the RX device on the splicing screen

Row position: 0~10

Column positions: 0~10

(example: if the row position is set to 1 and the column position is set to 1, RX will play the video on the display of the first column of the first row.)

Note: if RX returns to normal one-to-many or many-to-many, re-enter "system configuration" and reset the channel

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| 1 | * * * |

MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner of benzine to clean this unit.

PRODUCT SERVICE

(1) Damage requiring service:

The unit should be serviced by qualified service personnel if:

- (a) The DC power supply cord or AC adaptor has been damaged;
- (b) Objects or liquids have gotten into the unit;
- (c) The unit has been exposed to rain;

(d) The unit does not operate normally or exhibits a marked change in performance;

The unit has been dropped or the cabinet damaged.

(2) Servicing Personnel: Do not attempt to service the unit beyond that described in these operating instructions.Refer all other servicing to authorized servicing personnel.

(3) Replacement parts: When parts need replacing ensure the servicer uses parts

specified by the manufacturer or parts that have the same characteristics as the

original parts. Unauthorized substitutes may result in fire, electric shock, or other Hazards.

(4) **Safety check:** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below,

(Parts(2)Year, Labor(90) Days) which starts with the date of original purchase ("Limited Warranty period"), at its option either(a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

LIMITED WARRANTY LIMITS AND EXCLUSIONS

1) This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.

The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty

installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

2) THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRNTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)

3) PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.