

COLLEGE STATION I.S.D.  
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(979) 764-5408

**PURCHASING OFFICE  
INTER-DEPARTMENTAL MEMO**

TO: Mike Martindale  
DATE: March 28, 2018  
SUBJECT: Security Camera System for Wellborn Middle School

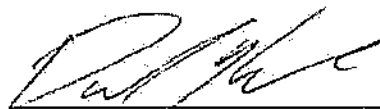
As part of the 2015 bond program, the Director Technology has identified the Security Camera System requirements for the new Wellborn Middle School. The district has worked with Design Security Controls, Inc. (DSC) to provide the attached quote #DSCQ185 for Samsung camera equipment, installation, engineering and design.

This security camera equipment and installation is available from DSC through the Education Service Center Region (ESC) 6 Educational Purchasing Interlocal Cooperative (EPIC6) purchasing program Contract #RFP 04.18. EPIC6 contracts have been competitively bid and meet the competitive bid requirements stipulated in Texas Government Code, Section 791.025.

It is the recommendation of Mark Pantel, Director of Purchasing and David Hutchison, Director of Technology that we purchase the Security Camera System for Wellborn Middle School from Design Security Controls, Inc. for a total of \$91,483.35 per the above referenced EPIC 6 Contract using 2015 Bond funds.



Mark Pantel, Director of Purchasing



David Hutchison, Director of Technology

# Official Proposal



**Design Security Controls, LLC**  
 1511 Upland Drive  
 Suite 103  
 Houston, TX 77043

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 Web www.ThinkDSC.com




Texas HUB Certified  
 Vendor # 49671



Texas SBE Certified  
 Cert # 1229

License Numbers: B19447 | ACR-1930865 | SCR-G-2123149

Client	Project Location	Prepared By
College Station ISD David Hutchison Wellborn Middle School United States	College Station ISD David Hutchison Wellborn Middle School United States	 <p>Ricky Johnson General Manager Phone 713-464-8407 Mobile Fax 713-464-8407 E-Mail rjohnson@thinkDSC.com</p>
Phone		

## Proposal Details & Introductory Notes

Proposal Number DSCQ5185      Proposal Date Mar 2, 2018      Quote Expires 5/1/2018

This proposal is for Welborn middle school camera system installation.

- 50 interior cameras
- 19 exterior cameras
- two fisheye cameras
- 2 24 terabyte network recorder's

this proposal includes installing and programming all 71 cameras. Network cable and switches are being provided by others and are not included on this proposal. All network cabling needs to be in place prior to us starting our project.

Manufacturer Part #	Description	Qty	Unit Price	Ext. Price
	Wellborn Middle School Camera System			
	Epic 6 Samsung camera equipment.			
PRN-4011-24TB	4K NVR, 64CH, 24TB RAW, H.265/H.264/MJPEG, ARB (Automatic Recovery Backup) & Failover (N+1), 400Mbps Recording/ 32Mbps playback throughput, 12 Hot Swap HDD Bays, iSCSI, redundant power, HDMI/D-Sub VGA dual display, DI/O, 2-way audio, ONVIF, maximum camera resolution of 12MP recording/display and fisheye dewarping on WEB and CMS, Support RAID 5/6 (2TB * 12 RAID 5/6 Ready). Field configuration and setup required.	2.00	\$10,470.00	\$20,940.00
Dell-U2414H	Dell UltraSharp 24 Monitor <ul style="list-style-type: none"> <li>• Full HD resolution and ultra-wide viewing angle for crisp, clear viewing quality at virtually any angle</li> <li>• Carefully color calibrated at the factory, the Dell™ UltraSharp 24 Monitor – U2414H features more than 96-percent sRGB color space for impressive color from the moment you set it up.</li> <li>• Great detail with a broad range of 16.77 million colors covering 96% sRGB</li> </ul>	2.00	\$307.69	\$615.38
LCD-W	wall mount for lcd monitor	2.00	\$46.08	\$92.16
HDMI.10FT	306126	2.00	\$14.78	\$29.56

Manufacturer Part #	Description	Qty	Unit Price	Ext. Price
XNF-8010R	Wisenet X powered by Wisenet 5 network indoor fisheye, 6MP CMOS sensor, 2048x2048 @ 30fps with WDR off/on(120dB), 1.6mm fixed lens (192°), H.265/H.264/MJPEG, WiseStream II compression technology, true WDR, USB port for easy installation, advanced video, audio and business analytics, simple focus, dual SD card, HLC, defog detection, DIS, 12VDC/PoE, IP66, IK10	2.00	\$712.00	\$1,424.00
XNV-8080R	WiseNet X powered by WiseNet 5 network IR outdoor vandal dome camera, SMP @30fps WDR off/on, Motorized Vari-Focal Lens 2.4x (3.9~9.4mm) (92.1~38.7°), H.265/H.264/MJPEG, WiseStream II compression technology, 120dB WDR, USB port for easy installation, Advanced video analytics and sound classification, High powered IR LEDs range of 164', True D/N, Dual SD card, Hallway view, HLC, Defog detection with simple focus, DIS , 12VDC/24VAC/PoE, IP67, IK10, Nema 4X, Built-in -40°F Heater	19.00	\$1,162.50	\$22,087.50
QND-7080R	4MP indoor dome network camera , Triple Codec H.265/H.264/MJPEG, Wisestream, 2.8 ~ 12.0mm motorized varifocal lens, IR, PoE/12VDC, 120dB True WDR, Defocus Detection, Hallway View, One way audio and SD card slot (SD/SDHC/SDXC up to 128GB).	50.00	\$419.25	\$20,962.50
SBP-300HM6	samsung Medium Cap Adapter	19.00	\$36.75	\$698.25
SBP-300B	Wall Mount Base Accessory,	19.00	\$66.75	\$1,268.25
SBP-300WM1	Wall Mount for Samsung Mini PTZ	19.00	\$59.25	\$1,125.75
Labor Installation	Installation Labor	200.00	\$80.00	\$16,000.00
Engineering	Engineering and Design	16.00	\$80.00	\$1,280.00
Perdiem	Hotel and Food	20.00	\$248.00	\$4,960.00
			<b>SubTotal</b>	<b>\$91,483.35</b>
			<b>Tax</b>	<b>\$0.00</b>
			<b>Shipping</b>	<b>\$0.00</b>
			<b>Total</b>	<b>\$91,483.35</b>

Manufacturer Part #	Description	Qty	Unit Price	Ext. Price
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*Project is based upon acceptance of a mutually agreed upon contract Terms & Conditions. DSC considers this proposal an integral as part of any contract and/or purchase order offer. A written acceptance of this proposal, Letter of Intent, Signed Contract or Purchase Order will be required for DSC to begin any work on this project. Depending on the size and scope please allow 2-6 weeks for engineering submittals.*

*Most systems that are installed by DSC require connection to a network or Internet. It is the customer's responsibility to make sure that this connection is available. If DSC has to spend additional time troubleshooting network connections or port forwarding issues there will be an additional charge for the labor. Any Patch and Paint is by others.*

*Electrical work and conduit is excluded from this bid unless explicitly stated as a line item in this bid or proposal. Electrical Contractor is responsible for providing and installing all conduit/raceway, cable tray system, underground conduit, penetrations, sleeves with plastic bushings and fireproofing thereof, stub-ups, device boxes, standard electrical boxes, all special boxes furnished by DSC, mechanical areas and other areas as required, caddy bars and boxes, fittings and supports required for all field devices and control panels. J-box paint and label if required, A.C. power and connections to control panels, power supplies and devices such as actuators, dampers, DDC controllers, AHU'S fans, VFD'S, elevator recall etc. and as required by project drawings and DSC requirements.*

*Unless stated otherwise in the scope above, all materials and/or labor provided by DSC shall be under warranty against defects in material and workmanship under normal use and service, for a period of one year from date of acceptance or beneficial use, whichever occurs first.*

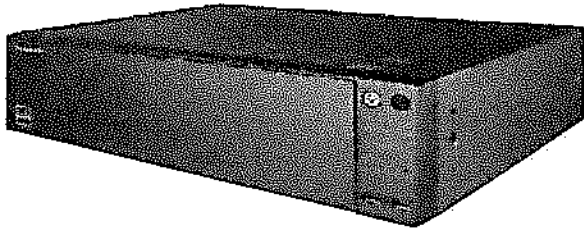
*If this quote contains lease payment options, the lease options are provided as an estimate only. Final lease payment amount is subject to credit verification and applicable taxes as required by law.*

*For clarification or further information on these exclusions and limitations, please contact us.*

# PRN-4011

64CH H.265 Network Video Recorder

PRN-4011

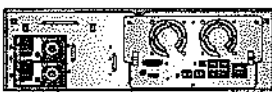
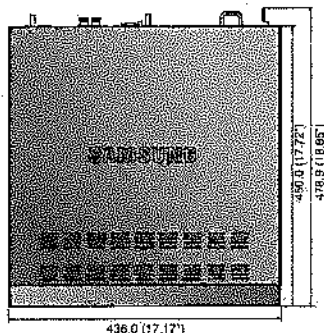


## Key Features

- Up to 64CH, Max. 12 megapixel resolution
- 400Mbps network camera recording
- Support 4K video out on HDMI monitor
- Support dual monitor video out
- H.265, H.264, MJPEG compression
- WiseStream support
- Max. 12 internal HDDs(96TB)
- Support RAID 5
- ARB&Failover(N+1) support

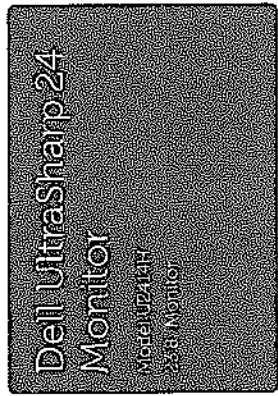
## Dimensions

Unit : mm (inch)



<b>DISPLAY</b>		
Network Camera	Inputs	Max. 64CH
	Resolution	CIF ~ 12MP
Local Display	Protocols	Samsung, ONVIF
	Multi-Channel Display	1x HDMI, 1x VGA Dual Monitor (Local monitor) 1 / 2Y / 3V / 4 / 9 / 16 / 25 / 36 / 64 / Sequence (Web) 1 / 4 / 9 / 16 / 25 / 36 / 64 / Sequence
Live	Performance	(Local monitor) 12M (30fps), 8.3M (120fps), 1080p (480fps), 720P (960fps), D1 (1920fps)
<b>PERFORMANCE</b>		
Operating System	Embedded	Linux
	Compression	H.265, H.264, MJPEG, WiseStream (H.265, H.264)
Record	Recording Bandwidth	Max. 400Mbps (RAID-5/6)
	Resolution	CIF ~ 12MP
Event Trigger	Type	Normal, Schedule, Continuous / Event, Event Vite / Post
	Event Trigger	Alarm input, Video loss, Camera event (Sensor, MD, Video analytics, Defocus)
Event Action	Event Action	E-mail, PTZ, reset, Alarm out, Buzzer, Monitor out
	Playback Bandwidth	Max. 32Mbps (16CH simultaneous)
Search & Play	User	Max. 4 users (local 1, Remote 3)
	Mode	Date & Time Calendar / Event log list / Text search / Smart search
Simultaneous playback	Resolution	CIF ~ 12MP
	Fisheye Dewarping	WEB / CMS
Playback Control	Playback Control	Fast/Slow Forward/Backward, Move one step up/down
	Built-in	0TB ~ 8TB
Storage	Internal HDD	12 (Max. 96TB, Non-RAID Mode)
	External	SCSI storage (Max. 192TB), Promise Vesa RAID R3600
RAID	RAID	RAID-5/6 (Array Size: 6 HDD x 2 Array)
	File backup	Blu-ray, (Gigaset, JPG, AVI) (Network)
Backup	Function	Multi-channel (Up to 16CH) Play, Date-time/Video display
	I/O	4/4 (NO/NC, selectable)
Sensor	Input	64CH (Network)
	Compression	G.711, G.726, AAC (16/48kHz)
Audio	Audio Communication	7-way
<b>NETWORK</b>		
Interface	Interface	RJ-45 (Gigabit ethernet) x4, SFP x2
	Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTSP, NTP, HTTP, DHCP (Server, Client), PPPoE, SMTP, ICMP, IGMP, ARP, DNS, DDNS, uPnP, HTTPS, SNMP, ONVIF (Profile-S), SUNAPI (Server, Client)
DDNS	DDNS	Hardware DDNS
	Transmission Bandwidth	Max. 400Mbps
Max. Remote Users	Search (3) / Live unicast (10), Multicast (80)	
	IP Version	IPv4/v6
Security	Security	IP address filtering, User access (Log, 802.1x), Encryption, 2Man-tile
	Language	English, French, German, Italian, Spanish, Russian, Turkish, Polish, Dutch, Swedish, Czech, Portuguese, Danish, Rumanian, Serbian, Croatian, Hungarian, Greek, Norwegian, Finnish, Korean, Chinese, Japanese, Thai
OS	OS	Windows 7, 8, 10, Mac OS X (10.8 or above)
	Web Browser	MSIE, Google Chrome, Mac Safari, Firefox
Viewer	Type	SSM, Webviewer, SmartViewer, iPolis mobile viewer
	Software	Support SDK/C GIGASUNAPI for integration to 3rd party VMS
<b>FUNCTIONS</b>		
Register	Register	Auto, Manual
	Setup Items	IP address, Add profile edit, Bitrate, Compression, GOR Quality, Camera MD setup, Camera video setup (Simple focus, Brightness/Contrast, Flip/Mirror, IRIS, WDR, D&N, SSM, Shutter, SSDR, DLS), Fisheye dewarping mode, Hellway View Setup, Camera webpage
PoE Power Control	PoE Power Control	N/A
	Control	Via GUI, Webviewer, SPC-2000
PTZ	PTZ	255 Presets
	Support Model	i-Phone, Android
Smart Phone	Protocol Support	RTP, RTSP, HTTP, GIGASUNAPI
	Control	Live (16CH), Multi-profile support, Playback (1CH)
Max. Remote Users	Search (3) / Live Unicast (10)	
	Failover	N+1
Redundancy	Failover	N+1
	ARB	Yes
System Control	ARB	Yes
	Mobile Web Controller (SPC-2000)	
<b>INDICATOR / INTERFACE</b>		
Front	Indicator	LED (Status indicator) : HDD Action 1, 2, RAID Status 1, Alarm 1, Power 1, Record 1, Backup 1, Network 1
	Switch	N/A
VGA	Switch	N/A
	VGA	Sub: 1ea (Support live screen up to 32 div. mode) Main: 1ea (Both support live / PB / Setup)
HDMI	HDMI	- Support up to 4K (3840 x 2160, Single monitor mode 64 div.)
	Audio	Out: 1ea (RCA Line)
Connectors	Ethernet	RJ-25 4ea (LAN/WAN, 15Mbps), 1000M SFP 2ea
	Alarm	In: 4ea (Terminal block), Alarm reset 1ea Out: 4ea (Terminal block) - Relay out (NO/NC/COM) - Relay out 2 - 4th (COM)
USB	USB	2ea (Front 2)
	Storage	SCSI
Serial	Serial	RS-232C (UPS Support) (X1)
	Reset	Switch (1EA)
Power Cord	Power Cord	2ea AC Inlet
<b>SYSTEM</b>		
Log	Log List	Max. 20,000 (System log, Event log each)
<b>ENVIRONMENTAL</b>		
Operating Temperature / Humidity		+0°C to +40°C (+32°F to +104°F)
Humidity		20% ~ 85% RH
<b>ELECTRICAL</b>		
Power		100 ~ 240 VAC ± 10%, 50/60 Hz, 3 ~ 1.5A (Dual SMPS)
Power Consumption		Max. 250W (853 BTU/h with HDD 12ca)
<b>MECHANICAL</b>		
Color / Material		Black / Metal
Dimension (W x H x D)		436.0 x 132.0 x 450.0mm (17.17" x 5.2" x 17.72") (DU)
Weight		Approx. 11 Kg (24.3 lb, HDD not included)

\*The latest product information / specification can be found at [hwtw.hwa-security.com](http://hwtw.hwa-security.com)



**Dell UltraSharp 24 Monitor | U2414H (23.8" 60.6 cm x 36.5")**

<b>Model number</b>	U2414H
<b>Viewable image size (diagonal)</b>	60.5 cm (23.8 inches)
<b>Bezel (bezel and bezel-to-screen border)</b>	Ultra-thin - 6.05 mm
<b>Active display area</b>	52.0 x 34.0 cm (20.5 inches)
<b>Horizontal</b>	296.16 mm (11.67 inches)
<b>Vertical</b>	196.16 mm (7.72 inches)
<b>Maximum resolution</b>	Full HD 1920 x 1080 at 60 Hz
<b>Aspect ratio</b>	16:9
<b>Panel pitch</b>	0.2745 mm
<b>Brightness (typical)</b>	250 cd/m²
<b>Color gamut (typical)</b>	85% sRGB, sRGB coverage (typical <math>\leq 4</math>)
<b>Color depth</b>	16.77 million colors
<b>Contrast ratio (typical)</b>	1,000:1 (typical)
<b>Dynamic contrast ratio (typical)</b>	2 Million:1 (DCR)
<b>Viewing angle (typical)</b>	148°/178°
<b>Response time (typical)</b>	5 ms with overdrive (up to 9ms)
<b>Panel technology, surface</b>	In-plane switching, anti-glare
<b>Backlight</b>	LED
<b>Bezel color</b>	Black

**Connectivity**

<b>Connectors</b>	4 x HDMI (HDMI 1.4), 4 x USB 3.0, DisplayPort 1.2, Mini-DisplayPort
<b>Dell soundbar (optional)</b>	AC511

**Features**

<b>Stand</b>	Tilt, 6.5" forward or 22" backward (maximum)
<b>Security</b>	Pivot 90° clockwise or 90° counter-clockwise
<b>Power</b>	Height adjustable stand (up to 130 mm)
<b>Dimensions (with stand)</b>	Wedge and built-in cable management
<b>Weight (with stand)</b>	Security lock (not included)
<b>Shipping weight</b>	Anti-Static Release feature (ASR) with 4,000 mAh

**Power**

<b>AC input</b>	100 to 240 VAC/50 or 60 Hz, 1.3 A (1.5 A typical)
<b>Power consumption (normal operation, typical)</b>	16 W
<b>Power consumption (stand-by mode)</b>	<0.5 W

**Dimensions (with stand)**

<b>Height (compressed - extended)</b>	355.8 mm (14.00 inches) - 485.4 mm (19.11 inches)
<b>Width</b>	535.1 mm (21.07 inches)
<b>Depth</b>	184.5 mm (7.28 inches)

**Weight**

<b>Weight (panel only - no stand)</b>	3.61 kg (7.95 lb)
<b>Weight (with stand)</b>	5.75 kg (12.68 lb)
<b>Shipping weight</b>	8.00 kg (17.62 lb)

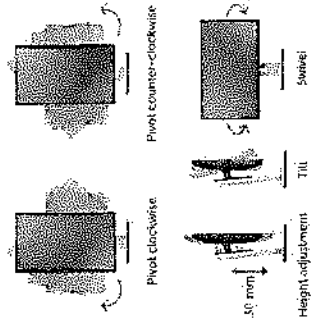
**Environmental compliance**

ENERGY STAR, EPEAT Gold, TCO Certified Displays, China Energy Label, WEEE, EPEAT Standard, Korea E-Standby

**Standard service plan**

3-year Advanced Exchange Service & Limited Hardware Warranty  
Dell Premium Support Concierge

Fully adjustable monitor allows multiple ways to adjust to your preferred viewing position.



**Connectors**



- A AC power
- B Dell Soundbar
- C Audio line (L/R)
- D USB 3.0 ports
- E USB 3.0 ports
- F HDMI (HDMI 1.4)
- G Audio line (L/R)
- H USB 3.0 ports
- I USB 3.0 ports
- J Mini DisplayPort
- K Security lock (optional)
- L DisplayPort

**Key benefits of Dell UltraSharp 24 Monitor | U2414H**

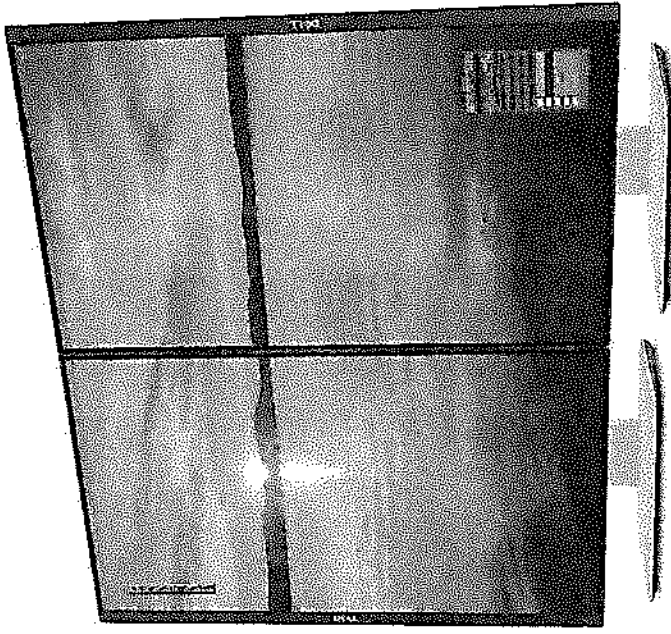
<b>23.8" x 36.5"</b>	Ultra-thin bezel*	4 USB 3.0 ports	DisplayPort 1.2†	HDMI (HDMI connector)
ExpressView™	Connects any graphics available ports and the anti-glare technology, and charge and power USB charging device	Supports any standard	Enables you to view your multiple devices, banners, presentations, and more	

**What's in the box?**

Monitor, stand, cables, quick start guide, and other accessories. Product and safety information, quick start guide, and other accessories. Dell Display Manager software, cables, USB 3.0 expansion, and more.



\*Measured at eye level. Actual viewing angle may vary. \*\*Measured at eye level. Actual viewing angle may vary. \*\*\*Measured at eye level. Actual viewing angle may vary. \*\*\*\*Measured at eye level. Actual viewing angle may vary. \*\*\*\*\*Measured at eye level. Actual viewing angle may vary.



A seamless multi-monitor setup with the Dell UltraSharp 24 Monitor can help enhance your team's productivity.

## The Dell UltraSharp 24 Monitor | U2414H (60.5 cm, 23.8" VIS) offers you:

### A magnificent, virtually borderless viewing experience

- The ultra-thin bezel\*\* of the Dell UltraSharp 24 Monitor offers a sleek, virtually borderless viewing experience.
- Enjoy superb screen clarity with Full HD 1920 x 1080 resolution across an ultra-wide 178°/178° viewing angle.
- Experience beautiful color quality factory-tuned with a deltaE < 4 for quick set up.
- Get great color details with a broad range of 16.77 million colors covering 96% sRGB.

### Great usability

- Experience enhanced multi-monitor viewing thanks to this monitor's ability to pivot 90 degrees clockwise or counter-clockwise — thinnest bezels are side by side.
- Fully adjustable so you can customize to your preferred viewing angle and position:
  - Wide height adjustable range of 130 mm.
  - Flexible swivel and tilt (5.5° forward or 22° backward).
- Conveniently connect to your computer and peripherals digitally via DisplayPort 1.2, mini-DisplayPort, HDMI (MHL) and USB 3.0.
- Easily charge and power USB charging devices via a high current USB 3.0<sup>1</sup> port found on the back of the U2414H.
- Display content from HDMI/MHL compatible devices like select smartphones and dvd players to view it more easily.

### Unmatched reliability and eco-efficiency

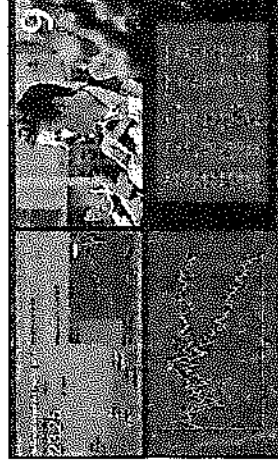
- Enjoy peace of mind thanks to Dell's commitment to quality and customer satisfaction with the Dell Premium Panel Guarantee<sup>1</sup>.
- Minimize downtime with Dell's 3-year Advanced Exchange Service<sup>1</sup>.
- Do your part — this monitor meets latest regulatory and environmental standards such as ENERGY STAR<sup>®</sup>, EPEAT<sup>™</sup> Gold<sup>2</sup> and TCO Certified Displays.
- Made of environmentally preferable materials to make it easier to recycle, the Dell UltraSharp 24 Monitor is BFR/PVC-free (excluding external cables) and has arsenic-free glass and a mercury-free LED panel.

## Dell UltraSharp 24 Monitor

Model U2414H  
23.8" Monitor

## The Dell UltraSharp 24 Monitor

- Seamless multi-monitor viewing with world's thinnest border\*\* at only 6.05 mm
- Superb viewing experience thanks to Full HD resolution, ultra-wide viewing angle and ultra precise color
- Comprehensive connectivity and adjustability for easy use
- Minimize downtime with unmatched reliability

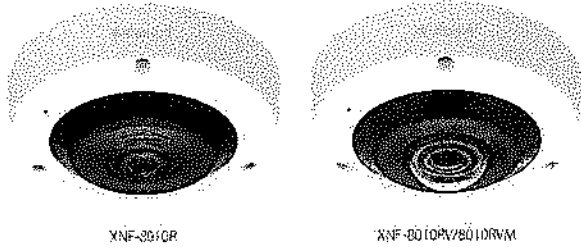


Four U2414H monitor panels displaying real-time data for financial users.

# XNF-8010R/8010RV/8010RVM

6MP Sensor Fisheye Camera

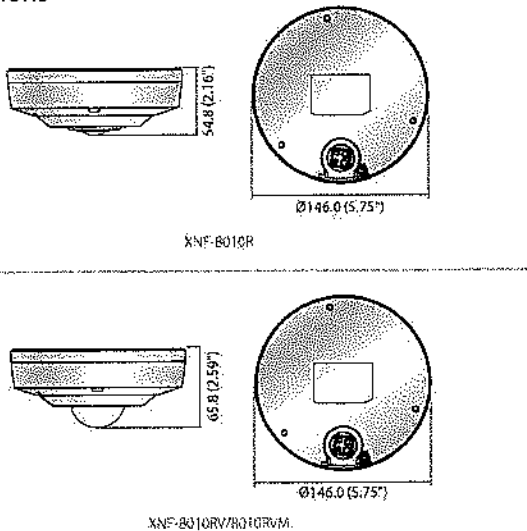
XNF-8010R/8010RV/8010RVM



## Key Features

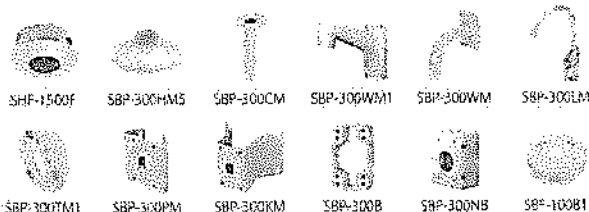
- Max. 2048 x 2048 resolution
- H.265, H.264, MJPEG codec supported
- Variable view mode (Fisheye, Single panorama, Double panorama, Quad view)
- On-board dewarping, Digital PTZ (8x), Bi-directional audio
- True WDR (120dB), WiseStreamIT support
- Tampering, Loitering, Directional detection, Audio detection, Sound classification, Heatmap, People counting, Queue management
- Motion detection, Handover
- M12 connector (XNF-8010RVM)
- IP66 / IK10 (XNF-8010RV/8010RVM)
- SD / SDHC / SDXC memory slot (Max. 512GB), 12V DC / PoE
- IR viewable length 15m (49.21ft)

## Dimensions



<b>VIDEO</b>	Imaging Device: 1/1.8" 6M CMOS Total Pixels / Effective Pixels: 3,096(H) x 2,094(V) / 2,048(H) x 2,048(V) Scanning System: Progressive Min. Illumination: Color: 0.1 Lux (F1.0, 5m) / 0 Lux (IR LED On) S/N Ratio: 50dB Video Output: CVBS / 1.2Vp-p / 75Ω Composite / 1.2Vp-p / 75Ω / 576P / 60Hz / 1.2Vp-p / 75Ω / 576P / 60Hz / 1.2Vp-p / 75Ω / 576P / 60Hz / 1.2Vp-p / 75Ω / 576P / 60Hz
<b>LENS</b>	Focal Length / Max. Aperture Ratio: 3.6mm / F1.6 Angular Field of View: H: 192° / V: 192° / D: 192° Min. Object Distance: 0.3m (0.98ft) Focus Control: Simple focus / Manual / Remote control / Via network Lens Type / Mount Type: Fixed / Board-in Type
<b>OPERATIONAL</b>	Viewable Length: 15m (49.21ft) Off / On (Displayed up to 85 characters) - W/W: English / Numeric / Special characters - China: English / Numeric / Special / Chinese characters - Common: Multi-line (Max. 5), Color (Gray / Green / Red / Blue / Black / White), Transparency, Auto scale by resolution
<b>Camera Title</b>	Day & Night: Auto (S/B) / Color / B/W / External / Schedule Backlight Compensation: Off / BLC / HLC / WDR Wide Dynamic Range: 120dB Contrast Enhancement: SSOR (Off / On) Digital Noise Reduction: SSNRV (2D + 3D Noise filter) (Off / On) Digital Image Stabilization: Off / On Delay: Off / Auto (input from fog detector) / Manual Motion Detection: Off / On (See 8x zoom, subpolygon zone), Handover Privacy Masking: Off / On (32ea polygon) - Color, Gray, Green, Red, Blue, Black, White - Masked Gain Control: Off / Low / Middle / High White Balance: ATW / AWC / Manual / Indoor / Outdoor (included mercury & Sodium) Electronic Shutter Speed: Minimum / Maximum / Anti-flicker (2 ~ 1/12,000sec) Digital Zoom: 8x Digital PTZ (Preset Group) Flip / Mirror: Off / On
<b>Intelligent Video Analytics</b>	Tampering, Loitering, Directional detection, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, Sound classification, People counting, Heatmap, Queue management
<b>Alarm I/O</b>	Alarm Input, Motion detection, Video & Audio analytics, Network disconnect, input / I/O / Output / I/O
<b>Alarm Triggers</b>	File upload Via FTP and E-Mail, Notification Via E-Mail, Local storage (SD/SDHC/SDXC) or NAS recording at event triggers, External output
<b>Alarm Events</b>	Camera Side: Fisheye, Single panorama, Double panorama, Fisheye + 4 PTZ Quad View, Fisheye + 8 PTZ
<b>Viewing Composition</b>	Pixel Counter: support
<b>NETWORK</b>	Ethernet: RJ-45 (10/100) BASE-T Video Compression Format: H.265 / H.264 / MJPEG
<b>Resolution</b>	Original view: 2048 x 2048, 1280 x 1280, 1024 x 1024, 960 x 960, 768 x 768, 720 x 720, 640 x 640, 480 x 480 Single panorama: 2048 x 512, 1920 x 480, 1280 x 320, 640 x 160, 704 x 176 Double panorama: 2048 x 1024, 1920 x 960, 1280 x 640, 640 x 320, 704 x 352 Quad View: 2048 x 1536, 1600 x 1200, 1280 x 960, 1024 x 768, 800 x 600, 640 x 480, 704 x 576 1024 x 768, 800 x 600, 640 x 480
<b>Max. Framerate</b>	1280 x 720: 30fps @ 2.048 x 2.048 MJPEG, Max. 15fps
<b>Smart Codec / WiseStreamIT</b>	Manual mode (area-based, 8ea) support
<b>Video Quality Adjustment</b>	H.265 / H.264: Target bitrate level control, MJPEG: Quality level control
<b>Bitrate Control Method</b>	H.265 / H.264: CBR or VBR, MJPEG: VBR
<b>Streaming Capability</b>	Multiple streaming (Up to 10 profiles)
<b>Audio In</b>	Selectable (Mic in / Line in / Built-in mic) Supply voltage: 2.5V DC (5mA), input impedance: Approx. 2KΩ Ohm
<b>Audio Out</b>	Line out (3.5mm mono jack), Max output level: 1Vrms G.711 u-law/G.726 Selectable, G.726 (ADPCM), 8KHz, G.711 8KHz G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps, AAC-LC: 48Kbps at 16KHz (XNF-8010R) or 8 / 16 / 32 / 48KHz (XNF-8010RV/8010RVM)
<b>Audio Compression Format</b>	MP3, AAC-LC, G.711, G.726
<b>Audio Communication</b>	Bi-directional (2-way)
<b>IP</b>	IPv4, IPv6
<b>Protocol</b>	RTSP, UDP/IP, RTP, UDP, RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, CMM, SNMP, SNMPv2c, SMI, SMI-MIB, ARP, DNS, DDNS, QoS, PAM-3M, iSCSI, Bonjour, SIP
<b>Security</b>	HTTPS (SSL) login authentication, Digest login authentication, IP address filtering, User access log, 802.1x Authentication (EAP-TLS, EAP-PEAP)
<b>Streaming Method</b>	Unicast / Multicast
<b>Max. User Access</b>	20 users simultaneous mode
<b>Edge Storage</b>	SD/SDHC/SDXC 2 slot (up to 512GB) - Continuous recording (1st slot to 2nd slot) - Motion images recorded in the SD/SDHC/SDXC memory card can be downloaded. - Camera can detect automatically when the memory is connected. - Memory status display (Normal / Error / Active / Formatting / Lock) - NAS (Network Attached Storage), Local PC for instant recording (Plug-in Viewer only)
<b>Application Programming Interface</b>	ONVIF Profile S/G, SUNAPI, Wisenet open platform
<b>Webpage Language</b>	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Turkish, Polish, Czech, Dutch, Hungarian, Greek
<b>Web Viewer</b>	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.10, 10.11, 10.12 (Plug-in Free Webviewer) Supported Browser: Google Chrome 60, MS Edge 40, Mozilla Firefox 55 (Window 64bit only), Apple Safari 10 (Mac OS X only) (Plug-in Webviewer) Supported Browser: MS Explorer 11, Apple Safari 10 (Mac OS X only)
<b>Central Management Software</b>	Smartviewer, SSM
<b>ENVIRONMENTAL</b>	Operating Temperature / Humidity: -10°C ~ +55°C (-14°F ~ +131°F) / Less than 90% RH (XNF-8010R) -40°C ~ +55°C (-40°F ~ +131°F) / Less than 90% RH (XNF-8010RV/8010RVM) Storage Temperature / Humidity: -50°C ~ +60°C (-58°F ~ +140°F) / Less than 90% RH Ingress Protection / Vandal Resistance: IP66 / IK10 (XNF-8010RV/8010RVM)
<b>ELECTRICAL</b>	Input Voltage / Current: 12V DC ±10%, PoE (IEEE802.3af, Class3) Power Consumption: Max. 11W (12V DC), Max. 12W (PoE) (XNF-8010R) Max. 12W (12V DC), Max. 12.95W (PoE) (XNF-8010RV/8010RVM)
<b>MECHANICAL</b>	Color / Material: Ivory / Alum. num. Dimension (WxHxD): Ø146 x 54.8mm (Ø5.75" x 2.16") (XNF-8010R) Ø146 x 65.8mm (Ø5.75" x 2.59") (XNF-8010RV/8010RVM) Weight: 730g (1.61lb) (XNF-8010R) / 785g (1.73lb) (XNF-8010RV) / 790g (1.72lb) (XNF-8010RVM)

## Accessories (Optional)

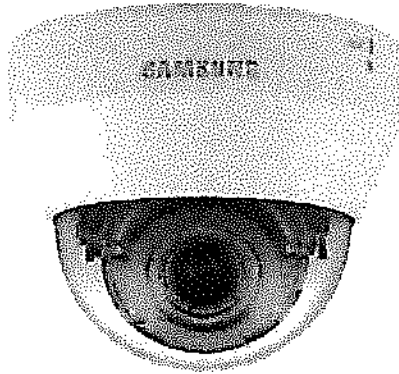






# QND-7080R

4Megapixel Network IR Dome Camera

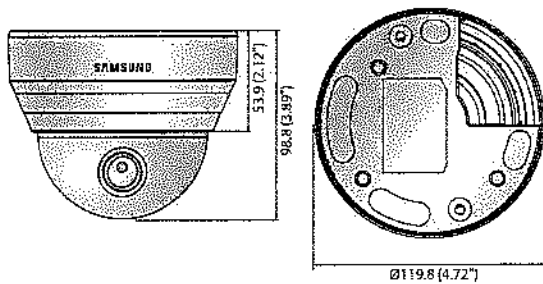


## Key Features

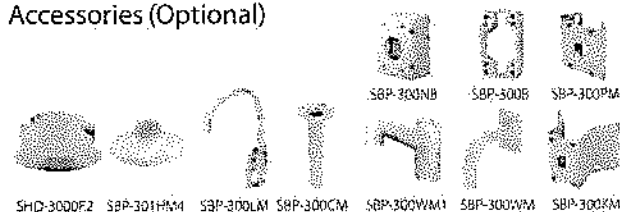
- Max. 4M resolution
- 2.8 ~ 12mm (4.3x) motorized varifocal lens
- Max. 20fps@4M, Max.30fps@2M all resolutions
- H.265, H.264, MJPEG codec supported
- Day & Night (ICR), WDR (120dB)
- Motion detection, Tampering, Defocus detection
- micro SD (128GB) memory slot, PoE / 12V DC
- IR viewable length 20m
- Hallway view support
- LDC support (Lens Distortion Correction)

## Dimensions

Unit: mm (inch)



## Accessories (Optional)



## QND-7080R

<b>VIDEO</b>	
Imaging Device	1/3" AM CMOS
Total Pixels	2,720(H) x 1,536(V)
Effective Pixels	2,688(H) x 1,520(V)
Scanning System	Progressive
Min. Illumination	Color: 0.15Lux (30IRE), B/W: 0.1Lux (IRE) on
<b>LENS</b>	
Focal Length (Zoom Ratio)	2.8 ~ 12mm (4.3x) motorized varifocal
Max. Aperture Ratio	F1.4
Angular Field of View	H: 109.7° ~ 29.0° / V: 60.8° ~ 15.2° / D: 131.3° ~ 30.1°
Focus Control	Simple focus (Motorized V/F) / Manual / Remote control via network
Lens Type	DC auto iris
Mount Type	Board type
<b>PAN / TILT / ROTATE</b>	
Pan / Tilt / Rotate Range	0° ~ 350° / 0° ~ 67° / 0° ~ 355°
<b>OPERATIONAL</b>	
IR Viewable Length	20m (65.62ft)
Camera Title	Off / On (Displayed up to 20 characters per line) - WW: 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	True Day & Night
Backlight Compensation	Off / BLC / WDR
Wide Dynamic Range	120dB
Digital Noise Reduction	SSNR (Off / On)
Motion Detection	Off / On (Area polygonal zones)
Privacy Masking	Off / On (Area rectangular zones)
Gain Control	Off / Low / Middle / High
White Balance	ATW / AWC / Manual / Indoor / Outdoor
LDC (Lens Distortion Correction)	Off / On (5 levels with min / max)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker
Flip / Mirror	Pip / Mirror / Halfway view
Intelligent Video Analytics	Motion detection with metadata, Tampering, Defocus detection
Alarm I/O	Input 1 / Output 1
Alarm Triggers	Motion detection, Tampering detection, SD card error, NAS error, Alarm input, Defocus detection
Alarm Events	File upload via FTP and E-mail, Local storage recording at event, Notification via E-mail, External output
Pixel Counter	Support (Plug-in viewer only)
<b>NETWORK</b>	
Ethernet	RJ-45 (10/100Base-T)
Video Compression Format	H.265, H.264, MJPEG
Resolution	2592 x 1520, 2560 x 1440 (16:9), 2304 x 1296, 1920 x 1080, 1280 x 1024, 1280 x 960, 1280 x 720, 1024 x 768, 800 x 600, 800 x 450, 720 x 576, 720 x 480, 640 x 480, 640 x 360, 320 x 240
Max. Frame Rate	H.265/H.264: Max. 20fps at 4M, Max. 30fps at 2M all resolutions, MJPEG: Max. 15fps
Smart Codec	WideStream
Video Quality Adjustment	H.265/H.264: Target bitrate level control, MJPEG: Quality level control
Bitrate Control Method	H.265/H.264: CBR or VBR, MJPEG: VBR
Streaming Capability	Multiple streaming (Up to 3 profiles)
Audio I/O	Built-in mic
Audio Compression Format	G.711 u-law / G.726 selectable G.726 (ADPCM) 8KHz, G.711 8KHz, G.726: 16Kbps, 24Kbps, 32Kbps, 40Kbps
Audio Communication	Uni-directional audio
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP (UDP), RTP (TCP), RTCP, RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, CoS, PAM-SM, uPnP, Bonjour
Security	• HTTPS (SSL) login authentication, Digest login authentication • IP address filtering, User access log, 802.1x authentication
Streaming Method	Unicast / Multicast
Max. User Access	6 users at unicast mode
Storage	micro SD/SDHC/SDXC max. 128G, NAS - Motion images recorded in the SD memory card can be downloaded - Manual recording at local PC
Application Programming Interface	ONVIF Profile S/G, SUNAPI (HTTP API)
Webpage Language	English, Korean, Chinese, French, Italian, Spanish, German, Japanese, Russian, Swedish, Portuguese, Czech, Polish, Turkish, Dutch, Hungarian, Greek
Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.9, 10.10, 10.11 Plug-in free Webviewer - Supported Browser: Google Chrome 47, MS Edge 20 Plug-in Webviewer - Supported browser: MS Explorer 11, Mozilla Firefox 43, Apple Safari 9 * Mac OS X only
Central Management Software	SmartViewer
<b>ENVIRONMENTAL</b>	
Operating Temperature / Humidity	-10°C ~ +55°C (+14°F ~ +131°F) / Less than 90% RH
Storage Temperature / Humidity	-30°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
<b>ELECTRICAL</b>	
Input Voltage / Current	PoE (IEEE802.3af, Class3) / 12V DC
Power Consumption	Max. 7.2W (PoE), Max. 6.4W (12V DC)
<b>MECHANICAL</b>	
Color / Material	Ivory / Plastic
Dimensions (WxH)	119.8 x 98.8mm (4.72" x 3.89")
Weight	355g (12.53oz)

\* The latest product information / specification can be found at <http://security.hanwhatechwin.com>