

# Superior Quad HD / Full HD Analog Solution



# WISeNET HD+

## 4MP Camera



HCB-7000A



HCO-7070RA



HCO-7010RA/20RA/30RA



HCD-7070RA



HCD-7010RA/20RA/30RA



HCV-7070RA



HCV-7010RA/20RA/30RA

## 2MP Camera



HCB-6001



HCB-6000



HCZ-6320



SCB-6003



HCO-6080R/6070R



SCO-6083R



SCO-6023R



HCD-6080R/6070R



HCV-6080R/6070R



HCP-6320HA/6320A



SCD-6083R



SCD-6023R



SCD-6013



SCV-6083R



SCV-6023R

## DVR

### 16CH DVR



HRD-1642



HRD-1641

### 8CH DVR



HRD-842

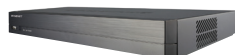


HRD-841

### 4CH DVR



HRD-442



HRD-440

## Experience the superior clarity (Max. 4MP)

The new Wisenet HD+ series supports 4MP (2560 x 1440) and 2MP (1920 x 1080) resolution with superior clarity down to the last detail. This feature not only provides a better performance than the existing analog system, but also supports the same resolution as the network system without experiencing any delays. The images it delivers are much clearer and more vivid than before. 4MP Wisenet HD+ series is ideal for mid to large-sized businesses and projects requiring a highly reliable surveillance system. In addition, the cameras can transmit 30fps with 4MP (QHD) video.



## Clearer images with WDR 120dB, defog and noise reduction

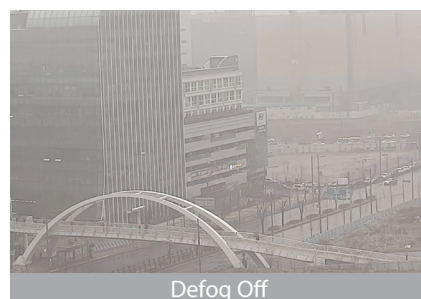
Wisenet HD+ 2MP cameras provide clearer images with WDR 120dB even in backlight environments. Hanwha Techwin's defogging technology delivers optimal results in areas where constant monitoring is required, such as in airports and ports.

(Wisenet HD+ 2MP cameras support)

### WDR 120dB



### Defog



## Transmission distance up to 500m

The Wisenet HD+ series can transmit 4MP / 2MP video and audio up to 500m by using a single coaxial cable without any delays. This product is an excellent solution that removes the need for a short transmission distance found in typical analog type products.



## Max. 4K(3840 x 2160) monitor support with HDMI cable

Wisenet HD+ DVR provides 4K (3840 x 2160) resolution with HDMI cable, enabling four 2MP AHD camera images to be monitored in four split screens in 4K resolution.



## Easy and flexible upgrade solution

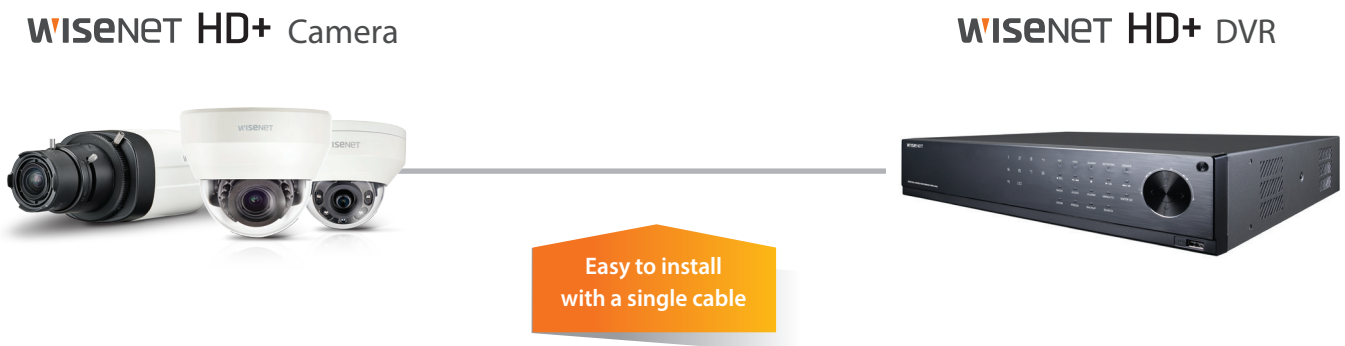
As the DVR featuring the AHD technology is compatible with both the Wisenet HD+ camera and general analog cameras, the user can avoid the expense of additional adaptors or changing their system.

When upgrading to the Wisenet HD+ system, you don't need to purchase an additional cable separately as it is possible to transmit full-HD images via the existing cable, which also saves money.



## Easy Installation

Compared to a complex network system, AHD technology is easy to install while it provides 2MP high quality image. As it uses the same installation procedure as the existing analog system and does not require any specific prior knowledge, you can save time and effort compared to a network system.



# Comparison Chart



Wisenet HD+  
HCB-7000A

Wisenet HD+  
HCO-7070RA

Wisenet HD+  
HCO-7010RA/20RA/30RA

Wisenet HD+  
HCD-7070RA

Wisenet HD+  
HCD-7010RA/20RA/30RA

Wisenet HD+  
HCV-7070RA

Wisenet HD+  
HCV-7010RA/20RA/30RA

	Wisenet HD+ HCB-7000A	Wisenet HD+ HCO-7070RA	Wisenet HD+ HCO-7010RA/20RA/30RA	Wisenet HD+ HCD-7070RA	Wisenet HD+ HCD-7010RA/20RA/30RA	Wisenet HD+ HCV-7070RA	Wisenet HD+ HCV-7010RA/20RA/30RA
TV Lines / Resolutions	4MP	4MP	4MP	4MP	4MP	4MP	4MP
Imaging Device	1/3" 4M CMOS	1/3" 4M CMOS	1/3" 4M CMOS	1/3" 4M CMOS	1/3" 4M CMOS	1/3" 4M CMOS	1/3" 4M CMOS
Horizontal Resolution	2560 x 1440	2560 x 1440	2560 x 1440	2560 x 1440	2560 x 1440	2560 x 1440	2560 x 1440
Min. Illumination	Color: 0.16Lux B/W: 0.009Lux	Color: 0.16Lux B/W: 0Lux (IR LED on)	Color: 0.26Lux (HCO-7010R) 0.27Lux (HCO-7020R/7030R) B/W: 0Lux (IR LED on)	Color: 0.16Lux B/W: 0Lux (IR LED on)	Color: 0.26Lux (HCD-7010R) 0.27Lux (HCD-7020R/7030R) B/W: 0Lux (IR LED on)	Color: 0.16Lux B/W: 0Lux (IR LED on)	Color: 0.26Lux (HCV-7010R) 0.27Lux (HCV-7020R/7030R) B/W: 0Lux (IR LED on)
Lens	-	3.2 ~ 10mm (3.1x) V/F (F1.6)	2.8mm Fixed (F1.8) (HCO-7010R) 4.0mm Fixed (F2.0) (HCO-7020R) 6.0mm Fixed (F2.0) (HCO-7030R)	3.2 ~ 10mm (3.1x) V/F (F1.6)	2.8mm Fixed (F1.8) (HCD-7010R) 4.0mm Fixed (F2.0) (HCD-7020R) 6.0mm Fixed (F2.0) (HCD-7030R)	3.2 ~ 10mm (3.1x) V/F (F1.6)	2.8mm Fixed (F1.8) (HCV-7010R) 4.0mm Fixed (F2.0) (HCV-7020R) 6.0mm Fixed (F2.0) (HCV-7030R)
IR Viewable Length	-	30m (98.43ft)	20m (65.62ft) (HCO-7010R) 25m (82.02ft) (HCO-7020R) 30m (98.43ft) (HCO-7030R)	20m (65.62ft)	20m (65.62ft) (HCD-7010R) 25m (82.02ft) (HCD-7020R) 30m (98.43ft) (HCD-7030R)	30m (98.43ft)	20m (65.62ft) (HCV-7010R) 25m (82.02ft) (HCV-7020R) 30m (98.43ft) (HCV-7030R)
Angular Field of View	-	H: 93.48° (Wide) ~ 29.44° (Tele) / V: 50.47° (Wide) ~ 16.64° (Tele) / D: 112.53° (Wide) ~ 33.7° (Tele)	H: 107.48° / V: 59.67° / D: 122.01° (HCO-7010R) H: 78.22° / V: 41.21° / D: 87.91° (HCO-7020R) H: 49.01° / V: 27.61° / D: 55.6° (HCO-7030R)	H: 93.48° (Wide) ~ 29.44° (Tele) / V: 50.47° (Wide) ~ 16.64° (Tele) / D: 112.53° (Wide) ~ 33.7° (Tele)	H: 107.48° / V: 59.67° / D: 122.01° (HCD-7010R) H: 78.22° / V: 41.21° / D: 87.91° (HCD-7020R) H: 49.01° / V: 27.61° / D: 55.6° (HCD-7030R)	H: 93.48° (Wide) ~ 29.44° (Tele) / V: 50.47° (Wide) ~ 16.64° (Tele) / D: 112.53° (Wide) ~ 33.7° (Tele)	H: 107.48° / V: 59.67° / D: 122.01° (HCV-7010R) H: 78.22° / V: 41.21° / D: 87.91° (HCV-7020R) H: 49.01° / V: 27.61° / D: 55.6° (HCV-7030R)
Focus Control	Manual	Manual	Fixed	Manual	Fixed	Manual	Fixed
Pan / Tilt / Rotate	-	-	-	0° ~ 350° / 0° ~ 63° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°
Day & Night	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)
Backlight Compensation	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR
Digital Noise Reduction	2D DNR	2D DNR	2D DNR	2D DNR	2D DNR	2D DNR	2D DNR
Motion Detection	Support	Support	Support	Support	Support	Support	Support
Privacy Masking	2 Zones	2 Zones	2 Zones	2 Zones	2 Zones	2 Zones	2 Zones
Alarm I/O	MD Output 1	MD Output 1	-	MD Output 1	-	MD Output 1	-
Communication	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron) RS-485: Samsung T, Pelco D/P	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)
Environment Protection	-	IP66, IK10	IP66, IK10	-	-	IP66, IK10	IP66, IK10
Operating Temperature	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)
Power	Max. 3.6W (24V AC & 12V DC)	Max. 5.8W (24V AC & 12V DC)	Max. 5.0W (12V DC)	Max. 5.8W (24V AC & 12V DC)	Max. 5.0W (12V DC)	Max. 5.8W (24V AC & 12V DC)	Max. 5.0W (12V DC)
Dimensions (WxHxD) / Weight	68.4 x 59.6 x 92.7mm (2.69" x 2.35" x 3.65") 186g (0.41 lb)	Ø78.0 x 259.8mm (Ø3.07" x 10.23") (Without sunshield) 914g (2.02 lb)	Ø70.0 x 246.0 mm (Ø2.76" x 9.69") (Without sunshield) 670g (1.48 lb)	Ø119.8 x 98.5mm (Ø4.72" x 3.88") 320g (0.71 lb)	Ø110.1 x 86.1mm (Ø4.33" x 3.39") 240g (0.53 lb)	Ø137 x 106.1mm (Ø5.39" x 4.18") 715g (1.58 lb)	Ø120.3 x 91.7mm (Ø4.74" x 3.61") 510g (1.12 lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)



**Wisenet HD+  
HCB-6001**

**Wisenet HD+  
HCB-6000**

**Wisenet HD+  
HCZ-6320**

**Wisenet HD+  
HCO-6080R**

**Wisenet HD+  
HCV-6070R**

TV Lines / Resolutions	2MP	2MP	2MP	2MP	2MP
<b>VIDEO</b>					
Imaging Device	1/2.8" 2M CMOS	1/2.8" 2M CMOS	1/2.8" 2.38M CMOS	1/2.8" 2M CMOS	1/2.8" 2M CMOS
Horizontal Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
Min. Illumination	Color: 0.09Lux B/W: 0.009Lux	Color: 0.09Lux B/W: 0.009Lux	Color: 0.2Lux B/W: 0.01Lux	Color: 0.11 Lux B/W: 0 Lux (IR LED on)	Color: 0.11 Lux B/W: 0 Lux (IR LED on)
Lens	-	-	4.44 ~ 142.6mm (Optical 32x) F1.6(Wide) / F4.4(Tele)	3.2 ~ 10mm (3.1x) motorized V/F (F1.6)	3.2 ~ 10mm (3.1x) V/F (F1.6)
IR Viewable Length	-	-	-	30m (98.43ft)	30m (98.43ft)
Angular Field of View	-	-	H : 62.8°(Wide) ~ 2.23°(Tele) / V : 36.80°(Wide) ~ 1.26°(Tele)	H : 110.2°(Wide) ~ 32°(Tele) / V : 55.4°(Wide) ~ 18°(Tele) / D : 128.4°(Wide) ~ 36.6°(Tele)	H : 110.2°(Wide) ~ 32°(Tele) / V : 55.4°(Wide) ~ 18°(Tele) / D : 128.4°(Wide) ~ 36.6°(Tele)
Focus Control	Simple Focus	Manual	Auto / Manual / One push	Simple focus (motorized V/F) / Manual	Manual
Pan / Tilt / Rotate	-	-	-	-	-
<b>OPERATIONAL</b>					
Day & Night	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)
Backlight Compensation	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)
Digital Noise Reduction	SSNRIV	SSNRIV	SSNRIII	SSNRIV	SSNRIV
Motion Detection	Support	Support	Support	Support	Support
Privacy Masking	4 Zones	8 Zones	12 Zones	8 Zones	8 Zones
<b>FEATURES</b>					
Alarm I/O	0 / 1, External D/N 1	0 / 1, External D/N 1	-	MD Output 1	MD Output 1
Communication	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), RS-485 : Samsung T/E, Pelco D/P, Panasonic Bosch, Honeywell, Vicon, GE, AD	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol), RS-485 : Samsung T, Pelco D/P, Panasonic Bosch, Honeywell, Vicon, GE, AD	AHD : ACP (AHD Coax Protocol), RS-485 : Samsung T/E, Pelco-D/P, Panasonic, Bosch, Honeywell, Vicon, AD	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	AHD : ACP (AHD Coax Protocol), CVBS : Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)
Environment Protection	-	-	-	IP66, IK10	IP66, IK10
Operating Temperature	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)
Power	Max. 6.0W (24V AC & 12V DC)	Max. 3.5W (24V AC & 12V DC)	Max. 6.0W (12V DC)	Max. 6.0W (24V AC & 12V DC)	Max. 6.0W (24V AC & 12V DC)
Dimensions (WxHxD) / Weight	73.1 x 67.2 x 123.9mm (2.88" x 2.65" x 4.88") 287g (0.63 lb)	68.4 x 59.6 x 92.7mm (2.69" x 2.35" x 3.65") 186g (0.41 lb)	72.0 x 60 x 137mm (2.83" x 2.36" x 5.39") 476g (1.05 lb)	Ø78.0 x 259.8mm (Ø3.07" x 10.23") (Without sunshield) 948g (2.09 lb)	Ø78.0 x 259.8mm (Ø3.07" x 10.23") (Without sunshield) 914g (2.02 lb)
Additional Features	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Defog	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)



**WISENET HD+**  
**HCD-6080R**

**WISENET HD+**  
**HCD-6070R**

**WISENET HD+**  
**HCV-6080R**

**WISENET HD+**  
**HCV-6070R**

**WISENET HD+**  
**HCP-6320HA/6320A**

	2MP	2MP	2MP	2MP	2MP
TV Lines / Resolutions	2MP	2MP	2MP	2MP	2MP
Imaging Device	1/2.8" 2M CMOS	1/2.8" 2M CMOS	1/2.8" 2M CMOS	1/2.8" 2M CMOS	1/2.8" 2.38M CMOS
Horizontal Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
Min. Illumination	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.2Lux B/W: 0.01Lux
Lens	3.2 ~ 10mm (3.1x) motorized V/F (F1.6)	3.2 ~ 10mm (3.1x) V/F (F1.6)	3.2 ~ 10mm (3.1x) motorized V/F (F1.6)	3.2 ~ 10mm (3.1x) V/F (F1.6)	4.44 ~ 142.6mm (Optical 32x) F1.6(Wide) / F4.4(Tele)
IR Viewable Length	20m (65.62ft)	20m (65.62ft)	30m (98.43ft)	30m (98.43ft)	-
Angular Field of View	H: 110.2°(Wide) ~ 32°(Tele) / V: 55.4°(Wide) ~ 18°(Tele) / D: 128.4°(Wide) ~ 36.6°(Tele)	H: 110.2°(Wide) ~ 32°(Tele) / V: 55.4°(Wide) ~ 18°(Tele) / D: 128.4°(Wide) ~ 36.6°(Tele)	H: 110.2°(Wide) ~ 32°(Tele) / V: 55.4°(Wide) ~ 18°(Tele) / D: 128.4°(Wide) ~ 36.6°(Tele)	H: 110.2°(Wide) ~ 32°(Tele) / V: 55.4°(Wide) ~ 18°(Tele) / D: 128.4°(Wide) ~ 36.6°(Tele)	H: 62.8°(Wide) ~ 2.23°(Tele) / V: 36.8°(Wide) ~ 1.26°(Tele)
Focus Control	Simple focus (motorized V/F) / Manual	Manual	Simple focus (motorized V/F) / Manual	Manual	Auto / Manual / One push
Pan / Tilt / Rotate	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	360° Endless / 210° (-15° ~ 195°) / -
Day & Night	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)
Backlight Compensation	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)	WDR (120dB)
Digital Noise Reduction	SSNRIV	SSNRIV	SSNRIV	SSNRIV	SSNRIII
Motion Detection	Support	Support	Support	Support	Support
Privacy Masking	8 Zones	8 Zones	8 Zones	8 Zones	32 Zones
Alarm I/O	MD Output 1	MD Output 1	MD Output 1	MD Output 1	4 / 2 (Relay)
Communication	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron), CCP (CVI Coax Protocol), TCP (TVI Coax Protocol)	AHD: ACP (AHD Coax Protocol), RS-485: Samsung-T/E, Pelco-P/D, Sungjin, Panasonic, Honeywell, AD, Vicon, Bosch, GE
Environment Protection	-	-	IP66, IK10	IP66, IK10	IP66, IK10 (HCP-6320HA), IK10 (With SHP-3701H) (HCP-6320A)
Operating Temperature	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-50°C ~ +55°C (-58°F ~ +131°F) (HCP-6320HA), -10°C ~ +55°C (+14°F ~ +131°F) (HCP-6320A)
Power	Max. 6.0W (24V AC & 12V DC)	Max. 4.2W (24V AC & 12V DC)	Max. 4.2W (24V AC & 12V DC)	Max. 4.2W (24V AC & 12V DC)	Max. 24.0W / 65.0W - Heater off / on (24V AC) (HCP-6320HA) Max. 20.0W (24V AC) (HCP-6320A)
Dimensions (WxHxD) / Weight	Ø119.8 x 98.5mm (Ø4.72" x 3.88") 330g (0.73 lb)	Ø119.8 x 98.5mm (Ø4.72" x 3.88") 320g (0.71 lb)	Ø137 x 106.1mm (Ø5.39" x 4.18") 725g (1.60 lb)	Ø137 x 106.1mm (Ø5.39" x 4.18") 715g (1.58 lb)	Ø220.0 x 293.6mm (Ø8.66" x 11.56") 3.3Kg (7.28 lb) (SNP-6320HA), Ø152.0 x 218.0mm (Ø5.98" x 8.58") 2.2Kg (4.85 lb) (SNP-6320A)
Additional Features	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Video Transmission up to 500m (5C2V Coaxial cable)	Defog



# Comparison Chart



**WISENET HD+** **WISENET HD+** **WISENET HD+** **WISENET HD+** **WISENET HD+** **WISENET HD+** **WISENET HD+** **WISENET HD+**  
**SCB-6003** **SCO-6083R** **SCO-6023R** **SCD-6083R** **SCD-6023R** **SCD-6013** **SCV-6083R** **SCV-6023R**

TV Lines / Resolutions	2MP	2MP	2MP	2MP	2MP	2MP	2MP	2MP
<b>VIDEO</b>								
Imaging Device	1/3" 2M CMOS	1/3" 2M CMOS	1/3" 2M CMOS	1/3" 2M CMOS	1/3" 2M CMOS	1/3" 2M CMOS	1/3" 2M CMOS	1/3" 2M CMOS
Horizontal Resolution	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
Min. Illumination	Color: 0.04Lux B/W: 0.004Lux	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.25Lux B/W: 0Lux (IR LED on)	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.25Lux B/W: 0Lux (IR LED on)	Color: 0.1Lux B/W: 0.01Lux	Color: 0.11Lux B/W: 0Lux (IR LED on)	Color: 0.25Lux B/W: 0Lux (IR LED on)
Lens	-	2.8 ~ 12mm (4.3x) V/F (F1.4)	4mm Fixed (F 2.1)	2.8 ~ 12mm (4.3x) V/F (F1.4)	4mm Fixed (F 2.1)	2.8mm Fixed (F1.8)	2.8 ~ 12mm (4.3x) V/F (F1.4)	4mm Fixed (F 2.1)
IR Viewable Length	-	30m (98.43ft)	20m (65.62ft)	20m (65.62ft)	20m (65.62ft)	-	30m (98.43ft)	20m (65.62ft)
Angular Field of View	-	H: 102°(Wide) ~ 32.2°(Tele) / V: 54°(Wide) ~ 18.2°(Tele) / D: 121°(Wide) ~ 38°(Tele)	H: 80.7° / V: 43.5° / D: 95.8°	H: 102°(Wide) ~ 32.2°(Tele) / V: 54°(Wide) ~ 18.2°(Tele) / D: 121°(Wide) ~ 38°(Tele)	H: 80.7° / V: 43.5° / D: 95.8°	H: 108.7° / V: 60.6° / D: 125.4°	H: 102°(Wide) ~ 32.2°(Tele) / V: 54°(Wide) ~ 18.2°(Tele) / D: 121°(Wide) ~ 38°(Tele)	H: 80.7° / V: 43.5° / D: 95.8°
Pan / Tilt / Rotate	-	-	-	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°	0° ~ 350° / 0° ~ 67° / 0° ~ 355°
<b>OPERATIONAL</b>								
Day & Night	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)	True (ICR)
Backlight Compensation	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR	BLC / HLC / DWDR
Digital Noise Reduction	SSNRIV	SSNRIV	SSNRIV	SSNRIV	SSNRIV	SSNRIV	SSNRIV	SSNRIV
Motion Detection	Support	Support	Support	Support	Support	Support	Support	Support
Privacy Masking	4 Zones	4 Zones	4 Zones	4 Zones	4 Zones	4 Zones	4 Zones	4 Zones
Intelligent Video Analytics	-	-	-	-	-	-	-	-
<b>FEATURES</b>								
Alarm I/O	0 / 1, External D/N I	0 / 1	-	0 / 1	-	-	0 / 1	-
Communication	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron), RS-485	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)	AHD: ACP (AHD Coax Protocol), CVBS: Pelco-C (Coaxitron)
Environment Protection	-	IP66, IK10	IP66	-	-	-	IP66, IK10	IP66, IK10
Operating Temperature	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-30°C ~ +55°C (-22°F ~ +131°F) * Start up above -10°C (+14°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-10°C ~ +55°C (+14°F ~ +131°F)	-30°C ~ +55°C (-22°F ~ +131°F) Less than 90% RH * Start up above -10°C (+14°F)	-30°C ~ +55°C (-22°F ~ +131°F) Less than 90% RH * Start up above -10°C (+14°F)
Power	Max. 4.2W (24V AC & 12V DC)	Max. 6.0W (24V AC & 12V DC)	Max. 4.2W (12V DC)	Max. 4.2W (24V AC & 12V DC)	Max. 4.2W (12V DC)	Max. 2.5w (12V DC)	Max. 4.2W (24V AC & 12V DC)	Max. 4.2W (12V DC)
Dimensions (WxHxD) / Weight	68.4 x 59.6 x 92.7mm (2.69" x 2.35" x 3.65") 175.5g (0.39 lb)	Ø78.0 x 260.0mm (Ø3.07" x 10.24") (Without sunshield) 922g (2.03 lb)	Ø58.6 x 165.2mm (Ø2.31" x 6.50") (Without Sunshield) 208g (0.46 lb)	Ø119.8 x 98.8mm (Ø4.72" x 3.89") 304g (0.67 lb)	Ø110.0 x 86.0mm (Ø4.33" x 3.39") 242g (0.53 lb)	Ø110.0 x 86.0mm (Ø4.33" x 3.39") 231g (0.51 lb)	Ø137.0 x 106.1mm (Ø5.39" x 4.18") 716g (1.58 lb)	Ø137.0 x 94.0mm (Ø5.39" x 3.70") 560g (1.23 lb)
Additional Features	Defog	Defog	Defog	Defog	Defog	Defog	Defog	Defog

# Comparison Chart



**WISENET HD+ HRD-1642**     
 **WISENET HD+ HRD-1641**     
 **WISENET HD+ HRD-842**     
 **WISENET HD+ HRD-841**     
 **WISENET HD+ HRD-442**     
 **WISENET HD+ HRD-440**

Channel		16CH	16CH	8CH	8CH	4CH	4CH
OS	Embedded	Linux	Linux	Linux	Linux	Linux	Linux
Live	Frame Rate (NTSC / PAL)	480fps / 400fps	480fps / 400fps	240fps / 200fps	240fps / 200fps	120fps / 100fps	120fps / 100fps
Recording	Max. Record Rate	240fps@2560 x 1440 480fps@1920 x 1080	240fps@2560 x 1440 480fps@1920 x 1080	120fps@2560 x 1440 240fps@1920 x 1080	120fps@2560 x 1440 240fps@1920 x 1080	60fps@2560 x 1440 120fps@1920 x 1080	60fps@2560 x 1440 120fps@1920 x 1080
		200fps@2560 x 1440 400fps@1920 x 1080	200fps@2560 x 1440 400fps@1920 x 1080	100fps@2560 x 1440 200fps@1920 x 1080	100fps@2560 x 1440 200fps@1920 x 1080	50fps@2560 x 1440 100fps@1920 x 1080	50fps@2560 x 1440 100fps@1920 x 1080
	Compression	H.264	H.264	H.264	H.264	H.264	H.264
Video	Inputs	16CH: AHD, NTSC, PAL, TVI, CVI	16CH: AHD, NTSC, PAL, TVI, CVI	8CH: AHD, NTSC, PAL, TVI, CVI	8CH: AHD, NTSC, PAL, TVI, CVI	4CH: AHD, NTSC, PAL, HDMI, HDCVI	4CH: AHD, NTSC, PAL, TVI, CVI
Audio	Inputs	16CH (Built-in 4CH)	4CH	8CH (Built-in 4CH)	4CH	4CH	1CH
Storage	Internal HDD	Up to 8 SATA HDDs	Up to 2 SATA HDDs	Up to 4 SATA HDDs	Up to 2 SATA HDDs	Up to 2 SATA HDDs	Up to 1 SATA HDD
	External HDD	Up to 2 Expansion Bays	Up to 1 Expansion Bays	Up to 2 Expansion Bays	Up to 1 Expansion Bays	-	-
Monitors	VGA	Yes	Yes	Yes	Yes	Yes	Yes
	HDMI	Yes	Yes	Yes	Yes	Yes	Yes
	Spot Composite	1CH (BNC)	1CH (BNC)	1CH (BNC)	1CH (BNC)	1CH (BNC)	1CH (BNC)
Connections	USB	2 ports	2 ports	2 ports	2 ports	2 ports	2 ports
	e-SATA	2 External SATA ports	1 External SATA port	2 External SATA ports	1 External SATA port	-	-
	Mouse	Yes	Yes	Yes	Yes	Yes	Yes
Network	Remote Users	Search 3 / Live Unicast 10 / Live Multicast 20	Search 3 / Live Unicast 10 / Live Multicast 20	Search 3 / Live Unicast 10 / Live Multicast 20	Search 3 / Live Unicast 10 / Live Multicast 20	Search 3 / Live Unicast 10 / Live Multicast 20	Search 3 / Live Unicast 10 / Live Multicast 20
	Transmission	4MP, 1080p, 720p, WD1, 4CIF, CIF	4MP, 1080p, 720p, WD1, 4CIF, CIF	4MP, 1080p, 720p, WD1, 4CIF, 2CIF, CIF	4MP, 1080p, 720p, WD1, 4CIF, CIF	4MP, 1080P, 720P, WD1, 4CIF, CIF	4MP, 1080P, 720P, WD1, 4CIF, CIF
	Monitoring	SSM, WebViewer, SmartViewer, Mobile Viewer	SSM, WebViewer, SmartViewer, Mobile Viewer	SSM, WebViewer, SmartViewer, Mobile Viewer	SSM, WebViewer, SmartViewer, Mobile Viewer	SSM, WebViewer, SmartViewer, Mobile Viewer	SSM, WebViewer, SmartViewer, Mobile Viewer
PTZ Control	Coax Protocol	NTSC/PAL : Pelco-C (Coaxitron) AHD : ACP (AHD Coax Protocol)	NTSC/PAL : Pelco-C (Coaxitron) AHD : ACP (AHD Coax Protocol)	NTSC/PAL : Pelco-C (Coaxitron) AHD : ACP (AHD Coax Protocol)	NTSC/PAL : Pelco-C (Coaxitron) AHD : ACP (AHD Coax Protocol)	NTSC/PAL : Pelco-C (Coaxitron) AHD : ACP (AHD Coax Protocol)	NTSC/PAL : Pelco-C (Coaxitron) AHD : ACP (AHD Coax Protocol)
	RS-485 Protocol	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE	Samsung-T/E, Pelco-D/P, Panasonic, Phillips, AD, DIAMOND, ERNA, KALATEL, VCL TP, VICON, ELMO, GE



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