

# Technical Newsletter

July 2024 Service Operation Team

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### Technology Information

- Jello effect in camera video (Rolling shutter)
- Camera installation direction and bushing use method
- How to refer to the HDD compatibility list

### Latest Firmware Information

## Jello effect in camera video (Rolling shutter)

Info. Type

 Quality Settings Repair S/W Etc

- **Purpose :** Providing information on distortions that can be seen intermittently in CCTV cameras and providing guidance on how to alleviate them.

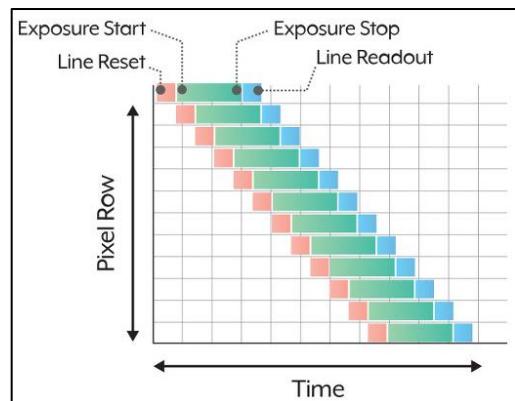
- **What is the Jello effect?**

- Parts of the frame become blurred, or straight lines appear crooked
- In the video, it is expressed as a rising haze or a jelly-like vibration.



- **Causes of the Jello effect**

- This is a phenomenon that inevitably occurs in cameras that use a rolling shutter type image sensor.
- Rolling Shutter is a method of sequentially shooting the entire screen line by line when shooting individual frames. There is a time difference in the shooting of each line; thus, image distortion occurs in situations where there is a fast-moving subject or the camera is moving quickly.



- **How to alleviate the Jello effect distortion**

- Lower the Shutter Maximum little by little and maintain the set value at the point when the phenomenon is alleviated.
- However, if the exposure is prolonged by slowing down the shutter speed, diffraction or saturation may occur due to the influence of the aperture. Thus, caution is required.

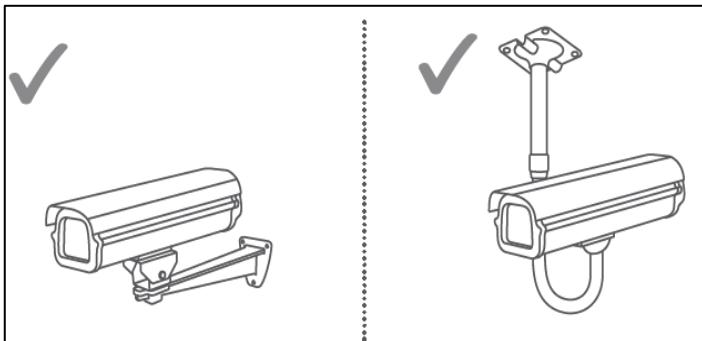
# Camera installation direction and bushing use method

Info. Type

 Quality  Settings  Repair  S/W  Etc

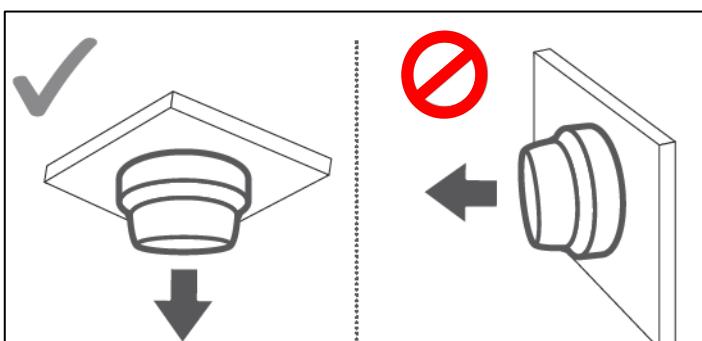
- **Target cameras** : PTZ camera , BOX camera , MDC (Multi Directional Camera)

- **How to install the camera**



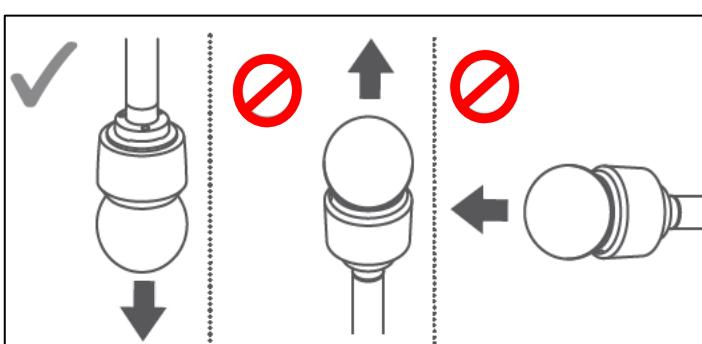
## [BOX Type Camera ]

※ Installation precautions :  
It is recommended to use camera housing (sold separately)



## [MDC Type Camera ]

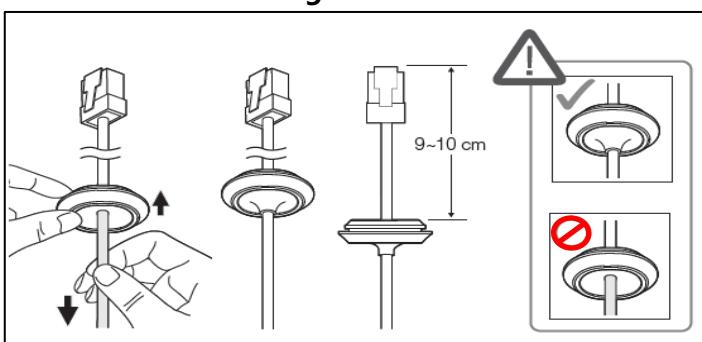
※ Installation precautions :  
Do not install it in horizontal direction.



## [PTZ Type Camera ]

※ Installation precautions :  
Do not install it in reverse/horizontal direction.

- **How to use Bushings**



## [ All models using bushings ]

※ Installation precautions :  
For waterproofing, pull the cable of the bushing downward and finish it in the shape shown in the figure.

## How to refer to the HDD compatibility list

Info. Type

 Quality  Settings  Repair  S/W  Etc

- **Purpose** : To encourage users to use the product with optimal recording performance by providing guidance on how to check model-specific HDDs available.
- **Target Model** : All models of our storage devices
- **Download path** : Hanwha Vision website → Support → Data Center → HDD compatibility list
- **How to check compatibility** : search for the representative model name in the NVR group to check compatibility.

<Example> For models corresponding to ✕, search for PRN-6410DB4, the group's representative model.

	Group	Model
NVR	PRN-6410DB4	PRN-6410B4, PRN-3210B4 PRN-6400DB4, PRN-6400B4, PRN-3200B4 PRN-6405DB4, PRN-6405B4, PRN-3205B4 XRN-6410DB4, XRN-6410B4, XRN-3210B4

NO	1	2	3	4	5	6	7
Capacity	8 TB	8 TB	8 TB	10 TB	10 TB	8TB	8TB
Series name	Sky Hawk	Sky Hawk AI	Sky Hawk AI	Sky Hawk AI	Sky Hawk AI	Sky Hawk	Sky Hawk
Model name	ST8000VX004	ST8000VE000	ST8000VE001	ST10000VE000	ST10000VE001	ST8000VX009	ST8000VX010
(Part Number)	(2M1101)	(3BZ101)	(3AU101)	(3AV101)	(3BX101)	(2ZP188)	(2ZR188)
Interface	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s	SATA 6Gb/s
Buffer	256MB	256MB	256MB	256MB	256MB	256MB	256MB
ARN-1610S				N/A		Not Supported	Not Supported
QRN-1630S		✓	✓	✓	✓	✓	✓
PRN-6410DB4	NON-RAID ✓					✓	✓
	RAID Not Supported					Not Tested	Not Tested
XRN-6410RB2	NON-RAID ✓	✓	✓	✓	✓	✓	✓
	RAID Not Supported					Not Tested	Not Tested
XRN-1620B2	NON-RAID ✓			✓	✓	✓	✓
XRN-6410B2	NON-RAID ✓	✓	✓	✓	✓	✓	✓

✓ : Available

**Not Supported** : The corresponding HDDs cannot be used in NVR due to its hardware limitations

**N/A** : Test result is not compatible.

**Blank / Not Tested** : No test results available

### ● Other precautions

- In RAID mode, an enterprise-class HDD with guaranteed high reliability must be used.
- Caution is required because there are cases where HDDs are not supported in RAID mode but supported in Non-RAID mode.

## DVR

Model	File	Date	Ver.	Remark
ARD-410 ARD-810	ARD-810_5.31.32 _230525160458	2023/05/25	5.31.32	- Addressed an issue where DDNS ID was occasionally not issued
ARD-1610	ARD-1610_5.31.32 _230525165929	2023/05/25	5.31.32	
HRX-434/435	HRX-435_4.52.62 _240214195734	2024/02/22	4.52.62	- Security improved
HRX-835/1632	HRX-1632_4.52.62 _240221174349	2024-04-30	4.52.62	- Corrected an issue that caused the NVR to stop functioning when you used the two-way talk function on the Wisenet mobile viewer for iOS
HRX-1634/1635	HRX-1635_5.31.62 _240221205721	2024-04-30	5.31.62	- Corrected a connectivity issue that blocked you from using the two-way talk function for about 1 minute when you tried using the function on the Wisenet mobile viewer for iOS and Android, as well as the Wisenet web viewer

## NVR

Model	File	Date	Ver.	Remark
ARN-410S ARN-810S ARN-1610S	ARN-1610S_5.08.22 _230206121706	2023/02/06	5.08.22	- HDD performance improved
PRN-1600B2 PRN-3200B2/B4 PRN-6400B4/DB4				- Corrected an issue that caused the [Dynamic layout] feature to malfunction - Fixed mouse-click errors in some pop-up windows - Corrected an issue that prevented you from inserting spaces in the [NVR name] entry box in the Web viewer
XRN-820S XRN-1620B2/SB1 XRN-3210 (B2,B4,RB2) XRN-6410 (B2,B4,DB4,RB2)	PRN-6400DB4_5.30.72 _231107202437	2023/11/14	5.30.72	- Corrected the howling issue that intermittently happened when you played videos using an AAC codec on Wisenet mobile - Changed the domain name from hanwha-security to hanwhavision to reflect the new company name - Improved the backup speed of remote clients (SSM, NVR, Web viewer, SMV, etc.)
QRN-830S QRN-1630S XRN-815S	QRN-1630S_5.06.52 _230626173233	2023/08/10	5.06.52	- Removed support for fan-related events and logs
QRN-430S XRN-420S	XRN-420S_5.01.62 _231128194047	2023/12/11	5.01.62	- Security improved
XRN-3220B4 XRN-6420B4 XRN-6420DB4	XRN-6420DB4_5.32.12 _231116112359	2024/01/09	5.32.12	- Security improved

## Network Camera

Model	File	Date	Ver.	Remark
ANV-L6012R ANO-L6012R	ANO-L6012R_1.41.03 _20230322_R30	2023/03/22	1.41.03	<ul style="list-style-type: none"> <li>- Fixed language error in Japanese version</li> </ul>
ANV-L6082R	ANO-L6082R_1.41.03 _20230322_R82	2023/03/22	1.41.03	<ul style="list-style-type: none"> <li>- Fixed an error where [Tampering detection] function did not operate after a certain time</li> </ul>
ANV-L7012R ANO-L7012R	ANO-L7012R_1.41.03 _20230322_R116	2023/03/22	1.41.03	<ul style="list-style-type: none"> <li>- Added the ability to set the minimum bitrate of a profile to 10 kbps</li> </ul>
ANV-L7082R ANO-L7082R	ANO-L7082R_1.41.03 _20230322_R88	2023/03/22	1.41.03	<ul style="list-style-type: none"> <li>- Added the ability to use HTTP and HTTPS at the same time</li> </ul>
LND/V-6012R LND-6022R LNV-6072R	LNO-6072R_1.41.13 _20231109_R165	2023/11/28	1.41.13	<ul style="list-style-type: none"> <li>- 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</li> </ul>
PNM-12082RVD	PNM-12082RVD_2.22.02 _20240408_R171	2024/04/08	2.22.02	<ul style="list-style-type: none"> <li>- Corrected an issue where Chinese text didn't appear in the UI even after you chose the language as Chinese</li> </ul>
PNM-7082RVD	PNM-7082RVD_2.22.02 _20240408_R141	2024/04/08	2.22.02	
PNM-8082VT	PNM-8082VT_2.22.00 _20231103_R219	2023-11-14	2.22.00	<ul style="list-style-type: none"> <li>- Corrected an issue where the [Time schedule] feature did not intermittently work after the camera rebooted</li> </ul>
PNM-9022V	PNM-9022V_2.22.00 _20231103_R155	2023-11-14	2.22.00	
PNM-9031RV	PNM-9031RV_2.22.01 _20231101_R542	2023/11/28	2.22.01	<ul style="list-style-type: none"> <li>- Fixed language errors in Japanese version</li> </ul>
PNM-9084RQZ1 PNM-9085RQZ1	PNM-9084QZ_2.22.02 _20231109_R380	2023/11/28	2.22.02	<ul style="list-style-type: none"> <li>- Fixed an issue where video streaming was interrupted for the live and recording in the camera registered to NVR or Genetec</li> </ul>
PNM-C12083RVD	PNM-C12083RVD_2.21.03 _20231025_R352	2023/11/23	2.21.03	<ul style="list-style-type: none"> <li>- Added support for the Cisco Discovery Protocol (CDP) used in CISCO switches</li> </ul>
PNM-C16083RVQ PNM-C32083RVQ	PNM-C32083RVQ _23.01.04_20240417_R929	2024/04/17	23.01.04	<ul style="list-style-type: none"> <li>- Unable to downgrade firmware due to changes in the CV5 Chip hardware</li> </ul>
PNM-C34404RQPZ	PNM-C34404RQPZ _23.01.04_20240417_R650	2024/04/17	23.01.04	<ul style="list-style-type: none"> <li>- Corrected an issue that caused WiFi Dongle to malfunction</li> </ul>
PNV-A9081R	PNO-A9081R_2.21.14 _20231011_R788	2024-05-31	2.21.14	<ul style="list-style-type: none"> <li>- The existing AI functions are now supported in the WiseAI application</li> </ul>
QNF-8010	QNF-8010_2.10.02 _20220401_R411	2022/04/01	2.10.02	<ul style="list-style-type: none"> <li>- Added certificate management function</li> </ul>
QNF-9010	QNF-9010_2.11.03 _20230509_R444	2024/04/23	2.11.03	<ul style="list-style-type: none"> <li>- Addressed the vulnerability of Authenticated Command Injection where a Linux command may be executed after a command is randomly injected into the folder mount point of the NAS function (Issued CVE 2023 31996)</li> </ul>
QND-6011 QND/O/V-6012R QND/O/V-6022R QND/O/V-6072R QND/O/V-6082R	QNO-6082R_1.41.16 _20231109_R401	2023/11/28	1.41.16	<ul style="list-style-type: none"> <li>- 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</li> </ul>

## Network Camera

Model	File	Date	Ver.	Remark
QND/O/V-6082R1 QND/O/V-6012R1 QND/O/V-6022R1	QNO-6082R1_1.41.16 _20231109_R53	2023-11-09	1.41.16	- 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
QND/O/V-7012R QND-7022R QND/O/V-7082R	QNO-7082R_1.41.16 _20231109_R171	2023/11/28	1.41.16	- Added the DLL auto tune function to address the camera rebooting issue caused by the fixed DLL value
QND/O/V-8010R QND/E-8011R QND/O/V-8020R QND/O/V-8080R	QNO-8080R_1.42.01 _20240329_R388	2024/03/29	1.42.01	- Added options to configure GOV, dynamic GOV, and dynamic FPS settings of the recording profile. In case of configuration, however, the video may not be recorded properly.
QNP-6320H QNP-6250(H)	QNP-6320H_2.21.04 _20230623_R205	2023/06/28	2.21.04	- Added auto tracking function
QNP-6250R QNP-6320R	QNP-6320R_2.21.05 _20230828_R210	2023-09-13	2.21.05	- Addressed the vulnerability of DoS of WS Discovery and Hanwha proprietary discovery services where the discovery function may be disabled after EMPTY packets are injected into the 3702 /7701 ports used for device discovery of ONVIF/Device Manager
QNO-C8083R QNV-C8083R	QNV-C8083R_2.21.10 _20230908_R311	2023-09-20	2.21.10	<ul style="list-style-type: none"> <li>- Added video analytics features ([People counting], [Heatmap], [Queue management], and [Vehicle counting])</li> <li>- Added WiseStream 3 features</li> </ul>
QNV-C9083R	QNV-C9083R_2.21.10 _20230908_R390	2023-09-20	2.21.10	
XNB-6000	XNB-6000_2.10.06 _20240108_R698	2024/02/02	2.10.06	<ul style="list-style-type: none"> <li>- Improved SUNAPI API of Events status</li> <li>- Corrected an issue that disabled streaming and stopped Common Gateway Interface (CGI) working in certain circumstances when you access the web viewer after adding a camera to Genetec using the ONVIF protocol</li> </ul>
XNB-8000 XNO-8080R	XNB-8000_2.10.04 _20240105_R716	2024/01/05	2.10.04	
XNB-6001	<a href="#">XNB-6001_2.10.05 _20231226_R578</a>	<a href="#">2024-06-17</a>	<a href="#">2.10.05</a>	<ul style="list-style-type: none"> <li>- When setting the H.264/H.265 codec, you can set the minimum bitrate to 10 kbps</li> <li>- Fixed language error in Japanese version</li> </ul>
XNF-8010R(RV)	XNF-8010R_2.10.04 _20230328_R640	2023/05/11	2.10.04	
XND-8020R	XND-8020R_2.10.02 _20220401_R599	2022-04-20	2.10.02	<ul style="list-style-type: none"> <li>- Added certificate management function</li> </ul>
XNV-6011	XNV-6011_2.10.02 _20220117_R573	2022-02-07	2.10.02	
XND/V-6080R XND/V-6080(V)	XND-6080_2.22.01 _20240108_R595	2024/01/08	2.22.00	- Corrected an issue that disabled streaming and stopped Common Gateway Interface (CGI) working in certain circumstances when you access the web viewer after adding a camera to Genetec using the ONVIF protocol
XND/V-C6083RV XND/V-C7083RV	<a href="#">XND-C7083RV_2.23.00 _20240416_R509</a>	<a href="#">2024-05-20</a>	<a href="#">2.23.00</a>	<ul style="list-style-type: none"> <li>- Added a function of Secure FTP</li> <li>- Added a function where you can send video footage related to an event occurrence via FTP/SFTP when you set the profile of H.264 or H.265 codec as the event profile</li> <li>- Added a AI based vehicle counting feature</li> </ul>
XNF-9010RV	<a href="#">XNF-9010RV_2.23.00 _20240508_R521</a>	<a href="#">2024-05-20</a>	<a href="#">2.23.00</a>	
XNF-9013RV	<a href="#">XNF-9013RV_2.23.00 _20240508_R436</a>	<a href="#">2024-05-20</a>	<a href="#">2.23.00</a>	

## Encoder / Decoder

Model	Filename	Date	Version	Release Note
SPD-152	SPD-152_5.10.32 _230508130731	2023/05/10	5.10.32	<ul style="list-style-type: none"> <li>- Deleted the function of synchronizing a decoder SPD-152 with a camera audio</li> <li>- Enable the sequence to operate in the latest layout configuration when the decode restarts after it reboots in operation of layout sequence functions</li> <li>- Increased the maximum number of layouts from 10 to 20 for layout configuration and operation of layout sequence</li> </ul>
SPE-420	SPE-420_2.21.02 _20230803_R152	2023/08/11	2.21.02	<ul style="list-style-type: none"> <li>- Fix the problem that when you change the external PTZ connection port to COAX for all channels, the external PTZ settings item disappears in the webviewer</li> </ul>
SPE-1630	SPE-1630_2.21.01 _20230309_R149	2023/03/24	2.21.01	<ul style="list-style-type: none"> <li>- Added a function to display the time in "Month-Day-Year Hour:Minute" format if H.264 or H.265 codec is applied</li> <li>- Fixed an error where ONVIF discovery communication was not available between a camera and Wisenet Device Manager in a certain circumstance</li> </ul>

## Software

Model	Filename	Date	Version
Wisenet SSM	2.16.00	2024-06-05	- Bug fixes and functional improvements
Wisenet Viewer	1.05.00	2023-10-31	- Bug fixes and functional improvements
Smart Viewer	4.9.13	2022-05-18	- Bug fixes and functional improvements
Wisenet mobile	2.07.04	2024-04-28	- Bug fixes and functional improvements

## HDD Compatibility List

### Revision 11.24

Release date : 2023.12.14

[Hanwhavision.com > Support > Data Center > HDD Compatibility](http://Hanwhavision.com > Support > Data Center > HDD Compatibility)

#### Major change

1. New model : XRN-6420DB4
  - ST6000VX008-2ZP1, ST4000VX015-3CU1, ST8000VX009-2ZP1, WD8001PURA-64B6VY0
2. WD PURU Series Restrictions Added: XRN-6420DB4
  - WD42PURU-64C4CY0, WD63PURU-64C4FY0
  - Only products produced after July 15, 2023