

Title:	RN DS-76xxNI-E1(E2)P NVR v3.4.96	Version:	v3.4.96	Date:	081919
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■ DS-76xxNI-E1(E2)P Series NVR v3.4.96_171113 USA GUI Firmware (Current Version)

- **Firmware customized from v3.4.92_170518**
- **Models affected:** DS-7604NI-E1/4P, DS-7608NI-E2/8P and DS-7616NI-E2/16P
- **Reason for upgrade:** Add and optimize functionalities for better E Series NVR performance

1) New Features

a) System Service

- PSIA server/client protocol removed.
- User can disable/enable RTSP protocol (only valid for server mode when client receives stream from NVR) and choose RTSP authentication type between digest, and digest and basic.
- User can disable/enable ISAPI protocol.
- User can disable/enable HTTP protocol and choose HTTP authentication type between digest, and digest and basic.
- User can disable/enable SADP protocol.

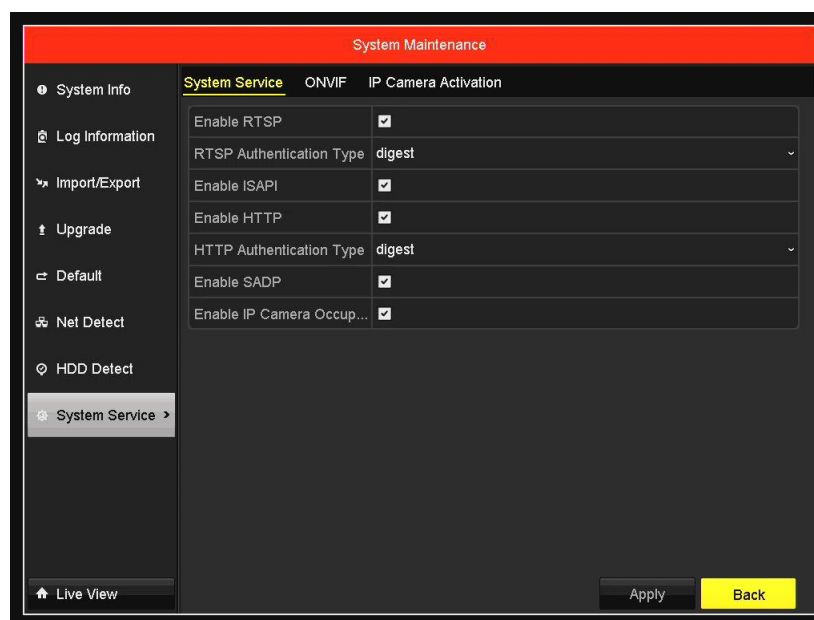


Figure 1, System Maintenance Window

- User can disable/enable IP camera occupation detection. When this function is enabled, the NVR will detect whether the IP camera is already connected to another

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device/client.

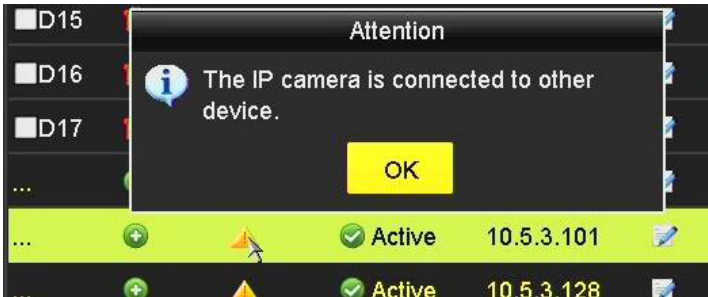


Figure 2, IP Camera Occupation Detection Box

vii) The NVR device parameters will be encrypted using the user’s custom encrypt key. The encrypt key is required when a user imports it.

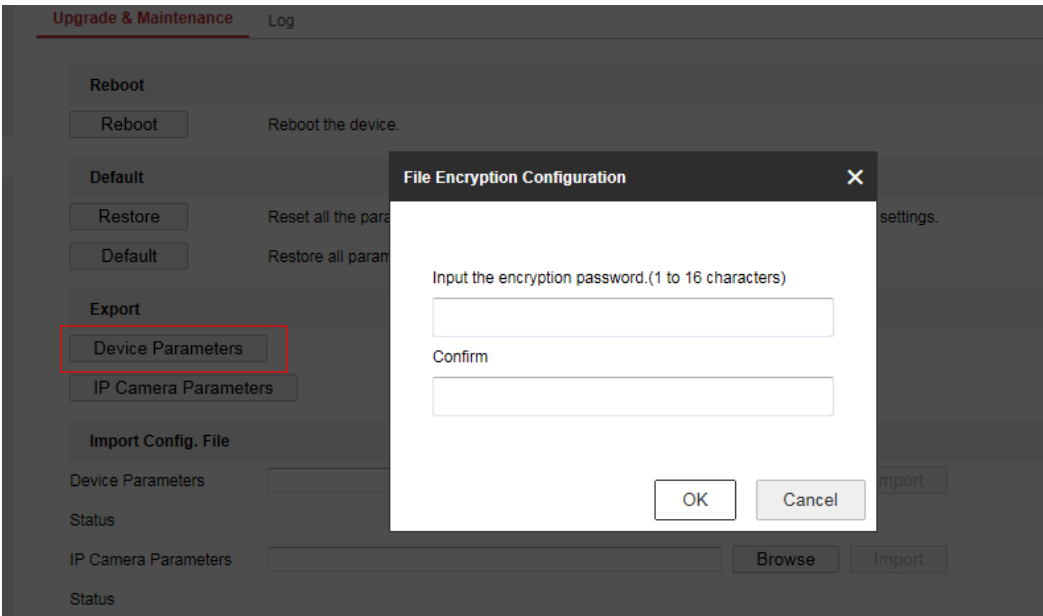


Figure 3, File Encryption Configuration Window

viii)Exported IP camera parameters no longer contain an IP camera password.
ix) Hik-Connect stream encryption function is open by default.

b) ONVIF

i) User can disable/enable the ONVIF protocol, and create an independent account for the ONVIF server service.

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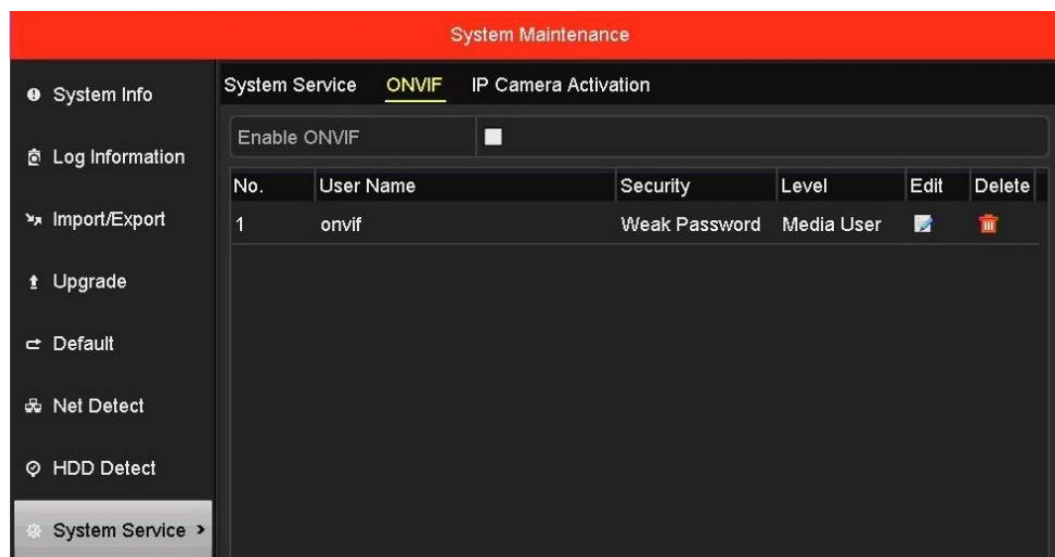


Figure 4, ONVIF Settings Window

c) IP Camera Activation

- i) In the previous version, the NVR used an admin password to activate the IP camera. From this new version, users can set the IP camera activation password independently. It does not have to be the same as the admin password.

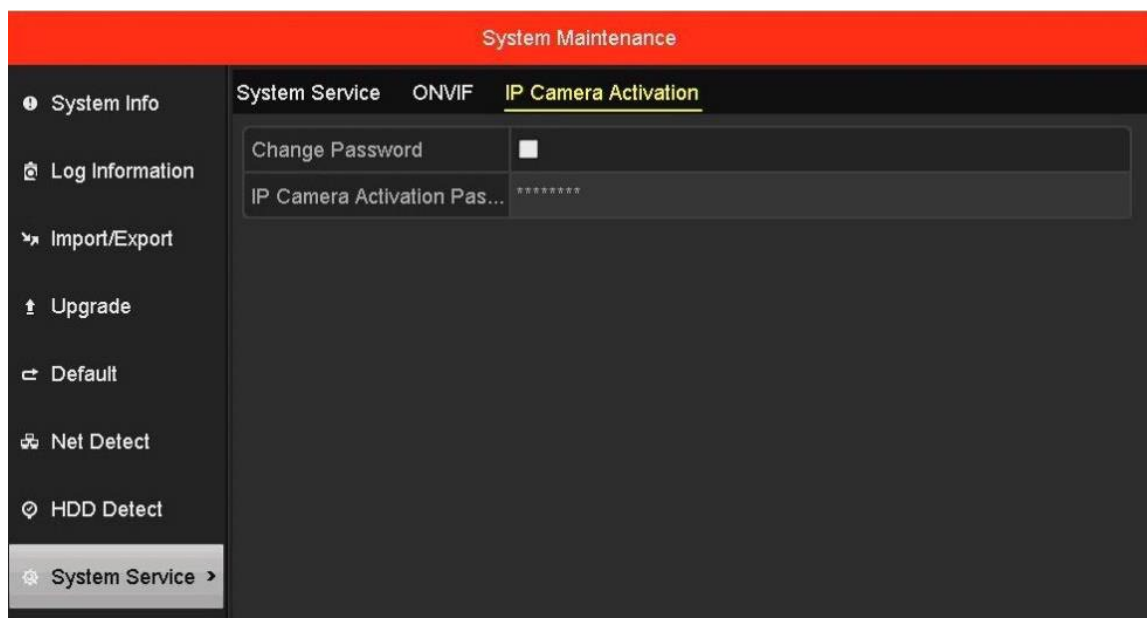


Figure 5, IP Camera Activation Window

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d) 3D PTZ

- i) 3D PTZ function control supported in the live view menu.

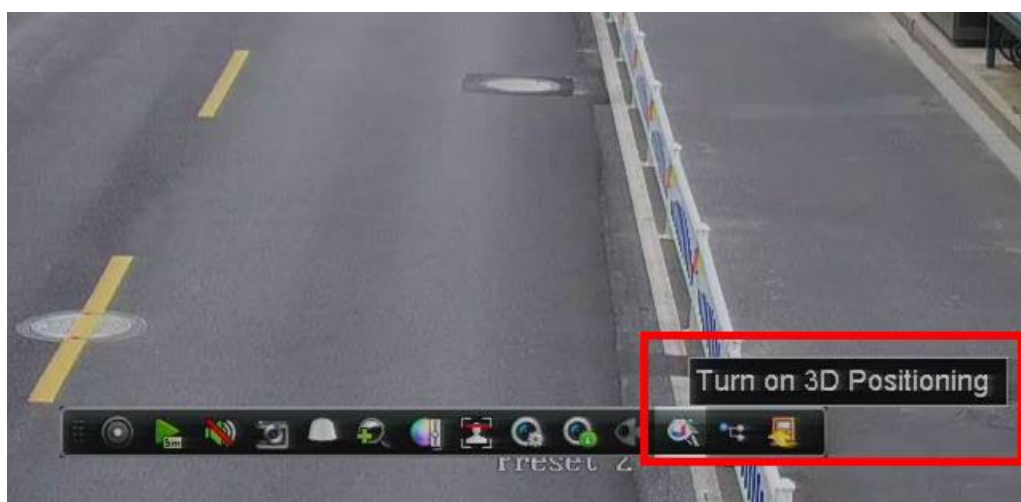


Figure 6, PTZ 3D Function Settings

2) Optimizations

a) Hik-Connect

- i) Reduces the time required to respond to stream requests from the Hik-Connect server. The user will obtain the live view more quickly in the Hik-Connect app.

■ DS-76xxNI-E1(E2)P Series NVR v3.4.92_17018 USA GUI Firmware (Previous Version)

- Firmware customized from v3.4.5_170224
- Models affected:** DS-7604NI-E1/4P, DS-7608NI-E2/8P and DS-7616NI-E2/16P

1) Compatible Camera Information

IP Camera Model	IP Camera Firmware
R0 platform (2xx2) Series	V5.4.0_160530
R1 platform (40xx,41xx,42xx,43xx,6412FWD) Series	V5.4.0_160419
R2 platform (1X02,2xx0,2X14) Series	V5.4.3_160705
R3 platform (4026FWD,6026FHWD,iDS-6XXX) Series	V5.4.0_160414
R4 platform (4XX5) Series	V5.4.0_160419

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R6 platform (2X22FWD, 2X42FWD) Series	V5.4.1_160525
IPD R3 platform DF Series	V5.4.0_160613
IPD R4 platform DF Series	V5.4.0_160613
IPD R0 platform DE Series	V5.3.9_150910
DS-2CD2942F-IS (FISHEYE)	V5.4.0_160926
DS-2CD6412FWD-C2	V5.3.9_160315
DS-2CD63XXF (Fisheye)	V5.4.14_160427

2) New Features

a) Dual-VCA

- i) User can enable or disable the IP camera's dual-VCA function in the NVR webpage.

b) One-Key Disarming

- i) Supports one-key disarming. User can disable the arming schedule for the entire device. Selected linkage actions will be disabled. Note that the no. 1 alarm input will be invalid if the user enables one-key disarming.

c) Export

- i) Video exporting in AVI format supported. Supported audio encoding format: G711U/G711A/AAC.

d) DNS

- i) The DHCP IP address and DNS can be configured separately.

e) Playback

- i) User can switch playback mode between Normal mode and Smart mode.
- ii) User can set the playback speed for normal videos and smart videos in smart playback mode.

f) Email

- i) For other VCA events, if a picture size is smaller than 500 KB, it will automatically be attached to an email and sent. If a picture size is larger than 500 KB, the NVR will compress the picture resolution to 4CIF and attach it to an email.
- ii) The user can test the email in a webpage.

g) DDNS

- i) The entire DDNS address (URL) will be shown after a user registers the device on the

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DDNS server.

h) Hik-Connect

- i) Intrusion and Line Crossing alarms can be uploaded to the Hik-Connect platform.

i) Live View

- i) The user can switch live view streams manually in the live view interface.

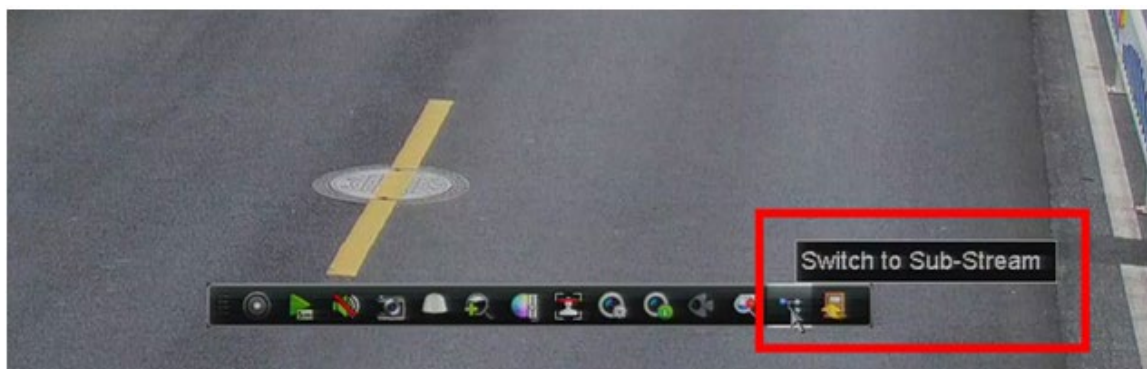


Figure 7, Stream Switching Settings

- ii) The user can set the default live view stream type in Configuration-Live View-View-More Settings. Supported modes include Main Stream, Sub Stream and Auto. Reentering the live view interface or switching the live view split-screen mode to default live view stream type.



Figure 8, Stream Switching Settings

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j) New Password Resetting Strategy

- The password resetting strategies below are only valid in the local area network. Local GUI, SADP, iVMS-4200, and Web clients support the new password strategy.
- The user can enter the new password reset interface by clicking on forget password.

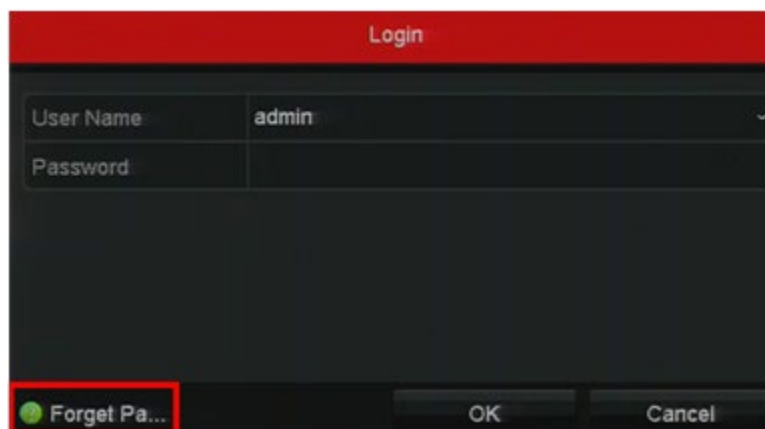


Figure 9, Forgotten Password Button

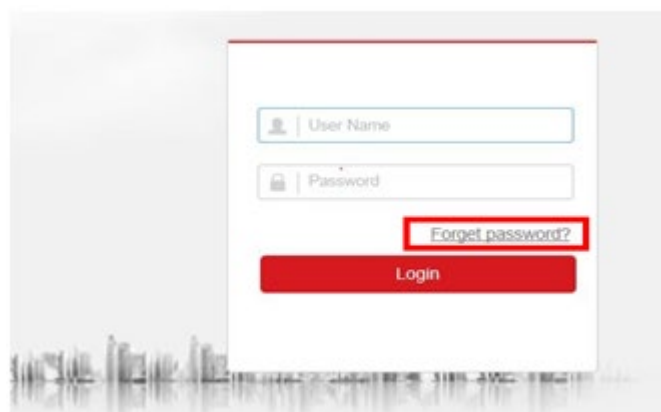


Figure 10, Forgotten Password Button

- The user can export the GUID file and reset the password by importing the GUID file when they forget the password. Please note that if the admin password is changed or the GUID file has already been used, the GUID file will expire.

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Figure 11, User Management Window

- (2) User can set validation questions and reset the password by answering the questions.

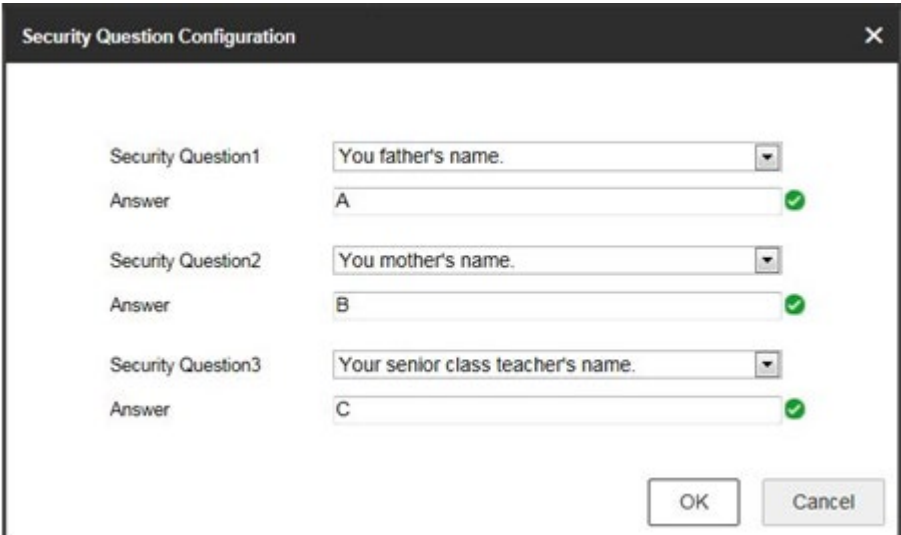


Figure 12, Password Reset Questions

- (3) The security code resetting strategy (enter by double clicking the left bottom corner of the login interface) has been removed from this version.

k) Hik-Connect

- i) Supports zero-channel live view on the Hik-Connect platform.

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l) Recording Type

- i) For new devices or devices that have been reset to factory settings, the NVR will automatically be set to 7x24 continuous recording for IP channels.

m) VCA Attached Pictures

- i) VCA pictures that are larger than 512 KB can be saved in local storage. Notice that pictures larger than 512 KB cannot be transmitted to the iVMS-4200 software.

n) USB Flash Disk Debugging

- i) Kernel running information can be saved to a USB flash disk in *.txt format for troubleshooting.

o) HDD

- i) Encryption supported for the following HDD models: WD2000FYYZ-31, WD3000FYYZ-31, WD4000FYYZ-31, WD4002FYYZ-31 and WD6002FYYZ-31.

p) Genetec Compatibility

- i) Access to Genetec VMS supported. Compatible operations include video parameter configuration, live view/playback, alarm notification and auto reconnection.

q) IP Camera Access

- i) Access to IP cameras using the IP camera Hik-Connect domain name. The IP camera and NVR should be added to same account.

r) GPL

- i) GPL Open Source Software Licenses Statement added.

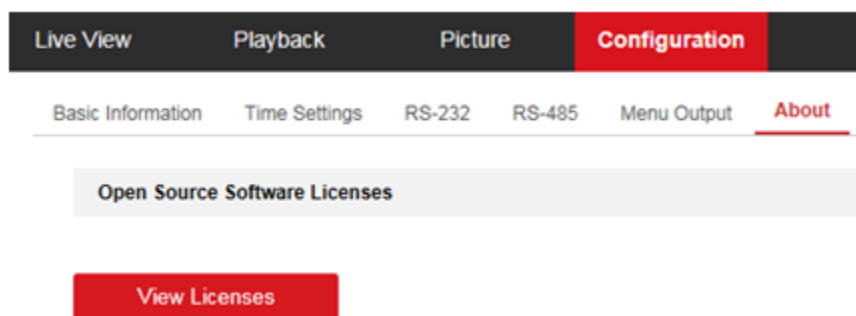


Figure 13, Open Source License Window

3) Bug Fixes

a) Website

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- i) The bug, where no results were displayed when motion detection results were searched for in the web playback interface, has been resolved.

b) Manual

- i) Manual has been added back to the Menu, and the manually clear feature has been added back to the website interface.

c) Remote Login

- i) The issue, where there was no remote login log when logging into the NVR/DVR from the web browser, has been resolved.

d) Offline Issue

- i) The bug, where that device would reboot after connecting to HikCentral, has been resolved.

4) Modifications

a) Virtual Host

- i) Only the enable/disable virtual host feature is available on the website. Port configuration is not supported.

b) PoE Management

- i) AF/AT settings are not available in the PoE management interface, and are the same as in the baseline version.

c) DHCP

- i) Refresh button has been removed when enabling DHCP.

d) Merge Files Feature

- i) Merge Files feature has been optimized (only GUI optimization).

e) Playback

- i) Playback time bar (zoom in/zoom out) cannot be adjusted using a mouse. Time options include intervals, such as 30 and 60 minutes.

f) IPC Default Feature

- i) The IPC default feature has been removed because the new IPC firmware is very stable.

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■ DS-76xxNI-E1(E2)P Series NVR v3.4.5_170224 USA GUI Firmware (Previous Version)

- Firmware customized from v3.4.4_161216

1) New Features

a) Hik-Connect

- i) DDNS feature added. After successfully registering the device on the Hik-Connect platform, you can access your device via the web browser or Client Software with the Device Domain.
- ii) The Hik-Connect feature has been optimized. Every time you enable Hik-Connect, the Service Terms interface pops up, and you must check the checkbox before enabling it. The verification code must contain 6 to 12 letters or numbers and is case sensitive.

NOTE: Hik-Connect is disabled by default. SADP and the batch configuration tool cannot be used to enable and disable Hik-Connect. It will be supported in later firmware. The CD version of iVMS-4200 does not support new Hik-Connect features.

b) UPNP

- i) UPNP is disabled by default.

2) Removed

a) DDNS

- i) HiDDNS and IP Server have been removed from the DDNS interface.

3) Optimized

a) RTSP

- i) RTSP Security issues have been resolved. There is no way to retrieve the stream through RTSP without a user name and password.

■ DS-76xxNI-E1(E2)P Series NVR v3.4.4_161216 USA GUI Firmware (Previous Version)

- Firmware customized from v3.4.3_160822

1) New Features

a) Software triggers and UPNP reporting features

- i) Software trigger alarm added. A web or SDK call emulates a physical alarm input on a specific channel within the device.
- ii) UPNP reporting features added. Sent UPNP reports automatically contain dynamic port

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and IP information.

b) HDD Hint

- i) A hint has been added when formatting the HDD through the website.

2) Bug Fixes

a) Clickjacking Security

- i) Clickjacking security issue fixed.

b) Motion Detection

- i) Motion sensitive issue (when setting the motion sensitive value to 1, the value is shown as 2 after the user re-enters the motion detection interface).

c) Translation

- i) Translation issue in the pattern unlock interface fixed ("Forget" changed to "Forgot").

3) Optimizations

a) VSplayer

- i) Optimized the Readme document related to the VSPlayer software when exporting video records.

4) Known Issues – Modifications Planned

- i) No results available when searching through motion detection recordings in the playback interface on the website
- ii) Add Manual back to Menu, and add "manually clear feature" back to the website interface
- iii) Change the HDD format hint to "The hard disk is about to be formatted. Do you want to proceed?" on the website (must translate to French and Spanish, and wait for the baseline).
- iv) Fix the issue where NVRs fail to obtain PTZ information from the IPD
- v) Add next event function in the playback interface
- vi) Add "Show Password" function when inputting a password. You can check the "Show Password" option to show the password.
- vii) Add "Use Admin Password" function. When adding the device manually, you can check the "Use Admin Password" option. The NVR will automatically fill in the admin password.
- viii) Fix the interval issue, when enabling the Attached Image function in the email interface and setting interval parameters. There should be three images in the email but they are

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not equally spaced out all the time.

- ix) Add the PoE Power Overload log type
- x) Fix the issue, where there is no remote login log when logging into the NVR/DVR from the web browser
- xi) Optimize the Platform Access interface on the website. Add a Verification Code on the website.
- xii) Remove HiDDNS
- xiii) Optimize the Readme document, export readme.txt to replace a zip file when exporting video recordings.
- xiv) Add the GUI password key function
- xv) Fix the motion sensitivity issue

■ DS-76xxNI-E1(E2)P Series NVR v3.4.3_160822 USA GUI Firmware (Previous Version)

- **Firmware customized from v3.4.21_160630**

1) Additions

- i) Added the pattern security feature.
- ii) Added email support for the TLS 1.0 feature.
- iii) Added a VCA trigger PTZ preset feature.
- iv) Added support for the Fisheye heat map feature (it currently does not work with iVMS-4200 v2.5.1.7 and older versions).

2) Changes

- i) Upgrade SSL encryption to 2048-bit.
- ii) Changed the bootup screen picture from "net DVR" to "NVR".

3) Removed Features

- i) Removed the display about estimating recording time with current storage.

4) Bug Fixes

- i) Fixed the issue where a black image was displayed when zooming in the playback interface.
- ii) Fixed the issue where video loss sound/emails would not turn off when the camera

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went offline (could only be configured in the local GUI NVR).

- iii) Fixed the issue where NVR would show the IP address of an added IP camera in the camera management interface, if the IP camera had two IP addresses.
- iv) Fixed TOE related issues, where the NVR would restart abnormally if the remote web client would connect to the NVR frequently.
- v) Fixed the issue where the device would notify the surveillance center outside of the arming schedule.

5) Bug Delays (not fixed in v3.4.3)

- i) Fixed the issue where the NVR would fail to get PTZ information from the IPD.
- ii) Fixed the issue where there would be no remote login log when logging into the NVR/DVR from the web browser.

■ DS-76xxNI-E1(E2)P Series NVR v3.4.21_160630 USA GUI Firmware (Previous Version)

- Firmware customized from v3.4.2_160531

1) Additions

- i) Added email support for the TLS 1.0 feature.

■ DS-76xxNI-E1(E2)P Series NVR v3.4.2_160531 USA GUI Firmware (Previous Version)

- Firmware customized from v3.4.1_160411

1) EZVIZ Character Modification

- i) Changed "EZVIZ Cloud P2P" into "Hik Cloud P2P". Changed "dev.ezviz7.com" into "dev.hik-connect.com".

2) Changes

- i) Removed the update button from the web interface (System > System Settings interface).
- ii) Changed the picture of the bootup screen from "Copying" to "Copyright".

3) Bug Fixes

- i) Fixed the bug where the Mac Web Plugin would not be detected.
- ii) Fixed the web component that had a windows security issue.

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■ DS-76xxNI-E1(E2)P Series NVR v3.4.1_160411 USA GUI Firmware (Previous Version)

- Firmware customized from v3.3.6_151229

1) IP Channel Password Management

- i) Supports IP channel password synchronization function, where the NVR synchronizes the admin password with Hikvision IP cameras that connect to the NVR when the admin password is modified by a user (except for EZVIZ cameras).

2) Supports H.265 Decoding Format

- i) Supports the H.265 decoding format, which includes stream receiving, storage, remote viewing and remote playback, but doesn't support local viewing, digital zoom, local playback, and PTZ live view.

3) Password Reset Optimization

- i) Increased the length of the device code, in order to guarantee password reset security.
- ii) Supports XML file exporting by scanning the QR code in the SADP Tool.

4) IVMS-4500 Smart Notification

- i) Supports the uploading of smart event notifications to iVMS-4500.

5) EZVIZ

- i) Supports PTZ control.
- ii) Added offline logs.

6) Reliable Transmission

- i) Added SDK HRUDP protocol for remote viewing, which supports reliable transmission based on UDP.
- ii) Supports bitrate and bandwidth self-adaption for the network environment. High bandwidth fluctuates to guarantee live view fluency (this function may modify the IPC bitrate).

7) Optimize ONVIF Protocol Compatibility of Function

- i) NVR can get the stream from the IPC with ONVIF, even if the NVR fails to get the compression parameters of the IPC. The NVR uses the default compression parameters instead.
- ii) Increased ONVIF protocol compatibility.

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- iii) NVR can access the IPC language through ONVIF. Only Hikvision products support this function.
- iv) Optimized preset point function to guarantee that the order of the preset point is correct.
- v) Support for windshield wiper and light control with ONVIF.

8) NVR SDK module

- i) Added transparent transmission SDK interface, where the NVR can transparently transmit configuration parameters to the IPC.

9) SDK Passenger Flows and Heat Map Data Real-Time Uploading

- i) After the iVMS-5200 software accesses NVR and arms, the NVR will upload real-time passenger flows and heat map data to the iVMS-5200 to display.

10) SDK Overtime is Configurable

- i) SDK overtime is configurable.

11) ISAPI Alarm Notification

- i) NVR does not support the "/ISAPI/event/notification/alertStream" function in older versions when third-party devices are integrated. The new version has "/ISAPI/event/notification/alertStream" enabled, and users can receive event notification (only effective for third party IPCs).

12) Security

- i) Encryption of exported configuration files.
- ii) User name and password encrypted before being saved in configuration files.
- iii) Encryption of SDK sensitive information channel.

13) New Serial Port Command

- i) Added a new serial port command that shows the resolution that the device supports (showDevCapa).

14) Debug Commands of System Level

- i) Developed a new serial port command debugging system.
- ii) New command format: dt+ (space) command.
- iii) Former commands, such as getIp, can be inputted in two ways: dt getIp or getIp.

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15) Remote Debugging Service

- i) Added the Remote Debugging Service (Debug Tool).

16) IP Channel Management

- i) When the IPC is plugged into the PoE interface, the state shown by the NVR is "detecting".
- ii) When the IPC language is unmatched by the NVR, the state of the IP channel shows "language unmatched" instead of a hint.

17) IP Camera Access

- i) Optimized the event arming mechanism to fix the issue where the NVR doesn't receive any event alarms if one of the event configurations fails.

18) Motion Detection

- i) Limited motion detection sensitivity configuration. The sensitivity cannot be adjusted to 0. New option added: enable dynamic analysis.

19) GUI

- i) Caps-lock optimized on soft keyboard.

20) User Lock

- i) User lock optimized.
- ii) The number of login failure attempts could be restored if the time between two failure attempts is longer than the failure attempt number restoring time.
- iii) User login attempts will not affect the lock time left.

21) Live View Strategy

- i) In multi-screen mode, the NVR will automatically switch to sub-stream for live view if the channel's resolution is higher than 2 MP.

22) Changes

- i) Renamed "People Counting" to "Counting".
- ii) Multi-language support (English, French, Spanish).
- iii) Issue where EZVIZ device could not be discovered.
- iv) The VCA pictures attached in the email are captured locally by the NVR rather than uploaded by the IPC in the old firmware version.

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23) Bug Fixes

- i) Video expiration time could not be configured in v3.3.4.
- ii) If the IP address of the NVR is modified when the event occurs, the NVR would not receive event messages from the IPC afterwards.

■ DS-76xxNI-E1(E2)P Series NVR v3.3.6_151229 USA GUI Firmware (Previous Version)

- **Firmware customized from v3.3.5_151127**

- i) Encrypted SDK's sensitive information channel.
- ii) Bug Fix: Failed Event Recording.

■ DS-76xxNI-E1(E2)P Series NVR v3.3.5_151127 USA GUI Firmware (Previous Version)

- **Firmware customized from v3.3.4_150811**

- i) VGA default resolution set to 720p.
- ii) Supports R6 platform IPC.
- iii) Operation of IPC motorized lens is supported.
- iv) Use of line crossing as the VCA email name instead of traverse plane.
- v) Issue with recoding parameters that could not be configured has been fixed.

■ DS-76xxNI-E1(E2)P Series NVR v3.3.4_150811 USA GUI Firmware (Previous Version)

- **Firmware customized from v3.3.3_150724**

- i) Fixed bug where the IE DDNS setting was not synchronized to the local GUI.
- ii) Fixed reboot bug when alarm input was on and triggered "notifying surveillance center".
- iii) Fixed bug where the web server could not be triggered to reveal the absolute path for the Web root directory and/or other software installed on the host.
- iv) Fixed bug that prevented auto detection from functioning after selecting a DDNS region. For example, if "America" — "America" was selected in the DDNS tab and saved, and if "auto detection" was then selected and saved, the setting would remain as "America."

Title:	RN DS-76xxNI-E1(E2)P NVR v3.4.96	Version:	v3.4.96	Date:	081919
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Action Required:	None, Information Only				

■ DS-76xxNI-E1(E2)P Series NVR v3.3.3_150724 USA GUI Firmware (Previous Version)

1) Compatible Camera Information

IP Camera Model	IP Camera Firmware
R0: Raptor DS-2CD2xxx Series	v5.3.0 build 150513
R1: IPC 4xx2, 4xx4, 6412FWD	v5.3.0 build 150513
R3: IPC 4x26FWD, 6026FHWD	v5.3.0 build 150513
R4: IPC 4xx5F ¹	v5.3.0 build 150513
Fisheye: DS-2CD63xx Series	v5.0.9 build 141009
Fisheye: DS-2CD2942F-IS	v5.2.1 build 141120
Pro: DS-2CD7xx/72xx/8xx/82xx Series	v5.2.0 build 140721

NOTE¹: Not supported by DS-2CD4085F-A, DS-2CD4185F-IZ, DS-2CD4A85F-IZH, or DS-2CD4585F-IZH.

2) Other Updates

- i) Smart Playback screen removed from Normal Playback screen. Smart Playback and Normal Playback are now on separate screens.

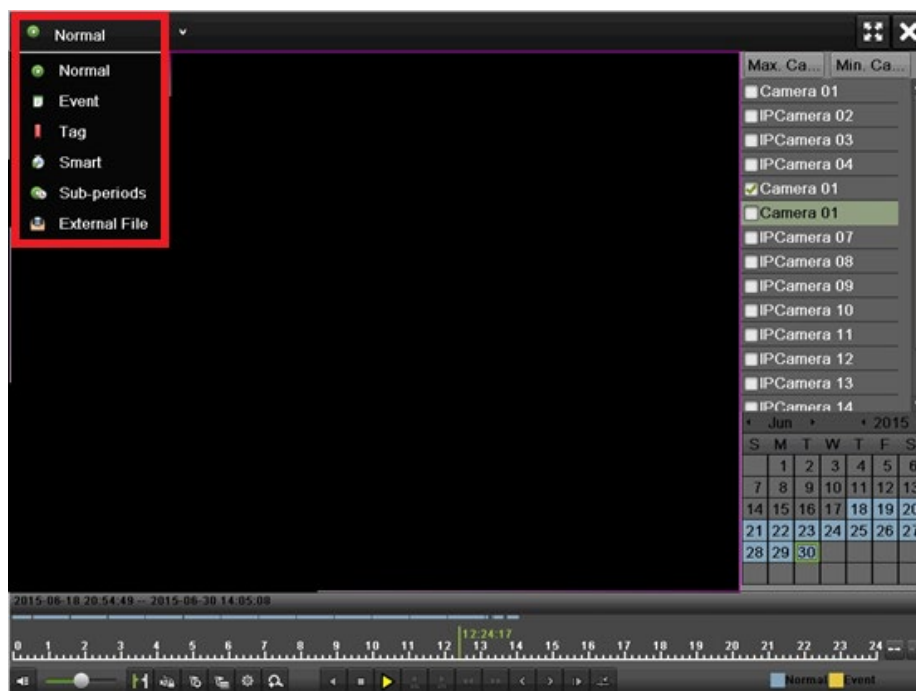


Figure 14, Normal Playback Screen

Title:	RN DS-76xxNI-E1(E2)P NVR v3.4.96	Version:	v3.4.96	Date:	081919
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Action Required:	None, Information Only				

- ii) Smart Search available only while in Smart Playback mode. Smart Search is not supported during Normal Playback.

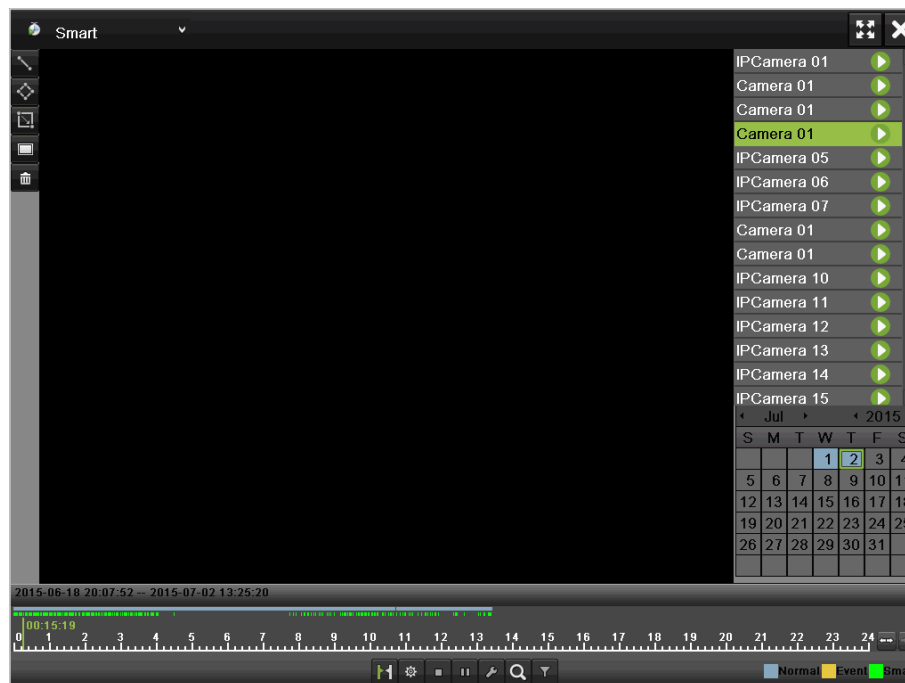


Figure 15, Smart Playback Screen

- iii) Ability to use the single-frame playback button in the full-screen playback menu to display one single video frame at a time. Single-frame playback is available only during playback pause.



Figure 16, Single-Frame Playback Button

- iv) The "Export" and "Export All" buttons in the tag menu can be used to back up tag-corresponding recorded files.

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Action Required:	None, Information Only				

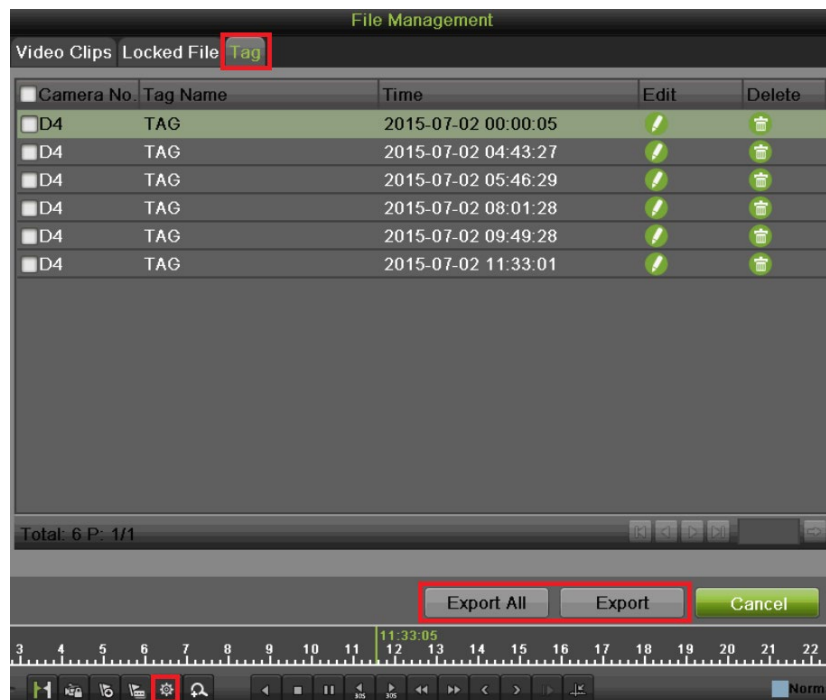


Figure 17, File Management Window

v) Rotate and Mirror modes are adjustable in Camera Setup -> Image.

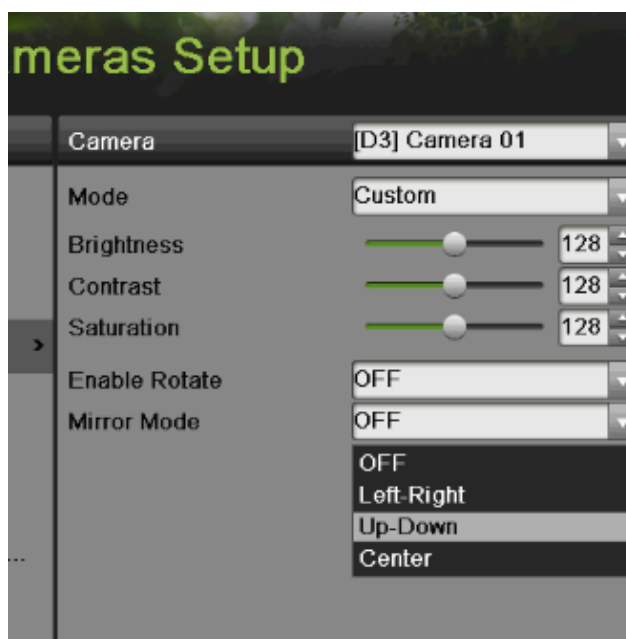


Figure 18, Camera Setup Window

Title:	RN DS-76xxNI-E1(E2)P NVR v3.4.96	Version:	v3.4.96	Date:	081919
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Action Required:	None, Information Only				

- vi) Update failure when upgrading from v3.0.5/3.0.6 has been fixed.
- vii) H.264+
- viii) Playback by sub-periods
- ix) VCA alarm for up to 15 VCA detections
- x) VCA search function for behavior search, face search (future feature), people counting, and heat map (future feature)
- xi) Up to nine formats when exporting files to a storage device
- xii) Prompt appears when the wrong user name or password is input in the login interface
- xiii) Continent/country is selectable for the HiDDNS setting
- xiv) PTZ control panels and operations are optimized
- xv) "EZVIZ Cloud" changed to "EZVIZ Cloud P2P"

■ Customer Impact and Recommended Action

This new firmware upgrade is to improve product performance and will take effect automatically after upgrading from previous versions. This document was created to inform you about the above changes. Also, we are sorry for any possible inconvenience of use-habit changes caused by this action.

For questions or concerns, please contact our local technical support team.

■ NOTES

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