

Hanwha Vision is a leading supplier of advanced video surveillance solutions for IP-video, analog and hybrid systems. Building on the company's history of innovation, Hanwha Vision is dedicated to providing systems solutions with the highest levels of performance, reliability and cost-efficiency. Hanwha Vision is committed to the continued development of innovative systems products for professional security applications.

For additional information, visit <https://www.hanwhavision.com>

1. **PRODUCTS**
   1. **EQUIPMENT**
      1. Manufacturer : Hanwha Vision (https://www.hanwhavision.com)
      2. Model: XNP-C9310R
      3. Alternates: None
   2. **GENERAL DESCRIPTION**
      1. Video Compression and Transmission – The 4K camera shall have the following properties relating to the video signals it produces.
         1. H.265, H.264 and MJPEG compression, each derived from a dedicated encoder and capable of being streamed independently and simultaneously
            1. H.265: frame rates up to 30 fps at 60 Hz
            2. H.264: frame rates up to 25 fps at 50 Hz
            3. MJPEG: frame rate up to 30 fps at 60 Hz, frame rate up to 25 fps at 50 Hz (at 8MP resolution, the maximum frame rate is 5fps)
         2. The 4K camera shall be able to configure up to 10 independent video stream profiles with differing encoding, quality, frame rate, resolution, and bit rate settings.
         3. Resolution selections
            1. 3840x2160, 2592x1944, 2592x1464, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
         4. Simultaneous unicast access by up to 20 users
         5. Multicast or unicast capable
         6. Dynamic DNS (DDNS) support.
         7. WiseStream and Dynamic GOV to efficiently manage bitrate of the video stream.
      2. Camera – The 4K camera device shall have the following physical and performance properties:
         1. The camera shall be able to produce clear images in highly contrast scenes with multi-exposure wide dynamic range.
         2. IP66/IP67, IK10, NEMA4X, NEMA-TS 2(2.2.7,2.2.8, 2.2.9) rated for protection against impacts.
         3. Auto day/night operation with removable IR cut filter
            1. Low light level operation to 0.06 lux (color) and 0 lux (black and white)
         4. 2D and 3D digital noise reduction
         5. Integral IR illumination, providing effective visibility of 30m at 0 Lux when activated in Black & White mode.
         6. 32 privacy masking regions with quadrangle.
         7. The camera shall provide video display on smart phone (iPhone, Android) to adjust viewing angle, rotation and focus.
      3. Intelligence and Analytics – The 4K camera shall have a suite of integral intelligent operations and analytic functions to include:
         1. Motion detection with 8 definable detection areas with 8 point polygonal zones, and minimum/maximum object size.
         2. Detection of logical events of specified conditions from the camera’s video
            1. Directional detection
            2. Fog detection
            3. Motion detection
            4. Appear/Disappear
            5. Enter/Exit
            6. Intrusion
            7. Loitering
            8. Tampering
            9. Virtual line
            10. Shock detection
            11. Audio detection with NW I/O Box (External Device)
            12. Sound classification with NW I/O Box (External Device)
         3. Detection and classification with NW I/O Box of the following sound.
            1. Scream
            2. Gunshot
            3. Explosion
            4. Crashing glass
         4. Classified object Analytics
            1. Person/Face/Vehicle/License plate
            2. Attributes : Vehicle(Type: car/bus/truck/motorcycle/bicycle)
      4. Interoperability – The 4K camera shall be ONVIF Profile S and G,T,M compliant.
      5. The 4K camera shall possess the following further characteristics:
         1. Built-in web server, accessed via standard browsers including Internet Explorer, Firefox, Chrome & Safari
         2. Micro SD/SDHC/SDXC memory card and NAS recording options, with configurable pre-alarm and post-alarm recording intervals
         3. Bi-directional audio
         4. Alarms and notifications
            1. alarm notification triggers:

Analytics

Network disconnect

Alarm input with NW I/O Box

* + - * 1. available notification means upon trigger:

File Upload via FTP and E-mail

Notification via E-mail

Local storage (SD / SDHC / SDXC) or NAS recording at event triggers

Alarm output with NW I/O Box

PTZ preset

Handover

* + - 1. Pixel Counter available in the plug-in web viewer.
      2. HPoE capable
      3. IP66/IP67, IK10, NEMA4X, NEMA-TS 2(2.2.7,2.2.8, 2.2.9)
      4. This device has been verified using STP cable. The use of appropriate GND grounding and STP cable is recommended to effectively protect your product and property from transient voltage, thunder stroke, communication interruption.
  1. **CAMERA SOFTWARE**
     1. The 4K camera shall have a built in web server which supports browser-based configuration using Internet Explorer, Google Chrome, Mozilla Firefox, and Apple Safari, for which web viewer plug-ins are available, from a PC or Mac.
     2. The web viewer shall provide a monitoring screen which displays live camera video and simultaneously provides same-screen access to the following functions:
        1. Live view window size
        2. Resolution setting
        3. Image (snapshot) capture
        4. Manual recording to SD or NAS
        5. Audio/microphone control
        6. Access Playback and Setup menus
        7. Digital PTZ
     3. The web viewer shall provide an auto-tracking feature which trace to specific object with object detect analytics or targeted object.
     4. The web viewer shall provide a playback screen which provides access to the following functions:
        1. Search date and time range
        2. Search event type
        3. Play an event video
        4. Set resolution
        5. Play audio if present
        6. Generate a backup copy of saved video data
     5. The web viewer shall provide a setup screen which provides access to the following configuration settings and functions in the camera:
        1. Digital video profile to include compression type, maximum or target bit rate, frame rate, multicast parameters, crop encoding area
        2. User profile to include password, access level, authentication
        3. Date and time
        4. Network settings and IP version
           1. DDNS
           2. SSL, including certificate management
           3. 802.1x authentication
           4. Quality of Service settings
           5. SNMP to include version selection and settings
           6. Auto configuration
        5. Video setup to include flip and mirror mode, hallway view mode, video type, privacy zone
        6. Audio setup to include source, audio codec type, gain, and bit rate
        7. Camera settings to include image preset, sensor frame capture, dynamic range, white balance, back light, exposure, day/night operation, on-screen display, IR illumination, sharpness, contrast, and color level.
        8. Event detection setup to include notification parameters, recording rules, time schedule, tamper protection, motion detection, event triggers
        9. System function to include reboot, upgrade, check system and event logs, application (SDK) management
        10. View profile information
     6. Client requirements
        1. Acceptable Operating Systems: Windows 7 / 8.1 / 10, MAC OS X 10.9~10.11
        2. Acceptable browsers
           1. Plug-in free web viewer: Google Chrome 47, MS Edge 20
           2. Plug-in web viewer: MS Explore 11, Mozilla Firefox 43, Apple Safari 9 \* Mac OS X only
  2. **DETAILED SPECIFICATIONS**
     1. Video
        1. Imager
           1. Sensor : 1/1.8" CMOS

scanning : progressive

* + - * 1. Minimum illumination

Color mode : 0.06 Lux (1/30sec, F1.36, 30IRE)

Black & white mode :0.006 Lux(F1.36,IR LED off)**,**0Lux (IR LED on)

* + - * 1. The following features with control settings shall be available:

Camera Title

Off / On (Displayed up to 85 characters per line)

W/W : English / Numeric / Special characters

China : English / Numeric / Special / Chinese characters

Common : Multi-line (Max. 5), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution

Day/night setting

Auto (ICR) / Color / B/W / External / Schedule

Backlight compensation (BLC)

BLC, HLC, WDR, SSDR

WDR

Extreme WDR(120dB)

Contrast Enhancement

Off / On (Samsung Super Dynamic Range)

Digital Noise Reduction (DNR)

Off / On (Samsung Super Noise Reduction)

Defog

Off / Auto / Manual

Motion Detection

Off / On (8ea polygonal zones)

Privacy Masking

Off / On (32ea quadrangle zones)

Color: Grey/Green/Red/Blue/Black/White

Mosaic

Gain Control

Manual / Max

White Balance

ATW /Narrow ATW /AWC /Manual /Indoor /Outdoor /Mercury /Sodium

Electronic shutter speed

Settings : Minimum / Maximum / Anti flicker (2 ~ 1/12,000sec)

Image flip

Off / On

Image mirror

Off / On

Alarm I/O

External device support

Alarm Triggers

Analytics, Network disconnect

Alarm Events

File upload via FTP and E-mail

Notification via, E-mail

SD/SDHC/SDXC or NAS recording at event triggers

PTZ Preset

Handover

Pixel Counter

Available in the plug-in web viewer.

* + - * 1. Lens : 6.91~214.7mm(31x) zoom (digital 32x, total 992x zoom)

Aperture Ratio

F1.36(Wide) – F4.6(Tele)

Angle of view:

H: 60.6°(Wide)~2.59°(Tele) / V: 35.1°(Wide)~1.45°(Tele) / D: 68.8° (Wide)~2.97°(Tele)

Min. Object Distance

3m(9.84ft)

Focus control

One-Shot AF, Focus save, Focus scan, Wise auto focus

Lens Type

P-iris (IR corrected)

* + - 1. IR Viewable Length : 250m(820ft), Wise IR
      2. Water Removal
         1. Spinning Dry
      3. Auto Tracking
         1. Object auto tracking(Person/Vehicle)
         2. Target lock tracking
      4. PTR
         1. PAN

360° Endless

* + - * 1. PAN Speed

Preset. 550°/sec, Manual: 0.024°/sec~200°/sec

* + - * 1. TILT

110° (-20°~90°)

* + - * 1. TILT Speed

Preset. 550°/sec, Manual: 0.024°/sec~200°/sec

* + - * 1. Sequence

Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule

* + - * 1. Preset Accuracy

Up to ±0.07° (±20°C by temperature at preset setting)

* + - 1. Video Streams
         1. The 4K camera shall be able to produce 10 video profiles, each of which may have the following properties:

Encoding type:

H.265

H.264

MJPEG

Resolution:

3840x2160, 2592x1944, 2592x1464, 1920x1080, 1600x1200, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240

Maximum frame rate:

H.265: frame rates up to 30 fps at 60 Hz

H.264: frame rates up to 25 fps at 50 Hz

MJPEG: frame rate up to 30 fps at 60 Hz, frame rate up to 25 fps at 50 Hz (at 8MP resolution, the maximum frame rate is 5fps)

Bit rate control method:

H.265 and H.264 : target bitrate level control, constant bit rate (CBR) or variable bit rate (VBR)

MJPEG : quality level control, variable bit rate (VBR)

* + - 1. Number of multi-streaming profiles
         1. 10 maximum
      2. Simultaneous users (total)
         1. 20 maximum (unicast)
      3. Storage and Recording
         1. The 4K camera shall have onboard SD card storage.

Card type : Micro SD/SDHC/SDXC

Capacity : 2slot 1TB(1slot 512GB)

Image content on the card shall have the ability to be downloaded to a selected destination.

* + - 1. Interoperability
         1. Video streams shall be capable of supporting ONVIF protocol, profiles S and G.
      2. Single Images
         1. The 4K camera shall support jpg file image screenshot and export.
      3. Memory
         1. 4GB RAM, 512MB Flash
    1. Network
       1. Connectivity
          1. Metal shielded RJ-45(10/100BASE-T)
       2. Protocols supported :
          1. Transmission Control Protocol (TCP), Internet Protocol (IP) v4 and v6, User Datagram Protocol (UDP)
          2. Configuration: Dynamic Host Configuration Protocol (DHCP)
          3. Web services: Hypertext Transfer Protocol (HTTP), Secure HTTP (HTTPS)
          4. Network services: Address Resolution Protocol (ARP), Bonjour, Domain Name System (DNS), Internet Control Message Protocol (ICMP), Network Time Protocol (NTP), Protocol Independent Multicast-Sparse Mode (PIM-SM), Simple Network Management Protocol (SNMP v1/2c/3 – MIB-2), Universal Plug and Play (UPnP)
          5. Media: Real-Time Transport Protocol (RTP), Real-Time Control Protocol, Real-Time Streaming Protocol (RTSP)
          6. Multicast: Internet Group Management Protocol (IGMP)
          7. Notifications: File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP)
          8. Remote Access: Point-to-Point Protocol over Ethernet) (PPPoE)
       3. DDNS
          1. The 4K camera shall support DDNS services offered by the Manufacturer and other publicly available service offerings.
       4. Quality of Service (QoS)
          1. Layer 3 DSCP
       5. Security features
          1. HTTPS(SSL) Login Authentication
          2. Digest Login Authentication
          3. IP Address Filtering
          4. User access log
          5. 802.1X Authentication(EAP-TLS, EAP-LEAP)
          6. Device certificate(Hanwha Techwin Root CA)
       6. Discovery
          1. Manufacturer shall offer a discovery program to identify all devices of his manufacture on the network.
    2. Application Programming Interface
       1. ONVIF Profile S/G/T/M
       2. SUNAPI (HTTP API)
       3. Wisenet open platform
    3. Electrical
       1. Power
          1. Input Voltage

HPoE(IEEE802.3bt, Class8, Type4, Injector included)

* + - * 1. Power Consumption

Typical 23W, Max 62W

* + 1. Mechanical And Environmental
       1. Color / Material
          1. White / Aluminum
       2. Dimensions (W x H)
          1. ø188x264.9mm(7.40x10.47")
       3. Weight
          1. 4400g (9.70lb)
       4. RAL Code
          1. White: RAL9003
       5. Temperature:
          1. Operating

'-50°C~+55°C(-58°F ~ +131°F) / +74°C(+165°F) (MAX) based on NEMA-TS 2(2.2.7)

\* Start up should be done at above -30°C

* + - * 1. Storage

-50°C ~ +60°C(-58°F ~ +140°F)

* + - 1. Humidity
         1. Operating

0~95% RH(Non-condensing)

* + - * 1. Storage

0~90% RH

* + 1. DORI
       1. Detect (25PPM/ 8PPF) : Wide: 131.4m(431.19ft) / Tele: 3397.9m(11146.16ft)
       2. Observe (63PPM/ 19PPF) : Wide: 52.6m(172.48ft) / Tele: 1358.9m(4458.46ft)
       3. Recognize (125PPM/ 38PPF) : Wide: 26.3m(86.24ft) / Tele: 679.5m(2229.23ft)
       4. Identify (250PPM/ 76PPF) : Wide: 13.1m(43.12ft) / Tele: 339.7m(1114.62ft)
    2. Certification
       1. EMC
          1. FCC 47 CFR 15 Subpart B Class A
          2. ICES-3(A)/NMB-3(A)
          3. CE/UKCA

EN 55032 Class A, EN 50130-4, EN 61000-3-2, EN 61000-3-3

* + - * 1. VCCI CISPR 32 Class A
        2. RCM AS/NZS CISPR 32 Class A
        3. KS C 9832 Class A, KS C 9835
      1. Safety
         1. UL 62368-1, CAN/CSA C22.2 NO. 62368-1, IEC/EN 62471
      2. Environment
         1. IEC/EN 63000, IEC/EN 60529 IP66/IP67, IEC/EN 62262 IK10, NEMA TS 2-2013 (2.2.7, 2.2.8, 2.2.9), NEMA 250 type 4X

END OF SECTION