



**User manual For
DS4300 Series Card demo (V1.0.0)**

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Note: The screenshot below is just a schematic diagram, it maybe different from the real image. So please regard to the actual image

Jargon explanation:

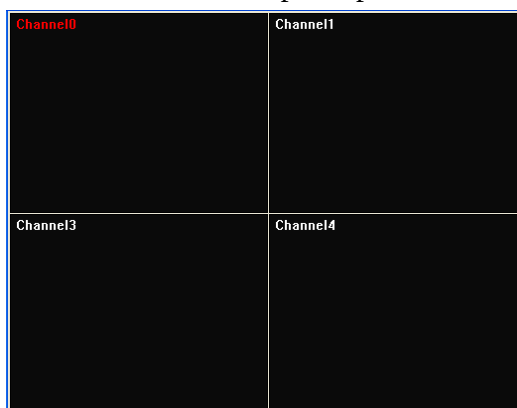
1. Current channel:

(1) For **encoding channels**, when you left-click the preview area, the channel which is clicked on will be the current channel.

i. Under the non-Overlay preview mode, the channel with yellow “Channelxx” on the up/left position is the current channel.



ii. Under the Overlay preview mode, the channel with red “Channelxx” on the up/left position is the current channel.

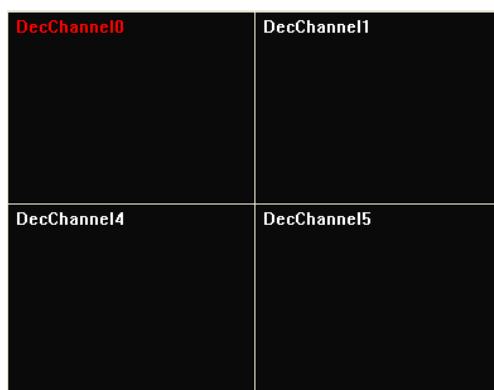


(2) For **decoding channels**, the current channel is also the one which your mouse left-click on the preview area.

i. Under the non-Overlay preview mode, the channel with purple “DecChannelxx” on the up-left position is the current channel.

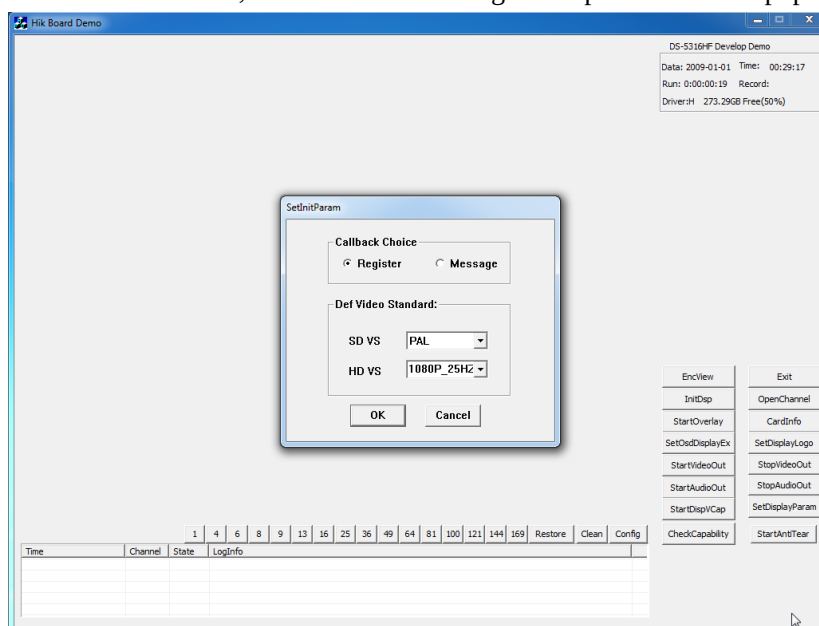


- ii. Under the Overlay preview mode, the channel with red “DecChannelxx” on the up-left position is the current channel.



1 Initialization

- Run “HTDemo.exe”, the window for setting initial parameters will pop up.

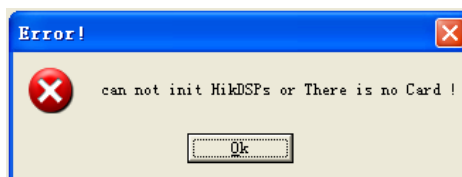


Interface description:

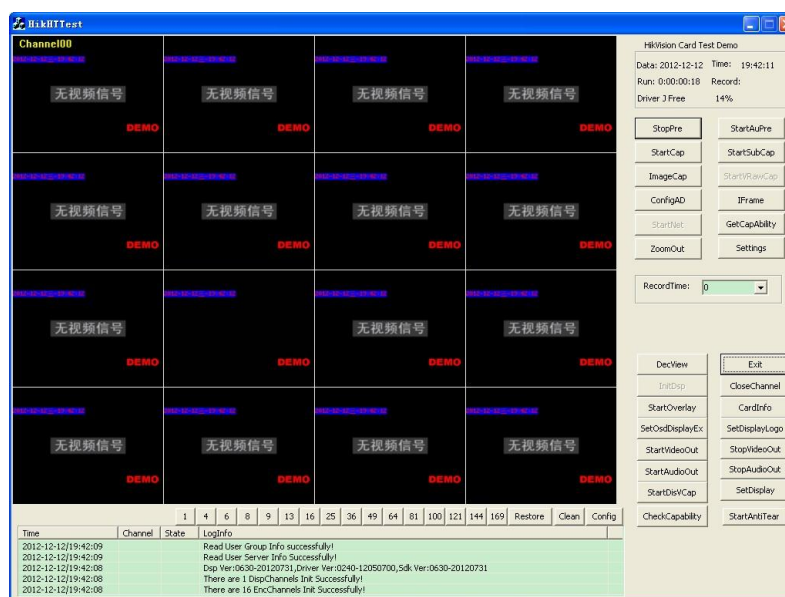
Function	description
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【Radio Button】 Register	The video stream of each encoding channel adopts the way of registering callback and uploading directly to the application. For details, please see the SDK programming manual.
【Radio Button】 Message	The Video stream of each encoding channel adopts the way of message notification and uploading to the application, For details, please see the SDK programming manual.
【Dropdownlist】 Default Video Standard	When the SD encoding channels detect no video signals (count in “no video signal” or “weak signal input”), it will take the default video signal format. PAL or NTSC are optional.
【Dropdownlist】 Default Video Standard	When the HD encoding channels detect no video signals (count in “no video signal” or “weak signal input”), it will take the default video signal format. 720P_25HZ, 720P_30HZ, 720P_50HZ, 720P_60HZ, 1080I_50HZ, 1080I_60HZ, 1080P_25HZ, 1080P_30HZ are optional.

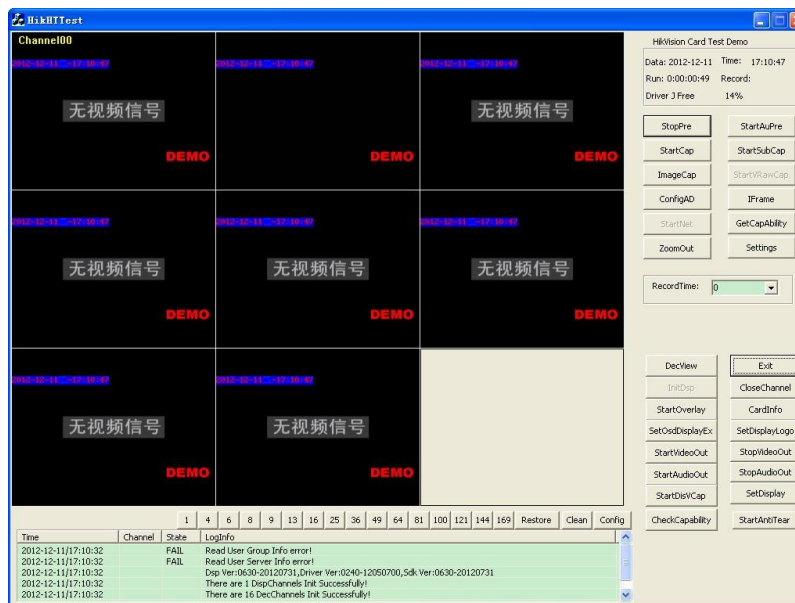
- At last, click the “OK” button. Demo will start initializing the device. If the operation system of PC can't find DSP or the driver of DS4300 hasn't been installed in the right way, The hint window will notify you that the initialization is failed as below.



- If initialization is succeed, according to the different Card, you will have corresponding operation interface.
- Only containing encode channel no decode channel, it will show Enc view interface as below, so when you press the “Decview” button, you can't enter into the main interface of decoding channels.

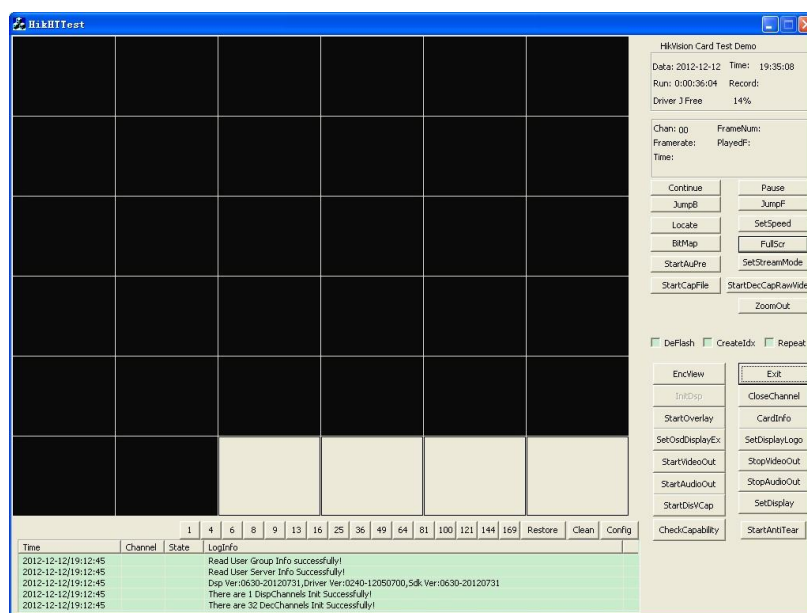


- ii. Containing both encode channel and decode channel, it will show up Enc view interface as below.



From this interface, when you click “DecView”, you will enter into the main interface of decoding channels.

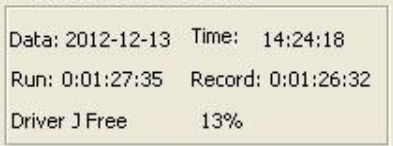
- iii. Only containing decode channel no encode channel, it will show you Dec view interface as below.



2 Universal main interface

Description for main interface.

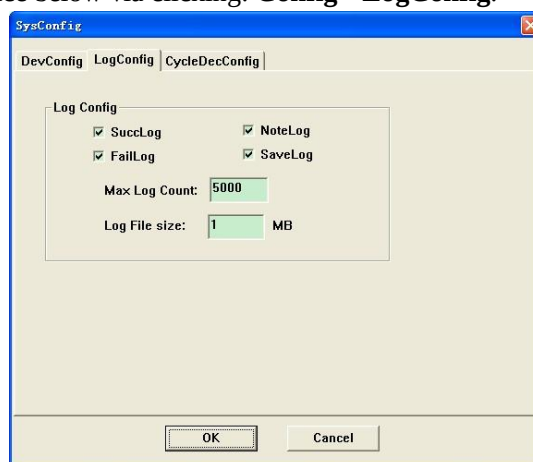
Function	Description																								
【Control】 Preview area	The backcolor uses RGB(10,10,10) to show the preview of encoding or the playback of decoding, which is close to “black”. The default division method takes closest $x^2(x \times x, x = \text{positive integer})$ numbers to its real channel numbers. The default control backcolor of channels who is not tied with channels will be white. You can switch the division mode orderly for channels by double left-click any position of the preview area. If you are at the encoding main interface, you can switch between the whole screen mode and the windows mode by double left-click any position of the preview area.																								
【button】 1、4、6、8、9、13、16、25、36、49、64、81、100、121、144、169	Switching the division mode of preview, the number stand for the division number of channels by pressing this button.																								
【button】 Restore	Restore to the default division mode, which is closest to the number of encoding or decoding channels.																								
【button】 Clean	Clear all the information in the “Log info” list control.																								
【button】 Config	Enter into the configuration interface of HTDemo : Device management,																								
【List Control】 Log info	<table><tr><th>Time</th><th>Channel</th><th>State</th><th>LogInfo</th></tr><tr><td>2012-12-13/09:19:44</td><td>07</td><td>FAIL</td><td>chan:7 RefreshEncVideoPreview failed, ret=c0000003</td></tr><tr><td>2012-12-13/09:19:44</td><td>06</td><td>FAIL</td><td>chan:6 RefreshEncVideoPreview failed, ret=c0000003</td></tr><tr><td>2012-12-13/09:19:44</td><td>05</td><td>FAIL</td><td>chan:5 RefreshEncVideoPreview failed, ret=c0000003</td></tr><tr><td>2012-12-13/09:19:44</td><td>04</td><td>FAIL</td><td>chan:4 RefreshEncVideoPreview failed, ret=c0000003</td></tr><tr><td>2012-12-13/09:19:44</td><td>03</td><td>FAIL</td><td>chan:3 RefreshEncVideoPreview failed, ret=c0000003</td></tr></table> As shown above, the list control will show HTDemo’s log information during running, including “work status, operation succeed/failed information and so on”. Each information includes “time, corresponding channel(but if an operation is not related to any channel, this item will be null), status (success /fail /notification), log information”. You can zoom in and watch it via double left clicking the list control. About the configuration of log info, please refer to section 2.1 “log info configuration”.	Time	Channel	State	LogInfo	2012-12-13/09:19:44	07	FAIL	chan:7 RefreshEncVideoPreview failed, ret=c0000003	2012-12-13/09:19:44	06	FAIL	chan:6 RefreshEncVideoPreview failed, ret=c0000003	2012-12-13/09:19:44	05	FAIL	chan:5 RefreshEncVideoPreview failed, ret=c0000003	2012-12-13/09:19:44	04	FAIL	chan:4 RefreshEncVideoPreview failed, ret=c0000003	2012-12-13/09:19:44	03	FAIL	chan:3 RefreshEncVideoPreview failed, ret=c0000003
Time	Channel	State	LogInfo																						
2012-12-13/09:19:44	07	FAIL	chan:7 RefreshEncVideoPreview failed, ret=c0000003																						
2012-12-13/09:19:44	06	FAIL	chan:6 RefreshEncVideoPreview failed, ret=c0000003																						
2012-12-13/09:19:44	05	FAIL	chan:5 RefreshEncVideoPreview failed, ret=c0000003																						
2012-12-13/09:19:44	04	FAIL	chan:4 RefreshEncVideoPreview failed, ret=c0000003																						
2012-12-13/09:19:44	03	FAIL	chan:3 RefreshEncVideoPreview failed, ret=c0000003																						

Running information for System	 Data indicates the current date in “year-month-day”; Time indicates the current time in “hour24:minute:second”; Run indicates the current running time of this Demo in the format “days:hours:minutes:seconds”; Record indicates the latest starting time of main or sub channel encoding, in the format “days:hours:minutes:seconds”; [Driver “disk name” Free] indicates the free percentage of the current disk which is used for storing the record file, screenshot file, captured raw video file.
【button】 EncView/DecView	Switch the encoding main interface/decoding main interface, if there are encoding channels in the system, it will enter the encoding main interface after initialization. If there are decoding channels in system, you can switch to the decoding main interface via press the button, but if there is no decoding channels in the system, this button is invalid. However if there are only decoding channels in the system, after initialization, system will go to the decoding main interface directly, this button is invalid at the moment.
【button】 Exit	To exit the demo, you can also logout the demo by clicking  .
【button】 CloseChannel	Close all the channels including both encoding channels and decoding channels. If video&audio preview, encoding or raw video capturing is running on encoding channels, then all these operations will stop; If video&audio preview, decoding, video output or raw video capturing is running on decoding channels, then all these operations will stop.
【button】 StartOverlay/StopOverlay	To Open/Close the overlay preview mode.
【button】 CardInfo	To show device information. For details, please see section 2.2 “show device information”.
【button】 SetOsdDisplayEx	To set the extended OSD, for detailed info, please refer to section 2.3 “Set extended OSD”.
【button】 SetDisplayLogo	To set the LOGO of output channel, for detailed info, please refer to section 2.4 “Set display channels LOGO”.
【button】 StartVideoOut	Set and start the encoding channels or the decoding channels’ video matrix or internal output, for detailed information, please refer to section 2.5 “Set video output”.

【button】 StopVideoOut	Stop the video output.
【button】 StartAudioOut	Set and start the encoding channels or the decoding channels' audio matrix or internal output. For detailed information, please refer to section 2.6 “Set audio output”.
【button】 StopAudioOut	Stop the audio output.
【button】 StartDispVCap/StopDispVCap	Set and Start/stop raw video capturing of the display channels. For detailed information, please refer to section 2.7 “Set raw video capturing for display channels”.
【button】 SetDisplayParam	Set the parameters of display channel, for detailed information, please refer to section 2.8 “Parameters settings of display channels”
【button】 CheckCapability	Check the capability of channels
【button】 StartAntiTear/StopAntiTear	Open/Close the “AntiTearing” function for preview

2.1 Log info configuration

You will enter the interface below via clicking: **Config->LogConfig**.



Interface description:

Function	description
【Check Box】 SuccLog	Whether or not to output the “SuccLog” information into the “Log info” list control.
【Check Box】 FailLog	Whether or not to output the “FailLog” information into the “Log info” list control.
【Check Box】 NoteLog	Whether or not to output the “NoteLog” info into the “Log info” list control.
【Check Box】 SaveLog	Whether or not to save the log file. If checked, then no matter whether “SuccLog”, “FailLog”, “NoteLog” is checked, all the three type log info will be written to the file.

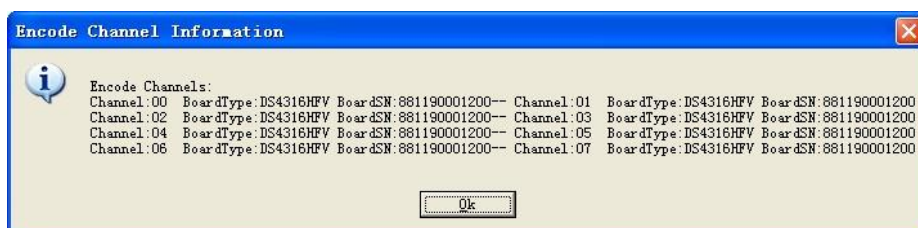
【Edit Box】 Max Log Count	The maximum number of log info in the “Log info” list control, If the total number of log informations exceed this value, firstly it will clear all the log informations in the “Log info” list control, then it will start writing from the first line again.
【Edit Box】 Log File Size	Maximum log file size, when log file size exceed this value, a new log file will be generated for writing the log informaiton.
【button】 OK	Apply the current configuration and quit the dialog box.
【 Button 】 Cancel	Exit the current dialog box

 **Note:**

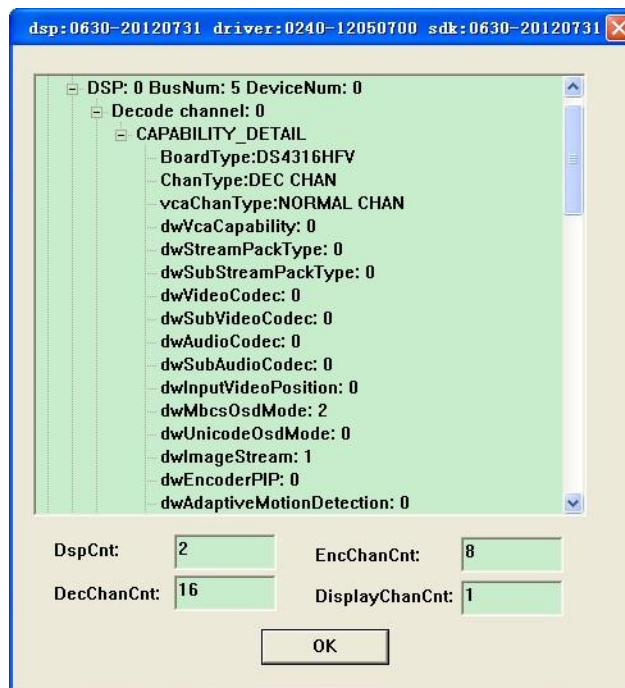
Once “SaveLog” is checked, all the log info will be saved to the working directory of HTDemo. The naming rule for the log file is “Demolog_yymmddhhmmss.txt”, yymmdd is the date, hhmmss is the accurate time.

2.2 show device information

1. In the main interface, when you click “CardInfo”, if there are encoding channels in the system, dialog box below will popup. List all the encoding channels and its corresponding model and serial number.



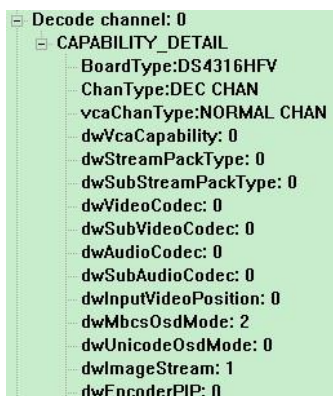
2. Then you will enter into the device information dialog box of DS-4316HF:



- The title of the dialog box shows the DSP software version, DSP's driver version and the SDK version.
- In device's detailed information list, the root node is the device information including: serial number, device type, version. Please see below.

Board: 0 Type: DS4316HFV, SN: 881190001200 Ver: 0.0.0
- The first floor sub-node shows the DSP info including: serial number, PCI bus number, PCI device's number, as below

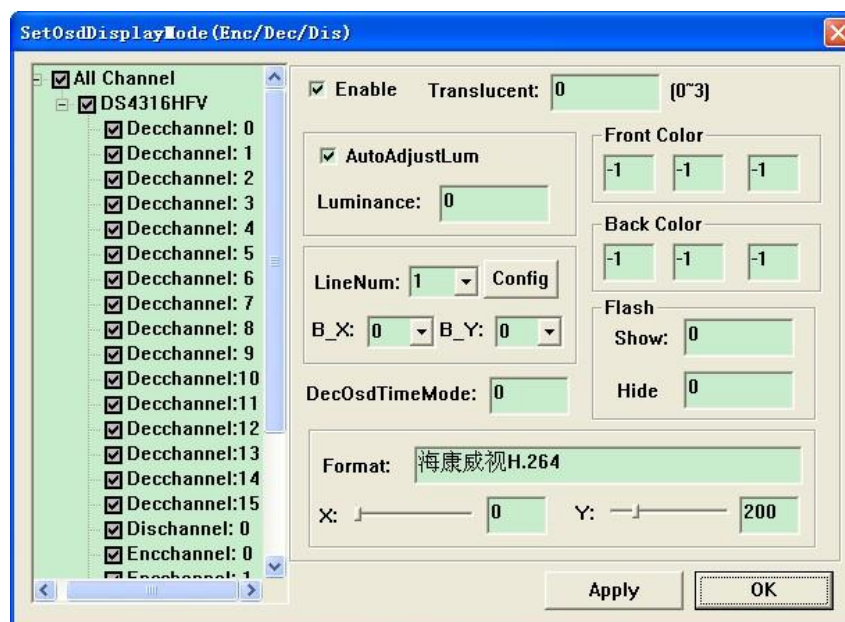
DSP: 0 BusNum: 5 DeviceNum: 0
- The second floor sub-node shows the channel info including: channel capability set, for detailed info, please see the SDK programming manual.



- Below the device's detailed information list is: the number of DSP in the system, the number of encoding channel in the system, the number of decoding channel in the system, the number of display channel in the system.

2.3 Set extended OSD

In the main interface, click “SetOsdDisplayEx”, the configuration dialog box for extended OSD will popup.



Interface description:

Function	Description
【Tree】 Show channels in tree form	Show all the encoding channels, decoding channels and display channels in the device.
【Check Box】 Enable	Start or stop channel's extend OSD function
【Edit Box】 Translucent	Translucent or not, 0:foreground and background are both non-transparent, 1: foreground is translucent, background is non-transparent, 2: foreground is non-transparent, background is translucent, 3: foreground and background are both translucent.
【Check Box】 AutoAdjustLum	Whether or not to adjust the brightness automatically, under the automatic mode,the established value for brightness is invalid.
【Edit Box】 Luminance	OSD's brightness value, range [0,255], only valid when "AutoAdjustLum" is not checked.
【Edit Box】 Front Color	OSD characer's color, From left to right, indicates the value of "R,G,B" orderly. If any of the three item's value is less than 0, then no settings will be made to the OSD character's color
【Edit Box】 Back Color	OSD backcolor, From left to right, indicate the value of "R,G,B" orderly. If any one of these three item's value is less than 0, then no settings will be made to the OSD background's color
【Comb Box】 OSD's line number	Select the line number for the settings of OSD character's zoom-in times , currently support 8 lines OSD.
【Edit Box】 B_X、 B_Y	Zoom-in times for OSD character's Pan and tilt separately. Current supported zoom times and suitable resolution can be seen in table 2.1

【Button】 Config	Apply the zoom times for the corresponding OSD line.
【Edit Box】 DecOsdTimeMode	Time showing mode of decoding channel's OSD. 0:system time; 1:time in stream.
【Edit Box】 Show	OSD flash's show time.(unit is second)
【Edit Box】 Hide	OSD flash's disappear time.(unit is second)
【Edit Box】 Format	Write characters for the eighth line's OSD, the total length should be less than 88 single byte characters or 44 multibytes characters(note:the blank space which is before or between the characters is also counted in), if exceed this length, the hint  will pop up.
【Horizontal slider】【Edit Box】 X	Pan start position for the eighth OSD, unit is pixel, needs to align at 8 pixels.
【Horizontal slider】【Edit Box】 Y	Tilt start position for the eighth OSD, unit is pixel, needs align at 2 pixels.
【Button】 Apply	Apply the configured parameters.
【Button】 OK	Apply the configured parameters and exit the dialog box.

Table 2.1 Zoom-in times and suitable resolution for OSD characters

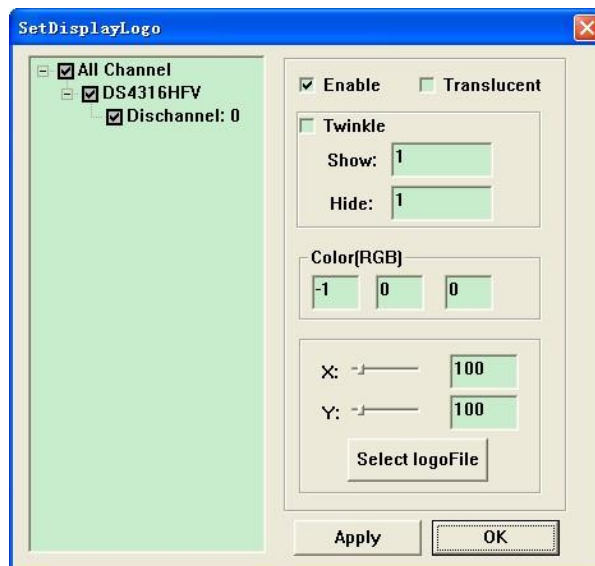
Pan zoom-in times	Tilt zoom-in times	Suitable resolution	Description
1	1	4CIF	Fuzzy in other resolution
1	2	2CIF	Fuzzy in less than 2CIF
2	2	CIF、DCIF	Fuzzy in QCIF
4	4	QCIF	Too large in other resolution
If any one is 0.(Pan=0 or Tilt=0)		Auto setting(default, Pan-1, tilt-1)	
If input other invalid value for pan and tilt.		Adopt:Pan-2, tilt-2	

 Note:

1. It supports 8 lines (max) OSD under this mode.

2.4 Set display channels LOGO

In the main interface, click “SetDisplayLogo”, the config dialog box for display channel’s LOGO will popup.



Interface description:

Function	Description
【Tree Control】 Show channels in tree form	Only show the display channels in the device.
【Check Box】 Enable	Open or close the LOGO function for the display channels.
【Check Box】 Twinkle	Whether the LOGO will work in flash mode or not.
【Edit Box】 Show	LOGO’s show time.(unit is second).
【Edit Box】 Hide	LOGO’s disappear time.(unit is second).
【Edit Box】 Color	LOGO color, from left to right, indicates the value of “R,G,B” orderly. If any one of the three item’s value is less than 0, then no settings will be made to the LOGO’s color.
【Horizontal slider】 【Edit Box】 X	The horizontal ordinate for LOGO image in the output video,unit is pixel.
【Horizontal slider】 【Edit Box】 Y	The vertical coordinates for LOGO image in the output video,unit is pixel.
【Button】 Apply	Apply the configured parameters.

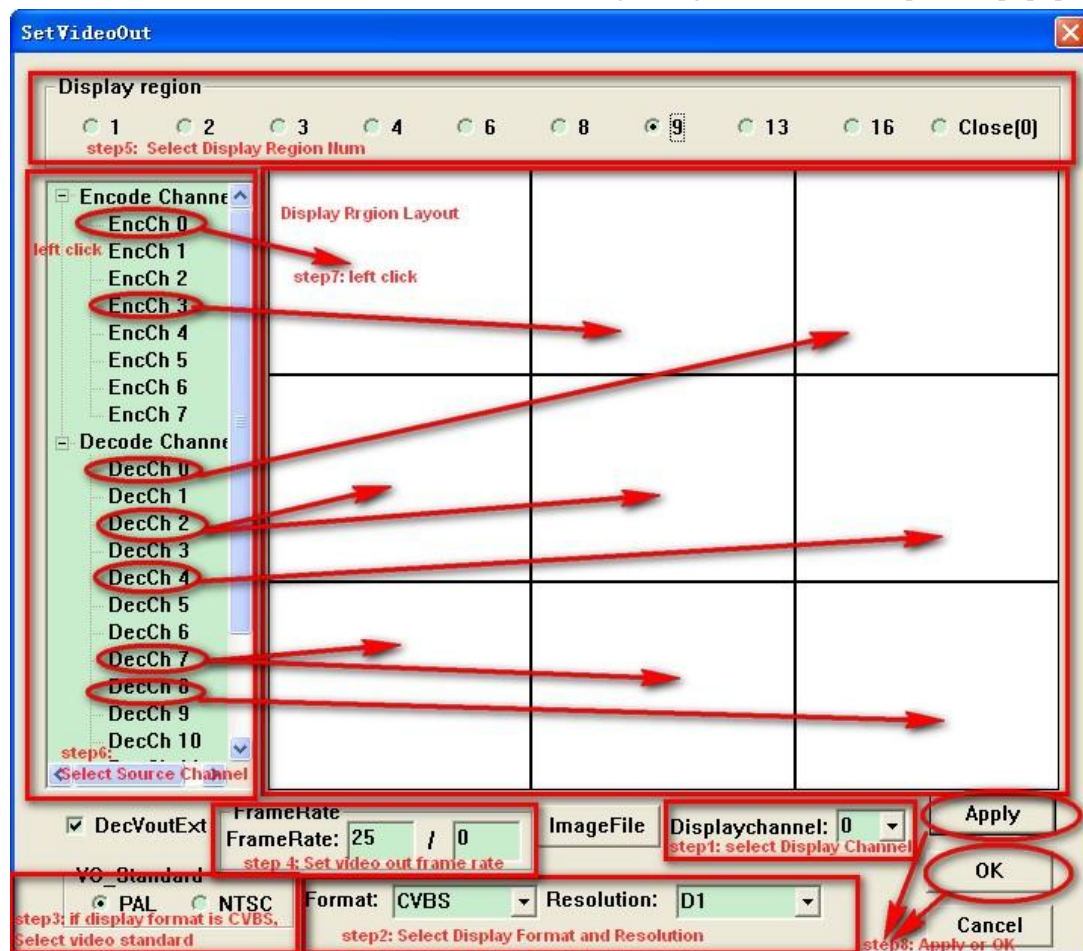
【Button】

OK

Apply the configured parameters and exit the dialog box.

2.5 Set video output

In the main interface, click “StartVideoOut”, the config dialog box for video output will popup.



Interface description:

Function	Description
【Tree Control】	Select the source channel for ouputing: encoding channels or decoding channels.
【Radio Button】 Display Region	Select the display channel and division mode, if you choose “close”, it will close the output of the current selected channels.

【Control】 Layout for display region	According to the Display Region you selected, it will show the related layout for the display region. Left-click the channel node in the source channel tree. Then left-click at any area of the display region, the channel number will show up as:Dec0,Enc0 and so on. As the selection in the above picture, the end relation between the output source channel and display channel is as below. Among them, Dec2 and Dec7 output twice. <table><tr><td>EncCh 0</td><td>EncCh 3</td><td>DecCh 0</td></tr><tr><td>DecCh 2</td><td>DecCh 2</td><td>DecCh 4</td></tr><tr><td>DecCh 7</td><td>DecCh 7</td><td>DecCh 8</td></tr></table>	EncCh 0	EncCh 3	DecCh 0	DecCh 2	DecCh 2	DecCh 4	DecCh 7	DecCh 7	DecCh 8
EncCh 0	EncCh 3	DecCh 0								
DecCh 2	DecCh 2	DecCh 4								
DecCh 7	DecCh 7	DecCh 8								
【Check Box】 DecVoutExt	If checked, indicates internal video output for decoding channels. If unchecked, indicates matrix video output for decoding channels About the detailed definition for video internal output and video matrix output, please refer to SDK programming manual.									
【Edit Box】 FramRate	If the number behind “/” is 0, the frame rate will configurate according to the number before “/”. If the number behind “/” is larger than “0”, the frame rate is fraction, the number behind “/” will be numerator ,and the number before “0” will be denominator for the frame rate.									
ImageFile	Select the image for filling the display region, only supports BMP format, currently only when “DisplayRegion” choose 2, the function is valid, display area layout can be seen below: <table><tr><td>EncCh 0</td><td>EncCh 1</td></tr></table> Fill Image to this display Region	EncCh 0	EncCh 1							
EncCh 0	EncCh 1									
【Dropdownlist】 DisplayChannel	Select the display channel.									

【Dropdownlist】 Format	Set the video output interface: INVALID(invalid output format), CVBS,VGA, DVI, HDMI, YPbPr are optional, DS-4316HF only supports CVBS.
【Dropdownlist】 Resolution	Set the video output resolution and refresh frequency. DS-4316HF only support D1.
【Radio Button】 VO_Standard	Select video output standard:PAL or NTSC。 D1 resolution is valid only when your standard is CVBS.
【button】 Apply	Apply the configured parameters.
【button】 OK	Apply the configured parameters and exit the dialog box.
【button】 Cancel	Cancel and exit the dialog box.

Operation description:

The steps for settings video output is as image above.

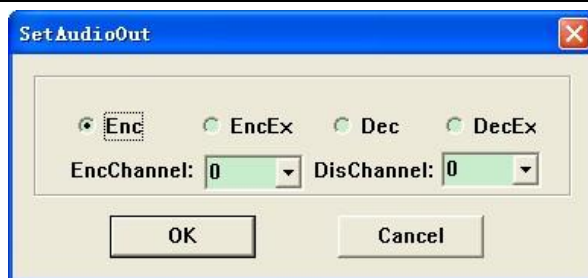
- Step1: Choose the display channel for video output;
- Step2: Choose output interface,resolution,refresh frequency for video output;
- Step3: If you choose CVBS for video output interface and D1 for resolution, you need to choose the standard (PAL or NTSC) for video output.
- Step4: To set the frame rate of video output, this item is valid only when the source channels are encoding channels;
- Step5: Select the number and division mode of display region;
- Step6: Left-click the channel node in the channel tree;
- Step7: Left-click the display area in the display region layout;
- Step8: Repeat Step6 and Step7, until all the source channels have selected;
- Step9: Click “Apply” or “OK” to apply all the configuration parameters and start video output.

 Note:

1. The same encoding or decoding channel can only output twice. You can choose different output according to the display region numeral order. Display region with smaller numeral order should choose output “0”, display region with larger numeral order should choose output “1”.
2. Frame rate settings is only valid when the source channels are encoding channels.

2.6 Set audio output

In the main interface, click “StartAudioOut”, the config dialog box for audio output will popup.



Interface description:

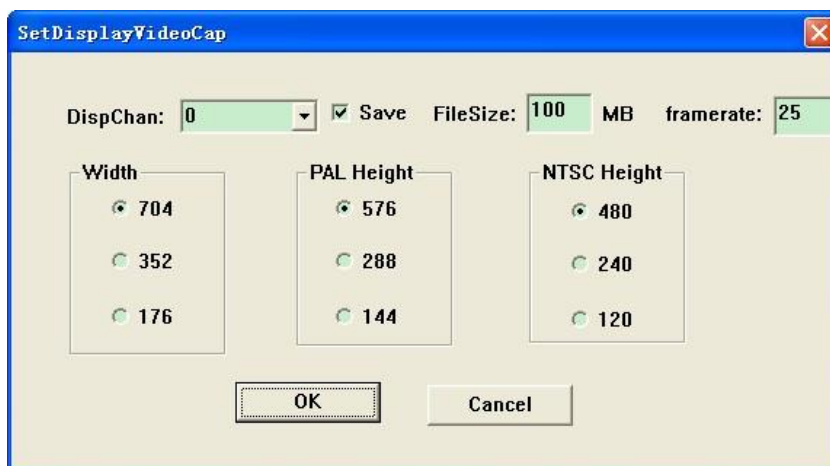
Function	Description
【Radio Button】 Enc	Internal audio output of encoding channels.
【Radio Button】 EncEx	Matrix audio output of encoding channels.
【Radio Button】 Dec	Internal audio output of decoding channels.
【Radio Button】 DecEx	Matrix audio output of decoding channels.
【Dropdownlist】 EncChannel /DecChannel	After you select Enc or EncEx, you can choose an encoding channel for audio source channel. After you select Dec or DecEx, you can choose a decoding channel for audio source channel.
【Dropdownlist】 DisChannel	Select the display channel for audio output.

 **Note:**

1. The same encoding or decoding channel can only output twice, which means that you can output one encoding channel 's video by two different display channel.

2.7 Settings of raw video capturing for display channels

In the main interface, click “StartDispVCap”, the config dialog box for settings of raw video capturing for display channels will popup.



Interface description:

Function	Description
【Comb Box】 DispChan	Selecting display channels.
【Check Box】 Save	Whether or not save the captured raw video data.
【Edit Box】 FileSize	The maximum size of captured raw video file. Once exceed this value, it will switch to the new file.
【Edit Box】 Framerate	Frame rate of captured raw video.
【Radio Button】 Width	Width of captured raw video.
【Radio Button】 PAL Height	Height of captured raw video while the video output standard is PAL.
【Radio Button】 NTSC Height	Height of captured raw video while the video output standard is NTSC.

Note:

1. If video output standard is PAL, the height of captured raw video image will be defined by “PAL Height”, The value of “NTSC Height” is invalid; If video output standard is NTSC, the height of captured raw video image will be defined by “NTSC Height”, The value of “PAL Height” is invalid.
2. The saved captured raw video data is stored under the root directory of the last disk partition. Name as : disp_videoXX_yyyy.mm.dd-hhmmss.yuv, XX is the encoding channel number, yyyy.mm.dd is the data, hhmmss is the accurate time.

2.8 Parameters settings of display channels

In the main interface, click “SetDisplayParam”, the config dialog box for parameters settings of display channels will popup.

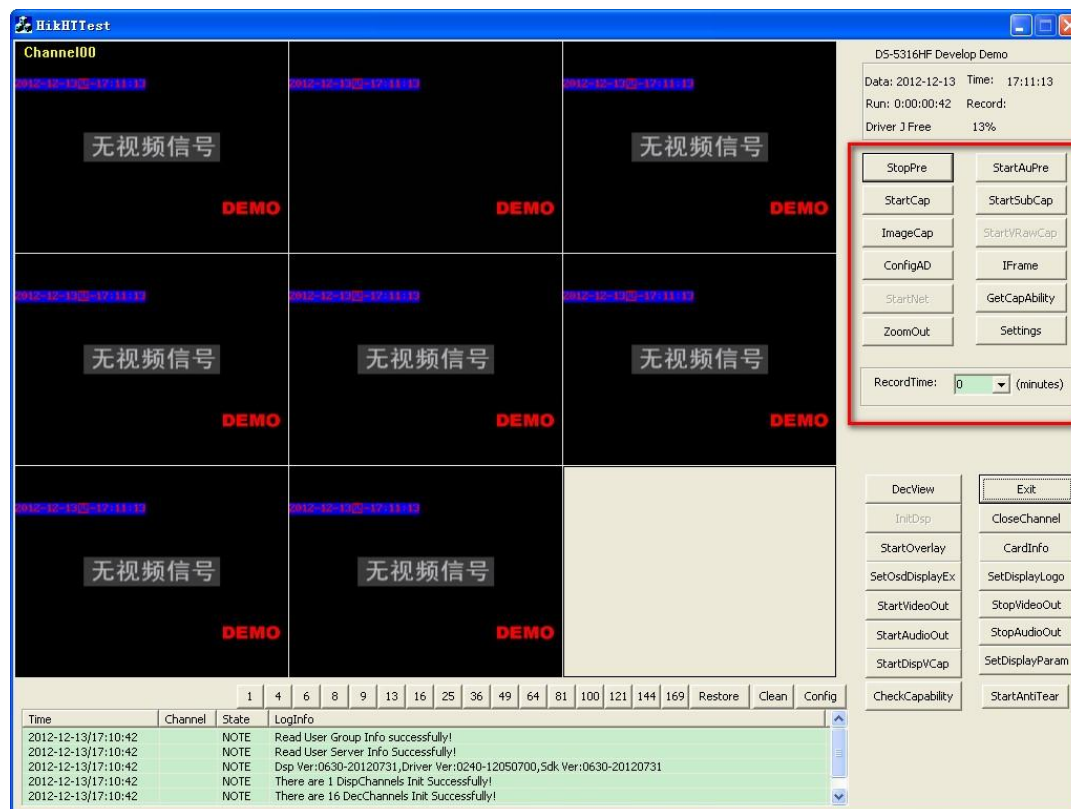


Interface description:

Function	Description
【Comb Box】 DisplayChannel	Selecting the display channel.
【Edit Box】 Brightness	Set the brightness of display channel's video output, range in [0,255]. Larger the value, brighter the video output.
【Edit Box】 nRegion	The numerical order of display region which needs to set its position.
【Edit Box】 nLeft	Set the horizontal ordinate for display region's top left corner in display channel, unit is pixel.
【Edit Box】 nRight	Set the vertical coordinates for display region's top left corner in display channel, unit is pixel.

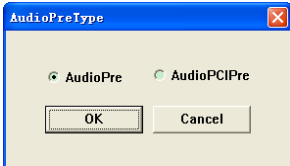
3 Encoding main interface

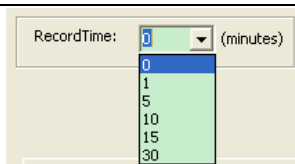
If there are encoding channels in system. After initialization, you will enter into the encoding main interface as below by default:



Note: Buttons among the red frame are other encoding related functions except normal functions.

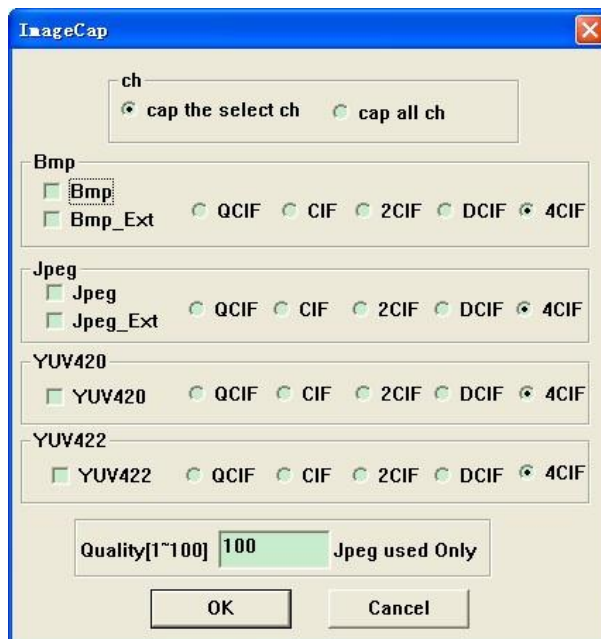
Interface description:

Function	Description
【Button】 StopPre/StartPre	Stop/Start the preview of encoding channels, preview for encoding channel is “start” by default.
【Button】 StartAuPre/StopAuPre	Stop/Start the audio preview of encoding channels. If the button is “StartAuPre”, dialog below will popup after clicking:  For DS-4316HF, either “AudioPre” or “AudioPCIPre” is ok.
【Button】 StartCap/StopCap	Stop/start the encoding of main channel. For detailed information, please refer to the section 4.1:Settings of encoding channels.
【Button】 StartSubCap/StopSubCap	Stop/start the encoding of sub channel.
【Button】 ImageCap	Enter the configuration interface of screenshot, please refer to 3.1: Screenshot of encoding channel

【Button】 StartVRawCap/StopVRawCap	Start/stop capturing raw video of encoding channels. This button is valid after set the raw capture related parameters in the configuration interface of encoding channel. Please refer to section 4.5 “Settings of encoding channel’s raw video capturing” for details.
【Button】 ConfigAD	Enter into the settings interface for encoding channel’s image parameters. For details, please refer to section 3.2:image settings for encoding channels.
【Button】 IFrame	If the current channel’s main channel encoding or sub channel encoding is running, force encoding the current frame as I frame.
【Button】 Zoom-in	Settings zoom in for local region of encoding channels video preview. For details, please refer to section 3.3: zoom in for local region of encoding channels video preview.
【Button】 Settings	Enter into the settings interface for encoding channel including encoding parameters settings,LOGO/OSD settings, motion detection conguration, MASK, Tamper, preview settings, raw stream capture settings for encoding channel. For details, please refer to chapter 3 “function configuration for encoding channels”
【Dropdownlist】 RecordTime	 Switch time for record file, unit is minute. If choose “0”, Record file of sub/mian encoding channel will switch according to size, record file size can be configurated in section 4.1: Settings.of encoding parameters. If choose other values, Record file of sub/mian encoding channel will switch according to time. It will switch file once the encoding time is up to the selected value.

3.1 Screenshot of encoding channel

In the encoding main interface, click “ImageCap”, the config dialog box for screenshot will popup.



Interface description:

Function	Description
【Radio Button】 cap the select ch/cap all ch	Select “cap the select ch” indicates screen shot for current channels; Select “cap all ch” indicates screen shot for all the channels;
【Check Box】 BMP	Capture the BMP screenshot of the selected encoding channel, resolution using 4CIF.
【Check Box】 BMP_Ext	Capture the BMP screenshot of the selected encoding channel, resolution using the selected resolution of the backward group’s radio button.
【Check Box】 JPEG	Capture the JPEG screenshot of the selected encoding channel, resolution using 4CIF.
【Check Box】 JPEG_Ext	Capture the JPEG screenshot of the selected encoding channel, resolution using the selected resolution of the backward group’s radio button.
【Check Box】 YUV420	Capture the YUV420 screenshot of the selected encoding channel, resolution using the selected resolution of the backward group’s radio button
【Check Box】 YUV420	Capture the YUV422 screenshot of the selected encoding channel, resolution using the selected resolution of the backward group’s radio button.
【Edit Box】 Quality(1~100)	The quality of JPEG file, range in[1,100].
【Button】 OK	Capture screenshot according to the settings and exit the dialog box
【Button】 Cancel	Exit the diglog box.

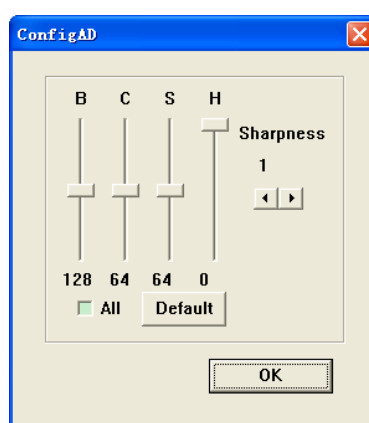
Note:

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1. The saved fixed resolution BMP file is stored in the root directory of the last disk partition. Name as: imageXX_yyyy.mm.dd-hhmmss_i.bmp. “XX” is the encoding channel number, “yyyy.mm.dd” is the date, “hhmmss” is the time, “I” is the numerical order.
2. The saved optional resolution BMP file is stored in the root directory of the last disk partition. Name as: image_ext_XX_yyyy.mm.dd-hhmmss_i.bmp. “XX” is the encoding channel number, “yyyy.mm.dd” is the date, “hhmmss” is the time, “I” is the numerical order.
3. The saved fixed resolution JPEG file is stored in the root directory of the last disk partition. Name as: imageXX_yyyy.mm.dd-hhmmss_i.jpg. “XX” is the encoding channel number, “yyyy.mm.dd” is the date, “hhmmss” is the time, “I” is the numerical order.
4. The saved optional resolution JPEG file is stored in the root directory of the last disk partition. Name as: image_ext_XX_yyyy.mm.dd-hhmmss_i.jpg. “XX” is the encoding channel number, “yyyy.mm.dd” is the date, “hhmmss” is the time, “I” is the numerical order.
5. The saved YUV420 file is stored in the root directory of the last disk partition. Name as: image_ext_XX_yyyy.mm.dd-hhmmss_i.yuv420. “XX” is the encoding channel number, “yyyy.mm.dd” is the date, “hhmmss” is the time, “I” is the numerical order.
6. The saved YUV422 file is stored in the root directory of the last disk partition. Name as: image_ext_XX_yyyy.mm.dd-hhmmss_i.yuv422. “XX” is the encoding channel number, “yyyy.mm.dd” is the date, “hhmmss” is the time, “I” is the numerical order.

3.2 Image settings for encoding channel

In the encoding main interface, click “ConfigAD”, the configuration dialog box for image settings will popup.



Interface description:

Function	Description
【Slider】 B	Brightness, Default value:128, range in[0,255], Larger the value, higher the brightness.

【Slider】 C	Contrast, Default vaule:64, range in [0,127], Larger the value, higher the Contrast.
【Slider】 S	Saturation, Default vaule:64, range in [0,127], Larger the value, higher the Contrast.
【Slider】 H	Hue, Default vaule:0, range in [0,255], Larger the value, higher the Hue.
【Spin(rotate)】 Sharpness	Sharpness, Default vaule:1, range in [0,3], Larger the value, higher the sharpness.
【Check Box】 All	Checked indicates to adjust image parameters to all the encoding channels. Unchecked indicates to adujust image parameters only to the current encoding channel. Default:unchecked.
【Button】 Default	Restore all the settings for the selected channels to its default value.
【Button】 OK	Exit the dialog box.

⚠ **Note:**

1. All the settings above is valid timely once its value is changed.
2. If “All” check box is checked, then any parameter’s value change will valid to all the channels.

3.3 Zoom in for local region of encoding channels video preview

In the encoding main interface, click “ZoomIn”, the config dialog box of zoom-in for local region of encoding channels video preview will popup.

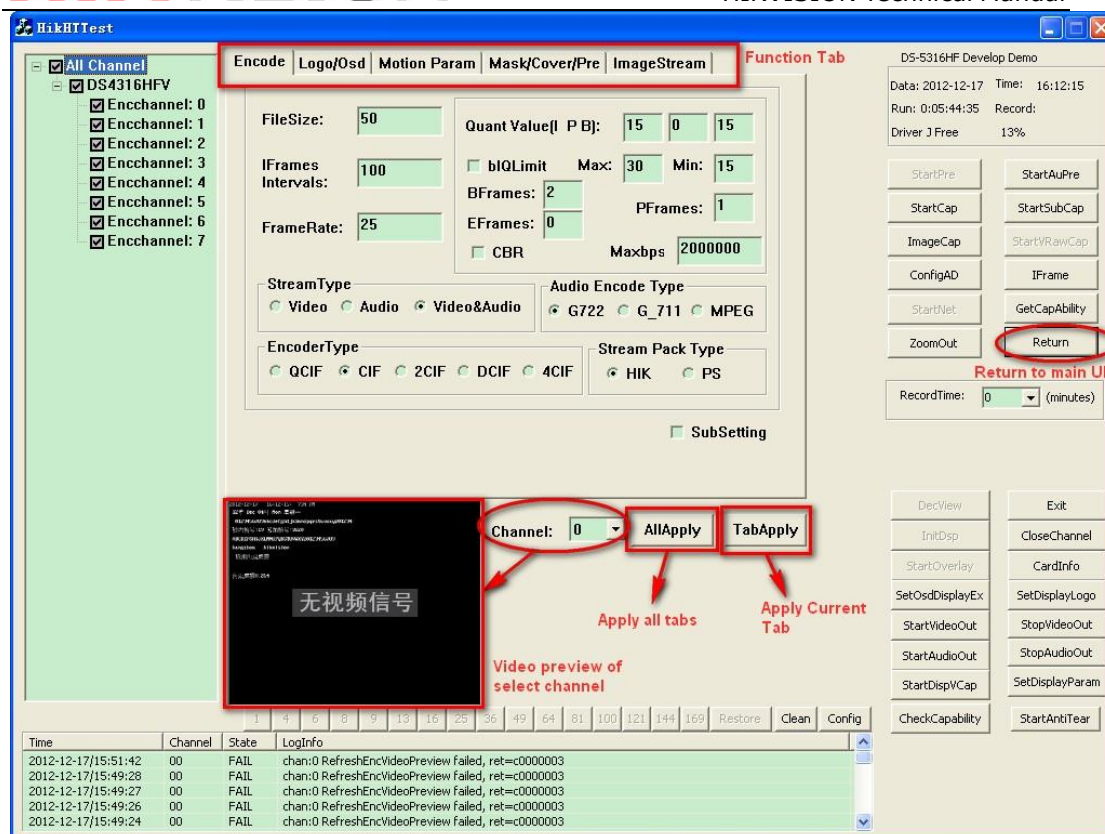


Interface description:

Function	Description
【Edit Box】 Zoom-inRect	The relative coordinate of the local zoom-in region. left: up/left horizontal ordinate, uniformization handling according to the raw picture's width; width: uniformization handling according to the raw picture's width; top:up/left vertical coordinate, uniformization handling according to the raw picture's height; height: uniformization handling according to the raw picture's height.
【Check Box】 Zoom-inSource	Whether or not to zoom-in the local region of the encoding channels video preview.
【Check Box】 Enable Zoom Out	Checked or not indicates enable/disable the function of local zoom-in.
【Control】 Display Region	Show local zoom-in preview image. The actual using number can be changed in range[1,16].
【Button】 Start Anti Tearing	Open the anti-tearing function of local zoom-in preview image.
【Button】 RegisterDrawFun/Stop-RegisterDrawFun	Register/stop-register the drawing callback of local zoom-in preview image.
【Button】 Apply	Apply all the settings.
【Button】 OK	Apply all the settings and exit the dialog box.
【Button】 Cancel	Cancel and exit the dialog box.

4 Configuration of encoding channels

In the encoding main interface, click “Settings”, the config dialog box for configuration of encoding channel will popup.



Interface description:

Function	Description
【Tab】 Encode	Settings of encoding's parameters setting. For details, please see section4.1 "Settings of encoding parameters".
【Tab】 Logo/Osd	Settings of encoding's Logo and Osd setting. For details, please see section4.2 "Settings of encoding channel's Logo and Osd".
【Tab】 MotionDetect/ViColorMode	Settings of motion detection and scene mode of video input. For details, please see section4.3 "Settings of motion detection and scene mode of video inout".
【Tab】 Mask/VideoPre	Settings of Mask and input video signal For details, please see section4.4 "Settings of mask and input video signal".
【Tab】 ImageStream	Settings of encoding channel's raw video capture. For details, please see section4.5 "Settings of encoding channel's raw video capturing".

4.1 Settings of encoding Parameters

Under the config dialog box. For configuration of encoding channel, please select the tab "Encode".

The screenshot displays the HIKVISION encoding settings interface. It includes the following controls:

- FileSize:** 50
- Iframes Intervals:** 100
- FrameRate:** 25
- Quant Value(I P B):** 15, 0, 15
- biQLimit:** ☐ (unchecked)
- Max:** 30
- Min:** 15
- BFrames:** 2
- EFrames:** 1
- PFrames:** 1
- CBR:** ☐ (unchecked)
- Maxbps:** 2000000
- StreamType:** ☐ Video, ☐ Audio, ☒ Video&Audio
- Audio Encode Type:** ☒ G722, ☐ G_711, ☐ MPEG
- EncoderType:** ☐ QCIF, ☐ CIF, ☐ 2CIF, ☐ DCIF, ☒ 4CIF
- Stream Pack Type:** ☒ HIK, ☐ PS
- SubSetting:** ☒ (checked)

Interface description:

Function	Description
【Edit Box】 FileSize	Encoding file size. While main/sub encoding channel's record file size reach to this presented value,it will switch to the new file. This parameter is valid only when "RecordTime" on the encoding main interface is "0". For details about "RecordTime", Please see the encoding main interface.
【Check Box】 SubSetting	Unchecked indicates the current settings are for the sub encoding channel. Checked indicates the current settings are for the main encoding channel.
【Edit Box】 Iframes Intervals	I frame Interval, range in[1,400], default value:100.
【Edit Box】 FrameRate	Encoding frame rate, PAL signal ranges in [0,25], NTSC signal ranges in [0,30].
【Edit Box】 Quant Value	Set the quality of encoding image, from left to right, they are: I frame coefficient quantization, range in:12-30; P frame coefficient quantization, range in:12-30, currently this parameter is invalid; B frame coefficient quantization, range in:12-30; currently this parameter is invalid;
【Check Box】 biQLimit	Whether or not to restrict the range of I frame coefficient quantization.
【Edit Box】 Max	Maximum value of I frame quantified system. Valid when checking the "biQLimit"
【Edit Box】 Min	Minimum value of I frame quantified system. Valid when checking the "biQLimit"
【Edit Box】 BFrames	Number of B frame, using 0 or 2, default value is 2.

【Edit Box】 PFrames	Number of P frame, currently it's invalid.
【Edit Box】 EFrames	Number of E frame. This parameter is invalid in DS-4316HF.
【Check Box】 CBR	Checked indicates that the encoding bitrate is constant bit rate; Unchecked indicates that the encoding bitrate is variable bit rate;
【Edit Box】 Maxbps	The maximum bitrate for encoding, unit is bps. When the encoding bitrate is variable bit rate, the maximum bitrate will be the upper limit for encoding bitrate. When the encoding bitrate is constant bit rate, the maximum bitrate will be as encoding bitrate constantly.
【Radio Button】 StreamType	Stream type: video, audio, video&audio stream. DS-4316HF doesn't support pure audio stream. This parameter must be configured before starting encoding.
【Radio Button】 Audio Codec	Audio encoding format: G.722、G.711 and MPEG are optional. This parameter must be configured before starting encoding.
【Radio Button】 EncodeType	Encoding resolution: QCIF, CIF, 2CIF, DCIF, 4CIF are optional
【Radio Button】 Stream Pack Type	Stream pack type: PS or HIK are optional. This parameter must be configured before starting encoding.

Note:

1. Stream Pack Type and Audio Codec must use the same settings in main/sub channel.

4.2 Settings of encoding channel's Logo and Osd

Under the config dialog box. For configuration of encoding channel, please select the tab "Logo/Osd".

Logo

☒ Logo Enable ☒ Translucent

☒ TwinkleInterval 1 1

RGB
R: 0 G: 0 B: 0

X: 0 Y: 0

Select logoFile

Osd

☒ Osd Enable ☒ Translucent

Brightness 0 Rollback: 0 B_X: 0 B_Y: 0

Format
X1 0 Y1 0

Format2
X2 0 Y2 50

yy-mm-dd H12:m 录像通道

Logo interface description:

Function	Description
【Check Box】 Logo Enable	Open or Close the LOGO of encoding channels.
【Check Box】 Translucent	Whether or not to set the translucent for LOGO.
【Check Box】 TwinkleInterval	Whether or not to set Twinkle interval for LOGO LOGO.
【Edit Box】 TwinkleInterval	From left to right, they are display time and disappear time, unit is second.
【Edit Box】 RGB	Set the key color for LOGO. From left to right, values are separately for R,G,B. If any of them is less than 0, the key color is invalid.
【Edit Box】【Horizontal slider】 X	The horizontal ordinate of its position where LOGO is located in. unit is pixel, needs to aligned to 16 pixels.
【Edit Box】【Horizontal slider】 Y	The vertical coordinate of its position where LOGO is located in. unit is pixel, needs to aligned to 8 pixels.
【Button】 Select logo File	Select picture for LOGO, currently it supports BMP, needs its width aligned to 16 pixels and its height aligned to 8 pixels.

Osd interface description:

Function	Description
【Check Box】 Osd Enable	Open or Close the OSD of encoding channels.
【Check Box】 Translucent	Whether or not to set translucent mode for OSD.
【Edit Box】 Brightness	The brightness of OSD characters, ranging in [0,255].
【Edit Box】 Rollback	Whether or not to adjust brightness automaticly. After checked, Brightness is invalid.
【Comb Box】 B_X	The times of horizontal zoom-in. For details, please refer to table 2.1 “Zoom-in times and suitable resolution for OSD characters”.
【Comb Box】 B_Y	The times of vertical zoom-in. For details, please refer to table 2.1 “Zoom-in times and suitable resolution for OSD characters”.
【Horizontal slider】 【Edit Box】 X1	Horizontal start positon for the first line OSD, unit is pixel, needs to align to 8 pixels.
【Horizontal slider】 【Edit Box】 Y1	Vertical start positon for the first line OSD, unit is pixel, needs to align to 2 pixels.

【Comb Box】 Display format for date and time	The display format for date and time in the first line OSD: First style: yyyy-mm-d www H24:m:s; Second style: yy-mm-d w H12:m:s;
【Horizontal slider】 【Edit Box】 X2	Horizontal start position for the second line OSD, unit is pixel, needs to align to 8 pixels.
【Horizontal slider】 【Edit Box】 Y2	Vertical start position for the first line OSD, unit is pixel, needs to align to 2 pixels.
【Edit Box】 OSD characters	Characters for second line OSD.

Note:

1. This mode can only configure the OSD for encoding channels.
2. Unextend OSD mode supports 2 lines OSD at most.
3. This mode can't set the zoom-in times for each line's OSD characters.

4.3 Settings of motion detection & scene mode of video input

Under the config dialog box for configuration of encoding channel, please select the tab "MotionDetect/ViColorMode".

Interface description for motion detect:

Function	Description
【Check Box】 Motion Detect	Open or Close motion detection.
【Check Box】 MD Ext	Whether or not to use extend mode of motion detection. The corresponding interface is SetupMotionDetectionEx. About the details of extend mode of motion detection, please refer to SDK programming manual.
【Check Box】 SelfAdapt	Whether or not to start the adaptive analysis.

【Check Box】 PrivateData	Whether or not to open motion detection of the private data. After open this function, the motion detection result will be embed into the encoding stream.
【Edit Box】 MDPrecision	The sensitivity of motion detection, ranging in [0,6]. 0 is the most sensitive mode, 6 is the least sensitive.
【Edit Box】 Threshold	Threshold value of motion level for motion detection analysis. Only valid in non-extend mode of motion detection, which means you shouldn't check the "MD Ext".
【Edit Box】 FastMD Fps	Frame interval of fast motion detection. Unit is frame, range in[0,99], normally using 2.
【Edit Box】 SlowMD Fps	Frame interval of slow motion detection. Unit is frame, range in[1,100]. The value of slowMD must be larger than fastMD's frame interval.
【Edit Box】 DelsyMD	Delay time for last MD, unit is second, only valid under extend mode of MD,needs to check "MD Ext" .
【Check Box】 bMotionRect	If unchecked ,only set one MD area (0,0,703,575),unit is pixel; If checked, you can configurate at most 100 MD area manually.
【Edit Box】 left、top、right、bottom	Ordinate for MD area, unit is pixel. Can be configured after checking "bMotionRect".
【Comb Box】 Numerical order of MD area	After chosen the MD numerical order, then write the ordinate for MD above.
【Button】 Save	Save the ordinate of current motion detection area.

Interface description for Vi Color Mode:

Function	Description
【Check Box】 SetSceneMode	Whether or not to set the scene mode of video input.
【Edit Box】 Mode	The scene mode available for video input:0-standard,1-indoor,2-dim light,3-outdoor, valid after checking "SetSceneMode" .

Normal operation steps for settings MD:

1. Non-extend mode MD
 - (1) Check "Motion Detect";
 - (2) Set MD parameters including MD sensitive, FastMD Fps, SlowMD Fps, Threshold value of motion level for motion detection analysis.
 - (3) Set the MD area;
 - i. If don't check "bMotionRect", then using the default MD area(0,0,703,575);
 - ii. If check "bMotionRect", you need to select MD area's numerical order first, then configurate ordinate for MD area. After all these settings finished, click button "save" to save the ordinate for the MD area Repeat this step, you can configurate all the other MD areas.
 - (4) Click "TabApply" or "AllApply" to start the MD.
 - (5) If MD is detected in the current encoding channel, then the MD object in this

channel's preview will be covered by yellow grid as picture below.



2. Extend mode MD

- (1) Check “Motion Detect”;
- (2) Set MD parameters including MD sensitive, FastMD Fps, SlowMD Fps, delay time for the last MD;
- (3) Set the MD area. Same to non-extend mode MD;
- (4) Click “TabApply” or “AllApply” to start the MD.

If MD is detected in the current encoding channels, “ChanXX Start MotionDetect”(XX is the channel number) will output in the log information list. After detecting the MD, then no MD is detected in some time(this time is the delay time). “ChanXX Stop MotionDetect” will show in the log information list control.

4.4 Settings of mask & input video signal

Under the config dialog box for configuration of encoding channel, please select the tab “Mask/VideoPre”.

Mask interface description:

Function	Description
【Check Box】 Mask	Start or Stop Mask function for encoding channels.
【Edit Box】 Areas	Number of Mask areas, range in [0,32].

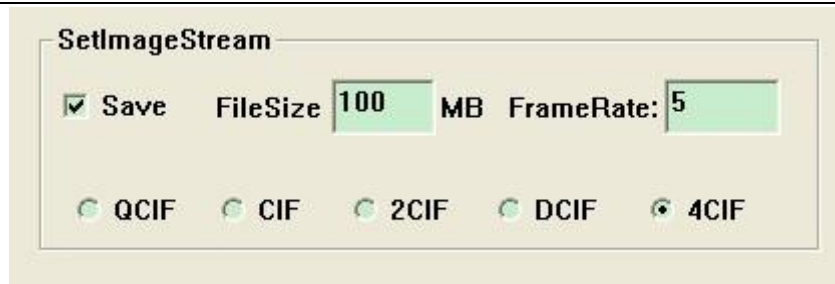
【Edit Box】 X	The horizontal ordinate for start position of the first Mask area.
【Edit Box】 Y	The vertical ordinate for start position of the first Mask area.
【Edit Box】 Size	The width and height of the Mask area,unit is pixel, needs the width align to 16 pixels and the height aligned to 8 pixels.
【Check Box】 Color	Color of the Mask area. From left to right, they orderly are values for R.G.B, ranging in [0,255]

Interface description for VideoPre Parameters:

Function	Description
【Edit Box】 Detect Precision	Sensitivity of video signal detection, range in [0,101], default using 20.If the video signal is too weak or on/off switch too frequency, the hint “No Video” will show up. To avoid hint’s influence to the video image, you can alter the sensitivity of signal detection. Larger the value, lower the sensitivity, which will have lower frequency of “No Video” hint. If you set the value to 101, hint will never show up.
【Edit Box】 Input X、InputY	Input position of video signal. (Input X,InputY) is the top-left ordinate for the original image, unit is pixel.
【Check Box】 DeInterlace	Open or Close switch of Reverse interlaced.
【Edit Box】 Level	Effective after checking “DeInterlace”. i. When using the value in [0,11], it will take mode1 for deinterlace. Larger the “Level”, stronger the intensity of deinterlace, 0 is the weakest and having least loss to image quality, 10 is the strongest and having most loss to image quality. ii. When using 11, it will take mode2 for deinterlace.
【Check Box】 SetDenoise	Wether or not to open denoise for encoding channels.
【Edit Box】 Level	Level of denoising, range in [0,3]. Default value is 0, 3-highest effect, 0-lowest.

4.5 Settings of encoding channel’s raw video capturing

Under the config dialog box for configuration of encoding channel, please select the tab “ImageStream”.



Interface description:

Function	Description
【Check Box】 Save	If saving the captured raw video data from encoding channel to file.
【Edit Box】 FileSize	File size. If the saved file for captured raw video data reach to this value, it will switch to a new file.
【Edit Box】 FrameRate	The frame rate for the captured raw video data. If the captured video signal standard is PAL, range in[1,25] If the captured video signal standard is NTSC, range in[1,30]
【Radio Button】 Resolution	QCIF,CIF,2CIF,DCIF,4CIF are optional. The video standard (PAL or NTSC) of captured raw video data is the same to its encoding channel.

Description for starting the raw stream capture of the encoding channel.

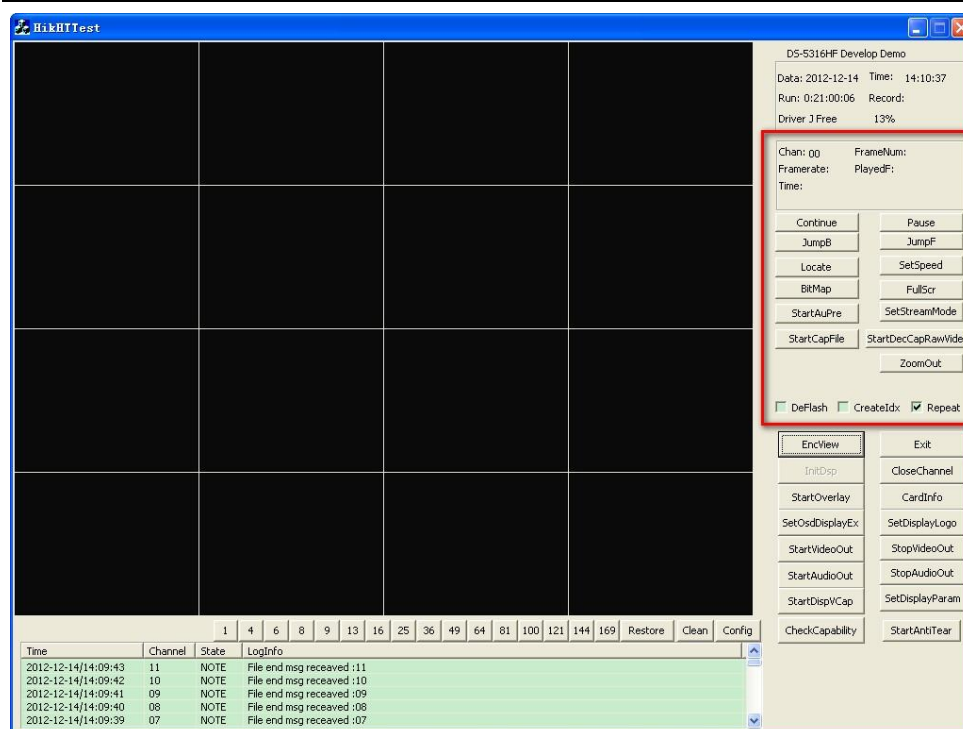
- Select encoding channel from channel tree in the left configuration interface of encoding channels.
- Select tab “ImageStream”, set the parameters for encoding channel’s raw stream capturing.
- Click “TabApply” or “AllApply” to save the settings, for the time being, button “StartVRawCap” is valid.
- Click button “StartVRawCap” to start the raw stream capturing of the encoding channel.
- Click button “StopVRawCap” to stop the raw stream capturing of the encoding channel.

 **Note:**

The saved raw stream data will be stored in the root directory of the last disk partition. Name as “enc_videoXX_yyyy.mm.dd-hhmmss.yuv”. XX is the channel number, yyyy.mm.dd is the date, hhmmss is the time.

5 Decoding main interface

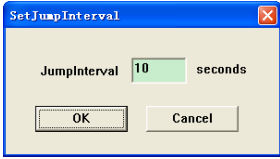
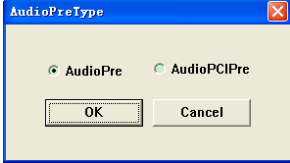
If there are only decoding channels in system or click button “DecView”, you will enter into the decoding main interface as below.



Note: Buttons among the red frame are other decoding related functions except normal functions.

Interface description:

Function	Description
【Button】 Continue	Restore the decoding task of current channel. If set the decoding speed to “-4, single click that button can realize decoding frame-by-frame.
【Button】 Pause	Suspend the decoding task of current channel.
【Button】 SetSpeed	Set the decoding speed range in [-4,4]. -4 single frame -3 1/8 normal speed -2 1/4 normal speed -1 1/2 normal speed 0 1 normal speed 1 2 normal speed 2 4 normal speed 3 8 normal speed 4 largest speed

【Button】 JumpB/JumpF	 JumpB Time value for jump backward JumpF Time value for jump forward Only valid to the current decoding file.
【Button】 Locate	Decoding location function. For details, please see section5.4 “Decoding location for record file”
【Button】 BitMap	Capture BMP file of the current channel, resolution is the same to the current stream.
【Button】 FullScr	Enter into the full-screen mode via pressing this button. In the full-screen mode, you can restore to the window mode by right-click any area in the preview region.
【Button】 StartAuPre/StopPuPre	Start/close audio preview for the decoding channels. 
【Button】 SetStreamMode	Configure the parameters for file stream or real-time stream decoding, For details, please see section5.5 “Settings of parameters in stream decoding mode”.
【Button】 StartCapFile	Capture stream deliver for decoding in SDK. Please refer to section5.6 “Decoding stream capturing”. This function is mainly used for analyzing stream when you meet decoding related questions.
【Button】 StartDecCapRawVideo /StopDecCapRawVideo	Start/close raw stream capturing for the decoding channels.
【Button】 Zoomin	Set local region zoom-in for decoding channel preview. Please refer to section3.3 “Local region zoom-in for decoding channel”.
【Check Box】 DeFlash	If checked, it will disable the flash-remove function for decoding channels. For details about the flash-remove function in preview, please refer to SDK programming manual.
【Check Box】 CreateIdx	After checked, it will create index while opening file, using for location of the decoding. It's only valid for file decoding, For details about file decoding location function, please refer to 5.3 “Decoding real-time stream from encoding channel”.
【Check Box】 Repeat	After checked, it can be configured for cyclic decoding, only valid for decoding record file and file stream.

Decoding status information

```
Chan: 00      FrameNum: 195/207
Framerate: 10 PlayedF: 199
Time: 00:00:19/00:00:20
20091114/102618-20091114/102638
```

Chan: Current decoding channel number;
 FrameNum: xx/yy, xx indicates current decoding channel number, yy indicates the total frame number; Framerate: current decoding framerate. PlaydF: Decoded frame number.
 Time: hh1:mm1:ss1/ hh2:mm2:ss2, the former one indicates decoded time. The latter one indicates total time ; The last line: yyyyymmdd/hhmmss-yyyyymmdd/hhmmss, Former indicates the absolute start time of the file, latter means the absolute end time of the file.

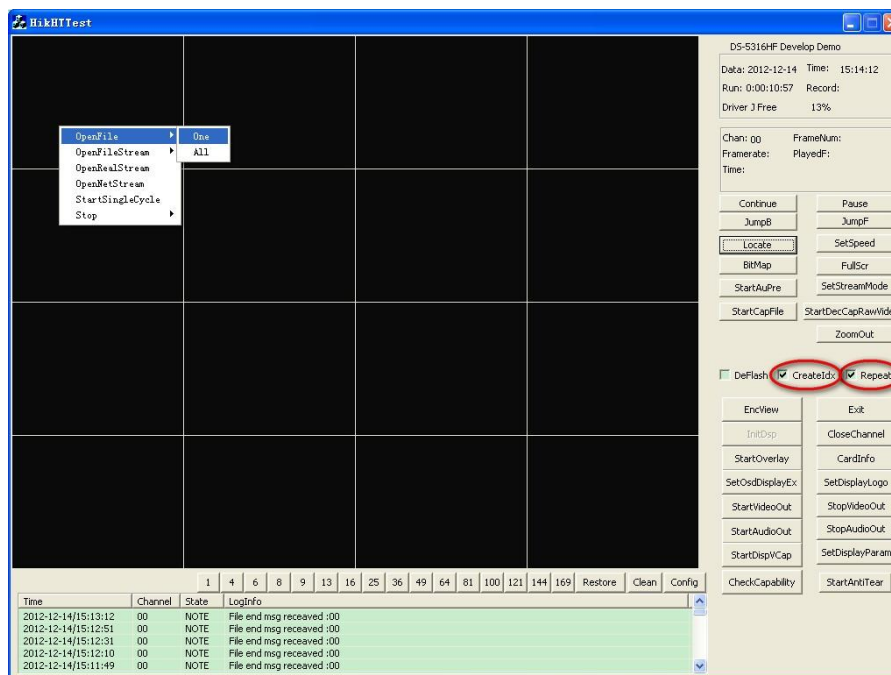
 Note:

1. The saved yuv422 image will be stored in the root directory of the last disk partition. Name as “image_dec XX_yyyy.mm.dd-hhmmss_i. bmp”. XX is the channel number, yyyy.mm.dd is the date, hhmmss is the time, i is the serial number.
2. The saved original video data file will be stored in the root directory of the last disk partition. Name as “dec_videoXX_yyyy.mm.dd-hhmmss.yuv”. XX is the channel number, yyyy.mm.dd is the date, hhmmss is the time.

5.1 Decoding the record file

[File for decoding here means the mp4 file from PC.](#)

Right click at the preview region of decoding channels, menu will popup, then choose “OpenFile”->“One”: the decoding channel which you are click on will decoding the file you selected. If you select “All”, all the decoding channels will decoding the record file you select.

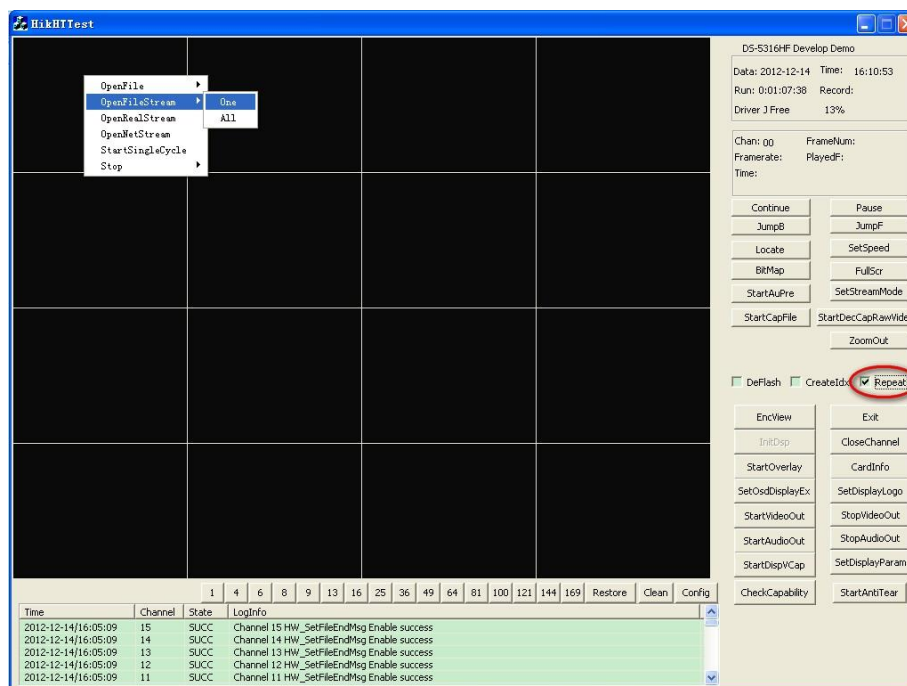


Note: If “Repeat” is checked, it can be configured as cyclic decoding; If “CreateIdx” is checked, it will create index while opening file, using for location of the decoding. For details about file decoding location function, please refer to 5.4 “Decoding location for record file”.

5.2 Decoding file stream

The decoding file stream function is realized via stream file to simulate network stream. In this way it can test if the decoder supports decoding this network device via the record file stored locally, so you needn’t connect the device(or ip camera) directly.

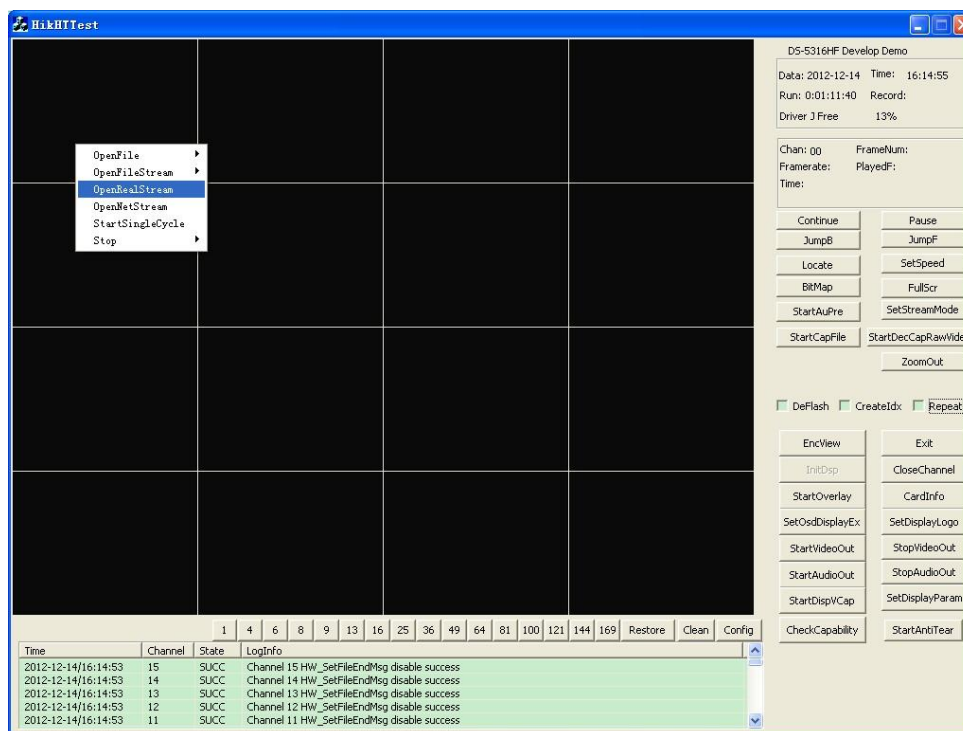
Right click at the preview region of decoding channels, menu will popup, then choose “OpenFileStream”->“One”: the decoding channel which you are click on will decoding the file you selected. If you select “All”, all the decoding channels will decoding the record file you select.



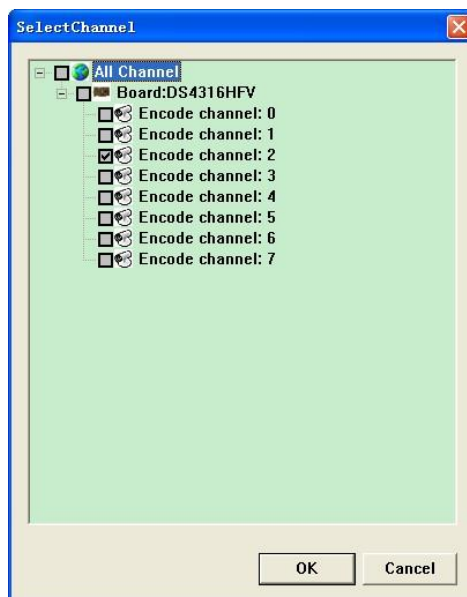
Note: Checked “Repeat”, you can configured it to cyclic decoding.

5.3 Decoding real-time stream from encoding channel

- Right click at the preview region of decoding channels, menu will popup as below.



- Then choose “OpenRealStream”, channel selection dialog box will popup as below.



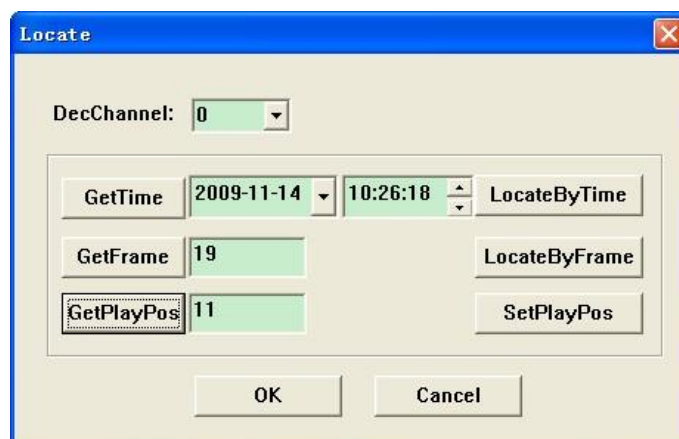
- This channel selection list is radio button not checkbox. After selecting the channel, click “OK” to enable the current selected decoding channel to start decoding the chosen encoding channel’s real-time stream.

Note:

1. The main channel encoding of the selected encoding channel must open, or the decoding channel won’t decode.
2. Different decoding channel can decode real-time stream from the same encoding channel.

5.4 Decoding location for record file

Click “Locate” in the decoding main interface. Then the decoding location dialog box for record file will popup.



Interface description:

Function	Description
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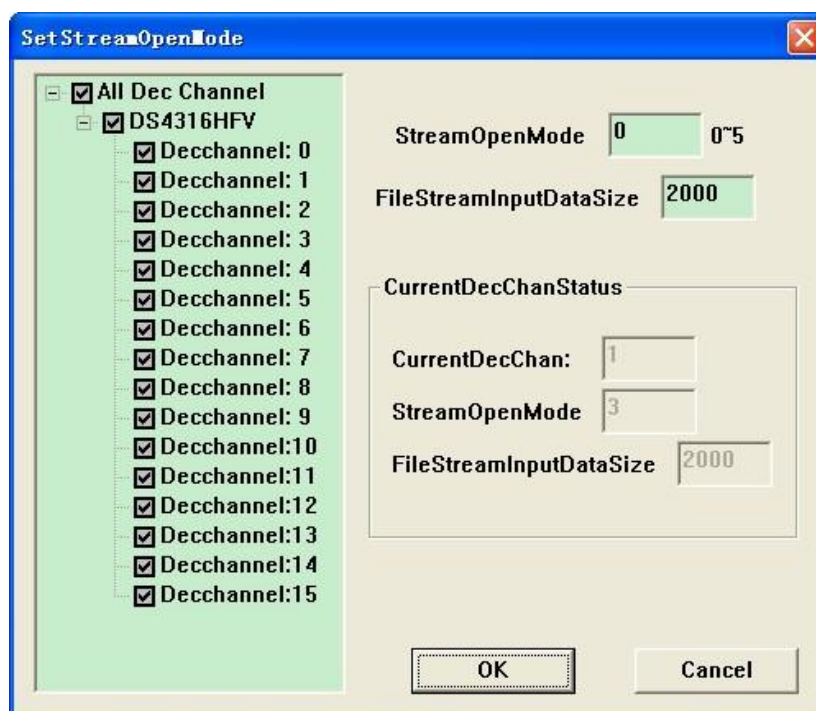
【Comb Box】 DecChannel:	Select the decoding channel which needs to locate.
【Button】 GetTime	Get the absolute time of current decoding frame.
【Date Time Picker】 Date	Click “GetTime” Button, it will show the date of current decoding frame Then set the date you wanted.(year/month/date)
【Date Time Picker】 Time	Click “GetTime” Button, it will show the time of current decoding frame Then set the time you wanted.(hour/minute/second).
【Button】 LocateByTime	Jump to the position of the absolute time you set and start decoding.
【Button】 GetFrame	Get the frame number of the current decoding frame.
【Edit Box】 Frame number	Show the frame number after you click “GetFrame” button. Then set the frame number you need to locate.
【Button】 LocateByFream	Jump to the position of the absolute frame you set and start decoding.
【Button】 GetPlayPos	Get the position of the current decoding frame in the file.
【Edit Box】 File position	Show the file position after you click “GetPlay” button. Then set the file position you need to locate, range in [0,100].
【Button】 SetPlayPos	Jump to the position of the file position you set and start decoding.

 Note:

1. Needs to check “CreateIdx” in the decoding main interface. After checked, it will create index while opening file,then decoding location is valid.
2. The absolute time you set can’t exceed file’s start time and end time, or it’s invalid.
3. The frame number you set can’t exceed file’s start frame number and end frame number, or it’s invalid.

5.5 Settings of parameters in stream decoding mode

Click “SetStreamMode” in the decoding main interface. Then the settings of parameters in stream decoding mode dialog box will popup.



Interface description:

Function	Description
【Tree Control】 Decoding channel tree	Select decoding channel.
【Edit Box】 StreamOpenMode	Set the stream open mode, range in [0,5], please refer to table 5-1.
【Edit Box】 FileStreamInputDataSize	Filesize comes in everytime under file stream mode, unit is byte. Currently data input to HTDemo 25 times in a second. So the bitrate for input data can be calculate as formula below. BitRate = 25*X*8(bps), assume that the file size comes in everytime is X byte, For example: i. When X is 640, the corresponding bitrate is 128kbps, it's close to the bitrate for QCIF resolution stream. ii. When X is 2560, the corresponding bitrate is 512kbps, it's close to the bitrate for CIF resolution stream. iii. When X is 8000, the corresponding bitrate is 1.6Mbps, it's close to the bitrate for 4CIF resolution stream. iv. When X is 20000, the corresponding bitrate is 4Mbps, it's close to the bitrate for 720p resolution stream. v. When X is 40000, the corresponding bitrate is 8Mbps, it's close to the bitrate for 1080p resolution stream. For details, please refer to section5.2 “Decoding file stream”.
【Edit Box(Disable)】 CurrentDecChan	Current channel number

【Edit Box(Disable)】 StreamOpenMode	Stream play mode of the current channel.
【Edit Box(Disable)】 FileStreamInputDataSize	Data size you need to input under the current channel file stream mode

mode	Description
0	Invalid. The decoder will do decoding control as file mode. When the decoding speed is lower than the stream comes in, it will lose frame easily.
1	Fast mode. Once there is data, it will decode. And the decoder won't do decoding control according to the time stamp.
2	Real-time mode. Decoder will do decoding speed control according to the time stamp. It has the least delay but the worst fluency.
3	Real-time mode. Decoder will do decoding speed control according to the time stamp. Decoding delay is larger than the delay mode 2, Fluency is better than mode 2
4	Real-time mode. Decoder will do decoding speed control according to the time stamp. Decoding delay is larger than the delay mode 3, Fluency is better than mode 3
5	Real-time mode. Decoder will do decoding speed control according to the time stamp. Decoding delay is larger than the delay mode 4, Fluency is better than mode 4

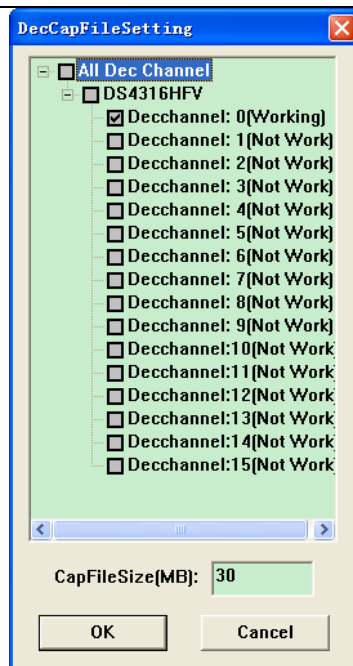
Table 5-1 Stream open mode and Description for its parameters

**Note:**

1. Decoding delay: mode2<mode3<mode4<mode5;
2. Fluency: mode2>mode3>mode4>mode5.

5.6 Decoding stream capturing

Click “StartCapFile” in the decoding main interface. Then the dialog box for settings the decoding stream capturing will popup.



Interface description:

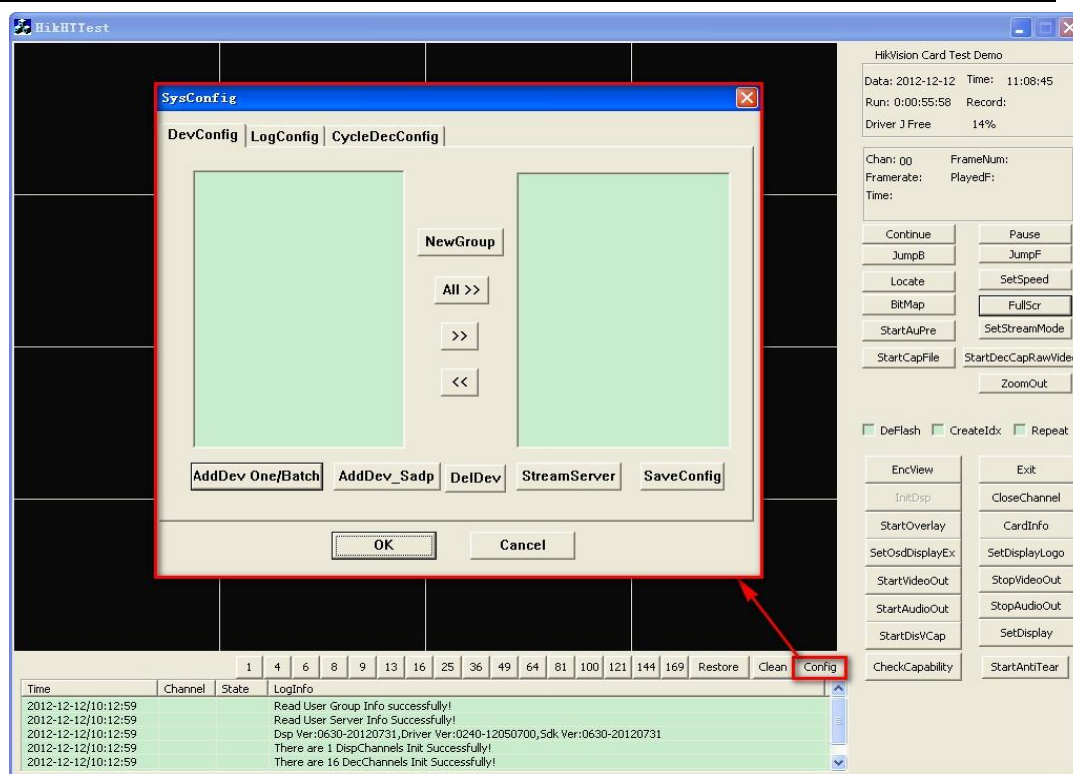
Function	Description
【Tree Control】 Channel tree	Select the channel which open the decoding stream capturing. If the status of the channel node is [working], it is available for decoding. If status is [Not Work], it means this channel is not decoding right now, and it's not available to choose.
【Edit Box】 CapFileSize	The maximum size of file for saving the captured decoding stream, and unit is MB. If the file size exceed this value, it will rewrite the file.

6 Decoding real-time stream

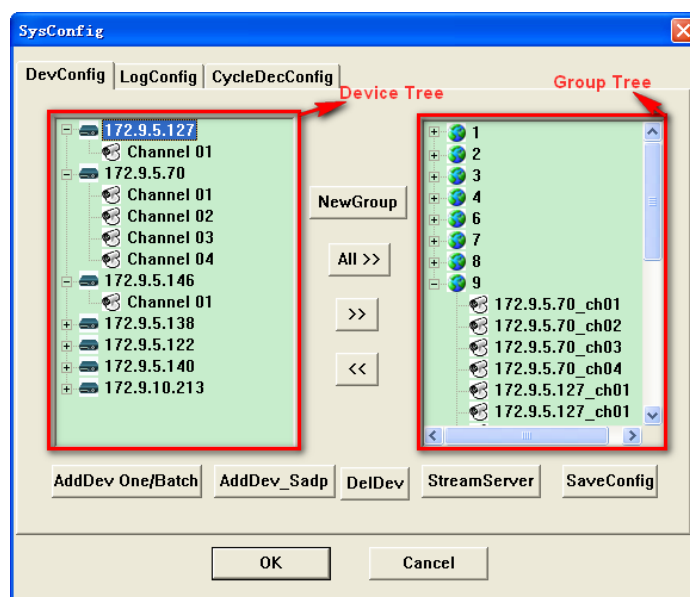
This chapter will lead you how to set decoding parameters for the stream of “DVR,DVS, NVR,IPC”.

6.1 Enter into the system configuration interface

Click “Config” in the main interface, then you will enter into the configuration interface dialog box as below:



Select the tab “DevConfig”, you will enter into the configuration interface of device.



Interface description:

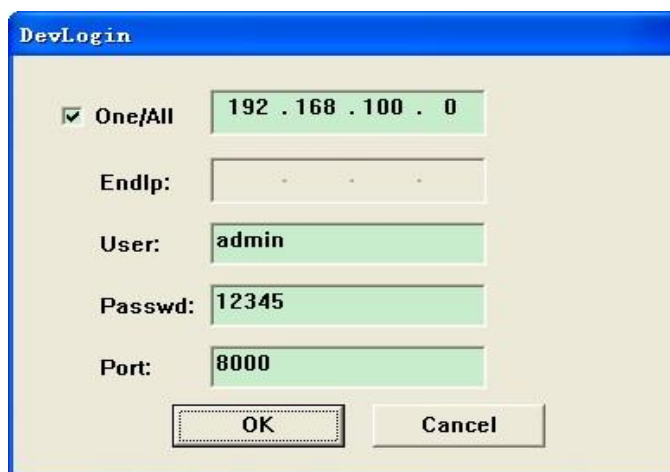
Function	Description
【Tree Control】 Device list tree	List the device already added, main node is the device's IP address, sub node is device's channel: analogy channels or IP channels.
【Tree Control】 Group list tree	List the group added, main node is the group name, sub node is channels naming as: device's IP address_channel number

【Button】 NewGroup	Used for adding new group, you can input name for the new group in the dialog box popped up
【Button】 All>>	Add all the channels to the appointed group in the right “Group list tree”.
【Button】 >>	Add the appointed channels or devices(including all its channels) to the selected group on the right “Group list tree”.
【Button】 <<	Delete the appointed group or channel from the right “Group list tree”.
【Button】 AddDev One/Batch	Add one or a batch of devices to “Device list tree” via setting IP address/user name/password/port.
【Button】 AddDev_Sasp	Detect all the online devices whom are in the same subnet with DS-4316HF and add them to the “Device list tree”.
【Button】 DellDev	Delete appointed device from “Device list tree”
【Button】 StreamServer	Set the stream server.
【Button】 SaveConfig	Save device info and group info to the configuration file.
【Button】 OK	Ask if you have save the device info and group info to the configuration file already and exit this dialog box.
【Button】 Cancel	Cancel and exit this dialog box.

6.2 Add device

6.2.1 Add one or more device

Click “Add Dev One/Batch” button to enter into the dialog box of “DevLogin” as below:



Interface description:

Function	Description
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【Check Box】 One/All	Checked indicates add appointed device. Unchecked indicates add devices from the IP group which has its start IP and its end IP.
【IP address】 Start IP address	Checked “One/All” indicates add appointed device. Unchecked “One/All” indicates input start IP address.
【 IP address 】 EndIp	End IP address. It’s valid when “One/All” is unchecked.
【Edit Box】 User	Input device’s user name for login .
【Edit Box】 Passwd	Input device’s password for login.
【Edit Box】 Port	Input device’s port for login
【Button】 OK	Login the device and exit this dialog box.
【Button】 Cancel	Cancel and exit this dialog box.

Operation steps:

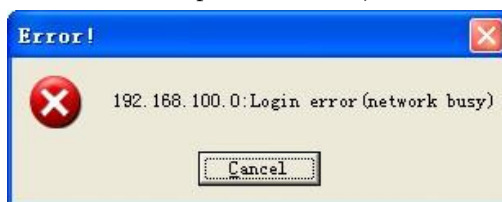
- Checked “one/All” to add one device, then you need to input this device’s IP address,port,user name and password. At last, click “OK” to enable the settings.

The screenshot shows the 'DevLogin' dialog box. The 'One/All' checkbox is checked. The 'Start IP address' field contains '172 . 9 . 5 . 80'. The 'EndIp' field contains '0 . 0 . 0 . 0'. The 'User' field contains 'admin'. The 'Passwd' field contains '12345'. The 'Port' field contains '8000'. The 'OK' and 'Cancel' buttons are at the bottom.

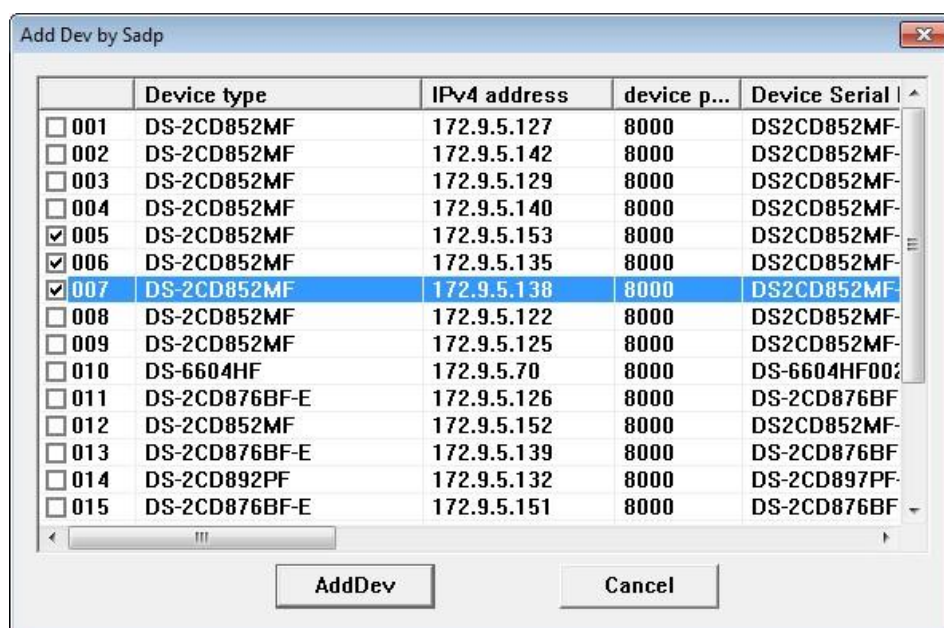
- If not checking “one/All”, you can add a group of devices via adding start IP address and end IP address, then input the right user name,password and port.. At last, click “OK” to enable the settings.

The screenshot shows the 'DevLogin' dialog box. The 'One/All' checkbox is unchecked. The 'Start IP address' field contains '172 . 9 . 5 . 80'. The 'EndIp' field contains '172 . 9 . 5 . 88'. The 'User' field contains 'admin'. The 'Passwd' field contains '12345'. The 'Port' field contains '8000'. The 'OK' and 'Cancel' buttons are at the bottom.

- If you add successfully, the device's IP will show under the Device list tree; if you add failed, a dialog box will popup as below.(The cause can be "wrong IP address, device off-line, port error, user not exist, password error).



6.2.2 Add devices via SADP



Interface description:

Function	Description
【List】 Device list	List all the other online devices' information which are in the same subnet with DS-4316HF.
【Button】AddDev	Add the selected devices.
【Button】Cancel	Cancel and exit this dialog box.

Operate description:

- Under the dialog box "SysConfig", Click "AddDev_Sadp" in the item "DevConfig". The dialog box above will popup.
- Check one or more devices under the device list, then click "AddDev" button to add the selected devices. If adding successfully, the added device's IP address will show up under the "Device list tree".

6.3 Group management

1. To create new group, you need to enter into the tab “DevConfig” under the dialog box “SysConfig”:
 - Then click “NewGroup”, the dialog box “Create Group” will popup as below. You need to give a name for this group in the textbox, after that click “OK”, the new added group will show up under “Group list tree”.

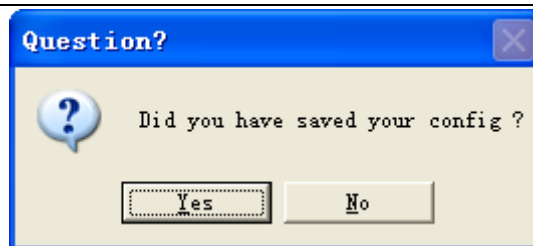


Note:

- i. The name for new group can't be empty or the same as the already existed group;
 - ii. It supports 10 group at most in this system.
2. You get three ways to import channels to group:
 - Left click the group node under the Group list tree, then left click the device node, at last you can add all the channels of this device to group via clicking “>>”.
 - Left click the group node under the Group list tree, then left click the channel you want to add directly under the Group list tree, at last you can add this channel to group via clicking “>>”.
 - Left click the group node under the Group list tree. Then click “All>>” button to add all the devices' channels on the left to the group.

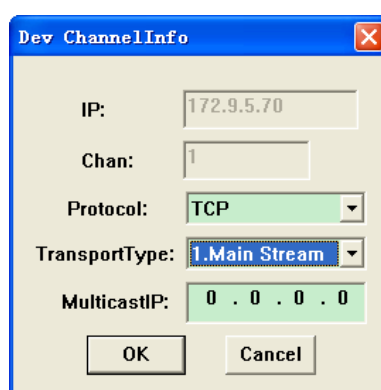
Note:

- i. Each group can add 128 channels at most. The same channel can be added to the one group repeatedly.
 - ii. Each group can add 32 devices at most. No matter how many channels does you add for a device, it will count one device. In other words, you can add 32 different devices' channels, but please notice the total number of channels shouldn't more than 128.
 - iii. For one device in one group, this device can support 64 channels at most, but the channels can be added repeatedly.
3. Delete group
 - Select one group node in the Group list tree, then click “<<” to delete this group.
 4. Delete channel
 - Select one channel node under one group node, then click “<<” to delete this channel.
 5. Click “OK”, it will remind you “Did you have saved your config?”. Click “Yes”, you will exit the “SysConfig” dialog box, click “No”, you will come back to the “SysConfig” dialog box.



6.4 Show and modify channel's information

1. Show channel's information
 - Under the tab "DevConfig" in "SysConfig" dialog box. Left click any channel node in Device list tree, dialog box below will popup.

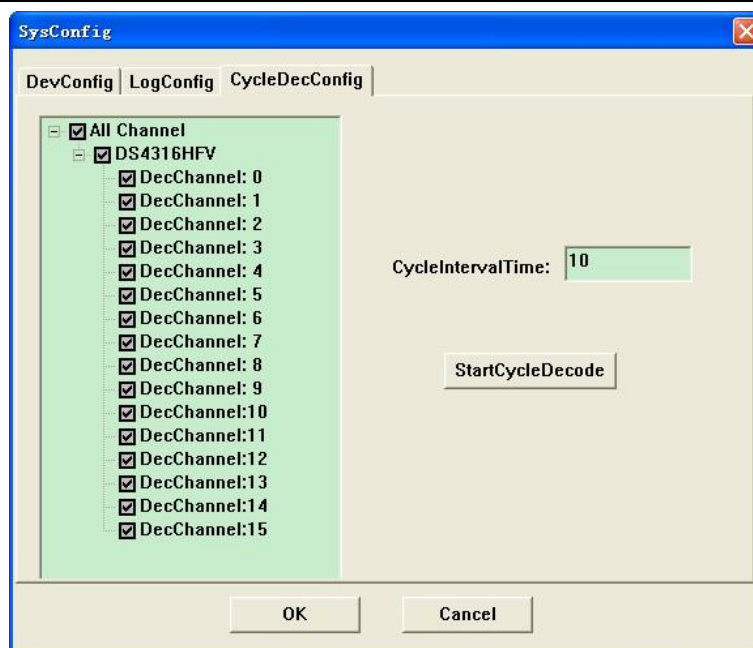


Interface description:

Function	Description
【Edit Box】 IP	Show channel's IP address.
【Edit Box】 Chan	Channel number
【Comb Box】 Protocol	Get the transferring network protocol of this channel's stream. TCP/UDP/MCAST(MultiCast)/RTP are optional.
【Comb Box】 TransportType	Stream type for transporting. 1.Main stream/2.Sub stream are optional.
【IP address】 MulticastIP	IP address of MultiCast group. It's valid only when you select the transferring protocol as "MCAST".
【Button】 OK	Save the channel information and exit this dialog box.
【Button】 Cancel	Cancel and exit this dialog box.

6.5 Set Multi-channel cycle decoding

Select "CycleDecConfig" tab under "SysConfig" dialog box. Interface as below:



Interface description:

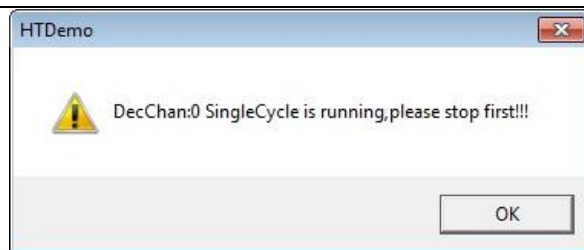
Function	Description
【Tree Control】 Decoding channel tree	List all the decoding channels in the system.
【Edit Box】 CycleIntervalTime	Input cycle interval time, unit is millisecond.
【Button】 StartCycleDecode	Start/Stop Multi-channels cycle decoding.

Operate description:

1. Start muti-channels cycle decoding.
 - Check all the channels or some channels in the decoding channel tree, and input cycle interval time in the “CycleIntervalTime” edit box. After these ,click “StartCycleDecode” button to start decoding cyclically. In the same time “StartCycleDecode” button will change into “StopCycleDecode”.
 - The decoding channels selected will cyclically decode all groups’ channels orderly according to the input time.
2. Stop muti-channel cyclic decoding.
 - Click “StopCycleDecode” Button.

Note:

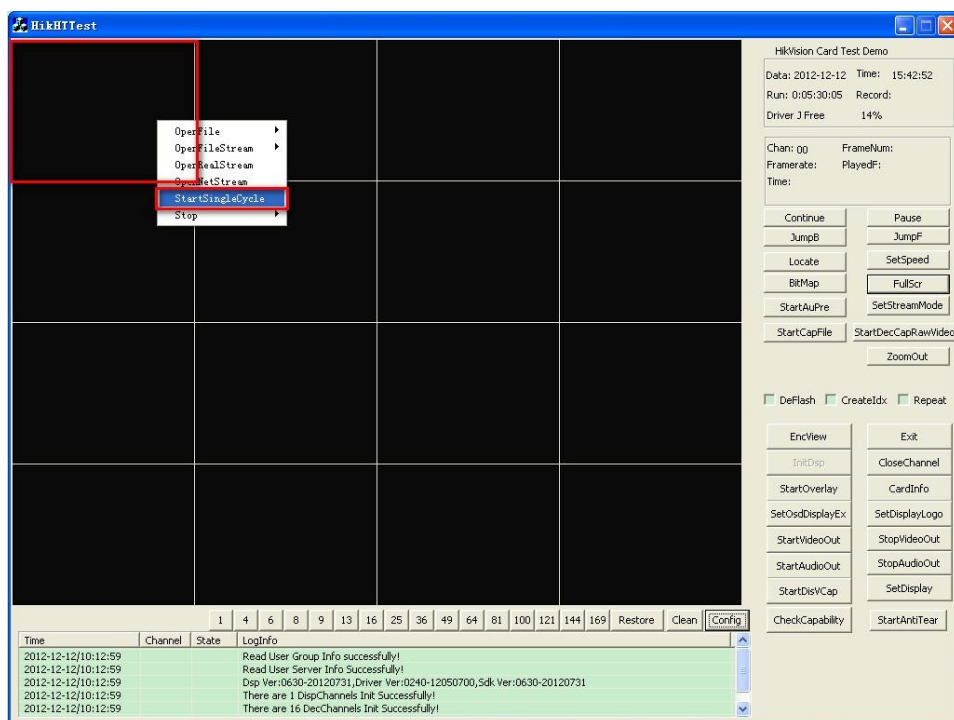
- If the decoding channel selected is under single-channel cycle decoding.
- Then when you click “StartCycleDecode”, a hint will show up below to remind you to stop the single-channel cycle decoding first.



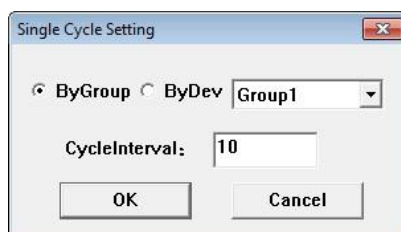
- Click “OK” to back to the interface “SysConfig”. Do not check the channel which is under single-channel cycle decoding right now; or stop this channel’s decoding first. Then click “StartCycleDecode”, it will start to decode.

6.6 Set single-channel cycle decoding

In the decoding main interface, right click the region in decoding channel which needs to decode. then left click item “StartSingleCycle” in the popup menu.



Single cycle settings dialog box will popup as below:



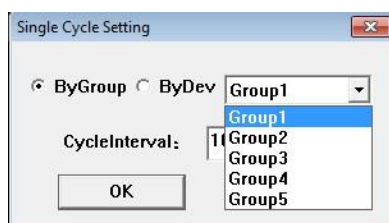
Interface description:

Function	Description
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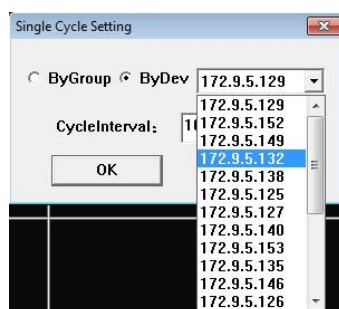
【Radio Button】 ByGroup	Cycle by group.
【Radio Button】 ByDev	Cycle by device.
【Comb Box】	When you choose “ByGroup”, the comb box is for group; when you choose “ByDev”, the comb box is for device.
【Edit Box】 CycleInterval:	Input interval time for cycle, unit is millisecond.
【Button】OK	Start single-channel cycle and exit this dialog box.
【Button】Cancel	Cancel and exit this dialog box.

Operate description:

1. There are two cycle mode for single channel cycle.
 - i. Cycle by group
 - Choose the radio button “ByGroup”, and select the appointed group as below.

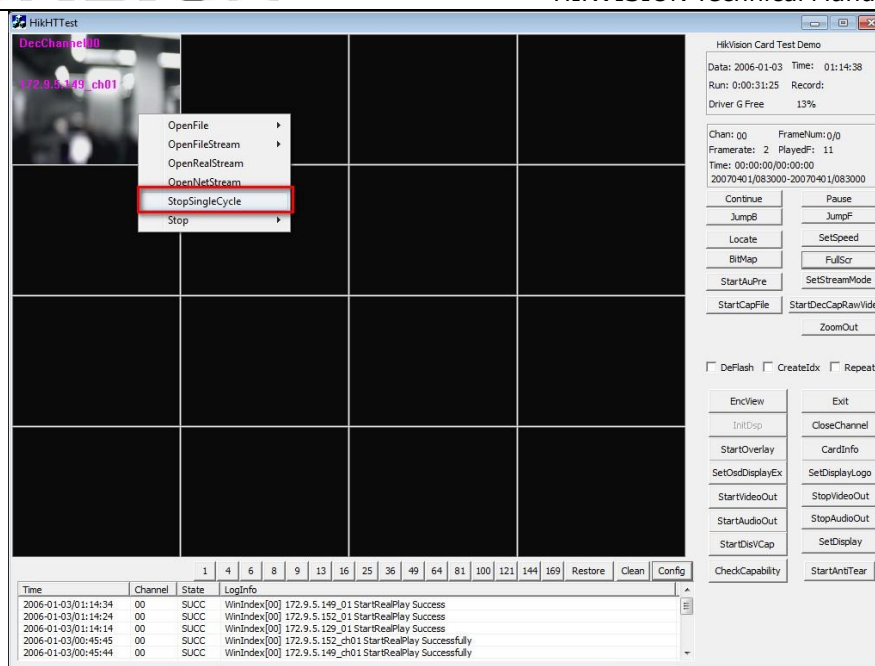


- Then input cycle interval time in “CycleInterval” edit box
 - At last click “OK” button, then it will begin cycle decoding channels in the appointed group and switch the channel for decoding according to the appointed cycleinterval time.
- ii. Cycle by device
 - Click the radio button “ByDev”, and select the appointed device as below.

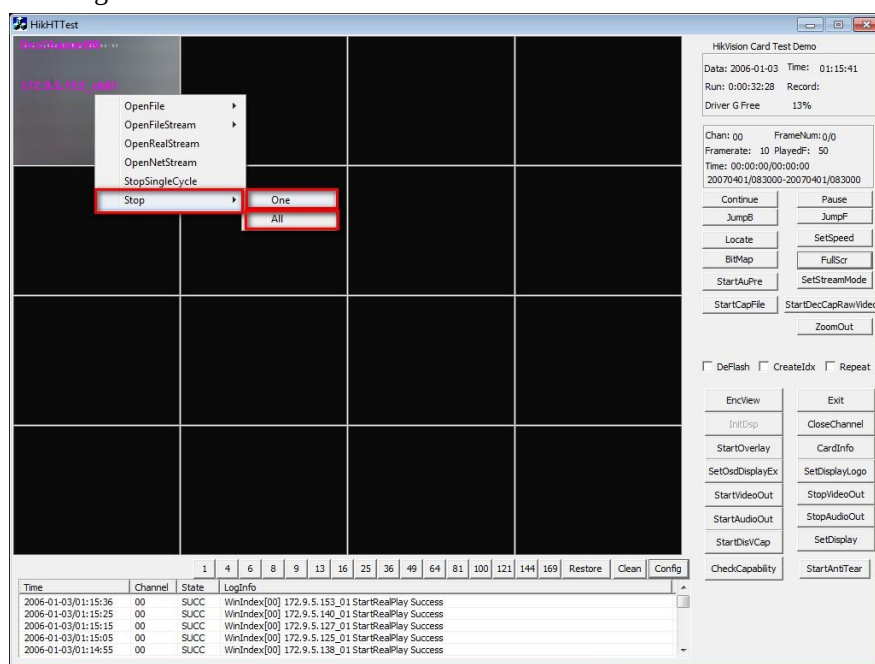


- Then input cycle interval time in “CycleInterval” edit box.
- At last click “OK” button, then it will begin cycle decoding channels in the appointed device and switch the channel for decoding according to the appointed cycleinterval time.

2. There are two method to end single channel cycle.
 - i. In the decoding main interface. Right click at the decoding channel which you want to operate. Click “StopSingleCycle” item on the popup menu as below.

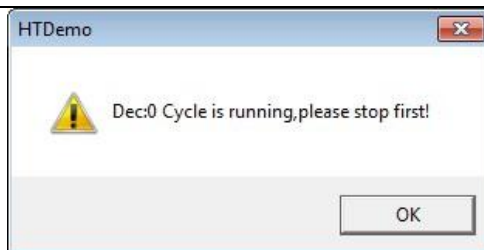


- ii. In the decoding main interface. Right click at the decoding channel which you want to operate. On the popup menu, move to “Stop” item, and the submenu popup, then click “one” to stop appointed channel’s decoding or “all” to stop all channel’s decoding.



Note:

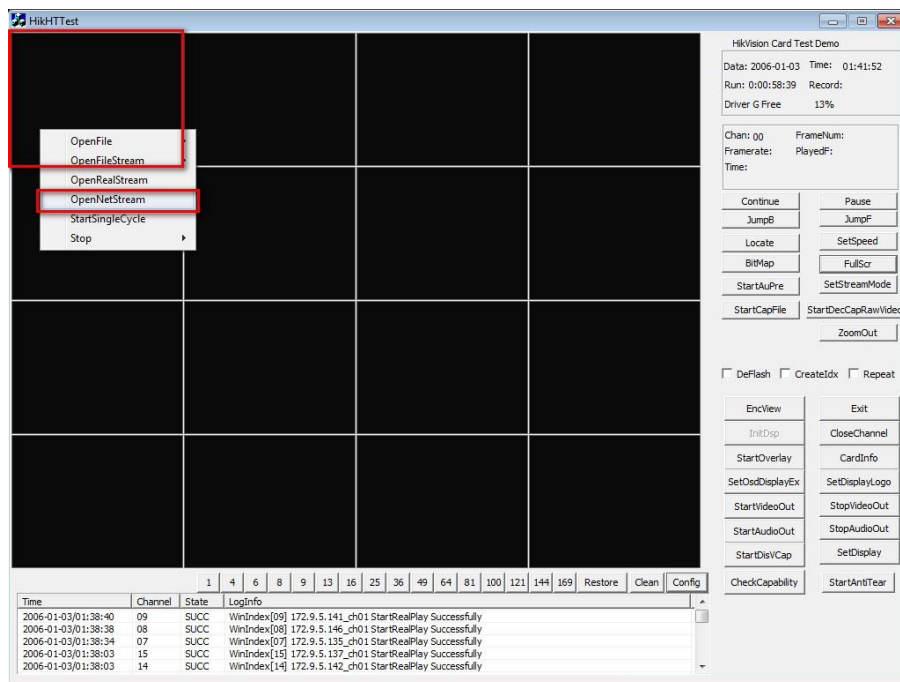
- When you click “StartSingleCycle”, if this channel is under multi-channel cycle now, a hint will show up as below to remind you to stop the current cycle decoding first.



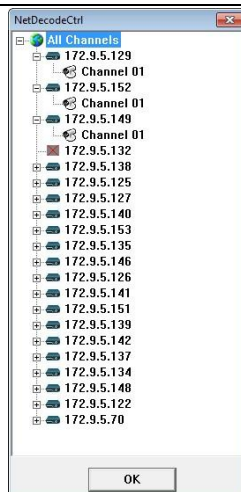
- Click “OK” button to back to “SysConfig” and select “CycleDecConfig” tab, then stop this channel’s multi-channel cycle decoding function. Then you can start the single-channel cycle function.

6.7 Start decoding

In the decoding main interface, right click the region in decoding channel which needs to decode, then left click item “OpenNetStream” on the popup menu.



The dialog box for network decoding control will popup as below. The device list tree control lists all the devices you added under the tab “DeviceConfig” in “SysConfig” dialog box.



- Three way for starting decoding the channel's stream.
 - i. Double click channel node of the device, current decoding channel will start receiving this channel's stream and decoding;
 - ii. Double click the device node, from the current decoding channel, it will decode all the channels in this device orderly. For example, if current decoding channel number is "m" and the device has "n" channels, then decoding channel "m" will decoding the first channel of this device, and decoding channel "m+1" will decode the second channel of this device, in this order the decoding channel "m+n" will decode the last channel of this device.
 - iii. Double click root node "All Channels". Then from the current decoding channel to the last decoding channel, will decode all the channels in the device list tree one by one .

7 Decoding and displaying on TV wall.

For this chapter, please refer to section2.5 "Set video output".