

# NVR-B5101.37.40.230614 Release Notes

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# NVR-B5101.37.40.230614 Release Notes

Keywords: Version information, usage notes, precautions.

**Abstract:** This document provides information about the **NVR-B5101.37.40.230614** board software, including version information, usage notes, precautions, and features.

## Acronym

Acronym	Full Name
NVR	Network Video Recorder

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# 1 Version Information

## 1.1 Version Number

NVR-B5101.37.40.230614

## 1.2 Applied Product Models

Table 1 Applied Product Models

Product Models	Description
NVR516-64	16 slots, 64-ch, H.264/H.265 decompression, 4K ultra HD, RAID
NVR516-128	16 slots, 128-ch, H.264/H.265 decompression, 4K ultra HD, RAID

## 1.3 Release History

Table 2 Released Versions

Version No.	Basic Version No.	Released On
NVR-B5101.37.40.230614	NVR-B5101.37.35.230509	2023-06-14
NVR-B5101.37.35.230509	NVR-B5101.36.38.230411	2023-05-12
NVR-B5101.36.38.230411	NVR-B5101.36.33.230322	2023-04-20
NVR-B5101.36.33.230322	NVR-B5101.36.31.230214	2023-03-22
NVR-B5101.36.31.230214	NVR-B5101.36.28.230112	2023-02-14
NVR-B5101.36.28.230112	NVR-B5101.36.27.230105	2023-01-12
NVR-B5101.36.27.230105	NVR-B5101.36.18.221215	2023-01-05
NVR-B5101.36.18.221215	NVR-B5101.35.29.221116	2022-12-15
NVR-B5101.35.29.221116	NVR-B5101.35.27.221010	2022-11-16
NVR-B5101.35.27.221010	NVR-B5101.32.50.220920	2022-10-10
NVR-B5101.32.50.220920	NVR-B5101.32.43.220725	2022-09-20
NVR-B5101.32.43.220725	NVR-B5101.32.42.220706	2022-07-25
NVR-B5101.32.42.220706	NVR-B5101.32.35.220518	2022-07-06
NVR-B5101.32.35.220518	NVR-B5101.32.31.220427	2022-05-18
NVR-B5101.32.31.220427	NVR-B5101.31.57.220424	2022-04-27
NVR-B5101.31.57.220424	NVR-B5101.31.55.220402	2022-04-26
NVR-B5101.31.55.220402	NVR-B5101.31.52.220127	2022-04-12
NVR-B5101.31.52.220127	NVR-B5101.31.46.211227	2022-02-12
NVR-B5101.31.46.211227	NVR-B5101.31.31.211209	2021-12-29
NVR-B5101.31.31.211209	NVR-B5101.31.27.211105	2021-12-10

NVR-B5101.31.27.211105	NVR-B5101.29.78.210805	2021-11-09
NVR-B5101.29.78.210805	NVR-B5101.29.63.210628	2021-08-05
NVR-B5101.29.63.210628	NVR-B5101.29.52.210512	2021-06-28
NVR-B5101.29.52.210512	NVR-B5101.29.51.210420	2021-05-12
NVR-B5101.29.51.210420	NVR-B5101.29.48.210319	2021-04-20
NVR-B5101.29.48.210319	NVR-B5101.28.50.201120	2021-03-19
NVR-B5101.28.50.201120	NVR-B5101.28.45.200807	2020-11-20
NVR-B5101.28.45.200807	NVR-B5101.28.41.200723	2020-08-07
NVR-B5101.28.41.200723	NVR-B5101.28.36.200513	2020-07-23
NVR-B5101.28.36.200513	NVR-B5101.28.26.200319	2020-05-13
NVR-B5101.28.26.200319	NVR-B5101.28.20.200113	2020-03-19
NVR-B5101.28.20.200113	NVR-B5101.28.15.191223	2020-01-13
NVR-B5101.28.15.191223	NVR-B5101.27.50.191108	2019-12-23
NVR-B5101.27.50.191108	NVR-B5101.27.45.191015	2019-11-08
NVR-B5101.27.45.191015	NVR-B5101.27.40.190905	2019-10-15
NVR-B5101.27.40.190905	NVR-B5101.27.36.190817	2019-09-05
NVR-B5101.27.36.190817	NVR-B5101.27.35.190801	2019-08-17
NVR-B5101.27.35.190801	NVR-B5101.27.30.190712	2019-08-01
NVR-B5101.27.30.190712	NVR-B5101.27.25.190621	2019-07-12
NVR-B5101.27.25.190621	B5126P35	2019-06-21
B5126P35	B5126P30	2019-04-29
B5126P30	B5126P25	2019-04-02
B5126P25	B5126P23	2019-02-25
B5126P23	B5126P22	2018-12-26
B5126P22	B5126P11	2018-12-07
B5126P11	B5125P30	2018-10-22
B5125P30	B5125P27	2018-09-03
B5125P27	B5125P26	2018-07-26
B5125P26	B5125P22	2018-07-21
B5125P22	B5125P21	2018-07-26
B5125P21	B5125P10	2018-07-07
B5125P10	B5123P24	2018-05-22
B5123P30	B5123P24	2018-05-30
B5123P24	B5123P20	2018-04-24
B5123P20	B5122P31	2018-03-14
B5122P31	B5122P25	2017-11-28

B5122P25	B5122P10	2017-10-24
B5122P10	B5121P20	2017-08-21
B5121P40	B5121P20	2017-10-25
B5121P20	B5121P15	2017-06-14
B5121P15	B5119P76	2017-05-24
B5119P76	B5119P75	2017-05-03
B5119P75	B5119P65	2017-04-11
B5119P65	B5119P60	2017-02-20
B5119P60	B5117P45	2017-01-16
B5117P45	B5117P35	2016-11-18
B5117P35	B5117P29	2016-08-04
B5117P29	B5117P22	2016-07-19
B5117P22	Initial release	2016-05-05

## 2 Usage Notes

None.

## 3 Software Features

Table 3 Software Features



Service	Feature
Audio and video decoding	H.264/H.265 video compression, with a maximum of 1080P resolution and 8Mbps bit rate.
Data storage	Local storage of recordings in hard disk(s).
Web-based management	Web-based user interface for device configuration and management.


## 4 Version Change Description

### 4.1 Feature Change Description

Table 4 NVR-B5101.37.35.230509 Feature Changes



Item	Feature	Description
Newly added features	Camera-side mixed traffic detection	When the connected camera is capable of mixed traffic detection, the following functions are available on the NVR: enabling/disabling detection, parameter configuration, receiving/storing images from IPC, smart preview, smart search by motor vehicle/non-motor vehicle/human body, or searching mixed traffic events, attributes/results display, uploading image with attribute information to the upper platform.
	Camera-side traffic monitoring	When the connected camera is capable of traffic monitoring, the following functions are available on the NVR: enabling/disabling monitoring, parameter configuration, receiving/storing images from IPC, smart preview, smart search by motor vehicle/non-motor vehicle/human body, or searching traffic monitoring events, attributes/results display,

Item	Feature	Description
		<p>uploading image with attribute information to the upper platform.</p> <p>The traffic monitoring can only be enabled/disabled on the NVR but cannot be configured on the NVR. Compared with mixed-traffic detection, traffic monitoring can capture vehicles passing a tripwire in real time. Besides, lane detection and motorcycle detection are added.</p>
	Improved layout of VCA search	<p>Face snapshot search and face comparison search tabs are moved to the <b>Face Search</b> menu (only for the local interface).</p> <p>Allows user to search images by object types on the page of motor vehicle search, non-motor vehicle search, and human body search, and search by events on the general search page.</p> <p>Deleted behavior search, and user can search behavior images on the page of motor vehicle search, non-motor vehicle search, human body search or general search.</p> <p>Deleted vehicle search, and user can search vehicle images on the page of motor vehicle search and general search.</p> <p>The improved layout enables user to search images by objects and by events.</p>
	Improved layout of smart display configuration	<p>On the local interface, the smart preview page of the local interface, event types of face, vehicle, perimeter are deleted, and user now can select object types to display their real-time snapshots based on motor vehicle, non-motor vehicle, face and human body. The smart display configuration on <b>Smart Preview</b> page now displays two tabs: <b>Alarm Subscription</b> and <b>ShowTime Attr Config</b>.</p> <p>The <b>Alarm Subscription</b> tab includes face recognition, perimeter protection, vehicle recognition, object detection, temperature detection, and behavior analysis. User can set to display images of the specified alarm types.</p> <p>The <b>ShowTime Attr Config</b> tab includes human body attributes, non-motor vehicle attributes and motor vehicle attributes, and user can set to display detailed attributes (only mixed-traffic detection and traffic monitoring support attribute configuration, and up to 3 items can be selected for each type of attribute).</p>
	NVR supports sending an email with alarm information to the specified email address(es) when an alarm occurs.	<p>NVR can send an email with alarm information to the specified recipient(s), avoiding frequent alarm information push to all email addresses.</p> <p>The alarm configuration page added the <b>Send Email</b> item with a list showing the configured recipients' addresses. Up to 6 recipients are allowed and the chosen recipients will receive an alarm email when an alarm occurs.</p>
	The local interface supports overlay multi-line characters on the preview page.	<p>The <b>OSD Content</b> tab is added at <b>Camera &gt; OSD</b>, which allows to configure custom OSD for the IPC. Up to 5 OSDs are allowed and each OSD can be enabled/disabled and named separately.</p>
	Allows to configure arming schedule and day/night mode for IPC that supports alarm sound/light for human body detection.	<p>For cameras that support human body detection and sound/light alarm schedules: user can configure an arming schedule for sound and light alarms.</p> <p>For cameras that support human body detection and sound/light day/night mode: user can select day/night mode or custom mode to configure parameters for sound and light alarms.</p> <p>This function requires camera support.</p>
	NVR supports configuring alarm sound/light for auto-tracking dome cameras.	<p>Connecting the auto-tracking dome cameras that support sound and light, user can configure alarm sound/light for auto tracking, including day/night mode, arming schedule and audio of sound, and day/night mode and blink time of light.</p>
	Supports rapidly disarming IPC actions on NVR	<p>On the local interface,  appears on the preview window when the NVR receives an alarm from a camera ( if it is a tampering detection</p>

Item	Feature	Description
		alarm).  is added on the window toolbar to disarm IPC actions. This function requires camera support and is currently applicable to elevator detection alarms.
	The Web interface adds streaming management function.	Streaming management function is added on the <b>Maintenance</b> menu of the Web interface, including <b>Live View</b> and <b>Playback</b> tabs. User can view detailed information about live and playback streams on these tabs and stop streaming manually.
	The local interface supports displaying passwords of online IPCs.	The local interface can display camera passwords on the <b>Camera</b> page. The admin user can click a button ( <b>Show IPC Password</b> ) to view the passwords of online IPCs after authentication.
	A small eye icon is added on the password input pages of the local interface, and the password can be displayed in clear text by clicking the icon.	On the local interface, a small eye icon is added on all the password input pages (except on the login page). User can click this icon to view the password in clear text. The password is not displayed in clear text by default.
	Supports 16MP IPCs	NVR can connect 16MP IPCs via the Uniview protocol and realize functions including live view, playback, two-way audio, alarm and VCA. On the local interface, NVR cannot decode the 16MP main stream and will automatically switch to the sub stream. For playback, a message will be displayed to prompt user to switch to the sub stream if the stream exceeds the decoding capability.
	Supports 16K sampling rate in G.711 audio format	NVR can connect IPCs that support G.711U/G.711A audio compression and 8K/16K sampling rate. The local&Web interfaces support the configuration and audio decoding at 16K sampling rate in G.711 format.
	Optimized policy of hard disk access to the NVR	<ul style="list-style-type: none"> <li>● For NVR with no hard disk: If there is no hard disk, the local&amp;Web interfaces will prompt user to add a hard disk for the NVR. User can click the setting button to view hard disk information on the local interface.</li> <li>● For NVR with unformatted hard disk: If there is hard disk unformatted, a message will alert user there is unformatted disk and show its slot. User can format hard disk by clicking the setting button on the local interface and configuration button on the Web interface. To close the prompt, user can click <b>Exit</b> on the local interface and <b>Close</b> on the Web interface, otherwise the prompt is always flashing. This event will not recorded in logs or alarms.</li> </ul>
	Optimized prompt of abnormal device time	If there is abnormal device time, the local&Web interfaces will prompt user to replace the button battery and reset the time. User can click the setting button to reset the time on the local interface.
	Supports connecting the newly-developed network storage disk enclosure(DE-S116-B)	16-HDD or 24-HDD NVRs can connect to the network storage disk enclosure (DE-S116-B) through the miniSAS expansion interface.
Optimized features	Supports magnifying the video of VCA search on the local interface	On the local interface, user can magnify the video of VCA search in tile mode by double-clicking the video or clicking the full-screen button on the right window. The magnified window plays the video on the left, and displays the event details and object properties on the right. <b>The video cannot be magnified if the search results are shown in list mode.</b>
	Optimized default alarm policy of NVR after access IPC	For detection switch: <ul style="list-style-type: none"> <li>● For face detection, cross line detection, intrusion detection, enter area, leave area, ultra motion detection (UMD), elevator entrance</li> </ul>



Item	Feature	Description
		<p>detection and high-rise littering, their enabled/disabled status is based on IPC configuration if the IPC is connected for the first time, otherwise it is based on NVR. A prompt will be displayed if their enabled/disabled status is different on IPC and NVR.</p> <ul style="list-style-type: none"> <li>● Motion detection is enabled/disabled based on IPC configuration if the IPC is connected via the private protocol, otherwise it is disabled by default if the IPC is connected via other protocols.</li> <li>● Human body detection and people counting are enabled/disabled based on IPC configuration.</li> <li>● Based on NVR configuration, video loss, audio detection and tempering detection are disabled by default.</li> </ul> <p>For detection rules:</p> <ul style="list-style-type: none"> <li>● The detection rules of certain functions are based on IPC configuration, including face detection, cross line detection, intrusion detection, enter area, leave area, elevator entrance detection, high-rise littering, motion detection, audio detection, tempering detection and people counting.</li> <li>● The detection rules of UMD are based on NVR configuration if the connected IPC supports motion detection, and based on IPC configuration if the connected IPC supports UMD.</li> <li>● Video loss does not support detection rule configuration.</li> </ul> <p>For arming schedule:</p> <p>Based on NVR configuration, all detection functions adopt 24/7 arming schedule by default for the first configuration. The arming schedule of perimeter protection, UMD, motion detection, human body detection, elevator entrance detection and people counting will be synced to the IPC.</p> <p>For trigger actions:</p> <p>For cross line detection, intrusion detection, enter area, leave area, UMD, elevator entrance detection, and alarm sound/light of human body detection, the trigger actions are based on IPC configuration. The trigger actions of other functions are based on NVR configuration.</p>
	<p>Improved layout of setup on the Web interface</p>	<p>The <b>Disk</b> menu is changed to <b>Storage</b>.</p> <p>Deleted the <b>Schedule</b> tab, and <b>Recording Schedule</b> and <b>Snapshot Schedule</b> tabs are moved to the <b>Storage</b> menu.</p> <p><b>Motion Detection, Tampering Detection, Human Body Detection, Video Loss</b> and <b>Audio Detection</b> tabs are moved from the <b>Camera</b> menu to <b>Alarm</b>.</p> <p>The order of the <b>Network Info</b> tab on the <b>Maintenance</b> menu is adjusted to the first.</p>
	<p>Supports copying capture mode to other camera(s)</p>	<p>On the <b>Encoding</b> page, the capture mode is added on the copy page and can be copied to other camera(s).</p> <p>The cameras that connect to the NVR via the Onvif, GB28181 and custom protocol do not support this feature.</p>
	<p>Optimized the usability of VCA functions</p>	<ul style="list-style-type: none"> <li>● Optimized the prompt when the face functions are enabled/disabled.</li> <li>● On the Web interface, the avatar placeholder is added to replace a blank face image on the <b>Add Face Info</b> page.</li> <li>● When a face image is imported, the file name of the image is used as the name of the face list by default.</li> <li>● Supports batch importing face images by folder, and the name of image file will be the person's name in the library by default.</li> <li>● The face library supports uploading JPG/JPEG images with case-insensitive filename extensions.</li> <li>● User can select one or multiple face images to copy to other face libraries.</li> <li>● The <b>Face List</b> page displays the total number of faces in the face</li> </ul>

Item	Feature	Description
		library and the VCA search page shows the total number of search results at the bottom.
	Supports setting the validity period for license plates in the plate library	NVR supports setting a validity period for license plates in the plate library. On the <b>Plate List</b> page (VCA > VCA Search > Vehicle Control > Plate List), the validity period can be configured when a plate is added or modified. The plate will be permanently valid if the validity period is not configured. The validity period of the plate can be only set manually on the interface, and does not support import and export.
	Supports NVR local upgrade via EZCloud	After the NVR is connected to EZCloud, user can access the Web interface of NVR from EZCloud and upgrade the NVR and the connected IPCs by uploading an upgrade package. Make sure that at least one hard disk is available on the NVR for local upgrade.
	The camera name is added in the exported people counting report	The camera name is added in the exported report from the <b>People Counting Report</b> page of VCA search.
	Adds the alarm type in the body of the alarm email	The alarm type is added in the alarm-triggered email from the NVR.
	The Web interface can load service without plug-in installed	Supports V3.0 plug-in. The Web interface can load service even if the plug-in is not installed. User can drag the scroll bar of image parameters on the live view window to adjust the image splicing distance of binocular wide angle camera. Except for the multi-video live view and playback that require the plug-in, the rest functions can be used normally. User can normally import and export after the plug-in is installed.
	An editing button overlays on the preview window when the password of the camera is wrong	If the username or password input for an IPC is incorrect, the live view window will show the cause and a button, and user can click the button to modify the username or password.
	An editing button overlays on the preview window when no resource is provided for preview	If there is no resource for preview on the local interface, the live view will display a message to prompt user to adjust video parameters, and an editing button. User can click the button to decrease the resolution on the <b>Encoding</b> page.
	Optimized the prompt when cameras are sorted	After the cameras are sorted, a message will alert user that the recordings corresponding to the channel ID will be changed.
Deleted features	Deleted <b>Vehicle Search</b> and <b>Behavior Search</b> tabs of the <b>VCA Search</b> menu	See “Improved layout of VCA search” for details.
	Deleted <b>Face Recognition</b> , <b>Vehicle Recognition</b> and <b>Perimeter</b> tabs of <b>Smart Display Configuration</b> page	<b>Face Recognition</b> , <b>Vehicle Recognition</b> and <b>Perimeter</b> tabs are moved to the <b>Alarm Subscription</b> tab. See “Improved layout of smart display configuration” for details.
	Deleted <b>Send Email</b> under conventional actions of the <b>Trigger Actions</b> page	See “NVR supports sending an email with alarm information to the specified email address(es) when an alarm occurs” for details.
	Deleted the motion detection alarm icon  that overlays on the preview window of the local	On the local interface,  appears on the preview window when the NVR receives an alarm from a camera

Item	Feature	Description
	interface	
	Deleted the <b>Schedule</b> tab of the <b>Camera</b> menu	Deleted the <b>Schedule</b> tab, please see “Improved layout of setup on the Web interface” for details.

Table 5 NVR-B5101.36.38.230411 Feature Changes

Item	Feature	Description
Newly added features		
Improved features	Optimized UMD configuration	<p>Moved UMD configuration from &lt;VCA Config&gt; to&lt;Motion&gt; Interface, and the Motion and UMD configuration pages are combined</p> <p>There are Motion and Ultra Motion modes, and only one can be turned on at the same time.</p> <p>After the front-end UMD camera is connected, NVR supports drawing areas, configures sound and light alarm linkage, and configures targets (motor vehicles, non-motor vehicles, pedestrians) in NVR side</p> <p>UMD detection is divided into front-end analysis and back-end analysis, if NVR supports back-end analysis such as (NVR302-E2-IQ), NVR Side Analysis highlighting, if the camera supports UMD analysis, Camera Side Analysis highlights after access</p> <p>UMD position in playback interface is moved from the VCA to Motion</p>
Deleted features	Deleted the <b>UMD</b> tab of the <b>VCA Config</b> menu	UMD and motion detection are merged, and can be selected as two motion detection modes. For details, please refer to “Optimized UMD configuration”.

Table 6 NVR-B5101.36.28.230112 Feature Changes

Item	Feature	Description
Newly added features	Supports front-end UMD	Adapted to IPCs that support UMD (Ultra Motion Detection), which can recognize object types, and distinguish motor vehicles, non-motor vehicles and pedestrians. NVR supports UMD configuration, VCA search, event playback, and storage of alarm information and snapshots.
Improved features		
Deleted features		

Table 7 NVR-B5101.36.27.230105 Feature Changes

Item	Feature	Description
Newly added features	Supports dual-sensor IPCs	Supports connecting dual-sensor cameras and can display videos in proportional mode or wide mode (32:9 aspect ratio).
Improved features		
Deleted features		

Table 8 NVR-B5101.36.18.221215 Feature Changes

Item	Feature	Description
Newly added features	Supports smart PT cameras	Supports connecting smart PT cameras, and supports functions including live view, patrol, recording storage, playback, configuration, alarm reception (motion detection, human body detection, abnormal audio detection, automatic tracking), alarm storage and searching.
	Supports monostable IPC alarm output	For camera alarm output (D>), user can set alarm duration to Custom or Maximum on the NVR. When the Custom option is enabled on the NVR, the relay mode on the camera is displayed as Monostable.
	Supports continuously track	NVR now allows user to configure continuously track for front-end IPCs. This feature is configurable only if the IPC supports auto tracking. If supported, user can select continuously track or customize tracking duration for the IPC.
	Work with IPC to lift barrier	Added the "let through" action on the <b>Vehicle Monitoring</b> page and can trigger the camera to lift the barrier automatically when a plate match alarm occurs. User can also lift the barrier manually on the <b>Manual</b> page.
	Adapted to multi-channel cameras	Supports connecting dual-channel cameras, and allows user to configure and receive alarms of motion detection, face detection and perimeter protection for multi-channel cameras, configure privacy mask, and search people counting statistics of multi-channel cameras.
	Optimized people present alarm UI	Supports counting people present for specified camera(s), reporting critical/major/minor alarms according to the number of people present, and triggering the corresponding actions if configured. (Configuration page: 1、 4 scenes are available. Allows user to set scene name, alarm thresholds, arming schedule, and alarm-triggered actions for each scene separately, and view the relevant rules while configuring channels. 2、 Allows user to choose to reset the number of people present automatically or manually. Both local and web clients support people present alarm configuration.) The people flow counting on <b>Smart Preview</b> page now displays real-time people flow statistics including the number of people coming in/out/more allowed/present; The normal/slightly/moderately/heavily crowded alarms are displayed with different colors. When user changes the scene on the preview page, the corresponding statistics will also be changed.
Improved features	Supports configuring alarm sound & light for IPCs that support perimeter protection	User can configure front-end alarm sound & light for IPCs that support perimeter protection. The configuration items are displayed only when the IPC supports alarm sound & light, including alarm sound (turn on/off, arming schedule, audio, play count), and alarm light (turn on/off, arming schedule, blink time).
	Configuring arming schedule of motion detection for IPCs	User can configure arming schedule of motion detection for IPCs on the NVR, and then IPCs report alarms according to the arming schedule.
	Optimized the display effects of smart preview and behavior	VCA search results: The face search results are not close-up images, but are displayed with surrounding scenes. The faces in

	search results	<p>the images are not stretched.</p> <p>Behavior search results: The search results for perimeter protection are not close-up images, but are displayed with surrounding scenes; user can double-click an image to maximize it.</p> <p>Smart preview: Face and perimeter images are not stretched; The images on the left are the same as the image details on the right.</p>
	Improved the size limit of face library images	Allows user to upload face library images up to 4M.
	Channel name is displayed when user selects channel on the <b>VCA Search</b> page	The <b>VCA Search</b> page on the Web client now allows user to view channel ID and channel name to quickly find the desired channel.
	Supports copying storage mode to other channels	The storage mode parameter is added on the <b>Copy</b> page of encoding settings, so user can copy storage mode to other channels.
	Relocated custom route configuration	Custom route configuration is moved to the <b>Network</b> tab on the web client.
Deleted features	Deleted the relay mode configuration item	Deleted relay mode on the <b>Alarm Output</b> page, so monostable and bistable cannot be selected. Custom alarm duration corresponds to monostable mode, and maximum alarm duration corresponds to bistable mode.

Table 9 NVR-B5101.35.27.221010 Feature Changes

Item	Feature	Description
Newly added features	Adapted to IPCs that support box-dome linkage	<p>Adapted to IPCs that support box-dome linkage. Allows user to select a linkage mode to view live videos in multi-sensor mode.</p> <ul style="list-style-type: none"> <li>● Drag to zoom: The dome camera can rotate to and zoom in on the area that user specified on the image of the box camera.</li> <li>● Click linkage: Click an object on the image of the box camera to rotate the dome camera to the specified object.</li> <li>● Manual tracking: The dome camera can track the object that user specified on the image of the box camera. This function requires user to enable perimeter protection on the NVR side, and configure panoramic linkage on the IPC side.</li> </ul>
	Supports thermal imaging cameras	<p>Supports connecting thermal imaging cameras. Supports configuring fire detection, temperature detection, and smoking detection. Allows user to view live videos in multi-sensor mode. Supports VCA search, event playback, and storage of alarm information and snapshots.</p> <p>NVR can now receive temperature data from thermal imaging cameras and overlay temperatures on live video on the local user interface.</p> <p>In thermal camera-NVR-APP networking mode, app can receive thermal imaging and perimeter protection alarms and images from NVR.</p> <p>In thermal camera-NVR-VMS networking mode, VMS can receive thermal imaging and perimeter protection alarms and images from NVR.</p>
	Adapted to front-end alarm light and sound linkage of human body detection	Allows user to configure alarm sound and light for human body detection alarms, including turning on/off alarm light and sound and other configurations.

	Supports one-click disarming by switch	Allows user to disarm all linkage actions of the NVR, and alarm sound & light of the IPC by the first alarm input switch on the NVR.
Improved features	Displaying POS information on the local interface	All overseas models support POS function. POS control center can access NVR via network, and the NVR can store data and overlay transaction data on live view and playback images.
	Added detection area for front-end tripwire people counting	Supports drawing a detection area for tripwire people counting.
	Supports downloading SD videos on the web and local interface	The web and local interface allow user to download videos in HD or SD mode.
	Added day/night mode under alarm sound & light configuration in perimeter protection	Day/night mode is added under the alarm sound & light configuration of perimeter protection. The configuration item is displayed if it is supported by the IPC.
Deleted features		

Table 10 NVR-B5101.32.31.220427 Feature Changes

Item	Feature	Description
Newly added features	AAC audio decoding	Supports decoding AAC bit streams from IPC for live view, playback, and two-way audio on the local and web interfaces to meet demands for higher audio quality.
	One-key disarm linkage	Allows user to conveniently disarm one or multiple linkage actions of the NVR or its IPCs by a set schedule or period.
	Control wiper via network keyboard	Supports using a network keyboard to control wiper.
	Low battery notification	Prompts users to replace the button battery and reset the time if the system detects incorrect time after the user logs in.
	Optimized audio configuration	Added the <b>Audio Configuration</b> tab to configure all audio parameters of IPCs. (The configurable audio input and output parameters include enable/disable audio input, access mode, input volume, audio compression, sampling rate, and audio output. The supported configuration items may vary with IPCs.)
Improved features	Optimized alarm sound and light linkage	Allows users to configure alarm sound and light of IPCs on the NVR, including arming schedule and action mechanisms. It meets the needs of users for alarm sound and light linkage in different time periods. (Users can configure alarm sound & light in the <b>Trigger Actions</b> page. The configurable parameters include start time, end time, audio, repeat, alarm light, blink time, brightness, etc.)
	Configurable audio storage	Allows users to enable/disable audio storage of each camera separately.
	Optimized network test and packet	Separated <b>Packet Capture</b> from the <b>Network Test</b> tab. Two addresses and multiple cameras can be detected simultaneously.

	capture	(Allows users to perform network test by entering test address or selecting camera, test duration, and test packet size. Users can view the real-time packet loss rate or network latency in a chart, and export the results when the test ends.) Users can view whether the network is normal intuitively so as to troubleshoot network issues quickly, improving user experience and saving maintenance costs.
	Changed Telnet to SSH	SSH is adopted to access NVR remotely. It is disabled by default, and the secondary logon is required when enabled.
	Reporting people counting results by hours	A new report type ( <b>Hourly</b> ) is added on the local interface to allow users to view people counting results by hours.
	Adapted to the new encryption algorithms of IPCs	Supports SHA-256 to adapt to SHA-256 based RTSP authentication on IPC.
	Optimized perimeter protection configuration on the local interface	The local interface now allows users to draw box(es) when configuring object size for perimeter protection, instead of inputting manually, improving the ease of operation.
	Optimized the layout of <b>People Counting Report</b>	The <b>People Counting Report</b> is moved to the <b>VCA Search</b> tab.
	Changed <i>Target Type</i> to <i>Object Type</i>	The <i>Target Type</i> is changed to <i>Object Type</i> .
	Added the perimeter scene	A new scene ( <b>Perimeter</b> ) is added to allow users to select installation scenes, reducing the tedious adjustment of image parameters. This feature is only available for certain IPCs.
	Selecting all channels quickly for vehicle monitoring on the local interface	The local interface now allows users to select all channels with one click when configuring vehicle monitoring.
	Added a progress bar when importing/exporting license plates	A progress bar is added when importing/exporting license plates. Users can view the import/export quantities and progress intuitively.
	Searching face lists by modeling status, and exporting the results in batches	Allows users to search face lists by modeling status, and export the results in batches.
Deleted features	Deleted <b>Audio Stream</b> in the <b>Encoding</b> tab	See Optimized Audio Configuration for details.
	Deleted <b>IPC Camera Audio</b> in the <b>Enhanced Features</b> tab	See Optimized Audio Configuration for details.

Table 11 NVR-B5101.31.27.211105 Feature Changes

Item	Feature	Description
Newly added features	Persistent WebSocket connections with upper platform	NVR can initiate WebSocket connections over SSL/TLS with an upper platform (EZCloud or third-party platform) to achieve bi-directional signaling communication based on the WSS.

	WEB plugin 3.0	The new Web plugin supports a variety of new browser versions and provides better performance in supporting multi-channel and high-resolutions.
	Front-end people flow counting and crowd density monitoring	Supports the connection of IPCs capable of people flow counting and crowd density monitoring, supports the configuration of people flow counting and crowd density monitoring, the search and export of people flow counting statistics.
	Searching license plates on the web	The web interface now allows users to search plates by channel, time, plate color, vehicle color, and plate number.
	Exporting plate search results on the web	The web interface allows user to export plate search results to a CSV file.
Improved features	Dahua IPC activation	NVR can activate Dahua IPC automatically.
	Searching face library by modeling status	Allows user to search a face library for face images that failed modeling.
	Added alarm input channel name	The alarm input page added the configuration of alarm input channel name.
	Uniform password mechanism on IPC and NVR	IPC and NVR have uniformed the password mechanism and extended password length to 32 bits.
Deleted features		

Table 12 NVR-B5101.29.48.210319 Feature Changes

Item	Feature	Description
Newly added features	Remote access of IPC	Support remote access to IPC over WAN on the NVR's Web interface.
	Change IPC password	Support changing the password of IPC in batches. Support changing the password of IPC when changing the password of NVR.
	USB wireless network adapter	Support connecting USB wireless network adapter.
	POS	Support POS OSD in playback on the Web interface.
	One-click collect diagnosis info	Support exporting NVR diagnosis information, IPC diagnosis information and operation logs with one click.
	LPR alarm	Support pushing LPR alarms so that the alarms can be received on the app side.
	ISW Management	Support ISW Management.
	Perimeter protection camera	Supports connecting deep learning perimeter protection IPCs, which feature intrusion detection, cross line detection, enter area and leave area detection.
	Supports front-end Smart Intrusion Prevention (SIP)	Supports connection of SIP-enabled IPC, supports configuration, smart preview and search.
	Arming scheduling for SIP and human body detection	Supports synchronizing arming schedules for smart intrusion prevention and human body detection to IPC.
Improved features	On-screen watermark descriptions	Added watermark descriptions on the screen.
Improved features	Playback thumbnail	Support displaying playback thumbnail when hovering the mouse cursor over the timeline for a certain time in playback page.



Item	Feature	Description
	Playback operation	Support quick skipping to the earliest recording in playback page.
	OSD	Add camera ID in live view page.
	FTP username	The length of FTP username changes from 15 characters to 64 characters.
	Ease of use of intelligent functions	Support saving preview mode after device is restarted.
	Backup file name	The file name of recording backup exported on the local interface are same with that on the Web interface.
	Multi-NVR networking	In a network environment with multiple NVRs, add the status of IPC being managed by other NVR.
	Improved VIID upstream performance	The speed of image uploading via VIID reaches 60 images per second.
	256 bytes for RTSP	Supports 256-byte RTSP URL.
Deleted features	Mask detection	Support alarm and configuration of mask detection cameras.
	LPR	Add license plate recognition display page.
	Face recognition	Support adding face snapshots to face library.
	LPR	Whitelist/blacklist vehicle plate recognition.
	GA/T1400	Upload face & plate snapshots to VMS.
	Video&Image DB (Phase 1)	Vehicle license plate recognition and search.

Table 13 NVR-B5101.28.26.200319 Feature Changes

Item	Feature	Description
Newly added features	Mask detection	Support alarm and configuration of mask detection cameras.
Improved features	None	None.
Deleted features	None	None.

Table 14 NVR-B5101.28.15.191223 Feature Changes

Item	Feature	Description
Newly added features	Separate camera name and it's OSD	Support syncing camera name (up to 40 characters) to its OSD name. The sync function is enabled by default.
	Improved error message in preview page	More detailed messages such as incorrect password and network error are displayed in preview page, so that user experience improved.
	Support disabling third stream audio	Support disabling third stream audio and copying audio settings to multiple channels.
	Connect video doorbell	Support video doorbell, which, when connected to the app via an NVR, doorbell calling alarm can be received both on the NVR and the app.
Improved features	Improved playback	Support setting skip interval for forwarding and rewinding playback.
	Improved storage settings	Support encoding settings of third stream, and more Storage Mode options, so that solve the problem that camera with no third stream

Item	Feature	Description
		cannot play back in SD mode.
	Save password	Support saving password.
Deleted features	None	None.

Table 15 NVR-B5101.27.25.190621 Feature Changes

Item	Feature	Description
Newly added features	H.265	Auto switch to H.265 when first connected is enabled by default.
	UNP client software upgrade	Upgrade UNP client software to SoftEther VPN.
	Live view without plug-in	Live view is available without plug-in on the Web interface.
	LPR	Add license plate recognition display page.
	New local interface	New local GUI; New interaction design in wizard, channel configuration, playback and VCA.
Improved features	Retrieve password	Retrieve password by email and mobile client.
	Preset patrol	Up to 32 presets are allowed for one preset patrol.
	Playback in main stream	Playback in standard definition automatically switches to main stream for a maximized window.
	Separate permissions	Separate channel live view and audio permissions.
	Alarm configuration	Add human body detection.
	Improve switching performance when maximizing/restoring window	For connected Topsee cameras, live video starts quickly when maximizing or restoring window.
	Face recognition	Support adding face snapshots to face library.
Deleted features	None	None.

Table 16 B5126P23 Feature Changes

Item	Feature	Description
Newly added features	None	None
Improved features	None	None
Deleted features	3G/4G	Support 3G/4G SIM card.

Table 17 B5126P11 Feature Changes

Item	Feature	Description
Newly added features	Heat map	Support heatmap statistics and export.
	GA/T1400	Upload face & plate snapshots to VMS.
	Add device without	Scan to add NVR on app without cloud account.

Item	Feature	Description
	account	
	Onvif	Support Profile S.
	Pattern unlock	Support drawing pattern to unlock.
	Alarm push notification	Push alarm notification traversing NAT.
	Web maintenance	Add net detection & network flow.
	Auto add IPC	Automatic search and add IPC for 1-SATA NVR with zero configuration.
	GDPR	Add GDPR privacy statement.
Improved features	Improved PTZ presets	Configurable PTZ preset name.
	Improved live view startup speed	IPC live view starts up quickly.
Deleted features	None	None.

Table 18 B5125P10 Feature Changes

Item	Feature	Description
New features	Video&Image DB (Phase 1)	Vehicle license plate recognition and search.
	Alarm report	Alarm report in non-subscribe mode, with configuration added on local interface.
	Multicast	Add uplink RTSP multicast function
Improved features	U-Code	U-Code configuration for sub and third streams.
	VCA alarm	Added object left behind and removal alarms
	APP collaboration	Improves image display speed on APP.
	Playback	Supports 32x playback on VMS-B200
	CDN (RTMP)	Added channel-based CDN configuration
	Prompt to change password	Added a message prompting user to change temporary password
	Device connection	Supports adding channels in batch via RTSP
Deleted features	None	None

Table 19 B5123P20 Feature Changes

Item	Feature	Description
New features	Add IPC across Internet	Add IPCs to the NVR across the Internet.
	SNMP	System time obtainable.
	Decoding card	Use decoding card for image stitching on multiple screens.
Improved features	Improved diagnostic info collection	Support the backup of IPC logs on NVR.
	Alert configuration	Added two alert types: array degrade and array damaged.
	Alarm window	Displays alarm status with two tabs and added multiple alarm types.
	Web recording	Include recording start and end times in filenames for easier

Item	Feature	Description
	download	differentiation.
	Maintenance info collection	Added network bandwidth statistics on the Web.
	Decoding card	Play third-party H.265 video.
Deleted features	None	None

Table 20 B5122P10 Feature Changes

Item	Feature	Description
New features	USB connected burner	Connect to an external USB burner to burn recordings to a disc. Supported by some models only.
	Fisheye (phase III)	Add dewarping function for 5 Series and marking function for 3 Series.
	Connection to new 4K fisheye camera models	Connectable with certain new models of 4K fisheye cameras and supports back-end dewarping.
Improved features	TLS/SSL	Achieves complete SSL/TLS encryption.
	Maintenance info storage	Save space by saving maintenance logs to hard disks.
	IPC upgrade by cloud	Adds a Check button (to check for update) and displays latest version info.
	3G/4G	Adds custom mode for access points.
	Playback	Allows user to choose third stream for playback.
	Alarm triggered preview	Supports multi-window display for alarm-triggered preview.
	N+1 function	Supports IPC connected by RTSP.
	Parameter configuration	Increases image quality levels from 6 to 9.
Deleted features	None	None
Password policy	Added an enable/disable setting and changed some policy.	

Table 21 B5121P15 Feature Changes

Item	Feature	Description
New features	Zoom In	Supports zooming in on certain area of certain camera.
	Thumbnail View	The corresponding thumbnail view appears by clicking the progress bar.
	Snapshot Playback	Supports playback of snapshots stored on device.
	Snapshot Preview	Supports preview of selected snapshots.
	Smart Search	Supports preview and playing of VCA recordings.
	High Temperature Alarm	Triggers alarm if the temperature of CPU or motherboard is too high.
	Defocus Detection	Determines whether the camera is defocused, and if so triggers alarm.
	Scene Change	Determines whether the scene is changed, and if so triggers alarm.
	Auto Tracking	Supports auto tracking of moving objects with IP cameras supporting this function.

Item	Feature	Description
	People Counting of Multiple Cameras	Displays people counting data of multiple cameras together.
	People Counting OSD	Displays people counting data by OSD in real time.
	Sort Camera	Supports changing sequence of selected cameras in camera list.
	Watermark	Supports custom encryption of video data with compatible IP cameras and EZPlayer, to avoid video info deletion and modification.
Improved features	Optimized H.265 compatibility	Supports third-party H.265 IP camera connecting to Uniview NVR through ONVIF.
	Log Export Format	The default format of exported logs is changed from TXT to CSV.
	Auto-Delete File(s)	Adds auto-delete file(s) configuration on Web client.
	Admin Management	Supports admin to force guest offline.
	Diagnostic Information	Adds basic information of IP camera to exported diagnostic information.
	Network Setting	Supports auto-completion of subnet mask when setting network address.
	Quick Match for Camera List	Supports input selection and fuzzy matching for camera list.
	Professional Surveillance Keyboard	1. Supports selecting camera and date for playback. 2. Supports patrol and route.
eSATA	Supports backup and storage on NVR308-16E, NVR308-32E, NVR308-64E, NVR308-32R, NVR308-64R, NVR516-64 and NVR516-128.	
Deleted features	None	None

Table 22 B5119P60 Feature Changes

Item	Feature	Description
New features	U-Code	U-Code is a patented technology of Uniview that accomplishes higher compression efficiency than H.264/H.265.
	NAS	Supports NAS storage device.
	Auto guard	Enables the PTZ camera to operate automatically as configured if no operation is performed during a certain time period. This function can avoid situations where the camera is left to monitor an incorrect scene by user's negligence.
	Multicast	Makes live view possible even when the number of connecting Web clients exceeds the limit the NVR can accommodate.
	USB Device window	Automatically displays the window when a USB storage device is plugged in during device startup or in preview status. The window can also be opened by clicking the USB icon on the screen toolbar.
	VCA	Work with smart IPC to achieve VCA functions (smart detection and smart search), enhanced playback by event.
	RTSP-based connection to IPC	Adds IPC by RTSP for live view and playback (IPC configuration not supported).
	RTSP URL format on screen	Displays RTSP URL format and a description, and users can view live video from a channel of the NVR by visiting the corresponding URL using an RTSP-enabled device.
	IPv6	Supports IPv6 and offers three options to set an IPv6 address: Manual, DHCP, Router Advertisement.

Item	Feature	Description
	Integrated port	Integrates multiple ports (HTTP port, ONVIF port, Media port, and SDK port) into one HTTP port.
Improved features	Uniview logo	Displays Uniview logo in idle preview windows. This feature is only available to Uniview version.
	Auto switch to	Automatically switches to H.265 and U-Code when connected by Uniview IPC and sends default bitrate settings to IPC.
	Copy video compression and U-Code settings	Allows user to copy video compression and U-Code settings and quickly apply them to other IPCs.
	Draw schedules	Allows users to make recording and snapshot schedules by drawing.
	Instant playback	Instant playback time is now configurable.
	Mouse operation	Allows user to adjust the moving speed of mouse pointer.
	IPC upgrade	Upgrade a batch of IPCs by cloud or USB storage device.
	Preview	Live view window's yellow borders disappear automatically in 20 seconds if no operation is performed.
	Snapshot	The window borders flash white when taking a snapshot during live view or playback.
	Resolution	Restore default resolution by pressing and holding the scroll wheel for at least 3 seconds.
	DHCP	DHCP is enabled by default for international versions.
	Playback by tag	Allows playback by tag on Web client.
	Quick view of serial number	View the device's serial number by double-clicking the lower left corner of the login dialog box as admin.
	Improved encoding configuration	Automatically refreshes encoding configurations; automatically changes bit rate as the user changes resolution and frame rate.
	One-click cancellation of binding to EZCloud	Allows the user to cancel binding to EZCloud account by clicking the Delete button without visiting the EZCloud website.
	Enhanced ease of use	Displays device operation time, camera offline cause, a system message when the USB storage device is unplugged, and added the Camera Name column under Advanced.
Enhanced corridor mode	Added 4/9/10/12/16 corridor modes on the system interface.	
Added OSD configurations	Added font color and size options for OSD configuration.	
Optimized playback	Supports reverse playback; max. 256x playback speed on the system interface, and 16x playback speed on the web interface; with apparently improved fluency at low playback speed.	
Optimized alarm-triggered preview	Changes alarm-triggered preview from "sequence display three times" to "display from alarm is reported till alarm is cleared."	
Deleted features	None	None

Table 23 B5117P45 Feature Changes

Item	Feature	Description
New feature	Decoding card	The NVR supports decoding card.

Item	Feature	Description
Improved feature	None	None
Deleted feature	None	None

## 4.2 Operation Change Description

None.

## 5 Related Documents and Delivery Method

Table 24 Related Document List

Manual Name	Manual Version	Delivery
Network Video Recorders Quick Guide	V1.00	Deliver with device.

## 6 Version Upgrade Guidance

### 6.1 Precautions

- This software system includes a software program mirror (Program.bin). Before you start upgrade, please back up configuration data through the system or Web interface in case the upgrade fails.
- Maintain proper network connection and power supply during the upgrade.

### 6.2 Upgrade Procedure

The version can be upgraded through the system interface and the Web interface, both support cloud upgrade.

### 6.3 Upgrade Through the System Interface

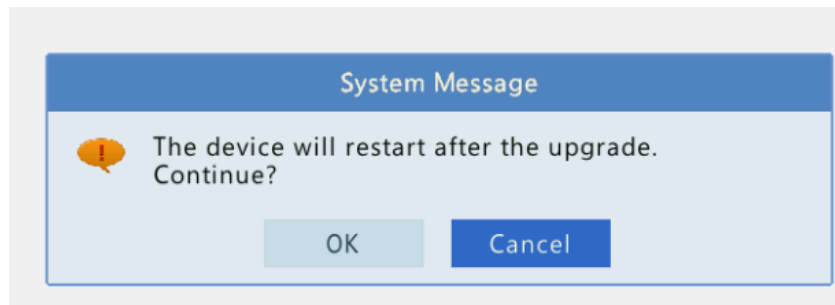
The system interface provides two options for upgrading the system software: local upgrade using a USB drive and cloud upgrade.

#### 1. Local upgrade

Before you start, copy the correct upgrade file to the root directory of the USB drive.

- (1) Plug the USB drive into the USB interface on the NVR.
- (2) Log in to the system interface as "admin".
- (3) Click **Maintain > Upgrade**.
- (4) Click **Upgrade**, select the upgrade file from the drop-down list, and then click **Upgrade**. A prompt message appears.
- (5) Click **OK**.

Figure 1 Prompt Message



- (6) The NVR will restart automatically when the upgrade is completed.

## 2. Cloud upgrade

Before you start, check that the NVR is correctly connected to the public network.

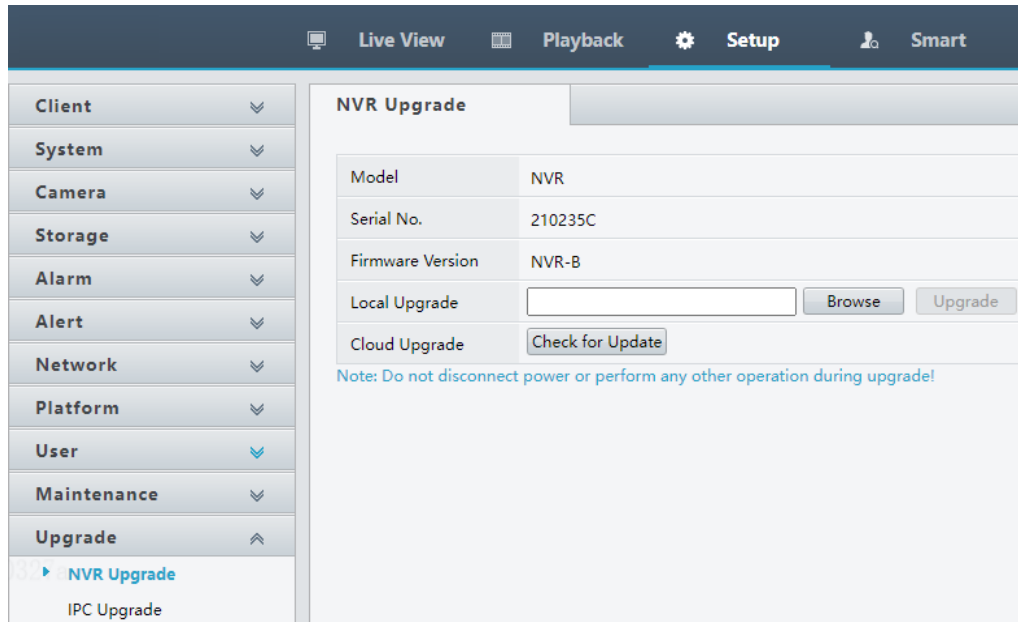
- (1) Click **Maintain > Upgrade**, and then click **Check** to check for the latest version.
- (2) Click **Upgrade** after a newer version is detected.

## 6.4 Upgrade Through the Web Interface

Perform the following steps to upgrade through the Web interface:

- (1) Log in to the Web interface as “admin”.
- (2) Click **Upgrade > NVR Upgrade**.

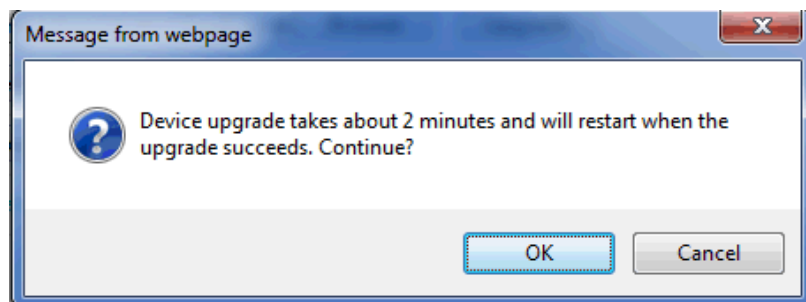
Figure 2 NVR Update



- (3) Click **Browse** right to the **Upgrade** field, select the **Program.bin** file to upgrade, and then click **Upgrade**.
- (4) If the NVR is connected to the public network, you may also click **Check** to perform a cloud upgrade. If a newer version is detected, a prompt message will appear. Click **OK** to start upgrade.



Figure 3 Prompt Message



- (5) The NVR will restart automatically when the upgrade is completed.

### Version Upgrade Disclaimer

1. By setting or installing this program in any way you agree to all of the following terms and conditions. Your downloading or using the program means you acknowledge your full understanding and acceptance of the following terms and conditions. If you do not agree to any of the following terms, you shall not use the program and you must cease installing and delete the program immediately.
2. The upgrade program is only applicable to the intended regions and product models. Before upgrade or update, please read the release notes carefully to make sure the program is applicable to your region and product model. You will be fully liable and responsible for all the consequences of device abnormality and related maintenance costs caused by your improper operations.
3. Uniview owns or is legally authorized to own all rights and IPRs (Intellectual Property Rights) of the program and the supplied release notes.
4. Software upgrades are for the optimization of product functions and do not mean there is defect.
5. You must strictly follow instructions in the release notes during the upgrade process, otherwise you are responsible for the possible consequences and related maintenance costs.
6. You shall not engage in any of the following activities, otherwise you would be liable for infringement and responsible for any adverse consequences arising therefrom.
  - 6.1 Copy the program (exclude the reasonable and necessary copies for internal backups);
  - 6.2 Exclude this statement when using the program or transfer the program to any third party;
  - 6.3 Modify the program or its derivatives;
  - 6.4 Reverse engineer, decompile or disassemble this program.
7. The program is only intended for authorized users. Its architecture, organization and source code are valuable trade secrets and confidential information owned by Uniview and its authorized parties. You agree not to provide or disclose any confidential information contained in or derived from the software to any third party. No part of this document may be excerpted, reproduced, or distributed in any form by any entity or individual without written consent from our company.