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PART1 Product introduction

1.1 Product description

PE5128ST is network Keyboard, compatible with ONVIF , it can decode video stream of H265/264,besides it can control the PM70 series network matrix.

PE5128ST is furnished with a 7-inch LCD screen, support video preview in in its inner LCD and offer 1ch HDMI output, up to 4K resolution.

It offers functions including: window Switching, splitting, splicing, macro switch, preset, Snapshot, etc., its four-dimensional joystick offer PTZ precise control and snapshot.

Webpage offers friendly configuration.

1.2 Technical indicators

- 7-inch LCD screen design, support 1024 * 600 resolution output
- 1 HDMI output, up to support 3840 * 2160 resolution output
- 7-inch LCD Simultaneous display of the image of the controlled device currently controlled window, support H265, H264, MPEG4
- HDMI output display consistent with the LCD screen
- Support PTZ control, preset setting and calling
- support capture pictures to a local U disk or upload FTP server
- Support controlled device audio switch
- Support 256 users, including 1 administrator user
- Administrators can manage 255 devices and operator users can control 255 devices

- Support IE remote upgrade and maintenance

PART2 Operation Introduction Before Using

2.1 Keyboard introduction

When the Decoder arrives to you, open the case, check and see if the accessories are complete. There is a parts list comes with the product packing list for you to facilitate checking.

The function of each key on the keyboard panel and the interface of the backplane are described in detail in the manual.

The label on the floor affixed to our after-sales service has a very important significance, please do not tear up, otherwise it will not be able to provide warranty service. The serial number on this label is required when you call our service number.

2.1.1 Interface Introduction

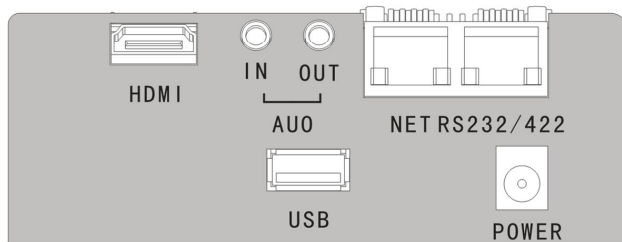


The functions of the buttons under the menu are shown in the following table:

Button	Function description
0~9	Value
MON	Select the screen number
WIN	Select the window number
CAM	Select the camera number
OPEN	Move up
CLOSE	Move down
NEAR	Move left
MULT	Move right
FWD	Next camera video
BWD	Last camera video
CLEAR	Clear / log off the input data value, cancel the operation
LOCK	Lock / unlock
MENU	Keyboard UI interface
ENTER	Confirm the entry and enter the menu
PRESET	Preset / audio switch
SHOT	Call macro switch / window splicing/ call plan
EVENT	Arming / disarming
Joystick control	Control menu up / down / left / right, rocker top button to confirm the input, enter the menu, joystick left-back

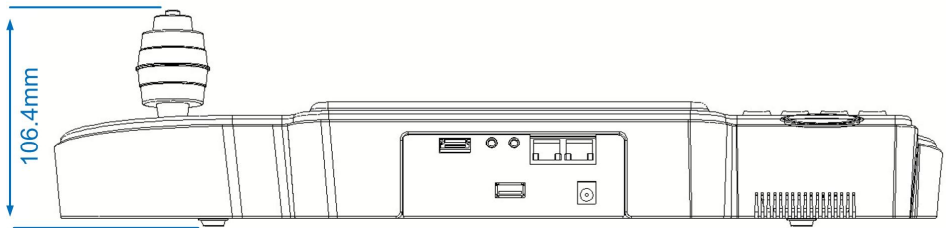
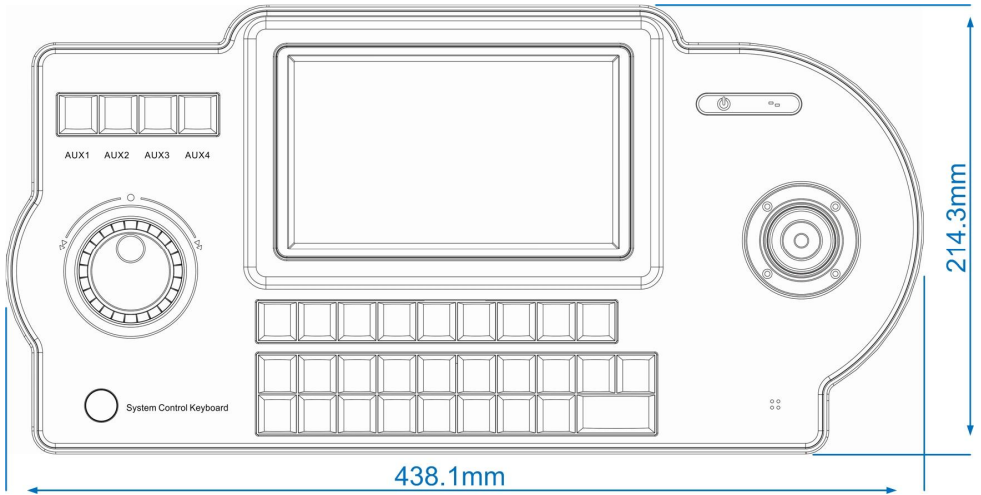
Note: When manipulating rocker force can not be excessive, too rapid, there is a gradual process.

2.1.2 Rear panel and interface description



- a. NET: Network port
- b. RS232/422: reserved
- c. AUO IN/OUT: reserved
- d. HDMI: video output port
- e. USB: USB2.0 port
- f. POWER: 12VDC

2.1.3 Dimensions



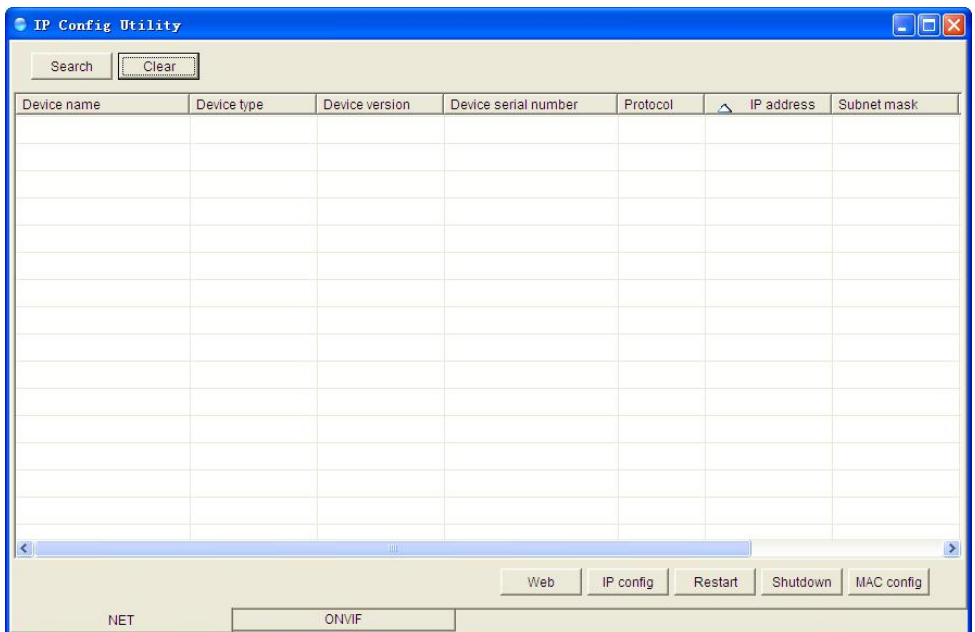
PART 3 Operation

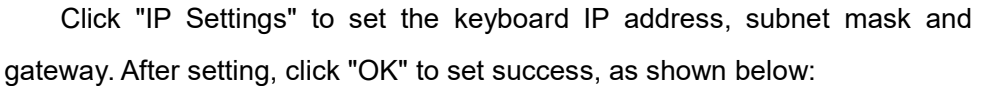
3.1 Network Setting

After setting up the hardware environment, some network parameters of the keyboard need to be set.

For the first time, use the master keyboard and use IpConfig.exe to search for the keyboard's IP address, MAC address, subnet mask, gateway, and more.

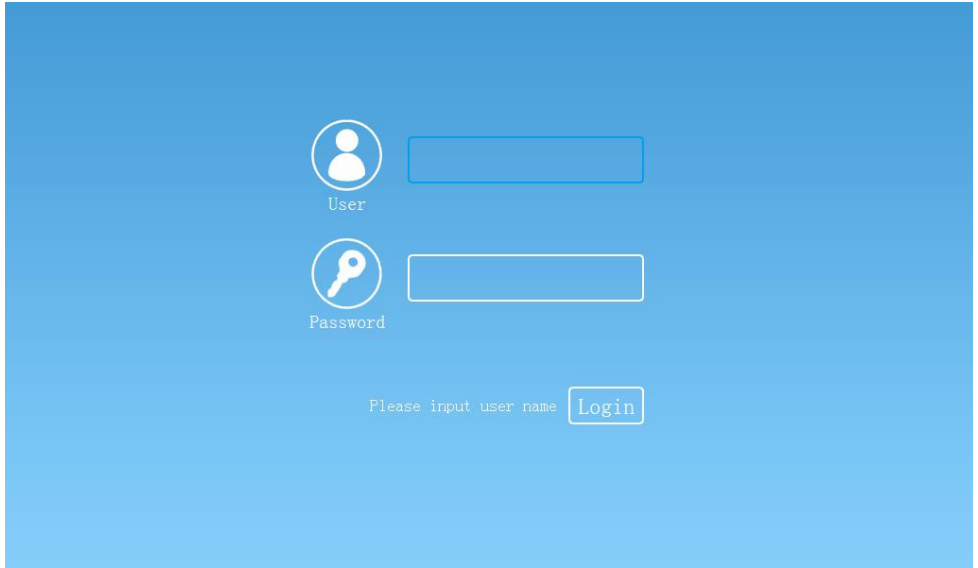
Use IP search tool "IpConfig.exe", as shown below:





3.2 Login and Exit

Power on the keyboard to enter the user login screen, the LCD screen as shown below:



User login interface, the user is 0 ~ 255; 0 is administrator user, you can view and modify the keyboard settings;

1 ~ 255 for the operator user, you can view the keyboard settings for HD network IP matrix operation.

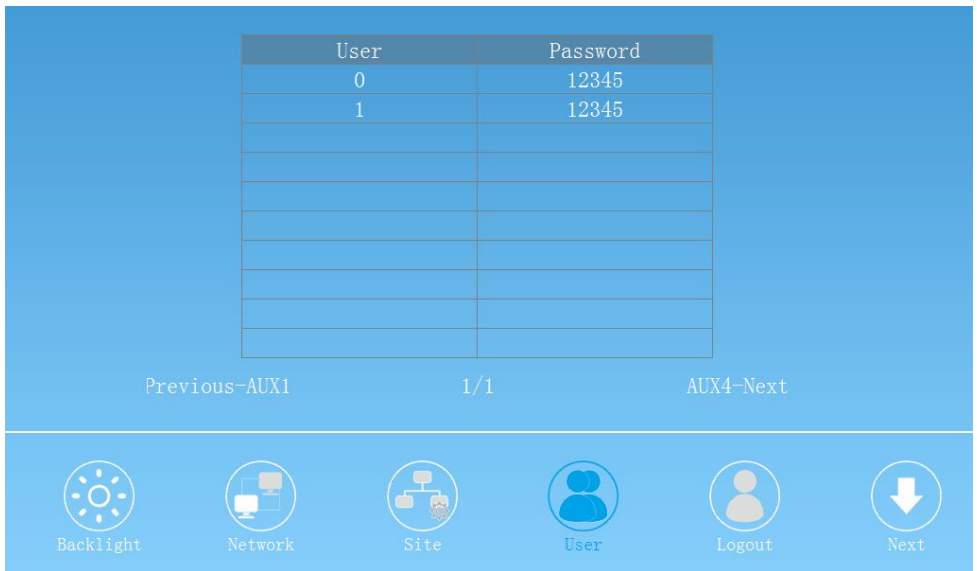
Login for the first time, user: 0 Password: 12345, enter the administrator interface, set the keyboard itself, you must establish an operator user.

3.3 Keyboard settings

After logging in with user number 0, press "MENU" key to call up the keyboard setting interface, and use the up, down, left or right keys or joystick selection tab to enter the corresponding operation interface, such as "Account Management", "Field Management", "Network Parameters" "Backlight adjustment" and other tabs.

3.3.1 User

Select the "Account Management" tab to enter the account management interface, the current user has been created, as shown below:



Users can be created, modified and deleted in the "Account Management" interface.

255 operator users can be created, users and passwords only support numbers input, administrator user cannot be deleted, only the password can be changed.

Example of operation:

Create / modify users: user number 100, password 12345

Steps: Keyboard input 100 + ENTER, select "Create / Modify", enter the original password and new password, save it. If you create a user, the original password and the new password should be consistent.

Note: Select "Cancel" or press the "MENU" button or the joystick counterclockwise to exit the current interface. In this case, the tab is selected. The way to switch between tabs is the same.

3.3.2 Network

Select the "Network Parameters" tab to enter the network parameters interface, display the device network parameters, as shown below:

The screenshot displays a network configuration interface with a blue background. It features three input fields for network parameters:

- IP: 192 · 168 · 6 · 254
- MASK: 255 · 255 · 255 · 0
- Gateway: 192 · 168 · 6 · 1

At the bottom, there is a navigation bar with six icons and labels:

- Backlight (sun icon)
- Network (computer icon)
- Site (network diagram icon)
- User (person icon)
- Logout (person icon with arrow)
- Next (down arrow icon)

View the current keyboard's IP address, subnet mask, and gateway.

Default IP address: 192.168.6.254

【Modify IP Address】 In the network parameter interface, click "ENTER" key to modify the IP address, subnet mask and gateway address of the master keyboard. Input the number through the keyboard and click "Save".

3.3.3 Site

Select the "Site Settings" tab to enter the site settings interface, the current site has been created, as shown below:

Site No.	Type	Main Information
1	PENET	192. 168. 6. 250
2	PENET	192. 168. 6. 49

Previous-AUX1

1/1

AUX4-Next

Backlight

Network

Site

User

Logout

Next

You can view the field parameters that have been set to create field points, modify and delete created field points.

【Site NO】 1-255, the administrator user supports up to 255 site management;

【Type】 The type of control protocol can be set, denoted by the number N. Currently it supports 1-PENET and 2-NVR. PENET can control the matrix. The NVR can be customized according to the protocol.

【Main Information】 IP address of the controlled device;

Site creation / modification example illustration:

Points: 2

Proceed as follows:

Enter 2 + ENTER to enter "modify / create" interface, as shown below:

Site No.:1

Type: 1

1. PENET
2. NVR

Port: 1026

IP: 192.168.6.250

Interval(ms): 50 40~500


Save Cancel


Backlight Network Site User Logout Next


In this interface, you can select the type of control protocol. Select "1" control matrix. After selecting the type, press ENTER to enter the setting interface. You can set parameters such as "port", "IP address" and "command sending interval" of the matrix.


In type "2" you can configure "port", "IP address" of NVR and so on. As shown below:


<p>Site No.:1</p> <p>Type: <input type="text" value="2"/></p> <p>1. PENET 2. NVR</p>	<p>Port <input type="text"/></p> <p>IP <input type="text" value="."/> <input type="text" value="."/> <input type="text" value="."/></p> <p><input type="button" value="Save"/> <input type="button" value="Cancel"/></p>
--	--



Backlight


Network


Site



User


Logout



Next


3.3.4 Brightness


Select the " Brightness " tab, enter the LCD screen brightness adjustment interface, as shown below:





Brightness



100%



Backlight


Network


Site


User


Logout


Next

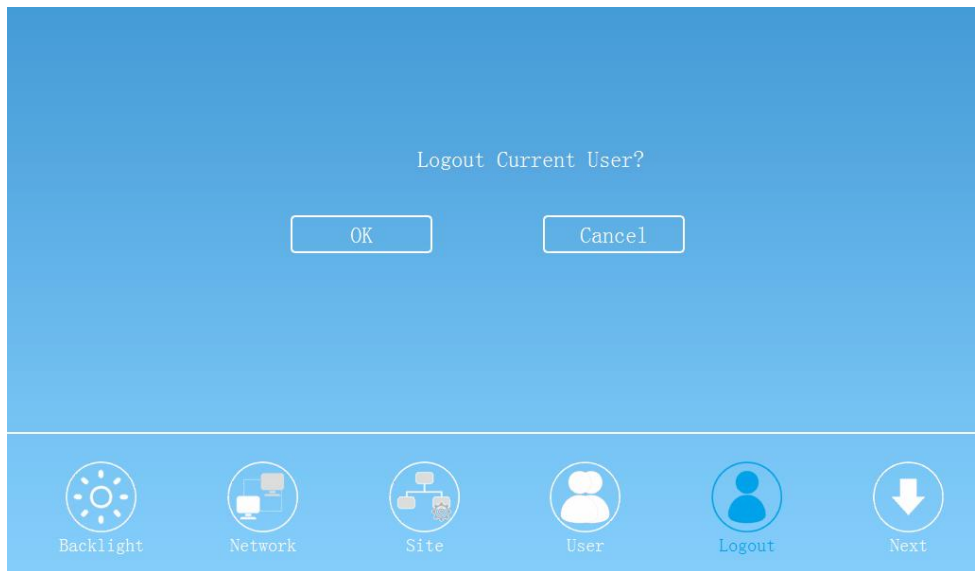
【Brightness】 to view the current brightness of the keyboard LCD, to adjust the brightness according to the surrounding environment

Operation: up / down key to brighten / dim.

Note: The brightness range 1-100%, the default 60%, when the brightness is adjusted to less than 20%, the LCD screen brightness is dark, brightness adjusted to 20% is recommended.

3.3.5 Logout

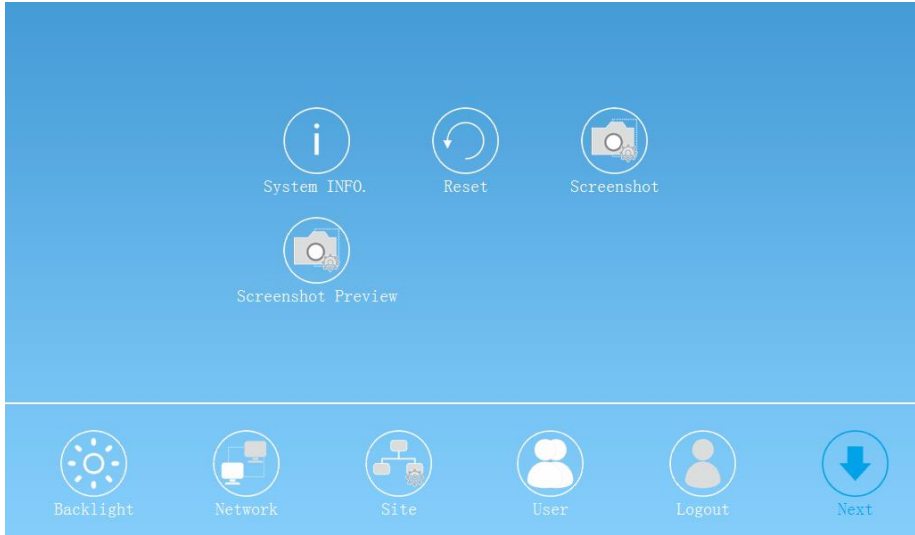
Select the "Logout" tab, enter the user logout interface, as shown below:



【Logout current user】 Click "Confirm" to logout the current user and return to the keyboard login page.

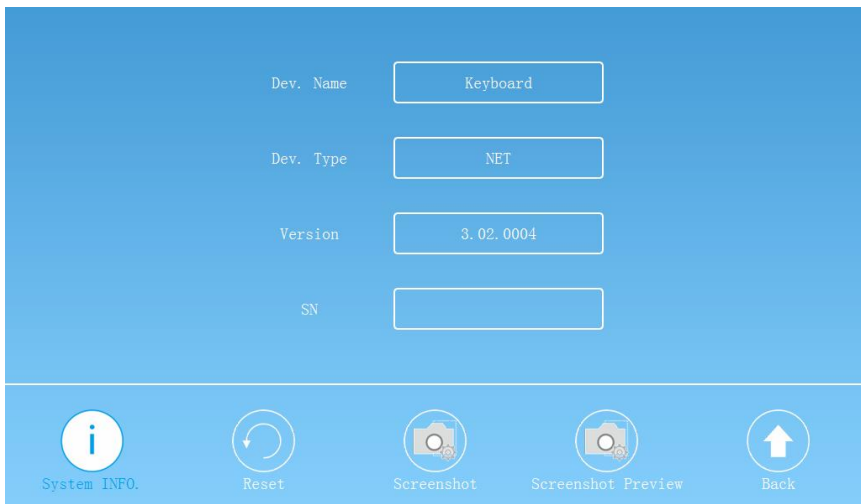
Note: After the administrator user configures the related parameters, it needs to logout before entering the operator user to operate the controlled device.

Check the "Next " tab to see the tabs on the next page, as shown below:



3.3.6 System INFO

Check the System Information tab to view the system information of the current keyboard, such as the device name, device type, and version information, as shown in the following figure:



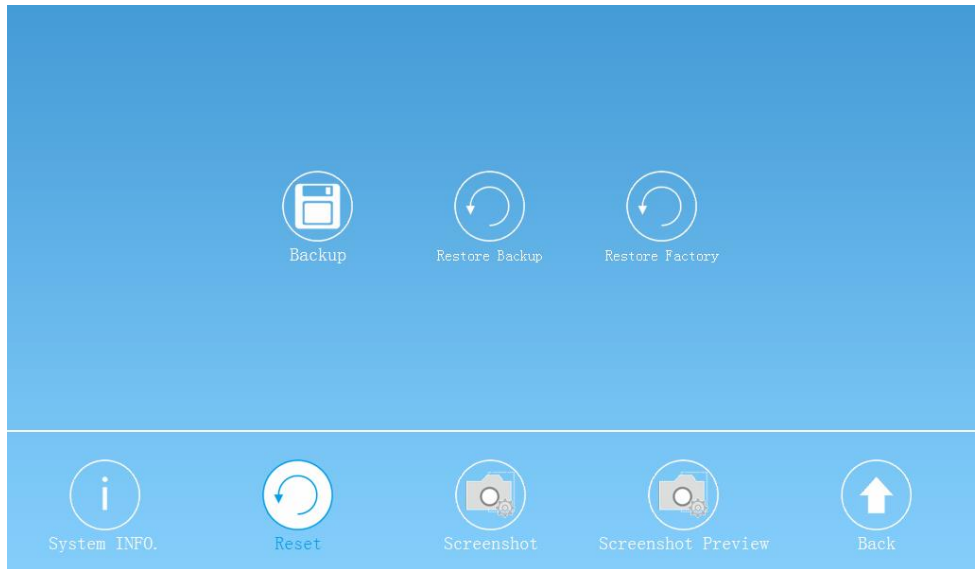
【Device Name】 View the current device name

【Device Type】 View the current device type

【Version】 View the current device version, the actual shipping version prevail, the picture is only an example

3.3.7 Reset

Select the "Reset" tab, enter the recovery settings interface, as shown below:



[Backup] to back up the current settings to the keyboard

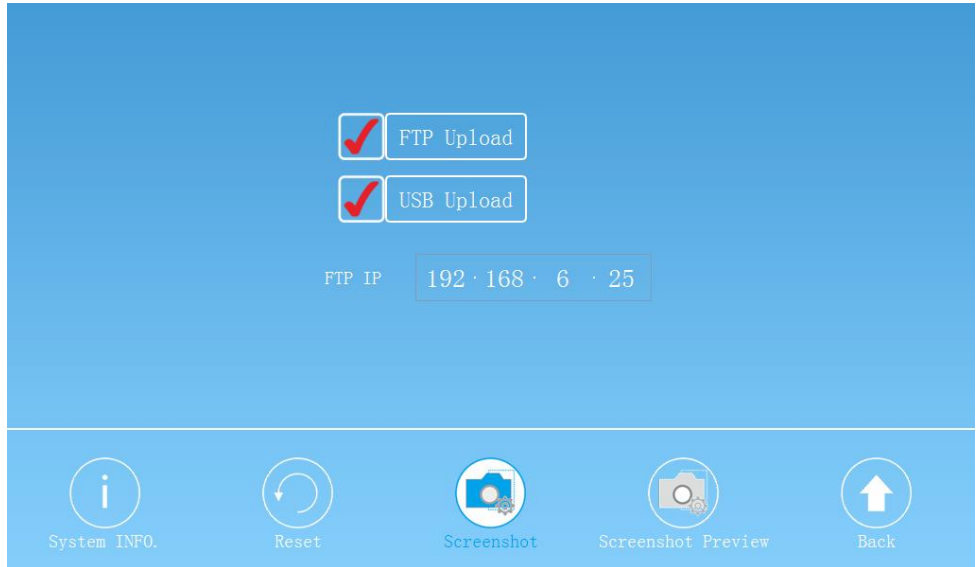
[Restore Backup] to restore the keyboard settings to the last backup

[Restore Factory] Restore the keyboard to the factory settings (except the IP address of the keyboard itself)

Note: Restoring factory settings will restore the configured data to the factory, please exercise caution.

3.3.8 Screenshot

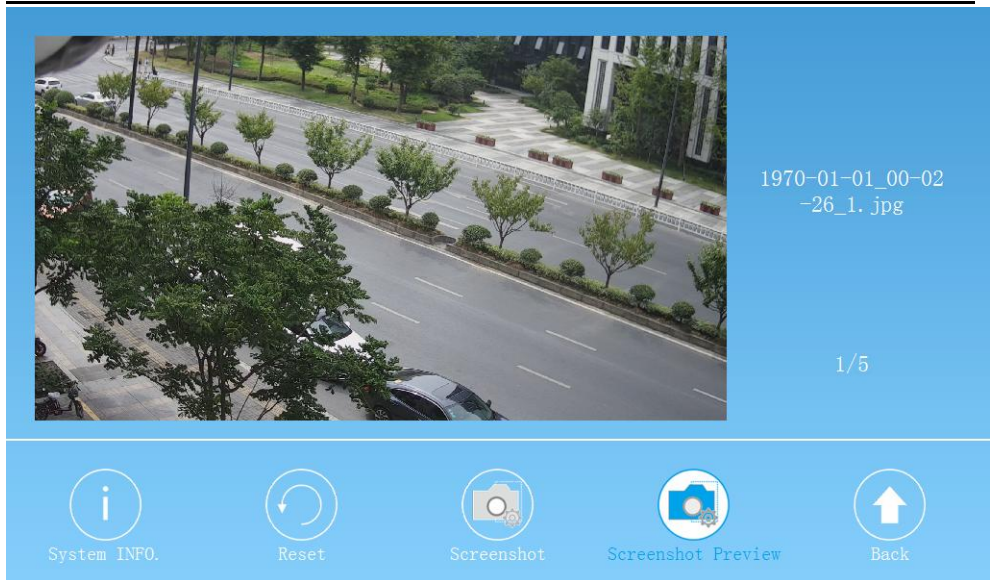
Select the " Screenshot " tab, enter the capture settings interface, as shown below:



【FTP Upload】 【USB Upload】 View and set "FTP address" and "USB address", that is to save the picture path.

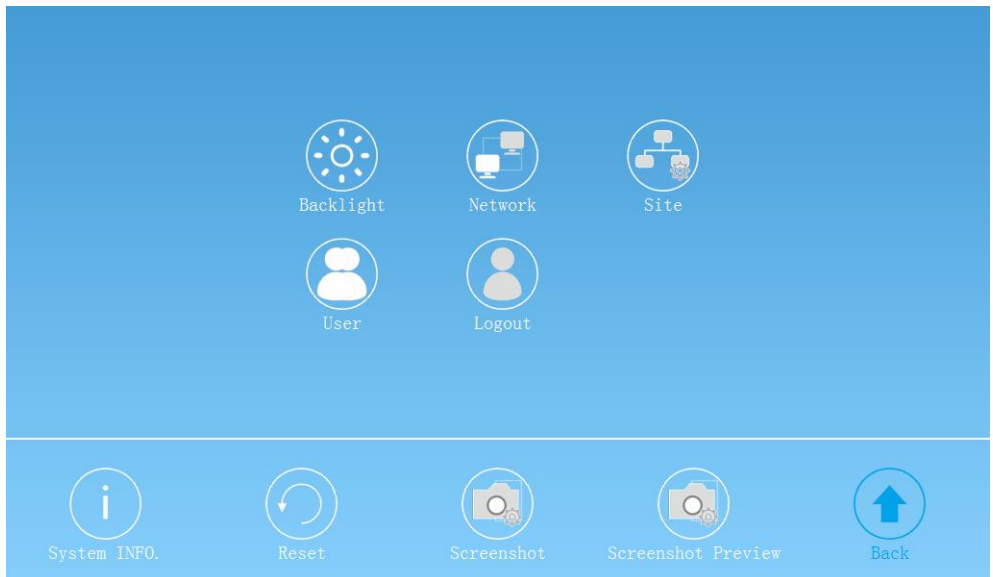
3.3.9 Screenshot preview

Select " Screenshot preview " tab, enter the picture preview interface, as shown below:



In this interface you can display all the images saved in the screenshot, you can choose the picture to preview.

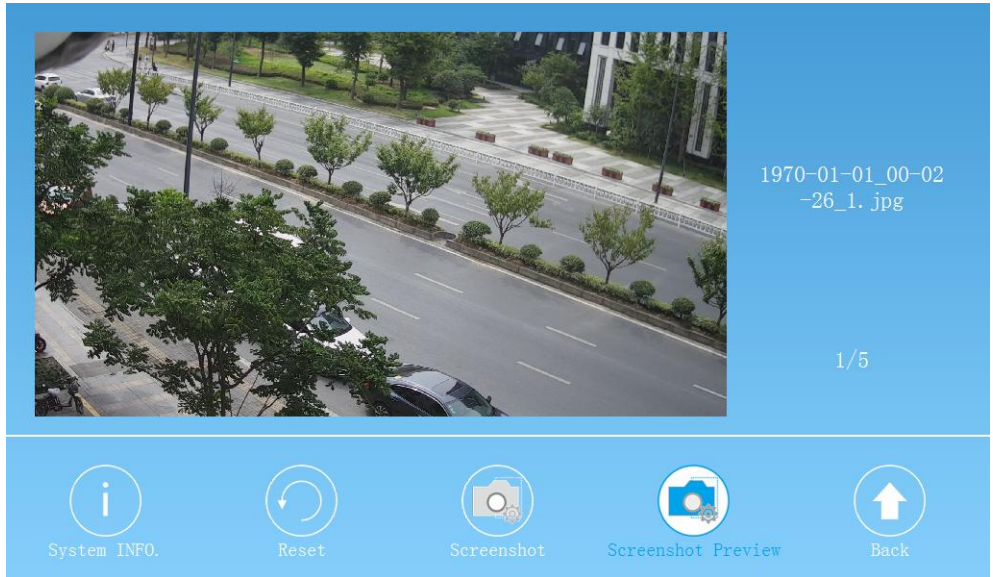
Check the "Back" tab to see the tabs in the previous page, as shown in the following figure:



In the following two cases, enter the video preview interface

1. In the keyboard setting interface, when the cursor is on the tab, press "MENU" button to return to the video preview interface.
2. 1-255 When the user logs in, enter the video preview interface.

As shown below:



3.4 keyboard WEB interface settings

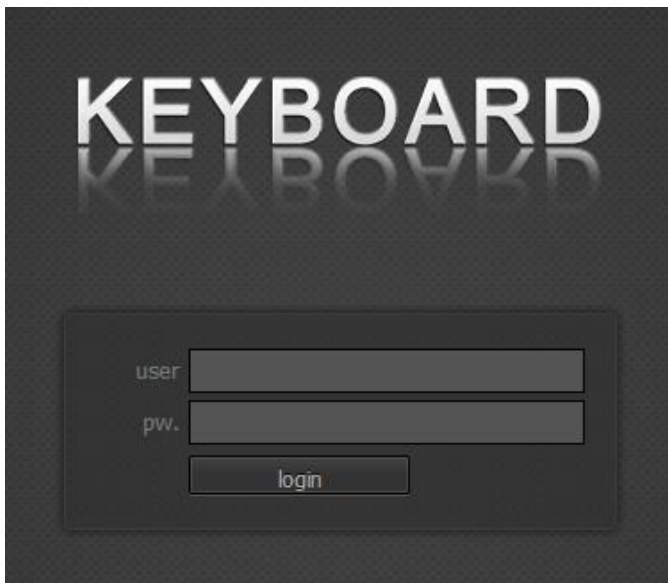
The WEB interface is mainly used for system information viewing of the keyboard, maintenance of equipment such as upgrading and restarting, and advanced applications such as adding a camera list. Camera list addition is only needed when the keyboard is actively decoding, support onvif camera access and RTSP direct access.

3.4.1 WEB Interface Login

After the normal keyboard operation, through the keyboard "network parameters" interface to view the current keyboard's IP address

Note: The factory default keyboard IP address is 192.168.6.254.

Open the browser, enter the IP address to enter the WEB login screen, as shown below:



Enter the user name and password, you can log in. Default username: admin
password: 12345

3.4.2 System Information

Click "System Information", as shown below:

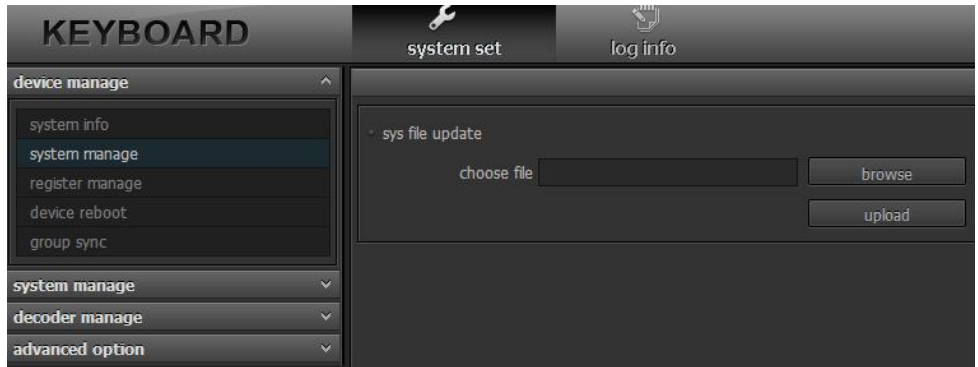


In the "System Information" interface, you can view the current device name, device model, hardware serial number and software version (the software version has the actual shipping version) from the "Device Information" column; in the "System Operation Status" column, you can view the CPU Usage, system memory, system memory usage and other information.

Click System Info to refresh the running status.

3.4.3 System Information

Click "Maintenance" option "System Maintenance", as shown below:



In the "System Maintenance" you can upgrade the keyboard version, upload database files, click "Browse" to select the update file on your local computer, and then click "Upload" button.

3.4.4 Device Restart

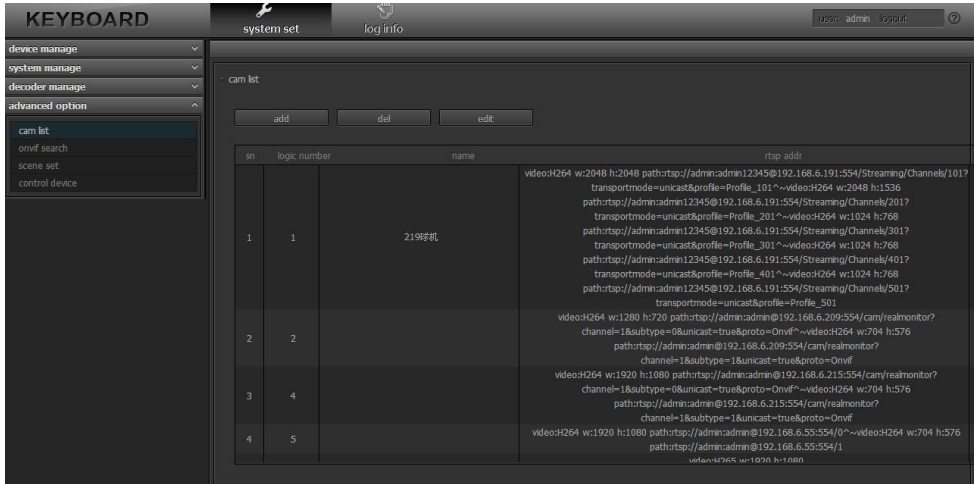
Click "Device Maintenance" option "Device Reboot", as shown below:



Click "Reboot" in "Device Reboot" to restart the keyboard.

3.4.5 Camera List

Click the "advanced option" option "cam list", as shown below:



You can see the camera list of the current device

【Add】 When the RTSP address is known, click "Add" to add the RTSP address, add parameters such as logical number and name

【Delete】 to check one or more lines, click "Delete" to delete selected line camera

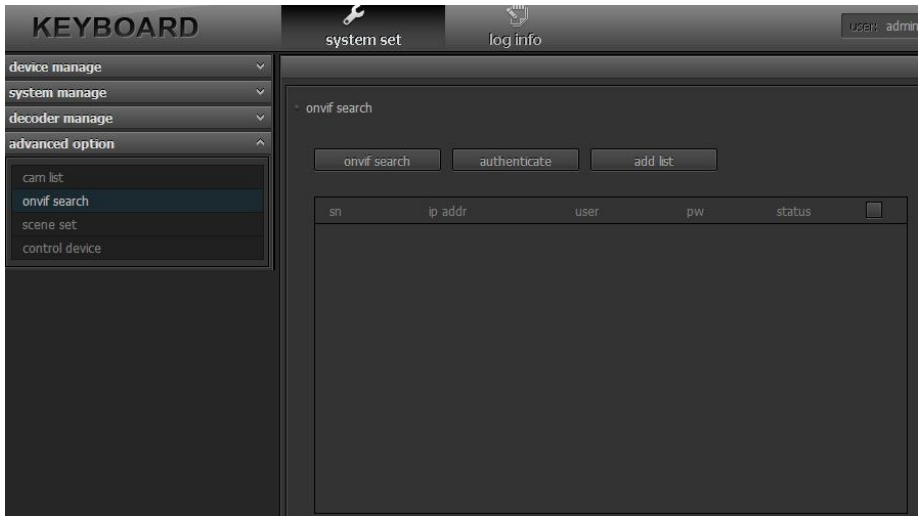
【Edit】 Select a line Click "Edit" to edit logic, name, address and port number, click "OK" to take effect.

Logical number: when switching the camera, the camera number is the logical number;

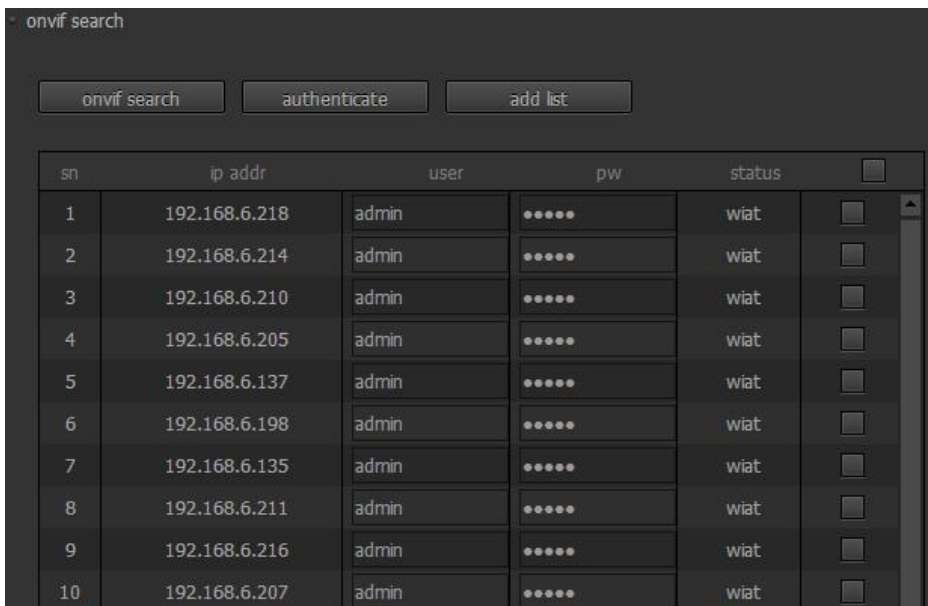
Name: camera custom name, displayed on the keyboard when calling up the camera list.

3.4.6 ONVIF search

Click "onvif search" in "advanced option", as shown below:



Can search all the cameras that support onvif protocol in the LAN, as shown below:



Check one or more lines and click on "authenticate" to authenticate the selected line. The result of the authentication is shown in "Status" as shown below:

onvif search

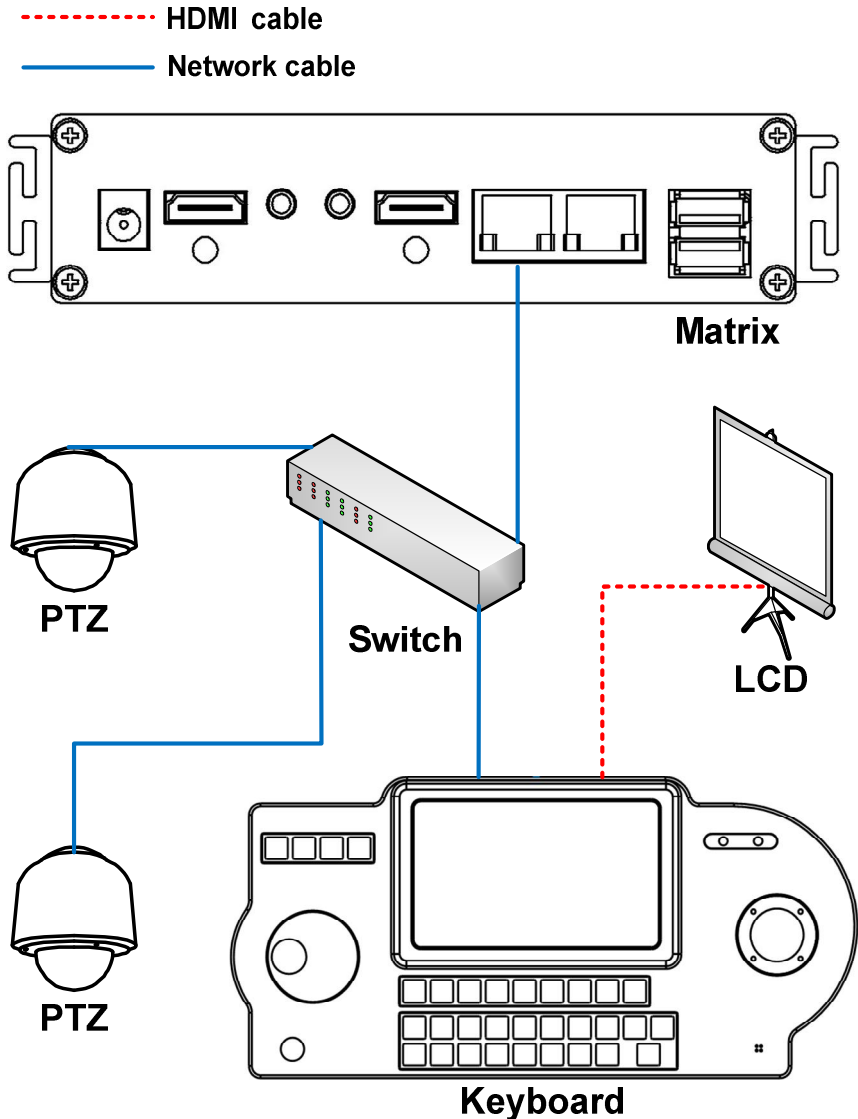
onvif search authenticate add list

sn	ip addr	user	pw	status	<input type="checkbox"/>
1	192.168.6.218	admin	.....	failed	<input type="checkbox"/>
2	192.168.6.214	admin	.....	failed	<input type="checkbox"/>
3	192.168.6.210	admin	.....	failed	<input type="checkbox"/>
4	192.168.6.205	admin	.....	success	<input type="checkbox"/>
5	192.168.6.137	admin	.....	failed	<input type="checkbox"/>
6	192.168.6.198	admin	.....	success	<input type="checkbox"/>
7	192.168.6.135	admin	.....	failed	<input type="checkbox"/>
8	192.168.6.211	admin	.....	failed	<input type="checkbox"/>
9	192.168.6.216	admin	.....	failed	<input type="checkbox"/>
10	192.168.6.207	admin	.....	failed	<input type="checkbox"/>

Click "Add List", the camera with successful authentication can be added to the list of cameras, and the camera list will show whether added successfully. When Authentication failed please make sure the camera user name and password are correct, the default user name and password are admin.

PART 4 Application Examples

Connect the master keyboard, matrix, dome camera, monitor and other devices to the same LAN, as shown in the following figure:



4.1 keyboard control matrix

Keyboard Login with 1-255 users, as shown below:



HDMI output display and 7-inch LCD display the same image, in the upper left corner of the 7-inch LCD screen displays the current field site number (1-255), window number and camera number, 7-inch LCD screen and HDMI output on the display The current window image.

Keyboard control matrix operation instructions:

Function	operation instruction
Switch image on window	N (Win No.) +WIN+M (Cam No.) +CAM , The corresponding window on the monitor screen (WIN N) shows the M camera image
No image on window	N+WIN+0+CAM
Window tour switch	N (Win No.) +WIN+SHOT+3 (Run window switching scheme) +M (Macro No.) +ENTER
Window patrol switch stop	SHOT+4 (Stop window switching scheme) +M (macro No.) +ENTER
Windows grouping switch	N (Win. No) +WIN+SHOT+3 (call window switch scheme) +M (macro No) +ENTER
windows grouping stop	SHOT+4 (stop window switch scheme) +M (macro No) +ENTER
Monitor splitting switch	N (Monitor No.) +MON+SHOT+5 (run monitor switch scheme) +M (macro No.) +ENTER
monitor splitting stop	SHOT+6 (stop monitor switch scheme) +M (macro No.) +ENTER
forward switch	FWD, current CAM No increase
backward switch	BWD, current CAM No decrease
monitor split	N(Monitor) +MON+M (split No 1/4/6/8/9/16/25) +MULT, Corresponding display screen after the split results, the split window automatically assigned

splicing	SHOT+1 (monitor splice) +M (left top window No.) +ENTER+N (right bottom window No.) +ENTER
splicing return	SHOT+2(splice return) +N (win No. After splicing) +ENTER
Direction and zoom	Rocker control the ball up / down / left / right / upper left / lower left / right up / down direction, support for image zoom in / out
set preset	PRESET+2(set preset) +N (preset No.) +ENTER
call preset	PRESET+1 (set preset) +N (preset No.) +ENTER, N (preset No.) +PRESET
call monitor plan	SHOT+7(call monitor display plan)+M(plan Number) + ENTER
audio switch	N (Win No.) +WIN+PRESET+3 (audio switch)
volume setting	N (Win No.) +WIN+PRESET+4 (volume set) +audio (1-100) + ENTER
site switch	digital key (site No.) + MODE switch site No. If site No.exists, S+ site No. On left top corner will change automatically.

4.2 active decoding keyboard

After the keyboard is logged in with user 1-255, press O + MODE to switch the current mode to the active decoding mode of the keyboard, as shown in the following figure:



HDMI output and 7-inch LCD output are unrelated, HDMI output support 1/4/6/8/9/10/12/16/20/25/30 split, 7-inch LCD does not support split. Press the CAM button on the LCD screen and the camera list can be called out, as shown below:

CAM LIST		
ID	Name	Type
1	Dome	undefine
2	Box	undefine

Previous-AUX1

1/1

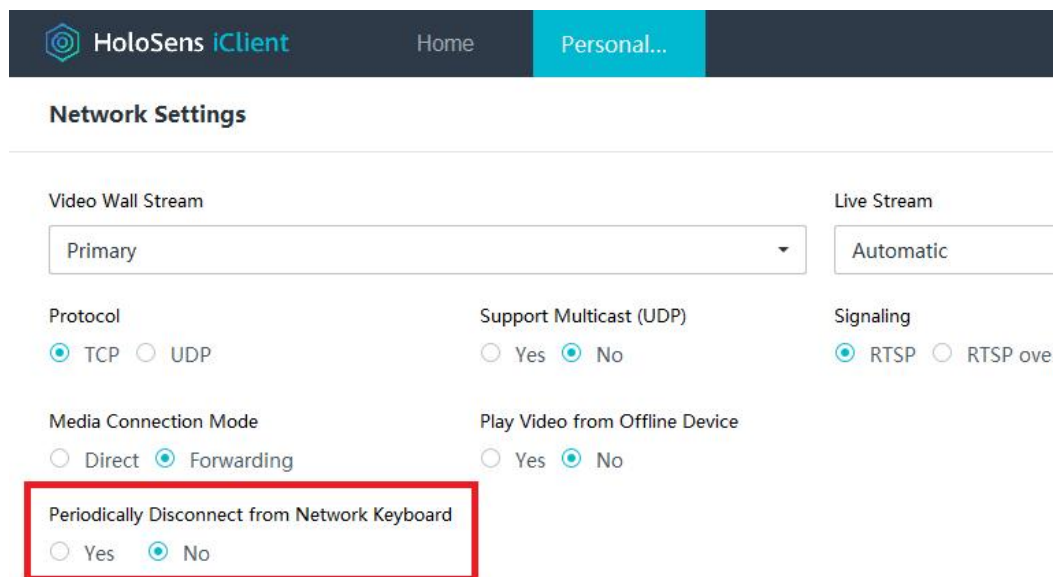
AUX4-Next

4.3 Control IVS platform

This keyboard could integrate with IVS platform to control its PTZ, camera, etc. Please check followings for detail.

4.3.1 Set parameter of keyboard

Log in IVS, to enable network keyboard: Home>System>Personal Settings>, setting as followings:



The screenshot displays the 'Network Settings' page in the HoloSens iClient application. The top navigation bar includes 'Home' and 'Personal...'. The 'Network Settings' section contains several configuration options:

- Video Wall Stream:** A dropdown menu set to 'Primary'.
- Live Stream:** A dropdown menu set to 'Automatic'.
- Protocol:** Radio buttons for 'TCP' (selected) and 'UDP'.
- Support Multicast (UDP):** Radio buttons for 'Yes' and 'No' (selected).
- Signaling:** Radio buttons for 'RTSP' (selected) and 'RTSP over'.
- Media Connection Mode:** Radio buttons for 'Direct' and 'Forwarding' (selected).
- Play Video from Offline Device:** Radio buttons for 'Yes' and 'No' (selected).
- Periodically Disconnect from Network Keyboard:** A red box highlights this section, showing radio buttons for 'Yes' and 'No' (selected).

Please find “Periodically Disconnect from Network Keyboard” and choose “NO” to make keyboard log in by IVS permission mode, please refer to Chapter 3.33 for Site set of keyboard.

IVS integration can set 1 Site only.

4.3.2 Huawei IVS log in

At interface of user log-in, to push joystick, it could switch to Huawei IVS log-in interface, as following picture:

The image shows a login interface with a light blue background. It features two input fields: the top one is preceded by a user icon and the label 'User', and the bottom one is preceded by a key icon and the label 'Password'. Below these fields, the text 'Please input user name' is displayed. To the right of this text are two buttons: 'IVS Permission' and 'IVS non-Permission'.

At this interface, log-in type contains “IVS permission” & “IVS non-permission”, log in by “IVS permission” requests user and password which has configured, “IVS non-permission” does not request user and password, click and log in.

4.3.3 Operation Desc.

Functions	Operation Code	functions	Operation Code
Choose video wall N	number + MODE	Next frame	Shuttle flying moves clockwise.
Choose mission N	number + EVENT	Steer Ptz	Joystick movement
choose monitor N	number + MON	Zoom -	Joystick zoom left
Choose N Split	number + MULT	Zoom +	Joystick zoom right
Choose window N	number + WIN	Zoom near	NEAR
Choose camera N	number + CAM	Zoom far	FAR
Set preset N	number+SHOT+PRESET	snapshot	The top button of joystick
Call preset N	number + PRESET	Clear	CLEAR
Start to record	OPEN	Menu interface	MEMU
Stop record	CLOSE	Set Zoom step size N	1+LOCK+number+ENTER

Enable/disable log	LOCK	Set movement step size N	2+LOCK+number+ENTER
Playback start	▶ ||	Play pause	▶ ||
Playback stop	■	Play speed up	number + ▶ ▶
Play slowly	number+ ◀ ◀	Last video	BWD
Next video	FWD	last frame	Shuttle flying anti-clockwise

PART 5 Quick check

Fault 1: power indicator does not turn on, the screen no display

- A. The supply voltage is normal, the supply voltage 12VDC / 2A
- B. Is the power plug and socket in good contact?
- C. power indicator light, the screen no display, check the power consumption meets the requirements?
- D. Power indicator light, the screen is incomplete or screen Huaping, contact the sales

Fault 2: Can not log in

- A. Check the user name and password are correct
- B. If using an operator user, enter the administrator user to see if the operator user has been created

Fault 3: Can not control matrix or NVR

- A. The communication indicator is not on, indicating that the communication between the keyboard and the controlled device is not normal. Check whether the controlled device and the keyboard are in the same LAN. (The communication indicator lights after the login.) The communication is normal.
- B. Check if the device type is selected correctly
- C. Check the accused equipment port is correct
- D. Check if it is an operator user

Fault 4: some functions can not be achieved

- A. Check the operation according to "user's instruction" and appendix "common operation table";
- B. Check the manual of the accused device, the device may not have these functions.