

Hanwha Techwin

Network Camera Version 2.11

Release Note

v2.11
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HTW Network Camera Version 2.11

This document describes the new and changed features of Hanwha Techwin network camera version 2.11

 Released on November 17, 2022

Common Features

[New features]

- Added an input and output selection function to [Alarm I/O] [v2.11.06, PNO-A9081R, PNB-A9001] [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Added a function to be able to add or delete channel 2 [v2.11.06, PNO-A9081R, PNB-A9001]
- Added [AI-based prefer shutter control] function [v2.11.06, PNO-A9081R, PNB-A9001]
- Added [Wise NR II] function [v2.11.06, PNO-A9081R, PNB-A9001]
- Added [WiseStream III] function [v2.11.06, PNO-A9081R, PNB-A9001]
- ONVIF profile M support [v2.11.06, PNO-A9081R, PNB-A9001]
- The [Comparison view] function to view the video before and after changing the setup will be provided in the [Camera setup] menu. [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Added the Detection Shot feature [v2.11.01, XNV-C9083R, XND-C9083RV, XNO-C9083R, XNV-C8083R, XND-C8083RV, XNO-C8083R, XNV-C7083R, XND-C7083RV, XNO-C7083R, XNV-C6083R, XND-C6083RV, XNO-C6083R, XNV-9083R, XND-9083RV, XNO-9083R, XNB-9003, XNV-8083R, XND-8083RV, XNO-8083R, XNB-8003, XNV-8093R, XND-8093RV, XNV-6083R, XND-6083RV, XNO-6083R, XNB-6003] [v2.11.01, XNV-6123R, XNO-6123R] [v2.11.02, XND-C6083RV, XND-C7083RV, XNV-C6083R, XNV-C7083R, XNO-C6083R, XNO-C7083R] [v2.11.02, XNO-C6083R, XNO-C7083R] [v2.11.02, XND-C8083RV, XND-C9083RV, XNV-C8083R, XNV-C9083R, XNO-C8083R, XNO-C9083R] [v2.11.02, XNO-C8083R, XNO-C9083R] [v2.11.02, XNB-9003] [v2.11.02, XNB-8003] [v2.11.02, XNB-6003] [v2.11.03, XNV-C9083R, XND-C9083RV, XNO-C9083R, XNV-C8083R, XND-C8083RV, XNO-C8083R, XNV-C7083R, XND-C7083RV, XNO-C7083R, XNV-C6083R, XND-C6083RV, XNO-C6083R, XNV-C6083R]
- Added the [Direct Point] function to adjust the DPTZ position in the quad view [v2.11.02, QNF-

9010]

- Added the UI to adjust the video image position of each sensor in order to correct the alignment of the video images [v2.11.02, PNM-9031RV] [v2.11.03, PNM-9031RV]
- Added certificate management function [v2.11.06, PNO-A9081R, PNB-A9001] [v2.11.02, TID-600R]
- Added new options such as [Query string] and [TCP message], etc. for [Handover] settings [v2.11.02, TID-600R]
- Added SIP proxy server setting and call test function [v2.11.02, TID-600R]

[Improvement]

- Changed the default minimum duration for defocus detection to 30 seconds. [v2.11.01, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Output support for Goodshot instead of Bestshot [v2.11.06, PNO-A9081R, PNB-A9001] [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Changed the minimum/maximum default value of object size [v2.11.06, PNO-A9081R, PNB-A9001]
- Added AI library version to product version information [v2.11.06, PNO-A9081R, PNB-A9001] [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Improved object tracking performance [v2.11.06, PNO-A9081R, PNB-A9001]
- Improved [Social distancing detection] performance [v2.11.06, PNO-A9081R, PNB-A9001] [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Supported 3 additional types of Wi-Fi USB dongle (When installing the camera, you can connect from the camera via Wi-Fi communication using a smartphone application through Wi-Fi USB dongle) [v2.11.06, PNO-A9081R, PNB-A9001]
- Added [TCP] option for [IP Type] in Handover [v2.11.06, PNO-A9081R, PNB-A9001]
- Added [Reference] option in Heatmap [v2.11.06, PNO-A9081R, PNB-A9001]
- The SNMP community string has been changed to be left empty by default so that the value can be entered by users. [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Added [Focal length] option to set the focal length of lens [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Fixed an error in the certificate management function [v2.11.07, PNO-A9081R, PNB-A9001]

- Fixed an error when setting up WDR [v2.11.01, XNV-C9083R, XND-C9083RV, XNO-C9083R, XNV-C8083R, XND-C8083RV, XNO-C8083R, XNV-C7083R, XND-C7083RV, XNO-C7083R, XNV-C6083R, XND-C6083RV, XNO-C6083R, XNV-9083R, XND-9083RV, XNO-9083R, XNB-9003, XNV-8083R, XND-8083RV, XNO-8083R, XNB-8003, XNV-8093R, XND-8093RV, XNV-6083R, XND-6083RV, XNO-6083R, XNB-6003] [v2.11.02, XND-C6083RV, XND-C7083RV, XNV-C6083R, XNV-C7083R, XNO-C6083R, XNO-C7083R] [v2.11.02, XNO-C6083R, XNO-C7083R] [v2.11.02, XND-C8083RV, XND-C9083RV, XNV-C8083R, XNV-C9083R, XNO-C8083R, XNO-C9083R] [v2.11.02, XNO-C8083R, XNO-C9083R] [v2.11.02, XNB-9003] [v2.11.02, XNB-8003] [v2.11.02, XNB-6003] [v2.11.03, XNV-C9083R, XND-C9083RV, XNO-C9083R, XNV-C8083R, XND-C8083RV, XNO-C8083R, XNV-C7083R, XND-C7083RV, XNO-C7083R, XNV-C6083R, XND-C6083RV, XNO-C6083R, XNV-C6083R]
- Adjusted the RTP Payload buffer to improve compatibility with specific NVRs [v2.11.01, XNV-6123R, XNO-6123R]
- Improved the handover function so that its camera is compatible with WAVE (video management software) [v2.11.01, XNV-6123R, XNO-6123R]
- Improved the problem that the camera's day/night mode does not switch from [Black & White] to [Color] in an LED fluorescent lamp (high-color light source) environment [v2.11.01, XNV-6123R, XNO-6123R]
- Modified to create a profile for each channel [v2.11.02, QNF-9010]
- Improved to apply circle mask to remove unnecessary image data around fisheye source view [v2.11.02, QNF-9010]
- Reflected improvement in manufacturing and process efficiency (no impact on users and product usability) [v2.11.01, QNP-6250R, QNP-6320R] [v2.11.01, QNP-6250, QNP-6320, QNP-6250H, QNP-6320H]
- Replaced LED driver IC [v2.11.02, XNV-9083R, XNV-8093R, XNV-8083R, XND-9083RV, XND-8093RV, XND-8083RV, XNO-9083R, XNO-8083R] [v2.11.02, XND-6083RV, XNV-6083R, XNO-6083R] [v2.11.02, XNO-6123R, XNV-6123R]
- Modified termination resistor settings for RS-485 [v2.11.01, XNZ-L6320A]
- Added functions related to TTA authentication [v2.11.00, PNO-A9081R01, PND-A9081RV01, PNV-A9081R01, PNB-A900101]
- Improved Web UI for selecting TLS protocol version to use for encrypted communication [v2.11.02,

TID-600R]

- Improved interworking between SIP call and VMS [v2.11.02, TID-600R]
- Improved [Tampering switch] event settings [v2.11.02, TID-600R]
- Improved [Touchless call] event settings [v2.11.02, TID-600R]
- Improved audio qualities (echo cancellation and noise reduction) [v2.11.02, TID-600R]
- Deleted the [Sound classification] feature [v2.11.02, TID-600R]
- Reduced one-point NUC calculation time [v2.11.10, TNO-3010T, TNO-3020T, TNO-3030T, TNO-3040T, TNO-3050T, TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T, TNO-4030TR, TNO-4040TR, TNO-4041TR, TNO-L3030T, TNO-L4030T, TNO-L4030TR, TNU-4041T, TNU-4051T]
- Improved pan/tilt speed [v2.11.10, TNU-4041T, TNU-4051T]

[Bug fixes]

- When streaming the video of the DPTZ profile in the camera web viewer, object detection area is not displayed and BestShot information is not updated [v2.11.02, PNO-A6081R, PNB-A6001, PND-A6081RF, PNV-A6081R, PND-A6081RV]
- Fixed an issue where the "opensdk_dynamicEvent()" API worked abnormally when the network was disconnected and reconnected [v2.11.02, PNB-A9001ROP, PNO-A9081ROP, PNV-A9081ROP]
- Fixed an issue where the IPCameraManifest.xml file could not be read and written intermittently when the camera was powered on or off [v2.11.02, PNB-A9001ROP, PNO-A9081ROP, PNV-A9081ROP]
- Fixed the issue of CVBS output [v2.11.02, QNF-9010]
Note: When the firmware is upgraded from a version earlier than 2.11.02, it is necessary to first upgrade to QNF-9010_2.10.00b_20220513_cvbs.img and then upgrade to the latest firmware.
- Fixed timestamp errors [v 2.11.10, PNO-A9081R, PNV-A9081R, PND-A9081R, PND-A9081RV, PND-A9081RF] [v2.11.03, PNO-A6081R, PNV-A6081R, PND-A6081R, PND-A6081RV, PND-A6081RF] [v2.11.03, PNO-A9081ROP, PNV-A9081ROP, PND-A9081ROP, PND-A9081RVOP, PND-A9081RFOP] [v2.11.03, PNB-A6001] [v2.11.10, PNB-A9001] [v2.11.01, PNB-A9001/KMC] [v2.11.03, PNB-A9001OP] [v2.11.01, XNZ-6320A, XNZ-L6320A]
- Fixed the problem that the temperature of the [Include area] which is ROI was displayed

incorrectly [v2.11.11, TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.11.11, TNO-3040T, TNO-3050T] [v2.11.11, TNO-3010T, TNO-3020T, TNO-3030T] [v2.11.11, TNU-4041T, TNU-4051T] [v2.11.11, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.11.11, TNO-L3030T] [v2.11.11, TNO-L4030T] [v2.11.11, TNO-L4030TR]

Affected Products

Table 1. Product Family Based On Version 2.11.


| Major Model | Model Name |
|-------------|---|
| PNO-A6081R | PNO-A6081R PND-A6081R PND-A6081RF PNV-A6081R PND-A6081RV |
| PNB-A6001 | PNB-A6001 |
| PNO-A9081R | PNO-A9081R PNV-A9081R PND-A9081R PND-A9081RV PND-A9081RF |
| PNB-A9001 | PNB-A9001 |
| PNB-A9001OP | PNB-A9001OP |
| XND-C9083RV | XNV-C9083R XND-C9083RV XNO-C9083R XNV-C8083R XND-C8083RV XNO-C8083R |
| XND-C7083RV | XNV-C7083R XND-C7083RV XNO-C7083R XNV-C6083R XND-C6083RV XNO-C6083R XNV-C6083 |
| XND-9083RV | XNV-9083R |

| Major Model | Model Name |
|---------------|--|
| | XND-9083RV XNO-9083R XNB-9003 XNV-8083R XND-8083RV XNO-8083R XNB-8003 XNV-8093R XND-8093RV |
| XND-6083RV | XNV-6083R XND-6083RV XNO-6083R XNB-6003 |
| XNV-6123R | XNV-6123R XNO-6123R |
| QNF-9010 | QNF-9010 |
| QNP-6320H | QNP-6320 QNP-6250 QNP-6320H QNP-6250H |
| QNP-6320R | QNP-6320R QNP-6250R |
| PNM-9031RV | PNM-9031RV |
| PNB-A9001ROP | PNB-A9001ROP |
| PNO-A9081ROP | PNO-A9081ROP PNV-A9081ROP PND-A9081ROP PND-A9081RVOP PND-A9081RFOP |
| XNZ-6320A | XNZ-6320A |
| XNZ-L6320A | XNZ-L6320A |
| PNB-A900101 | PNB-A900101 |
| PNO-A9081R01 | PNO-A9081R01 |
| PND-A9081RV01 | PND-A9081RV01 |
| PNV-A9081R01 | PNV-A9081R01 |
| TID-600R | TID-600R |
| TNO-3010T | TNO-3010T |

| Major Model | Model Name |
|-------------|---|
| | TNO-3020T TNO-3030T |
| TNO-3050T | TNO-3040T TNO-3050T |
| TNO-4030T | TNO-4030T TNO-4040T TNO-4041T TNO-4050T TNO-4051T |
| TNO-4030TR | TNO-4030TR TNO-4040TR TNO-4041TR |
| TNO-L3030T | TNO-L3030T |
| TNO-L4030T | TNO-L4030T |
| TNO-L4030TR | TNO-L4030TR |
| TNU-4041T | TNU-4041T TNU-4051T |

HTW Network Camera Version 2.10

This document describes the new and changed features of Hanwha Techwin network camera version 2.10.

 Released on October 17, 2022

Common Features

[New features]

- Added certificate management function [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-9010RVM] [v2.10.01, KNB-2000, KNO-2080RN, XNB-6000, XNO-6080R, XNO-6080RS, XNB-6001, KND-2080RN, XND-6080, XND-6080R, XND-6080RV, XND-6080RW, XND-6080V, XND-K6080N, XNV-6080, XNV-6080R, XNV-6080RS, XNV-6080RSA, XNV-6080RW, XND-6085, XND-6085V, XNV-6085, XNF-8010R, XNF-8010RV, XNF-8010RVM, XNF-8010RVW, XNF-8010RW, KNO-2120RN, XNO-6120R, XNO-6120RS, XNV-6120, XNV-6120R, XNV-6120RS, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H, XNV-6011, XNV-6011W] [v2.10.02, QNP-6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-2320RH, KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-6371RH] [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02, XNO-6085] [v2.10.02, KNB-5000N, KNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW] [v2.10.02, XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02, KND-5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-8020RMN, XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-8080RV, XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-2010RN, XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-8040R] [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XNZ-6320] [v2.10.02, XNZ-L6320] [v2.10.02, XNO-6120] [v2.10.02, XNO-L6120R] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-8081FZ, XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-6081, XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-8081RV, XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R]

[v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R]
 [v2.10.02, XND-L6080RVA, XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02,
 QNF-8010] [v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV,
 XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-
 4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNU-4041T, TNU-4051T] [v2.10.02, TNO-
 3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA]
 [v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-
 6022RM]

- Added a function to add virtual channels to show the dewarped video of the fisheye camera
 [v2.10.01, XNF-8010R, XNF-8010RV, XNF-8010RVM, XNF-8010RVW, XNF-8010RW]
- Added the [Exclusive PTZ control] function that restricts multiple users from controlling the PTZ
 at the same time [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R,
 XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-
 9010RVM] [v2.10.01, KNB-2000, KNO-2080RN, XNB-6000, XNO-6080R, XNO-6080RS, XNB-6001,
 KND-2080RN, XND-6080, XND-6080R, XND-6080RV, XND-6080RW, XND-6080V, XND-K6080N,
 XNV-6080, XNV-6080R, XNV-6080RS, XNV-6080RSA, XNV-6080RW, XND-6085, XND-6085V,
 XNV-6085, XNF-8010R, XNF-8010RV, XNF-8010RVM, XNF-8010RVW, XNF-8010RW, KNO-2120RN,
 XNO-6120R, XNO-6120RS, XNV-6120, XNV-6120R, XNV-6120RS, QNP-6230, QNP-6230H, XNP-
 6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H, XNV-6011, XNV-6011W] [v2.10.02, QNP-
 6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-2320RH,
 KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-6371RH]
 [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320, XNP-
 6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02, XNO-
 6085] [v2.10.02, KNB-5000N, KNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW] [v2.10.02,
 XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02, KND-
 5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-8020RMN,
 XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-8080RV,
 XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-2010RN,
 XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-8040R]
 [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-8081FZ,
 XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-6081,
 XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-8081RV,

XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R] [v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R] [v2.10.02, XND-L6080RVA, XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02, QNF-8010] [v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV, XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNU-4041T, TNU-4051T] [v2.10.02, TNO-3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA] [v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-6022RM]

- Added new options such as [Query string] and [TCP message], etc. for [Handover] settings [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-9010RVM] [v2.10.01, KNB-2000, KNO-2080RN, XNB-6000, XNO-6080R, XNO-6080RS, XNB-6001, KND-2080RN, XND-6080, XND-6080R, XND-6080RV, XND-6080RW, XND-6080V, XND-K6080N, XNV-6080, XNV-6080R, XNV-6080RS, XNV-6080RSA, XNV-6080RW, XND-6085, XND-6085V, XNV-6085, XNF-8010R, XNF-8010RV, XNF-8010RVM, XNF-8010RVW, XNF-8010RW, KNO-2120RN, XNO-6120R, XNO-6120RS, XNV-6120, XNV-6120R, XNV-6120RS, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H, XNV-6011, XNV-6011W] [v2.10.02, QNP-6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-2320RH, KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-6371RH] [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02, XNO-6085] [v2.10.02, KNB-5000N, KNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW] [v2.10.02, XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02, KND-5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-8020RMN, XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-8080RV, XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-2010RN, XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-8040R] [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XNZ-6320] [v2.10.02, XNZ-L6320] [v2.10.02, XNO-6120] [v2.10.02, XNO-L6120R] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-8081FZ, XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-6081, XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-8081RV, XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R] [v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R] [v2.10.02, XND-L6080RVA,

XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02, QNF-8010] v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV, XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNU-4041T, TNU-4051T] [v2.10.02, TNO-3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA] [v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-6022RM]

- Added the option to use the Internet Control Message Protocol (ICMP) timestamp request message [v2.10.02, QNP-6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-2320RH, KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-6371RH] [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02, XNO-6085] [v2.10.02, KNB-5000N, KNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW] [v2.10.02, XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02, KND-5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-8020RMN, XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-8080RV, XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-2010RN, XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-8040R] [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XNZ-6320] [v2.10.02, XNZ-L6320] [v2.10.02, XNO-6120] [v2.10.02, XNO-L6120R] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-8081FZ, XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-6081, XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-8081RV, XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R] [v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R] [v2.10.02, XND-L6080RVA, XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02, QNF-8010] v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV, XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNU-4041T, TNU-4051T] [v2.10.02, TNO-3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA] [v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-6022RM]

[Improvements]

- Modified so that the storage path can also be specified as a subdirectory when saving recorded video on the NAS [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-9010RVM]
- Added the option to display the IP address and MAC information of the camera [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-9010RVM]
- Fixed to move the location of the overlay image using the cursor [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-9010RVM] [v2.10.02, QNP-6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-2320RH, KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-6371RH] [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02, XNO-6085] [v2.10.02, KNB-5000N, KNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW] [v2.10.02, XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02, KND-5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-8020RMN, XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-8080RV, XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-2010RN, XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-8040R] [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XNZ-6320] [v2.10.02, XNZ-L6320] [v2.10.02, XNO-6120] [v2.10.02, XNO-L6120R] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-8081FZ, XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-6081, XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-8081RV, XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R] [v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R] [v2.10.02, XND-L6080RVA, XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02, QNF-8010] [v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV, XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNO-3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA] [v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-6022RM]

- Add the [PEAPv0/MSCHAPv2] option to EAP type for 802.1x [v2.10.00, XNV-9082R, XND8082RV, XND-9082RF, XND8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV8082R, XND-9082RV, XNO-8082R] [v2.10.00, XNF-9010RV, XNF-9010RVM]
- In [Double Panorama] mode, tilt operation of PTZ is supported (Only PTZ pan operation was supported in the earlier version) [v2.10.00, XNF-9010RV, XNF-9010RVM]
- Fixed the problem that [Day/Night] mode did not work in some cameras depending on the camera settings after upgrading the firmware [v2.10.01, XNV-9082R, XNF-9010RV] [v2.10.03, XNF-9010RV, XNF-9010RVM, XNF-9010RS]
- When setting the privacy area, the area can be set to a quadrilateral shape instead of a rectangle [v2.10.01, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, KNP-2120HN, XNP-6120H]
- Fixed the issue where the video was intermittently broken in some decoders [v2.10.02, XNB-9002, XNB-8002, XND-9082RV, XND-9082RF, XND-8082RV, XND-8082RF, XNV-9082R, XNV-8082R, XNO-9082R, XNO-8082R] [2.10.03, XNB-8002, XNB-9002, XND-8082RF, XND-8082RV, XND-9082RF, XND-9082RV, XNO-8082R, XNO-9082R, XNV-8082R, XNV-9082R]
- Adjusted the RTP Payload buffer to improve compatibility with specific NVRs [v2.10.02, XNB-9002, XNB-8002, XND-9082RV, XND-9082RF, XND-8082RV, XND-8082RF, XNV-9082R, XNV-8082R, XNO-9082R, XNO-8082R] [v2.10.02, QNP-6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-2320RH, KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-6371RH] [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02, XNO-6085] [v2.10.02, XNB-5000N, XNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW] [v2.10.02, XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02, KND-5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-8020RMN, XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-8080RV, XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-2010RN, XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-8040R] [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XNZ-6320] [v2.10.02, XNZ-L6320] [v2.10.02, XNO-6120] [v2.10.02, XNO-L6120R] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-8081FZ, XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-6081, XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-8081RV, XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R]

[v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R]
[v2.10.02, XND-L6080RVA, XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02,
QNF-8010] v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV,
XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-
4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNU-4041T, TNU-4051T] [v2.10.02, TNO-
3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA]
[v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-
6022RM] [2.10.03, XNB-8002, XNB-9002, XND-8082RF, XND-8082RV, XND-9082RF, XND-9082RV,
XNO-8082R, XNO-9082R, XNV-8082R, XNV-9082R]

- Improved Web UI for selecting TLS protocol version to use for encrypted communication [v2.10.02,
QNP-6230RH] [v2.10.02, XNP-6040H] [v2.10.02, KNP-2120HN, XNP-6120H] [v2.10.02, KNP-
2320RH, KNP-2320RHA, XNP-6250RH, XNP-6320RH] [v2.10.02, XNP-6341RH] [v2.10.02, XNP-
6371RH] [v2.10.02, KNP-2550RHA, XNP-6550RH] [v2.10.02, QNP-6230, QNP-6230H, XNP-6320,
XNP-6320H, XNP-6320HS, XNP-6321, XNP-6321H] [v2.10.02, XNB-6005, XNO-6085R] [v2.10.02,
XNO-6085] [v2.10.02, KNB-5000N, KNO-5080RN, XNB-8000, XNO-8080R, XNO-8080RW]
[v2.10.02, XND-6011F, XND-8020F] [v2.10.02, KND-2020RN, XND-6020R, XNV-6020R] [v2.10.02,
KND-5020RN, XND-8020R, XND-8020RW, XND-8030R, XND-8040R, XNV-8020R, XNV-
8020RMN, XNV-8020RMP, XNV-8030R, XNV-8040R] [v2.10.02, KND-5080RN, XND-8080R, XND-
8080RV, XND-8080RW, XNV-8080R, XNV-8080RS, XNV-8080RSA, XNV-8080RW] [v2.10.02, KNO-
2010RN, XNO-6010R, XNO-6020R] [v2.10.02, KNO-5020RN, XNO-8020R, XNO-8030R, XNO-
8040R] [v2.10.02, XND-6010, XNV-6010] [v2.10.02, XNZ-6320] [v2.10.02, XNZ-L6320] [v2.10.02,
XNO-6120] [v2.10.02, XNO-L6120R] [v2.10.02, XND-6081FZ, XND-6081VZ, XNV-6081Z, XND-
8081FZ, XND-8081VZ, XNV-8081Z] [v2.10.02, TNO-6010M] [v2.10.02, TNV-7010RC] [v2.10.02, XNV-
6081, XNV-6081R, XND-6081F, XND-6081RF, XND-6081RV, XND-6081V, XND-8081RF, XND-
8081RV, XNV-8081R] [v2.10.02, XND-L6020R] [v2.10.02, XNO-L6020R] [v2.10.02, XNO-L6085R]
[v2.10.02, XND-L6080R, XND-L6080RV, XND-L6080V, XNO-L6080R, XNV-L6080, XNV-L6080R]
[v2.10.02, XND-L6080RVA, XND-L6080VA, XNO-L6080RA, XNV-L6080A, XNV-L6080RA] [v2.10.02,
QNF-8010] v2.10.02, TNB-6030] [v2.10.02, XND-6081REV, XNV-6081RE] [v2.10.02, XND-8081REV,
XNV-8081RE] [v2.10.02, TNO-4030TR, TNO-4040TR, TNO-4041TR] [v2.10.02, TNO-4030T, TNO-
4040T, TNO-4041T, TNO-4050T, TNO-4051T] [v2.10.02, TNU-4041T, TNU-4051T] [v2.10.02, TNO-
3030T, TNO-3020T, TNO-3010T] [v2.10.02, TNO-3040T, TNO-3050T] [v2.10.02, XNO-6085RA]
[v2.10.02, XNO-L6085RA] [v2.10.02, XNV-6012, XNV-6012M, XNV-6013M, XNV-6022R, XNV-
6022RM]

- Added setting option to enable or disable simple focus function after [Day/Night] mode operation [v2.10.03, XNB-6000, XNB-8000]
- Changed the initial value of [Zoom speed] from [Fast] to [Medium] [v2.10.03, XNP-6371RH, XNP-6341RH]

Affected Products

Table 2. Product Family Based On Version 2.10.

| Major Model | Model Name |
|-------------|--|
| XNV-9082R | XNV-9082R XND-8082RV XND-9082RF XND-8082RF XNO-9082R XNB-8002 XNB-9002 XNV-8082R XND-9082RV XNO-8082R |
| XNF-9010RV | XNF-9010RV XNF-9010RVM XNF-9010RS |
| XNB-6000 | KNB-2000 KNO-2080RN XNB-6000 XNO-6080R XNO-6080RS |
| XNB-6001 | XNB-6001 |
| XND-6080R | KND-2080RN XND-6080 XND-6080R XND-6080RV XND-6080RW XND-6080V XND-K6080N XNV-6080 |

| Major Model | Model Name |
|-------------|---|
| | XNV-6080R XNV-6080RS XNV-6080RSA XNV-6080RW |
| XND-6085 | XND-6085 XND-6085V XNV-6085 |
| XNF-8010R | XNF-8010R XNF-8010RV XNF-8010RVM XNF-8010RVW XNF-8010RW |
| XNO-6120R | KNO-2120RN XNO-6120R XNO-6120RS XNV-6120 XNV-6120R XNV-6120RS |
| XNP-6320H | QNP-6230 QNP-6230H XNP-6320 XNP-6320H XNP-6320HS XNP-6321 XNP-6321H |
| XNV-6011 | XNV-6011 XNV-6011W |
| QNP-6230RH | QNP-6230RH |
| XNP-6040 | XNP-6040H |
| XNP-6120 | KNP-2120HN XNP-6120H |
| XNP-6320RH | KNP-2320RH |
| | KNP-2320RHA |
| | XNP-6250RH |
| | XNP-6320RH |
| XNP-6341RH | XNP-6341RH |

| Major Model | Model Name |
|-------------|-------------|
| XNP-6371RH | XNP-6371RH |
| XNP-6550RH | KNP-2550RHA |
| | XNP-6550RH |
| XNB-6005 | XNB-6005 |
| | XNO-6085R |
| XNO-6085 | XNO-6085 |
| XNB-8000 | KNB-5000N |
| | KNO-5080RN |
| | XNB-8000 |
| | XNO-8080R |
| | XNO-8080RW |
| XND-6011 | XND-6011F |
| | XND-8020F |
| XND-6020R | KND-2020RN |
| | XND-6020R |
| | XNV-6020R |
| XND-8020R | KND-5020RN |
| | XND-8020R |
| | XND-8020RW |
| | XND-8030R |
| | XND-8040R |
| | XNV-8020R |
| | XNV-8020RMN |
| | XNV-8020RMP |
| | XNV-8030R |
| | XNV-8040R |
| XND-8080R | KND-5080RN |
| | XND-8080R |
| | XND-8080RV |
| | XND-8080RW |
| | XNV-8080R |
| | XNV-8080RS |
| | XNV-8080RSA |

| Major Model | Model Name |
|-------------|------------|
| | XNV-8080RW |
| XNO-6020R | KNO-2010RN |
| | XNO-6010R |
| | XNO-6020R |
| XNO-8040R | KNO-5020RN |
| | XNO-8020R |
| | XNO-8030R |
| | XNO-8040R |
| XNV-6010 | XND-6010 |
| | XNV-6010 |
| XNZ-6320 | XNZ-6320 |
| XNZ-L6320 | XNZ-L6320 |
| XNO-6120 | XNO-6120 |
| XNO-L6120R | XNO-L6120R |
| XND-6081VZ | XND-6081FZ |
| | XND-6081VZ |
| | XNV-6081Z |
| | XND-8081FZ |
| | XND-8081VZ |
| | XNV-8081Z |
| TNO-6010M | TNO-6010M |
| TNV-7010RC | TNV-7010RC |
| XNV-6081 | XNV-6081 |
| | XNV-6081R |
| | XND-6081F |
| | XND-6081RF |
| | XND-6081RV |
| | XND-6081V |
| | XND-8081RF |
| | XND-8081RV |
| | XNV-8081R |
| XND-L6020R | XND-L6020R |
| XNO-L6020R | XNO-L6020R |

| Major Model | Model Name |
|----------------|--------------|
| XNO-L6085R | XNO-L6085R |
| XNV-L6080R | XND-L6080R |
| | XND-L6080RV |
| | XND-L6080V |
| | XNO-L6080R |
| | XNV-L6080 |
| | XNV-L6080R |
| XNV-L6080A_KME | XND-L6080RVA |
| | XND-L6080VA |
| | XNO-L6080RA |
| | XNV-L6080A |
| | XNV-L6080RA |
| QNF-8010 | QNF-8010 |
| TN-B6030 | TNB-6030 |
| XND-6081REV | XND-6081REV |
| | XNV-6081RE |
| XND-8081REV | XND-8081REV |
| | XNV-8081RE |
| TNO-4040TR | TNO-4030TR |
| | TNO-4040TR |
| | TNO-4041TR |
| TNO-4050T | TNO-4030T |
| | TNO-4040T |
| | TNO-4041T |
| | TNO-4050T |
| | TNO-4051T |
| TNU-4041T | TNU-4041T |
| | TNU-4051T |
| TNO-3030T | TNO-3030T |
| | TNO-3020T |
| | TNO-3010T |
| TNO-3050T | TNO-3040T |
| | TNO-3050T |

| Major Model | Model Name |
|-------------|-------------|
| XNO-6085RA | XNO-6085RA |
| XNO-L6085RA | XNO-L6085RA |
| XNV-6012 | XNV-6012 |
| | XNV-6012M |
| | XNV-6013M |
| | XNV-6022R |
| | XNV-6022RM |

HTW Network Camera Version 2.01

This document describes the new and changed features of Hanwha Techwin network camera version 2.01.

 Released on September 13, 2022

Common Features

[New Features]

- Supports LLDP [v2.01.02, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Supports to connect an external I/O box to the camera (The alarm input/out and audio input/output features can be used when I/O box is conned to camera) [v2.01.03, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- When setting the privacy area, the area can be set to a quadrilateral shape instead of a rectangle [v2.01.03, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Added [IR shift] option to [Focus save] function (When [IR shift] is enabled, the focus is moved to match the location of the saved focus on visible light) [v2.01.03, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Added a function to change the order where each privacy mask area is saved [v2.01.04, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250, XNP-6400R, XNP-6400] [v2.01.06, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Added a function to set the permission to control the PTZ for each user account [v2.01.04, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250, XNP-6400R, XNP-6400] [v2.01.06, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Supports SLA-T28XX lens [v2.01.03, PNM-9000QB]

Note: SLA-T28XX lenses are not supported if you downgrade the firmware to a version lower than 2.01.03. Change to an older lens or perform a factory reset before downgrading.

[Improvements]

- Changed SD file system default to EXT4 [v2.01.01, XNV-9082R, XND-8082RV, XND-9082RF, XND-

8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV-8082R, XND-9082RV, XNO-8082R]

- Enhanced stability of high capacity SD card [v2.01.01, XNV-9082R, XND-8082RV, XND-9082RF, XND-8082RF, XNO-9082R, XNB-8002, XNB-9002, XNV-8082R, XND-9082RV, XNO-8082R]
- Fixed an out-of-focus issue when zoom ratio reaches out 32x [v2.01.01, TNU-6321]
- Improved temperature display accuracy for subjects with high temperature in the [Estimated body temperature detection] mode [v2.01.01, TNM-3620TDY]
- Improved temperature display accuracy when compensating for temperature using blackbody in the [Estimated body temperature detection] mode [v2.01.01, TNM-3620TDY]
- Modified the firmware in accordance with the change of Gyro sensor module [v2.01.02, XNV-9082R] [v2.01.02, TNM-3620TDY] [v2.01.03, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Improved auto tracking performance [v2.01.03, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Downgrade to version 2.01.02 is not possible, if the firmware is updated to version 2.01.03. [v2.01.03, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Improved the issue of camera time failing to periodically sync with that of the NTP server [v2.01.02, TNM-3620TDY] [v2.01.04, XNP-9300RW, XNP-6400RW] [v2.01.02, XNP-9250R, XNP-6400R, TNU-6321] [v2.01.01, SPM-4210, TNV-8010C, TNF-1200, PNM-9000QB, PNM-8082VT, PNM-9022V] [v2.01.02, PNM-9000QB]
- Improved accuracy in displaying Fahrenheit temperature values [v2.01.02, TNM-3620TDY]
- Improved RTC driver setting error [v2.01.01, QNV-6012RG] [v2.01.02, QNV-6012RG]
- Improved the issue of camera time failing to periodically sync with that of the NTP server [v2.01.01, QNV-6012RG]
- Renewed UL CAP (Cybersecurity Assurance Program) authentication [v2.01.05, XNP-9300RW, XNP-8300RW, XNP-6400RW] [v2.01.03, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250, XNP-6400R, XNP-6400] [v2.01.07, XNP-9300RW, XNP-8300RW] [v2.01.10, XNP-6400RW] [v2.01.05, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250] [v2.01.06, XNP-6400R, XNP-6400]
- Adjusted the RTP Payload buffer to improve compatibility with specific NVRs [v2.01.04, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250, XNP-6400R, XNP-6400] [v2.01.06, XNP-9300RW, XNP-8300RW, XNP-6400RW]
- Reflected improvement in manufacturing and process efficiency (no impact on users and product usability) [v2.01.01, XNP-9300RWG, XNP-8300RWG, XNP-6400RWG] [v2.01.02, XNP-9300RWG, XNP-8300RWG, XNP-6400RWG]

- Added function that goes back to the "Set home" automatically if the Digital PTZ function is not being used during setup [v2.01.11, TNF-9010]
- Added a caution message about using the [Set home] button on the setup web page [v2.01.11, TNF-9010]
- Improved PTZ response when controlling PTZ with ONVIF [v2.01.07, XNP-9300RW, XNP-8300RW] [v2.01.10, XNP-6400RW] [v2.01.05, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250] [v2.01.06, XNP-6400R, XNP-6400] [v2.01.02, XNP-9300RWG, XNP-8300RWG] [v2.01.03, XNP-6400RWG]

[Bug fixes]

- Fixed timestamp errors [v2.01.01, TNU-6322E, TNU-6322ER] [v2.01.01, TNO-6322ER] [v2.01.03, TNU-6321] [v2.01.07, XNP-9300RW, XNP-8300RW] [v2.01.10, XNP-6400RW] [v2.01.05, XNP-9250R, XNP-9250, XNP-8250R, XNP-8250] [v2.01.06, XNP-6400R, XNP-6400] [v2.01.02, XNP-9300RWG, XNP-8300RWG] [v2.01.03, XNP-6400RWG]

Affected Products

Table 3. Product Family Based On Version 2.01.

| Major Model | Model Name |
|-------------|--|
| XNV-9082R | XNV-9082R XND-8082RV XND-9082RF XND-8082RF XNO-9082R XNB-8002 XNB-9002 XNV-8082R XND-9082RV XNO-8082R |
| TNU-6321 | TNU-6321 |
| XNP-9300RW | XNP-9300RW XNP-8300RW XNP-6400RW |
| TNM-3620TDY | TNM-3620TDY |
| XNP-9250R | XNP-9250R |

| Major Model | Model Name |
|-------------|--|
| | XNP-6400R XNP-9250 XNP-8250R XNP-8250 XNP-6400 |
| SPM-4210 | SPM-4210 |
| TNV-8010C | TNV-8010C |
| TNF-1200 | TNF-1200 |
| TNF-9010 | TNF-9010 |
| PNM-9000QB | PNM-9000QB |
| PNM-8082VT | PNM-8082VT |
| PNM-9022V | PNM-9022V |
| XNP-9300RWG | XNP-9300RWG XNP-8300RWG XNP-6400RWG |
| TNO-6322ER | TNO-6322ER |
| TNU-6322ER | TNU-6322E TNU-6322ER |

HTW Network Camera Version 1.41

This document describes the new and changed features of Hanwha Techwin network camera version 1.41.

 Released on September 29, 2022

Common Features

[New Features]

- Supports Open Platform event: NUC Active state [1.41.02, TNO-3010T, TNO-3020T, TNO-3030T]
- Updated to ANPR application version 2.16 (application version is shown in the [Open Platform] menu) [v1.41.02, XNO-L6085RA, XNO-6085RA]
- After a factory reset, the motion detection setting is enabled by default [v1.41.02, QNV-6024RM, QNV-6023R] [v1.41.11, LNO-6072R, LND-6012R, LNO-6032R, LNV-6032R, LND-6022R, LND-6072R, LNO-6022R, LNV-6012R, LNV-6072R, LND-6032R, LNV-6022R, LNO-6012R]
- Analyzes after sorting age groups and gender when linking with Retail Insight [v1.41.02, PNO-A9081R, PND-A9081RV, PND-A9081RF, PNV-A9081R, PNB-A9001]
- Supports the function of uploading and playing back audio clip [v1.41.02, PNO-A9081R, PND-A9081RV, PND-A9081RF, PNV-A9081R, PNB-A9001]
- Analyzes after sorting age groups and gender when linking with Retail Insight [v1.41.02, PNO-A9081R, PND-A9081RV, PND-A9081RF, PNV-A9081R, PNB-A9001]
- Supports the function of uploading and playing back audio clip [v1.41.02, PNO-A9081R, PND-A9081RV, PND-A9081RF, PNV-A9081R, PNB-A9001]
- Added face mask detection function [v1.41.03, PNO-A9081R, PNB-A9001]
- Added mask attributes in AI metadata [v1.41.03, PNO-A9081R, PNB-A9001]
- [Social distancing detection] function added [v1.41.05, PNO-A9081R, PNB-A9001]
- SLA-C-I3910 lens additionally supported [v1.41.05, PNB-A9001]
- Added Dynamic FPS Function [v1.41.01, ANO-L6012R, ANO-L6022R, ANV-L6012] [v1.41.02, ANE-L6012R, ANO-L6082R, ANV-L6082R]
- Added option to grant user permission to access and set settings on [Video profile], [Camera

setup], and [Video and focus setup] ([Video setup] for models that do not support focus function)
pages [v1.41.13, QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R,
QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QNO-6072R, QND-6072R, QNV-6072R,
QNV-6082R, QND-6082R, QND-6011, QND-6021]

[Improvements]

- Improved motion detection sensitivity. [1.41.01 QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021, QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021, LNO-6072R, LND-6012R, LNO-6032R, LNV-6032R, LND-6022R, LND-6072R, LNO-6022R, LNV-6012R, LNV-6072R, LND-6032R, LNV-6022R, LNO-6012R]
- Fixed an issue where HTTPS behavior error in Chrome browser version 80. [1.41.01 QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021, QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021, LNO-6072R, LND-6012R, LNO-6032R, LNV-6032R, LND-6022R, LND-6072R, LNO-6022R, LNV-6012R, LNV-6072R, LND-6032R, LNV-6022R, LNO-6012R]
- Changed the default value of Flip / Mirror for the Flat Eye model. [1.41.01 QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021]
- Modified the distance range of auto focus in [Quick Focus] mode [1.41.02 QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021, QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021]

- Supports the original image of Open Platform in the Hallway view mode [1.41.02, TNO-3010T, TNO-3020T, TNO-3030T]
- Supports Stratocast [1.41.10, LNO-6072R, LND-6012R, LNO-6032R, LNV-6032R, LND-6022R, LND-6072R, LNO-6022R, LNV-6012R, LNV-6072R, LND-6032R, LNV-6022R, LNO-6012R, QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021]
- Added a function to configure the administrator account ID [v1.41.03, PNM-9030V]
- Applied Genetec requests regarding Audio track and audio multicast [v1.41.03, PNM-9030V]
- Supports two more types of lenses (THEIA-SL410P/SL1250P) [v1.41.02, PNB-A9001]
- Supports four highest resolution modes (32M, 24M, 15M, 8M) [v1.41.01, TNB-9000]
- Supports 4K video output on the Live screen of Web Viewer [v1.41.01, TNB-9000]
- Fixed an issue where network IP and DNS settings were changed after firmware update [v1.41.04, PNM-9030V]
- Adjusted the size of QVGA IR sensor window [v1.41.03, TNO-3030T, TNO-3020T, TNO-3010T]
- Improved audio sensitivity of the internal microphone [1.41.10, QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021], [1.41.02, QNB-8002]
- 4 mega camera mode supports 16:9 resolution (2560*1440, 320*240 or 320*180) [1.41.03, QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021], [1.41.02, QNB-8002]
- Modified the firmware in accordance with the change of Gyro sensor module [v1.41.02, QNP-6230RH] [v1.41.01, XNO-L6085R, XNO-L6085RA, XNO-6085RA, XND-6081REV, XND-8081REV] [v1.41.03, XNP-6320HG, XNP-6371RHG01] [v1.41.02, XNP-6320RHG] [v1.41.01, XNP-6341RH]
- Improved RTC driver setting error [v1.41.02, QNV-6025RM]
- Improved the issue of camera time failing to periodically sync with that of the NTP server [v1.41.02, QNV-6025RM]

- Supports ONVIF Test Tool v20.06 [1.41.03, XNP-6320HG] [1.41.02, XNP-6320RHG] [v1.41.01, XNO-L6120RG, XND-8080RG, XNO-6120RG] [v1.41.03, XNO-6120RG]
- Logs are provided when changing presets in [Camera setup] [1.41.11 QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QND-6083R, QNO-6072R, QNV-6072R, QND-6072R, QND-6073R, QNV-6083R, QNV-6082R, QNO-6073R, QNV-6073R, QNO-6083R, QND-6082R, QND-6011, QND-6021] [1.41.04 QNO-8080R, QNV-8010R, QNO-8010R, QNV-8020R, QND-8020R, QND-8010R, QND-8030R, QNV-8030R, QNO-8020R, QNV-8080R, QND-8080R, QNO-8030R, QNE-8011R, QNE-8021R, QND-8011, QND-8021] [1.41.12 QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QND-6083R, QNO-6072R, QNV-6072R, QND-6072R, QND-6073R, QNV-6083R, QNV-6082R, QNO-6073R, QNV-6073R, QNO-6083R, QND-6082R, QND-6011, QND-6021]
- Improved compatibility with NVR [1.41.11 QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QND-6083R, QNO-6072R, QNV-6072R, QND-6072R, QND-6073R, QNV-6083R, QNV-6082R, QNO-6073R, QNV-6073R, QNO-6083R, QND-6082R, QND-6011, QND-6021] [1.41.04 QNO-8080R, QNV-8010R, QNO-8010R, QNV-8020R, QND-8020R, QND-8010R, QND-8030R, QNV-8030R, QNO-8020R, QNV-8080R, QND-8080R, QNO-8030R, QNE-8011R, QNE-8021R, QND-8011, QND-8021] [1.41.12 QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QND-6083R, QNO-6072R, QNV-6072R, QND-6072R, QND-6073R, QNV-6083R, QNV-6082R, QNO-6073R, QNV-6073R, QNO-6083R, QND-6082R, QND-6011, QND-6021]
- Modified the firmware in accordance with the change of a real-time clock IC (RTC IC) [v1.41.04, XNP-6320HG]
- Adjusted the RTP Payload buffer to improve compatibility with specific NVRs [v1.41.02, QNV-6024RM, QNV-6023R] [v1.41.11, LNO-6072R, LND-6012R, LNO-6032R, LNV-6032R, LND-6022R, LND-6072R, LNO-6022R, LNV-6012R, LNV-6072R, LND-6032R, LNV-6022R, LNO-6012R] [v1.41.01, XNB-6000G01, XNP-6120HG] [1.41.02, KND-5080RG, XNO-6120RG] [v1.41.03, XNP-6320RHG, XNO-L6120RG] [v1.41.04, XND-6080RG, XND-6080RG01, XNO-6080RG, XNO-6080RG01, XNO-6085RG, XNO-6085RG01] [v1.41.06, XNO-6085RG] [v1.41.05, XNP-6302HG, XNP-6371RHG01]
- Supports two more types of lenses (THEIA-SL410P/SL1250P) [v1.41.02, PNB-A9001]
- Fixed an issue that does not send metadata when BestShot is disabled [v1.41.04, PNO-A9081R,

PNB-A9001]

- [Handover] function added to [Object detection] settings [v1.41.05, PNO-A9081R, PNB-A9001]
- [No. of people] and [Occupancy] parameters added to [Queue management] function [v1.41.05, PNO-A9081R, PNB-A9001]
- The Open Platform API 'Upload File Data' and 'App Command 2' have been added, and the overall API execution speed has been improved [v1.41.02, PNB-A9001LP, PNO-A9081RLP, PNV-A9081RLP]
- Fixed an error in the Open Platform API opensdk_getMountSize when mounting ext4 format SD card [v1.41.02, PNB-A9001LP, PNO-A9081RLP, PNV-A9081RLP]

[Bug fixes]

- Fixes a problem that occurs when the camera integrates with Retail Insight. [1.41.00 QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021, QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021]
- Fixed an error where the pan does not reset when the pan is driven more than 3,000 times in one direction and out of step. [1.41.01 QNP-6230RH]
- Fixed an issue where the size of the object is not set in the motion detection when [Hallway view] is set to [90] or [270]. [v1.41.01, TNO-3030T]
- Improved the camera booting issue incurred by memory leak [v1.41.02, XNO-L6085RA, XNO-6085RA]
- Improved the issue of camera failing to boot due to Gyro sensor recognition error [v1.41.02, XNO-6085RA]
- Fixed the problem that if a smart codec is set while a profile that does not support smart codec is being played, the smart codec setting is applied even to a profile that does not support smart codec [1.41.11 QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QND-6083R, QNO-6072R, QNV-6072R, QND-6072R, QND-6073R, QNV-6083R, QNV-6082R, QNO-6073R, QNV-6073R, QNO-6083R, QND-6082R, QND-6011, QND-6021] [1.41.04 QNO-8080R, QNV-8010R, QNO-8010R, QNV-8020R,

QND-8020R, QND-8010R, QND-8030R, QNV-8030R, QNO-8020R, QNV-8080R, QND-8080R, QNO-8030R, QNE-8011R, QNE-8021R, QND-8011, QND-8021] [1.41.12 QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QND-6083R, QNO-6072R, QNV-6072R, QND-6072R, QND-6073R, QNV-6083R, QNV-6082R, QNO-6073R, QNV-6073R, QNO-6083R, QND-6082R, QND-6011, QND-6021]

- Fixed issue of IR setting option not being visible on the camera setting menu [1.41.02, XNO-L6120RG]
- Fixed the problem that the Wisenet logo and online help icon were not visible in the camera web viewer [v1.41.05, XND-6080RG, XNO-6080RG, XNO-6085RG]
- Fixed timestamp errors [v1.41.01, PNB-A9001LP] [v1.41.01, PNO-A9081RLP, PNV-A9081RLP, PND-A9081RLP, PND-A9081RVLP, PND-A9081RFLP]
- Fixed a problem that the NTP server time was not reset to match the changed NTP server when the NTP server address setting was changed [v1.41.03, QNO-7082R] [v1.41.02, QNO-6084R] [v1.41.13, QND-6012R, QNO-6012R, QNV-6032R, QND-6022R, QNV-6012R, QND-6032R, QNO-6022R, QNO-6032R, QNV-6022R, QNO-6082R, QNO-6072R, QND-6072R, QNV-6072R, QNV-6082R, QND-6082R, QND-6011, QND-6021]
- Fixed an issue that, when [Video Rotation]'s [Hallway View] option is set to [90°] or [270°] and one of the [Flip] or [Mirror] options had been applied, the [Overlay] which displays the locations detected in IVA malfunctions. [v1.41.01, ANO-L7012R, ANO-L7022R, ANV-L7012R] [v1.41.01, ANE-L7012R, ANO-L7082R, ANV-L7012R]

Note: On the ANO-L7012R, ANO-L7022R, and ANV-L7012R models, be sure to reset [Image preset mode] on the [Camera setup] page or perform a factory reset on the [Upgrade/Restart] page after upgrading from version 1.41.00 to another version.

Security Improvements

- Applied the X Series 1.4 software patch for security enhancement. [1.41.00 QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021]
 - Added a function to control Pan and Tilt individually in [Setup] > [Video & Audio] > [PTRZ Setup].
 - Added a function to configure the administrator account ID (admin).

- Added a function to configure the MTU (Maximum Transmission Unit) size between 1,280 and 1,500 in [Setup] > [Basic] > [IP & Port] > [IP address].
- Added the [Change host name] option to use the Common Name of a unique certificate instead of the host name of the camera, when the secure connection system is to HTTPS (Secure connection mode using a unique certificate).
- Improved motion detection algorithm to increase the detection rate of recognize objects.
- Changed the Moscow time zone from UTC+4 to UTC+3.
- Allowed to use special characters (spaces # * + - / () _ ,) for the camera OSD title in [Setup] > [Video & Audio] > [Camera Settings] > [OSD].
- Supported for using TL-WN823N (v2, v3) as a Wi-Fi dongle.
- Fixed an issue where the system restarts intermittently more than 49 days after starting the camera system.
- Added function to send email about the account lockout event to administrators if login fails more than 5 consecutive times (SMTP email must be enabled). [v1.41.03, PNM-9030V]
- Added encryption function to use SD card after authentication with password when saving video to SD card. [v1.41.05, PNM-9030V]
- Applied X series 3rd and 4th changes [v1.41.02, PNO-A9081R, PND-A9081RV, PND-A9081RF, PNV-A9081R, PNB-A9001]
 - Saves sensitive information (password) in plain text
 - Executes system command using SNMP setup logic
 - Uses a low version of the net-snmp open source
 - Cannot enter snmp community string special characters
 - Uses the 3DES Cipher suite during the communication through TLS encryption

Protocol Improvements

- Supports ONVIF Profile T (with ONVIF protocol to delete the default video profile). [v1.41.03, PNM-9030V]

Open Platform Version 3.52 Patch

- Added NUC Active state event for Thermal cameras (The version 3.52 patch file should be installed in the Open Platform SDK with the 3.52 version installed.). [1.41.02, TNO-3010T, TNO-3020T, TNO-3030T]

Affected Products

Table 4. Product Family Based On Version 1.41

| Major Model | Model Name |
|-------------|---|
| XNP-6320RH | QNP-6230RH |
| TNO-3030T | TNO-3030T TNO-3020T TNO-3010T |
| QNO-6082R | QNO-6072R QNO-6073R QNO-6082R QNO-6083R QND-6072R QND-6073R QND-6082R QND-6083R QNV-6072R QNV-6073R QNV-6082R QNV-6083R QND-6012R QND-6022R QND-6032R QNO-6012R QNO-6022R QNO-6032R QNV-6012R QNV-6022R QNV-6032R QND-6011 QND-6021 |


| Major Model | Model Name |
|-------------|--|
| QNO-8080R | QNO-8010R QNO-8020R QNO-8030R QNO-8080R QNV-8010R QNV-8020R QNV-8030R QNV-8080R QND-8010R QND-8020R QND-8030R QND-8080R QNE-8011R QNE-8021R QND-8011 QND-8021 |
| LNO-6072R | LNO-6072R LND-6012R LNO-6032R LNV-6032R LND-6022R LND-6072R LNO-6022R LNV-6012R LNV-6072R LND-6032R LNV-6022R LNO-6012R |
| PNM-9030V | PNM-9030V |
| TNB-9000 | TNB-9000 |
| QNB-8002 | QNB-8002 |
| XNO-L6085R | XNO-L6085R |
| XNO-L6085RA | XNO-L6085RA |
| XNO-6085RA | XNO-6085RA |
| XND-6081REV | XND-6081REV |
| XND-8081REV | XND-8081REV |
| XNP-6320HG | XNP-6320HG |

| Major Model | Model Name |
|---------------|--|
| XNP-6320RHG | XNP-6320RHG |
| XNP-6371RHG01 | XNP-6371RHG01 |
| QNV-6025RM | QNV-6025RM |
| XNP-6341RH | XNP-6341RH |
| XNO-L6120RG | XNO-L6120RG |
| QNV-6024RM | QNV-6024RM QNV-6023R |
| XNB-6000G01 | XNB-6000G01 |
| XNP-6120HG | XNP-6120HG |
| KND-5080RG | KND-5080RG |
| XNO-6120RG | XNO-6120RG |
| XNP-6320RHG | XNP-6320RHG |
| XNO-L6120RG | XNO-L6120RG |
| XND-6080RG | XND-6080RG |
| XND-6080RG01 | XND-6080RG01 |
| XNO-6080RG | XNO-6080RG |
| XNO-6080RG01 | XNO-6080RG01 |
| XNO-6085RG | XNO-6085RG |
| XNO-6085RG01 | XNO-6085RG01 |
| XNP-6302HG | XNP-6302HG |
| XNP-6371RHG01 | XNP-6371RHG01 |
| PNO-A9081R | PNO-A9081R PND-A9081RV PND-A9081RF PNV-A9081R PNB-A9001 |
| PNO-A9081RLP | PNO-A9081RLP PNV-A9081RLP PND-A9081RLP PND-A9081RVLP PND-A9081RFLP |
| PNB-A9001LP | PNB-A9001LP |
| QNO-7082R | QNO-7082R |
| QNO-6084R | QNO-6084R |
| ANO-L6012R | ANO-L6012R ANO-L6022R ANV-L6012R |

| Major Model | Model Name |
|-------------|--|
| ANO-L6012R | ANE-L6012R ANO-L6082R ANV-L6082R |
| ANO-L6012R | ANO-L7012R ANO-L7022R ANV-L7012R |
| ANO-L6012R | ANE-L7012R ANO-L7082R ANV-L7012R |

HTW Network Camera Version 1.40

This document describes the new and changed features of Hanwha Techwin network camera version 1.40.

 Released on June 24, 2022

Common Features

[New Features]

- Added a function to control Pan and Tilt individually in [Setup] > [Video & Audio] > [PTRZ Setup].
- Added a function to configure the administrator account ID (admin).
- Added a function to configure the MTU (Maximum Transmission Unit) size between 1,280 and 1,500 in [Setup] > [Basic] > [IP & Port] > [IP address].
- Added a [Set pan ground position] function to set the current pan angle to zero degrees in [Setup] > [PTZ] > [PT limit]. [v1.40.00, XNP-6120H, XNP-6371RH, XNP-6550RH, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6320RH, XNP-6250RH] [v1.40.04, XNP-6321, XNP-6321H]
- Added a [Location setup] function that enables you to set to display direction information on the camera video. [v1.40.00, XNP-6120H, XNP-6040H, XNP-6371RH, XNP-6550RH, XNP-6320, XNP-6320H, XNP-6320HS, XNP-6320RH, XNP-6250RH] [v1.40.04, XNP-6321, XNP-6321H]
- Added an overlay option to display azimuth over the camera images in [Setup] > [Video & Audio] > [Camera Settings] > [OSD]. (PTZ cameras)
- Added a function to set up a trace using a preset already specified in [Setup] > [PTZ] > [PTZ setup] > [Trace]. (PTZ cameras)
- Added the [Change host name] option to use the Common Name of a unique certificate instead of the host name of the camera, when the secure connection system is to HTTPS (Secure connection mode using a unique certificate).
- Added the [Event activation time] function so that the people counting events are only received on a specific schedule in [Setup] > [Statistics] > [People counting] > [Setup]. (People counting supported cameras)
- Added a Rainbow 2 mode to the color palette. (Add purple to existing Rainbow mode) [1.40.02]
- Supports Open Platform event: NUC Active state [1.40.05 TNO-4030T, TNO-4040T, TNO-4041T,

TNO-4050T, TNO-4051T, TNU-4041T, TNU-4051T, TNO-4030TR, TNO-4040TR, TNO-4041TR]

- Added a slide show function, which plays a slide show on the monitor screen [1.40.03, TNB-6030]
- Enabled the [CVBS] option in the camera Web viewer [1.40.04, XNV-8081R, XND-8081RV, XND-8081RF]
- Default value of [Face detection] is set to off [1.40.05, TNB-6030, TNB-6031]
- Default value of [OSD] is set to off [1.40.05, TNB-6030, TNB-6031]

[Improvements]

- Improved motion detection algorithm to increase the detection rate of recognized objects.
- Changed the Moscow time zone from UTC+4 to UTC+3.
- Allowed to use special characters (spaces # * + - / () _ ,) for the camera OSD title in [Setup] > [Video & Audio] > [Camera Settings] > [OSD].
- Supported for using TL-WN823N (v2, v3) as a Wi-Fi dongle.
- Increased the maximum number of multicast connections from 20 to 128. (PTZ cameras)
- Increased the maximum number of privacy areas from 24 to 32. (PTZ cameras)
- Changed the default WDR level for WDR mode from Medium to High. [1.40.02]
- Modified the distance range of auto focus in [Quick Focus] mode [1.40.03, XNO-L6080R, XNV-L6080, XNV-L6080R, XND-L6080V, XND-L6080R, XND-L6080RV, XNO-L6080RA, XNV-L6080A, XNV-L6080RA, XND-L6080VA, XND-L6080RVA]
- Supports the original image of Open Platform in the Hallway view mode [1.40.05 TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T, TNU-4041T, TNU-4051T, TNO-4030TR, TNO-4040TR, TNO-4041TR]
- Fixed an issue where focus was lost when restoring settings using the setting backup file of a camera of the same model [1.40.03 XNO-6080R, XNB-6000, XND-6080, XND-6080R, XNV-6080, XNV-6080R, XND-6080V, XND-6080R, XNF-8010R, XNF-8010RV, XNF-8010RVM]
- Fixed an issue where the F-number value changed when simple focus was activated after setting the F-number in Iris manual mode [1.40.03 XNO-6080R, XNB-6000, XND-6080, XND-6080R, XNV-6080, XNV-6080R, XND-6080V, XND-6080RV]
- Fixed a case where no sound may be heard when setting ANR (audio noise reduction) [1.40.04, XNV-6080, XNV-6080R, XND-6080, XND-6080R, XND-6080V, XND-6080RV, XNF-8010R, XNF-

8010RV, XNF-8010RVM]

- Modified the firmware in accordance with the change of Gyro sensor module [v1.40.03, XND-6081RV, XND-8081RV, TNV-7010RC, XNZ-6320, XNP-6120H, XNP-6550RH, XNP-6371RH, XNP-6320, XNP-6320RH, XNP-6320RH, XNP-6250RH, XND-6085]
- Enhanced the stability of open application [1.40.04, XNB-6000, XNO-6080R] [1.40.03, XNB-6005, XNO-6085R, XNB-8000, XNO-8080R]
- Supports ONVIF Test Tool v20.06 [1.40.02, XNP-6040HG] [v1.40.04, XNP-6040HG]
- Modified the firmware in accordance with the change of a real-time clock IC (RTC IC) [v1.40.05, QNP-6230, XNP-6321H, QNP-6230H, XNP-6320H, XNP-6320, XNP-6321, XNP-6320HS]
- Adjusted the RTP Payload buffer to improve compatibility with specific NVRs [v1.40.02, XNV-6080RG] [v1.40.03, XNP-6040HG]

[Bug fixes]

- Fixed an issue where the system restarts intermittently more than 49 days after starting the camera system.
- Fixed an issue where the camera system restarts intermittently when installing certificates in [HTTPS] or [802.1x]. [1.40.02]
- Fixed an issue where the detected face area is not displayed in the video when a face detection event occurs. [1.40.02]
- Fixed an issue where the alarm inputs do not work properly when setting multiple alarm inputs. [1.40.02]
- Fixed an issue where fast-forward and fast-backward do not work properly when playing video recorded with MJPEG on the web viewer. [1.40.02]
- Fixed an issue where the size of the object is not set in the motion detection when [Hallway view] is set to [90] or [270]. [v1.40.04, TNO-4050T, TNO-4040TR, TNU-4051T]
- Fixed an issue where the detected area was not displayed in HDMI video when detecting a face after power was supplied for the first time. [v1.40.04, TNB-6030]
- Fixed an issue where the lens did not return to its previous position intermittently after initializing the lens. [v1.40.03, XNP-6320RH, XNP-6250RH]
- Fixed issue of IR setting option not being visible on the camera setting menu [1.40.05, XNO-

L6120R]

- Fixed issue of moving to PTZ preset location and moving to home functions when PTZ is in motion. [1.40.05, XNO-L6120R]

Security Improvements

- Revised security vulnerability by filtering special characters. [1.40.02]

Open Platform Version 3.52 Patch

- Added NUC Active state event for Thermal cameras (The version 3.52 patch file should be installed in the Open Platform SDK with the 3.52 version installed.). [1.40.05 TNO-4030T, TNO-4040T, TNO-4041T, TNO-4050T, TNO-4051T, TNU-4041T, TNU-4051T, TNO-4030TR, TNO-4040TR, TNO-4041TR]

Affected Products

Table 5. Product Family Based On Version 1.40

| Major Model | Model Name |
|-------------|-------------------------|
| XNB-6000 | XNB-6000 KNB-2000 |
| XNB-6001 | XNB-6001 |
| XNB-6005 | XNB-6005 |
| XNB-8000 | XNB-8000 KNB-5000N |
| XND-6010 | XND-6010 |
| XND-6011F | XND-6011F |
| XND-6020 | KND-2020RN |
| XND-6020R | XND-6020R |
| XND-6080 | XND-6080 XND-K6080N |
| XND-6080R | XND-6080R KND-2080RN |

| Major Model | Model Name |
|-------------|---|
| XND-6080RV | XND-6080RV |
| XND-6080V | XND-6080V |
| XND-6081RV | XND-6081V XND-6081RV XNV-6081 XNV-6081R XND-6081RF XND-6081F |
| XND-6085 | XND-6085 |
| XND-6085V | XND-6085V |
| XND-8020F | XND-8020F |
| XND-8020R | KND-5020RN XND-8020R XND-8020RW |
| XND-8030R | XND-8030R |
| XND-8040R | XND-8040R |
| XND-8080R | KND-5080RN XND-8080R XND-8080RW |
| XND-8080RV | XND-8080RV |
| XND-8081RV | XND-8081RV XNV-8081R XNV-8081 XND-8081RF |
| XND-L6020R | XND-L6020R |
| XND-L6080R | XND-L6080R |
| XND-L6080RV | XND-L6080RV |
| XND-L6080V | XND-L6080V |
| XNF-8010R | XNF-8010R XNF-8010RW |
| XNF-8010RV | XNF-8010RV XNF-8010RVW |
| XNF-8010RVM | XNF-8010RVM |
| XNO-6010R | XNO-6010R KNO-2010RN |
| XNO-6120R | XNO-6020R |


| Major Model | Model Name |
|-------------|--|
| | KNO-2120RN |
| XNO-6080R | XNO-6080R XNO-6080RA KNO-2080RN |
| XNO-6080RS | XNO-6080RS |
| XNO-6085R | XNO-6085R |
| XNO-6120R | XNO-6120R KNO-2120RN |
| XNO-6120RS | XNO-6120RS |
| XNO-8020R | XNO-8020R KNO-5020RN |
| XNO-8030R | XNO-8030R |
| XNO-8040R | XNO-8040R |
| XNO-8080R | XNO-8080R XNO-8080RW KNO-5080RN |
| XNO-L6020R | XNO-L6020R |
| XNO-L6120R | XNO-L6120R |
| XNP-6040H | XNP-6040H |
| XNP-6120H | XNP-6120H KNP-2120HN |
| XNP-6320 | XNP-6320 QNP-6230 QNP-6230H XNP-6321 XNP-6321H |
| XNP-6320H | XNP-6320H |
| XNP-6320HS | XNP-6320HS |
| XNP-6320RH | XNP-6320RH XNP-6250RH |
| XNP-6371RH | XNP-6371RH |
| XNP-6550RH | XNP-6550RH |
| XNV-6010 | XNV-6010 |
| XNV-6011 | XNV-6011 XNV-6011W |
| XNV-6012 | XNV-6012 |
| XNV-6012M | XNV-6012M |

| Major Model | Model Name |
|-------------|---|
| XNV-6013M | XNV-6013M |
| XNV-6020R | XNV-6020R |
| XNV-6022R | XNV-6022R |
| XNV-6022RM | XNV-6022RM |
| XNV-6080 | XNV-6080 |
| XNV-6080R | XNV-6080R |
| XNV-6080RS | XNV-6080RS |
| XNV-6081Z | XNV-6081Z XND-6081VZ XND-6081FZ |
| XNV-6085 | XNV-6085 |
| XNV-6120 | XNV-6120 |
| XNV-6120R | XNV-6120R |
| XNV-6120RS | XNV-6120RS |
| XNV-8020R | XNV-8020R |
| XNV-8020RM | XNV-8020RMN XNV-8020RMP |
| XNV-8030R | XNV-8030R |
| XNV-8040R | XNV-8040R |
| XNV-8080R | XNV-8080R XNV-8080RW |
| XNV-8080RS | XNV-8080RS |
| XNV-8081Z | XNV-8081Z XND-8081VZ XND-8081FZ |
| XNV-L6080 | XNV-L6080 XNO-L6080R |
| XNV-L6080A | XNO-L6080RA XND-L6080RVA XNV-L6080RA XND-L6080VA XNV-L6080A |
| XNV-L6080R | XNV-L6080R |
| XNZ-6320 | XNZ-6320 |
| TNV-7010RC | TNV-7010RC |
| TNB-6030 | TNB-6030 TNB-6031 |

| Major Model | Model Name |
|-------------|---|
| TNO-6010M | TNO-6010M |
| TNO-4050T | TNO-4030T TNO-4040T TNO-4050T TNO-4041T TNO-4051T |
| TNO-4040TR | TNO-4030TR TNO-4040TR TNO-4041TR |
| TNU-4051T | TNU-4041T TNU-4051T |
| XNP-6040HG | XNP-6040HG |
| XNO-L6120RG | XNO-L6120RG |
| XNV-6080RG | XNV-6080RG |
| XNP-6040HG | XNP-6040HG |

HTW Network Camera Version 1.30

This document describes the new and changed features of Hanwha Techwin network camera version 1.30.

 Released on JUL 02, 2019

Caution

- Please note that you need to follow the steps below when you upgrade to 1.30 version from previous versions. [TNO-4050T, TNO-4051T, TNO-4040T, TNO-4041T, TNO-4030T, TNU-4041T, TNU-4051T]
 - 1) Upgrade to the bridge firmware. (Please do not use this version firmware other than upgrade purpose. We cannot guarantee anything with this version firmware)
 - 2) Upgrade to version 1.30 or later.
 - Please note that OSD configuration values will be reset when you upgrade 1.30 version from previous versions. [TNO-4050T, TNO-4051T, TNO-4040T, TNO-4041T, TNO-4030T, TNU-4041T, TNU-4051T]
 - Please note that OSD font change in all resolutions is not supported and OSD is not supported in 320x240 resolution from the version 1.30 or later. [TNO-4050T, TNO-4051T, TNO-4040T, TNO-4041T, TNO-4030T, TNU-4041T, TNU-4051T]
 - Please note that firmware downgrade from version 1.30 or later to lower version is not allowed. [TNO-4050T, TNO-4051T, TNO-4040T, TNO-4041T, TNO-4030T, TNU-4041T, TNU-4051T]
- Please note that downgrading to a version earlier than 1.30.01 may cause the following constraints [1.30.01 XNP-6320, XNP-6320H, XNP-6320HS, XNP-6371RH]:
 - More than 25 privacy zones can not be deleted or modified.
 - If the camera name contains special characters (space # * + - / () ,), you can not delete or modify the camera name.

Please fix them before downgrading the system, or reset the system to factory default with [Except network parameter & open platform] selected.

Common Features

[New Features]

- Added a handover function in accordance with temperature detection event. [TNO-4050T, TNO-4051T, TNO-4040T, TNO-4041T, TNO-4030T, TNU-4041T, TNU-4051T, TNO-4030TR, TNO-4040TR, TNO-4041TR]

[Improvements]

- Supported a production automation function (nothing changed in user perspective). [1.30.01]
- Added a [Set pan ground position] function under [Setup] > [PTZ] > [PTlimit] to set the current pan angle to zero degrees. [1.30.01 XNP-6320, XNP-6320H, XNP-6320HS, XNP-6371RH]
- Increased the maximum number of privacy areas from 24 to 32. [1.30.01 XNP-6320, XNP-6320H, XNP-6320HS, XNP-6371RH]
- Increased the maximum number of multicast connections from 20 to 128. [1.30.01 XNP-6320, XNP-6320H, XNP-6320HS, XNP-6371RH]
- Allowed a user to use special characters (space # * + - / () _ ,) as camera name under [Setup] > [Camera setup] > [OSD] > [Title overlay]. [1.30.01 XNP-6320, XNP-6320H, XNP-6320HS, XNP-6371RH]
- Added a function to save the predefined preset paths when setting the trace path for auto tracking. [1.30.01 XNP-6320, XNP-6320H, XNP-6320HS, XNP-6371RH]

[Bug fixes]

- Fixed an issue where white or black pixels appear on the upper right of the image due to an error in the image calibration algorithm. [1.30.02 TNO-4030T, TNO-4040T, TNO-4050T, TNO-4041T, TNO-4051T, TNO-4030TR, TNO-4040TR, TNO-4041TR, TNU-4041T, TNU-4051T]

Security Improvements

- Supported ONVIF Profile T (with ONVIF protocol to delete the default video profile).
- Added function to email account lockout events to administrators if login fails more than 5 consecutive times (SMTP email must be enabled).
- Added encryption setting function to use SD card after password authentication when saving video to SD card.

Affected Products

Table 6. Product Family Based On Version 1.30

| Major Model | Model Name |
|-------------|---|
| XNB-6000 | XNB-6000 KNB-2000 |
| XNB-6001 | XNB-6001 |
| XNB-6005 | XNB-6005 |
| XNB-8000 | XNB-8000 KNB-5000N |
| XND-6010 | XND-6010 |
| XND-6011F | XND-6011F |
| XND-6020 | KND-2020RN |
| XND-6020R | XND-6020R |
| XND-6080 | XND-6080 XND-K6080N |
| XND-6080R | XND-6080R KND-2080RN |
| XND-6080RV | XND-6080RV |
| XND-6080V | XND-6080V |
| XND-6081RV | XND-6081V XND-6081RV XNV-6081 XNV-6081R XND-6081RF XND-6081F |
| XND-6085 | XND-6085 |
| XND-6085V | XND-6085V |
| XND-8020F | XND-8020F |
| XND-8020R | XND-8020R KND-5020RN |
| XND-8030R | XND-8030R |
| XND-8040R | XND-8040R |
| XND-8080R | XND-8080R KND-5080RN |
| XND-8080RV | XND-8080RV |
| XND-8081RV | XND-8081RV |

| Major Model | Model Name |
|-------------|---------------------------------------|
| | XNV-8081R XNV-8081 |
| XND-L6080R | XND-L6080R |
| XND-L6080RV | XND-L6080RV |
| XND-L6080V | XND-L6080V |
| XNF-8010R | XNF-8010R XNF-8010RW |
| XNF-8010RV | XNF-8010RV XNF-8010RVW |
| XNF-8010RVM | XNF-8010RVM |
| XNO-6010R | XNO-6010R KNO-2010RN |
| XNO-6020R | XNO-6020R |
| XNO-6080R | XNO-6080R XNO-6080RA KNO-2080RN |
| XNO-6080RS | XNO-6080RS |
| XNO-6085R | XNO-6085R |
| XNO-6120R | XNO-6120R KNO-2120RN |
| XNO-6120RS | XNO-6120RS |
| XNO-8020R | XNO-8020R KNO-5020RN |
| XNO-8030R | XNO-8030R |
| XNO-8040R | XNO-8040R |
| XNO-8080R | XNO-8080R XNO-8080RW KNO-5080RN |
| XNO-L6020R | XNO-L6020R |
| XNO-L6120R | XNO-L6120R |
| XNP-6040H | XNP-6040H |
| XNP-6120H | XNP-6120H KNP-2120HN |
| XNP-6230 | XNP-6230 |
| XNP-6230H | XNP-6230H |
| XNP-6320 | XNP-6320 XNP-6320H |

| Major Model | Model Name |
|-------------|-------------|
| XNP-6320 | XNP-6320HS |
| | QNP-6230 |
| | QNP-6230H |
| | XNP-6321 |
| | XNP-6321H |
| XNP-6371RH | XNP-6371RH |
| XNP-6550RH | XNP-6550RH |
| XNV-6010 | XNV-6010 |
| XNV-6011 | XNV-6011 |
| | XNV-6011W |
| XNV-6012 | XNV-6012 |
| XNV-6012M | XNV-6012M |
| XNV-6013M | XNV-6013M |
| XNV-6020R | XNV-6020R |
| XNV-6022R | XNV-6022R |
| XNV-6022RM | XNV-6022RM |
| XNV-6080 | XNV-6080 |
| XNV-6080R | XNV-6080R |
| XNV-6080RS | XNV-6080RS |
| XNV-6081Z | XNV-6081Z |
| | XND-6081VZ |
| | XND-6081FZ |
| XNV-6085 | XNV-6085 |
| XNV-6120 | XNV-6120 |
| XNV-6120R | XNV-6120R |
| XNV-6120RS | XNV-6120RS |
| XNV-8020R | XNV-8020R |
| XNV-8020RM | XNV-8020RMN |
| | XNV-8020RMP |
| XNV-8030R | XNV-8030R |
| XNV-8040R | XNV-8040R |
| XNV-8080R | XNV-8080R |
| XNV-8080RS | XNV-8080RS |
| XNV-8081Z | XNV-8081Z |
| | XND-8081VZ |
| | XND-8081FZ |
| XNV-L6080 | XNV-L6080 |

| Major Model | Model Name |
|-------------|---|
| | XNO-L6080R |
| XNV-L6080A | XNO-L6080RA XND-L6080RVA XNV-L6080RA XND-L6080VA XNV-L6080A |
| XNV-L6080R | XNV-L6080R |
| XNZ-6320 | XNZ-6320 |
| TNO-4050T | TNO-4050T TNO-4051T TNO-4040T TNO-4041T TNO-4030T |
| TNU-4041T | TNU-4041T TNU-4051T |
| TNO-4040TR | TNO-4041TR TNO-4040TR TNO-4030TR |
| TNB-6030 | TNB-6030 |
| TNV-7010RC | TNV-7010RC |

HTW Network Camera Version 1.21

This document describes the new and changed features of Hanwha Techwin network camera version 1.21.

 Released on MAR 18, 2019

Common Features

[Improvements]

- Added function to push BI (People Counting / Queue Management / Heatmap) meta data to Wisenet Retail Insight. [1.21.12 XND-6010/XNV-6010, XNF-8010R/XNF-8010RV/XNF-8010RVM]
- Fixed an issue where the web page menu would not change after upgrading firmware due to remained browser cache. In some case, cache refresh (F5 reload key) is required to display properly. [1.21.10]
- Added automatic correction function for horizontal noise that appears intermittently in image. [1.21.01 TNO-4040TR, TNO-4041TR, TNO-4030TR]
- Changed the maximum shutter value to 1/5000, when [Video & Audio] > [Camera Setup] > [Backlight] mode is set to WDR. [1.21.02 QNO-6072R, QNO-6073R, QNO-6082R, QNO-6083R, QND-6072R, QND-6073R, QND-6082R, QND-6083R, QNV-6072R, QNV-6073R, QNV-6082R, QNV-6083R, QND-6012R, QND-6022R, QND-6032R, QNO-6012R, QNO-6022R, QNO-6032R, QNV-6012R, QNV-6022R, QNV-6032R, QND-6011, QND-6021, QNO-8010R, QNO-8020R, QNO-8030R, QNO-8080R, QNV-8010R, QNV-8020R, QNV-8030R, QNV-8080R, QND-8010R, QND-8020R, QND-8030R, QND-8080R, QNE-8011R, QNE-8021R, QND-8011, QND-8021]
- Fixed an issue where the camera image appears in upside down or side to side. [1.21.02 QNE-8011R, QNE-8021].

[Bug fixes]

- Fixed an issue where in some case, an SD card was not recognized after booting. [1.21.12 TNO-4050T, TNO-4051T, TNO-4040T, TNO-4041T, TNO-4030T, TNU-4041T, TNU-4051T]
- Fixed an issue where an SD card error happened with EXT4 file system. [1.21.12 TNU-4041T, TNU-4051T]
- Fixed an issue where the live monitoring page would be stuck on the IE11 / Windows 10 OS in

case Plugin-Free profile configuration is higher than 20fps / 1920x1080 resolution. Now it will be reverted to 20fps automatically. [1.21.10]

- Fixed an issue where with 1.20 and 1.21 version, Genetec VMS didn't receive IVA events. [1.21.11]
- Fixed an issue where in some cases, creating a profiles didn't work through SUNAPI. [1.21.11]
- Fixed an issue of incorrect CropAreaCoordinate value in attributes.cgi through SUNAPI. [1.21.11]
- Fixed an issue where with 1.20 and 1.21 version, Genetec VMS didn't draw overlay boxes through metadata. [1.21.11]
- Fixed an issue where a camera would restart when a user changes sensitivity value in Camera [setup] > [Video & Audio] > [Audio setup] > [Audio in] > [Noise reduction] after upgrading to version 1.20 or 1.21. [1.21.11 TNO-4040T, TNO-4050T, TNO-4051T, TNO-4041T, TNO-4030T]

Affected Products

Table 3. Product Family Based On Version 1.21

| Major Model | Model Name |
|-------------|---|
| XNB-6000 | XNB-6000 KNB-2000 KNO-2080RN XNO-6080R |
| XNO-6010R | XNO-6010R KNO-2010RN XNO-6020R |
| XND-6010 | XND-6010 XNV-6010 |
| XND-6020 | KND-2020RN |

| Major Model | Model Name |
|-------------|---|
| XND-6080 | XND-6080 XND-K6080N KND-2080RN XND-6080R XND-6080RV XND-6080V XNV-6080 XNV-6080R XNV-6080RS |
| XNB-8000 | XNB-8000 KNB-5000N |
| XNO-8020R | XNO-8020R XNO-8030R XNO-8040R |
| XND-8020R | XND-8020R KND-5020RN XND-8030R XND-8040R KNO-5020RN XNV-8020R XNV-8030R XNV-8040R |
| XND-8080R | XND-8080R KND-5080RN XND-8080RV XNV-8080R XNV-8080RS |
| XNF-8010R | XNF-8010R XNF-8010RW XNF-8010RV XNF-8010RVW XNF-8010RVM |


| Major Model | Model Name |
|-------------|--|
| XNO-6120R | XNO-6120R KNO-2120RN XNO-6120RS XNV-6120 XNV-6120R XNV-6120RS |
| XND-L6080R | XND-L6080R XND-L6080RV XND-L6080V XNV-L6080 XNV-L6080R |
| XNV-6012 | XNV-6012 XNV-6012M XNV-6013M XNV-6022R XNV-6022RM |
| XNB-6001 | XNB-6001 XNB-6005 XND-6085 XND-6085V XNO-6085R |
| XNB-6005 | XNB-6005 XND-6085 XND-6085V XNO-6085R |
| XND-6011F | XND-6011F |
| XND-8020F | XND-8020F |
| XNP-6040H | XNP-6040H |
| XNP-6120H | XNP-6120H KNP-2120HN |
| XNP-6320 | XNP-6320 XNP-6320H XNP-6320HS QNP-6230 QNP-6230H |
| XNP-6371RH | XNP-6371RH |

| Major Model | Model Name |
|-------------|--|
| XNV-6011 | XNV-6011 XNV-6011W |
| XNV-6085 | XNV-6085 XND-6085 XND-6085V |
| TNB-6030 | TNB-6030 |
| XNZ-6320 | XNZ-6320 |
| TNO-4050T | TNO-4050T TNO-4051T TNO-4040T TNO-4041T TNO-4030T |
| TNU-4041T | TNU-4041T TNU-4051T |
| TNO-4040TR | TNO-4041TR TNO-4040TR TNO-4030TR |
| QNO-6082R | QNO-6072R QNO-6073R QNO-6082R QNO-6083R QND-6072R QND-6073R QND-6082R QND-6083R QNV-6072R QNV-6073R QNV-6082R QNV-6083R QND-6012R QND-6022R QND-6032R QNO-6012R QNO-6022R QNO-6032R QNV-6012R QNV-6022R |

| Major Model | Model Name |
|-------------|--|
| | QNV-6032R QND-6011 QND-6021 |
| QNO-8080R | QNO-8010R QNO-8020R QNO-8030R QNO-8080R QNV-8010R QNV-8020R QNV-8030R QNV-8080R QND-8010R QND-8020R QND-8030R QND-8080R QNE-8011R QNE-8021R QND-8011 QND-8021 |

HTW Network Camera Version 1.20

This document describes the new and changed features of Hanwha Techwin network camera version 1.20.

 Released on OCT 12, 2018

Common Features

[New Features]

- Added a function called Frame Lock to always maintain the number of frames/sec (fps) of one user selected profile when multi profiles are used.
- Added a function to configure the codec of profiles 1, 2 and 3.
- Added a hostname function.
- Supported LLDP as a steady-state power device.
- Added a function to configure overlay box for detected objects in motion detection, IVA, and face detection.
- Added a function to configure minimum/maximum object size in motion detection.
- Added a function to configure minimum duration in motion detection and Intrusion detection (up to 5 secs).
- Added an audio noise reduction function under Setup – Audio Setup – Audio Setup – Audio in.
- Added the USB connect/disconnect message in SNMP Trap Service.
- Added a function to enable/disable USB port under the Setup – Video & Audio - Video Setup.
- Added a function to configure home position and execute auto run (optical zoom cameras).
- Added queue management, heatmap, people counting (Mobile cameras).
- Added an option of new P-IRIS Tamron lens (P-IRIS supported cameras).
- Added a function to control pan/tilt, area zoom by mouse drag and control zoom by mouse wheel scroll in web viewer (optical zoom cameras and PTZ cameras).
- Added a shock detection function (XNV-6085, XND-6085, XND-6085V, XNP-6120H, XNP-6320H).

[Improvements]

- Improved a function to configure pan/tilt control speed (PTZ cameras).
 - Increased proportional PT mode options to 8 stages and setting is applied at 1x zoom ratio.
- Changed the factory defaults values of UPnP, Bonjour, and Link-Local IPv4 address to disable.
- Improved a function to configure all image parameters other than sensor mode for predefined image preset mode and added 2 UserPreset options.
 - After upgrading firmware from prior to 1.2 version, the previous UserPreset configuration will be applied to UserPreset1 and all schedule configurations will be reset.
- Improved the schedule configuration.
 - Expressed day of the week instead of date.
 - Changed the image preset schedule configuration to same as other schedule configuration.
- Improved indoor representation of WDR low and middle levels.
- Changed the default value of minimum shutter speed to provide optimized value to keep framerate.
- Improved day/night switching timing (Built-in IR LED models).

[Bug fixes]

- Fixed an issue that anti flicker configuration in UserPerset mode is not be applied after reboot.
- Fixed an issue that a certain key data does not work correctly in 802.1x certificate.
- Fixed an issue that the focus does not work correctly via Pelco-D protocol. (External RS-485 control supported models.)
- Fixed an issue that AF operation does not work due to Gyro sensor (PTZ cameras having Gyro sensor).

Security Improvements

- Removed Active-X/NPAPI plug-ins from the web viewer.
- Removed the PHP module from the web viewer.
- Added an SRTP function (TCP /UDP unicast).

Protocol Improvements

- Added a feature to send time data whit UTC format when a user searches recorded data in SD/NAS via SUNAPI protocol.
- Added an attribute that specifies the DPTZ, PTZ, and Zoom capabilities via SUNAPI protocol.
- Improved ONVIF features.
 - Supported motion area configuration in VideoAnalytics service.
 - Supported VideoSourceModes in Media service.
 - Supported UTF-8 format OSD control in Media service.
 - Supported PTZ PresetTour in PTZ service.
 - Supported firmware upgrade.
 - Supported "tns1: VideoSource/MotionAlarm" event.
- Applied the unified SNMP MIB. (Keep backward compatibility, the previous MIB files can be used.)
- Added the likelihood data of sound classification via metadata streaming.

Open Platform Version 3.50 Upgrade

- Added a function to create a profile.
 - Added APIs to use the SUNAPI protocol.
 - Added a feature to write and save system/event log data.
- ※ Open Platform SDK should be upgraded to 3.50 version.

Affected Products

Table 4. Product Family Based On Version 1.20

| Major Model | Model Name |
|-------------|---|
| XNB-6000 | XNB-6000 KNB-2000 KNO-2080RN XNO-6080R XNO-6080RA XNO-6080RS |

| Major Model | Model Name |
|-------------|--|
| XNO-6010R | XNO-6010R KNO-2010RN XNO-6020R |
| XND-6010 | XND-6010 XNV-6010 |
| XND-6020 | XND-6020R KND-2020RN XNV-6020R |
| XND-6080 | XND-6080 XND-K6080N KND-2080RN XND-6080R XND-6080RV XND-6080V XNV-6080 XNV-6080R XNV-6080RS |
| XNB-8000 | XNB-8000 KNB-5000N KNO-5080RN XNO-8080R XNO-8080RW |
| XNO-8020R | XNO-8020R XNO-8030R XNO-8040R |
| XND-8020R | XND-8020R KND-5020RN XND-8030R XND-8040R KNO-5020RN XNV-8020R XNV-8020RMN XNV-8020RMP XNV-8030R XNV-8040R |

| Major Model | Model Name |
|-------------|--|
| XND-8080R | XND-8080R KND-5080RN XND-8080RV XNV-8080R XNV-8080RS |
| XNF-8010R | XNF-8010R XNF-8010RW XNF-8010RV XNF-8010RVW XNF-8010RVM |
| XNO-6120R | XNO-6120R KNO-2120RN XNO-6120RS XNV-6120 XNV-6120R XNV-6120RS |
| XND-L6080R | XND-L6080R XND-L6080RV XND-L6080V XNV-L6080 XNV-L6080R |
| XNV-6012 | XNV-6012 XNV-6012M XNV-6013M XNV-6022R XNV-6022RM |
| XNB-6001 | XNB-6001 XNB-6005 XND-6085 XND-6085V XNO-6085R |
| XNB-6005 | XNB-6005 XND-6085 XND-6085V XNO-6085R |
| XND-6011F | XND-6011F |
| XND-8020F | XND-8020F |

| Major Model | Model Name |
|-------------|--|
| XNP-6040H | XNP-6040H |
| XNP-6120H | XNP-6120H KNP-2120HN |
| XNP-6320 | XNP-6320 XNP-6320H XNP-6320HS QNP-6230 QNP-6230H |
| XNP-6371RH | XNP-6371RH |
| XNV-6011 | XNV-6011 XNV-6011W |
| XNV-6085 | XNV-6085 XND-6085 XND-6085V |
| TNO-4050 | TNO-4050 TNO-4040 TNO-4051 TNO-4041 TNO-4030 |
| TNB-6030 | TNB-6030 |

Attachment A. HTW camera version management

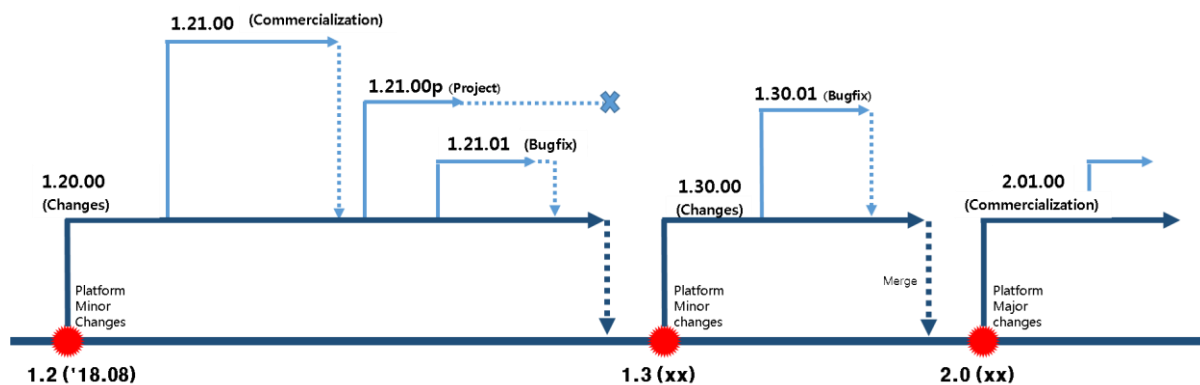
This describes the Hanwha Techwin network camera version rule. A camera version is updated when new features are added or bugs are fixed, and there are the following two categories:

- Platform change: Version update due to changes in the software platform structure and major feature changes
- Product change: Version update to fix reported bugs and solve potential problems

Camera Version Management Procedure

The firmware of Hanwha Techwin camera products are being developed based on the common platform, and this is developed across all camera product development.

Any features developed for a product firmware will be consolidated into the common platform and applied to new camera products accordingly.



Camera Version Rules

The camera version is structured as below and it is generated using the following rules.

<PlatformMajor>.<PlatformMinor> <ProductMajor>.<ProductMinor>

Platform: Specifies the release version of the common platform

- Major: Reflects any changes in platform structure and major feature changes.
- Minor: Reflects upgrade with new features and consolidated changes that apply to all models.

Product: Specifies the product release version

- Major: Reflects the addition of major product features and changes.
- Minor: Reflects firmware changes for minor fixes that solve reported bugs and potential problems

Each firmware release is displayed using a unique number given to each release type and is a combination of a platform version and a product version. The following examples explain the version rules.



Version 1.20.00 indicates the combination of platform version 1.2 and product version 0.00. It represents the first product that is applied with the common platform version 1.2.



Version 1.22.10 indicates the combination of platform version 1.2 and product version 2.10. It represents a product that is applied with the common platform version 1.2 and updated twice.