Panasonic

i-PRO SmartHD
5 Series NEW
ONVIF G S

Lens : optional

SD ENHANCED Super Dynamic | VIQS Variable Image Quality on Specified area | H.264 JPEG | FULL HD Full High Definition 1080/60p | day/night IR removable | HLC | Fog sand Compensation | Auto Back Focus | i-VMD (Optional)

Full HD / 1,920 x 1,080 60 fps H.264 Network Camera featuring *Super Dynamic*

Key Features

- **1080p** Full HD images up to **60 fps**[*1]
- Approximate 1/3 inches, high sensitivity MOS Sensor
- Super high resolution at Full HD/1,920 x 1,080 created by high sensitivity MOS Sensor.
- **Multiple H.264 (High profile) streams (max. 4 streams)** and JPEG streams ensure simultaneous real time monitoring and high resolution recording by new enhanced "UniPhier®", Panasonic's proprietary System LSI platform.
- Maximum Screen Size is 2,048 x 1,536* @30 fps, H.264
  * Used by super resolution techniques
- *Enhanced Super Dynamic*[*1] and ABS (Adaptive Black Stretch) technologies deliver **133 dB** wider dynamic range compared to conventional cameras.
- **Multi process NR & 3D-DNR** ensures noise reduction in various conditions.
- High sensitivity with Day & Night (IR) function : 0.04 lx (Color), 0.01 lx (B/W) at F1.4
- **High Speed ABF (Auto Back Focus)** ensures easy installation.
- **VIQS** (Variable Image Quality on Specified area) technology allows the designated **eight areas** to retain higher image quality while the excluded area will have a decreased image quality, which enables to use lower image file size and bit rate.
- Cropping function enables to provide whole image and the part image simultaneously.
  Up to 4 image capture areas can be specified, and it is also possible to control the sequence.
- *Face Super Dynamic* technology ensures clear face image.
- Electronic sensitivity enhancement : Auto (Up to 16/30s) / OFF
- Selectable light control modes :
  Outdoor scene,Indoor scene (50 Hz) / Indoor scene (60 Hz),Fix shutter
  Indoor scene (50 Hz/60 Hz) : Flicker caused by fluorescent lightning will be automatically compensated.
- 2x, 4x digital zoom controlled by browser
- VMD (Video Motion Detection) with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Privacy Zone can mask up to 8 private areas, such as house windows and entrances/exits.
- Camera title display : Up to 20 alphanumeric characters on the browser

- Alarm sources including 3 terminal input, VMD and Panasonic alarm command can trigger actions such as SDXC/SDHC/SD memory recording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic alarm protocol output.
- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.
- JPEG Image compression ratio can be changed by alarm so that higher quality image can be provided.
- Prioritized stream control : One of the video streams can be prioritized when multiple recorders or client PCs are accessing the camera so that the recorder or the client PC can maintain the frame rate.
- **SDXC/SDHC/SD Memory card slot** for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (H.264 / JPEG). Realize long-term recording and auto backup function.
- Face detection function detects the position of human face and the information is sent by XML or video stream. (Extension Software)
- Can be added new intelligent extension software in addition to built-in VMD (Video Motion Detection), alarm function.
- **Fog compensation function** equipped as standard.
- **Super Chroma Compensation** function realizes a better color reproducibility even in low illumination.
- H.264 max. bit rate/client and Total bit rate control allows flexible network traffic management. Frame rate priority mode controls bit rate and compression ratio to provide the specified frame rate.
- Internet mode : H.264 images can be transmitted over HTTP protocol.
- Multi-language : English / Italian / French / German / Spanish / Portuguese / Russian / Chinese / Japanese
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- HLC (High Light Compensation):
  If a bright light source such as car headlights points in the direction of a camera, the camera corrects for strong lights and their surroundings to provide clear images of the areas.
- ONVIF compliant model

*1 Super Dynamic function is automatically set off on 60 fps mode

Specifications

Camera	Image Sensor	Approx. 1/3 type MOS image sensor
	Effective Pixels	Approx. 2.4 mega pixels
	Scanning Mode	Progressive scan
	Scanning Area	5.28 mm (H) x 3.30 mm (V) {7/32 inches(H) x 1/8 inches(V) }
	Minimum Illumination	Color : 0.04 lx, BW: 0.01 lx (F1.4, Maximum shutter : Max. 1/30s, Gain : On(High))
		Color : 0.003 lx, BW 0.0007 lx (F1.4, Maximum shutter : Max. 16/30s, Gain : On(High)) *1
	White Balance	AWC (2,000 ~ 10,000 K), ATW1 (2,700 ~ 6,000 K), ATW2 (2,000 ~ 6,000 K)
	Light Control Mode	Outdoor scene : Automatic integration of ALC and ELC /
		Indoor scene [50 Hz] : Automatic integration of ALC and ELC with flickerless /
		Indoor scene [60 Hz] : Automatic integration of ALC and ELC with flickerless /
		ELC / Fix shutter
	Shutter Speed	[2 mega pixel [16 : 9] (60 fps mode)]
		OFF(1/60), 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
		Other than [2 mega pixel [16 : 9] (60 fps mode)]
		OFF(1/30), 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250, 1/500,
		1/1000, 1/2000, 1/4000, 1/10000
	Super Dynamic*2	On(High) / On(Normal) / Off
	Face Super Dynamic	On/Off (only when Super Dynamic : On)
	Adaptive Black Stretch	On/Off (only when Super Dynamic : Off)
	Fog compensation	On/Off (only when Super Dynamic / Adaptive black stretch : Off)
	High light compensation (HLC)	On/Off (only when Super Dynamic / Back light compensation : Off)
	AGC	On (Low) / On (Mid) / On (High) / Off
	Maximum shutter	max. 1/1000 s, max. 1/500 s, max. 1/250 s, max. 1/120 s, max. 2/120 s,
		max. 1/100 s, max. 2/100 s, max. 1/60 s, max. 1/30 s, max. 2/30 s,
		max. 4/30 s, max. 6/30 s, max. 10/30 s, max. 16/30 s
	Day & Night (IR)	Off/On / Auto1 (Normal) / Auto2 (IR Light) / Auto3 (SCC)
	Dynamic Range	133 dB typ. (Super Dynamic : On)
	Digital Noise Reduction	High / Low
	Video Motion Detection	On/Off, 4 areas, Sensitivity : 15 steps, Detection size : 10 steps
	Privacy Zone	On/Off (up to 8 zones available)
	VIQS	On/Off (up to 8 zones available)
	Camera Title (OSD)	On/Off, Up to 20 characters (alphanumeric characters, marks)
	Focus Adjustment	Auto back focus / Focus / Adjusting method
Browser GUI	Cropping	Off / JPEG(1) / JPEG(2) / JPEG(3) / H.264(1) / H.264(2) / H.264(3) / H.264(4) / H.264(all)
		Up to 4 image capture areas can be specified
	Camera Control	Brightness, AUX On/Off
	Display Mode	Spot, Quad : Image from 16 cameras can be displayed in 4 different Quad
		screens or 16 split screen (JPEG only). 20 characters camera title available.
	Digital Zoom	1x, 2x, 4x controlled by browser GUI
	Clock Display	Time : 12H/24H, Date : 5 formats on the browser, Summer time (Manual)
	Alarm Control	Reset
	One Shot Capture	A still picture will be displayed on a newly opened window.
	Audio	Mic (Line) Input : On/Off Volume adjustment : Low / Middle / High
		Audio Output : On/Off Volume adjustment : Low / Middle / High
	SD Memory Data Download	Still or motion Images recorded in the SDXC/SDHC/SD memory card
		can be downloaded.
	GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian,
		Chinese, Japanese
	System Log	Up to 100 (Internal)
		Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs
	Supported OS *3	Microsoft® Windows® 8.1
		Microsoft® Windows® 8
		Microsoft® Windows® 7
		Microsoft® Windows Vista®
	Supported Browser	Windows® Internet Explorer® 11 (32-bit)
		Windows® Internet Explorer® 10 (32-bit)
		Windows® Internet Explorer® 9 (32-bit)
		Windows® Internet Explorer® 8 (32-bit)
		Windows® Internet Explorer® 7 (32-bit)

Network	Network IF		10Base-T / 100Base-TX, RJ45 connector
	Image Resolution	Image Capture Mode: 2 mega pixel [16:9] (30/60 fps)	1,920 x 1,080 / 1,280 x 720 / 640 x 360 / 320 x 180 / 160 x 90
		Image Capture Mode: 2 mega pixel [4:3] (30fps)	1,600 x 1,200 / 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120
		Image Capture Mode: 3 mega pixel [4:3] (30fps)	2,048 x 1,536* / 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120 *Used by super resolution techniques
	H.264 *4	Transmission Mode	Constant bitrate / VBR / Framerate priority / Best effort / Advanced VBR
		Frame Rate	1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 / 60 fps
		Bit Rate/Client	64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 6,144 / 8,192 / 10,240 / 12,288 / 14,336 / 16,384 / 20,480 / 24,576 / 30,720 / 40,960 kbps
		Image Quality	Constant bit rate, Best effort : Low(Motion priority) / Normal / Fine(Image quality priority)
			VBR : 0 Super fine / 1 Fine / 2 / 3 / 4 / 5 Normal / 6 / 7 / 8 / 9 Low
		Refresh interval	0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5s
		Transmission Type	Unicast / Multicast
	JPEG	Image Quality	10 steps
		Refresh interval	0.1 fps - 30 fps
			(JPEG frame rate will be restricted when displaying both JPEG and H.264 images.)
		Transmission Type	Pull / Push
	Audio Compression		G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps / AAC-LC*5
	Audio Mode		Off / Mic input / Audio output / Interactive (Half duplex) / Interactive (Full duplex)
	Bandwidth control		64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 2,048 / 4,096 / 8,192 kbps / Unlimited
	Supported Protocol		IPv6 : TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, RTP, MLD, ICMP, ARP
			IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP,FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP
	FTP Client		Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SDXC/SDHC/SD memory card is available.)
	No. of Simultaneous Users		Up to 14 users (Depends on network conditions)

Network	SDXC/SDHC/SD Memory Card (Option)	H.264 recording :
	* Manufactured by Panasonic (SD speed class 4 or higher)	Manual REC / Alarm REC (Pre/Post) / Schedule REC / Backup upon network failure Compatible
	* Use the SD memory card that complies with UHS-1 (Ultra High Speed-1) in the case of SD Speed Class 10.	JPEG recording :
		Manual REC / Alarm REC (Pre/Post) / Backup upon network failure
		Compatible SD (SDHC/SDXC) card:
		Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB** model
		*SDHC card, ** SDXC card (except miniSD card and microSD card)
	Cellular Phone Compatibility	JPEG image, AUX control (by access level)
	Mobile Terminal Compatibility*6	iPad, iPhone, iPod touch (iOS 4.2.1 or later), Android™ Terminal
Alarm	Alarm Source	3 terminals input, VMD, Command alarm, Audio detection alarm
	Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification
		Indication on browser, FTP image transfer, Panasonic protocol output
	Alarm Log	With SDXC/SDHC/SD memory card : Up to 50,000 logs
Schedule	Schedule mode	Alarm permission / VMD permission / Access permission /
		H.264 recording / Audio detection permission / Scene file /
		FTP periodic image transmission
Input/ Output	Monitor Output (for adjustment)	VBS : 1.0 V [p-p] / 75 Ω, composite, RCA jack
		An NTSC or PAL signal can be outputted from camera.
	Microphone Input	ø3.5 mm monaural mini jack
		Input impedance : Approx. 2 kΩ (unbalanced)
		Recommended applicable microphone : Plug-in power type
		Supply voltage : 2.5 V ± 0.5 V
		Recommended sensitivity of microphone : -48 dB ± 3 dB (0 dB=1 V/Pa, 1 kHz)
	Line Input	Input level : Approx. –10 dBV
	Audio Output	ø3.5 mm stereo mini jack (monaural output)
		Output impedance : Approx. 600 Ω (unbalanced)
	External I/O Terminals	ALARM IN 1 (DAY/NIGHT IN), ALARM IN 2 (ALARM OUT), ALARM IN 3 (AUX OUT)
General	Safety	UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1
	EMS	FCC (Part15 ClassA), ICES-003 ClassA, EN 55032 ClassB, EN55024
	Power Source and Power Consumption	DC 12 V : 430 mA / Approx. 5.1 W
		PoE (IEEE802.3af compliant) DC 48 V : 130 mA / Approx. 6 W (Class 2 device)
		* ONLY CONNECT 12 V DC CLASS 2 POWER SUPPLY.
	Ambient Operating Temperature	-10°C ~ +50°C (14 °F ~ 122 °F)
	Ambient Operating Humidity	10 ~ 90 % (no condensation)
	Dimensions	75.0 mm (W) x 57.0 mm (H) x 143.5 mm (D)
		{2-15/16 inches (W) x 2-1/4 inches (H) x 5-21/32 inches (D)}
		(excluding lens / power cord plug)
	Mass (approx.)	Approx. 380 g {0.84 lbs} excluding lens
	Finish	Main body : PC / ABS resin (Sail white)

*1 Converted value
*2 Super Dynamic function is automatically set off on 60 fps mode.
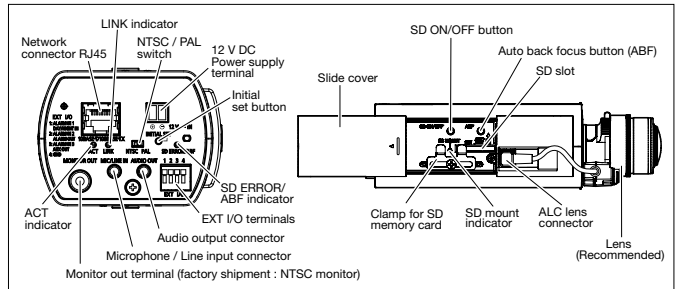*3 For further information about PC system requirements and precautions for when using Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®, or Windows® Internet Explorer®, click "Manual" - "Open" from the supplied CD-ROM and refer to "Notes on Windows® / Internet Explorer® versions".
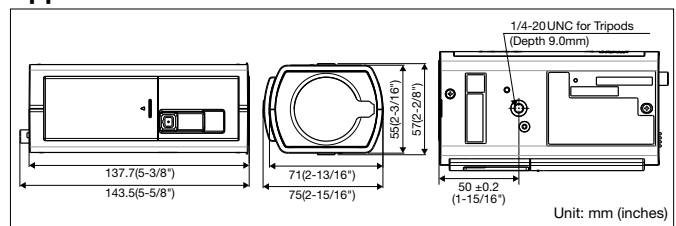*4 Transmission for 4 streams can be individually set.
*5 When recording audio on an SD memory card, only AAC-LC (Advanced Audio Coding - Low Complexity) can be used.
*6 For further information about compatible devices, refer to our website (http://security.panasonic.com/pss/security/support/info.html).

Part Names and Functions

LINK indicator
Network connector RJ45
NTSC / PAL switch
12 V DC Power supply terminal
Initial set button
SD ON/OFF button
Auto back focus button (ABF)
Slide cover
SD slot
SD ERROR/ABF indicator
ACT indicator
EXT I/O terminals
Audio output connector
Microphone / Line input connector
Monitor out terminal (factory shipment : NTSC monitor)
Clamp for SD memory card
SD mount indicator
ALC lens connector
Lens (Recommended)

Appearance

137.7(5-3/8")
143.5(5-5/8")
71(2-13/16")
75(2-15/16")
55(2-3/16")
57(2-2/8")
1/4-20UNC for Tripods (Depth 9.0mm)
50 ±0.2 (1-15/16")

Unit: mm (inches)

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Important
– Safety Precaution: Carefully read the Important Information, Installation Guide and operating instructions before using this product.
– Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.

• Masses and dimensions are approximate.
• Specifications are subject to change without notice.

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(2A-133BA)