DH_NVR5XXX-I_MultiLang_V4.001.0000000.3.R.201022

Release Notes

ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.

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1.1 Overview

Item	Description
Product name	Network Video Recorder
Version	V4.001.0000000.3
Software package information	DH_NVR5XXX-I_MultiLang_V4.001.0000000.3.R.201022.zip
Model	DHI-NVR5832-I; DHI-NVR5864-I; DHI-NVR5432-16P-I; DHI-NVR5216-16P-I; DHI-NVR5216-8P-I
Onvif Version	2.6.1
OS requirement	None
Release date	2020-10-22

1.2 Product Introduction

This product is mainly used indoors. Combined with IP cameras, you can use this NVR to complete real-time monitoring and recording. It supports configuring basic parameters by using mouse, and you can build a security monitoring network through web or other professional software developed by Dahua. Product functions include real-time monitoring, record playback, alarm and other auxiliary configuration functions.

1.3 New Features

Feature	Description
Security baseline V2.1	1、Blocked dangerous commands in the system. 2、Supports disabling unsafe services, and those services are disabled by default. 3、Important operations log. 4、Network data transfer encryption control. 5、Non-sensitive data information saved in device-end. 6、Secondary authentication for restoring factory defaults. 7、Record logs of important operations. 8、Added prompts of data deletion.

Feature	Description
Product security UI	1、Interface adjustment: Use Security Center as the entry in main menu. 2、Added security status page. 3、Added security information scanning function to detect supported security modules. 4、Added detailed information of security modules, and the optimized modules will be displayed in green icon. 5、802.1X setting page is moved to SYSTEM submenu. 6、Added CA certificate management function.
Face image import and export	1、Supports importing and exporting face databases. 2、pports exporting face images.
Add face images to the face database	Add face images from the AI playback to the face database.
SMD AI by NVR	Supports AI by NVR with SMD on AI devices.
Fisheye dewarp AI by NVR	Supports AI by NVR with fisheye dewarp on AI devices.
Select targets with rectangle for search during live view and playback	Supports selecting targets with rectangle for search during live view and playback
Updated algorithm model	1、Supports displaying algorithm version. 2、Updated algorithm model
Non-motor vehicle face detection in video metadata	1、Non-motor vehicle face detection is supported, and face is set as an attribute of non-motor vehicle detection. 2、Supports non-motor vehicle + face displaying mode in AI panel. 3、Supports searching for face associated non-motor vehicle on face detection interface.
AI panel on web	1、The web supports displaying AI alarm on Live interface. 2、Operations on AI panel will be synchronized to the device end. 3、Supports for a switch to open and close AI panel. 4、Supports displaying attribute settings on AI panel. 5、Supports displaying linkage pictures on AI panel.
Sound and light warning for perimeter protection	Supports sound and light warning for perimeter protection
Link camera alarm output port	Link camera alarm output port
Fast live on Web	Fast live on Web
Heterogeneous output	Non-simultaneous output with VGA and HDMI
Optimized playback function on local GUI	1、Supports custom fast play 2、Supports selecting channels during playabck 3、Optimized cursor and time bar
Quota management	1、Supports storage by quota. 2、Supports setting quota for both videos and images. 3、Support for the switching of disk quota mode and disk group mode. 4、The switching of storage mode requires formatting HDD.

Feature	Description
Disk error details	1、Disk error details are written to log. 2、Disk error details are written to hddinfo file. 3、Supports exporting hddinfo file along with configuration file for system analysis. 4、Does not support exporting hddinfo file on web.
Quick operation bar	1、Added a quick operation bar in the local secondary menu for fast jumping to the same level menus. 2、Quick operation bars are added in secondary menu and setting pages. 3、SEARCH submenu does not support quick operation bar, and you can jump to SEARCH submenu from quick operation bar in other submenus.
Adding remote devices with IPV6 address	1、Supports adding remote devices with IPV6 address 2、Supports manually adding remote devices with IPV6 address. 3、Supports DHCP IPv6 4、Supports IPv6 config for email server 5、Supports FTP IPv6 6、Searching for front-end devices with IPV6 address is not supported currently.
One-click disarming	1、Supports one-click disarming, which is disabled by default. 2、Supports individually disarm linkages such as Buzzer, Show Message, Alarm-out Port and Send Email. 3、The Live interface uses a bell icon on the upper-right corner of video channels to display disarming status. The intact bell icon is displayed by default, and when disarming is enabled, the bell icon is displayed with a slash. 4、Supports enabling and disabling disarming on the upper-right corner of video channels on Live interface. 5、Supports one-click disarming function on client software such as DMSS client.
SSH service	1、Supports visiting devices through SSH service. 2、Provides SSH enable switch. After it is enabled, you can visit devices through SSH service.
New languages	Norwegian, Ukrainian, Hebrew, Turkish, Indonesian.

1.4 Fixed Bugs

None.

1.5 Instructions for New Features

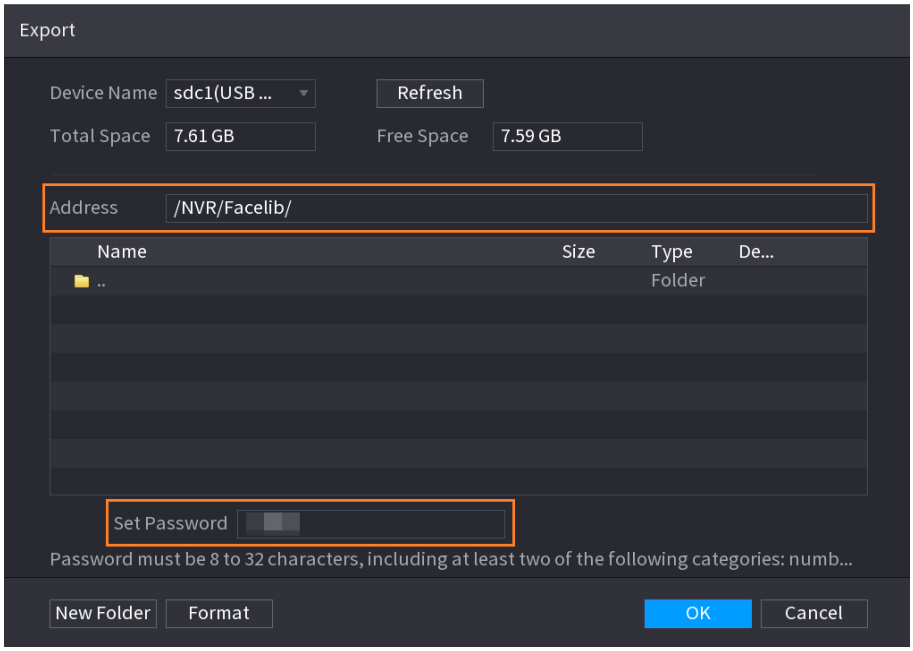
1.5.1 Face Image Import and Export

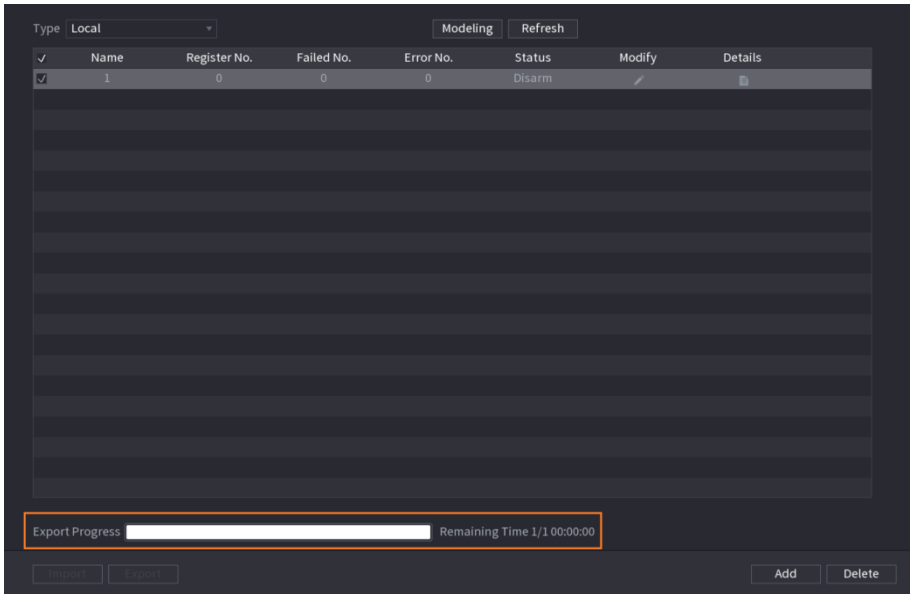
AI > **Database** > **Face Database Config** added **Import** and **Export** buttons.

i. Export face database

Select one or several face databases, and then click **Export**. Set address and password.

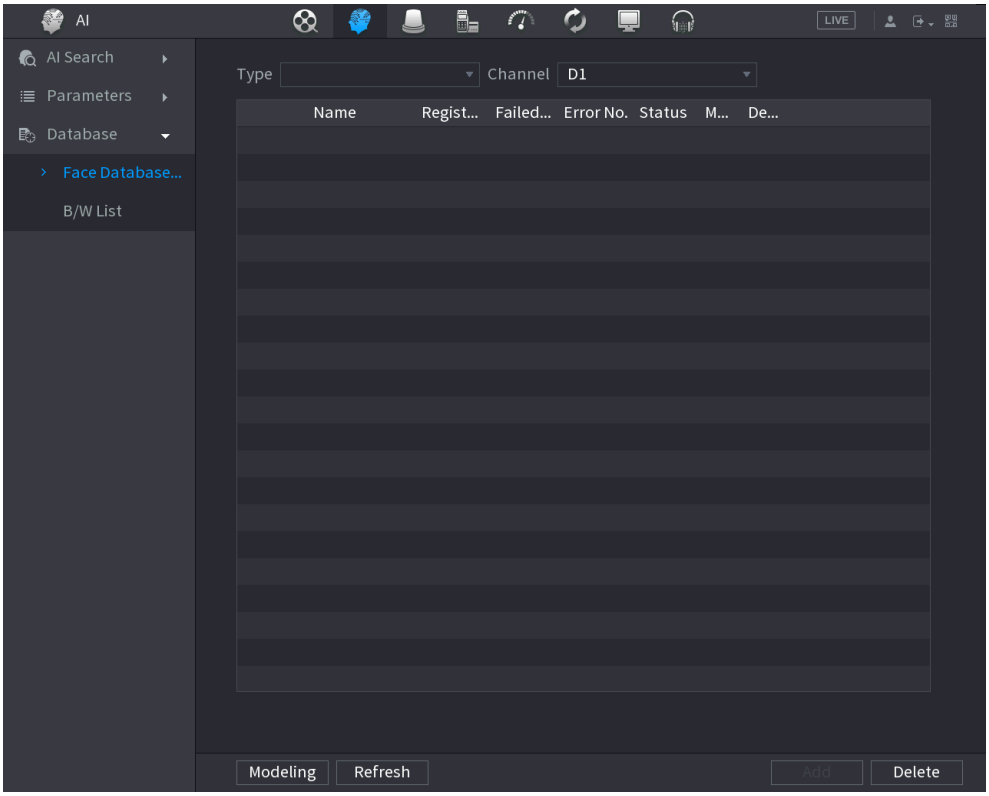
Password is required; otherwise the imported database cannot be saved. You can export face database from the Web interface to your PC.





ii. Import face database

Click **Import**. Set address and password. The address switches to /NVR/Facelib/ automatically if this directory is not changed. Password is required and must be the same with password for export; otherwise the imported database cannot be saved.



iii. Mutually export and import face database between NVR and camera

For some projects, you can use SmartPSS or platform to mutually import and export face database between NVR and camera.

iv. Export face images

Select a face database, check details, select one or more face images, and then click **Export**.

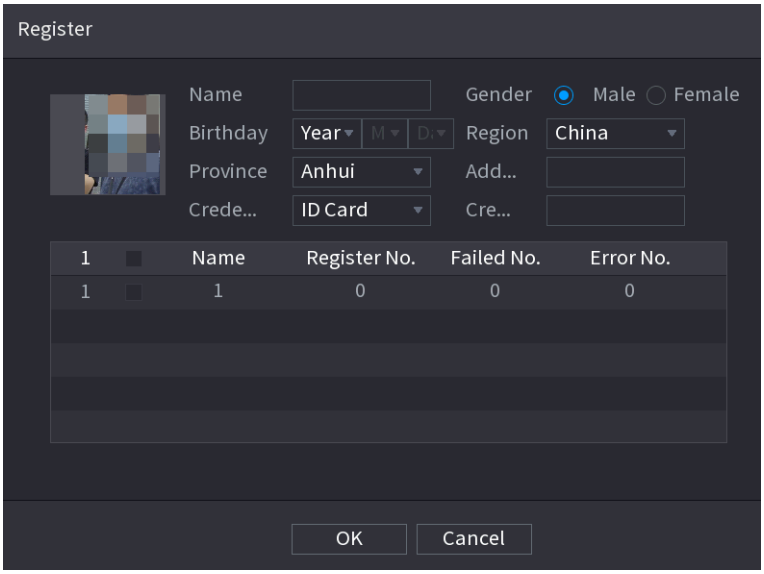
v. Copy face images to other face databases

Select a face database, check details, select one or more face images, and then click **Copy To**. In the face database list, select one or more databases, and then click **OK**.

1.5.2 Adding Face Images to Face Database

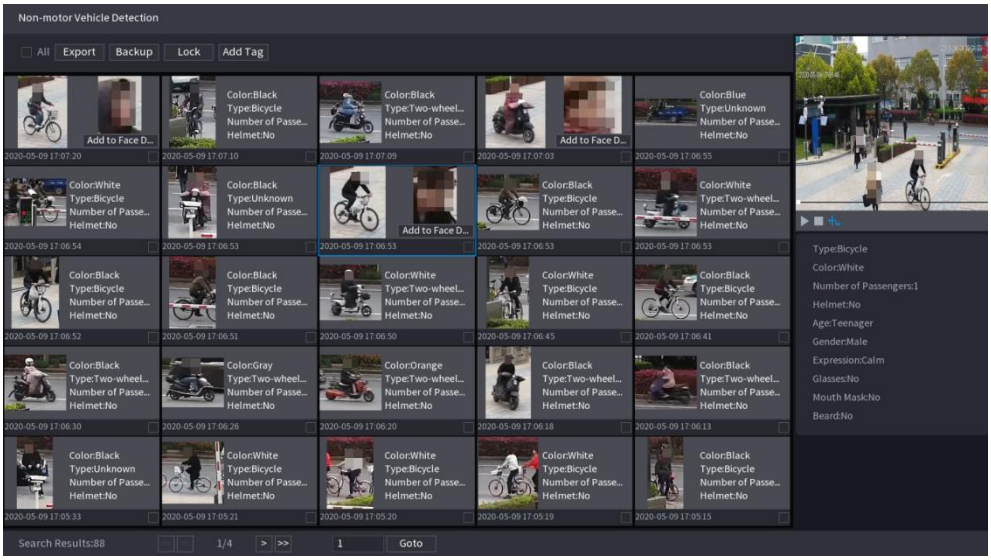
i. Add face images from face detection results to face databases

In the face detection results, select one face cutout, and then you can add it to the face database. Click **Add to Face** Database and enter corresponding information in the displayed interface, and then add the image to the face database.



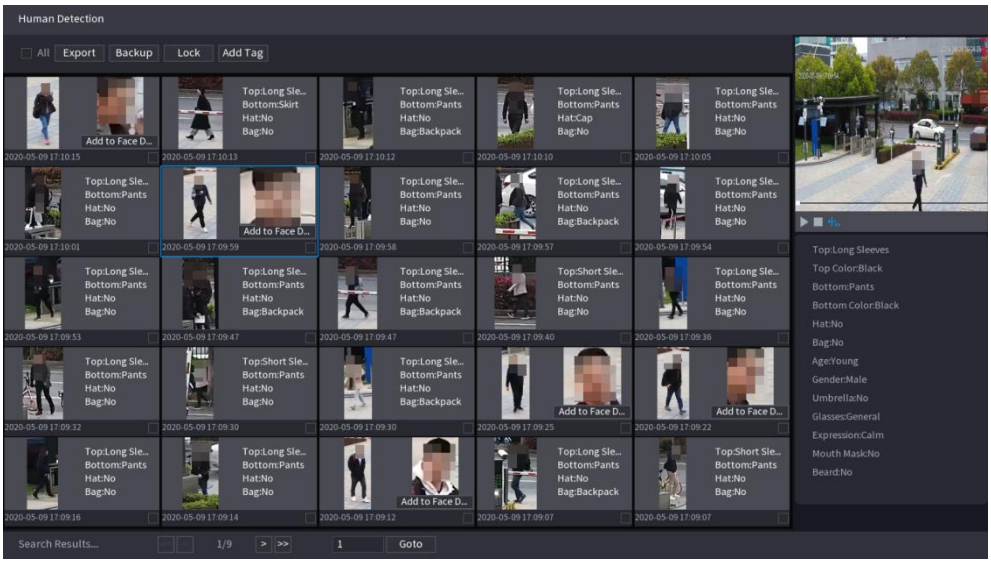
ii. Add face images from face detection results to face databases

Select **AI** > **AI Search** > **Non-Motor Vehicle Detection**, search for face images, and then you can add them to the face database. Click **Add to Face Database** to add the detected face image to a face database.



iii. Add face images from human body detection results to face databases

Select **AI** > **AI Search** > **Human Detection**, search for face images, and then you can add them to the face database. Click **Add to Face Database** to add the image to a face database.



iv. On AI Live View, add face images from human detection events to the face database

On the AI panel, human body detection events have face images. Click to play back, and on the right of the playback interface, an **Add to Face Database** button is added. The operation method is the same with adding face images from face detections to the face database.

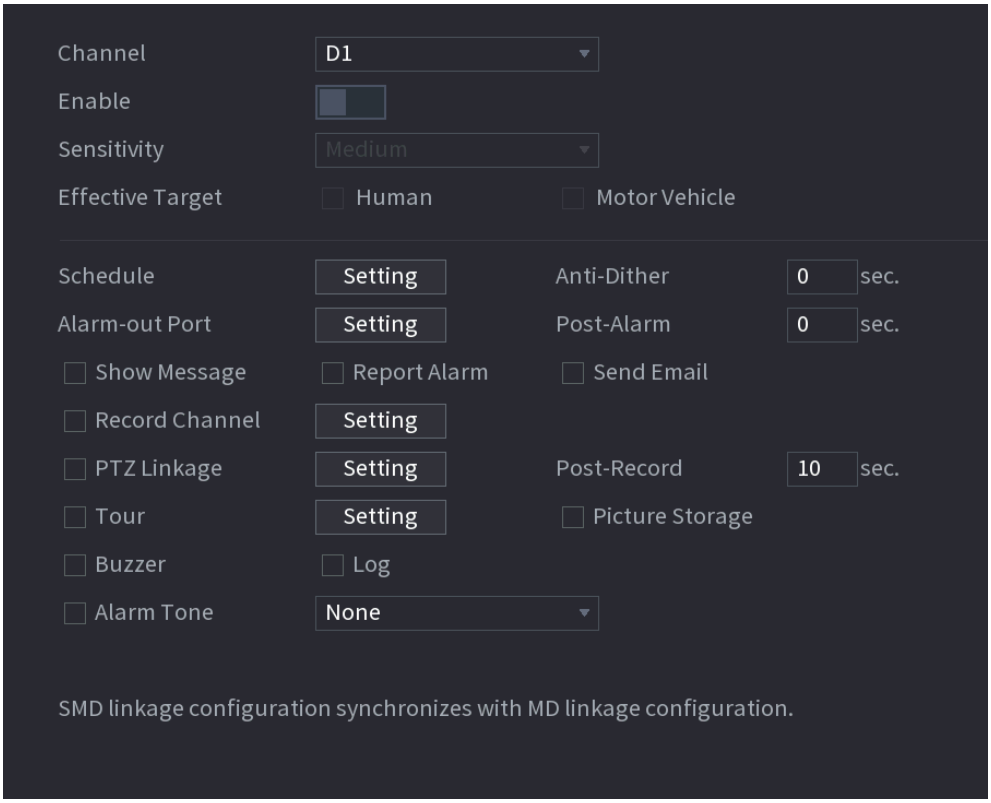
v. On AI Live View, add face images from non-motor vehicle detection events to face databases

On the AI panel, non-motor vehicle detection events have face images. Click to play back, and on the right of the playback interface, an **Add to Face Database** button is added. The operation method is the same with adding face images from face detections to the face database.

1.5.3 AI by NVR with SMD

The system analyzes video stream to detect human and vehicle in the video, triggers alarms and stores the detection result in metadata storage for fast retrieval.

NVR4X-I AI-by-NVR supports up to 8 channels; NVR5X-I supports up to 16 channels.

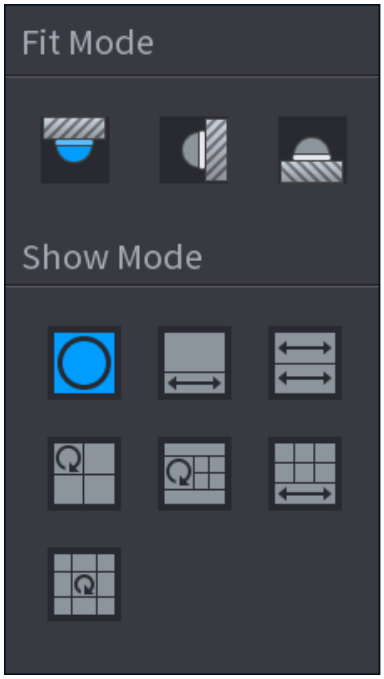


1.5.4 Fisheye dewarp AI by NVR Function

The fisheye camera (panoramic camera) has wide video of angle but its video is seriously distorted. The de-warp function can present the proper and vivid video suitable for human eyes.

NVR4X-I AI-by-NVR supports up to 2 channels of fisheye dewarp; NVR5X-I AI-by-NVR supports up to 4 channels of fisheye dewarp.

On the **Live** interface, select fisheye channel and then right click mouse, and then select **Fisheye**. You can set fisheye installation mode and display mode.



When playing back the fisheye record file, you can use de-warp function to adjust video.

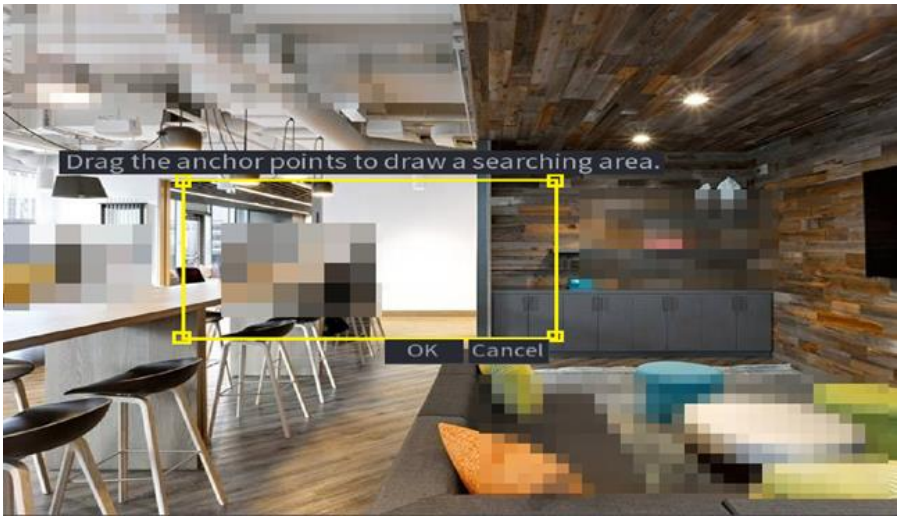
1.5.5 Select targets with rectangle for search during live view and playback

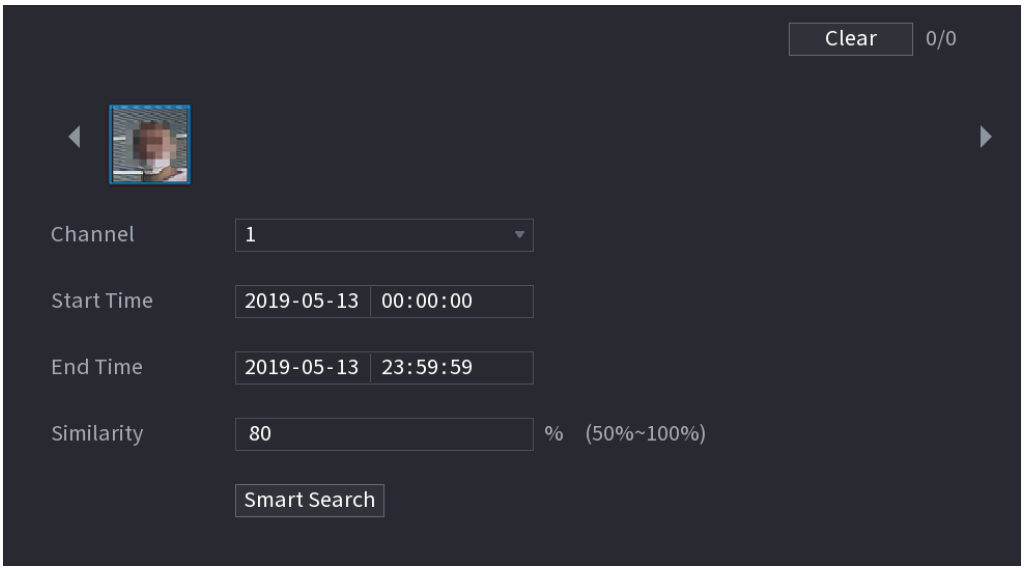
Select faces and human bodies with rectangle over the live or recorded video to search for the records (search by image). Click **Search by Image**, and then the video freezes. Select the targets to go to the **Search by Image** interface. This involves the **Live** and **Playback** interfaces.

Procedure: Click **Search by Image** > draw selection rectangle (rule area) > detect face cutouts > go to **Search by Image** interface > select search targets > click **Search by Image** > display search results.

i. Search by image during live view

Click , and then the live view freezes. Draw an area, and then click **OK**.

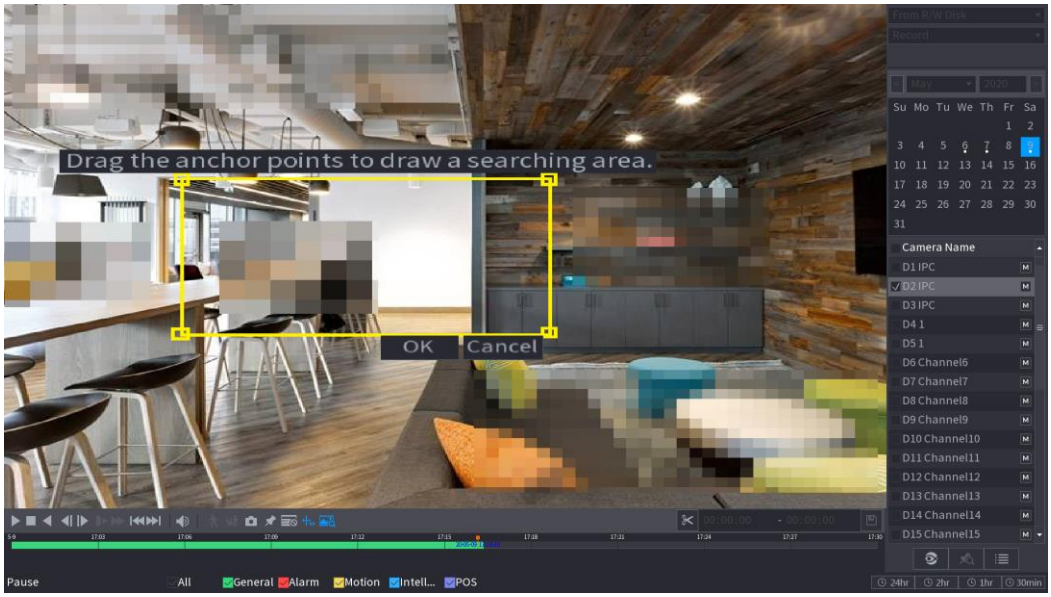




ii. Search by image during playback

Select targets over the video to search for the records of the targets.

On the Playback interface, select a channel to play recorded video. Click , and then the video freezes. Draw an area, and then click **OK**.



1.5.6 Auto Update of Algorithm Model

After the program is upgraded, if the feature vector model does not match, the device will automatically update algorithm model.

i. Added algorithm version details and authentication expiry warning on the interface

Check algorithm version details of face detection, face recognition, IVS, video metadata and SMD.

Log in to the local GUI. On the **LIVE** interface, right-click and select Main Menu, select **MAINTAIN > System Info > Intelligent Algorithm**, and then check details.

The interface shows prompts of algorithm license status difference for the convenience of future maintenance.

ii. Updated algorithm model

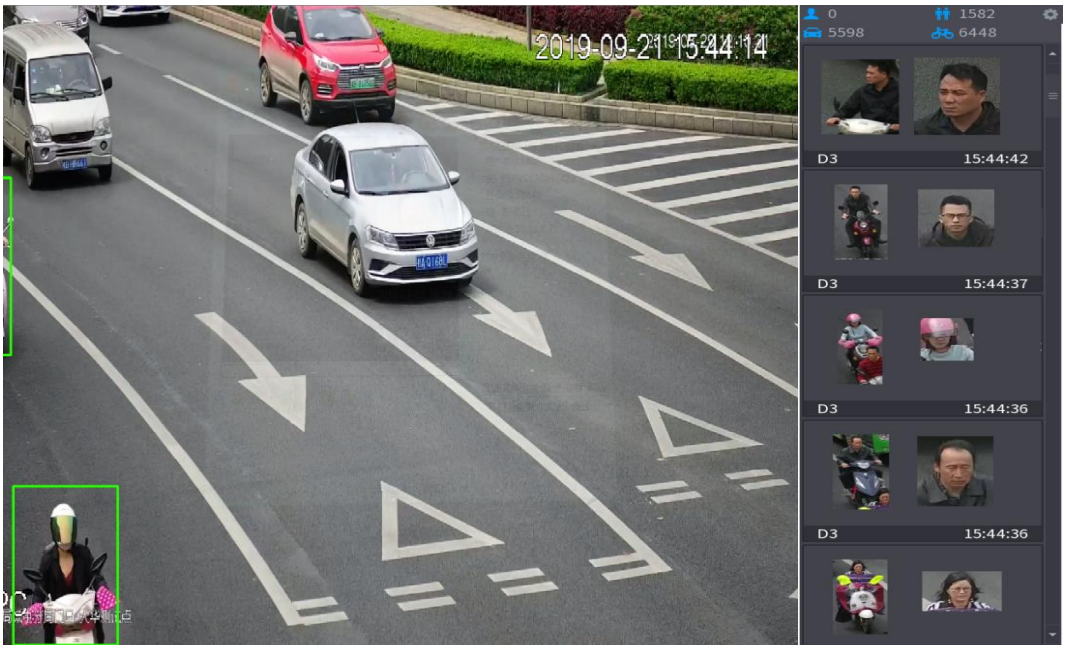
After the program is upgraded, if the system detects algorithm model updates, the search by image function will not work. After updating algorithm models, the system will automatically re-model the face images and generate new feature vectors. The modeling images involve all those in the face database and in the face comparison records. User experience might be influenced due to the log-time process during which all AI functions do not work.

Users shall be notified on the interface during the modeling process. The prompt is “Algorithm model is updating. AI functions do not work during the process.” Add prompts on the local LIVE, main menu, and the Web menu interfaces.

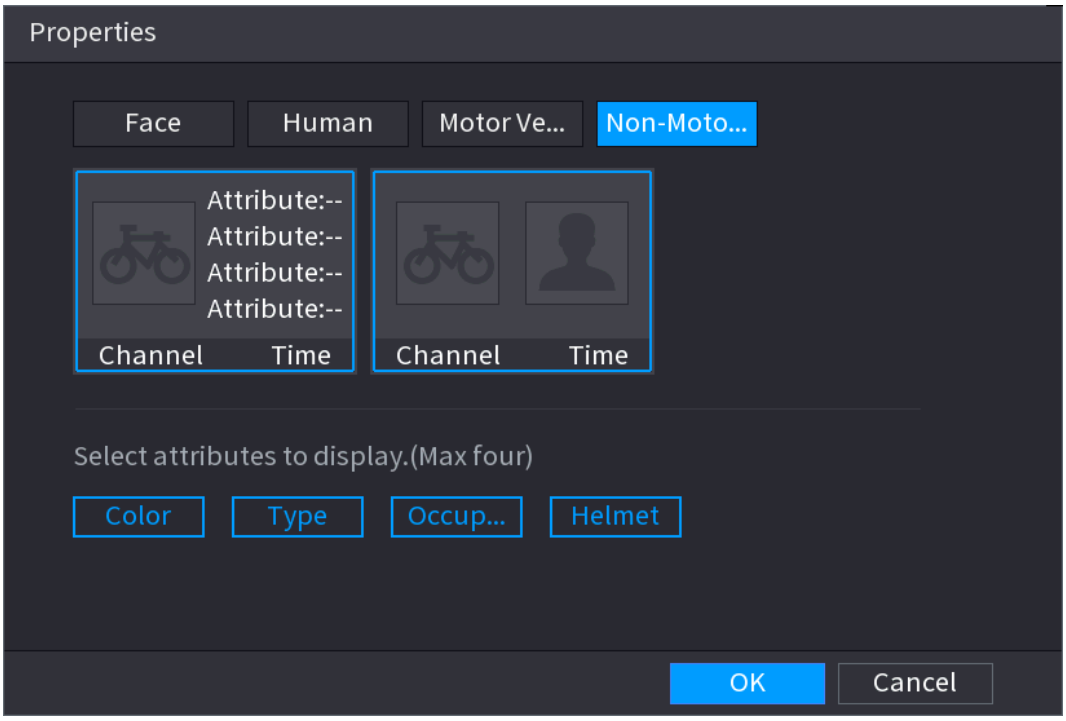
1.5.7 Non-Motor Vehicle Face Detection in Video Metadata

i. Face is added as an attribute of non-motor vehicle detection. This feature supports non-motor vehicle + face display mode.

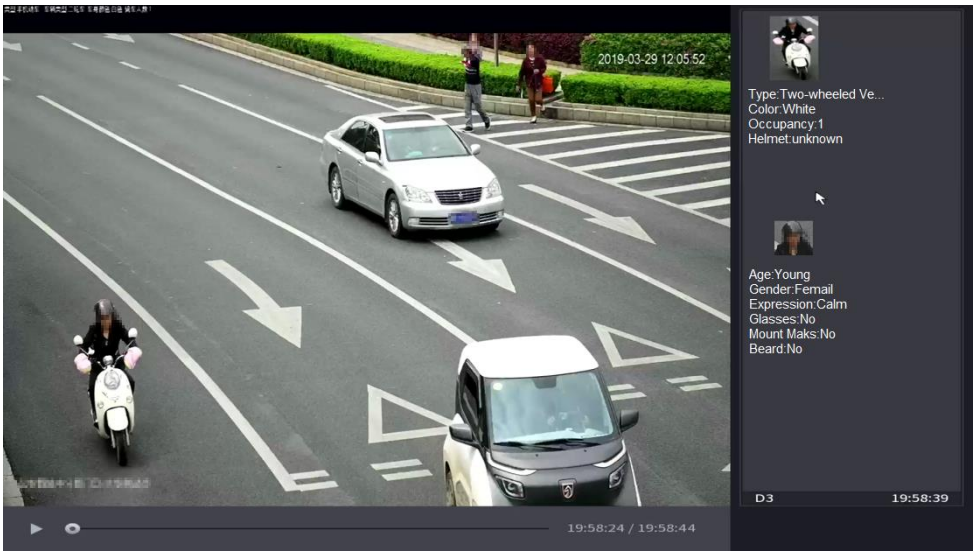
ii. The attribute of face is added to non-motor vehicle detection. When a face is detected on the non-motor vehicle in live view, playback or searching result, the face picture and related attributes will be displayed along with non-motor vehicle information. When no face is detected, only non-motor vehicle information will be displayed.



iii. Non-motor vehicle + face mode selection is added for the display mode settings in AI search.

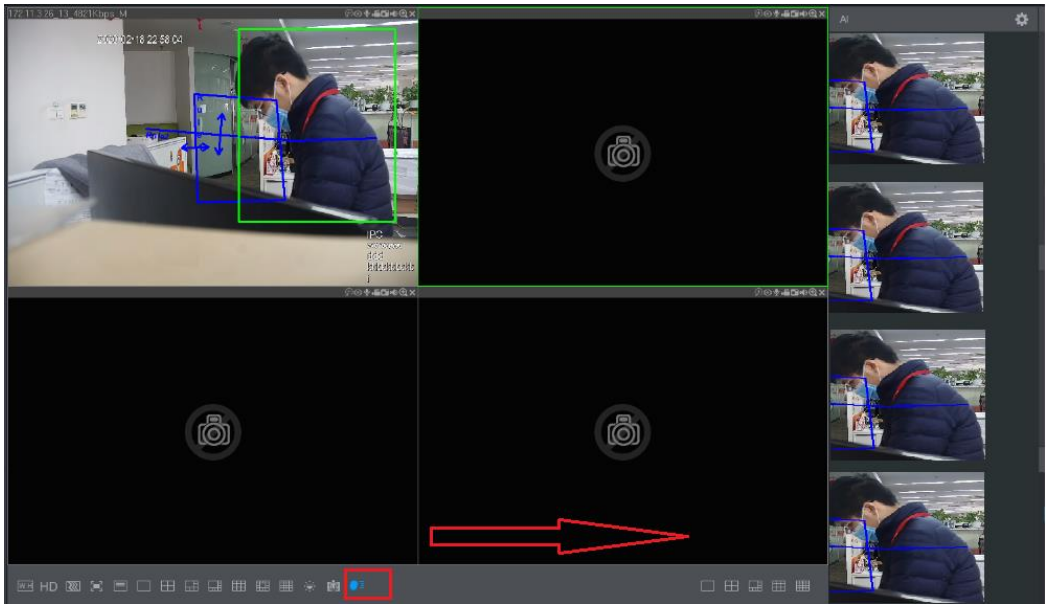


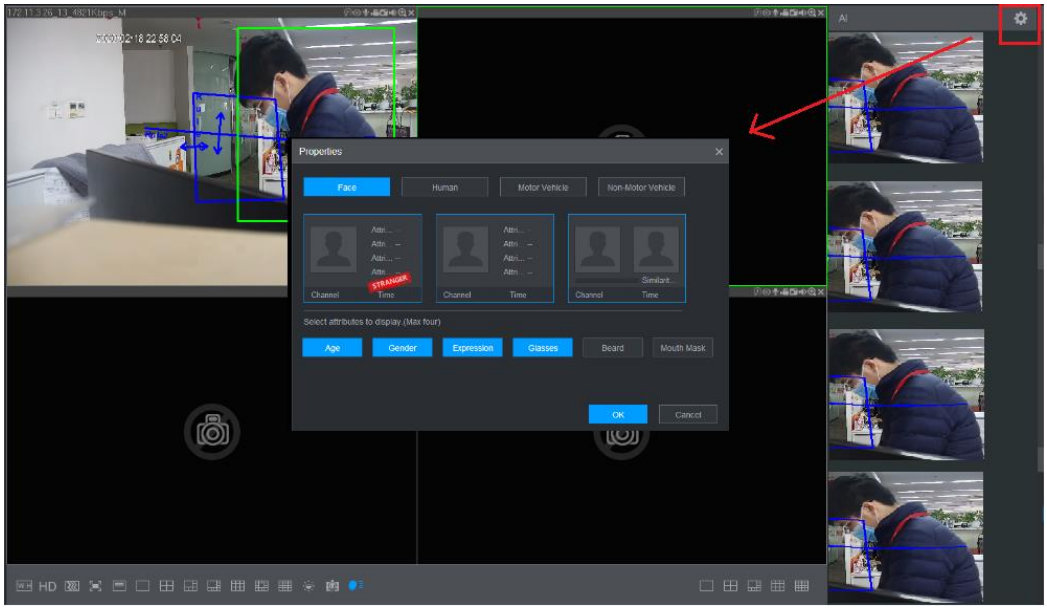
iv. The searching condition remains unchanged: non-motor vehicle. When a face is detected, the face picture and related attributes will be displayed along with non-motor vehicle information. When no face is detected, only non-motor vehicle information will be displayed.



1.5.8 AI Panel on Web

The **AI** panel on web supports the same functions as on local GUI. It can display intelligent events in real time, and display intelligent pictures and intelligent properties. When AI panel is enabled, you can find AI related information on the right side, and the supported intelligent events include: IVS, face detection, face comparison, video structuring, and plate detection.

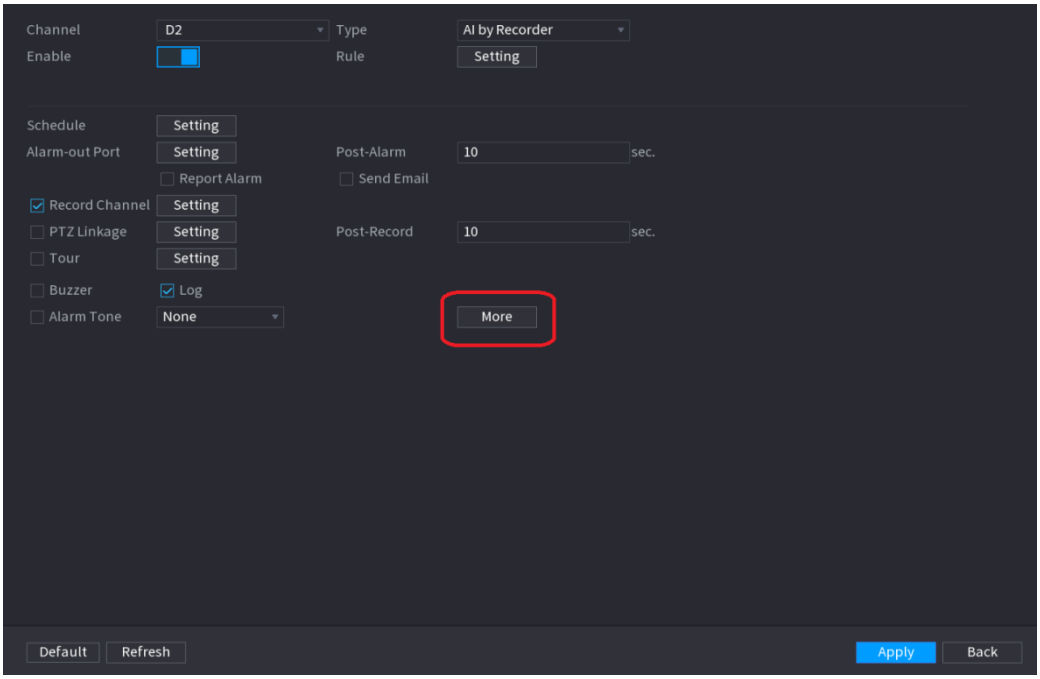




1.5.9 Camera Alarm Output Linkage

When an alarm is triggered from an IPC, NVR will link the IPC to output alarm signal. The linked alarm output ports can be one or more. For example, if a face detection alarm is triggered, NVR can enable the IPC to output alarm signal to access controller for door control.

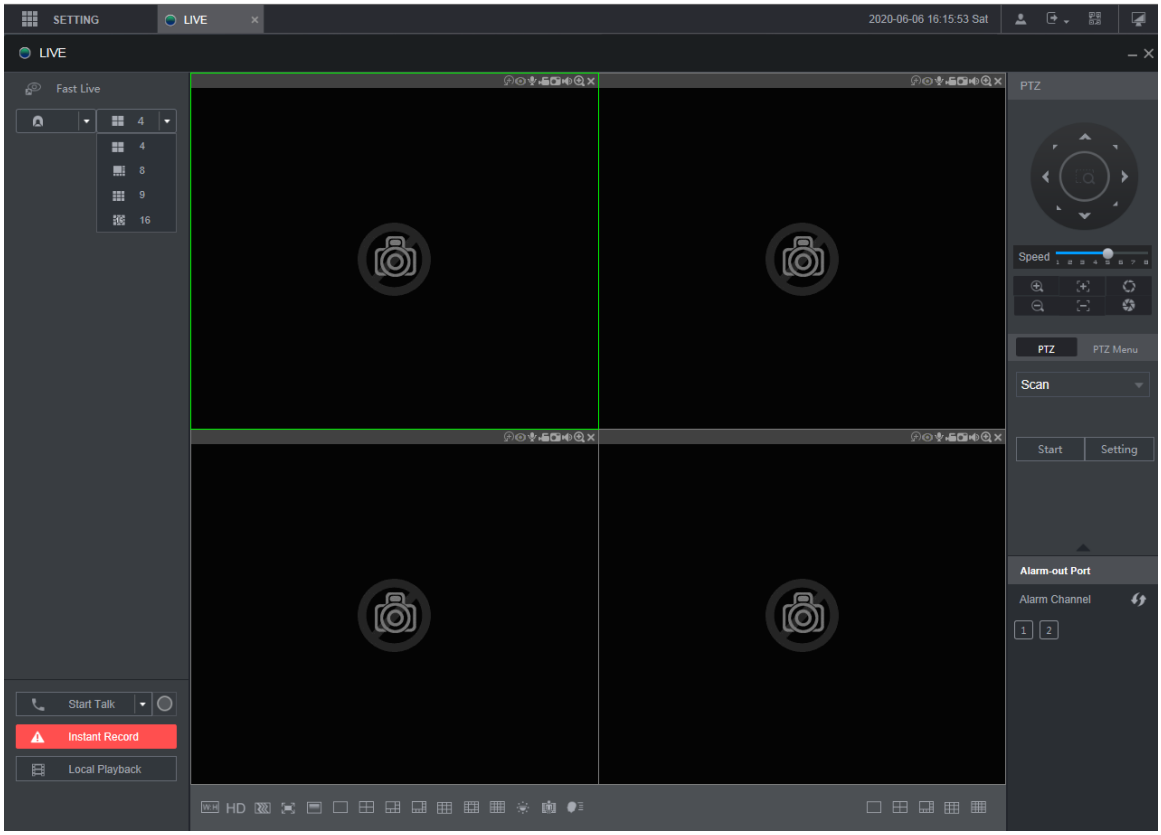
This is only for AI-by-NVR face detection and face recognition events.



1.5.10 Fast Live on Web

A **Fast Live** function is added on the upper-left corner of the LIVE interface. User can define the channel from which to start multi-window viewing. It starts from the first connected channel and is 4-window play by default.

4-Window live view applies main stream. If the split exceeds 4, the system applies sub stream.

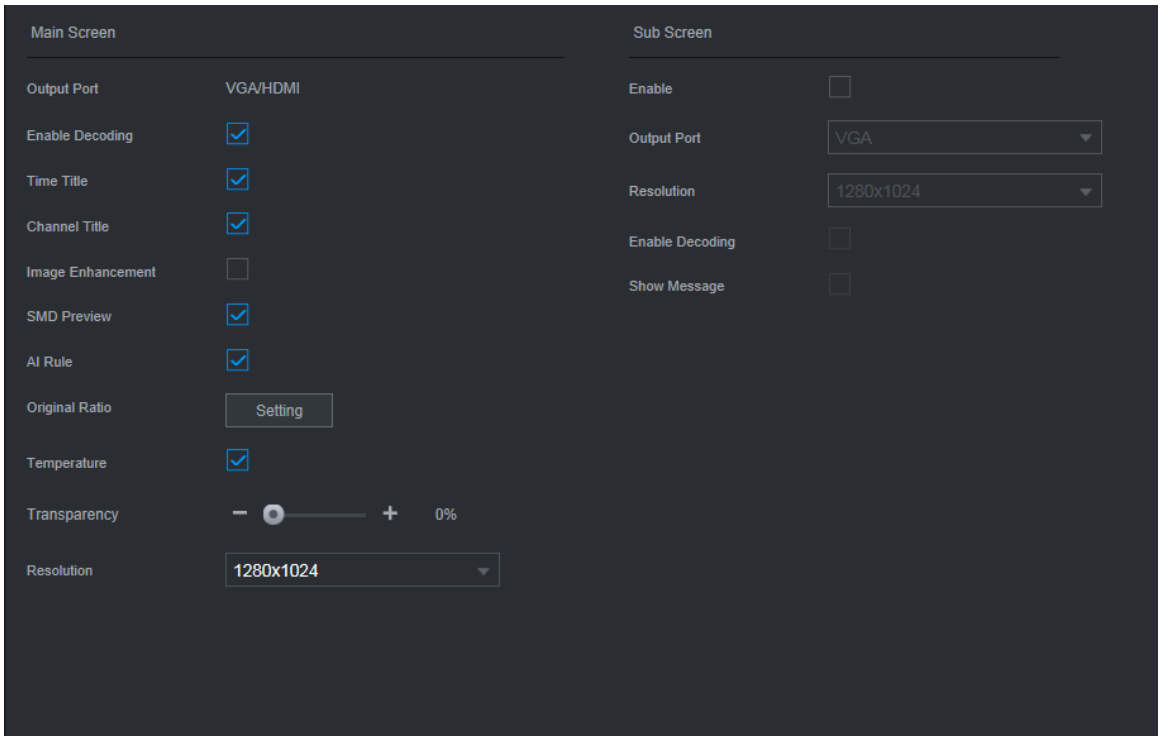


1.5.11 Non-simultaneous Output

VGA and HDMI non-simultaneous output function outputs two difference images. One can play recorded video, and the other can play live image.

i. Parameter config

On the main menu, select **DISPLAY > Display**, and then config main screen and sub screen. The interface might vary depending on device model, and the actual interface shall prevail.



i. Sub screen shortcut menu

On the sub screen, right-click to show the shortcut menu. The menu provides actions including PTZ, split, and main port. Split supports up to 16 windows.

1.5.12 Optimized Playback Function on Local GUI

Playback function on local GUI is optimized and the following functions are added: Custom fast play; channels can be selected during playback; cursor and time bar are optimized.

i. Supports custom fast play

Set play intervals such as 1, 3, 5, 15, 30 min or 1 hour.

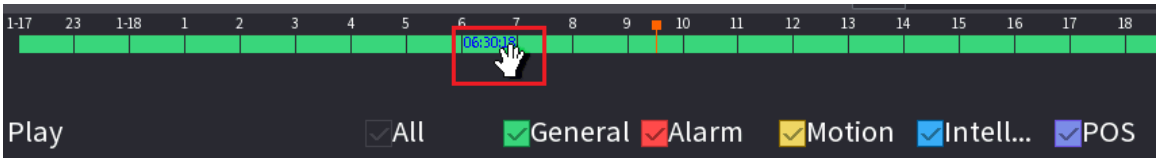
ii. Channels are selectable during playback

Supports adding or reducing channels during playback, and the time bars increase accordingly.

iii. Optimized cursor and time bar

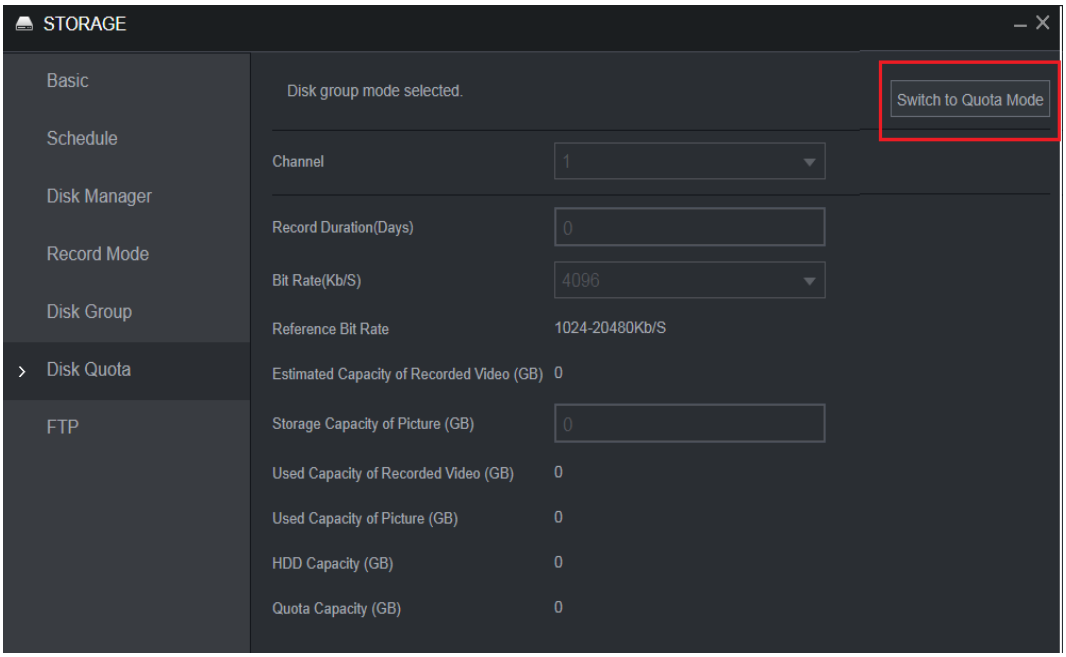
The vertical lines on the cursor and time bar are merged into one. During playback, time bar line is used as cursor. The vertical line moves as you drag the time bar.

When the vertical line is on the left end of the time bar, if you drag the time bar to the left, the line keeps still; if you drag the time bar to the right, the line moves right. When the vertical line is on the right end of the time bar, if you drag the time bar to the right, the line keeps still; if you drag the time bar to the left, the line moves left.

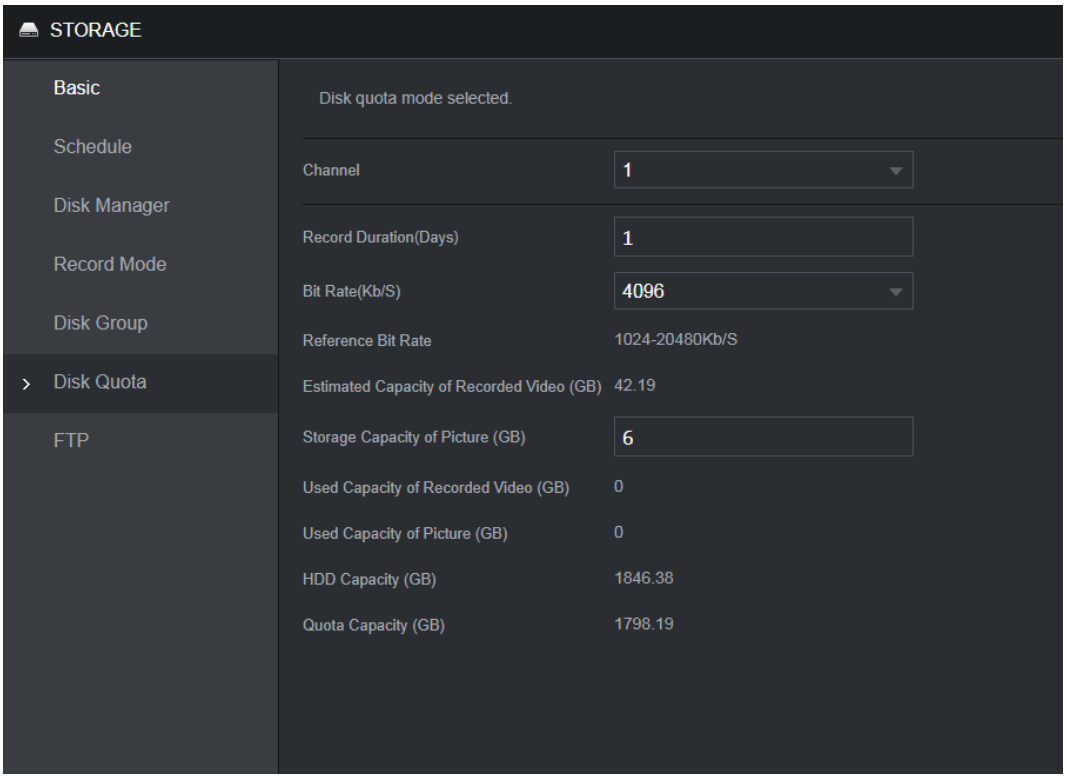


1.5.13 Quota Management

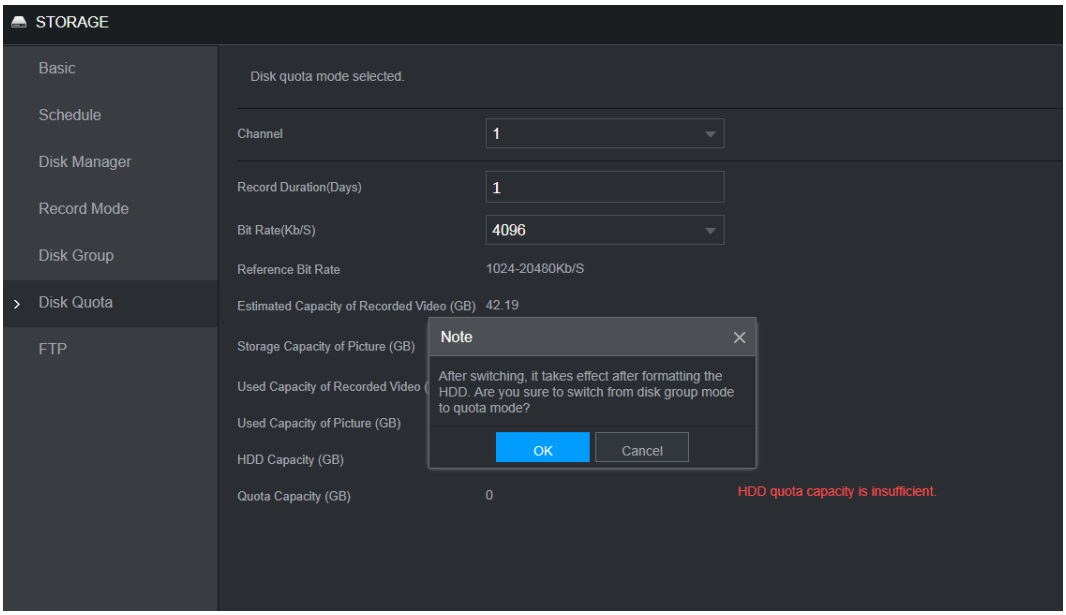
i. The NVR supports quote management. Disk group mode is selected by default, and cannot be enabled with quota mode at the same time. You can switch storage mode on the interface below.



ii. Quota management allows storage capacity to be set by channel, and videos and images can be configured separately, and the remaining configurable space is automatically calculated.

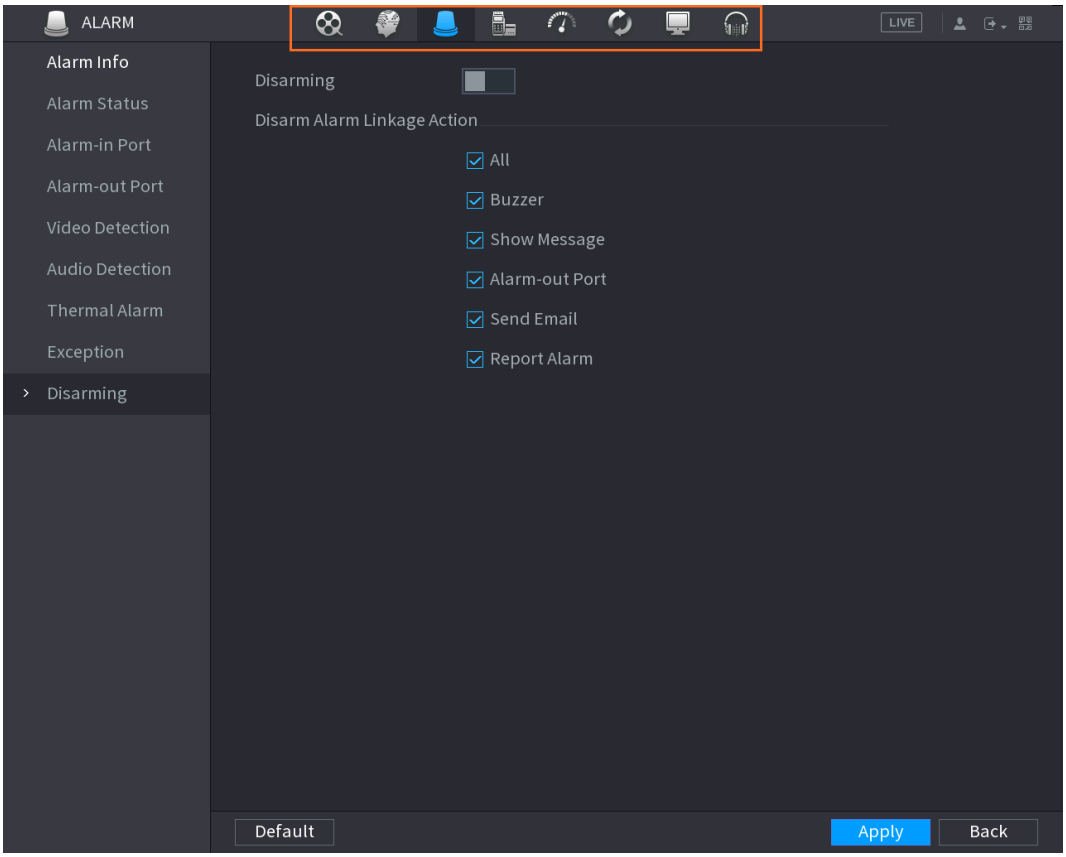


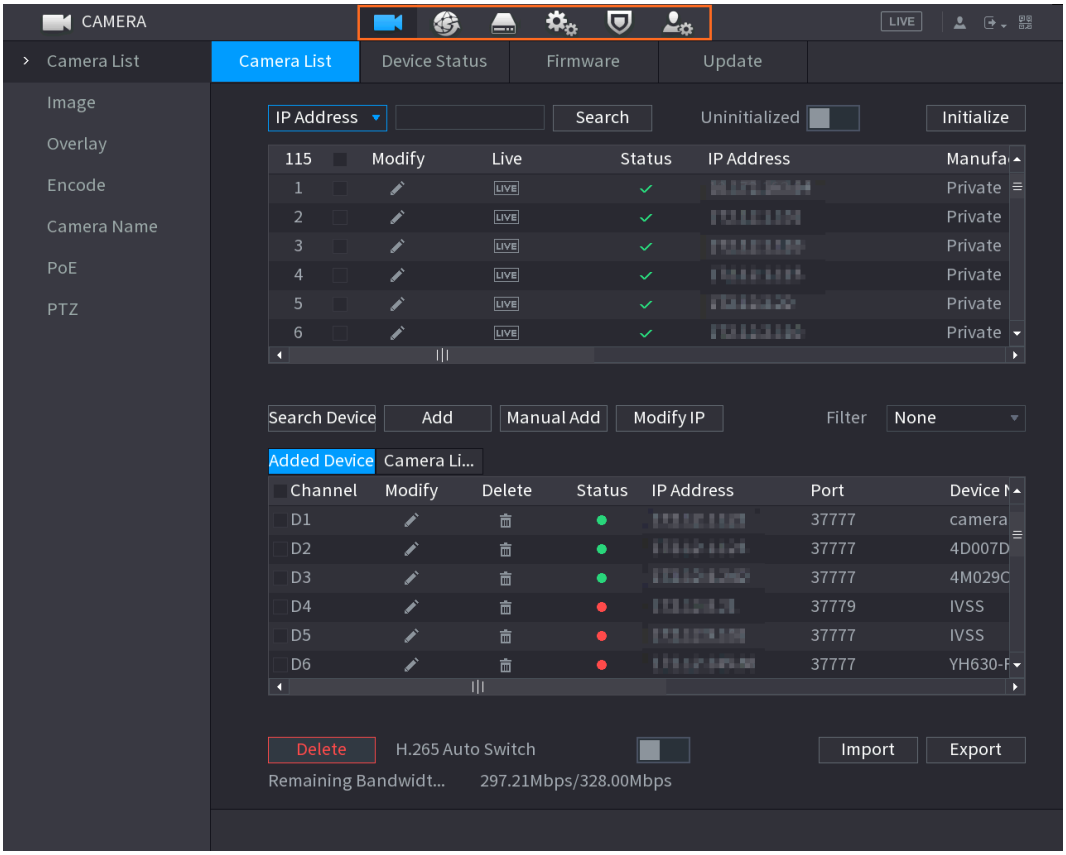
iii. The interface will display a message indicating HDD quota capacity is insufficient, and will continuously prompt for insufficient quota capacity on local live view interface.



1.5.14 Quick Operation Bar

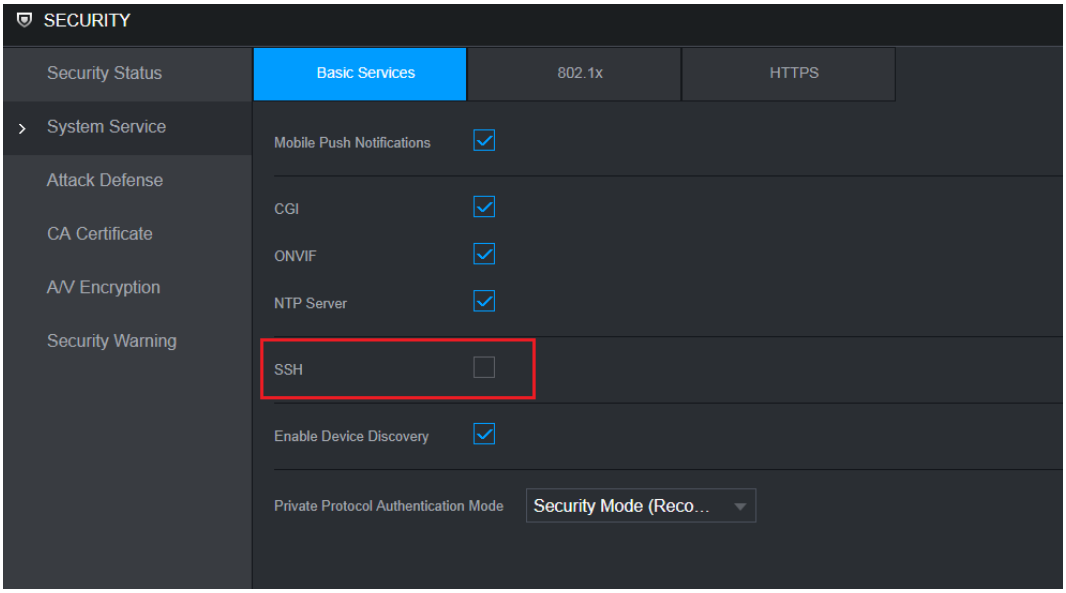
Quick operation bar is added to local GUI for fast jumping and better user experience. You can use quick operation bar to jump to other submenus of the same level.





1.5.15 SSH Service

The NVR supports SSH service and provides a SSH enable switch. SSH service is disabled by default.



1.6 Compatibility

This new baseline version is based on the version of Security Baseline 2.1, and it can be rolled back to the versions after Security Baseline 1.4, but cannot be rolled back to a version prior to Security Baseline 1.4.

1.7 Software Environment

Model	Version
DH-IPC-HFW2231SN-S-0280B-S2	2.6.01.05.19476 DH_IPC-HX2XXX-Molec_MultiLang_NP_V2.800.0000000.14.R.200229.zip
DH-IPC-HFW2531TP-ZAS-27135-S2	2.6.01.05.19834 DH_IPC-HX25(8)XX-Molec_MultiLang_PN_V2.800.0000000.15.R.200313.zip
DH-IPC-HFW2831TP-ZAS-27135-S2	2.6.01.05.19834 DH_IPC-HX25(8)XX-Molec_MultiLang_PN_V2.800.0000000.15.R.200313.zip
DH-IPC-HDW3241TP-ZAS-27135	2.6.01.05.17697 DH_IPC-HX5(4)(3)XXX-Leo_MultiLang_PN_Stream3_V2.800.0000000.8.R.191231.zip
DH-IPC-HFW7442HP-Z-2712F-DC12AC24V	DH_IPC-HX8XXX-Nobel_MultiLang_PN_V2.800.0000000.5.R.200425
DH-IPC-HDBW7442HP-ZFR-2712F-DC12AC24V	2.6.01.05.16040 DH_IPC-HX8XXX-Nobel_MultiLang_PN_V2.800.0000000.4.R.191118.zip
DH-IPC-HDW8341XP-3D-0280B	2.6.01.05.05284 DH_IPC-HX8X4X-Kronos_Eng_P_Stream3_V2.622.0000000.5.R.181215.zip
DH-IPC-PDBW8838-B360	2.6.01.05.18030 DH_IPC-HX8(5)XXX-Sag_EngSpnFrn_PN_V2.800.0000000.5.R.200107.zip
DH-IPC-EBW81242	2.6.01.05.16153 DH_IPC-EBW8XXXX-Fafnir_MultiLang_NP_Stream3_V2.800.0000000.0.R.191106.zip
DH-PSDW81642	2.6.01.05.09531 DH_IPC-PSDW8XXX-Fafnir_EngSpnFrn_PN_Stream3_V2.680.0000000.1.R.190517.zip
DH-IPC-HCBW8442P	2.6.01.05.18326 DH_IPC-HX5XXX-Volt_MultiLang_PN_Stream3_V2.800.0000000.11.R.191230.zip
DH-PSD81639-A360	2.6.02.05.00652 General_SD81639-HN-MAIN_MCU_V2.301.0000000.21.R.190515.zip
DH-IPC-PFW83242P-A180-E4	2.6.01.05.21110 DH_IPC-PFW832XX-Fafnir_MultiLang_PN_Stream3_V2.800.0000000.0.R.200408.zip
ITC237-PU1B-（IR）	2.6.01.08.01701 General_ITC237-PU1B(PW1B)-IR(IRZ)(L)_Eng_PN_Oversea_Europe_V2.622.0000000.1.R.181114.zip
ITC215-PW4I-（IR）LZF27135	2.6.01.08.03600 General_ITC215-PW4I-XXX_Eng_PN_Oversea_ITCPUSH_EuropeENTRANCE_V2.623.0000000.1.R.190820.zip

Model	Version
ITC231-RU1A-IRL	2.5.02.01.58049 General_ITC231-RF1A-(IR)_Eng_PN_Oversea_India_V2.401.0000000.1.R.180202.zip
ITC352-RU2D-（IR）L	2.6.01.08.04119 General_ITC352-RF2D_Eng_P_Oversea_MACAO_V2.722.0000001.0.R.191029.zip
ITC952-RU2D-（IR）L	2.6.02.08.00056 General_ITC-FOUCUS_motorMcu_V1.000.0000000.0.R.zip
DH-SD8A240WA-HNF	2.6.01.05.19787 DH_SD-Fafnir_MultiLang_PN_Stream3-NormalV2_V2.810.0000003.5.R.200310.zip
DH-SD5A445XA-HNR	2.6.01.05.20206 DH_SD-Prometheus_MultiLang_PN_Stream3_V2.800.0000009.3.R.200331.zip
DH-SD49425XB-HNR	2.6.01.05.17936 DH_SD-Prometheus_MultiLang_PN_Stream3_V2.800.0000002.4.R.191227.zip
DH-PTZ1C203UE-GN	2.6.01.05.16119 DH_SD-Eos-Civil_MultiLang_PN_Stream3_V2.800.0000000.7.R.191113.zip
DHI-VTO7541G	2.6.01.18.03516 General_VTO75XXX_Eng_P_SIP_V1.000.0000001.1.R.191217.zip
DHI-VTO2202F-P	2.6.01.18.03843 DH_VTO2202F_MultiLang_PN_SIP_V4.410.0000000.4.R.20200221.zip
DHI-VTO6421F	2.6.01.18.02104 General_VTO64XXF_Eng_P_128M_SIP_V1.000.0000001.0.R.20190517.zip
DSS PRO	2.7.01.02.00833 General_DSS-PRO_Win64_IS_V7.002.0000003.0.R.20191008.exe
DSSC9100/C9505	2.7.01.01.00044 DH_DSSC9505_Internal_V2.000.0000002.0.R.180626.tar.gz
SmartPSS	2.7.01.10.00066 General_SmartPSS_ChnEng_Mac_IS_V2.03.0.R.20191203.pkg.zip
playsdk	2.8.01.01.01177 General_PlaySDK_Eng_Windows64_IS_V3.042.0000001.2.R.191225.zip
DMSS	2.7.03.01.00154 General_DMSS-Android-Phone-Plus-Device_MultiLang_Basic_IS_V4.050.0000008.2.R.190924.apk
Player	2.8.02.01.00303 General_SmartPlayer-Win32_Eng_IS_V4.000.0000001.4.R.191009.zip
ConfigTool	2.8.02.01.00407 General_ConfigTool_ChnEng_V4.011.0000003.7.R.20200325.zip

Model	Version
NetSDK	2.8.01.01.01126 General_NetSDK_Eng_Win32_IS_V3.051.0000006.1.R.191126.7z
DiskManager	2.1.02.01.16427 General_DiskManager_Eng_WIN32_V2.02.1.R.170417.zip
NKB1000	2.6.01.09.00655 General_NKB1000_Eng_V3.621.0000000.0.R.200302.zip
NKB5000	2.6.01.09.00662 General_NKB5000_MultiLang_V3.212.0000001.0.R.200318.BIN

1.8 Pending Issues

None.

1.9 Update Guide

1. You can upgrade the NVR by ConfigTool, web and USB flash drive. For details, see Upgrade Guide.
2. Services such as recording and live view will be paused during the upgrade process. The NVR works normally after upgrade and rebooting.
3. The upgrade does not affect previous settings of the NVR.
4. Do not power off during the upgrade process, or the NVR will not boot up properly.

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