

# Panasonic

ideas for life

2012/March



## Network Camera Comparison Chart

# Network Camera Comparison Chart

Model No.	WV-SW396 (PTZ)	WV-SW395 (PTZ)	WV-SC386 (PTZ)	WV-SC385 (PTZ)	WV-SC384 (PTZ)	WV-SW559 (Fixed Dome)	WV-SW558 (Fixed Dome)
							
	ONVIF	ONVIF	New ONVIF	ONVIF	ONVIF	New ONVIF	New ONVIF
Image Sensor	1/4 type MOS	1/3 type MOS	1/4 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS
Max. Video Resolution (pixel)	1,280 x 960	1,280 x 960	1,280 x 960	1,280 x 960	1,280 x 960	2,048 x 1,536	2,048 x 1,536
Wide Dynamic Range	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (WDR)	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)
Day / Night	Day & Night (IR)	Day & Night (IR)	Day & Night (IR)	Day & Night (IR)	Day & Night (electrical)	Day & Night (IR)	Day & Night (electrical)
Auto Back Focus	N/A (Auto Focus)	N/A (Auto Focus)	N/A (Auto Focus)	N/A (Auto Focus)	N/A (Auto Focus)	Yes	Yes
VIQS (Variable Image Quality on Specified area)	N/A	N/A	N/A	N/A	N/A	Yes (2 areas)	Yes (2 areas)
Min. Illumination	Color	0.5 lx (F1.4)	0.5 lx (F1.6)	0.5 lx (F1.4)	0.5 lx (F1.6)	0.6 lx (F1.6)	0.5 lx (F1.4)
	Color (Sens Up)	0.031 lx@ 16x (F1.4)	0.031 lx@ 16x (F1.6)	0.031 lx@ 16x (F1.4)	0.031 lx@ 16x (F1.6)	0.038 lx@ 16x (F1.6)	0.03 lx@ 16x (F1.4)
	B/W	0.06 lx (F1.4)	0.06 lx (F1.6)	0.06 lx (F1.4)	0.06 lx (F1.6)	0.5 lx (F1.6)	0.06 lx (F1.4)
	B/W (Sens Up)	0.004 lx@ 16x (F1.4)	0.004 lx@ 16x (F1.6)	0.004 lx@ 16x (F1.4)	0.004 lx@ 16x (F1.6)	0.031 lx@ 16x (F1.6)	0.004 lx@ 16x (F1.4)
Pan	360° endless	360 Pan-Flip (0° ~ 350°)	360° endless	360 Pan-Flip (0° ~ 350°)	360 Pan-Flip (0° ~ 350°)	+180 / -160°, Azimuth ±100° Manual	+180 / -160°, Azimuth ±100° Manual
Tilt	-15° ~ 185°	-30°~210° (with Tilt-Flip)	-15° ~ 185°	-30°~210° (with Tilt-Flip)	-30°~210° (with Tilt-Flip)	±75° Manual	±75° Manual
Zoom	72x extra*1 / 36x optical / 12x digital	36x extra*1 / 18x optical / 12x digital	72x extra*1 / 36x optical / 12x digital	36x extra*1 / 18x optical / 12x digital	36x extra*1 / 18x optical / 8x digital	10.8x extra*2 / 3.6x optical / 4x digital	10.8x extra*2 / 3.6x optical / 4x digital
Angular Field of View	H: 1.47° (Tele) ~ 60.15° (Wide) V: 1.2° (Tele) ~ 46.3° (Wide)	H: 3.2° (Tele) ~ 55.2° (Wide) V: 2.4° (Tele) ~ 42.1° (Wide)	H: 1.47° (Tele) ~ 60.15° (Wide) V: 1.2° (Tele) ~ 46.3° (Wide)	H: 3.2° (Tele) ~ 55.2° (Wide) V: 2.4° (Tele) ~ 42.1° (Wide)	H: 3.2° (Tele) ~ 55.2° (Wide) V: 2.4° (Tele) ~ 42.1° (Wide)	H: 24.2° (Tele) ~ 86.6° (Wide) V: 20.2° (Tele) ~ 71.5° (Wide)	H: 24.2° (Tele) ~ 86.6° (Wide) V: 20.2° (Tele) ~ 71.5° (Wide)
Ambient Operating Temperature	-50°C ~+55°C (-58°F ~131°F) (24 V AC) -30°C ~+55°C (-22°F ~131°F) (PoE+)	-40°C ~+50°C (40°F ~122°F) (24 V AC) -30°C ~+50°C (22°F ~122°F) (PoE+)	-10°C ~+50°C (14°F ~122°F)	-10°C ~+50°C (14°F ~122°F)	-10°C ~+50°C (14°F ~122°F)	-40°C ~+50°C (-40°F ~122°F)	-40°C ~+50°C (-40°F ~122°F)
Ambient Operating Humidity *4	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less
Supported Video Codec	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / JPEG	H.264 / JPEG
Audio *5	2-way	2-way	2-way	2-way	2-way	2-way	N/A
Supported Audio Codec	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	N/A
SD Memory Card (Option)	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD	SDXC / SDHC / SD	N/A
External I/O Terminals	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT
Analog Video Output	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)
Built-in Microphone	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Power Source	24 V AC / PoE+	24 V AC / PoE+	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE
Others	Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection	Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection, Vandal Resistant

\*1 extra optical zoom at VGA resolution  
\*2 extra optical zoom at 360p resolution  
\*3 extra zoom at VGA resolution

\*4 without condensation  
\*5 Audio output requires included Audio/Video Cable  
\*6 With optional Heater Unit WV-SW3H

# Network Camera Comparison Chart

Launches in June

Launches in June






Model No.	WV-SW355 (Fixed Dome)	WV-SW352 (Fixed Dome)	WV-SF549 (Fixed Dome)	WV-SF548 (Fixed Dome)	WV-SF346 (Fixed Dome)	WV-SF342 (Fixed Dome)	
	 ONVIF	 ONVIF	New  ONVIF	New  ONVIF	 ONVIF	 ONVIF	
Image Sensor	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	
Max. Video Resolution (pixel)	1,280 x 960	800 x 600	2,048 x 1,536	2,048 x 1,536	1,280 x 960	800 x 600	
Wide Dynamic Range	Yes (Mega Super Dynamic)	Yes (Super Dynamic)	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (WDR)	Yes (WDR)	
Day / Night	Day & Night (IR)	Day & Night (IR)	Day & Night (IR)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	
Auto Back Focus	Yes	Yes	Yes	Yes	Yes	Focus Assist	
VIQS (Variable Image Quality on Specified area)	Yes (1 area)	Yes (1 area)	Yes (2 areas)	Yes (2 areas)	N/A	N/A	
Min. Illumination	Color	0.3 lx (F1.6)	0.2 lx (F1.6)	0.5 lx (F1.4)	0.5 lx (F1.4)	0.3 lx (F1.3)	0.2 lx (F1.3)
	Color (Sens Up)	0.019 lx@ 16x (F1.6)	0.013 lx@ 16x (F1.6)	0.03 lx@ 16x (F1.4)	0.03 lx@ 16x (F1.4)	0.019 lx@ 16x (F1.3)	0.013 lx@ 16x (F1.3)
	B/W	0.05 lx (F1.6)	0.04 lx (F1.6)	0.06 lx (F1.4)	0.3 lx (F1.4)	0.2 lx (F1.3)	0.13 lx (F1.3)
	B/W (Sens Up)	0.003 lx@ 16x (F1.6)	0.002 lx@ 16x (F1.6)	0.004 lx@ 16x (F1.4)	0.02 lx@ 16x (F1.4)	0.013 lx@ 16x (F1.3)	0.009 lx@ 16x (F1.3)
Pan	+180 / -160 °, Azimuth ±100 ° Manual	+180 / -160 °, Azimuth ±100 ° Manual	+180 / -160 °, Azimuth ±100 ° Manual	+180 / -160 °, Azimuth ±100 ° Manual	+180 / -170 °, Azimuth ±100 ° Manual	+180 / -170 °, Azimuth ±100 ° Manual	
Tilt	±75 ° Manual	±75 ° Manual	±75 ° Manual	±75 ° Manual	±75 ° Manual	±75 ° Manual	
Zoom	7.2x extra <sup>*1</sup> / 3.6x optical / 4x digital	7.2x extra <sup>*1</sup> / 3.6x optical / 4x digital	10.8x extra <sup>*2</sup> / 3.6x optical / 4x digital	10.8x extra <sup>*2</sup> / 3.6x optical / 4x digital	2x extra <sup>*3</sup> / 4x digital	2x extra <sup>*3</sup> / 4x digital	
Angular Field of View	H: 27.7 ° (Tele) ~ 100.8 ° (Wide) V: 20.8 ° (Tele) ~ 73.8 ° (Wide)	H: 27.7 ° (Tele) ~ 100.8 ° (Wide) V: 20.8 ° (Tele) ~ 73.8 ° (Wide)	H: 24.2 ° (Tele) ~ 86.6 ° (Wide) V: 20.2 ° (Tele) ~ 71.5 ° (Wide)	H: 24.2 ° (Tele) ~ 86.6 ° (Wide) V: 20.2 ° (Tele) ~ 71.5 ° (Wide)	H: 27.7 ° (Tele) ~ 100.3 ° (Wide) V: 20.8 ° (Tele) ~ 73.5 ° (Wide)	H: 27.7 ° (Tele) ~ 100.3 ° (Wide) V: 20.8 ° (Tele) ~ 73.5 ° (Wide)	
Ambient Operating Temperature	-10 °C ~ +50 °C (14 °F ~ 122 °F) -30 °C ~ +50 °C (-22 °F ~ 122 °F) <sup>*6</sup>	-10 °C ~ +50 °C (14 °F ~ 122 °F) -30 °C ~ +50 °C (-22 °F ~ 122 °F) <sup>*6</sup>	-40 °C ~ +50 °C (-40 °F ~ 122 °F)	-40 °C ~ +50 °C (-40 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	
Ambient Operating Humidity <sup>*4</sup>	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	
Supported Video Codec	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	
Audio <sup>*5</sup>	2-way	2-way	2-way	N/A	2-way	2-way	
Supported Audio Codec	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	N/A	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	
SD Memory Card (Option)	SDHC / SD	SDHC / SD	SDXC / SDHC / SD	N/A	SDHC / SD	SDHC / SD	
External I/O Terminals	1x ALARM IN / DAY/NIGHT IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN / DAY/NIGHT IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	
Analog Video Output	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	
Built-in Microphone	N/A	N/A	N/A	N/A	N/A	N/A	
Power Source	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	
Others	Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, Face Detection, Vandal Resistant	



# Network Camera Comparison Chart

Launches in June

Launches in June

Model No.	WV-SF539 (Fixed Dome)	WV-SF538 (Fixed Dome)	WV-SF336 (Fixed Dome)	WV-SF335 (Fixed Dome)	WV-SF332 (Fixed Dome)	
	 New OnVIF	 New OnVIF	 OnVIF	 OnVIF	 OnVIF	
Image Sensor	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	
Max. Video Resolution (pixel)	2,048 x 1,536	2,048 x 1,536	1,280 x 960	1,280 x 960	800 x 600	
Wide Dynamic Range	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (WDR)	Yes (WDR)	Yes (WDR)	
Day / Night	Day & Night (IR)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	
Auto Back Focus	Yes	Yes	Yes	Focus Assist	Focus Assist	
VIQS (Variable Image Quality on Specified area)	Yes (2 areas)	Yes (2 areas)	N/A	N/A	N/A	
Min. Illumination	Color	0.5 lx (F1.4)	0.5 lx (F1.4)	0.3 lx (F1.3)	0.2 lx (F1.3)	
	Color (Sens Up)	0.03 lx@ 16x (F1.4)	0.03 lx@ 16x (F1.4)	0.019 lx@ 16x (F1.3)	0.019 lx@ 16x (F1.3)	0.013 lx@ 16x (F1.3)
	B/W	0.06 lx (F1.4)	0.3 lx (F1.4)	0.2 lx (F1.3)	0.2 lx (F1.3)	0.13 lx (F1.3)
	B/W (Sens Up)	0.004 lx@ 16x (F1.4)	0.02 lx@ 16x (F1.4)	0.013 lx@ 16x (F1.3)	0.013 lx@ 16x (F1.3)	0.009 lx@ 16x (F1.3)
Pan	+180 / -160 °, Azimuth ±100 ° Manual	+180 / -160 °, Azimuth ±100 ° Manual	+180 / -170 °, Azimuth ±100 ° Manual	+180 / -170 °, Azimuth ±100 ° Manual	+180 / -170 °, Azimuth ±100 ° Manual	
Tilt	±75 ° Manual	±75 ° Manual	±75 ° Manual	±75 ° Manual	±75 ° Manual	
Zoom	10.8x extra*2 / 3.6x optical / 4x digital	10.8x extra*2 / 3.6x optical / 4x digital	7.2x extra*1 / 3.6x optical / 4x digital	7.2x extra*1 / 3.6x optical / 4x digital	7.2x extra*1 / 3.6x optical / 4x digital	
Angular Field of View	H: 24.2 ° (Tele) ~ 86.6 ° (Wide) V: 20.2 ° (Tele) ~ 71.5 ° (Wide)	H: 24.2 ° (Tele) ~ 86.6 ° (Wide) V: 20.2 ° (Tele) ~ 71.5 ° (Wide)	H: 28.0 ° (Tele) ~ 100.0 ° (Wide) V: 21.0 ° (Tele) ~ 74.0 ° (Wide)	H: 28.0 ° (Tele) ~ 100.0 ° (Wide) V: 21.0 ° (Tele) ~ 74.0 ° (Wide)	H: 28.0 ° (Tele) ~ 100.0 ° (Wide) V: 21.0 ° (Tele) ~ 74.0 ° (Wide)	
Ambient Operating Temperature	-40 °C ~ +50 °C (-40 °F ~ 122 °F)	-40 °C ~ +50 °C (-40 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	
Ambient Operating Humidity *4	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	
Supported Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	
Audio *5	2-way	N/A	2-way	2-way	2-way	
Supported Audio Codec	G.726 (ADPCM) / G.711	N/A	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	
SD Memory Card (Option)	SDXC / SDHC / SD	N/A	SDHC / SD	SDHC / SD	SDHC / SD	
External I/O Terminals	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	
Analog Video Output	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	
Built-in Microphone	N/A	N/A	N/A	N/A	N/A	
Power Source	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	
Others	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	

\*1 extra optical zoom at VGA resolution  
\*2 extra optical zoom at 360p resolution  
\*3 extra zoom at VGA resolution

\*4 without condensation  
\*5 Audio output requires included Audio/Video Cable  
\*6 when the IR LED is lit.



# Network Camera Comparison Chart

Launches in April

Model No.	WV-SW155 (Fixed Dome)	WV-SW152 (Fixed Dome)	WV-SF135 (Fixed Dome)	WV-SF132 (Fixed Dome)	WV-SW316L (Box)	WV-SW316 (Box)	WV-SW314 (Box) *NTSC only
	 ONVIF	 ONVIF	 ONVIF	 ONVIF	 New ONVIF	 New ONVIF	 New ONVIF
Image Sensor	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/5 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS
Max. Video Resolution (pixel)	1,280 x 960	800 x 600	1,280 x 960	640 x 480	1,280x960	1,280x960	1,280x960
Wide Dynamic Range	Yes (Mega Super Dynamic)	Yes (Super Dynamic)	N/A	N/A	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)
Day / Night	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (IR)	Day & Night (IR)	Day & Night (electrical)
Auto Back Focus	N/A	N/A	N/A	N/A	Yes	Yes	Focus Assist
VIQS(Variable Image Quality on Specified area)	Yes (1 area)	Yes (1 area)	Yes (1 area)	Yes (1 area)	Yes (1 area)	Yes (1 area)	Yes (1 area)
Min. Illumination	Color	0.8 lx (F2.2)	0.6 lx (F2.2)	0.8 lx (F2.2)	2.0 lx (F2.9)	0.3 lx (F1.3)	0.3 lx (F1.3)
	Color (Sens Up)	0.05 lx@ 16x (F2.2)	0.04 lx@ 16x (F2.2)	0.05 lx@ 16x (F2.2)	0.3 lx@ 16x (F2.9)	0.019 lx@ 16x (F1.3)	0.019 lx@ 16x (F1.3)
	B/W	0.6 lx (F2.2)	0.4 lx (F2.2)	0.6 lx (F2.2)	1.3 lx (F2.9)	0 lx (F1.3) *6	0.05 lx (F1.3)
	B/W (Sens Up)	0.04 lx@ 16x (F2.2)	0.03 lx@ 16x (F2.2)	0.04 lx@ 16x (F2.2)	0.16 lx@ 16x (F2.9)	—	0.003 lx@ 16x (F1.3)
Pan	<Ceiling>-20°~20°<Wall>-80°~80° Manual	<Ceiling>-20°~20°<Wall>-80°~80° Manual	<Ceiling>-20°~20°<Wall>-80°~80° Manual	<Ceiling>-20°~20°<Wall>-80°~80° Manual	N/A	N/A	N/A
Tilt	<Ceiling>-20°~90°<Wall>-90°~20° Manual	<Ceiling>-20°~90°<Wall>-90°~20° Manual	<Ceiling>-20°~90°<Wall>-90°~20° Manual	<Ceiling>-20°~90°<Wall>-90°~20° Manual	N/A	N/A	N/A
Zoom	2 x extra*3 / 4x digital	2 x extra*3 / 4x digital	2 x extra*3 / 4x digital	4x digital	6.4x extra*1 / 3.2x optical / 4x digital	6.4x extra*1 / 3.2x optical / 4x digital	7.2x extra*1 / 3.6x optical / 4x digital
Angular Field of View	H: 104° / V: 85°	H: 104° / V: 85°	H: 104° / V: 85°	H: 68° / V :53°	H: 27.9° (Tele) ~90.6° (Wide) V: 20.9° (Tele) ~66.9° (Wide)	H: 27.9° (Tele) ~90.6° (Wide) V: 20.9° (Tele) ~66.9° (Wide)	H: 27.7° (Tele) ~100.3° (Wide) V: 20.8° (Tele) ~73.6° (Wide)
Ambient Operating Temperature	-30 °C ~ +50 °C (-22 °F ~ 122 °F)	-30 °C ~ +50 °C (-22 °F ~ 122 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	-40 °C ~ +50 °C (-22 °F ~ 122 °F)	-40 °C ~ +50 °C (-22 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)
Ambient Operating Humidity *4	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less
Supported Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG
Audio *5	N/A	N/A	N/A	N/A	2-way	2-way	N/A
Supported Audio Codec	N/A	N/A	N/A	N/A	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	N/A
SD Memory Card (Option)	SDHC / SD	SDHC / SD	N/A	N/A	SDHC / SD	SDHC / SD	N/A
External I/O Terminals	N/A	N/A	N/A	N/A	1x ALARM IN / DAY/NIGHT IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN / DAY/NIGHT IN 1x ALARM OUT 1x AUX OUT	N/A
Analog Video Output	N/A	N/A	N/A	N/A	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)
Built-in Microphone	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Power Source	PoE	PoE	PoE	PoE	12 V DC / PoE	12 V DC / PoE	PoE
Others	Multiple H.264 & JPEG streaming IP66 Rated, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming IP66 Rated, Face Detection, Vandal Resistant	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming IP66 Rated, Face Detection, IR LED equipped	Multiple H.264 & JPEG streaming IP66 Rated, Face Detection	Multiple H.264 & JPEG streaming IP66 Rated, Face Detection

# Network Camera Comparison Chart

Model No.	WV-SP509 (Box)	WV-SP508 (Box)	WV-SP306 (Box)	WV-SP305 (Box)	WV-SP302 (Box)	WV-SP105 (Cylinder)	WV-SP102 (Cylinder)	
	 New ONVIF	 New ONVIF	 ONVIF	 ONVIF	 ONVIF	 ONVIF	 ONVIF	
Image Sensor	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/3 type MOS	1/5 type MOS	
Max. Video Resolution (pixel)	2,048 x 1,536	2,048 x 1,536	1,280 x 960	1,280 x 960	800 x 600	1,280 x 960	640 x 480	
Wide Dynamic Range	Yes (Mega Super Dynamic)	Yes (Mega Super Dynamic)	Yes (WDR)	Yes (WDR)	Yes (WDR)	N/A	N/A	
Day / Night	Day & Night (IR)	Day & Night (electrical)	Day & Night (IR)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	
Auto Back Focus	Yes	Yes	Yes	Focus Assist	Focus Assist	N/A	N/A	
VIQS (Variable Image Quality on Specified area)	Yes (2 areas)	Yes (2 areas)	N/A	N/A	N/A	N/A	N/A	
Min. Illumination	Color	0.5 lx (F1.4)	0.5 lx (F1.4)	0.3 lx (F1.4)	0.3 lx (F1.4)	0.2 lx (F1.4)	0.8 lx (F2.2)	2.0 lx (F2.0)
	Color (Sens Up)	0.03 lx@ 16x (F1.4)	0.03 lx@ 16x (F1.4)	0.019 lx@ 16x (F1.4)	0.019 lx@ 16x (F1.4)	0.013 lx@ 16x (F1.4)	0.05 lx@ 16x (F2.2)	0.3 lx@ 8x (F2.0)
	B/W	0.06 lx (F1.4)	0.3 lx (F1.4)	0.05 lx (F1.4)	0.2 lx (F1.4)	0.13 lx (F1.4)	0.4 lx (F2.2)	1.3 lx (F2.0)
	B/W (Sens Up)	0.004 lx@ 16x (F1.4)	0.02 lx@ 16x (F1.4)	0.003 lx@ 16x (F1.4)	0.013 lx@ 16x (F1.4)	0.009 lx@ 16x (F1.4)	0.03 lx@ 16x (F2.2)	0.16 lx@ 8x (F2.0)
Pan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Tilt	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Zoom	3x extra <sup>*1</sup> / 4x digital	3x extra <sup>*1</sup> / 4x digital	2x extra <sup>*2</sup> / 4x digital	2x extra <sup>*2</sup> / 4x digital	2x extra <sup>*2</sup> / 4x digital	2x extra <sup>*2</sup> / 4x digital	4x digital	
Angular Field of View	Lens: optional	Lens: optional	Lens: optional	Lens: optional	Lens: optional	H: 70.3° / V: 55.4°	H: 66.9° / V: 52.3°	
Ambient Operating Temperature	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	0 °C ~ 40 °C (32 °F ~ 104 °F)	0 °C ~ 40 °C (32 °F ~ 104 °F)	
Ambient Operating Humidity <sup>*3</sup>	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	
Supported Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / JPEG	H.264 / JPEG	
Audio <sup>*4</sup>	2-way	N/A	2-way	2-way	2-way	N/A	N/A	
Supported Audio Codec	G.726 (ADPCM) / G.711	N/A	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	N/A	N/A	
SD Memory Card (Option)	SDXC / SDHC / SD	N/A	SDHC / SD	SDHC / SD	SDHC / SD	N/A	N/A	
External I/O Terminals	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN / DAY/NIGHT IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	1x ALARM IN 1x ALARM OUT 1x AUX OUT	N/A	N/A	
Analog Video Output	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	N/A	N/A	
Built-in Microphone	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Power Source	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	
Others	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming	Multiple H.264 & JPEG streaming	

\*1 extra zoom at 360p resolution

\*4 Audio output requires included Audio/Video Cable







\*2 extra zoom at VGA resolution

\*5 Heater ON

\*3 without condensation

\*6 -30 °C ~ +50 °C (-22 °F ~ 122 °F) with Optional Heater (24 V AC / PoE)

# Network Camera Comparison Chart

Model No.	WV-NW960 series (PTZ)	WV-NS950 series (PTZ)	WV-NS202A (PTZ)	WV-NW502S (Fixed Dome)	WV-NW484S (Fixed Dome)	WV-NP502 (BOX)	
							
Image Sensor	1/4 type CCD	1/4 type CCD	1/4 type CCD	1/3 type CCD	1/3 type CCD	1/3 type CCD	
Max. Video Resolution (pixel)	640 x 480	640 x 480	640 x 480	2,048 x 1,536	640 x 480	2,048 x 1,536	
Wide Dynamic Range	Yes (SDIII)	Yes (SDIII)	Yes (SDIII)	Yes (Mega Super Dynamic)	Yes (SDIII)	Yes (Mega Super Dynamic)	
Day / Night	Day & Night (IR)	Day & Night (IR)	Day & Night (electrical)	Day & Night (IR)	Day & Night (IR)	Day & Night (IR)	
Auto Back Focus	N/A (Auto Focus)	N/A (Auto Focus)	N/A (Auto Focus)	Yes	Yes	Yes	
VIQS (Variable Image Quality on Specified area)	N/A	N/A	N/A	N/A	N/A	N/A	
Min. Illumination	Color	0.5 lx (F1.4)	0.5 lx (F1.4)	0.7 lx (F1.6)	1.0 lx (1.3 Megapixel mode / F1.2)	1.5 lx (NTSC) / 0.6 lx (PAL)(F1.4)	1.0 lx (1.3 Megapixel mode / F1.4)
	Color (Sens Up)	0.02 lx@ 32x (F1.4)	0.02 lx@ 32x (F1.4)	0.02 lx@ 32x (F1.6)	0.06 lx @ 16x (1.3 Megapixel mode / F1.2)	0.046 lx (NTSC) / 0.019 lx (PAL) @ 32x (F1.4)	0.06 lx @ 16x (1.3 Megapixel mode / F1.4)
	B/W	0.04 lx (F1.4)	0.04 lx (F1.4)	0.5 lx (F1.6)	0.08 lx (1.3 Megapixel mode / F1.2)	0.16 lx (NTSC) / 0.08 lx (PAL) (F1.4)	0.08 lx (1.3 Megapixel mode / F1.4)
	B/W (Sens Up)	0.0013 lx@ 32x (F1.4)	0.0013 lx@ 32x (F1.4)	0.015 lx@ 32x (F1.6)	0.005 lx @ 16x (1.3 Megapixel mode / F1.2)	0.005 lx (NTSC) / 0.003 lx (PAL) @ 32x (F1.4)	0.005 lx @ 16x (1.3 Megapixel mode / F1.4)
Pan	360 ° endless	360 ° endless	0 ° ~ 350 °	±170 °, Azimuth ±100 ° Manual	±175 °, Azimuth ±160 ° Manual	N/A	
Tilt	-5 ° ~ 185 °	-5 ° ~ 185 °	-30 ° ~ 90 °	±75 ° Manual	±75 ° Manual	N/A	
Zoom	30x optical / 10x digital	30x optical / 10x digital	22x optical / 10x digital	2.8x optical / 4x digital	2x optical / 4x digital	4x digital	
Angular Field of View	H: 1.9 ° (Tele) ~ 52.0 ° (Wide) V: 1.4 ° (Tele) ~ 40.0 ° (Wide)	H: 1.9 ° (Tele) ~ 52.0 ° (Wide) V: 1.4 ° (Tele) ~ 40.0 ° (Wide)	H: 2.6 ° (Tele) ~ 51.7 ° (Wide) V: 2.0 ° (Tele) ~ 39.9 ° (Wide)	H: 35.0 ° (Tele) ~ 100.0 ° (Wide) V: 26.2 ° (Tele) ~ 73.4 ° (Wide)	H: 35.6 ° (Tele) ~ 73.6 ° (Wide) V: 26.6 ° (Tele) ~ 53.4 ° (Wide)	Lens:optional	
Ambient Operating Temperature	-40 °C ~ +50 °C (-40 °F ~ 122 °F) <sup>5</sup>	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F)	-30 °C ~ +50 °C (-22 °F ~ 122 °F)	-10 °C ~ +50 °C (14 °F ~ 122 °F) <sup>6</sup>	-10 °C ~ +50 °C (14 °F ~ 122 °F)	
Ambient Operating Humidity *3	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	
Supported Video Codec	MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	
Audio *4	2-way	2-way	2-way	2-way	N/A	2-way	
Supported Audio Codec	G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM) / G.711	N/A	G.726 (ADPCM) / G.711	
SD Memory Card (Option)	Mini SD	SD	SD	SDHC / SD	SD	SDHC / SD	
External I/O Terminals	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT	1x ALARM IN 1 / DAY/NIGHT IN 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT / EXPOSURE OUT	1 x ALARM IN 1 x ALARM OUT / DAY/NIGHT IN 1 x AUX OUT	1 x ALARM IN 1 / DAY/NIGHT IN 1 x ALARM IN 2 / ALARM OUT 1 x ALARM IN 3 / AUX OUT / EXPOSURE OUT	
Analog Video Output	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	
Built-in Microphone	N/A	N/A	N/A	N/A	N/A	N/A	
Power Source	NW960: 220 ~ 240 V AC NW964: 24 V AC	NS950: 220 ~ 240 V AC NS954: 24 V AC	12 V DC / PoE	12 V DC / PoE	24 V AC / 12 V DC / PoE	12 V DC / PoE	
Others	IP66 Rated			Multiple H.264 & JPEG streaming, IP66 Rated, Face Detection, Vandal Resistant	IP66 Rated, Vandal Resistant	Multiple H.264 & JPEG streaming, Face Detection	



# Network Camera Comparison Chart

Launches in April

Model No.	WV-SW175 (Pan / Tilt)	WV-SW174W (Pan / Tilt)	WV-SW172 (Pan / Tilt)	WV-ST165 (Pan / Tilt)	WV-ST162 (Pan / Tilt)	BB-HCM735 (Pan / Tilt)	BB-HCM715 (Pan / Tilt)
	 New ONVIF	 New ONVIF	 New ONVIF	 New ONVIF	 New ONVIF		
Image Sensor	1/4 type MOS	1/4 type MOS	1/4 type MOS	1/4 type MOS	1/4 type MOS	1/3 type MOS	1/3 type MOS
Max. Video Resolution (pixel)	1,280 x 960	1,280 x 960	800 x 600	1,280 x 960	800 x 600	1,280 x 960	1,280 x 960
Wide Dynamic Range	Yes (WDR)	Yes (WDR)	Yes (WDR)	Yes (WDR)	Yes (WDR)	N/A	N/A
Day / Night	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	Day & Night (electrical)	N/A	N/A
Auto Back Focus	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VIQS (Variable Image Quality on Specified area)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Min. Illumination	Color	0.6 lx (F2.2)	0.6 lx (F2.2)	0.6 lx (F2.2)	0.6 lx (F2.2)	0.6 lx / 0.3 lx *4	0.6 lx / 0.3 lx *4
	Color (Sens Up)	0.038 lx@ 16x (F2.2)	0.038 lx@ 16x (F2.2)	0.038 lx@ 16x (F2.2)	0.038 lx@ 16x (F2.2)	0.07 lx / 0.04 lx *4	0.07 lx / 0.04 lx *4
	B/W	0.5 lx (F2.2)	0.5 lx (F2.2)	0.5 lx (F2.2)	0.5 lx (F2.2)	—	—
	B/W (Sens Up)	0.031 lx@ 16x (F2.2)	0.031 lx@ 16x (F2.2)	0.031 lx@ 16x (F2.2)	0.031 lx@ 16x (F2.2)	—	—
Pan	-47.5° - +47.5°	-47.5° - +47.5°	-47.5° - +47.5°	-47.5° - +47.5°	-47.5° - +47.5°	104 °	104 °
Tilt	-45° to +10°	-45° to +10°	-45° to +10°	-45° to +10°	-45° to +10°	53 °	53 °
Zoom	2x extra*1 / 8x digital	2x extra*1 / 8x digital	2x extra*1 / 8x digital	2x extra*1 / 8x digital	2x extra*1 / 8x digital	2x extra / 3x digital	2x extra / 3x digital
Angular Field of View	H: 85 ° / V: 68 °	H: 85 ° / V: 68 °	H: 85 ° / V: 68 °	H: 85 ° / V: 68 °	H: 85 ° / V: 68 °	H: 69 ° / V: 51 °	H: 69 ° / V: 51 °
Ambient Operating Temperature	-20 °C ~ +50 °C (-4 °F ~ 122 °F)	-20 °C ~ +50 °C (-4 °F ~ 122 °F)	-20 °C ~ +50 °C (-4 °F ~ 122 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	-20 °C ~ +50 °C (-4 °F ~ 122 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)
Ambient Operating Humidity *2	90 % or less	90 % or less	90 % or less	90 % or less	90 % or less	20 % ~ 90 %	20 % ~ 80 %
Supported Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG
Audio *3	2-way	2-way	2-way	2-way	2-way	2-way	2-way
Supported Audio Codec	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	MPEG-2 AAC (AAC-LC) G.726 (ADPCM)	MPEG-2 AAC (AAC-LC) G.726 (ADPCM)
SD Memory Card (Option)	SDHC / SD	N/A	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD
External I/O Terminals	1x ALARM IN 1 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT, GND, 12V DC	1x ALARM IN 1 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT, GND, 12V DC	1x ALARM IN 1 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT, GND, 12V DC	1x ALARM IN 1 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT, GND, 12V DC	1x ALARM IN 1 1x ALARM IN 2 / ALARM OUT 1x ALARM IN 3 / AUX OUT, GND, 12V DC	2x Input, 1x Output	2x Input, 1x Output
Analog Video Output	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out (for adjustment)	Monitor Out	Monitor Out
Built-in Microphone	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power Source	12 V DC / PoE	12 V DC	12 V DC / PoE	12 V DC / PoE	12 V DC / PoE	100 ~ 240 V AC / PoE	100 ~ 240 V AC / PoE
Others	Multiple H.264 & JPEG streaming IP55 Rated, Face Detection	Multiple H.264 & JPEG streaming IP55 Rated, Face Detection, Wireless LAN (IEEE802.11n/g/b)	Multiple H.264 & JPEG streaming IP55 Rated, Face Detection	Multiple H.264 & JPEG streaming Face Detection	Multiple H.264 & JPEG streaming Face Detection	Alarm, Timer, Motion Detection, Sound or Shock	Alarm, Timer, Motion Detection, Sound or Shock

\*1 extra zoom at VGA resolution

\*2 without condensation

\*3 Audio output requires included Audio/Video Cable.


\*4. 2x 2 Pixel Binning

\*5. BB-HCM581 only

\*6. Connection with external devices requires the included Audio/Video Cable.

\*7. BB-HCM580 include AC adaptor.

# Network Camera Comparison Chart

Model No.	BB-HCM705 (Fixed Dome)	BB-HCM701 (Fixed Dome)	BB-HCM547 (PTZ)	BB-HCM527 (PTZ)	BB-HCM581/580 (PTZ)	BB-HCM531/511 (Pan / Tilt)
						
Image Sensor	1/3 type MOS	1/5 type MOS	1/3.6 type MOS	1/3.6 type MOS	1/4 type CCD	1/4 type CCD
Max. Video Resolution (pixel)	1,280 x 960	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480
Wide Dynamic Range	N/A	N/A	N/A	N/A	N/A	N/A
Day / Night	N/A	N/A	N/A	N/A	N/A	N/A
Auto Back Focus	N/A	N/A	N/A	N/A	N/A (Auto Focus)	N/A
VIQS (Variable Image Quality on Specified area)	N/A	N/A	N/A	N/A	N/A	N/A
Min. Illumination	Color	0.6 lx / 0.3 lx *4	1.5 lx	2 lx	2 lx	2 lx
	Color (Sens Up)	0.07 lx / 0.04 lx *4	0.4 lx	0.2 lx	0.2 lx	0.2 lx
	B/W	—	—	—	—	—
	B/W (Sens Up)	—	—	—	—	—
Pan	20 ° (on a ceiling), 104 ° (on a wall) Manual	20 ° (on a ceiling), 104 ° (on a wall) Manual	350 °	350 °	350 °	120 °
Tilt	114 ° (on a ceiling), 114 ° (on a wall) Manual	114 ° (on a ceiling), 114 ° (on a wall) Manual	82 °	82 °	120 ° (on a table), 90 ° (on a ceiling)	65 °
Zoom	2x extra / 3x digital	3x digital	2.3x optical / 2x digital	2.3x optical / 2x digital	21x optical / 2x digital	10x digital (by area)
Angular Field of View	H: 69 ° / V: 51 °	H: 66 ° / V: 50 °	H: 73 ° / V: 55 °	H: 73 ° / V: 55 °	H: 51 ° / V: 38 ° (Wide)	H: 54 ° / V: 40 °
Ambient Operating Temperature	0 °C ~ 40 °C (32 °F ~ 104 °F)	0 °C ~ 40 °C (32 °F ~ 104 °F)	-20 °C ~ +50 °C (-4 °F ~ 122 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	BB-HCM531: -20 °C ~ +50 °C (-4 °F ~ 122 °F) BB-HCM511: 0 °C ~ +40 °C (32 °F ~ 104 °F)
Ambient Operating Humidity *2	20 % ~ 80 %	20 % ~ 80 %	20 % ~ 90 %	20 % ~ 80 %	20 % ~ 80 %	BB-HCM531: 20 % ~ 90 % BB-HCM511: 20 % ~ 80 %
Supported Video Codec	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG
Audio *3	1-way	1-way	2-way	2-way	2-way *5*6	2-way
Supported Audio Codec	MPEG-2 AAC (AAC-LC) G.726 (ADPCM)	MPEG-2 AAC (AAC-LC) G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM)
SD Memory Card (Option)	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD	SDHC / SD
External I/O Terminals	1x Input	1x Input	2x Input, 1x Output	2x Input, 1x Output	2x Input, 1x Output	2x Input, 1x Output
Analog Video Output	N/A	N/A	Monitor Out	Monitor Out	Monitor Out *6	Monitor Out
Built-in Microphone	Yes	Yes	Yes	Yes	N/A	Yes
Power Source	100 ~ 240 V AC / PoE	100 ~ 240 V AC / PoE	100 ~ 240 V AC / PoE	100 ~ 240 V AC / PoE	100 ~ 240 V AC *7 / PoE *5	100 ~ 240 V AC / PoE
Others	Alarm, Timer, Motion Detection, Sound or Shock	Alarm, Timer, Motion Detection, Sound or Shock	Alarm, Timer or Motion Detection IP55 Rated	Alarm, Timer or Motion Detection	Alarm, Timer or Motion Detection	Alarm, Timer or Motion Detection IP55 Rated (BB-HCM531)

# Network Camera Comparison Chart

Launches in April

Launches in April

Model No.	BL-VT164 (Pan / Tilt)	BL-VT164W (Pan / Tilt)	BL-C230 (Pan / Tilt)	BL-C210 (Pan / Tilt)	BL-C160 (Fixed)
	 New Onvif	 New Onvif			
Image Sensor	1/4 type MOS	1/4 type MOS	1/4 type MOS	1/4 type MOS	1/4 type MOS
Max. Video Resolution (pixel)	1,280 x 720	1,280 x 720	640 x 480	640 x 480	640 x 480
Wide Dynamic Range	N/A	N/A	N/A	N/A	N/A
Day / Night	Day & Night (electrical)	Day & Night (electrical)	N/A	N/A	N/A
Auto Back Focus	N/A	N/A	N/A	N/A	N/A
VIQS (Variable Image Quality on Specified area)	N/A	N/A	N/A	N/A	N/A
Min. Illumination	Color	0.9 lx (F2.8)	0.9 lx (F2.8)	5 lx	5 lx
	Color (Sens Up)	0.06 lx@ 16x (F2.8)	0.06 lx@ 16x (F2.8)	3 lx	3 lx
	B/W	0.6 lx (F2.8)	0.6 lx (F2.8)	—	—
	B/W (Sens Up)	0.04 lx@ 16x (F2.8)	0.04 lx@ 16x (F2.8)	—	—
Pan	-41°- +41°	-41°- +41°	82 °	82 °	N/A
Tilt	-32° to +10°	-32° to +10°	42 °	42 °	N/A
Zoom	1.5 x extra*1 / 8x digital	1.5 x extra*1 / 8x digital	3x digital	3x digital	10x digital (by area)
Angular Field of View	H: 57 ° / V: 34 °	H: 57 ° / V: 34 °	H: 58 ° / V: 45 °	H: 58 ° / V: 45 °	H: 58 ° / V: 45 °
Ambient Operating Temperature	0 °C ~ +40 °C (32 °F ~ 104 °F)	0 °C ~ +40 °C (32 °F ~ 104 °F)	0 °C ~ 40 °C (32 °F ~ 104 °F)	0 °C ~ 40 °C (32 °F ~ 104 °F)	-20 °C ~ +50 °C (-4 °F ~ 122 °F)
Ambient Operating Humidity *2	90 % or less	90 % or less	20 % ~ 80 %	20 % ~ 80 %	20 % ~ 90 %
Supported Video Codec	H.264 / JPEG	H.264 / JPEG	H.264 / MPEG-4 / JPEG	H.264 / MPEG-4 / JPEG	MPEG-4 / JPEG
Audio	2-way	2-way	1-way	1-way	N/A
Supported Audio Codec	G.726 (ADPCM) / G.711	G.726 (ADPCM) / G.711	MPEG-2 AAC (AAC-LC) G.726 (ADPCM)	MPEG-2 AAC (AAC-LC) G.726 (ADPCM)	N/A
SD Memory Card (Option)	N/A	N/A	N/A	N/A	N/A
External I/O Terminals	1x ALARM IN 1 / 1x ALARM IN 2 / ALARM OUT , 1x ALARM IN 3 / AUX OUT, GND, 12V DC	1x ALARM IN 1 / 1x ALARM IN 2 / ALARM OUT , 1x ALARM IN 3 / AUX OUT, GND, 12V DC	2x Input, 1x Output	2x Input	N/A
Analog Video Output	N/A	N/A	N/A	N/A	N/A
Built-in Microphone	Yes	Yes	Yes	Yes	N/A
Power Source *3	9V DC	9V DC	100 ~ 240 V AC	100 ~ 240 V AC	100 ~ 240 V AC
Others	Multiple H.264 & JPEG streaming, Face Detection	Multiple H.264 & JPEG streaming, Face Detection, Wireless LAN (IEEE802.11n/g/b)	Alarm, Sensor, Timer, Motion Detection or Sound, Wireless LAN (IEEE802.11n/g)	Alarm, Sensor, Timer, Motion Detection or Sound	Sensor, Timer or Motion Detection, IP55 Rated






\*1 extra zoom at VGA resolution

\*2 without condensation

\*3 ALL BL-models include AC adaptors



# Network Camera Comparison Chart

Model No.	BL-C140 (Fixed)	BL-C131 (Pan / Tilt)	BL-C111 (Pan / Tilt)	BL-C121 (Fixed)	BL-C101 (Fixed)
					
Image Sensor	1/4 type MOS	1/6 type MOS	1/6 type MOS	1/4 type MOS	1/4 type MOS
Max. Video Resolution (pixel)	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480
Wide Dynamic Range	N/A	N/A	N/A	N/A	N/A
Day / Night	N/A	N/A	N/A	N/A	N/A
Auto Back Focus	N/A	N/A	N/A	N/A	N/A
VIQS (Variable Image Quality on Specified area)	N/A	N/A	N/A	N/A	N/A
Min. Illumination	Color	5 lx	10 lx	10 lx	5 lx
	Color (Sens Up)	3 lx	3 lx	3 lx	3 lx
	B/W	—	—	—	—
	B/W (Sens Up)	—	—	—	—
Pan	N/A	100 °	100 °	N/A	N/A
Tilt	N/A	50 °	50 °	N/A	N/A
Zoom	10x digital (by area)	10x digital (by area)	10x digital (by area)	10x digital (by area)	10x digital (by area)
Angular Field of View	H: 58 ° / V: 45 °	H: 49 ° / V: 37 °	H: 49 ° / V: 37 °	H: 58 ° / V: 45 °	H: 58 ° / V: 45 °
Ambient Operating Temperature	-20 °C ~ +50 °C (-4 °F ~ 122 °F)	5 °C ~ +40 °C (41 °F ~ 104 °F)	5 °C ~ +40 °C (41 °F ~ 104 °F)	5 °C ~ +40 °C (41 °F ~ 104 °F)	5 °C ~ +40 °C (41 °F ~ 104 °F)
Ambient Operating Humidity *2	20 % ~ 90 %	20 % ~ 80 %	20 % ~ 80 %	20 % ~ 80 %	20 % ~ 80 %
Supported Video Codec	MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG	MPEG-4 / JPEG
Audio	N/A	1-way	1-way	1-way	1-way
Supported Audio Codec	N/A	G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM)	G.726 (ADPCM)
SD Memory Card (Option)	N/A	N/A	N/A	N/A	N/A
External I/O Terminals	N/A	N/A	N/A	1x Input, 1x Output	1x Input
Analog Video Output	N/A	N/A	N/A	N/A	N/A
Built-in Microphone	N/A	Yes	Yes	Yes	Yes
Power Source *3	100 ~ 240 V AC	100 ~ 240 V AC	100 ~ 240 V AC	100 ~ 240 V AC	100 ~ 240 V AC
Others	Sensor, Timer or Motion Detection IP55 Rated	Sensor, Timer or Motion Detection Wireless LAN (IEEE802.11b/g)	Sensor, Timer or Motion Detection	Timer or Motion Detection Wireless LAN (IEEE802.11b/g)	Timer or Motion Detection



**Trademarks and registered trademarks**

- "Super Dynamic", "SDII", "SDIII", "SD5", "SD5Link", "SD6", "i-PRO" and "i-PRO SmartHD" logos are trademarks or registered trademarks of Panasonic Corporation.
- All other trademarks identified herein are the property of their respective owners.
- ONVIF and the ONVIF logo are trademarks of ONVIF Inc.

**Important**

- Safety Precaution: carefully read the operating instructions and installation manual before using this product.
- Panasonic can not be responsible for network performance and/or other manufacturer products that reside on the network.

**Security Cautions**

- When using the products in this catalog, take appropriate measures to avoid the following security breaches.
- Disclosure of private information via the products.
- Unauthorized use of products by a third party.
- Interference or suspension of the use of the products by third party.

- Design and Specifications are subject to change without notice.
- These products may be subject to export control regulations.

DISTRIBUTED BY:

**Panasonic**<sup>®</sup>

<http://panasonic.net/security/>

Printed in Japan (2B-007HA)