

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

For additional information, visit http://www.hanwha-security.com/

1. **PRODUCTS**
   1. **EQUIPMENT**
      1. Manufacturer : Hanwha Techwin(http://www.hanwha-security.com/)
      2. Model : XNF-9013RV
      3. Alternates : None
   2. **GENERAL DESCRIPTION**
      1. Video Compression and Transmission – The 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/H.264 : Max. 30/25fps(60Hz/50Hz)
            2. MJPEG : Max. 30/25fps(60Hz/50Hz)
         2. The camera shall be able to configure various resolution selections.
            1. Original view(1:1): Max.3008x3008 ~ Min.480x480
            2. Double panorama(2:1): Max.3584x1792 ~ Min.640x320
            3. Single panorama(4:1): Max.3584x896 ~ Min.640x160
            4. Quad view: Max.3584x2688 ~ Min.640x480
            5. Q1/Q2/Q3/Q4(4:3): Max.1792x1344 ~ Min.640x480
         3. The camera shall support unicast video streaming up to 20 users.
         4. The camera shall support multicast video streaming.
         5. The camera shall support multiple video streaming up to 10 profiles.
         6. The camera shall support 5 virtual channel support
         7. The camera shall be able to configure Dynamic DNS (DDNS). DDNS shall be provided with no additional cost by the manufacturer.
         8. The camera shall provide WiseStream Ⅱ, WiseStreamⅢ based on AI engine, Dynamic GOV and FPS to efficiently manage bit rate of the video stream and reduce storage.
         9. The camera shall provide WiseNRⅡ that working based on AI engine for reduce noise and blur on image
      2. Camera – The camera device shall have the following physical and performance properties:
         1. IK10 rated for protection against impacts.
         2. True day/night operation with scheduling and options for external devices.
            1. Low light level operation to 0.39 lux at F2.2 in color mode and 0 lux in black and white mode with IR illumination on.
            2. Black and White mode operation to 0 lux with IR LED on.
         3. The camera shall be able to produce clear images in highly contrast scenes with multi-exposure wide dynamic range up to 120dB.
         4. The camera shall support digital noise reduction using both 2D and 3D noise reduction technology.
         5. The camera shall be able to configure 32 privacy masking areas with polygonal zones.
         6. The camera shall provide video display on smart phone (iPhone, Android) to adjust viewing angle, pan, tilt, rotation and focus.
      3. Intelligence and Analytics – The camera shall have a suite of intelligent analytic functions.
         1. Analytics events based on AI engine
            1. Object detection : Person/Face/Vehicle/License plate
            2. IVA : Virtual line/Area, Enter/Exit, Loitering, direction, Appear/Disappear, intrusion
         2. Analytics events : Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification
            1. Motion detection with 8 definable detection areas with 8 point polygonal zones, and minimum/maximum object size.
            2. Detection and classification of the following sound.

Scream

Gunshot

Explosion

Crashing glass

* + - 1. Business Intelligence features
         1. People counting
         2. Queue management
         3. Heatmap
    1. Interoperability – The camera shall be ONVIF Profile S / G / T and M compliant.
    2. The camera shall possess the following further characteristics:
       1. Micro SD/SDHC/SDXC memory card with configurable pre-alarm and post-alarm recording intervals
       2. NAS recording option with configurable pre-alarm and post-alarm recording intervals
       3. Alarms and notifications
          1. alarm notification triggers

Analytics

Network disconnect

Alarm input

* + - * 1. available notification means upon trigger

File upload(image) : e-mail/FTP

Notification : e-mail

Recording : SD/SDHC/SDXC or NAS recording at event triggers

Alarm output

PTZ preset

Handover

Audio playback

* + - 1. Pixel Counter available in the web viewer.
      2. IP66, IK10, NEMA4X
      3. 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.
      4. NDAA Compliant
  1. **DETAILED SPECIFICATIONS**
     1. Video
        1. Imaging device : '1/2.3" 12MP CMOS
        2. Scanning : Progressive
        3. Minimum Illumination
           1. Color : 0.39 Lux (F2.2, 1/30sec)
           2. B/W : 0Lux (IR LED on)
     2. Lens
        1. Focal length : 1.08mm fixed focal
        2. Max. Aperture Ratio : F2.2
        3. Field of View
           1. H : 187°
           2. V : 187°
           3. D : 187°
        4. Min. Object Distance : 0.5m(1.64ft)
        5. Focus Control : Simple focus
     3. Operational Functions
        1. IR Viewable Length : Wise IR, PoE : 8m(26.25ft), PoE+ : 13m(42.65ft)
        2. Camera Title
           1. Off / On (Displayed up to 85 characters)
           2. English / Numeric / Special characters
           3. Multi-line (Max. 5lines), Color (Grey / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
        3. Day/Night Setting : Auto (ICR) / Color / B/W / External / Schedule
        4. Backlight Compensation : Off / BLC / HLC / WDR /SSDR
        5. Contrast Enhancement : Off / On (SSDR)
        6. Digital Noise Reduction : Off / On (WiseNRⅡ(Based on AI engine), SSNRⅤ)
        7. Motion Detection : Off / On (8ea, 8-point polygonal zones)
        8. Privacy Masking : Off / On (32ea, Quadrangle zones)
           1. Color: Gray, Green, Red, Blue, Black, White
           2. Mosaic
        9. Gain Control : Off / Manual / Max Gain
        10. White Balance : ATW / Narrow ATW / AWC / Manual / Indoor / Outdoor
            1. Electronic Shutter Speed : Minimum / Maximum / Anti flicker (1/5~1/12,000sec)
            2. Auto Prefer shutter control based on AI engine
        11. Image Rotation
            1. Flip : Off / On
            2. Mirror : Off / On
        12. Alarm I/O : 2 configured I/O
        13. Alarm Triggers
            1. Analytics
            2. Network disconnect
            3. Alarm input
            4. Time schedule
        14. Alarm Events
            1. File upload(image) : e-mail/FTP
            2. Notification : e-mail
            3. Recording : SD/SDHC/SDXC or NAS recording at event triggers
            4. Alarm output
            5. PTZ Preset
            6. Handover
            7. Audio playback
        15. Audio
            1. Audio In

Selectable(Internal Microphone / External Microphone / Line)

Supply voltage: 2.5VDC(4mA), Input impedance: 2K Ohm

* + - * 1. Audio Out

Line out

Max. output level: 1Vrms

* + - 1. Pixel Counter : Support
      2. Storage : Micro SD/SDHC/SDXC 2slot Max. 1TB (512GB x 2)
      3. AI Intelligent Analytics
         1. Object detection : Person/Face/Vehicle/License plate
      4. IVA : Virtual line/Area, Enter/Exit, Loitering, direction, Appear/Disappear, intrusion
      5. Intelligent Analytics : Defocus detection, Motion detection, Tampering, Fog detection, Audio detection, Sound classification
      6. Memory : 4GB RAM, 512MB Flash
    1. Video Streams
       1. Video compression : H.265, H.264, MJPEG
       2. Resolution
          1. Original view(1:1): 3008x3008~480x480
          2. Double panorama(2:1): 3584x1792~640x320
          3. Single panorama(4:1): 3584x896~640x160
          4. Quad view: 3584x2688~640x480
          5. Q1/Q2/Q3/Q4(4:3): 1792x1344~640x480
       3. Maximum Framerate
          1. H.265 / H.264

Original view-Max.30fps/25fps@3008x3008(60Hz/50Hz)

Double panorama-Max.30fps/25fps@3584x1792(60Hz/50Hz)

Single panorama-Max.30fps/25fps@3584x896(60Hz/50Hz)

* + - * 1. MJPEG : Max.30fps/25fps@1080x1080(60Hz/50Hz)
      1. Smart Codec
         1. Manual(5ea area)
         2. WiseStreamⅡ
         3. WiseStreamⅢ(Based on AI engine),
      2. Bitrate Control Method
         1. H.265 / H.264 : CBR or VBR
         2. MJPEG : VBR
      3. Streaming Capability : Multiple streaming (Up to 10profiles , 5 virtual channel support)
      4. Streaming method : Unicast / Multicast
      5. Simultaneous Users : 20 maximum (Unicast)
      6. Interoperability
         1. ONVIF Profile S / G / /M / T
         2. SUNAPI(HTTP API)
         3. Wisenet Open Platform
    1. Network
       1. Connectivity : Metal Shield RJ-45(10/100BASE-T)
       2. Protocol
          1. IP v4 / v6, TCP, UDP
          2. Configuration: DHCP, LLDP
          3. Web service: HTTP, HTTPS
          4. Network Service: ARP, Bonjour, DNS, ICMP, NTP, PIM-SM, SNMP v1/v2c/v3 – MIB-2, UPnP
          5. Media: RTP, RTCP, RTSP
          6. Unicast: SRTP
          7. Multicast: IGMP, PIM-SM
          8. Notifications: FTP, SMTP
       3. DDNS – The camera shall support DDNS services offered by the manufacturer and others publicly available service offerings
       4. QoS – Layer 3 DSCP
       5. Security Feature
          1. User password protection
          2. The device shall not provide a manufacture default password. Initial password setting shall be required to access the camera.
          3. A minimal level of password complexity shall be required by the camera.
          4. The camera shall not have a manufacture back-door password.
          5. The manufacturer shall provide a tool that provides the ability to make password changes to multiple cameras at the same time.
          6. IP address filtering – List of allowed or blocked IP addresses.
          7. SRTP secured video communication for unicast.
          8. Digest login authentication.
          9. User access log.
          10. 802.1X Authentication (EAP-TLS, EAP-LEAP)
          11. Device Certificate (Hanwha Techwin Root CA)
          12. HTTPS(SSL/TLS) login authentication and secured video communication with TLS v1.2, v1.3
          13. Disk encryption on SD card recording (AES-256)
          14. File encryption on local disk recording via web browser (AES-256)
          15. Mutual Authentication (Client Authentication) for secure communication
          16. Secure OS and Security Boot
       6. Discovery – The manufacturer shall offer a discovery program to identify all devices of them on the network.
       7. Configuration – The manufacturer shall offer a configuration program that remotely allows users to change settings on multiple cameras simultaneously.
       8. Firmware upgrade – The manufacturer shall offer a program capable of upgrading multiple cameras at the same time (not requiring access to individual cameras).
       9. Camera backup setting – The manufacturer shall provide a program that provides the ability to save multiple camera settings to a file and restore these camera settings if needed.
       10. Reporting – The manufacturer shall provide a tool that can generate a report including thumbnail view, MAC address, IP address, serial number and other camera settings.
    2. Electrical
       1. Power
          1. Input Voltage / Current

PoE (IEEE802.3af, Class3)

PoE+ (IEEE 802.3at type2, Class4)

12VDC

* + - * 1. Power Consumption

PoE mode : Max 12.95W, typical 9.4W, 12VDC: Max 12.9W, typical 9.0W

PoE+ mode : Max 23.0W, typical 9.4W, 12VDC: Max 22.0W, typical 9.0W

* + 1. Mechanical And Environmental
       1. Color/Material : White / Aluminum, Hard-coated dome bubble
       2. RAL code : RAL9003
       3. Dimensions (W x H) : Ø160x72mm(6.23x2.84")
       4. Weight : 1.17Kg (2.58lb)
       5. Temperature
          1. Operating : -40°C ~ +60°C (-40°F ~ +140°F)

PoE+ mode : IR distance range will change to max.8m if the temperature is 55 °C (131 °F) or higher, +55°C (Hysteresis 5°C).

* + - * 1. Storage : -50°C ~ +60°C (-58°F ~ +140°F)
      1. Humidity
         1. Operating : Less than 95% RH(non-condensing)

Humidity control /w GORE vent

* + - * 1. Storage : Less than 95% RH
      1. Ingression Protection : IP66, NEMA4X
      2. Vandal Resistance : IK10
    1. DORI
       1. Detect (25PPM/ 8PPF) Wide: 34.9m(114.49ft)
       2. Observe (63PPM/ 19PPF) Wide: 13.9m(45.60ft)
       3. Recognize (125PPM/ 38PPF) Wide: 7.0m(22.96ft)
       4. Identify (250PPM/ 76PPF) Wide: 3.5m(11.48ft)
    2. EMC & Safety
       1. FCC
          1. 47 CFR Part 15 Subpart B(ANSI C63.4a-2017 Class A)
          2. ICES-003 Issue 7(ANSI C63.4a-2017 Class A)
       2. CE
          1. EMC-Directive 2014/30/EU(EN 55032:2015/A11:2020 Class A, EN 50130-4:2011)
       3. UKCA
          1. Regulations 2016(BS EN 55032:2015/A11:2020 Class A, BS EN 50130-4:2011)
       4. RCM AS/NZS CISPR 32:2015 AMD 1:2020 Class A
       5. VCCI CISPR 32:2016 Class A
       6. KS C 9832 Class A, KS C9835
       7. UL 62368-1, CSA C22.2 62638-1:19, IEC 62471
       8. CE EN IEC 63000:2018 (hazardous substances)

END OF SECTION