DS-630XDI Series Decoder Server

USER'S MANUAL

Version 2.0.0

Hikvision® Network Digital Video Recorder User's Manual

Preventive and Cautionary Tips

Before connecting and operating your DVR, please be advised of the following tips:

• Ensure unit is installed in a well-ventilated, dust-free environment.

• Keep all liquids away from the DVR.

• Please check the power supply to avoid the damage caused by voltage mismatch.

• Please make sure the DVR work in the allowed range of temperature and humidity.

• Please keep the device horizontal and avoid the installation under severe vibration environment.

• The dust board will cause a short circuit after damping; Please dedust regularly for the board, connector, chassis fan etc with brush.

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C H A P T E R 1

Introduction

1.1 Description

Developed by Hikvision based on TI DM648 platform, DS-630XD is a kind of multi-purpose video/audio decoder which is capable of allowing the coded images from HIK DVR/DVS or other encoding devices to be decoded and displayed on the TV wall after transmission via IP network. Specially designed for the allocation and management of the video surveillance system, DS-630XD supports multiple network transmission protocols, and it applies the code downloaded in FLASH, ensuring high stability and reliability of system performance.

DS-630XD Video/Audio Decoder adopts highly integrated TI DM648 processing chip which provides powerful decoding capability. It supports multiple bitrate transmission methods, and is capable of decoding /outputting the high-definition 720P video stream and decoding images at 4CIF/DCIF/2CIF/CIF resolution, as well as outputting decoded images via BNC and VGA ports simultaneously. In addition, the Decoder also provides capabilities such as voice talk, alarm input/output, PTZ control, etc., maintaining powerful support for the large TV wall decoding service.

1.2 Features

Decoding

- **Decoding images and audio**

  Support HIK H.264, standard H.264 and MPEG4 image compression formats;
  Support PS, RTP and HIK customized encapsulation formats
  Support PAL and NTSC image formats
  Support decoding at 720P, VGA, SVGA, 4CIF, 2CIF, DCIF, CIF and QCIF image resolutions
  Support audio decoding at OggVorbis formats

- **Decoding Resources**

  DS-6308DI is capable of decoding 16 streams at CIF/8 streams at 4CIF/4 streams at 720P, and it adopts 8 BNC and 4 VGA outputs, of which BNC output supports 1/2/4 multi-camera display and main VGA output supports 1/2/4/9/16 multi-camera display, and other VGA outputs support 1/2/4 multi-camera display.

  DS-6304DI is capable of decoding 8 streams at CIF/4 streams at 4CIF/2 streams at 720P, and it adopts 4 BNC and 2 VGA outputs, of which BNC output supports 1/2/4 multi-camera display, main VGA output supports 1/2/4/9 multi-camera display, other VGA output support 1/2/4 multi-camera display.

  DS-6301DI is capable of decoding 4 streams at CIF/2 streams at 4CIF/1 streams at 720P, and it adopts 1 BNC and 1 VGA output, of which BNC output support 1/2/4 multi-camera display, main VGA output supports 1/2/4 multi-camera display.

- **Decoding Mode**

  Multiple bitrate transmission methods: support TCP, UDP, multi-cast and RTP transmission methods when

the HIK customized protocols are adopted; and support RTP over TCP and RTP over UDP when standard H.264 and MPEG4 are adopted.

Dynamic decoding: dynamically input encoder's IP address and switch decoding channels; maintain rapid decoding and switch.

Cycle decoding: set multiple remote monitoring channels on a decoding channel, and the decoder is capable of performing cycle decoding according to the configured sequence and time. The stream sources can be obtained via remote access to the encoder or stream media server and decoded for local output. A maximum of 64 channels are allowed for cycle decoding.

Obtain stream from stream media: receive real-time data by remote access to HIK stream media server, and then decode stream for local output.

Remote playback of encoder's record files: by remote access to the encoder with storage capability, and directly obtain the record files from the encoder, and finally decode for local output.

Passive decoding: the decoder passively receives stream sources, and then proceeds decoding and transmission. Passive decoding supports TCP and UDP transmission modes.

Network

- One 10/100/1000Mbps self-adaptive UTP Ethernet interface
  Support TCP/IP, UDP and RTP network protocols.
- Get allocated IP address, sub mask and gateway via DHCP server.
- Accomplish auto time adjustment for decoder through NTP protocol
- Support DDNS capability
- Capable of searching decoder in real time through SADP software, as well as modifying the IP address, sub mask, gateway of decoder and some other parameters.
- Capable of accessing decoder by TELNET command to view device information, modify network parameters, etc.

Alarm

- **Relay Alarm Input**

The decoder provides alarm input/output ports in relay signal input mode which can be set to NO or NC. Four different arming periods can be set, in which the alarm occurs, the device is capable of triggering corresponding alarm handling method, relay output and buzzer alarm, as well as upload to center, etc.

- **Relay Alarm Output**

The relay alarm output can be connected to alarm devices for alarm response actions, e.g., combined aural and visual alarm unit, etc., which is capable of proceeding alarm handling within the arming period.

Exception Handling

- **Exception Alarm Handling**

Exception alarms include network disconnect alarm, IP address conflict alarm, illegal access alarm, etc.; multiple alarm handling methods are supported: relay alarm output, buzzer alarm, upload to center, etc.

- **Exception Reboot**

Software watchdog capability: for inspecting important threads and system resources of device; in case of exceptions cannot recovered, the device will be automatically rebooted.

Firmware watchdog: for inspecting the firmware of device; in case of exceptions in system task scheduling, the device will be automatically rebooted.

User Administration

A maximum of 32 users can be created by the system, including 1 administrator and 31 users. The user name of the administrator is admin, which cannot be modified, and the password is allowable to be modified by the administrator only; no deletion of the administrator is allowed, and the administrator is authorized to set the operation permissions for normal users.

SDK Interface

- **Transparent Channel**

The decoder adopts the RS232/RS485 serial interface to realize transparent transmission. The data sent remotely to the decoder via network can be transmitted by RS232/RS485 interface of decoder without any handling, and the transparent channel of the decoder supports multi-cast transparent transmission as well, and multiple transparent channels can be established simultaneously.

- **PTZ Control**

Through SDK transparent channel, the PTZ of DVR or DVS can be remotely controlled.

- **Voice Talk**

The decoder is capable of realizing voice talk with the remote client. When the client has submitted application, the voice talk between the client and decoder is created.

C H A P T E R 2

Structure

2.1 Front Panel

2.2 Rear Panel

DS-6308D Rear Panel

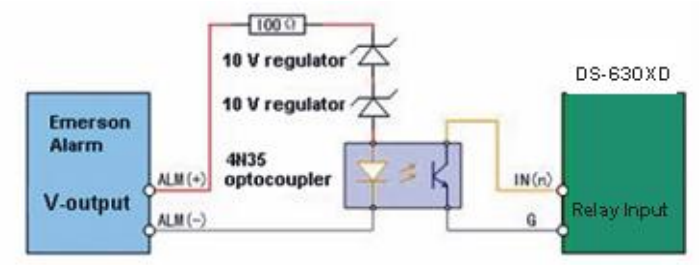
	Interface	Connections
1	VIDEO/AUDIO OUT	BNC connectors for video/audio output
2	LINE IN	1 BNC connector for voice talk audio in, connects to active audio input device.
3	LINE OUT	1 BNC connector for voice talk audio out, connects to audio output device, e.g. sound box.
4	AUDIO-1 to AUDIO-4	The corresponding audio outputs of VGA1 to VGA4, BNC interface, connect to audio output device.
5	VGA	VGA1 to VGA4 connect to monitor
6	RS232	Connect to RS-232 devices, e.g., PC, etc.
7	LAN	10/100/1000Mbps self-adaptive UTP Ethernet interface
8	RS-485	RS-485 data connector
9	ALAM IN	8 alarm inputs
10	ALAM OUT	8 alarm outputs
11	POWER	12V DC power supply
12	GND	Ground

2.3 Alarm Connections

2.3.1 Alarm Input Connections

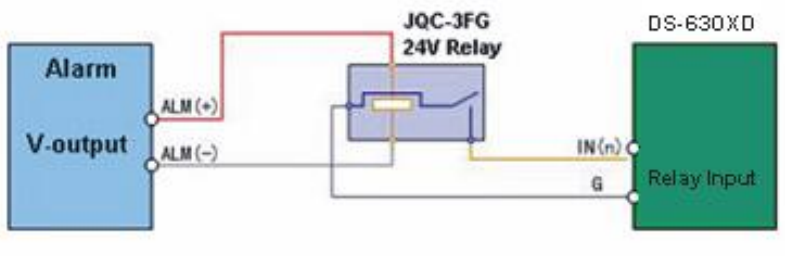
DS-630XD supports the open/close relay input as the alarm input mode. For the alarm input signal not in open/close relay signal mode, please follow the connections shown as below:

Alarm input connections for Emerson Alarm:



Note: the corresponding relay input port of DS-630XD should be set to *NC* mode

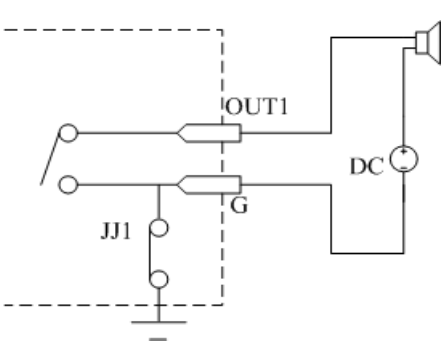
Alarm input connections for Normal Alarm:

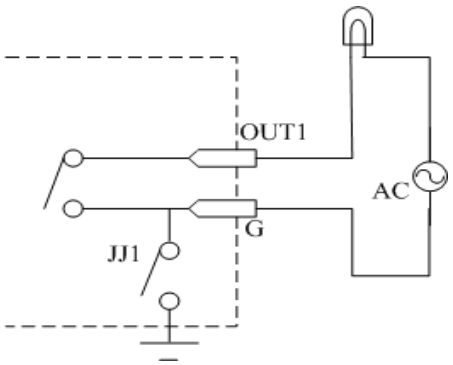


2.3.2 Alarm Output Connections

DS-630XD supports the open/close relay input as the alarm output mode. The alarm input can be selected to *NO* or *NC*. Different alarm output connection methods are applied to the AC or DC load, please refer to the following diagram:

Alarm output connections diagram:





Please note the different connections of JJ1 shown above.

For DC load, JJ1ca be safely used both in *NC* and *NO* methods, and it is recommended to use within the limit of 12V/1A. For external AC input, JJ1 must be open. The motherboard provides two jumpers, each corresponding to one alarm output. And both of two jumpers are factory set to be connected.

2.3.3 Signal Line Connections

DS-630XD Decoder provides the green terminal plug for connecting signal lines. Follow the instructions shown below:

1. Disconnect the green terminal plug from the terminal socket on the device;

2. Use the standard screwdriver to loosen the screws on the plug, and then insert signal lines to the plug and under the spring washers, and finally tighten the screws.

3. Connect the plug with signal lines to the corresponding green terminal socket.

C H A P T E R 3

Network Parameters Configuration

Description:

- This chapter is about the network parameters configuration of Hikvision DS-630XDI Decoder.
- The DS-630XDI factory default user name is admin, password is 12345.
- The DS-630XDI factory default IP address is 192.0.0.64.

The network parameters need to be setup before the decoding channel configuration. The network parameters are used to connect with the software which is applied to set the decoding channels. The network parameters are including IP address, subnet mask, gateway and port.

3.1 Hyper Terminal Setup

The common method is to connect decoder and PC with serial line, run Hyper Terminal and modify parameters with serial command. Please connect the RS-232 port of decoder with the COM port of PC directly, power on the decoder and PC and follow the steps:

Step1: Enter Hyper Terminal.

Click “Start”-> “Programs”->”Accessories”-> “Communications”->”Hyper Terminal” in Windows system, and the dialogue box below will appear as Figure 3.1.1.

Figure 3.1.1

Step2: Name the connection and define the icon.

Input a name (e.g. HK), select an icon, and press “OK” to enter “Connect To” dialogue box.

Step3: Select the communication port.

Select “COM1” in “Connect To” interface (Please select the COM port according to the reality, in case PC has more than 1 COM.). Press “OK” to enter “Properties” dialogue box.

Figure 3.1.2

Step4: Serial port setup.

Set port parameters in “COM1 Properties” dialogue box as follow: (Fig 3.1.3)

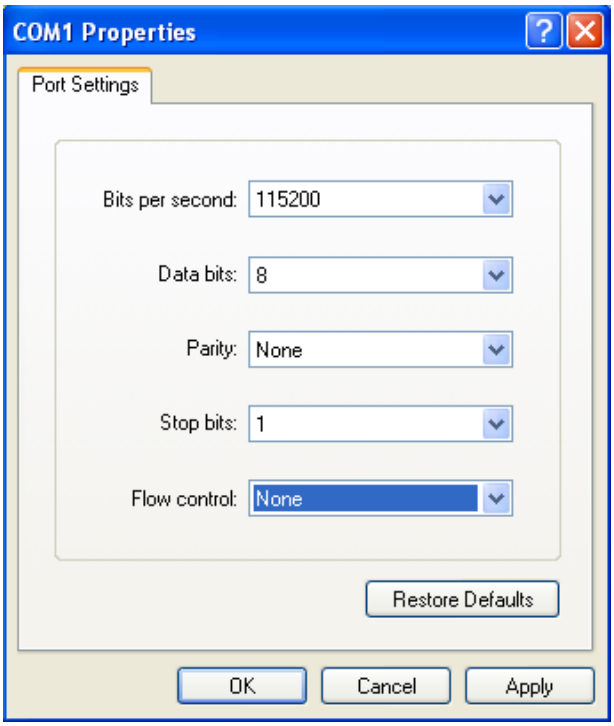


Figure 3.1.3

The parameters should be:

Bits per second: 115200

Data bits: 8

Parity: None

Stop bits: 1

Flow control: None

Press “Apply” and “OK” after the setup. Press “Enter” under Hyper Terminal interface. When “[root@dvrdvs/]#” appears, the connection is established.

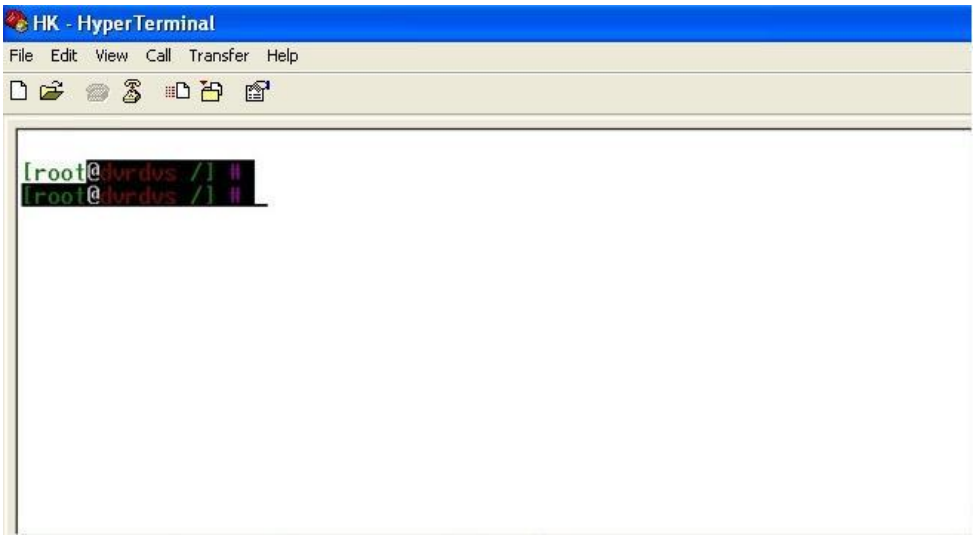


Figure 3.1.4

Step5: Disconnect and save connection

According to the tips, disconnect and save “HK” for the next time. After saving, there will be a new “Hyper Terminal” item established in the program group “Start”-> “Accessories”->“Communications”->“Hyper Terminal”. “Connection” names of all Hyper Terminal are included. You can see an icon named as “HK” here.

3.2 Network Configuration by Hyper Terminal

Enter Hyper Terminal

Click “Start”->“Programs”->“Accessories”->“Communications”->“Hyper Terminal”->“HK”, then the Hyper Terminal interface will appear as figure below. Type “Enter”, and the prompt “[root@dvrdvs/]#” will appear which means connection between RS232 interface of PC and RS232 interface of DS630XDI is established successfully by Hyper Terminal. The following operation commands are to accomplish the parameters setup in the prompt.

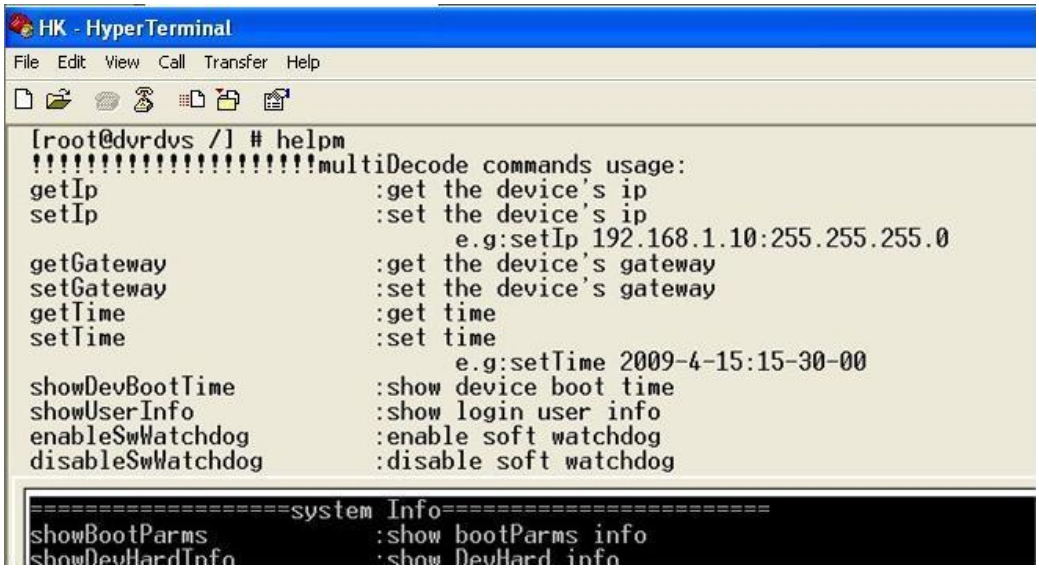


Figure 3.2

Commands Description:

Commands	Utilities
helpm	Console help command is used to print common commands, show as Figure 3.2.
getIp	Show the current IP address of decoder. Command format: getIp “Enter”.
setIp	Setup decoder IP address. Command format: setIp IP: mask, e.g. setIp 192..168.1.11:255.255.255.0
getGateway	Show current decoder gateway address. Command format: getGateway “Enter”.
setGateway	Setup decoder gateway. Command format: setGateway Gateway, e.g. setGateway 192.168.1.1
getTime	Show decoder current time. Command format: getTime “Enter”.
setTime	Setup decoder time. Command format: setTime 2009-11-2：12：20：04
showBootTime	Show decoder boot time. Command format: showBootTime “Enter”.
showUserInfo	Show decoder current user information. Command format: showUserInfo “Enter”.

Note: These are only common commands. The other commands please consult our technical engineers.

C H A P T E R 4

Decoder Configuration

Instruction:

- Before configuration, user need to do the network configure according to the chapter 3.
- Connect the decoder to the LAN.
- Prepare a PC connected to the same LAN with the decoder.

4.1 Decoder Configure Software

Please open the accessory to get the disk, there is the iVMS4000 V2.0 software in it supplied by HIKVISION, please double click the icon to set up it. The following section has described the configuration of decoder through the software. Please refer to the user manual of iVMS 4000 V2.0 for more details.

The following figure shows the interface after access to the software:

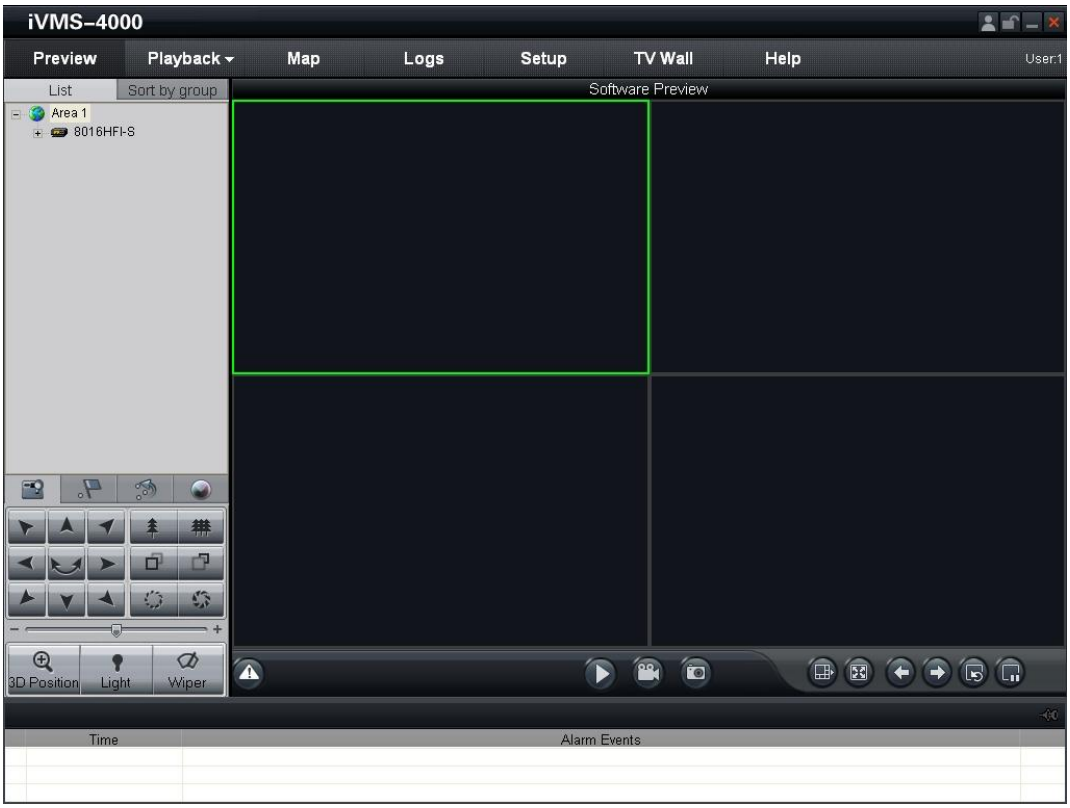


Figure 4.1 software interface

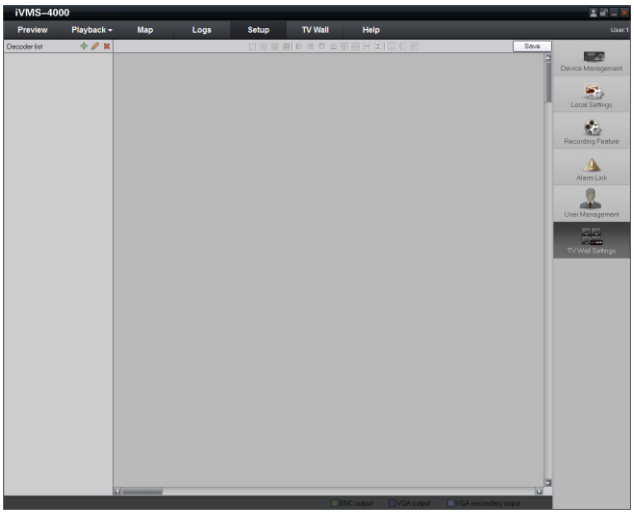
Note: this software is supplied by HIKVISION for configuration of the decoder; though it also has the function of configuring the encoder, this chapter only instructs the decoder configuration. For other instructions, please refer to the user manual of iVMS 4000 V2.0.

4.2 Add Decoder

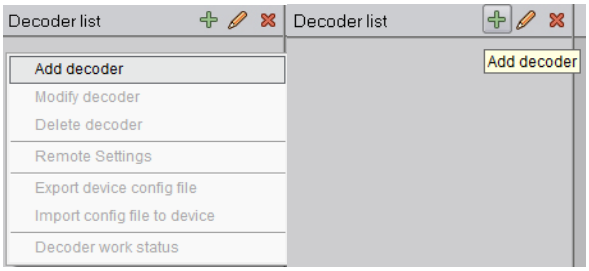
Click “ 

”, and then click “ 

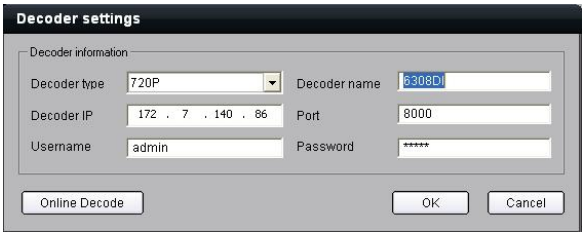
” to enter the decoder setting interface.



Right click the “Decoder list”, and select “Add decoder”, or click “  ”to add decoder.



Input decoder name, IP, Port, Username, Password, and click ”OK” to finish adding decoder.



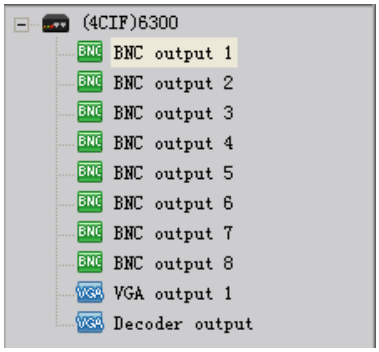
Option	Instruction
Decoder type	CIF, 4CIF, 720P can be selected. This option is effective to 6300DI Decoder, used for source distribute. It’s not effective to 6000DI.
Decoder name	The name of the Decoder, it can be user-defined.
Decoder IP	The IP address of the Decoder
Port	The device port of the Decoder
Username/Password	The username and password of the Decoder.

6300DI decode source as below, detail description refers to the decoder user manual.

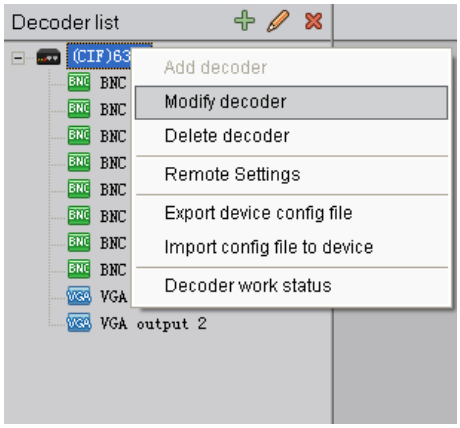
Decode type	Instruction
CIF	6301DI supports 4-channel decoding, 6304DI supports 8-channel decoding, 6308DI supports 16-channel decoding.
4CIF	6301DI supports 2-channel decoding, 6304DI supports 4-channel decoding, 6308DI supports 8-channel decoding.
720P	6301DI supports 1-channel decoding, 6304DI supports 2-channel decoding, 6308DI

	supports 4-channel decoding.

After added successfully, the decoder channels will be displayed in the decoder list. 6300DI Series decoder supports VGA, so it displays the BNC and VGA outputs differently



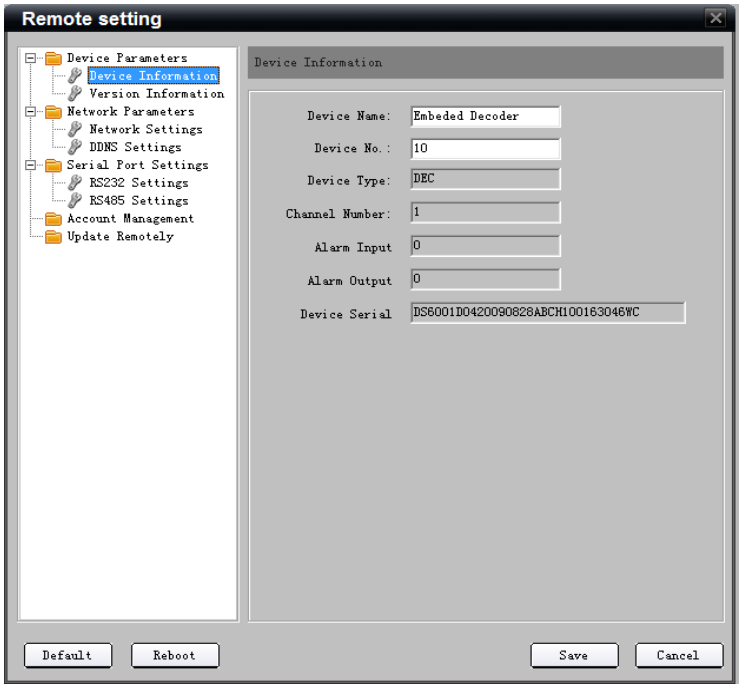
Right click a decoder and select “Modify decoder” or click “”, user can modify the decoder; select Delete decoder, or click “” to delete it.



Note： Each decoder is recommended to be added in one iVMS-4000 software only, avoiding disordered control caused by one decoder added in multiple software terminals.

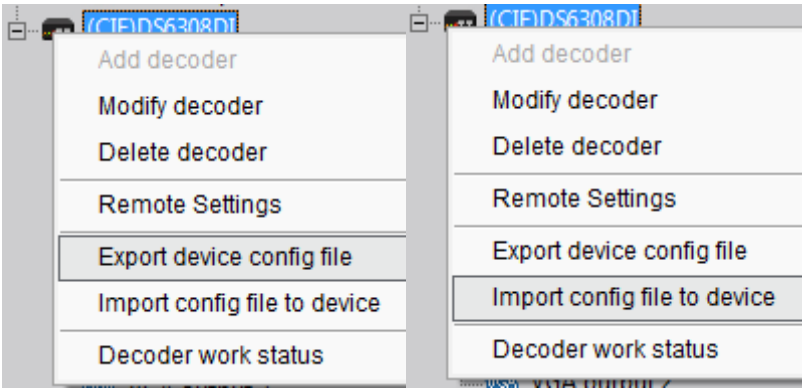
4.3 Decoder Configuration

Select a decoder, right click it and select “Remote Settings” to enter the decoder “Remote setting” interface.



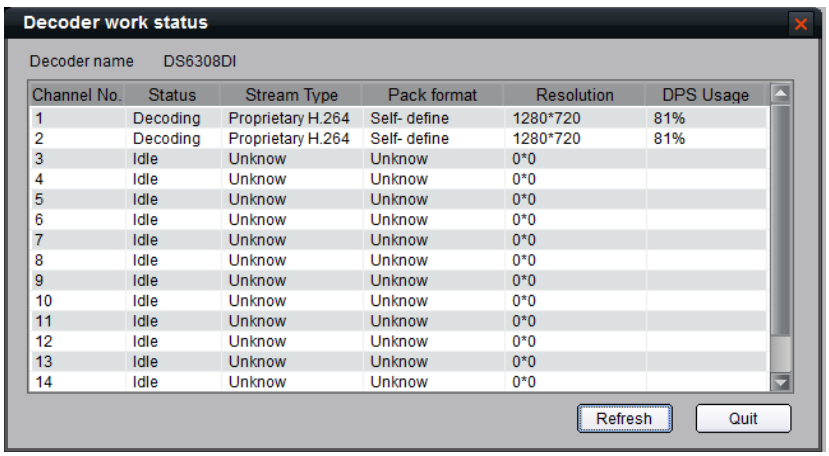
Export/import config file

Right click a decoder, user can select “Export device config file” and save the device configuration file in “C:\SaveRemoteCfgFile” folder by default. If user has saved the config file before, select “Import config file to device” to import the existed configuration to the decoder.



Decoder Status

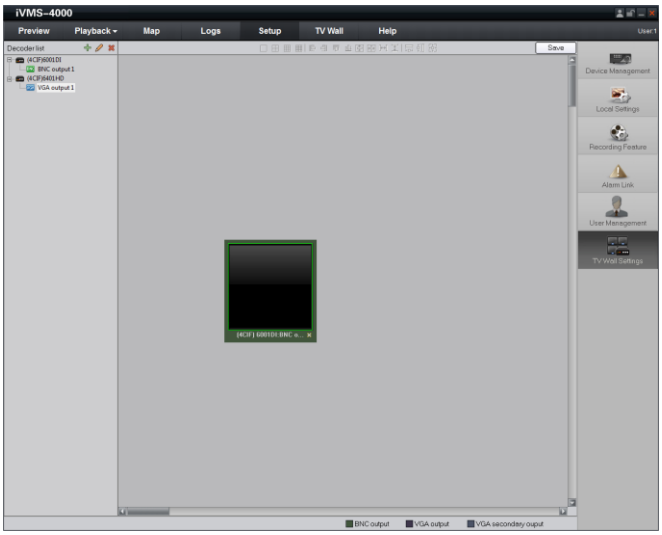
Select “Decoder work status”, the status of decode will be displayed in the following list.



4.4 TV Wall Settings

Enable/Disable decode output

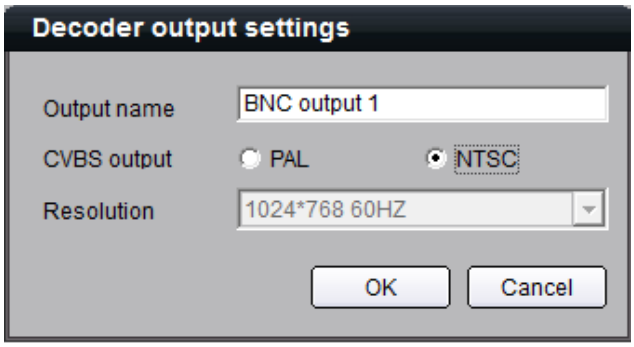
After adding decoder, the decode channel is not in use by default. Drag the channel to the blank interface on the right, it will enable this channel.



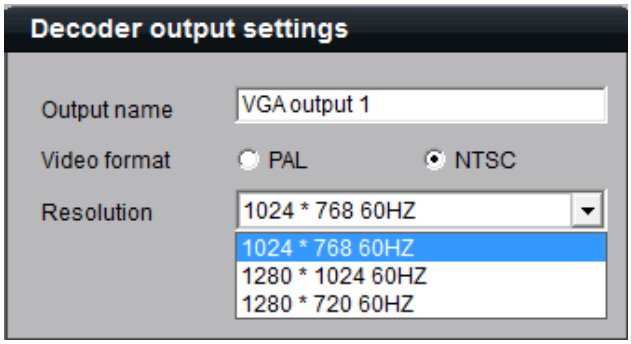
When a channel is enabled, clicking "" on the right and bottom corner may disable this channel.

Decode output settings

By double clicking a channel of the decoder, user can configure the channel name and CVBS output format to be PAL or NTSC.



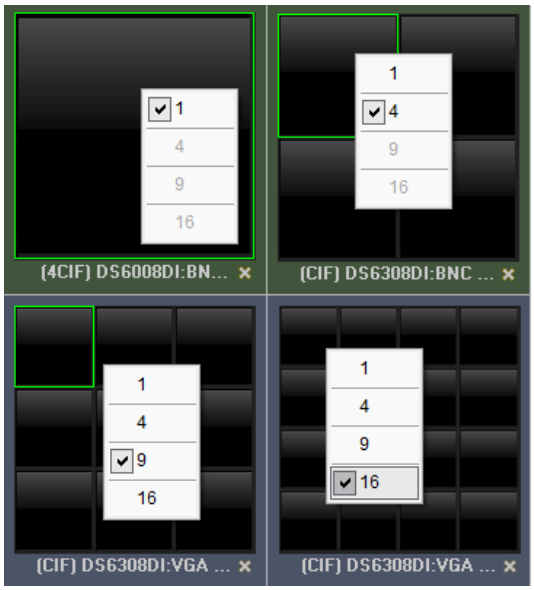
The VGA output can configure the resolution.



Window division configuration

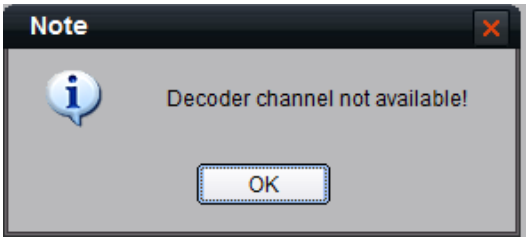
By right clicking the decoder channel, user can change the division mode.

The section will be different depend on the device type. Shown as below:



Decode channel		Output division No.
630xDI: BNC output		1, 4
6301DI: VGA output		1, 4
6304DI	VGA1 output	1,4,9
	VGA2 output	1,4
6308DI	VGA1 output	1,4,9,16
	VGA2,3,4 output	1,4

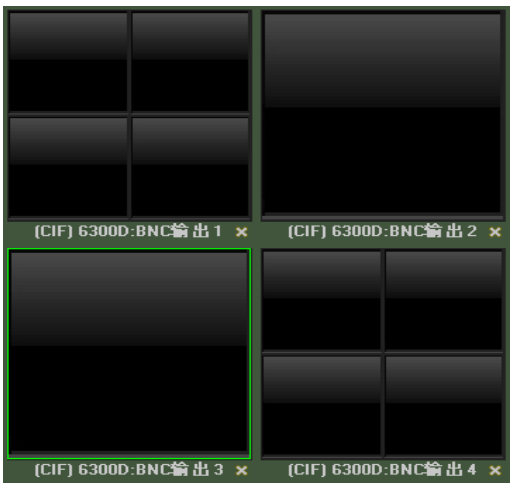
After configuration of the window division, if it has reached the limit of decoding source, then when the user continues to enable the decode output channel, the system will display the warning message of "decoder channel not available!"



For example, in the CIF decoding type, the first two channels of 6304DI (8-channel decoding at CIF) have been configured with quad display, then when user tries to enable the third decoding output, the system will pop up the error message dialog box.

Decode output	**Total decode source**
BNC1-BNC4 output	**CIF: 8-channel 4CIF: 4-channel 720P: 2-channel**
BNC5-BNC8 output	**CIF: 8-channel 4CIF: 4-channel 720P: 2-channel**
VGA output	**CIF: 16-channel 4CIF: 8-channel 720P: 4-channel**

After configuration of the window division, if it does not reach the limit of decoding source, when enabling decode output and exceeding decoding source, then the exceeded window will be invalid.



For example, in the CIF decoding type, the first three channels of 6304DI (8-channel decoding at CIF) have been configured with 6 windows decoding, it is possible for the user to enable the fourth decoding output, but after 4 windows division of this output, the last two decoding window will be invalid.

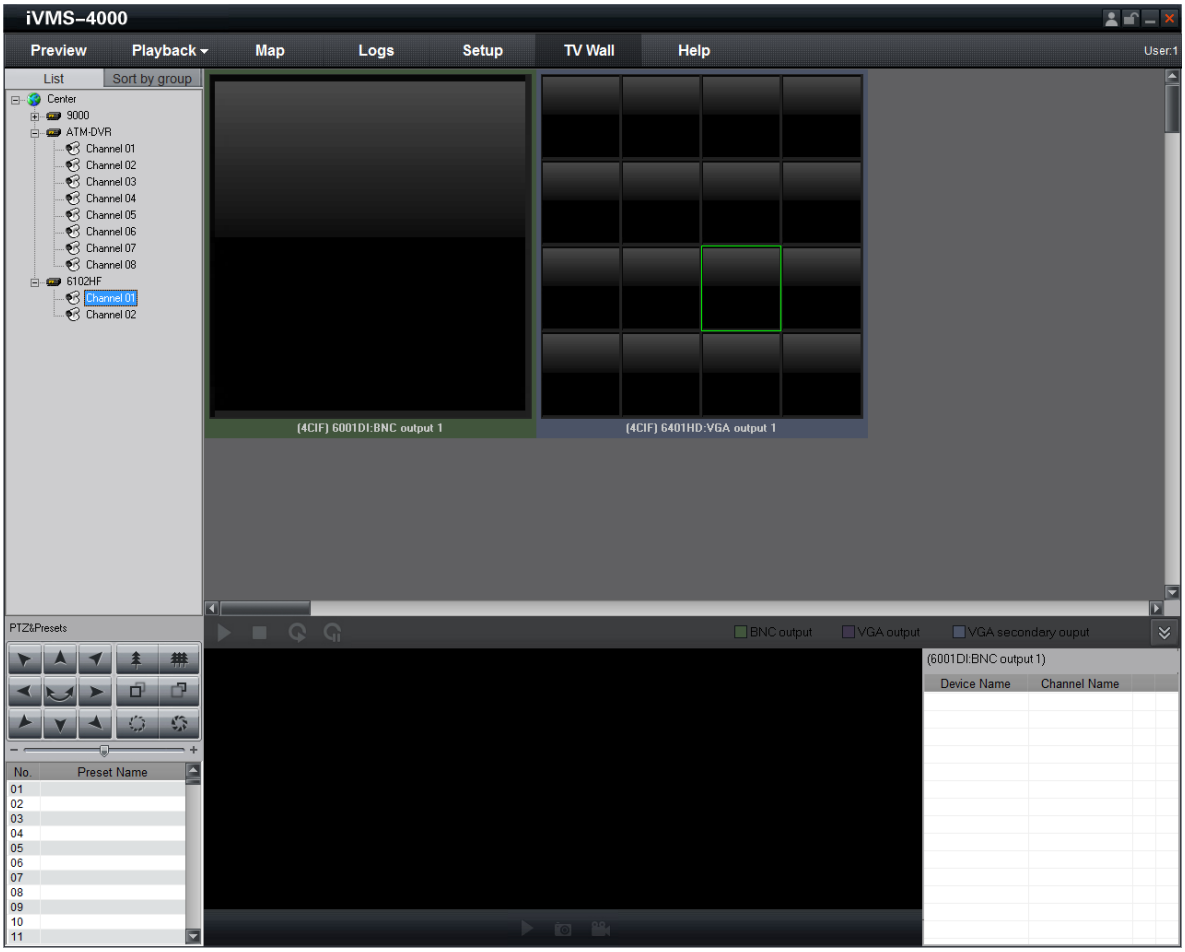
Decode channel position management

After having enabled decode output and configured the division, user can change the size and position of the display window.

Click the mouse and hold on the title below the window to change its position. By dragging a border of the decoder, user can change the size of the window. You can also use the layout toolbar to adjust the size and position.

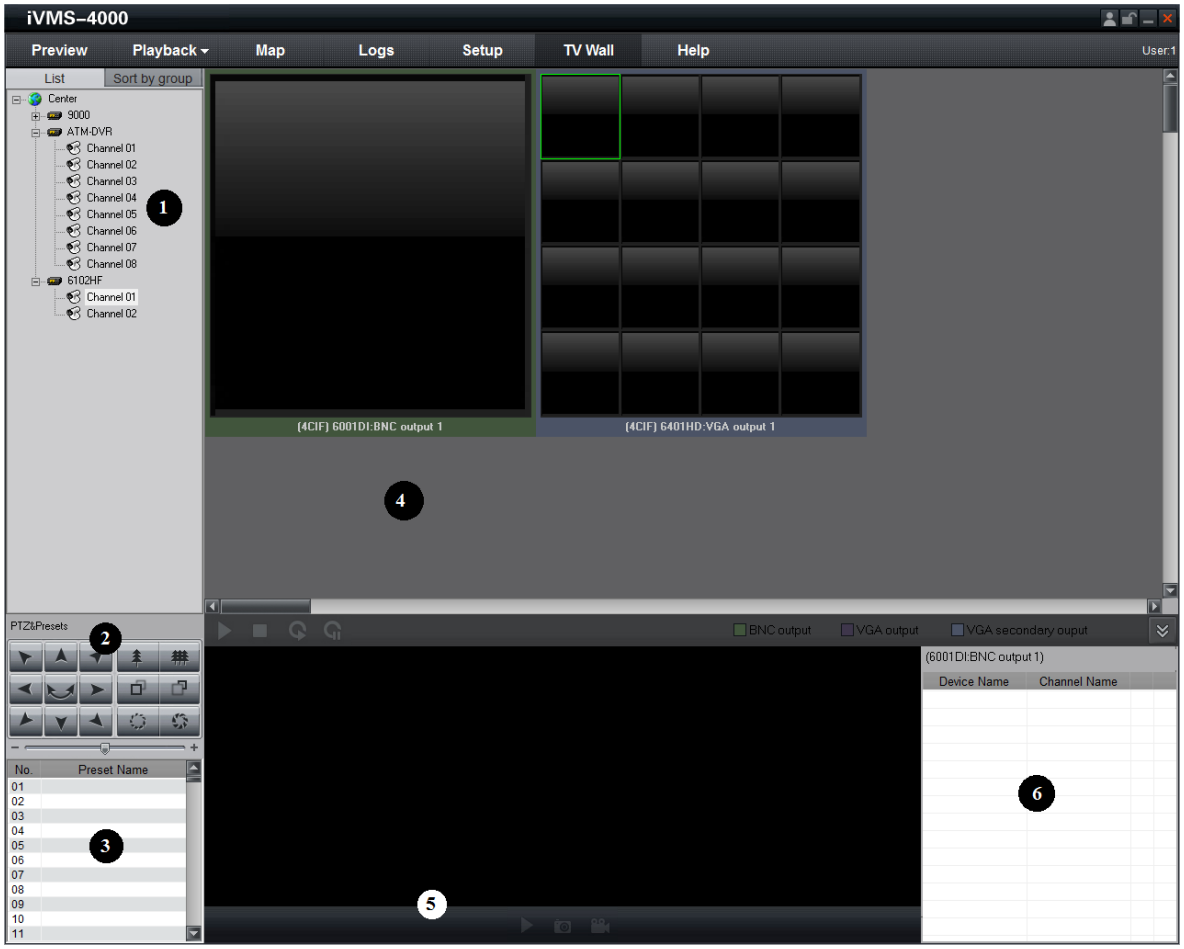
Layout toolbar description:

Button	Description		Button	Description
	Flush Left			Flush Right
	Flush Top			Flush Bottom
	Vertical Center			Horizontal Center
	Same Horizontal Interval			Same Vertical Interval
	Same Width			Same Height
	Same Dimension			



4.5 Decoder control

After adding decoder configuration, click the icon TV Wall to enter decoder control interface.



Area	Description		Area	Description
❶	Device list		❷	PTZ
❸	Preset list		❹	Decode channel display
❺	Decode channel video display		❻	Decode channel state display

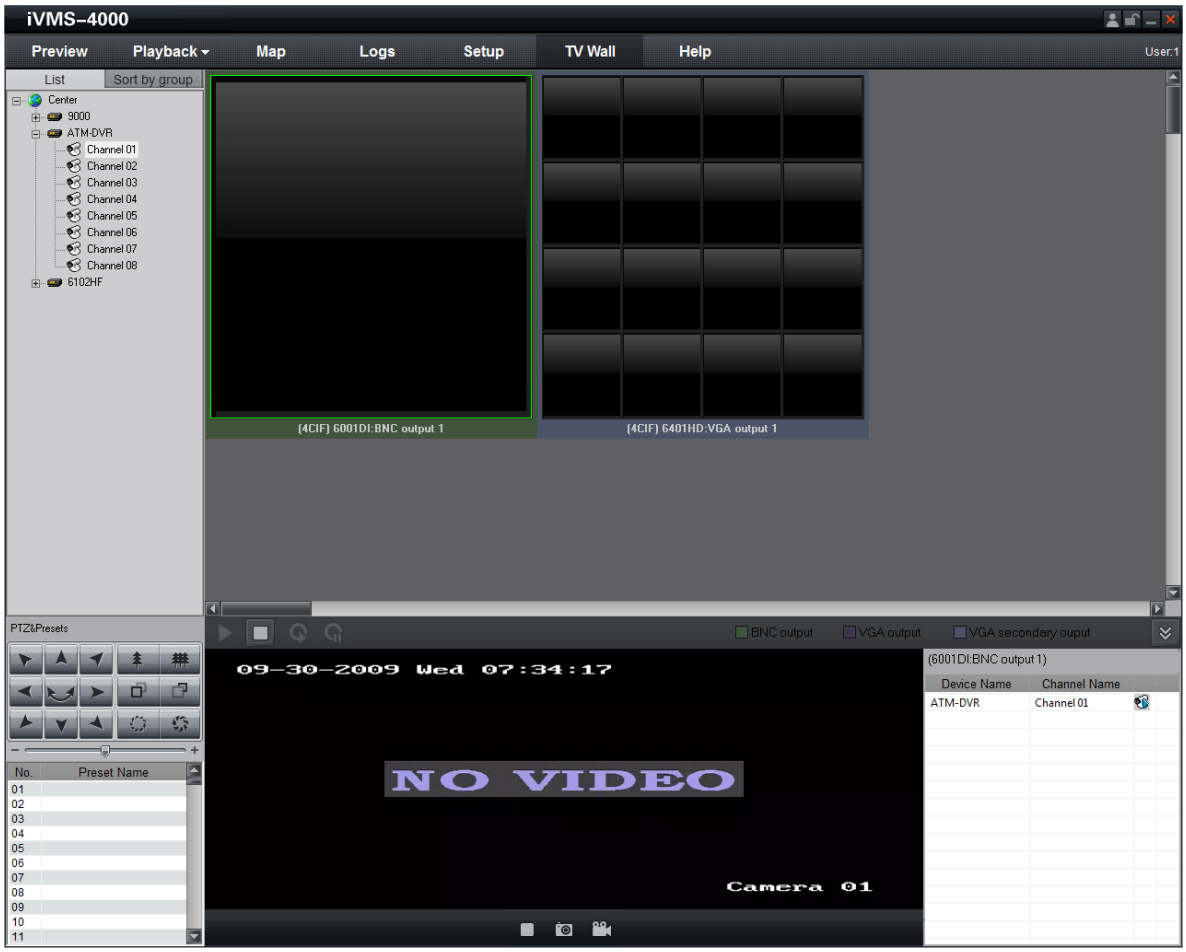
Enter TV Wall control interface, the decode channel area will display as user-defined. Click  to hide the decode video and states, or click  to resume.

The buttons related to the interface are described below:

Button	Description		Button	Description
	Start to play the decode video			Stop to play the decode video
	Start to cycle decode			Stop to cycle decode
	Start/Stop the local decoded image preview			Capture
	Record			

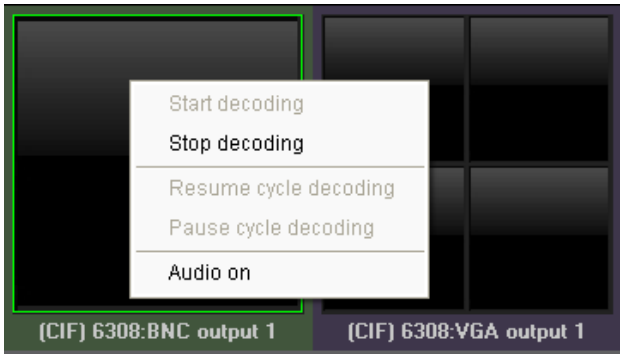
4.5.1 Video decode control

Select the decode window, drag one channel into it and the decoder will start decoding this channel. The decoder video display area will display the real-time video, and the state area will display the states of current decoding.



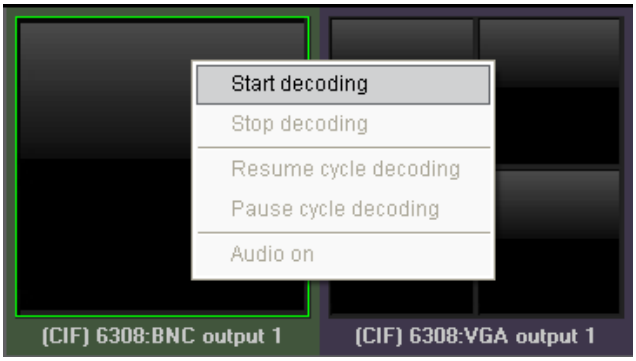
Stop decoding

Right click the decode channel, select “Stop decoding” or click “  ” to stop current decode division.



Start decoding

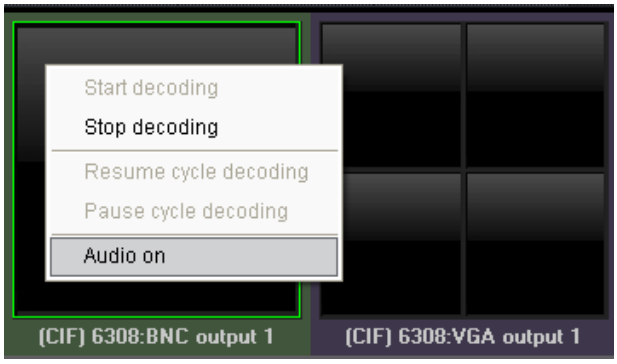
After stopped, user can right click this division and select “Start decoding” or click “  ” to resume decoding.



Voice control

Right click the decoding window, choose ”Open voice” to open voice; When the voice is on, right click the decoding window, choose “Close voice” to close voice.

Attention: Only the stream type “Audio & Video” can support the function “Open voice”.



Decoding image control

Choose the decoding window, and the image display area will show the current decoding image.

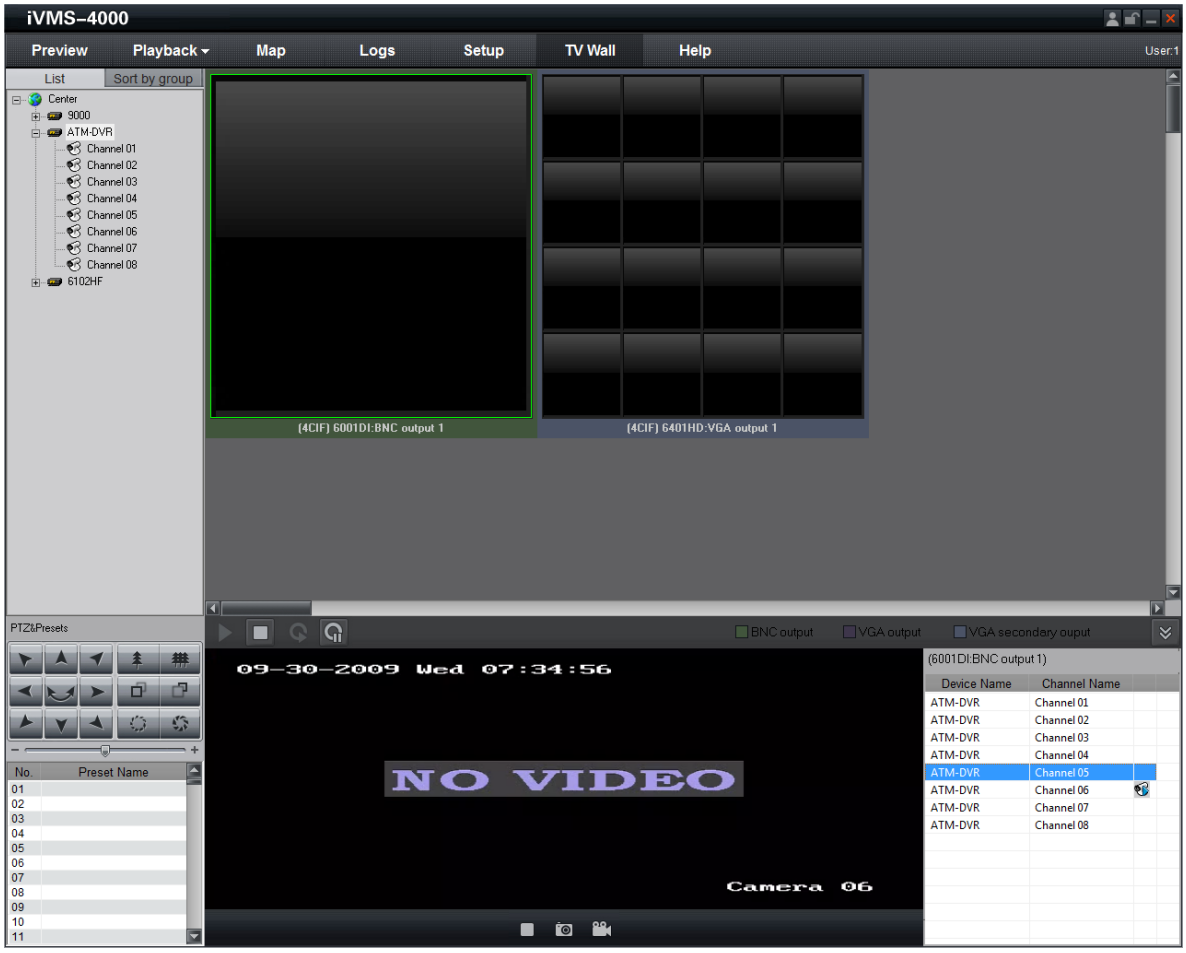
Click icon to stop image display .When the image display is off, click to start the image display.

When in preview state, click to capture the current picture for local storage. Click the icon to start recording and then the state of the icon will be , click again to stop recording.

4.5.2 Cycle decoding control

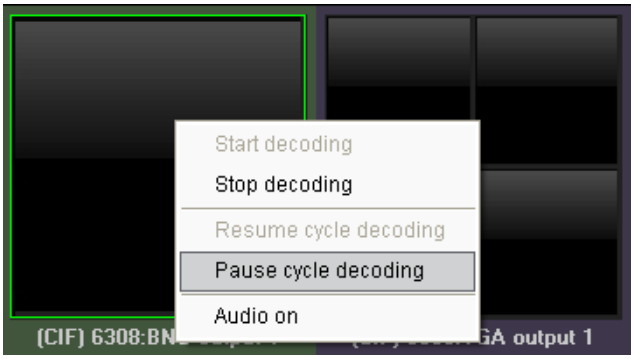
Select a window division of a decoder, drag one device node to it, then this decode division will cycle decode all the channels of this device. The decoder video display area will display the real-time video, and the state area will

display the states of current decoding.



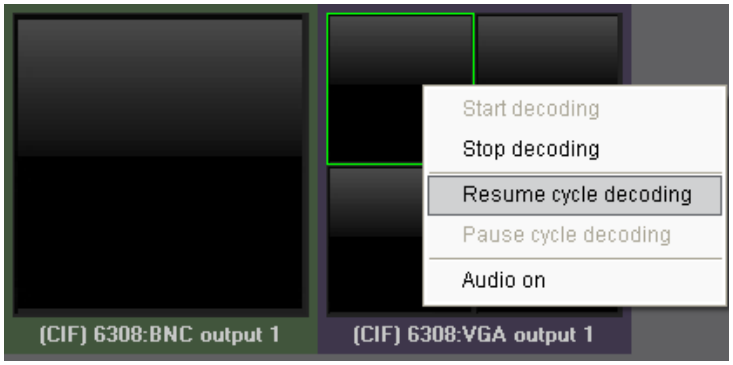
Pause cycle decoding

Right click the cycle decoding window, select “Pause cycle decoding” or click “” to pause the cycle decoding.



Resume cycle decoding

When the cycle decoding is off and right click on the decoding window, select “Resume cycle decoding” or click “”, it will start decoding again.



Configure the cycle decoding time

Click the icon ”Setup”—“Software configuration” to configure the cycle decoding time. The default cycle time is 20s. After configuring the time , click the icon ”save” to save the configuration.

4.5.3 PTZ control

If the decoder connected PTZ, user can operate the PTZ through this software.

There are 8 keys to control PTZ directions, and the active bar to change PTZ speed, which is adjustable from 1 to 7, and default speed is 4.

Click  key to start auto scan.

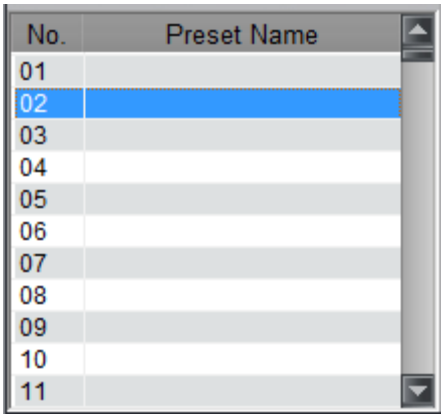
Click the function keys on the right to adjust focus, iris and zoom.

If PC connected with 1002K/1003K keyboard or USB joystick, the PTZ can also be controlled by them.

Note: When a division is in cycle decoding, PTZ control will pause, after PTZ control over, cycle decoding will resume.

Call preset

BY double clicking the existed preset, it will transfer the preset of current device.



C H A P T E R 5

Appendix

Appendix A Specifications

	DS-6301D
Video Compression	H.264、 MPEG4
Audio Compression	OggVorbis
Decode Resolution	QCIF/CIF/2CIF/DCIF/4CIF/ 720P
Video Output	1-ch, BNC (1.0Vp-p,75Ω)
Frame Rate	PAL:1/16～25fps, NTSC: 1/16～30fps
Stream Type	Video/Video & Audio
Audio Output	2-ch, BNC, 600Ω
VGA Interface	1-ch, Resolution 1280×1024×60Hz,1280×720×60Hz Or 1024×768×60Hz
Communicati-on Interface	1 RJ45 10M/100M/1000M adaptive Ethernet interface, 1 RS232, 1 RS485
Voice-Talk	1 BNC
Alarm Input/ Output	8 Alarm Input 8 Alarm Output
Consumption	≤40W
Working Humidity	10％--90％
Dimension (mm)	440mm(W)*44.5mm(H)*320mm(D)
Weight	≤5Kg

	DS-6304D	DS-6308D
Video Compression	H.264, MPEG4	H.264, MPEG4
Audio Compression	OggVorbis	OggVorbis
Decode Resolution	QCIF/CIF/2CIF/DCIF/4CIF/ 720P	QCIF/CIF/2CIF/DCIF/4CIF/ 720P
Video Output	4-ch, BNC (1.0Vp-p,75Ω)	8-ch, BNC (1.0Vp-p,75Ω)
Frame Rate	PAL:1/16～25fps, NTSC: 1/16～30fps	PAL: 1/16～25fps, NTSC: 1/16～30fps
Stream Type	Video/Video & Audio	Video/Video & Audio
Audio Output	6-ch, BNC, 600Ω	12-ch, BNC, 600Ω
VGA Interface	2-ch, Resolution 1280×1024×60Hz,1280×720×60Hz Or 1024×768×60Hz	4-ch, Resolution 1280×1024×60Hz,1280×720×60Hz Or 1024×768×60Hz

Communicati-on Interface	1 RJ45 10M/100M/1000M adaptive Ethernet interface, 1 RS232, 1 RS485	1 RJ45 10M/100M/1000M adaptive Ethernet interface, 1 RS232, 1 RS485
Voice-Talk	1 BNC	1 BNC
Alarm Input/ Output	8 Alarm Input 8 Alarm Output	8 Alarm Input 8 Alarm Output
Consumption	≤40W	≤40W
Working Humidity	10％--90％	10％--90％
Dimension (mm)	440mm(W)*44.5mm(H)*320mm(D)	440mm(W)*44.5mm(H)*320mm(D)
Weight	≤5Kg	≤5Kg

Appendix B FAQ

- **Why cannot ping the decoder?**

  Please refer to Chapter 3 to configure the decoder IP being in the same segment as your PC, and check the cable and switch.

- **Why the transparent channel has been set, but the encoder still cannot receive data?**

  Please 1. check if RS232 has been set as transparent channel first.

  2. check the connection of encoder.

- **Why cannot add decoder with software?**

  Please 1. check the decoder IP.

  2.Cable is connected.

  3.User name and password of decoder are correct.

- **Why cannot playback the recorded file in DVR with decoder?**

  Please 1.check the DVR network connection.

  2.check the parameters of the Playback file.

  3.check if there are files existed in the selected time range.

- **Why cannot decode the stream transported by stream media server?**

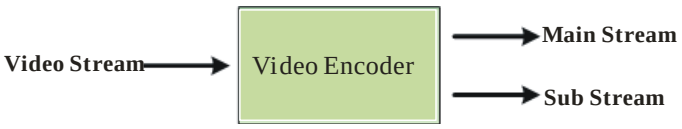
  Please 1. check the network connection between decoder and stream media server.

  2. check if the stream media server port is connected with the port added on decoder.

Appendix C Glossary

Dual Stream

Dual stream refers to that one channel of video stream can be divided into double independent output streams through the video encoder. Shown as below:



The resolution, frame rate, bitrate and other parameters of the output stream are independently programmable. The two streams generated may meet different application demands, e.g., one stream is used for HDD storage, and the other for transmission via Internet.

Transparent Channel

The transparent channel indicates the channel used for transmitting data, and through which the data transmitted receives no handling and thus retains no change. By remotely connecting the keyboard with the decoder, the transparent channel can be established to realize control of dome or Pan/Tilt unit connected to remote encoder.

Resolution

The type of resolution can be divided into the display resolution, image resolution and pixel resolution.

The display resolution refers to the maximum display zone on the screen in certain display mode, measured in horizontal and vertical pixel.

The image resolution describes the detail a digital image holds, measured in horizontal and vertical pixel as well.

In case the image resolution is higher than the display resolution, proportion of the image will not be displayed on the screen.

The pixel resolution indicates the ratio of the pixel width and length. Different pixel width/length ratio will result in different shape of image.

Generally the image resolution is applied to the digital surveillance:

PAL: QCIF (174*144), CIF(352*288), 2CIF(704*288), DCIF(528*384), 4CIF(704*576).

NTSC: QCIF (174*120), CIF(352*240), 2CIF(704*240), DCIF(528*320), 4CIF(704*480).

The display resolution is usually applied to VGA monitor:

640*480, 800*600, 1024*768, etc.

Effective resolution of 720P is 1280*720.

Streaming Server

The streaming server refers to a dedicated computer system or server which runs the corresponding streaming media software to provide the delivery of data. It is generally applied to the delivery of the same massive data, which may greatly reduce the load of the host as well as save internet resources.