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 : XNP-6400RW
		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 and H.264 : Max. 60/50FPS(60Hz/50Hz)
				2. MJPEG : Max. 30/25FPS(60Hz/50Hz)
			2. The 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. The camera shall be able to configure various resolution selections.
				1. 16:9 aspect ratio : 1920x1080, 1280x720, 800x448, 640x360
				2. 4:3 aspect ratio : 1280x960, 1024x768, 800x600, 640x480, 320x240
				3. 5:4 aspect ratio : 1280x1024, 720x576
				4. 3:2 aspect ratio : 720x480
			4. The camera shall support unicast video streaming up to 20 users.
			5. The camera shall support multicast video streaming up to 10 profiles.
			6. The camera shall be able to configure Dynamic DNS (DDNS). DDNS shall be provided with no additional cost by the manufacturer.
			7. The camera shall provide WiseStream Ⅱ, Dynamic GOV and Dynamic FPS to efficiently manage bit rate of the video stream and reduce storage.
		2. Camera – The camera device shall have the following physical and performance properties:
			1. Built-in wiper is for get rid of water or dust initially
			2. IK10 rated for protection against impacts for camera body.
			3. True day/night operation with scheduling and options for external devices.
				1. Low light level operation to 0.1 lux at F1.6 in color mode and 0 lux in black and white mode with IR illumination on.
			4. The camera shall be able to produce clear images in highly contrast scenes with multi-exposure wide dynamic range.
			5. The camera shall support digital noise reduction using both 2D and 3D noise reduction technology.
			6. The camera shall be able to configure 32 privacy masking areas with polygonal zones.
			7. The camera shall have the defog feature to remove fogginess of scene which can be triggered automatically from the fog detection event.
			8. The camera shall provide video display on smart phone (iPhone, Android) to adjust viewing angle, rotation and focus.
		3. Intelligence and Analytics – The camera shall have a suite of intelligent analytic functions.
			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. Face detection
				4. Motion detection
				5. Appear/Disappear
				6. Enter/Exit
				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. Interoperability – The camera shall be ONVIF Profile S / G and T compliant.
		5. The camera shall possess the following further characteristics:
			1. Built-in web server, accessed via non-plugin browsers including Google Chrome, IE11, MS Edge, Mozilla Firefox and Apple Safari.
			2. The camera shall provide streaming to multiple smart phones with DDNS provided freely from the manufacturer. In addition, the application shall be available for both iOS and Adroid, free of charge with search keyword, ‘Wisenet Mobile’.
			3. Micro SD/SDHC/SDXC memory card with configurable pre-alarm and post-alarm recording intervals
			4. NAS recording option with configurable pre-alarm and post-alarm recording intervals
			5. 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 web viewer.
			2. HPoE capable
			3. IP66, IK10, NEMA4X
			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.
			5. NDAA Compliant
	1. **DETAILED SPECIFICATIONS**
		1. Video
			1. Imaging device : 1/2.8" CMOS
			2. Scanning : Progressive
			3. Minimum Illumination
1. Color : 0.05Lux (F1.6, 1/30sec),
2. B/W : 0Lux(IR LED On)
	* 1. Lens
			1. Focal length : 4.25~170mm(40X) zoom
			2. Digital Zoom : 32x
			3. Max. Aperture Ratio : F1.6(Wide) - F4.95(Tele)
			4. Field of View
3. H: 65.66°(Wide)~1.88°(Tele)
4. V: 39.40°(Wide)~1.09°(Tele)
	* + 1. Min. Object Distance : 3m(9.84ft)
			2. Focus Control : Oneshot AF, Focus save
			3. Lens Type : DC auto iris
		1. PTR
			1. PAN : 360° Endless
			2. PAN Speed
5. Max. 500°/sec
6. Manual : 0.024°/sec~250°/sec
	* + 1. TILT : 110° (-20°~90°)
			2. TILT Speed
7. Max. 350°/sec
8. Manual : 0.024°/sec~250°/sec
	* + 1. Sequence : Preset(300ea), Swing, Group(6ea), Trace, Tour, Auto Run, Schedule
			2. Preset Accuracy : ±0.1°, Pan/Tilt correction
		1. Operational Functions
			1. IR Viewable Length : 200m(656.17ft)
			2. Camera Title
9. Off / On (Displayed up to 85 characters)
10. W/W : English / Numeric / Special characters
11. Common : Multi-line (Max. 5), Color (Grey/Green/Red/Blue/Black/White), Transparency, Auto scale by resolution
12. Image : BMP 200x200 pixel
	* + 1. Day/Night Setting : Auto (ICR) / Color / B/W / External / Schedule
			2. Backlight Compensation : Off / BLC / HLC / WDR
			3. WDR : extremeWDR(120dB)
			4. Contrast Enhancement : SSDR
			5. Digital Noise Reduction (DNR) : Support (SSNR Ⅴ)
			6. Digital Image Stabilization (DIS) : Support (built-in gyro sensor)
			7. Defog : Support
			8. Motion Detection : Off / On (8ea, 8-point polygonal)
			9. Privacy Masking : Off / On (32 zones, rectangular)
13. Color : Grey / Green / Red / Blue / Black / White
14. Mosaic
	* + 1. Gain Control : Support
			2. White Balance : ATW / AWC / Manual / Indoor / Outdoor / Mercury / Sodium
			3. Electronic Shutter Speed : Min / Max / Anti-flicker (2 ~ 1/12,000sec)
			4. Image Rotation
15. Flip : Off / On
16. Mirro r: Off / On
	* + 1. Alarm I/O : Support with external NW I/O Box
			2. Alarm Triggers
17. Alarm Input(with NW I/O Box)
18. Analytics
19. Network Disconnection
	* + 1. Alarm Events
20. File Upload via FTP and E-mail, Notification via E-mail
21. SD/SDHC/SDXC or NAS recording at event triggers
22. Alarm output with NW I/O Box
23. Handover
24. PTZ preset
	* + 1. Pixel Counter : Support
			2. Storage : Micro SD/SDHC/SDXC 1TB (2 slots x 500GB)
			3. Analytics : Directional detection, Fog detection, Face detection, Motion detection, Appear/Disappear, Enter/Exit, Loitering, Tampering, Virtual line, Shock detection, Audio detection with NW I/O Box, Sound classification with NW I/O Box)
			4. Memory : 4GB RAM, 512MB Flash
		1. Video Streams
			1. Video compression : H.265, H.264, MJPEG
			2. Resolution : 1920x1080, 1280x1024, 1280x960, 1280x720, 1024x768, 800x600, 800x448, 720x576, 720x480, 640x480, 640x360, 320x240
			3. Maximum Framerate
				1. H.265 / H.264 : Max. 60FPS/50FPS(60Hz/50Hz)
				2. MJPEG : Max. 60/50FPS(60Hz/50Hz)
			4. Smart Codec
25. Manual Mode (area-based : 5EA)
26. WiseStream Ⅱ
	* + 1. Bitrate Control Method
27. H.265 / H.264 : CBR or VBR
28. MJPEG : VBR
	* + 1. Streaming Capability : Multiple streaming (Up to 10 profiles)
			2. Streaming method : Unicast / Multicast
			3. Simultaneous Users : 20 maximum (Unicast)
			4. Profile set : Max. 10 ea
			5. Interoperability
29. ONVIF Profile S / G / T
30. SUNAPI(HTTP API)
31. Open Platform
	* 1. Network
			1. Connectivity – Metal Shielded RJ-45(10/100/1000BASE-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 v1/2c/3 – MIB-2, UPnP
				5. Media : RTP, RTCP, RTSP
				6. Unicaset : 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. Default password change 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. HTTPS(SSL/TLS) login authentication
				8. HTTPS(SSL/TLS) secured communication
				9. Digest login authentication
				10. User access log
				11. 802.1X Authentication(EAP-TLS, EAP-LEAP)
				12. Device Certificate(Hanwha Techwin Root CA)
			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 : HPoE(IEEE802.3bt, Class6, Type3)
				2. Power Consumption : HPoE(Camera only): Max 42W, typical 20W
		3. Mechanical And Environmental
			1. Color/Material
32. Body : White / Aluminum
33. Head : Black / Polycarbonate
	* + 1. RAL Code
34. White : RAL9003
35. Black : RAL9005
	* + 1. Dimensions (W x H) : Ø184.9x318.8mm(7.28x12.55")
			2. Weight : 5.4Kg(11.90lb)
			3. Temperature
				1. Operating
36. Normal: -40°C~+55°(-40°F ~ +131°F)
37. Intermittent: -40°C~+60°C (-40°F ~ +140°F)
38. Max Temperature based on NEMA-TS 2(2.2.7): +74°C(+165°F)
	* + - 1. Storage : -50°C~+60°C (-58°F~+140°F)
			1. Humidity
				1. Operating : Less than 95% RH (non-condensing)
				2. Storage : Less than 90% RH (non-condensing)
			2. Ingression Protection : IP66, NEMA4X
			3. Vandal Resistance : IK10
		1. DORI
			1. Detect (25PPM/ 8PPF) : Wide: 59.5m(195.3ft) / Tele: 2340.4m(7678.4ft)
			2. Observe (63PPM/ 19PPF) : Wide: 23.8m(78.1ft) / Tele: 936.2m(3071.4ft)
			3. Recognize (125PPM/ 38PPF) : Wide: 11.9m(39.1ft) / Tele: 468.1m(1535.7ft)
			4. Identify (250PPM/ 76PPF) : Wide: 6.0m(19.5ft) / Tele: 234.0m(767.8ft)
		2. EMC & Safety
			1. FCC 47 CFR Part 15 Subpart B
39. ANSI C63.4-2014 Class A
	* + 1. IC Regulation ICES-003:2016
40. ANSI C63.4-2014 Class A
	* + 1. CE EMC-Directive 2014/30/EU
41. EN 55032:2015 Class A
42. EN 50130-4:2011+A1:2014
	* + 1. VCCI-CISPR 32: Class A
			2. AS/NZS CISPR32:2015 Class A
			3. UL listed
			4. CE EN 50581:2012 (hazardous substances)
		1. Ingress Protection and Vandal Resistance
			1. ANSI / IEC60529 – Degrees of Protection Provided by Enclosures – IP66/IP67
			2. DIN40050 Part9 : IP6K9K
			3. IEC EN 62262 - Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts : IK10
			4. IEC 60068-2-75 : IK10

END OF SECTION