



VIS-CRS02-A/CRS03-A/ CRS05-A

Professional Conference recorder

User Manual

Version 1.0



About the Manual

Type	No.
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1.Overview



VIS-CRS03-A



VIS-CRS02-A



VIS-CRS05-A

Overview

VIS-CRS03-A/VIS-CRS02-A conference recorder is the latest generation of recording and broadcasting equipment independently developed for the needs of small and medium-sized enterprise conference rooms, training rooms and mobile recording and broadcasting.

Features

- Recorder is integrated, based on the embedded hardware architecture design with highly stable.
- H.264 encoding, 3 HDMI/2HDMI video input interfaces and 1 HDMI video out or direction interface out
- Supports simultaneous recording and live broadcast of the movie mode + resource mode.
- The picture supports picture-in-picture, 1/2/3/4//6 split-screen mode display and recording.
- The user can connect the mouse and display for operating the built-in recording software
- Web recording interface is supported
- The video supports max.4K@30fps resolution for input,recording and output.

Specification

Specification	Model	VIS-CRS02-A/VIS-CRS03-A/ VIS-CRS05-A
System structure		Embedded Linux operating system
Operation interface		Graphical menu operation interface
Language		English and Chinese
Input interface		3 HDMI for VIS-CRS03-A, 2 HDMI for VIS-CRS02-A
Output interface		1 HDMI for live or broadcast and recording operation interface
Video display mode		Full screen,PIP,1/2/3/4/6 split screen
Max. input frame		4K@30 frame
Input Resolution		HDMI: 1024*768p@60fps,1280*720p@50/60fps, 1920*1080i@60/50fps,1920*1080p@30/25fps,1920*1080p@60/50f ps,4K@30fps (for VIS-CRS05-A)
Output Resolution		Max. 4K@30fps for VIS-CRS05-A Max. 1920*1080p@60/50fps for VIS-CRS02-A, VIS-CRS03-A
Audio Input		2x line-in
Audio Output2		2x line-out,1x 3.5mm earphone
Audio encoding		AAC
Audio Recording way		Audio is recorded along with video
Video encoding		H.264 High Profile
Recording file format		MP4
Video coding frame rate		1~30fps
Video code rate		50kbps~40Mbps adjustable
Audio code rate		8KB~420KB adjustable
Storage		Built-in 1TB hard disk,support extensions
RS485 interface		4 ports,RJ45
RS232 interface		2 ports,RJ45
RJ45 network port		1 Network port support 802.3ab 1000Base-T Gigabit Ethernet network interface
Console port		Standard console port for testing
USB		1 USB2.0 and 1USB3.0(For mouse,U disk and directed video switcher)
Control and Management		Front Panel WEB HDMI output + USB Mouse RS232/RS485 for console or central controller LAN
Video-live-broadcast and video-on-demand		RTSP standard data stream live RTMP standard data stream live TS multicast stream data push Local decoding preview playback
Network protocol		Support RTMP、 RTSP、 UDP、 TCP、 FTP、 DHCP、 HTTP
Update		By TCP/IP or RS232
Size		440mm × 270mm × 44mm
Weight		2kg
Operating temperature		-20°C ~ 60°C
Relative humidity		5% to 95%
Storage and transport temperature		-40°C ~ 80°C

Operating voltage	DC 12V
Operating Current	9.2A
Power	70W

2.Product interface description



Figure 1 Rear panel interface diagram

The rear panel interface is defined as follows:

SN	Interface	Instruction
1	DC-12V	Device power interface
2	USB3.0	Connect USB mouse, USB flash drive, mobile hard drive, etc.
3	NET	1000M network port for device networking
4	USB2.0	Connect USB mouse, USB flash drive, etc.
5	HDMI-OUT-2	HDMI signal output, output screen is the guide interface or PGM (software can be set)
6	HDMI-OUT-1	HDMI signal output, output screen is the guide interface or PGM (software can be set)
7	HDMI-IN-1-3	HDMI signal input, support 2/3 channels(depend on model) of 4K video signals simultaneously input
8	LINE IN/OUT	Audio input and output interface, IN means input, OUT means output
9	Monitor	3.5mm headphone monitor interface, monitor PGM channel sound
10	COM/Console	RS232/RS485 control serial port

3. Recorder debugging

1) Preparation before debugging

Before installing and debugging the recorder, please prepare the following:

- 1) The network cable and switch can also be connected to the Hub. It is recommended to use the switch

to keep the network flowing.

2) Power cable*1, HDMI cable*4, audio input and output cable (LINE-IN,MIC-IN, LINE-OUT, monitor headphones, etc.)

3) External HD display, one HDMI interface, resolution is 1920×1080.

4) Prepare a laptop and several HDMI camera cameras as input sources.

2) Debugged wire connection

1) Please connect the HDMI video signal cable, audio signal cable, network cable, RS232/RS485 control cable, power cable, USB mouse, etc. to the corresponding interfaces, and make the corresponding audio and video input and output connections.

2) After confirming that the recording host is properly connected to the power supply, then press the power switch of the navigation panel to start the recording host. After the device is powered on, it can wait for about 30 seconds to enter the navigation interface to manage the system.

Notice

The HDMI-OUT-2 interface outputs the system interface (guide interface) of the recorder. The user can connect the USB mouse and the keyboard to the recorder to perform corresponding operations. Live video (PGM1 or PGM2) output from the HDMI-OUT-1 interface. The recorder is a static IP and the IP address is 192.168.100.66.

4. Function and operation instructions



Main Screen

Main screen is including 5 modules: Monitor interface, Video channel, Camera control, Program, System configuration

- (1) Monitor Interface: program in film mode, preview or broadcasting (PGM、PGM2、PVW)
- (2) Video Channel: display the input video
- (3) Camera control: to control the camera manually
- (4) Program panel: functions for effects/scripts/logo/OSD information/Program mode
- (5) System configuration: All settings for recording, system and file management

The detailed function structure tree is shown in Figure 3 below.

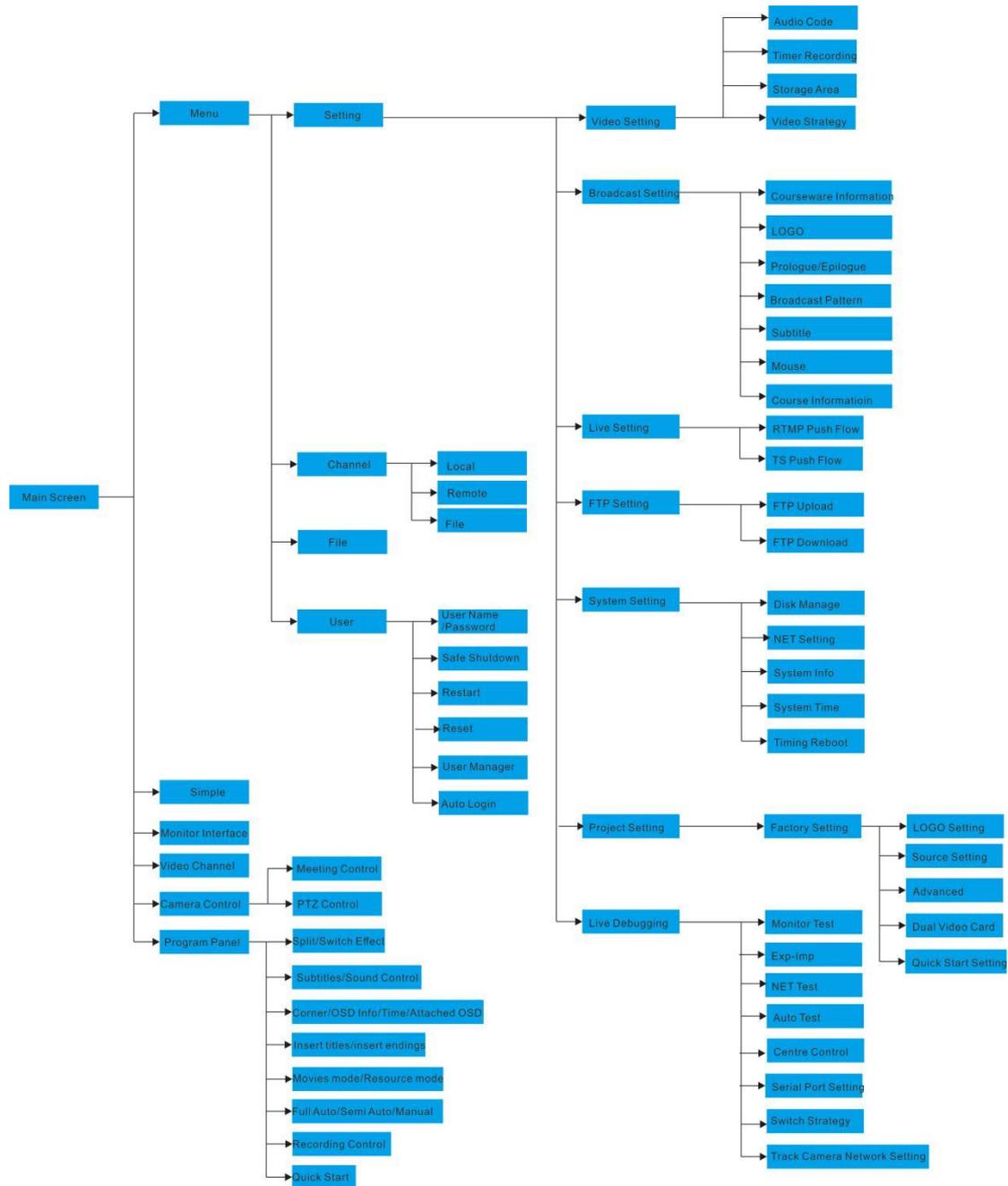


Figure 3 Function Structure

4.1 Main Screen

4.1.1 Power on

Press the power button on front panel to power on the system. The display connecting to HDMI OUT 1 and monitor on controller will show the booting logo. (The logo can be change by entering system setting - system

information - project setting)

4.1.2 System Interface

After around 20 seconds, you will see the main system interface.



Figure 9 Main Screen

4.2 Monitor Interface

Including:

- 1.PGM and PVW in Movie mode
2. PGM and PGM2 in Res mode
- 3.Audio Bar

PGM and PVW on Movie mode:



Figure10 PGM and PVW

PGM and PGM2 on Res mode :

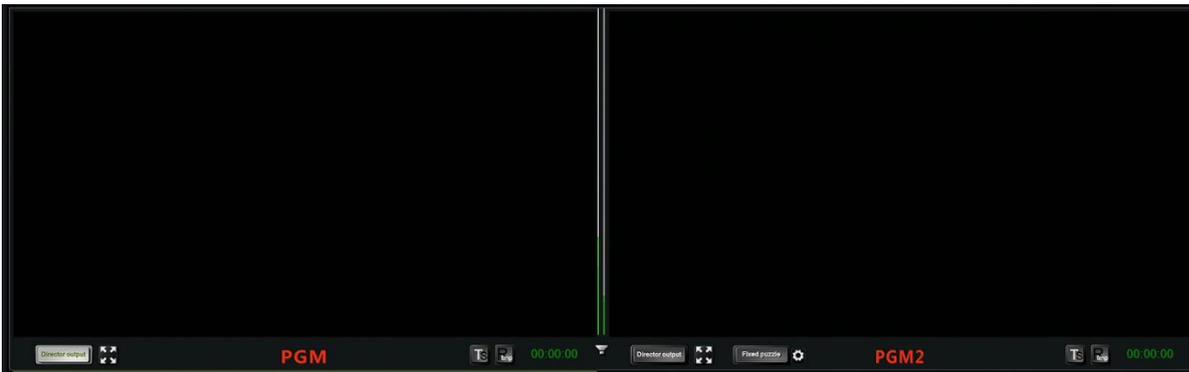


Figure11 PGM and PGM2

Description:

1. Both the Single-director mode and the Dual-director mode are movie modes. Both modes support the main picture overlay and combination:

Picture-in-picture, dialogue mode, 2/3/4/6 split screen. In the Single-director mode, the live picture **PGM** and the preview monitor **PVM** are included. In the dual-director mode, two live broadcasting video **PGM** and **PGM2** are included.

2. when the Single-director and Dual-director is in the **Full Auto** mode, only supports **PGM** channel image automatically switch. When directing under Dual-director mode and **Manual** mode, it could manually switch the output (device HDMI-OUT-1 output), HDMI-OUT-1 output video can be changed from **PGM** channel picture or **PGM2** channel picture, you need to manually select the button '**Director output**' on the lower left window.

3. In Single-director mode can select the video display by **PGM** or **PGM2**



4. The **Audio Bar** is located between the PGM channel and the PVW channel in the single-director mode, and between the PGM channel and the PGM2 channel in the dual-director mode, there are two small

audio bars. Audio bar is mainly reflected the volume of the audio input; the green wave will vary with the volume of the sound. Click the Menu 'Sound Control' can adjust the volume of input for recording and output to speaker system or HDMI out, also click on or mute the sound.



5. In the PGM and PGM2 mode, you can click the button to perform the following quick operation: **TS** multicast push, **RTMP** push, and start, pause, and end of recording. (Streaming Media Server IP or TS broadcasting address must be set in the setup before pushing the stream).  **TS** multicast push button,  **RTMP** push button,  start local video record,  pause button,  stop record button.

6. When working under **Semi Auto** or **Manual** mode, you double-click the preview PVW image, the image jumps to PGM and overwrites the previous one. For example, PVW preview is a 2-screen image, PGM is a 6-screen image, double-click the PVW channel, 2-screen image cut to PGM, the original 6-screen image is replaced. PVW and PGM, PGM2 are all support multi-screen combination. If working under **Full Auto**, you double-click the PVM screen, only make you get the full screen image..

Procedure: After selecting the PGM ,PGM2 or PVW channel, select the type of screen division, and then select the combined position of each channel in the video input channel.

7. In the single-director mode, PVW window has a '**Take**' button, it's hardware switch function, click the button '**Take**', the PVW channel image directly switch to the PGM channel. The system, provide 3 kinds of

action mode for options. You can select from system setting menu.  and last sub-menu. You get three options: 1, **Default**: the mouse activates the PVW or PGM channel, then double-click the channel to the corresponding resource channel; 2, **PGM**: double-click the resource channel to switch the video image directly to the PGM channel; 3, **PVW**: double-click the resource channel to switch the video image directly to the PVW channel, and then click the [take] button to switch the PVW channel image to PGM.

4.3 Input Channels

Video input channels, as following picture indicates

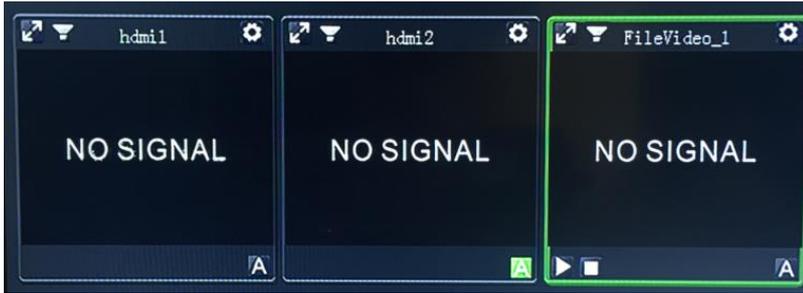


Figure12 Video input channel

Video input channel is divided into three parts: the **local video display channel**, **local playback channel** and **remote video display channel**.

Each recording and playback host can display video locally, such as PGM, PVW, PGM2, and Input channels, and can add remote recording image from **Conference Control** menu and display it in Input Channels, PGM and PVW channel.

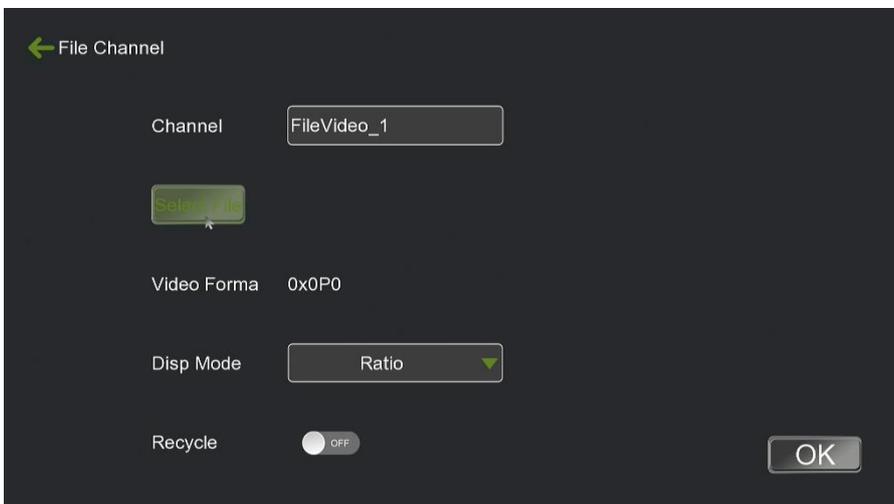
The first channel (display name:**HDMI1** on the channel)and second channel(**hdmi2**) is corresponding to the HDMI port 1 and port 2 of local recorder.(If model VIS-CRS03 and VIS-CRS05,then more HDMI inputs are available and so forth..) For example, We use the VIS-CRS02 as the conference recorder, its HDMI1 connect to the camera and HDMI2 connect to a PC of speaker. The third input channel display the local replay video. If you connect the remote conference recorder(like VIS-CRS02),the remote video will display at the fourth input channel. Each conference recorder can connect to several remote video channels. The remote image and sound can be transmitted together and also can be switch to PVM,PGM and PGM2 to push stream and recording etc. Multi-conference room communication ,two or more conference recorder need to be connected to the network

4.3.1 Input channels interface introduction

1. Full Screen---Each input channel display a full screen item ,click the item and get maximum image on the main screen.
2. Channel Name---The default channel name are hdmi1,hdmi2,hdmi3...(according to model),"FileVideo_1".The channel name can be changed from the channel setting  on each channel interface.
- 3.Camera Control---If the input channel is connected with PTZ camera. You need to enable the PTZ function from the channel setting . Select the option 'Enable' and you can control the camera from camera control interface under channel setting menu.

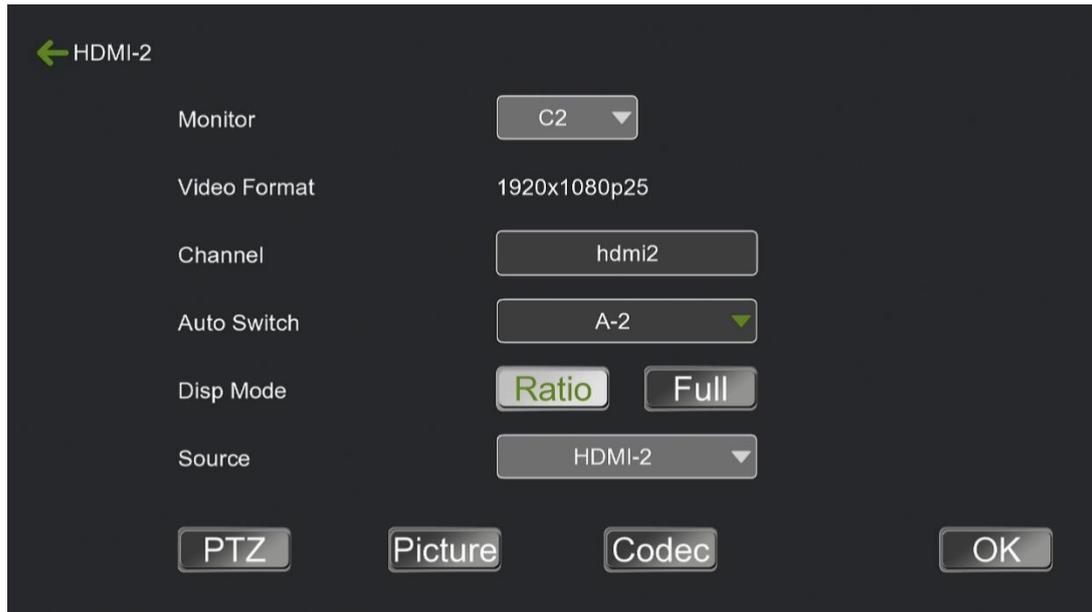


4. Local replay video---The input channel 3 names 'FileVideo_1' and is for replay the local video. Click  and into its channel setting. Click the 'Select File' to browse the hard disk or USB storage devices to select the video file "*.mp4", click 'apply' and 'OK'. Back to the input channel interface, click the  to play the video and  to stop playing. The local replay image also can be switch to the PGM channel to live broadcast.



4.3.2 Input Channel setting

There are a channel setting item  on each channel. By the channel setting, we can set the video parameter for current channel. The setting is included sub-menu, 'Channel', 'PTZ', 'Picture' and 'Codec'. as the bellowing,

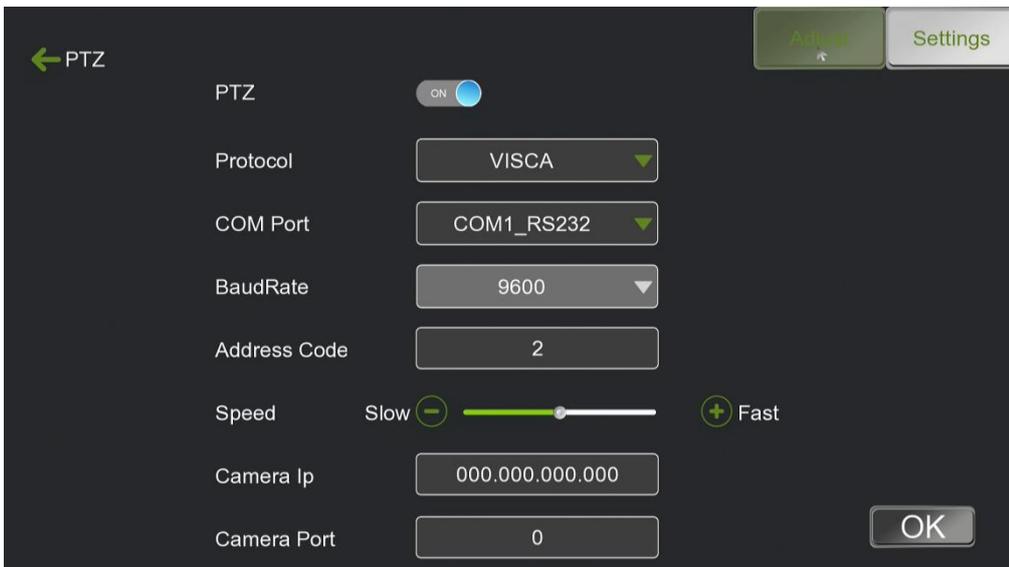


4.3.2 channel setting interface

4.3.2.1 Channel

1. **Monitor**—the default channel number
 2. **Video Format**—Display the current video format and it can be changed under Codec submenu.
 3. **Channel**—The name of current channel and can be changed the name according to the source for easily identification.
 4. **Auto Switch**---Select the Auto Switch ID for the current channel and it work with the switch strategy.
 5. **Disp Mode**---Provide the ratio and full screen. If the video from the current input channel can't display full screen on PGM. You can change the display mode setting.
 6. **Source**—Corresponding to the hardware input number.
-

4.3.2.1 PTZ



1. **Enable PTZ**---to enable the camera control function
 2. **Protocol**--Support VISCA, PELCO-P, PELCO-D protocol
 3. **COM**--The interface for PTZ camera or camera tracking controller connect to conference recorder, support RS485 and RS232, corresponding the RJ45 port.
 4. **Baud Rate**---support 2400/4800/9600 and set it according to the specification of the camera.
 5. **Address Code**-- The address code should be the same as the camera setting.
 6. **Speed**---Set the speed of camera turning.
 7. **Preset**--You can select the 1 to 8 preset and extreme closeup, closeup, close-range, mid-range, perspective. The preset of extreme closeup is 11, closeup is 12, close-range 13, mid-range
-

13,perspective is 14. The user just select the preset, adjust the camera to the needed position and save the preset. When operating, we just select the preset.

8.PTZ operation--Click the button▲, ▼, ◀, ▶ to turn the cameras. Zoom +,- to change the zoom big and zoom small. Focus +,- to focus the close or remote items.

Iris +,- to adjust the Iris size.

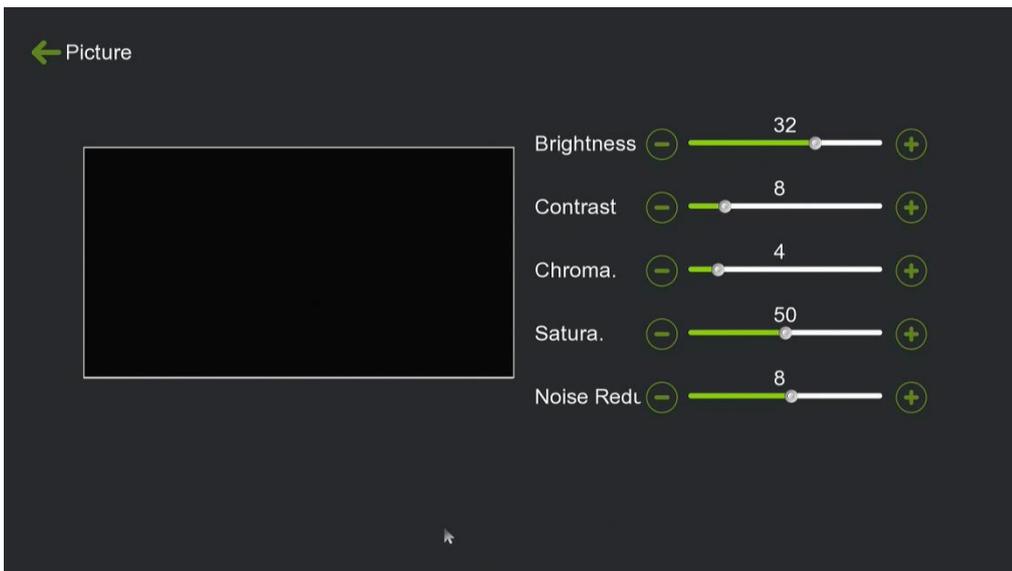
Note: 1.The connection of camera to recorder or camera tracking controller to recorder must be corrective.

2.The setting of camera protocol, baud rate, address code input channel under channel input need to be the same as camera.

3.Only under the Manual mode, the setting of PTZ on channel PTZ setting or main screen PTZ setting are valid.

4. Selecting the 'Enable PTZ' on setting of input channel is a must to operate the PTZ setting on main screen

4.3.2.3 Picture



The setting include the brightness, contract, chroma, Satura ,noise reduction. The video quality is mainly dependent on the specification of camera. Normally, it is no need to adjust the parameters.

4.3.2.4 Codec

Resolution	1920x1080	Quality	0
Encode Method	H.264	FPS	25
Rate Control	CBR	GOP	30
Rate	4000	Profile	High

1.Resolution: Major Code:1920*1080、1600*900、1280*720、960*540 etc; Sub stream:960*540、640*360、480*270、720*576、352*288.

Note :

Under resource mode,the multi stream and multi screen,the channel recording are setted as these resolution and code rate.

2.code format: H.264

3.Code Rate: adjustable range 50Kbps~40Mbps, default main stream rate is 4000Kbps,sub stream code rate:400Kbps

4.Picture quality level: 0 to 5 ,0 level is the best.

5.Frame rate:10 to 60 frame, default set is 25 frame.

6.GOP: time settable ,default is 30s.

4.4 Camera control

PTZ control function is the same as channel settings . The ▲, ▼, ◀, ▶ is to control the direction, "+" And "-" are zoom in and zoom out function keys, and the focus "+" and "-" buttons are Focusing on distant objects or close objects. [Aperture] "+", "-" is adjust large aperture or the small aperture.

In the channel PTZ setting, you can set the preset position of 1-8, then you can recall the position and switching them.



Figure 17 Camera control

4.5 Meeting Group Control(MGT Control)

The local conference recorder connect to the remote recorder and get the remote audio/video to add to the local input channel .and display on the local screen.

Application example, 1 conference room as the main conference room and other conference room connect to the main conference room and get the audio/video from main conference room.

NOTE: All the recorders should be under the same local area network.



Click the MTG Control



Get the interface as

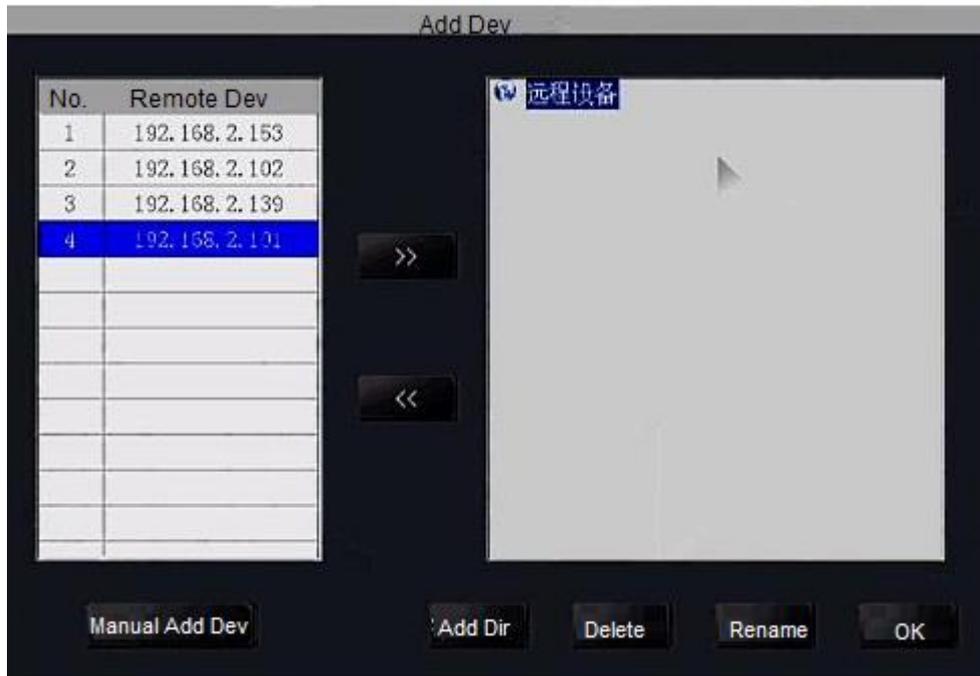


Figure 18 MTG control-add the recorder(Auto searching result of local area network)

As above picture, when there are 4 recorders are under the same local area network, click the button "add dev", the left menu will display the IP of remote recorders. You also add the recorder from outside of local network(internet) by 'Manual Add Dev' button. The remote (internet) recorder need to be mapped its IP to internet by setting the router, and the mapping port no. is 10060. Click the button  to add the remote recorders to right menu and select the channel to display on the local recorder, as bellowing picture,

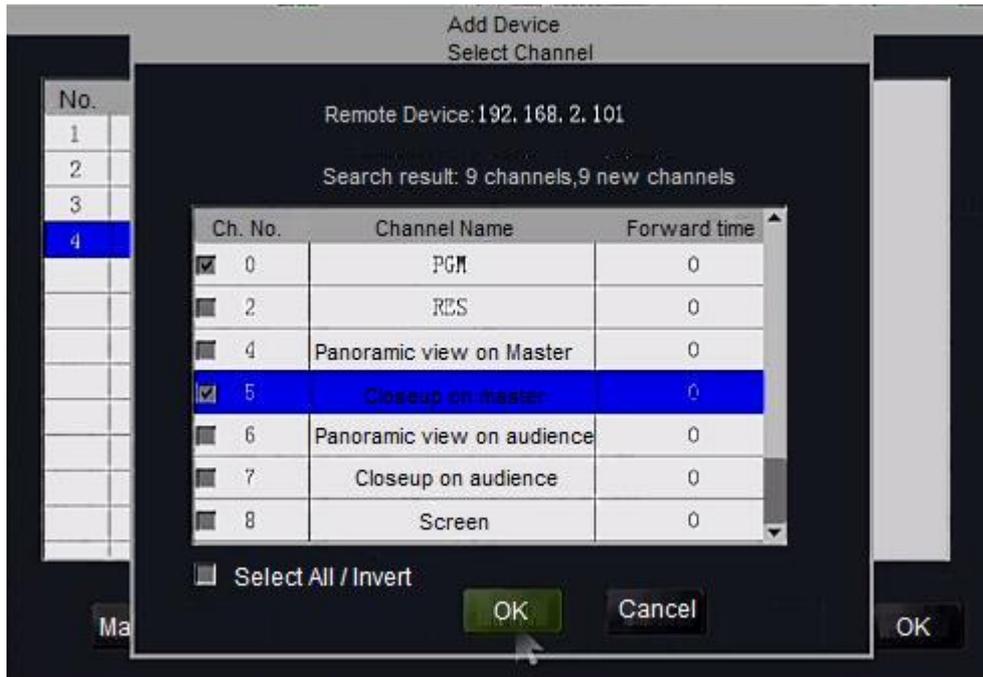


Figure 19 Select the channel from remote recorder

After select the channel from remote recorder, return the main menu. You can select to open all channels or single channel by the menu, the remote channels will display on the input channels of local recorder.

Note--The remote channels will be display on the next page of input channels.



Figure 20 Remote channel display

As above picture, the remote channels are display on the channel no.8 and no.9 on the second page. You also can control the audio on the remote channel as the figure 20.If the audio option 'Default' is on and keep audio output of local recorder is on, you get listen the remote audio by connecting speaker. If the audio option 'PGM' or 'RES' is active on the remote channel, the remote audio of PGM channel or PGM2 channel can be transmitted to local recorder.

4.6 Director function

4.6.1 Interface



Figure 21 Interface

Description:

Director function interface: 1, split screen / switching effects; 2, subtitles / voice control; 3, angle standard / OSD information / time / additional OSD; 4, the unit working status; 5, insert titles / credits; 6, the single-director and dual-director; 7, automatic / semi-automatic / manual guided mode switch; 8, open interactive; 9, one-key to open and other functions.

4.6.2 Split-screen Processing



Figure 22 Split-screen Processing

Introduction:

1) **Split-screen Processing**-as the figure 22,the PGM,PVW and PGM2 can select the types of *split-screen* to display. Split-screen modes provide 12 types as single screen,two screen PIP, two screen on corner, three screens, quad screen, 6 screens and U1/U2/U3(customized mode).

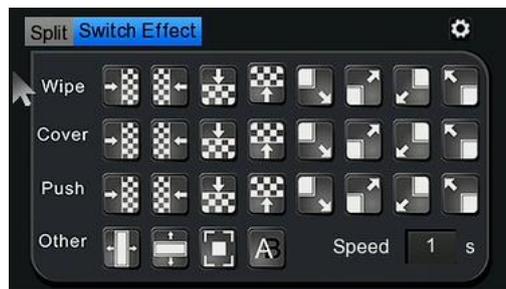


Figure 23 Switch Effect

2) **Switch effects**-As shown in Figure 23, the director of switching effects. According to the type is divided into: 1, erase wipe; 2, cover; 3, slide into the push; 4, other (blinds, dissolved, fade). Erase, overwrite, slide-in, and so on, each of which supports 8 different direction switching effects: up, down, left and right, and four diagonal directions. Speed is the switching speed, the greater the value the slower the speed.

4.6.3 Subtitle and sound

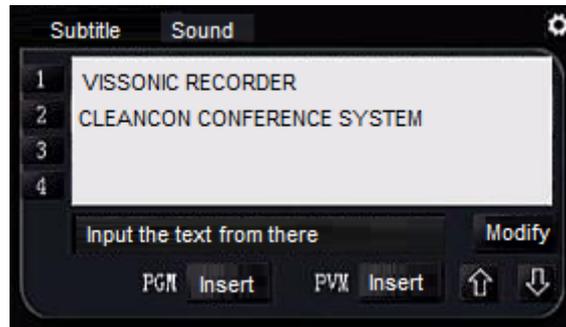


Figure 24 Insert Subtitle

Introduction:

1)Subtitle- As shown in Figure 24, in the top right corner of the subtitles settings , we can firstly edit the text and generate subtitle list, and can pre-set the font capitalization, background color, font color, soft subtitles, hard subtitles and so on. In the subtitle list, select the subtitles to be released, click "PVW Insert", you can publish text to the PVW screen for subtitles preview. When there is no problem, click "PGM Insert" to publish to the PGM Live screen. When the subtitle is inserted into the screen, the button will change to "Cancel". Click on the corresponding "PGM Cancel" and "PVW Cancel" to clear the subtitles from the PGM and PVW. Subtitles Only one line can be displayed on the PGM / PVW, and the subtitles will be replaced with the previously released subtitles.



Figure 25 Sound control

2)Sound- Adjusting MIC (audio input) /Vol(audio output) can control the volume of input and output. Click on/off item  to on/off the sound of under PGM streaming status, PGM recording status, PGM2 streaming status and PGM2 recording status.

4.6.4 logo/OSD information/time setting/additional OSD



Figure 26 Corner LOGO

Introduction

1) Corner LOGO- The insertion of the corner LOGO is divided into PGM / PVW insertion in the single-conduction mode and PGM2 insertion in the dual-conduction mode. As shown in Figure 26, the maximum number of supported logo inserts for the PGM and PVW or PGM2 channels is eight. The four buttons "1", "2", "3", and "4" correspond to the upper left, upper right, lower left and lower right corners respectively. 5-8 The default position of the button is the same as above. You can change the insertion position of the logo file in the upper right corner of the setting icon . You can also customize the image of the angle marking here. The standard picture format is png, the best The resolution image size of the effect image is 200 * 100.



Figure 27 OSD information

2)OSD Information-OSD information is mainly conference information or other recording information. For example, the user can customize the course name, class teacher name, class specific time. The OSD information is inserted into the corresponding interface and displayed in the lower right of the screen. Same as the corner LOGO setting, in the settings on the font capitalization, font color, display background color, etc. to modify the adjustment and if the application is not for classroom, but for conference room. You can change the OSD template.



Figure 28 Time setting

3)Time setting-As shown in Fig. 28, the real-time time can be inserted in the PGM, PVW, and PGM2 channels in the single-conduction mode and the dual-conduction mode, respectively. When the user feels that the previous OSD information is inserted and cannot fully meet the requirements, in the additional OSD custom information loaded into the video channel.

4.6.5 Insert titles/Insert endings

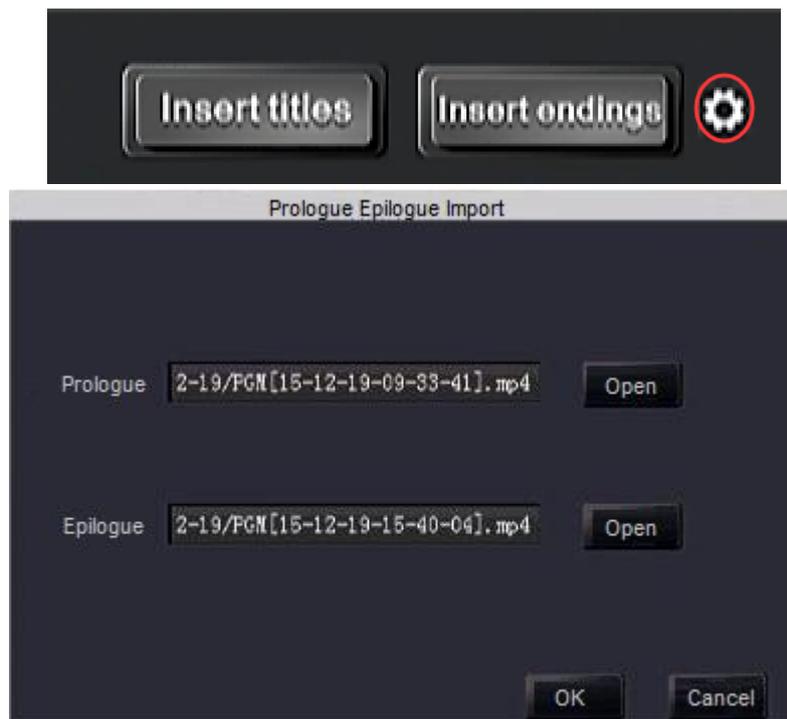


Figure 30 Prologue & Epilogue setting

Choose the path of the video file, the format must be mp4 format, video files can be local hard disk video, can also be an external U disk / mobile hard disk files. Select the path to save the application back to the interface, point insert titles, the PGM live screen will play the selected video titles. When the end of the live broadcast, insert the epilogue file to play on PGM live video screen.

4.6.6 Full Auto/Semi Auto/Manual direction



Figure 31 Manual Direction

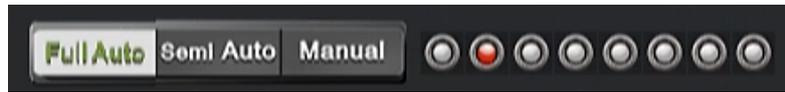


Figure 32 Full Auto Direction

As shown in Figs.31 Manual guide As the name suggests is manual to switch the live screen, the user can manually guide the state of the PTZ camera and PTZ operation. When the user switches the image, when the mouse double-clicks the PVW image, the original image in the PGM will be replaced with the PVW channel image. Users can also manually set the PGM screen, mouse select PGM channel, and then select the screen segmentation type, in the video channel and then select the corresponding channel for each channel segmentation position.

When the automatic direction is switched to manual directing, the recording and broadcasting will automatically send the stop tracking command to the tracking host. Similarly, the manual guide to switch to the automatic guide is directed, recording and broadcasting will automatically send a tracking command to the tracking host. Note: The auto-tracking command code must correspond to the tracking of the tracking camera or the tracking master. The automatic tracking command code for recording and playing is modified in the recording setup



->Live Debugging->Auto-Track->Strategy Type(Action).

Automatic direct broadcast is the recording and broadcasting host according to the switching strategy to automatically switch live images, automatic guided PTZ camera cannot be operated manually. Click "Full Auto" button, there are displaying ABCDEFGH 8-channel video channel signal icon. The red state is on behalf of the trigger switch and B icon is always on state.

Automatic Direction- The auto tracking host work on tracking, users can not manually switch PGM channel image and operate PTZ control;

Semi-automatic direction: The auto tracking host work on tracking, users can manually switch PGM channel image.

Manual direction: The auto tracking host stop tracking and the user manually switch PGM channel images and operate PTZ control.

4.7 System function



Figure 33 System Function

The system function consist of 6 parts,

1. Recording Control
2. Interact button
3. Quick Start;
4. Simple

5.System Setting;

6.Recorded file management

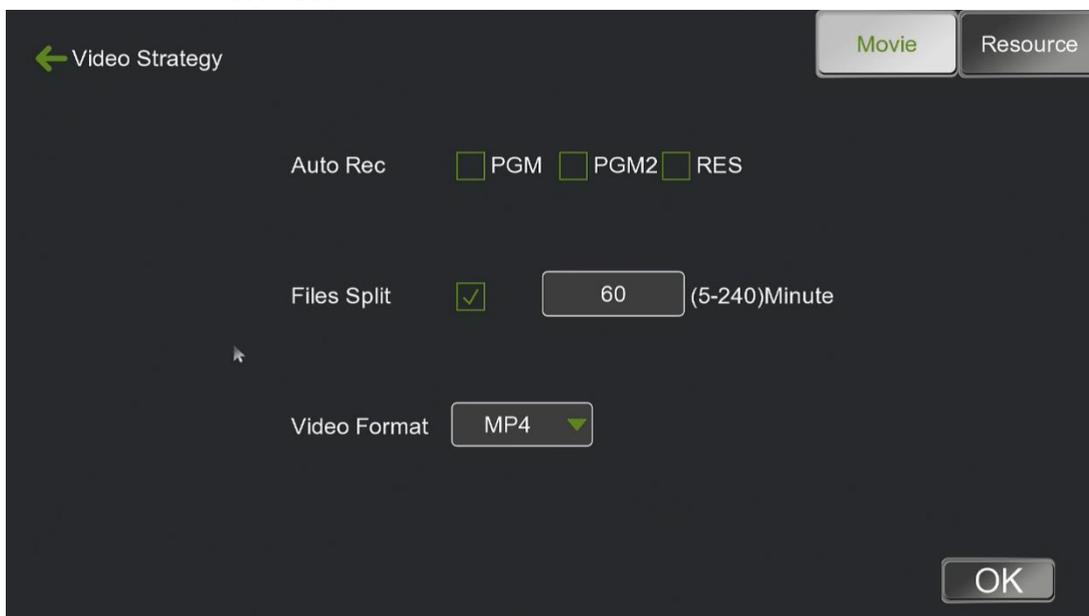
4.7.1 Recording control



From the left to right is

1. Start recording
2. Pause recording
3. Stop recording
4. Recording time
5. Recording setting

Movie

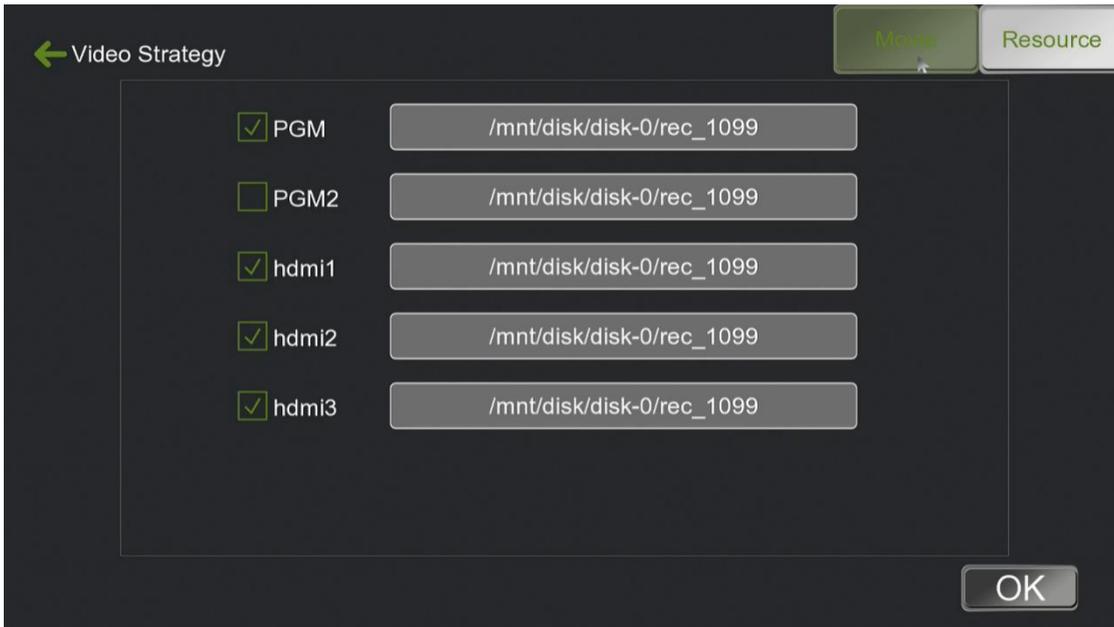


Auto Rec----Select the auto recording channel after switching on the recorder

Files Split----Select the recording time for each file.

Video Format---Default MP4.

Resource



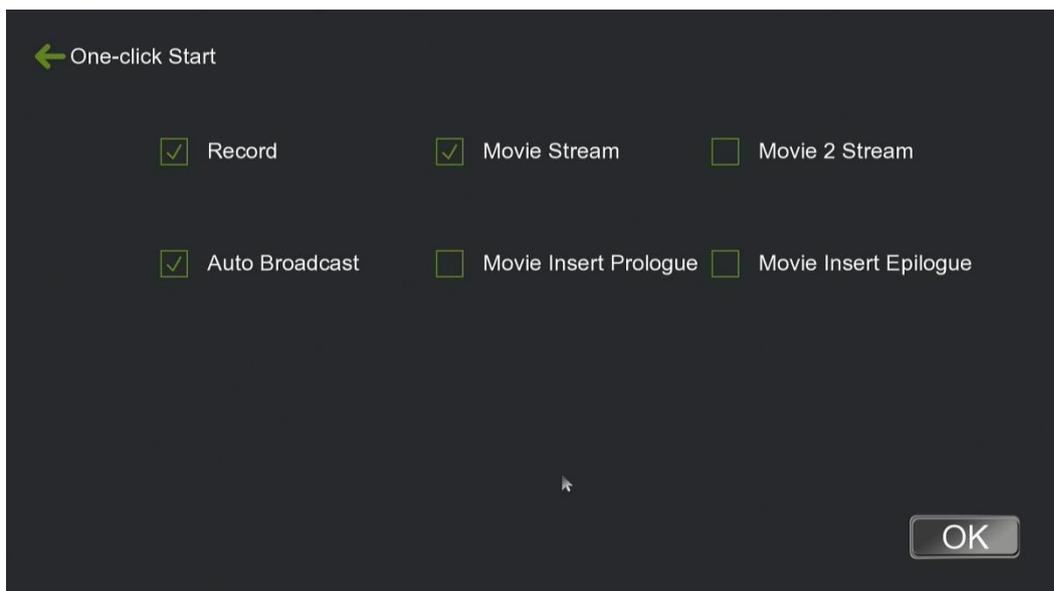
Select the channels for recording, default setting is to select the PGM and all input channels for recording.

4.7.2 Interact button

Interact button is launch the MTC Control with another recorder terminal.

4.7.3 Quick Start

The Quick Start is a shortcut button and set the corresponding parameters at system setting→Settings→Project Setting→Factory setting→Quick Start Setting, You can select bellowing action for the Quick Start button.



4.7.4 Simple



It is the simple interface for the end user to operate the system and reduce the setting buttons.

4.7.5 System Setting;

The system settings include 4 main menu, such as Channel, Setting, File and User as bellowing figure 34.

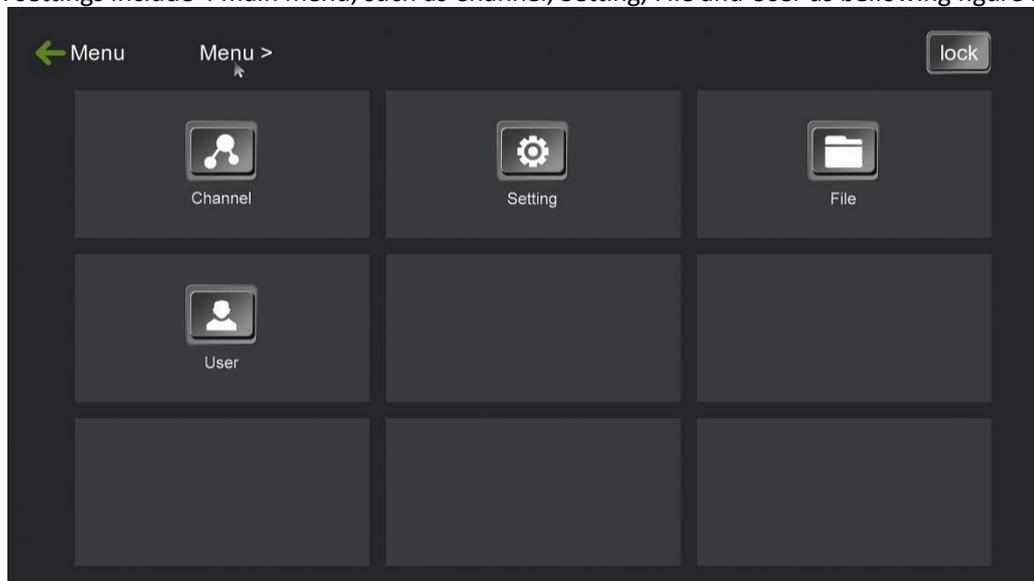
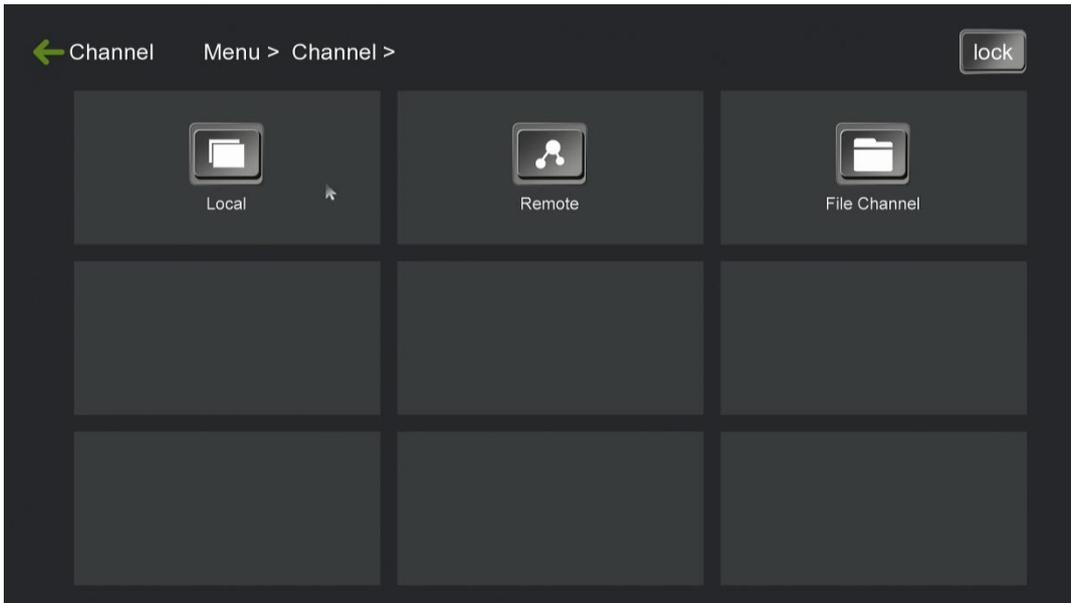


Figure 34 System Setting

4.7.5.1 Channel



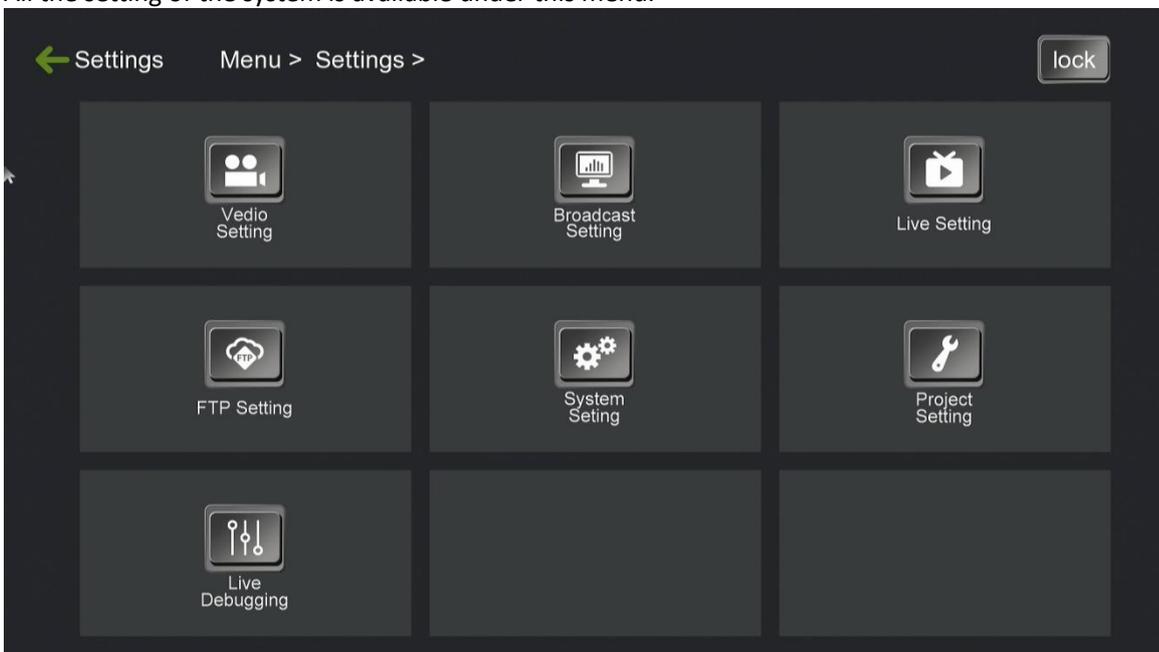
Local---PGM,PGM2,HDMI1, HDMI2.....HDMI5 channel

Remote---Remote interact channel

File Channel---local video play channel

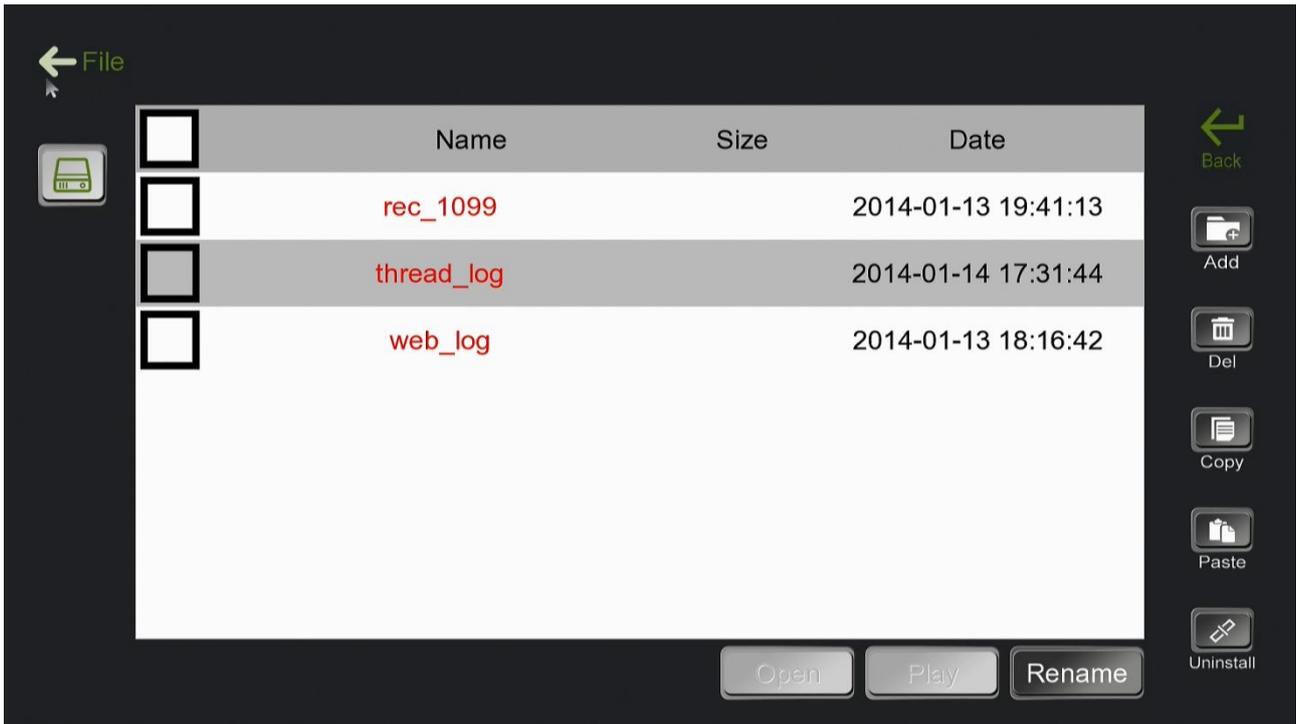
4.7.5.2 Settings

All the setting of the system is available under this menu.



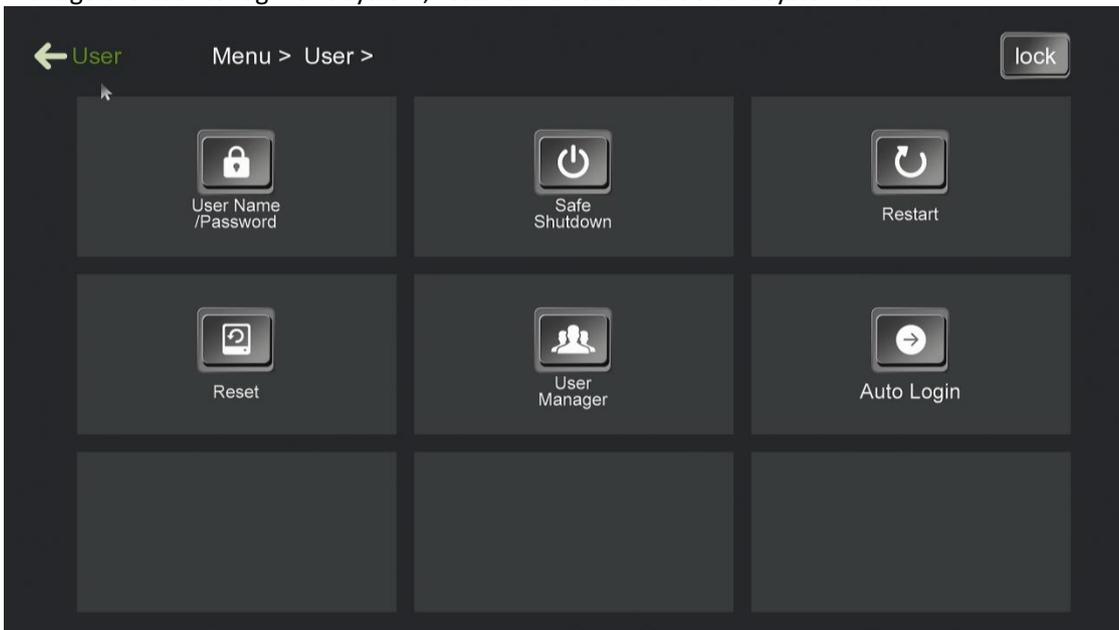
4.7.5.3 File

Manage the recorded file on the hard or copy to the USB.

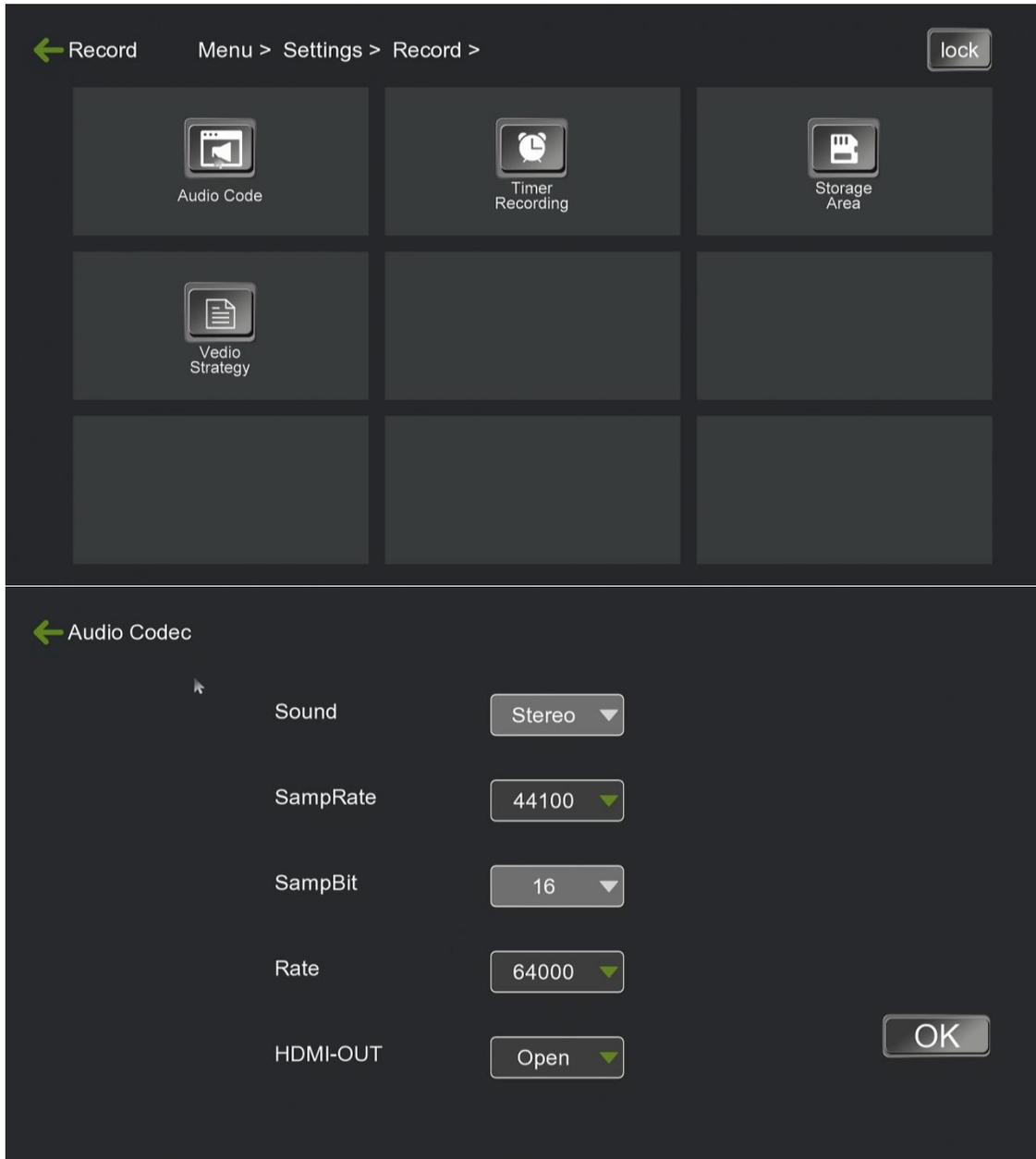


4.7.5.4 User

Manage the user to login this system, restart and reset the default system etc.



4.7.5.5 Settings→Vedio Setting→Audio Code



You can select the audio Codec parameter.

HDMI-OUT is the option to select on or off the sound for the HDMI output. If the audio source is microphone and HDMI out connected to a display with speaker, it is better to select OFF to avoid howling.

4.7.5.6 Settings→Live Setting→RTMP Push Flow

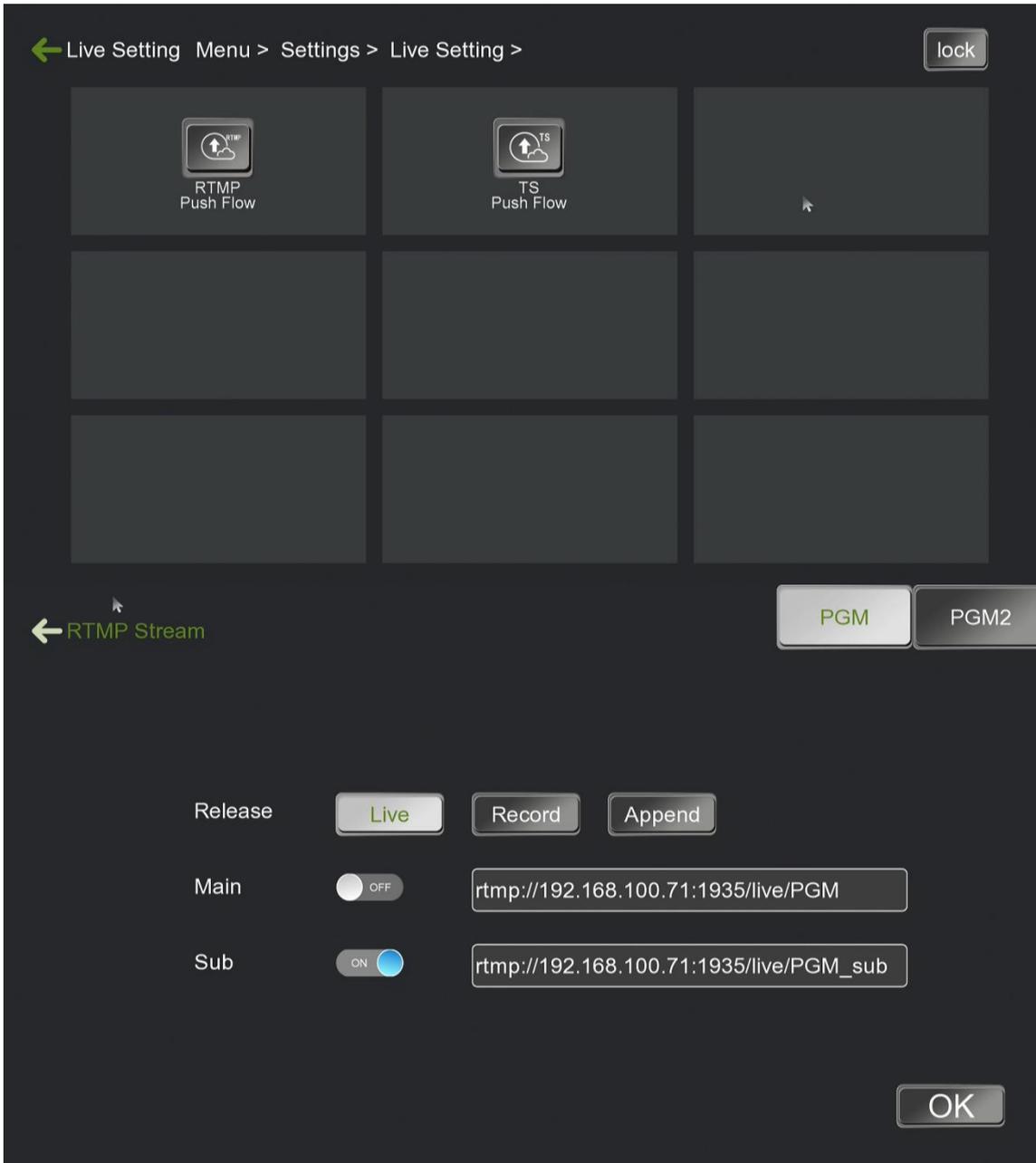


Figure 39 RTMP Pushing Stream Setting

Streaming Operation Flow: Under 'RTMP' menu to set Stream Address→ Under 'LOCAL→PGM→Codec→Major code/Sub code ' menu to adjust the corresponding stream size → Under Movie mode on PGM channel or PGM2 channel to click the RTMP Push button→ View in the main interface ,under the State menu will show 'Live' status (push the flow of the successful display of red "live") → Open browser and input the live broadcast address to watch live video.

4.5.7.7 Settings→Live Setting→TS Stream

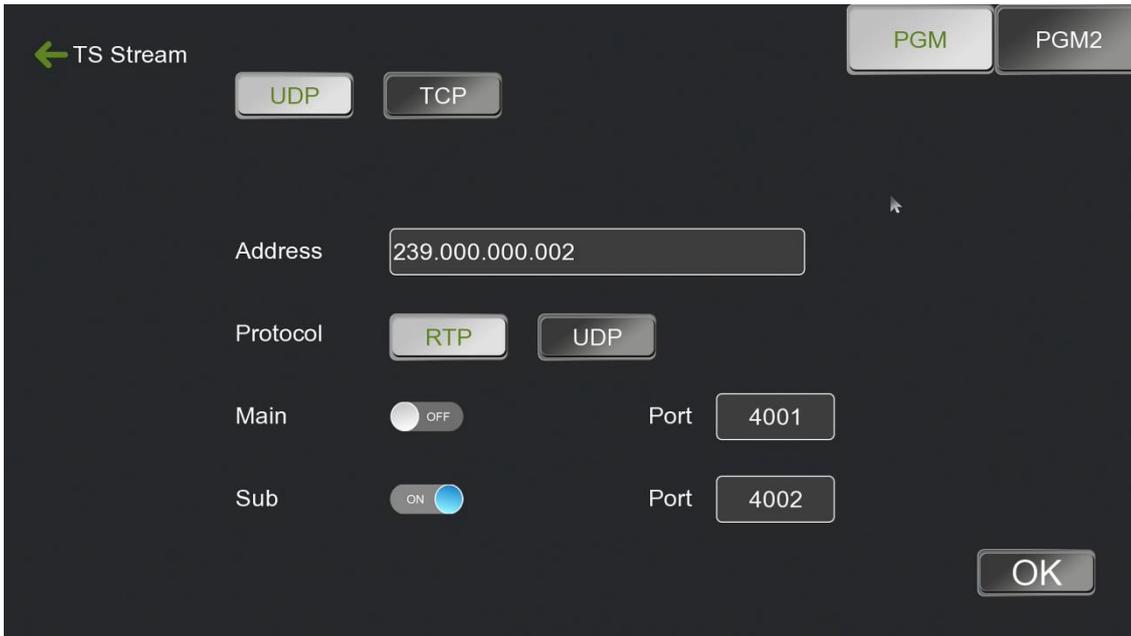


Figure 48 TS Stream

As shown in Figure 48, the recorder supports TS unicast and multicast streaming. TS streaming only support to watch live in the LAN. It is no need to install RTMP streaming media server software on the local PC and only use the commonly player which can support network streaming viewing (such as VLC, Storm, Thunder player, etc.). Entering the fixed Format address to view broadcasting from the recorders under LAN.

TS Unicast uses the TCP network protocol, and the user requests to start pushing the video live stream. Operation method: 1, check the need to push the code stream (the main stream or sub-stream); 2, set port no.; 3, return to the main interface, click the **TS** button in the PGM channel to start streaming; 4, open the network player in the network to enter a fixed format "tcp: / / recorder IP: Streaming port" to open and watch the live screen.

TS multicast using UDP network protocol, no user request (open the player to watch), just tick the corresponding code stream and port number, click the TS button to open the real-time streaming. The setting of UDP is the same as the above Unicast, and the multicast address is the default multicast address: 239.0.0.2. Open the network stream in the player and input fixed format "rtp: //239.0.0.2: stream port no." and watch the live video.

Note: The difference between multicast and unicast: Unicast is a request to start steaming by user. The user's player is connected to recorder, so unicast support a limited number of live viewing at the same time. Multicast use must be in the local area network environment of the router, the general router default multicast IP is 239.0.0.2. Set up multicast stream, the recorder will always push the video stream to the multicast address. The user connect to a multicast address and obtain a video stream. Multicast supports 253 clients to view live broadcasts simultaneously.

4.5.7.8 Settings→Live debugging→Auto switch



Figure 42 Auto tracking Strategy-Action Strategy

As shown in Figure 42, recording and tracking in accordance with the type of code can be divided into action strategies and state policies.

1, The action strategy is not the end of an action code, but directly the beginning of the next action code. The tracking system send the codes to the recording unit to switch a channel. Each time The tracking system send a command code to record unit and the record unit receive and tack action to switch. During the switching, there are no the transition effects and effects of the combination of the screen, directly switching the channel to the PGM live channel.

Note-Selecting the action strategy, conference recorder does not call switching strategy.

2 The state strategy is to include an action start code and end code. For example, the tracking system detects the audience area with action, according to the corresponding class scene, will send audience close-up alarm start code to the recording host which will receive command and will automatically query [switching strategy] menu in the strategy table, getting the appropriate signal state to switch. During the switching, some of the effects of switching and screen combination effects will display. After receiving the audience 's close-up command code, the full view of audience will be switched to the PGM channel after 3 seconds, and the close-up of audience will be switched to the PGM channel after the lens of camera is stretched ready. When the audience ask the questions finished, the tracking host will detect the audience area alarm signal disappears and send the student close-up alarming end code to the recorder unit. After receiving the command code, the recorder unit will automatically switch back to the previous action.

3.Action Strategy

- ① fully automatic / manual / semi-automatic,A1~A5 (different models with quantity of HDMI1~HDMI5 input) are selected 'COM or Network'.
- ② If recorder is COM2 to tracking system, communication signal using RS232, then select COM here.
- ③ Automatic / manual / semi-automatic serial port number to fill in the corresponding command code to camera auto-tracking main unit(It is connected to VIS-DCP2000 conference main unit with auto-tracking function under VISSONIC conference system) to achieve these three modes.

Auto	COM	FF 00 00 00 00 01
Manual	COM	FF 00 00 00 00 02
Half Auto	COM	FF 00 00 00 00 03

a. Clicking button 'Full Auto' on the main interface of recorder; and the recorder send the full auto commands(as you filled) to camera auto-tracking controller(VIS-DCP2000), and receiving the codes, the camera auto-tracking controller start to control the camera to tracking the positions.

clicking button 'Manual' on the main interface of recorder; and the recorder send the stop tracking commands(as you filled) to camera auto-tracking controller(VIS-DCP2000), and receiving the codes, the camera auto-tracking controller stop tracking the positions.

c. Clicking button 'Semi Auto' on the main interface of recorder; and the recorder send the semi auto commands(as you filled) to camera auto-tracking controller(VIS-DCP2000), and the recorder will not response and execute any commands from camera auto-tracking controller(VIS-DCP2000);the camera auto-tracking controller(VIS-DCP2000)is still working and control the camera to tracking the position. The user can switch the input channel video to PGM by manual.

④ **A1~A5**(HDMI1~HDMI-5according to models),the commands filled should be corresponding the camera auto-tracking controller commands, and the HDMI1~5 port should be connected as the commands. For example, we need to switch to HDMI1 for tracking the president position, and then the camera controller should send the command(switching the HDMI1 to PGM) to recorders unit and the delay time is default as 0s.You also can set the delay according to your camera specification.

A-1	Network	FF 11 11	Delay	0
A-2	COM	FF 22 22	Delay	0

4.State Strategy Introduction--Only apply to the classroom application.

4.5.7.9 Menu→Setting→Video Setting→Timer recording

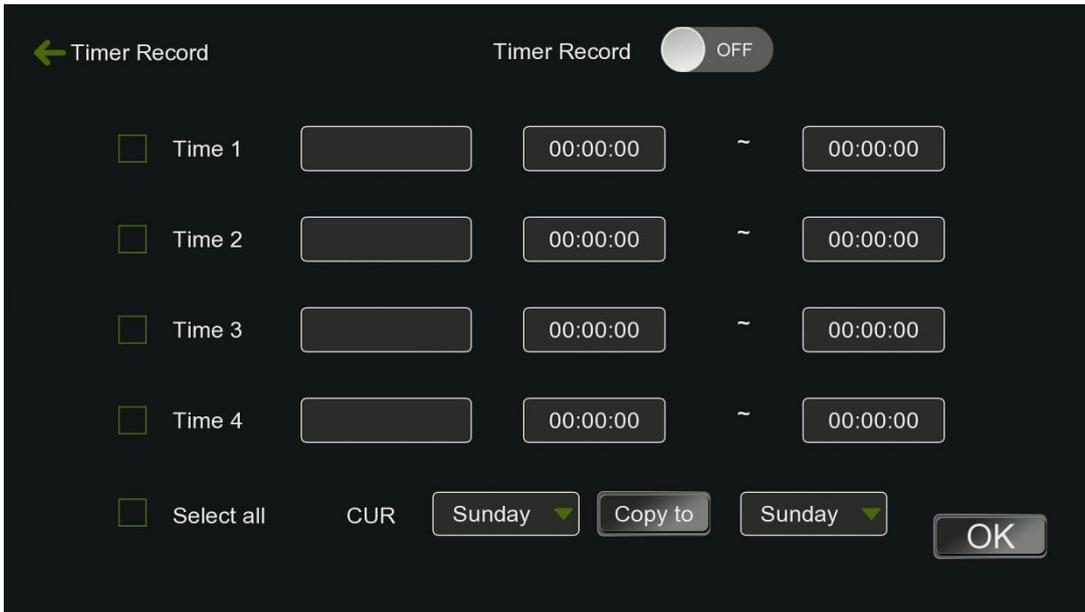


Figure 49 Timer Recording

As shown in Figure 49, the recording and playback system supports the timer recording function. Users can set the time recording parameters of ten time periods here and copy the parameters of this day to any day of the week. You can record the video recording according to the set channel.

Note: The parameters must be set to copy to a specific date, or time recording can't be properly turned on.

4.5.7.10 Menu→Setting→Live Debugging→Track Camera Network Setting

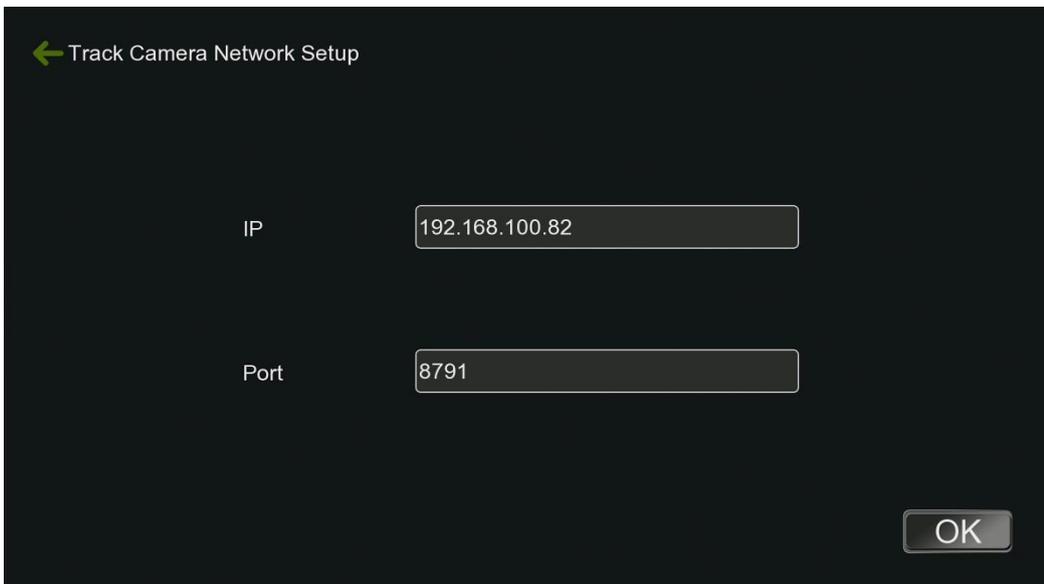


Figure 50 Track Camera Network Setting

As shown in Figure 50, the tracing host can connect to the recording host without hardware (RS232 or RS485). The recording and broadcasting host supports the network to receive and send the command code, eliminating the need for wiring and facilitating users to quickly deploy and maintain the update. Users can fill in this menu to

track the host IP and listening port.

Note: 1, tracking the host network and recording and broadcasting the same network segment; 2, tracking host also need to set the corresponding settings in the IP address and monitor the host port (recording and broadcast default port 9999).

4.5.7.11 Menu→Setting→Broadcast Setting→Mouse Strategy

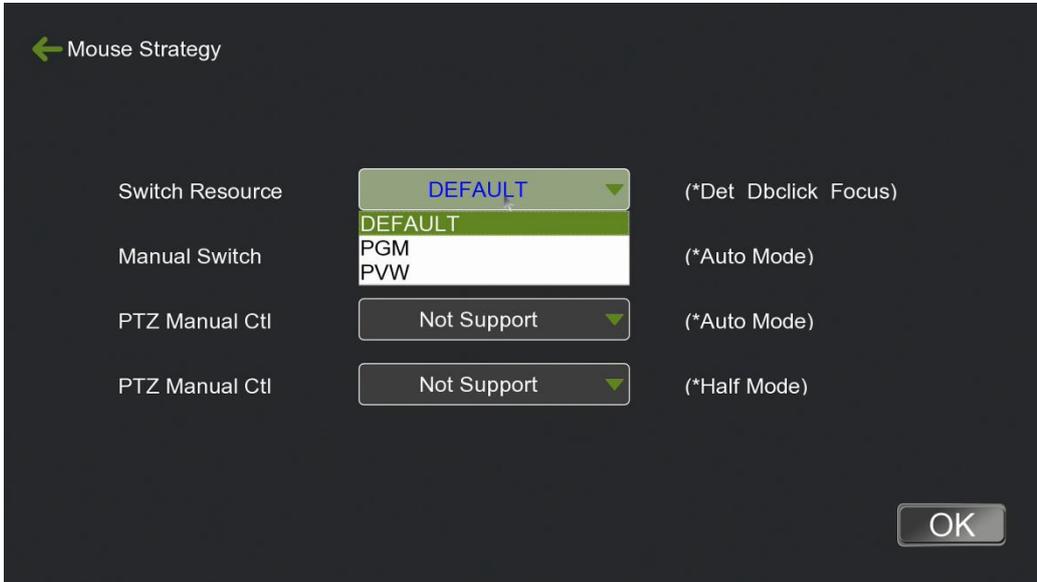


Figure 51 Mouse Strategy

As shown in Figure 51, the Instruct Switch Settings menu is one of three ways to set up resource channel switching:

- 1, the default DEFAULT, that is, the mouse click to activate PGM / PGM2 / PVW, then double-click one of resource channels and then the resource channel image switch to the active window.
- 2, PGM: The resource channel switches to PGM. The mouse does not need to activate the PGM channel before and double-click the resource channel directly to switch the image to the PGM channel. This method quickly switches the resource image to PGM without PVW pre-monitoring.
- 3, PVW: The resource channel is switched to PVW. Double click on the resource channel to switch the image to PVW, confirm it is correct, then double click PVW or click [Take] button in PVW channel to switch to PGM.

4.5.7.12 Menu→Setting→FTP Setting

The recorder support video upload/download by FTP, LAN users only need to know the recorder IP and input ftp: // **recorder IP** in the browser to log into the folder of recorder for downloading video, no need to download by U disk.

Users can click the FTP Upload Menu to set the server address port, Name Password etc. setting to upload the recorded files to the server.

Figure 57 FTP Upload Setting

Users can click the FTP Download Menu to set the name and password for the user to download the file from the recorder.

FTP Download Setting

FTP default password is empty, just fill in the [new password] and [confirm password] two columns.

4.7.6 System Setting

System setting is included 1. User management;2.COM Set;3.Disk;4.Network;5.Net Test;6.Graphics;7.Controller setting;8.System information

4.7.6.1 User management

User management interface to set the main user permissions, add new users, and modify the user password . At present, the software interface can be operated without login, and the user management function is temporarily turned off.

4.7.6.2 Menu→Setting→System Setting→Serial Port Setting

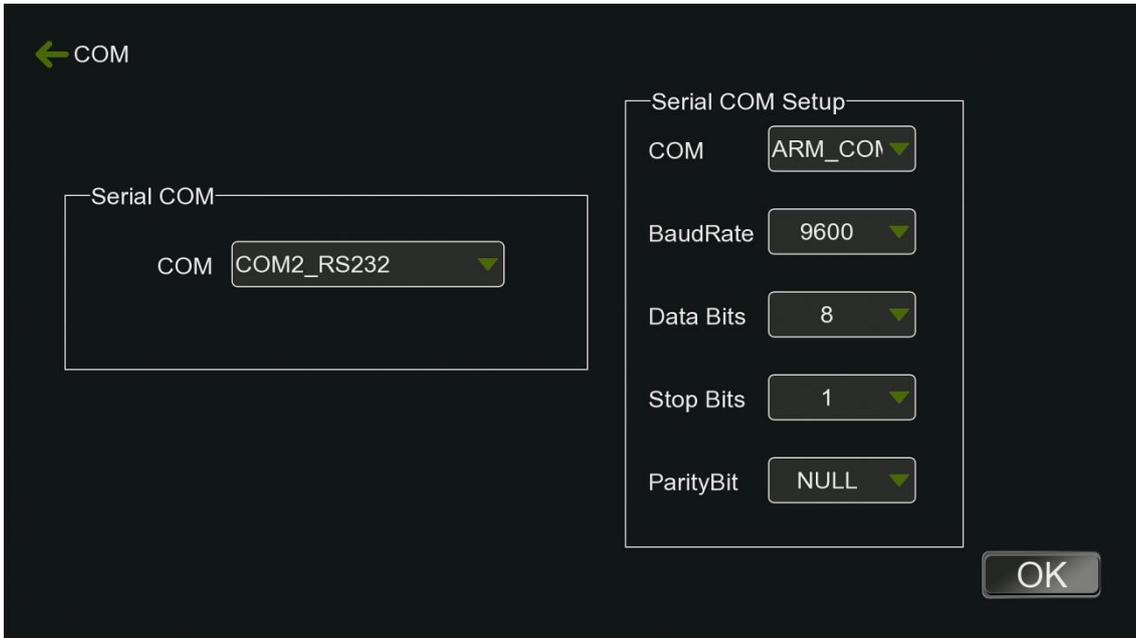


Figure 54 Serial Port Setting

Description:

As shown in Figure 54 , the serial settings menu can be configured to return code to consoler.

It is must to select the corrective COM port no. which is connected to the consoler and the recorder will send out the return code to the consoler for lighting up the indicator. The consoler should support this feature.

4.7.6.3 Menu→Setting→System Setting→Disk Manage

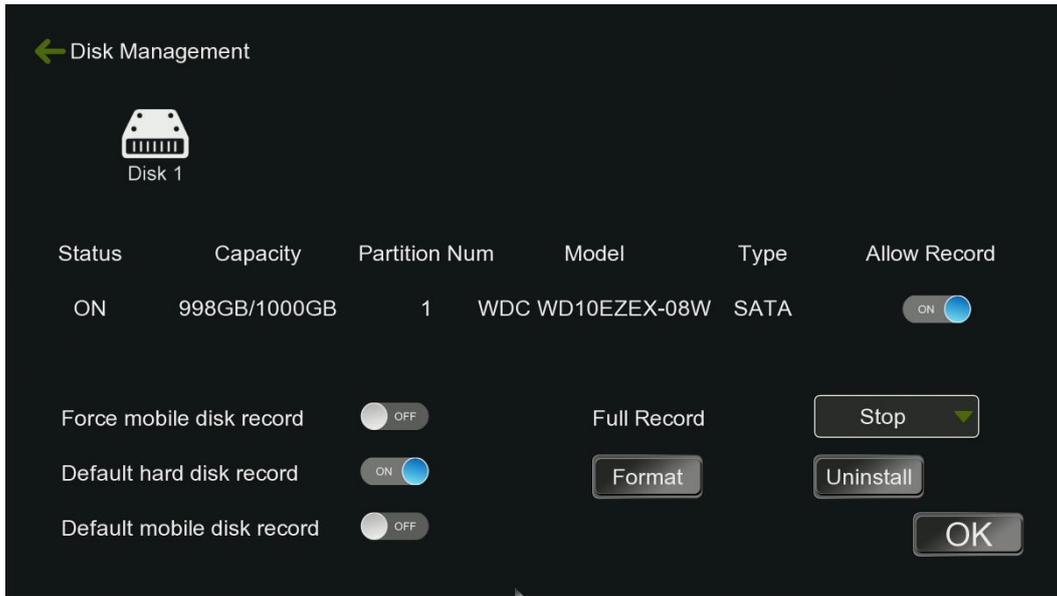


Figure 56 Disk Management

Description

In the disk list, the user can format the disk and soft unload operation. The list clearly reflects the type of disk is USB external storage or host automatic SATA hard drive, disk model and hardware status is good or not. If the new hard disk or external storage device is not formatted, the total capacity available in the list is not displayed the size of the storage device. User must format the disk to display the corrective size and also can judge whether the hard disk has been formatted from the size. If the system required the password, the default password is 1.

After the disk is full, the recorder supports loop coverage, or you can select to stop recording. The disk formatting file system has NTFS and EXT4 two kinds of formats. The default format is EXT4 which is the format under Linux system. EXT4 format hard disk in the windows system is not read out. If the hard disk with EXT4 format is inserted to the computer, you must use EXT3 or other special tools to access disk file management. If a hard disk with original NTFS format is connected to the recorder, the system cannot identify the hard disk and remind to format the disk. The user can cancel formatting. You can modify NTFS to EXT4 from disk format management system and restart the system to identify the hard disk.

4.7.6.4 Menu→Setting→System Setting→NET Setting→Ethernet

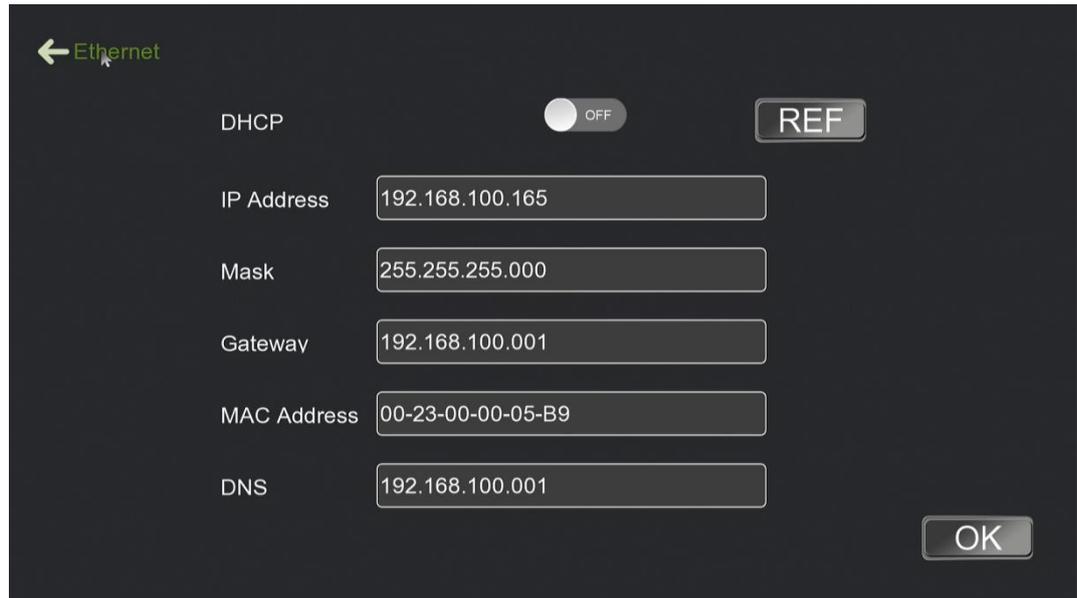


Figure 58 Network

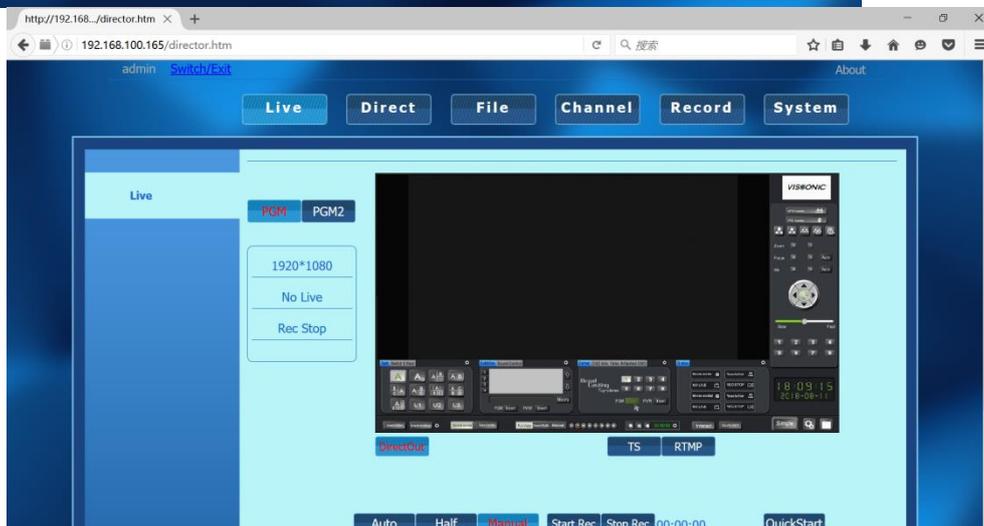
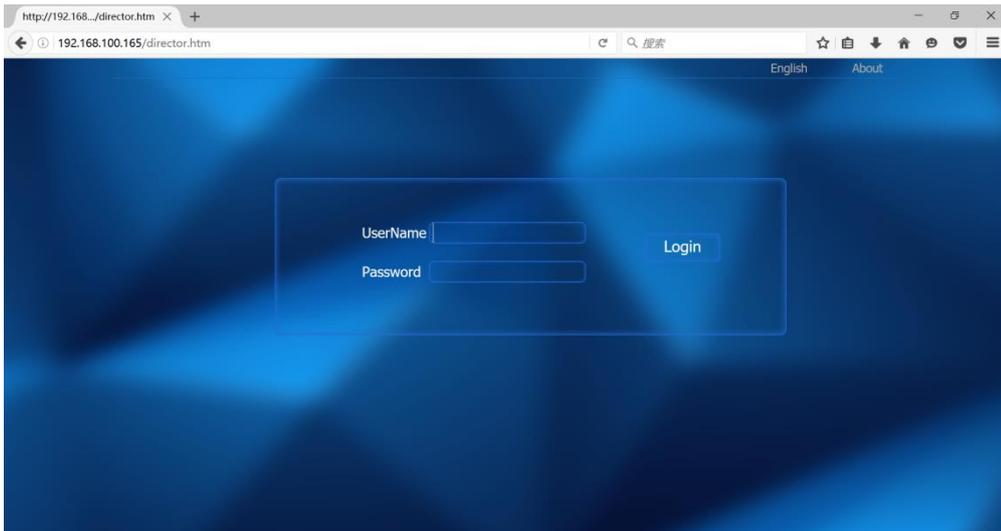
Description:As shown above, the default menu DHCP software is ticked, and if you want to manually modify the IP and other information, you need to remove the hook in front of DHCP.. The user can manually or automatically set the IP address of the recording host LAN through the network setting interface. The gateway and subnet mask also need to correspond to the setting of the network segment. After obtaining the IP of the recorder, you can upgrade the software using the software upgrade tool under the LAN. You can also map the recorder in the LAN to the WAN in the router. Mapping 554 port to the external network(internet), you can use VLC player to play the RTSP real-time stream from pushing recorder; mapping 10060 port to the external network, achieve multi-recorder interaction between the connection of recorders in the internet and user can get the remote images and sound access to local resource channels.

Note: The default recorder IP is 192.168.100.165.

4.7.6.5 WEB GUI interface setting

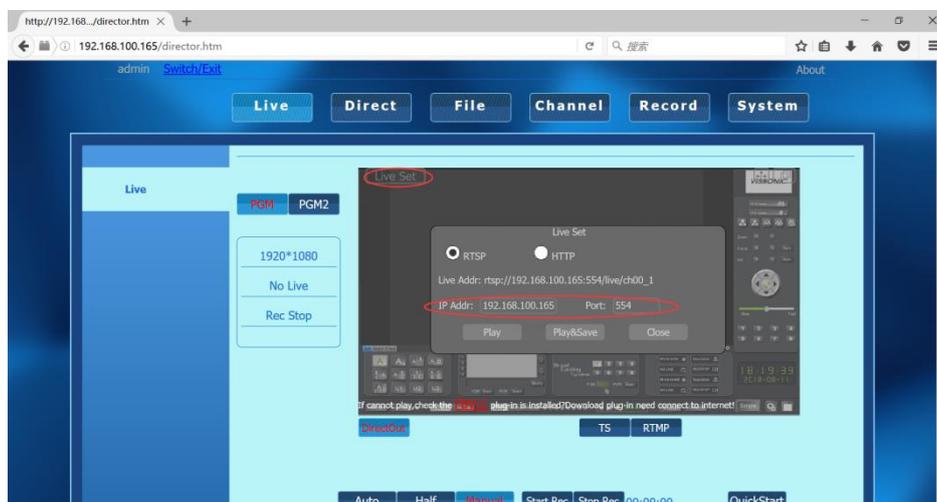
Input the default IP 192.168.100.165 on the Mozilla Firefox or IE to get the WEB GUI and you can select the language as ENGLISH,CHINESE and Traditional Chinese.

The default user name is “admin” and password “admin”



In order to preview the image from the PGM, you need to download the FBVLC software:
<https://sourceforge.net/projects/fbvlc/>

If you have change the IP address of the recorder, you need to change the IP on LIVE SET menu



4.7.6.6 Menu→Setting→Live Debugging→NET Test

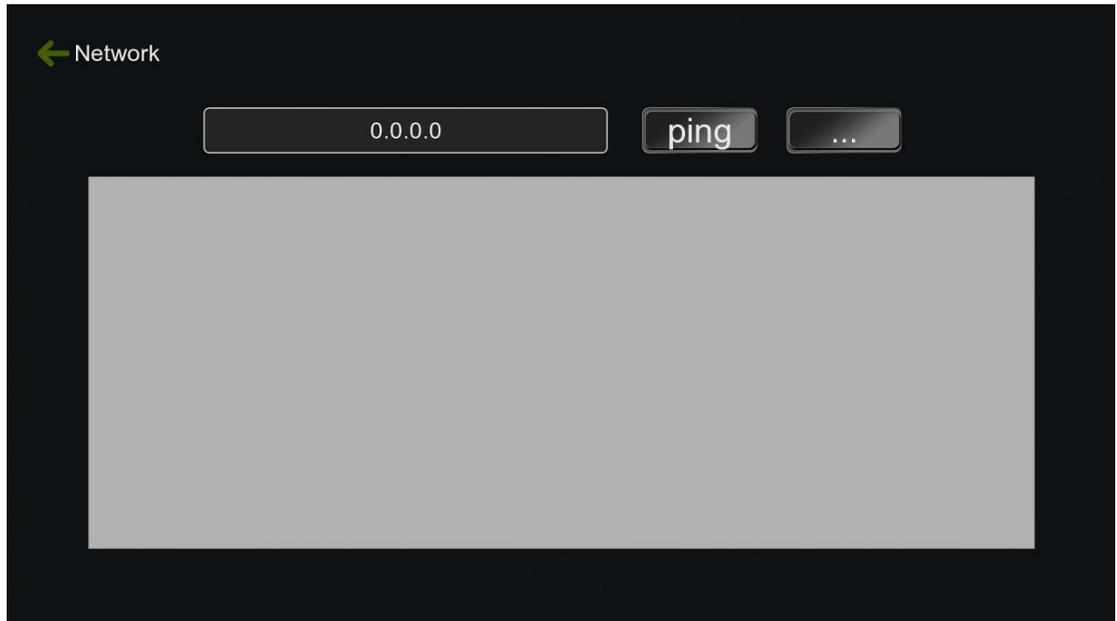
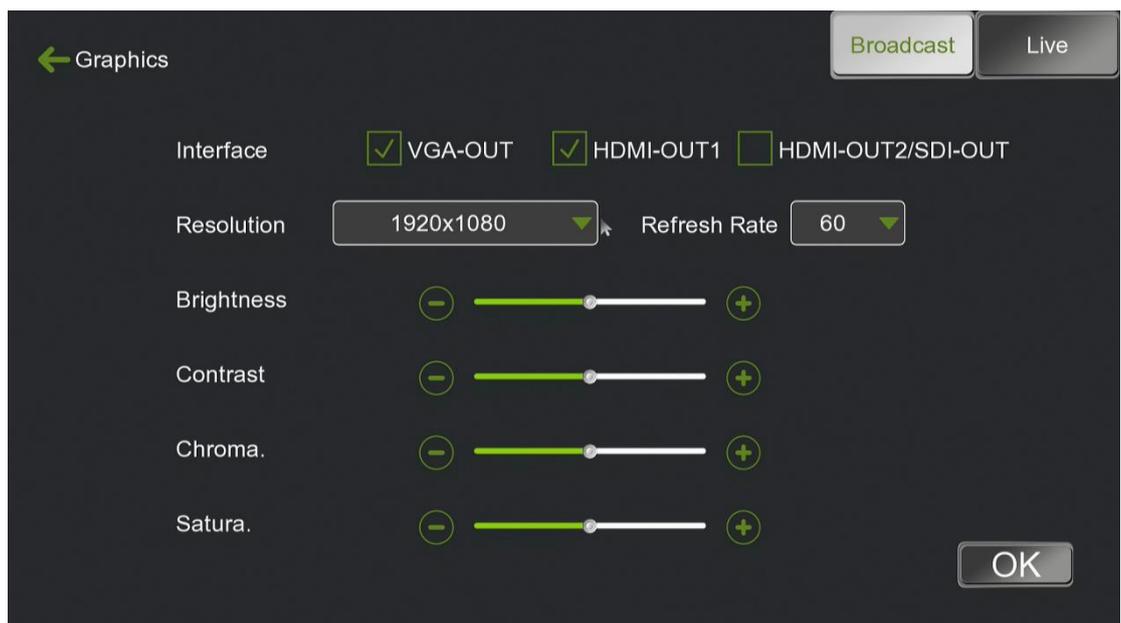


Figure 59 NET Test

The network test is a ping test. You can test out the local area network packet loss and delay data. The input IP address must be in the same LAN segment as the IP address of the recorder. It is commonly used for network debugging between the RTMP streaming server or the test computer and the recorder..

4.7.6.7 Menu→Setting→Project setting→Factory Setting→Dual Video Card



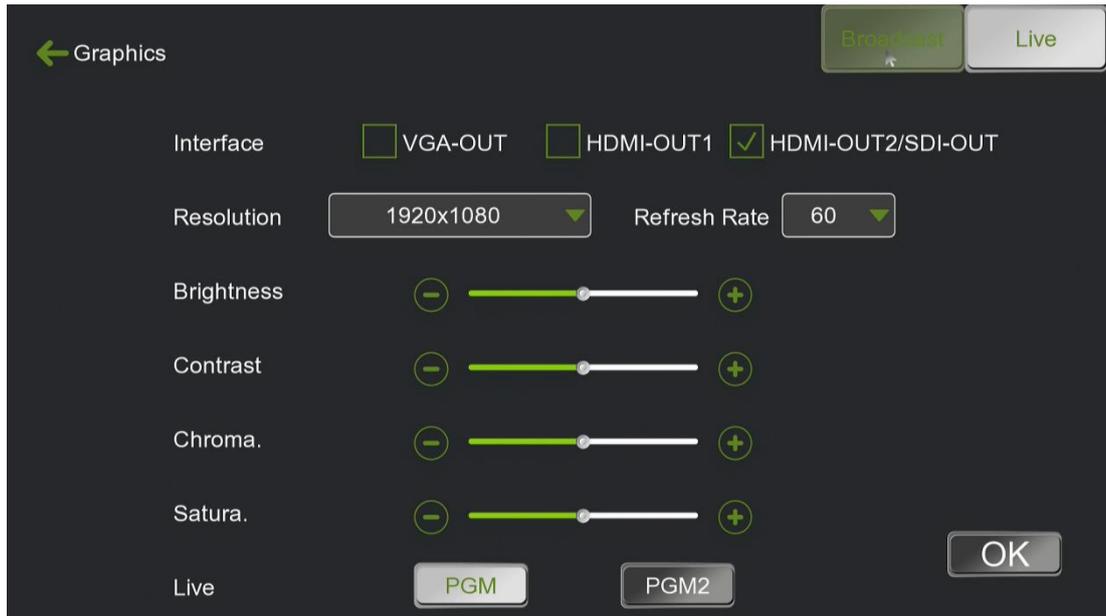


Figure 60 Dual Video Card Setting

Recorder is built-in dual graphics card output. The default graphics card 1 output for the local direction screen (VGA output) and video card 2 output for the PGM live screen. In this interface, the graphics card 1-output device from "VGA" to "HDMI", graphics card 2-output device from the "HDMI" to "VGA", the hardware interface of the VGA signal output is PGM live screen, HDMI output signal for the local direction screen. Graphics 2 output can hook on the audio option, when using the HDMI cable to output live images can also transmit audio, commonly used in the display which built-in amplifier speaker.

4.7.6.8 Menu→Setting→Live Debugging→Centre Control

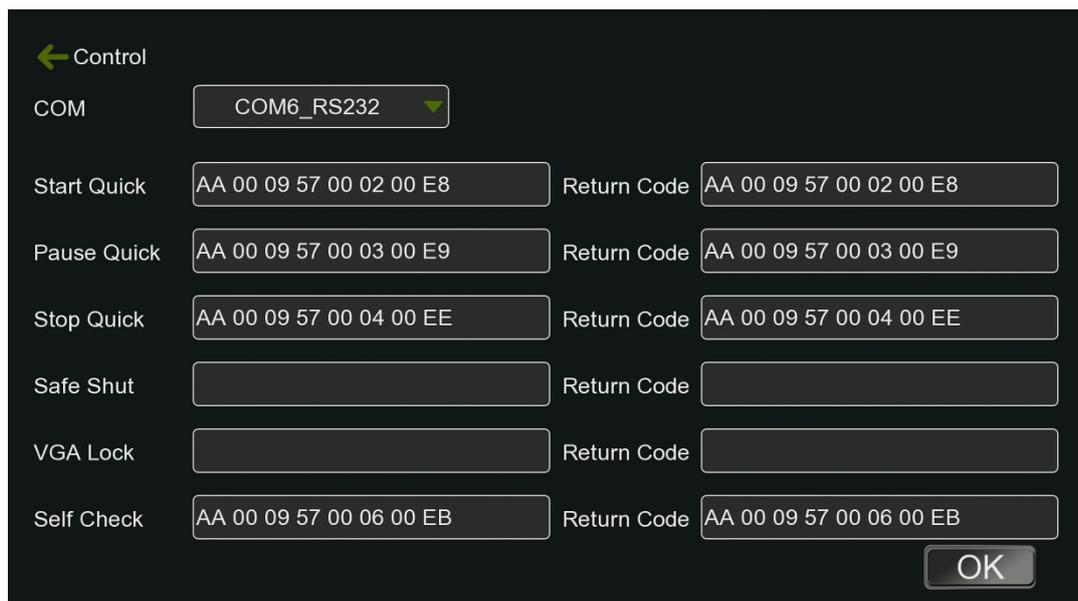


Figure 61 Centre Control

As shown in Figure 61, this is the host and central control device connected to a setting. Communication interface supports RS485 and RS232, in this menu serial port number to select the correct hardware connection interface. Support start video, pause video, stop recording, safe shutdown, VGA lock and so on a key to open, the command code and the central control equipment must be one-to-one correspondence

4.7.6.9 Menu→Setting→System Setting→System time

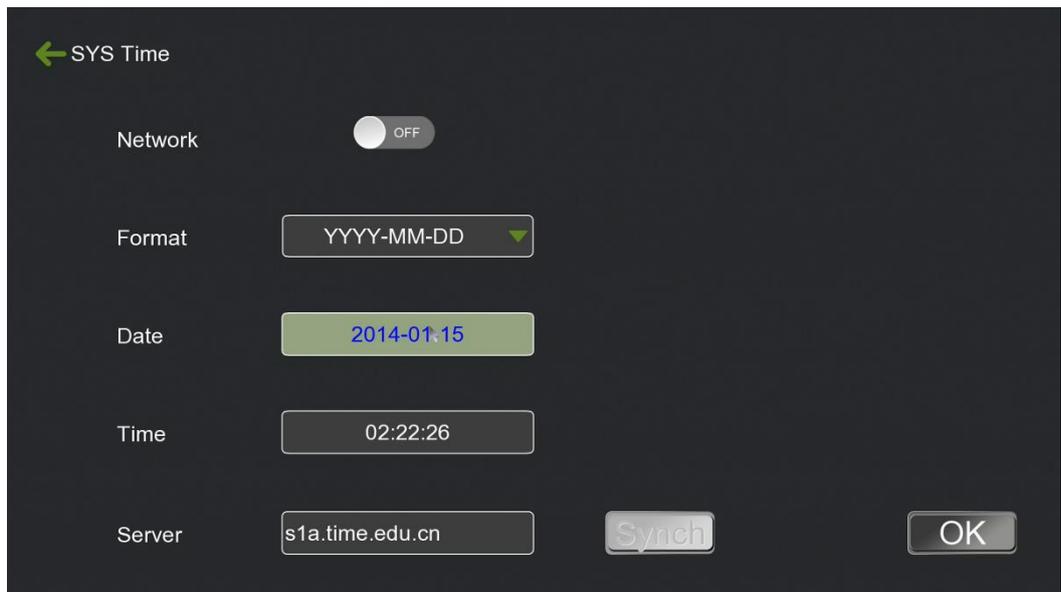


Figure 62 System time

5) Time setting: set the time manually or you can connect the recorder to Ethernet for keeping the time update.

4.7.6.10 Menu→Setting→Project Setting→Factory Setting→Logo Setting

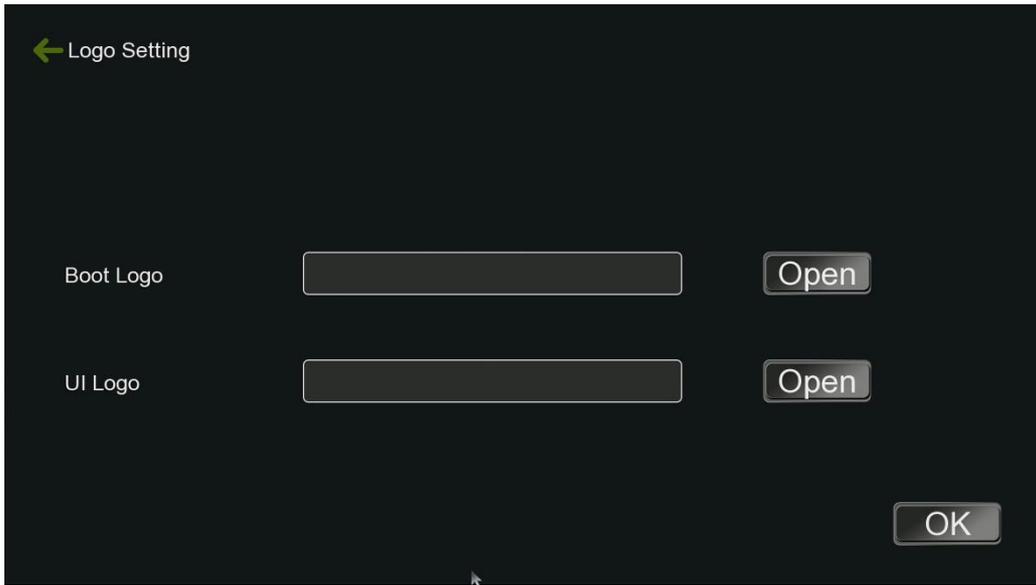


Figure 63 Project Settings-LOGO Settings

Description:

For boot logo image, the format is jpg; resolution is 1024 * 768,72 dpi, bit depth of 24; the file size is not more than 128KB.

The interface logo picture format is the gif, resolution size is200 * 100, 72dpi, bit depth 24.

Users can import the logo file into the USB disk, and then connect to the recorder. In this menu, the user can import the logo and click 'apply', and then exit the menu and restart the system to activate the setting.

4.7.7 File management



Figure 66 File management(Right bottom corner Menu)

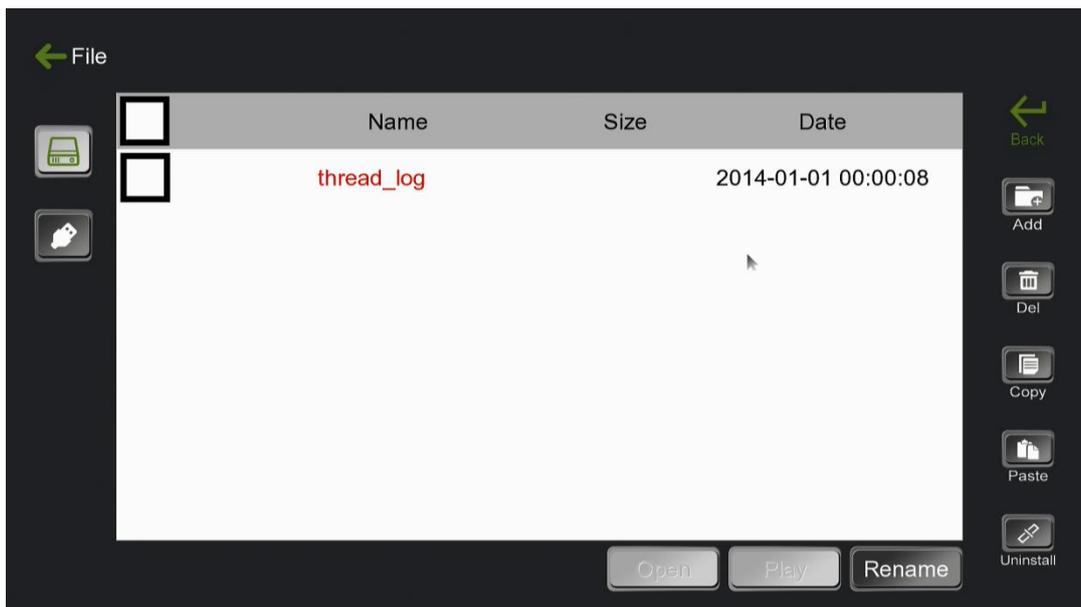


Figure 67 Document Management

Description

Under the file management menu, user can operate the local hard drive or external storage device with file search, delete, copy, paste, and rename commands. The Recorder is built-in player and the user can double-click the xxx.mp4 file in the file management menu for playback preview. It is Commonly used to view the video effects recorded by the unit, and video start and ending imported from the external storage device as following,

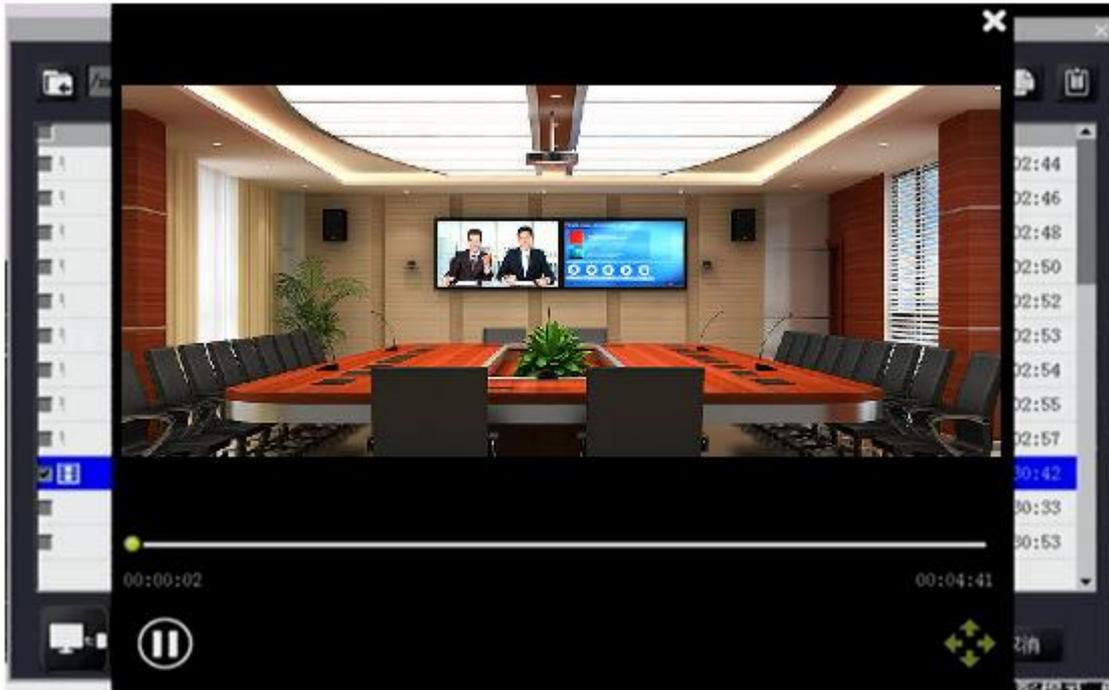
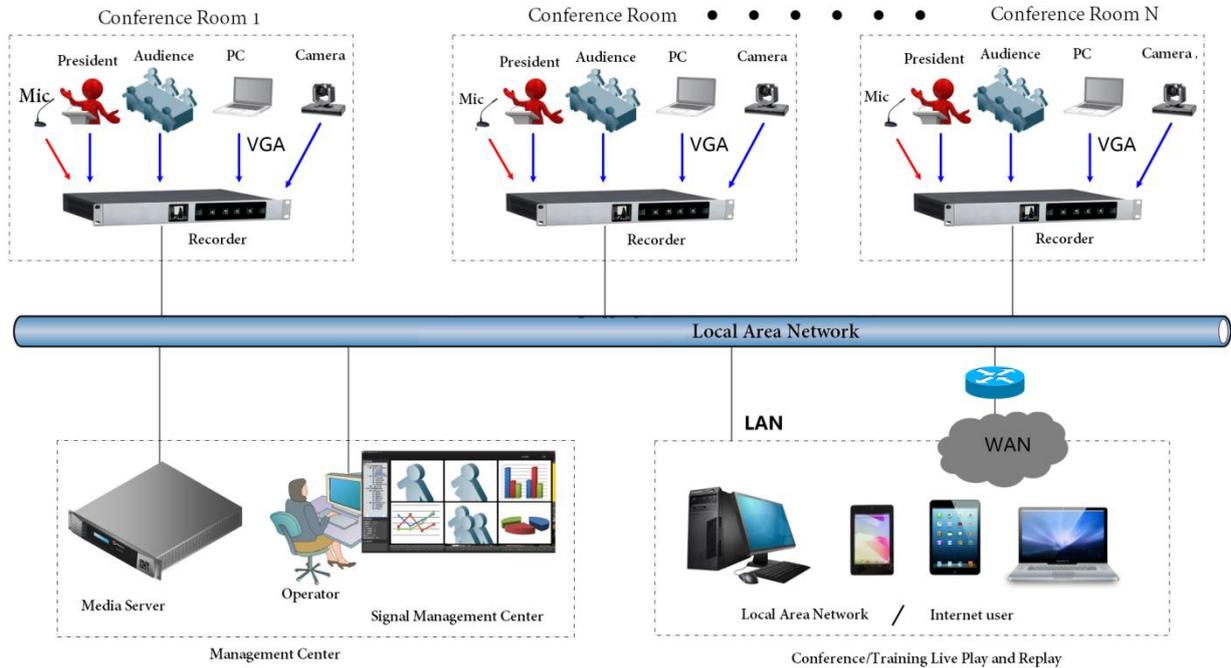


Figure 68

Recording Preview Player

5 Network Group



5-1 Group Diagram

- 1.The recorder can collect the camera video, computer video and sound and send the standard codes to the network.
- 2 The player which support the codes can receive the codes. The recorder will upload the recording files automatically to server, the mobile devices, PC can get these media resource by network.
- 3.The user can manage the recorder by PC terminal.

