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H3 Network PTZ Dome Camera Firmware

Version: V5.6.0 Release Note(Internal)

(2019-03-22)

1. Firmware Version Information

1.1 Firmware Basic Information

PTZ:

IPD_H3_EN_XXX_5.6.0_190130

DarkFighterX PTZ:

IPDHG_H3_EN_XXX_5.6.0_190130

DarkFighterX 4MP PTZ:

IPDHG_H3_L1_EN_XXX_5.6.0_190130

Explosion-proof PTZ:

IPDEX_H3_EN_XXX_5.6.0_190130

Positioning System:

IPYT_H3_EN_XXX_5.6.0_190130

DarkFighterX Positioning System:

IPYTHG_H3_EN_XXX_5.6.0_190130

Explosion-proof Positioning System:

IPYTEX_H3_EN_XXX_5.6.0_190130

Zoom Camera:

IPZ_H3_EN_XXX_5.6.0_190221

Explosion-proof Zoom Camera:

IPZOOM_EX_H3_EN_XXX_5.6.0_190130

1.2 Compatibility Updates

All involved products are listed in the attachment:



H3 5.6.0
products list.xlsx

Note: After upgrading to 5.6.0, the device can not be downgraded to 5.5.X, 5.4.X, etc.

2. Related Resource Versions

2.1 Built-in Resource Versions

- (1) SDK version: HCNetSDKV6.0.2.10_build20190117_win32
- (2) Play lib (PlayCtrl.dll): V7.3.6.81_Build20190102
- (3) Transform package lib (SystemTransform.dll): V2.5.3.7_Build20181109
- (4) Audio Intercommunucation lib (AudioIntercom.dll): 1.4.0.6build20171113
- (5) iVMS 4200 client: V2.6.14.100 build20190116
- (6) Plugin: V4.0.1 build 190123

2.2 Protocol Versions

- (1) Onvif version: 17.12
- (2) ISAPI version: 2.4

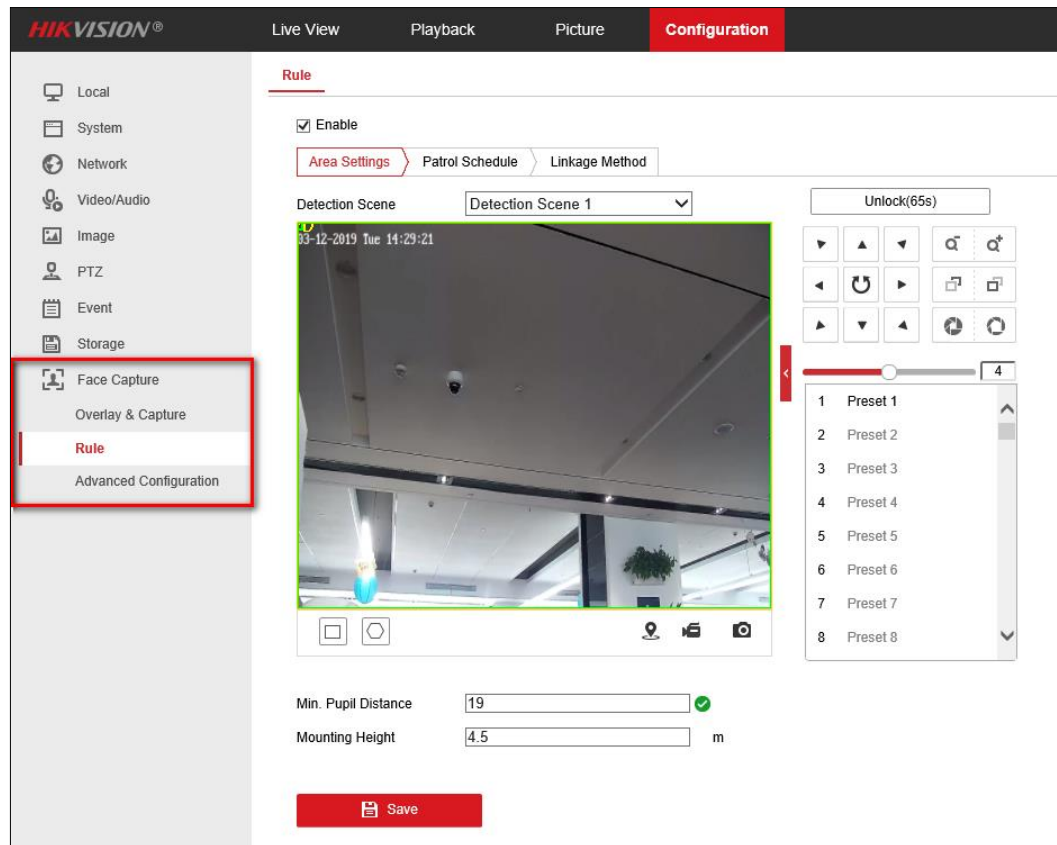
2.3 Third-party Platform Software Versions

- (1) Milestone software version (Milestone Enterprise 8.1a (2016 R2 10.2a), Milestone driver version (Device Pack 10.1)
- (2) Milestone software version (Milestone Corporate 2018 R2), Milestone driver version (Device Pack 10.1)
- (3) Exacqvision software version (9.8.3.149440)
- (4) Avigilon Control Center 6.14.0.10
- (5) Intellect.v4.10.4
- (6) Digifort: V7.2.1
- (7) Axxon: AxxonNext-4.2.0.76971

3. Version Main Updates

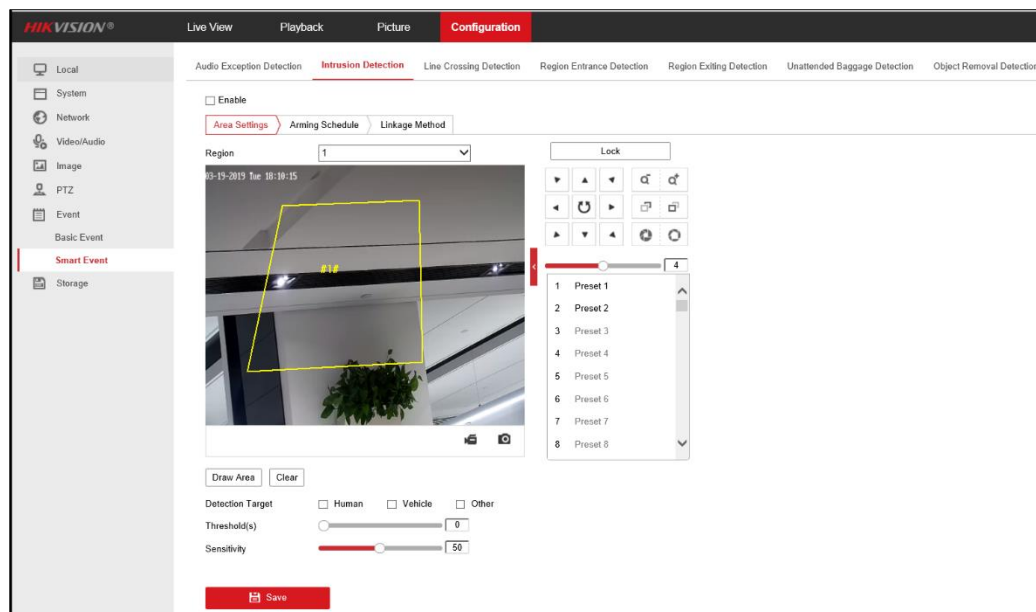
3.1 New Functions

3.1.1 Add Face Capture in DF6A and DF8A

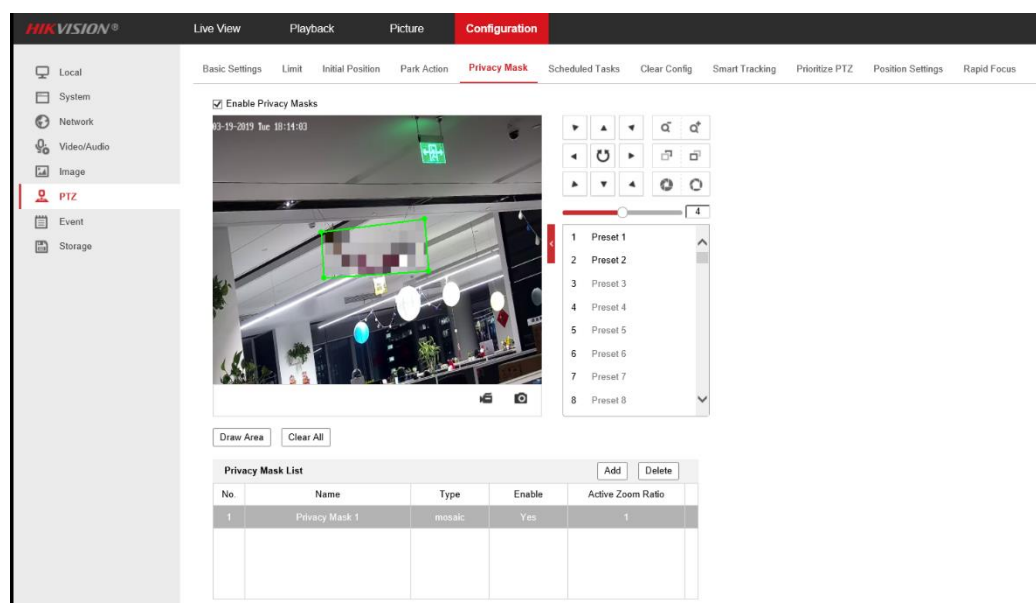


3.1.2 Optimize Auto-tracking Performance

- Update to false alarm filter algorithm;
- Add 'Other' option in target classification, for intrusion detection, line-crossing detection, region entrance, and region exiting;
- If all three targets (Human, Vehicle, Other) are selected, all of the target are detected, and 'other' is defined as all moving targets except human and vehicle;
- All three targets are not selected by default, and all the three targets are detected if none is selected.
- Optimize the performance of auto-tracking;

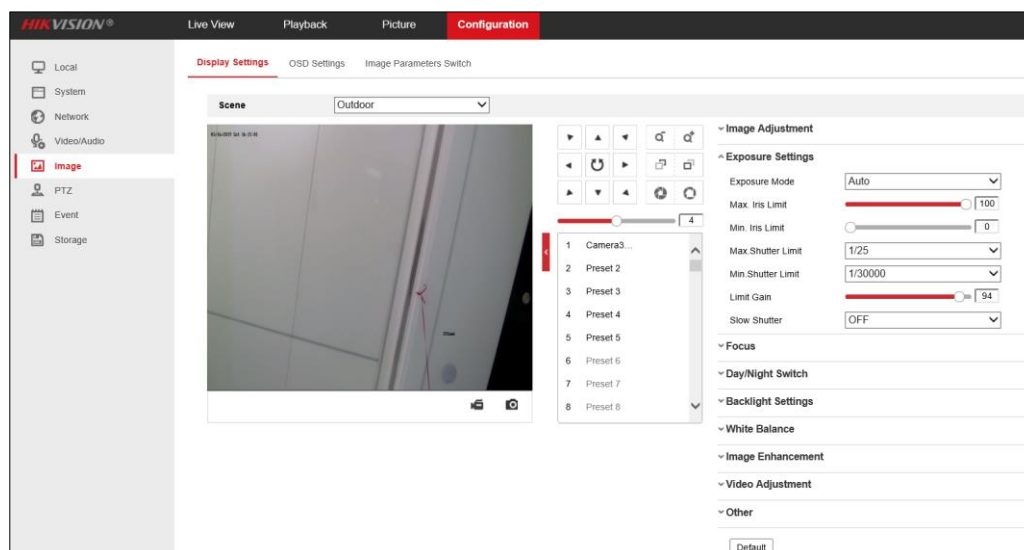


3.1.3 Add Mosaic Option for Privacy Mask



3.1.4 Remove exposure level option

- The exposure algorithm is updated: the exposure level in the web plugin and the exposure level in the menu are removed;

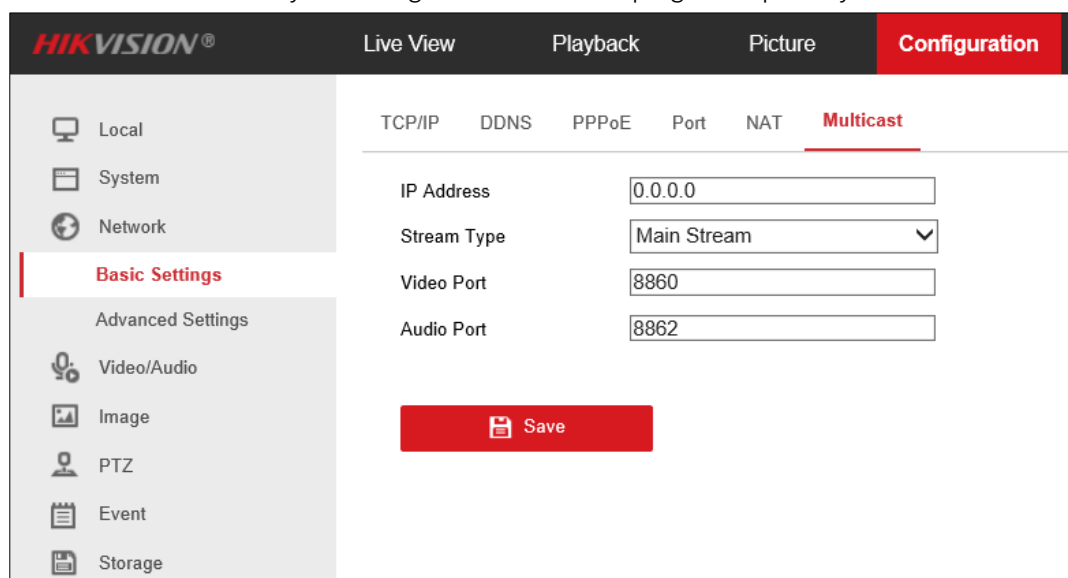


3.1.5 Day/Night switch configuration in zoom camera is consistent with PTZ

- 4 scene parameters: indoor/outdoor/day/night;
- ZMN0407 and ZCN0407-SDI, the default scene is indoor, and the default minimum focus distance is 1.5m (indoor), and 3m (outdoor);
- For zoom camera with more than 20x optical zoom, the default minimum focus distance is 3m (indoor), and 6m (outdoor);

3.1.6 Configure Multicast Live View Address

- Configure the multicast address and port on the configuration tab. Different channels and different streams can be configured with their own multicast ports.
- This feature can only be configured via the web plugin temporarily.



3.1.7 Modify Intrusion Detection Time Threshold

- Intrusion time threshold can be set from 0 to 10, 0 as the default; while for the zoom camera, intrusion time threshold can be set from 0 to 10, 5 as the default;

3.1.8 Update plugin Login solution

- For security considerations, 5.6.0 updated plugin login solution;
- - After the upgrade from 5.5.X to 5.6.0, the plugin needs to be updated. Old plugin is not compatible with the new solution, and the new plugin can be compatible with the old package.
- The plugin will log out after 30 minutes of inactivity and will need to log in again, while preview and playback are not involved.

3.1.9 Update Metadata

- RTSP over HTTPS preview is supported when metadata is enabled;
- Metadata enables users to integrate camera-based intelligence with server-based intelligence algorithms, reduce server stress and improve system performance; users need to complete the onvif and ISAPI metadata upload information;
- Metadata completion: intrusion detection, line-crossing detection, region entrance detection, region exiting detection), license plate;
- Metadata is supported on onvif and ISAPI, private information could be uploaded via Metadata, and the rule box and the target box are displayed on the preview tab.

3.1.10 Add scheduled tasks in zoom cameras

- The following Scheduled tasks are supported in zoom cameras:
 - Auto scan, patrol, preset, or closed;
 - The priority of the scheduled tasks is higher than the park action, and lower than the alarm.

3.1.11 Default Protocol parameters are redefined

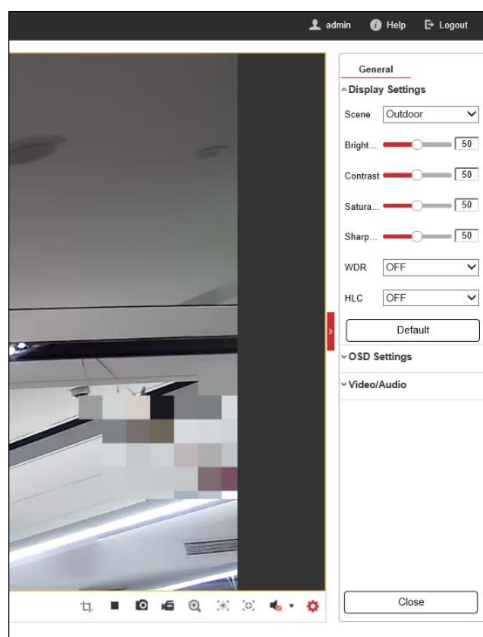
- HTTPS, WebSocket, SDK services
 - Enhanced SDK service is enabled by default. 'Restore' action keeps the parameters as before, while 'Default' would enable the enhanced SDK by default;
 - ONVIF service is not enabled by default, 'Restore' action keeps the parameters as before, while 'Default' would not enable ONVIF by default; websockets is not enabled by default, 'Restore' and 'Default' would not enable the websockets by default.
 - TLS1.1 and TLS1.2 are enabled by default, for both 'Restore' and 'Default' operations;
 - For old devices upgrading to 5.6.0, maintain the original parameters: if the SDKS did not exist before, the new version is not enabled by default;
 - For the new cameras of 5.6.0, the SDKS (SDK over TLS) service is enabled by default.

3.1.12 Optimize of power-off memory solution

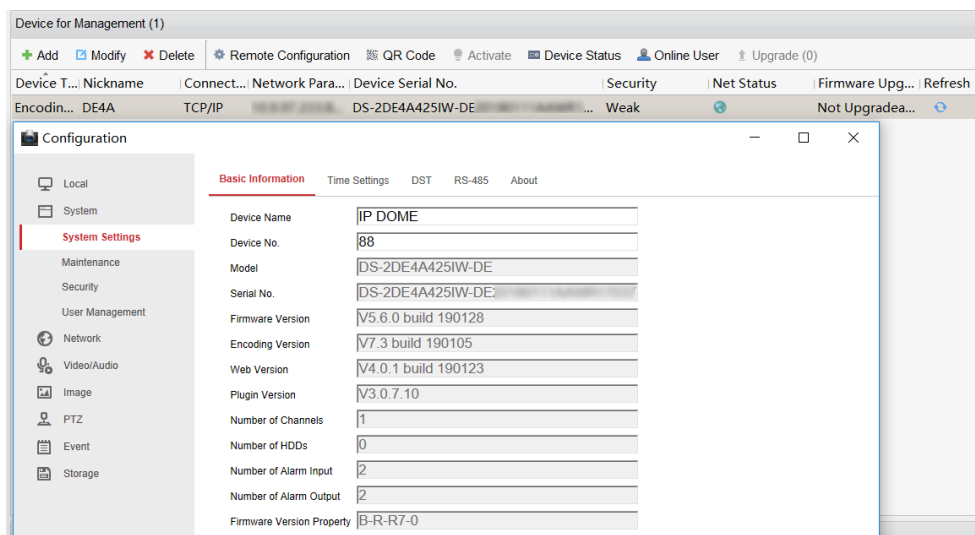
- The focus value is recorded in power-off memory scenario.

3.1.13 Hik-Connect could operate the device to focus and zoom

3.1.14 Add Quick Setup function in Live View for web browser



3.1.15 iVMS-4200 configure devices via web built-in method



3.1.16 Hik-Connect verification code 'ABCDEF' cannot be configured

- When entering the 'ABCDEF' as password in SADP or web browser, the widget displays that the password cannot be configured;
- Widget warning: 6-12 letters or numbers, case sensitive; ABCDEF and any combination of in this order are not allowed. To ensure device security, it is recommended to set a combination of uppercase and lowercase letters + numbers for more than 8 digits;
- iVMS 4200 can configure the Hik-Connect verification code when the device is activated.

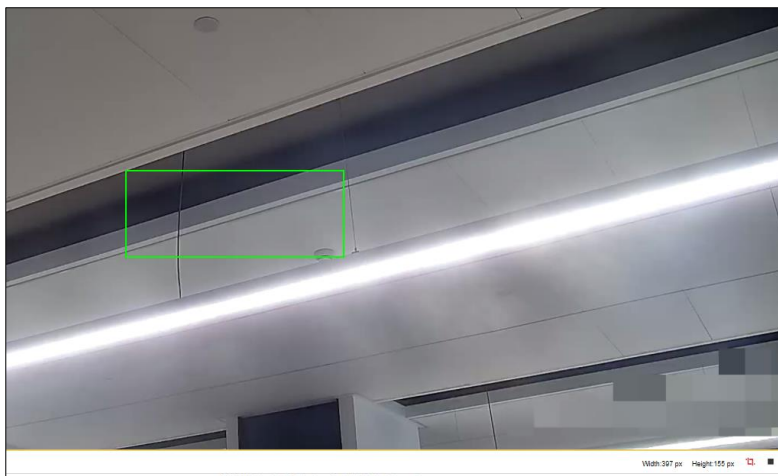
3.1.17 Add user name and password validation check

- User Name: within the following characters:
 - A-Z,a-z,0-9 and !#\$%&'()*+,-./:<=>?@[^_`{}~Tab;
- Password: within the following characters:

- A_Z,a-z,0-9 and !"#\$%&'()*+,-./:;<=>?@[\\]^_`{|}~Tab;
- Involved modules: login, activation, user management, ONVIF user management, channel management;
- Old device compatibility: old device, new client app; -- Client and WEB login are not restricted, old user name can be logged in normally;
- New device, old client app; when setting unsupported user name and password, the interface reports an error. Password full of tabs is not supported.

3.1.18 Add Pixel Calculator Function

- One rectangle calculation (pixel value: width* height). By plotting a rectangle on the current stream, The pixel value is calculated under the main stream resolution;
- - Units are displayed as px, supported by both plugins and no plugins.



3.1.19 Upgrade specific SD cards

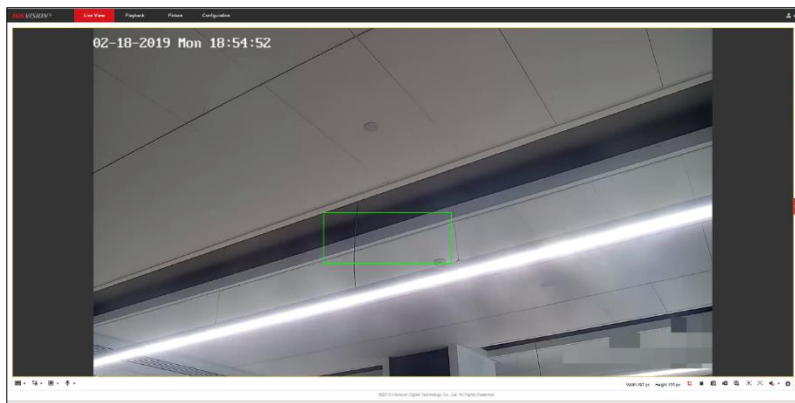
- Specific SD cards could be upgraded through PTZ devices;
- This upgrade is applicable to Hikvision MicroSD card products: L2 series (16G, 32G, 64G, 128G), and H1 series (32G, 64G).

3.1.20 Add Korean OSD character set

- - Add character set selection to the OSD configuration tab, "GBK" and "EUC-KR" are available, and the default is "GBK"; you can switch the character set through the web and iVMS 4200;
- - After switching the set, the device needs to be rebooted, and the previously filled content will be cleared;
- - Korean set is supported in the date, channel name, and character overlay settings, while in the OSD menu it is not supported.
- The length of the Korean is as long as GBK and cannot exceed 44 ASCII characters.

3.1.21 Add Original Scale Aspect Ratio in IE Live View

- Original scale aspect ratio is added in IE plugin Live View view mode to solve the image deformation problem in 16:9, 4:3, original size, and adaptive mode.



3.1.22 'Configuration file import' is Supported by Batch Configuration Tool

- Batch configuration tool supports batch import of device configuration files; which could be configured via bin file.

3.1.23 Add Alarm output delay option

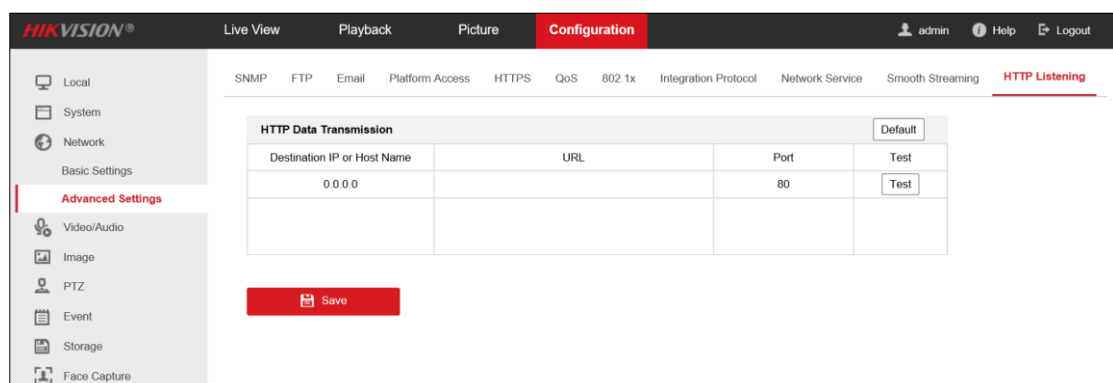
- Add alarm output delay configuration, 5s/10s... were available before, in order to adapt to different application environments, the configuration of 1s is added;
- Alarm output delay can be configured as manual, 1s, 5s, 10s, 30s, 1 min, 2 mins, 5 mins, 10 mins.

3.1.24 Modify Default Maximum Tilt-angle

- Default Maximum Tilt-angle of DF8、DF6A、DF8A is changed to -20°- 90°,while -10°- 90° for DF7.

3.1.25 Add HTTP Listening Function

- Configure the alarm address, and upload the alarm to the third-party platform; http monitoring and deployment are supported.
- Basic events and several smart events (face capture, mixed target, vehicle,etc) could be transmitted.

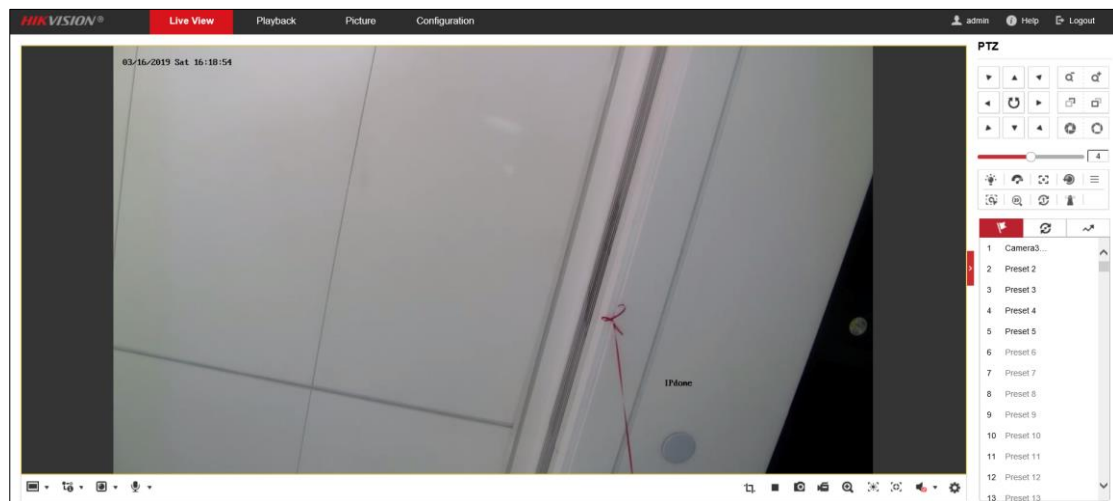


3.1.26 Update ROI region numbers

- Maximum 8 ROIs are able to configured for PTZ, while 2 for zoom cameras.

3.1.27 PTZ is expanded in Live View by default

- PTZ is expanded in Live View by default



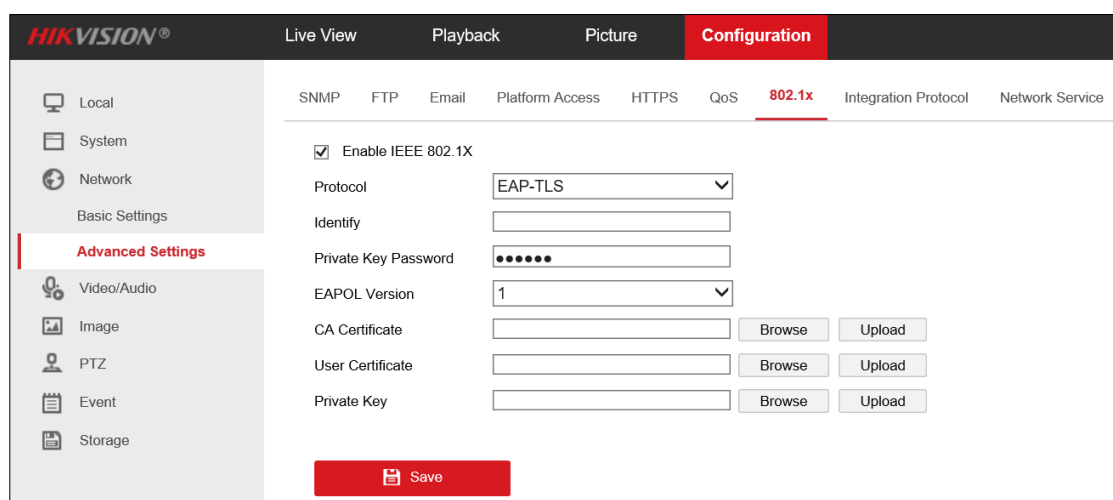
3.2 Security Requirements

3.2.1 Self-signed Certificate Hostname/IP could be Modified

- The device needs to be automatically rebuilt for the default self-signed certificate. If 192.168.1.64 is detected, the certificate would be rebuilt. Random numbers (letters) are used;
- 'Restore' maintains the state before recovery, 'Default' recreates the self-signed certificate.

3.2.2 Add 802.1X authentication (EAP-TLS, EAP-LEAP)

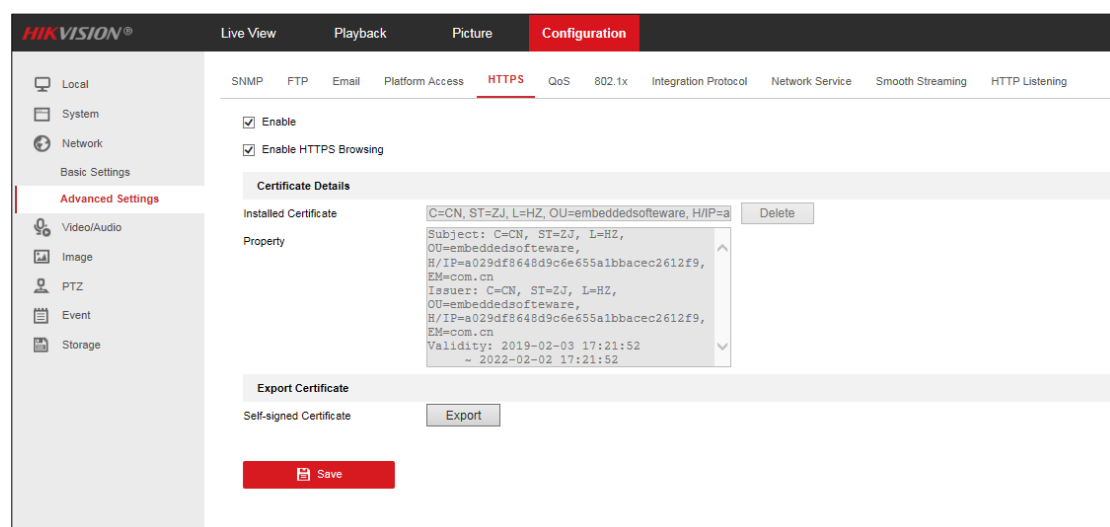
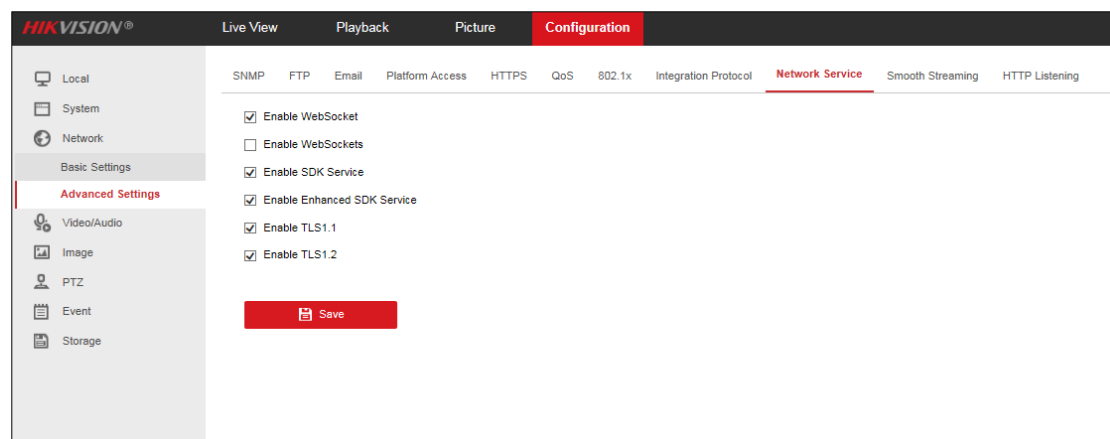
- 2 protocols of 802.1X is added: EAP-TLS, EAP-LEAP, and the certificate is not restored after 'Restore';



- Add SDK over TLS protocol port configuration. The default port is 8443, with the configuration range 2000~65535. It cannot be duplicated with other protocol ports. The name is an enhanced service port. For the SDK protocol that defaults to port 8000, the logic remains the same;

- SDK over TLS service could be enabled/disabled, and the default SDK over TLS service is enabled (for the 'Default' operation), and the name is to enabling the enhanced SDK service. SDK service could also be enabled/disabled, and the name is enabling the SDK service. 'Restore' maintains the parameters as before;
- When the service is provided through the SDK over TLS, the stream is sent by RTSP;
- The self-signed root certificate could be exported;
- A self-signed certificate is generated on the first boot, and the SDK over TLS service is started via a self-signed certificate. Certificate and https could be reused, without additional SDK over TLS certificate management;
- Device has a self-signed certificate before delivery. At this time, SDK over TLS is enable by default.
- A warning is added when Device certificate is deleted for Websockets, https, and SDK over TLS.

3.2.3 Upgrade SDK Over TLS Security & SDK Protocol Security Methods



3.2.4 Https is enabled by default, while disabled in page redirecting.

- Https is enabled by default. 'Restore' operation maintains the parameters as before. Full recovery is enabled by default; while 'Default' would enable https by default;
- https redirecting is supported, but is not enabled by default.