

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.42 (4.26.00) May,'14			-					First production	Corrected Ver1.42 and 1.43 on August 21, 2014.	
Ver1.43 (4.26.01) July,'14			C				X	-	-	Supported WV-SAE100.
							X	-	-	Supported WV-SAE200.
						X	Alarm would not be notified even if i-VMD setting were enabled. (Occurrence frequency : High)	In a case, the i-VMD was activated after changing image capture mode to be [4:3].	Fixed.	
						X	Camera may reboot, unexpectedly. (Occurrence frequency : Rare)	When over writing SD memory card.	Fixed.	
							Added on Dec.16, 2014	Supported WV-SPN311 and WV-SPN310.	Added on Jan.27, 2015	Supported WV-SPW631L, WV-SPW631LT, WV-SPW611L and WV-SPW531LH
Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	C				X	-	-	Except H models Added a function of SD memory card password lock. <b>IMPORTANT INFORMATION</b> Please remember the password with great care. The SD memory card with the configured password will become UNUSABLE IF IT WOULD BE FORGOTTEN.
							X	-	-	Added a setting to alteration detection. Note The bit rate for recording onto SD memory card, will be limited (approx. a half of usual) by activating the alteration detection.
							X	-	-	Added playing back audio recorded on SD memory card by browser. To playback audio, the setting of "Audio recording" must be "On" Note The bit rate for recording onto SD memory card, will be limited (approx. a half of usual) by activating this function.
							X	-	-	Added "VBR" as a choice of Transmission priority in JPEG/H.264. Note The stream of VBR in H.264 at Transmission priority cannot be selected image compression for recording onto SD memory card.
							X	-	-	In Chinese and Japanese languages only, changed words in H.264 settings; Previous: 最大比特率(突发时) 最大ビットレート(バースト時) New: 最大比特率(高級可変比特率時) 最大ビットレート(アドバンスド可変ビットレート時)
							X	-	-	In Chinese and Japanese languages only, changed words in H.264 settings; Previous: 控制时间(可変比特率時) 制御期間(可変ビットレート時) New: 控制期间(高級可変比特率時) 制御期间(アドバンスド可変ビットレート時)
							X	-	-	Added "High Light Compensation (HLC)" function.
						X	-	-	Added displaying the "Log" in live and "Permission level of viewing logs" settings.	
						X	-	-	Added FTP transmitting Pre alarm picture.	

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents					
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence			
Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	C				x	-	-	Added hyper-link to the "Support Information on network camera (WV Series)" in the page of firmware upgrade.			
							x	-	-	Added Audio Output Duration setting so that various durations of audio transmission (such as 1/2/3/5/10/20/30/60min) can be set (instead of 5-min fixed).			
							x	-	-	Added "Alarm deactivation time" setting so that various deactivation time (such as 5s/10s/30s/1min/3min/5min/10min) can be set (instead of 5-sec fixed).			
							x	-	-	Updated the list of time zone setting.			
							x	-	-	Improved displaying live picture even if the setting of the Compatibility View on Internet Explorer11 were "Off".			
							x	-	-	Added hyper-link to the "Support Information on network camera (WV Series)" on the title-bar in the page of live picture.			
							x	-	-	Supported the cgi commands as follows; - /ImageViewer to add corresponding picture that display video clips only. - /Set,Get?Func=ImageTransfer to set alarm notifications and to receive setting values - /Get?Func=Pan,Tilt to receive available Pan/Tilt ranges - /Set?Func=Network to receive settings of network - /Set,Get?Func=Upnp to set Upnp and to receive setting values - /Set?Func=Network to add dns parameter			
							x	-	-	Supported ONVIF Profile G.			
							x	-	-	Supported live streaming for H.264(3), H.264(4). *: Supported only H.264(1), H.264(2), previously.			
							x	-	-	Supported AAC audio on ONVIF.			
							x	-	-	While manual recording was set at the Save trigger of SD memory card, added an alert that showed record to be interrupt by changing the settings one of the tabs as follows; - SD memory card tab - JPEG/H.264 - Audio - Network - Additional info for detecting alteration (Except Chinese market models) - SD memory card password lock / Remove / Change			
								x			Video streaming may not be transmitted. (Occurrence frequency : Rare)	In a case switching screens among quad, 16 single and live, repeatedly.	Fixed.
								x			Time on System log was incorrect. (Occurrence frequency : High)	In a case time zone setting was other than "GMT+09:00".	Fixed to show correct local time.
				x			Returned 403 Forbidden when attempting to set Diffserv. (Occurrence frequency : High)	In a case the input field of DSCP to be blank.	Improved to show "Entered information is incorrect. Enter again.", instead				
				x			"500 Internal Server Error" may appear. (Occurrence frequency : Low)	By changing Time adjustment at NTP.	Fixed.				

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	C			x		Shown an incomplete balloon help by mouse over the combo box at Host check. (Occurrence frequency : High)	In a case the host name was long.	Fixed.
						x		Time stamp was shifting 1 second between the one in log list and display on playback screen. (Occurrence frequency : Mid)	Recorded in H.264 onto SD memory card.	Fixed.
						x		Bandwidth of transmission may be unstable. (Occurrence frequency : Low)	In a case Transmission priority were in "Best effort".	Fixed.
						x		The time stamp of SD memory card recoding was shifting 2 hours between on-screen display and log. (Occurrence frequency : High)	In a case daylight-saving time (summer time) were ON	Fixed.
						x		Bottom half of the adjustment monitor may not display, properly. (Occurrence frequency : High)	Monitoring the video signal from the Adjustment monitor output terminal.	Fixed.
						x		Log for SD memory card recording may contain that an event showed tow or more. (Occurrence frequency : Low)	-	Fixed.
						x		Remaining capacity (Total) for SD memory card may not correct . (Occurrence frequency : High)	In a case, the total capacities of SD memory card 1 and 2 were different and the remaining capacities of SD memory card 1 and 2 were different.	Fixed to display properly.
						x		Layout would corrupt by adjusting volume while in mute.	It depends on Operating System (OS) and/or Internet Explorer (IE)	Fixed.
						x		"500 Internal Server Error" may appear by sending a command of keep-a-live at multicast streaming with audio.	"Audio mode" is set in "Mic input" and send the command without stream parameters.	Fixed.
						x		Layout at Host authentication screen corrupted.	In a case, the host name was long.	Fixed.
						x		Error may be displayed if the Set button at i-VMD configuration were clicked repeatedly.	-	Fixed.
						x		Hunting may appear at high illumination like spot-lighting. (Occurrence frequency : Low)	In black and white mode.	Fixed.
						x		Slow shutter may not work properly. (Occurrence frequency : Low)	By changing ELC(Maximum exposure time).	Fixed.
						x	-	-	Changed Windows focus policy that the pointer will not move to the Zoom button on the Extra optical zoom window. (This is to avoid error by clicking and holding the Enter.)	
						x	In schedule for i-VMD or Scene file, the schedule 2 did not work if the end time of the schedule 1 and start time of schedule 2 were same. Example Schedule 1: 12:00 - 12:05 Scene file1 Schedule 2: 12:05 - 12:10 Scene file1 (Occurrence frequency : High)	-	Fixed.	

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	C			x		BWLEVEL (image adjustment) and ORGUSE (On/Off at Panasonic alarm protocol notification) did not show properly. (Occurrence frequency : High)	At a cgi command; /cgi-bin/setdata, /cgi-bin/getdata	Fixed.
						x		Displayed incorrect time display format "0:xx PM" in camera picture window that is shown from noon to 12:59 pm. (Occurrence frequency : High)	-	Fixed.
						x		In Extra optical zoom operation, zoom moved to "x1.0" once then zooming again as a result of clicking Zoom (+) button repeatedly and click "x1" button. (Occurrence frequency : Mid)	-	Fixed.
						x		Setting of FTP periodic image transmission may not be effective even if the Set button were clicked. (Occurrence frequency : Low)	-	Fixed.
						x		Operability was not good at moving slide-bar by mouse on playback in H.264 recording.	It depends on the combination of Internet Explorer and the compatible view setting.	Fixed.
						x		Unable to select other than "H.264 stream" for monitoring live. (Occurrence frequency : High)	In a case setting, transmission for "H.264 stream 1" to be "Off".	Fixed.
						x		Playing back H.264 may be stopped and return to live. (Occurrence frequency : Low)	In a case operations like 5s forward, 5s backward, switching log, etc.	Fixed.
						x		Indicating the area of Face detection at cropping stream. (Occurrence frequency : High)	In a case, Face detection is "On" and alarm action at cropping is "On".	Fixed not to indicate the area.
						x		Appeared script error.	Transmission type is Multicast (IPv4) and Internet mode is "On" and accessing the camera by IPv6, then clicking Confirm button for H.264 (1) stream in VIQS window.	Fixed.
						x		The camera may reboot unexpectedly by changing Internet mode from "Off" to "On". (Occurrence frequency : Rare)	By changing H.264 stream settings while displaying live and/or playback.	Fixed.
						x		Existing privacy zone was misaligned, slightly. (Occurrence frequency : High)	In a case, the stream was 1080p, 60fps and EX zoom.	Fixed.
						x		Time stamp may be different between log and actual recording. (Occurrence frequency : Rare)	Restarted the camera after turning power Off and On while recording onto SD memory card in H.264.	Fixed.
		x		Pop-up a dialog window for alert of changing "Recording mode", showed blank.	In all languages except Japanese.	Fixed.				
		x		The pages for smartphone were shown by accessing "http://(IP address)/cam".	Compatible view setting were "Off" on Internet Explorer 11.	Fixed to show the live picture.				
		x		Live image may be displayed solid black picture. (Occurrence frequency : Rare)	-	Fixed.				

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	C			x		Script error might occur. (Occurrence frequency : Rare)	By downloading H.264 recordings from SD memory card.	Fixed.
						x		The camera may restart, unexpectedly. (Occurrence frequency : Rare)	By inputting alarm with high frequency.	Fixed.
						x		Unable to download latest 50,000 events instead of oldest 50,000 events. (Occurrence frequency : High)	In a case, the log contains more than 50,000 events.	Fixed.
						x		Shooting outdoor at night may be a cause of hunting.	It depends on the "Image quality setting".	Fixed.
						x		Took a time to start displaying second (and followings) H.264 stream.	-	Fixed by inserting I-Frame at start transmitting the second (and followings) H.264 stream.
						x		Unable to change settings. (Occurrence frequency : High)	In a case, attempting Network settings to be DHCP (from factory default) and UPnP (Auto port forwarding) to be "On".	Fixed.
						x		Using with WJ-ND400, JPEG images at 1fps were not backed up into SD memory card even if it configured so. (Occurrence frequency : Low)	-	Fixed.
							x	-	-	<b>For Chinese market models only</b> Changed not to show Model number on screens of live picture and configuration such as follows; - On Live picture and configuration. - Changed the factory default of camera title to be blank. - Changed the title of Camera 1 in multi-screen to be blank. - Removed Model no. in Upgrade windows.
						x		Value of Category was incorrect. (Occurrence frequency : High)	Obtained by SNMP	Fixed.
						x		Did not work Light control and VMD, properly. (Occurrence frequency : High)	In a case, adjusting horizontal and vertical positions by Extra optical zoom function.	Fixed.
						x		Displaying zoom ratio of EX Zoom may be incorrect. (Occurrence frequency : Low)	After restarting camera.	Fixed.
						x		Appeared horizontal noises in camera picture.	Started up at outside temp. between -45 degrees C to 50-degrees C, then put it up after lowering below -45 degrees C.	Fixed.
							x	-	-	Improved displaying camera pictures quicker when connecting with ASM200, ASM970 and so on.
		x		Unable to establish new "over RTSP" connection.	In a case, open new window and configure H.264 settings repeatedly while transmitting camera picture on "over RTSP" connection.	Fixed.				
		x		Recording a data in 2 separated files, unexpectedly.	Connecting with ND400 and SD memory rec. in H.264 is activated.	Fixed.				
		x		Decreased picture quality, unexpectedly.	Inserted I-picture due to opening new window to display H.264, repeatedly.	Fixed.				

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	Ver1.55 (4.27.01) Oct.,'14	C			x		Unable to send the best face shot (JPEG) for PC Software Package (Face detecting server).	In a case, sensitivity for face detection is "Low".	Fixed.
							x	-	-	Changed indication order of OnVIF Profile when obtaining them; Previous: Ascending order of resolution in JPEG New: Descending order of resolution in H.264
							x	-	-	Changed responses from camera so that available to use external tools for customizing OSD (On-Screen Display).
							x	-	-	Improved switching level from color to black/white under backlight environment while Super Dynamic(SD) is ON.
							x	-	-	Improved face can be seen brighter under backlight environment while Super Dynamic(SD) is ON.
							x	-	-	Improved the impression of resolution at low brightness part under bright environment.
							x	-	-	Improved the other impression of resolution than above.
							x	-	-	Enabled face detection at applying the license of face-best-shot.
Ver1.57 (4.27.01) Dec.,'14	Ver1.58 (4.27.01) Dec.,'14	Ver1.58 (4.27.01) Dec.,'14	C				x	Streaming may be stopped or unable to re-start streaming. (Occurrence frequency : Mid)	Connect / disconnect streaming repeatedly while transmitting stream over RTSP.	Fixed.
							x	Reduced number of connectable users temporally. (Occurrence frequency : High)	When RTSP SETUP method returned an error (such as incorrect URL, authentication error, exceeding number of access and so on).	Fixed.
							x	Unable to establish RTSP connection. (Occurrence frequency : Mid)	Receiving 2 or more TCP SYN packets simultaneously at RTSP port.	Fixed.
							x	Unable to transmit video stream. (Occurrence frequency : Low)	In a case restarting connected device (such as recorder, etc.) and disconnect / connect streams repeatedly.	Fixed.
							x	Camera may restart, unexpectedly. (Occurrence frequency : High)	Approx. 5 minutes after disconnecting 3 or more clients (having network cable removed, etc.) while transmitting video stream over RTSP.	Fixed.
Ver1.58 (4.27.01) Dec.,'14	Ver1.58 (4.27.01) Dec.,'14		-				Due to factory reason.			
Ver1.59 (4.27.01) Jan.,'15	Ver1.59 (4.27.01) Jan.,'15	Ver1.59 (4.27.01) Jan.,'15	U				x	-	-	Improved connectivity with WV-ASM200.

Corrected on  
Jan.27, 2015

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.71 (4.33.06) Feb.,'15	Ver1.71 (4.33.06) Feb.,'15	Ver1.71 (4.33.06) Feb.,'15	C				x	-	-	Except WV-SFV310 and WV-SFR310 Added "AGC(Audio)" settings.
							x	-	-	Expanded "OSD" display settings; - Added positions of "Upper center" and "Lower center". - Position of the time and date and character strings, separately. - Added choices of character size among "100%", "150%" and "200%".
							x	-	-	For H models only Added displaying bit rate on H.264 live screen
							x	-	-	For H models only Changed factory default settings; - Settings relating H.264; Internet mode (over HTTP): from "Off" to "On". Transmission priority: from "Frame rate" to "VBR". Max bit rate (per client)*: from "4096kbps" to "14336kbps". *: in H.264(1) only - Settings relating image adjust; Super Dynamic (SD): from "On(Normal)" to "Off".
							x	-	-	Added "Contrast enhancement(RGB: 0 to 256)" function for H.264 live picture.
							x	-	-	Added a pop-up screen of "RS-485 operation screen" on "Live" page. *: Required the optional RS485 Output unit (WV-SPN6R481).
						x	-	-	-	Improved the plug-in software; - Not to accumulate delays at drawing. It might delay up to 30 seconds depends on load of CPU, previously. Changed the strategy that discarding frames before delay were bigger. - Not to corrupt images at scrolling Note: Increased size of the plug-in software; From approx. 2MB to approx. 3.8MB
							x	-	-	For H models only Removed waiting 2 seconds to start drawing H.264 live picture while "Internet mode (over HTTP)"="On" and "Smooth live video display"="On".
							x	-	-	Changed iVMD information to be overwritten onto JPEG Expansion Area when capturing 1shot of JPEG.
			x	-	-	Changed iVMD information to be overwritten onto JPEG Expansion Area while recording onto SD memory card; - NDR backup (ND200, ND300, ND400K) - Failure at FTP periodic transmission				

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents					
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence			
Ver1.71 (4.33.06) Feb.,'15	Ver1.71 (4.33.06) Feb.,'15	Ver1.71 (4.33.06) Feb.,'15	C				x	-	-	Added alarm status onto Additional Information into H.264/JPEG.			
							x	-	-	Added "Display type" function (mosaic display) for "Privacy zone".			
							x	-	-	Supported additional information as follows; - Status of SD memory card recording. - Audio			
							x	-	-	Improved accuracy of detecting iVMD.			
							x	-	-	Improved H.264 image quality while VBR were set at Transmission priority.			
							x	-	-	Reviewed and updated the Time Zone values.			
							x	-	-	Changed the Levels of H.264 from "4.0" to; - 2048x1536: 5.0 - 1920x1080 (60fps): 4.2 - 1280x720(60fps): 4.1			
							x	-	-	Added a function to accept collecting iVMD detection area, "/cgi-bin/getdata".			
							x	-	-	Supported backup recording H.264 onto SD memory card.			
							x			Unable to display camera streams in OnVIF. ( Occurrence frequency : Mid )	In a case, restarting the camera.	Fixed.	
							x			Unable to display H.264 images. ( Occurrence frequency : High )	In a case, Encoded H.264 by CAVLC and QuickTime player were version 7.7.4.	Fixed.	
										<b>Except WV-SFV310, WV-SFR310, WV-SFN310 and WV-SPN310</b>			
							x			Playing audio from the PC on the unit speaker may be an error. ( Occurrence frequency : Low )	While load of the camera were high and firmware version depends on the model as follows; - 3 series models: Version 1.55 and newer - 5 series models: Version 1.60 and newer - 6 series models: Version 1.53 and newer	Fixed.	
			x			Camera did not respond. ( Occurrence frequency : High )	When changing configuration in JPEG and H.264 to be a certain combination.	Fixed.					
			x			Hang-up Internet Explorer. ( Occurrence frequency : High )	On H.264 viewer, by dragging the slide-bar and dropping without moving the slide-bar at all.	Fixed.					
			x			Unable to stream H.264 with RTSP command. Note: resume streaming H.264 by changing port number again or restarting camera. ( Occurrence frequency : High )	After changing port number of RTSP while streaming H.264 with RTSP command.	Fixed.					

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents				
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence		
Ver1.80 (4.33.06) Mar.,'15	Ver1.80 (4.33.06) Mar.,'15	Ver1.80 (4.33.06) Mar.,'15	C				x	-	-	Added usage information and error information display for SD memory card. Notes: The information will be updated once per hour. Model number stored on the SD memory card will be displayed.		
							x	-	-	Added warning outputs about SD memory card to Alarm output terminal.		
									x	-	-	Added "Auto time adjustment" by activating "Alarm input terminal 1". Examples; - Triggered at between 00:00:01 and 00:28:59 : Adjust to 00:00:00. - Triggered at between 00:29:00 and 00:30:59 : No adjustment. - Triggered at between 00:31:00 and 00:59:59 : Adjust to 01:00:00.
									x	-	-	Added "AAC-LC(HIGH QUALITY)" (sampling freq.=48kHz) setting at Audio encoding format.
									x	-	-	Became saving FTP trans. error log onto RAM, and added a cgi command to obtain the log in CSV file format.
									x	-	-	Reserved "%almsrc2%" for HTTP alarm notification to distinguish why HTTP alarm notification occurred by i-VMD.
									x	-	-	Additional information to be embedded onto the extended area of JPEG for alarm and manual recordings on SD memory card.
									x	-	-	Additional information to be embedded onto the extended area of MP4 files recorded on SD memory card.
						x	-	-	Expanded cgi commands about searching SD memory card as follows; /cgi-bin/get_mp4_list (Added) /cgi-bin/get_mp4_file (Added) /cgi-bin/get_recording_summary (Expanded to Stream2) /cgi-bin/get_media_attributes (Expanded to Stream2) /cgi-bin/find_recording_seqs (Expanded to Stream2) /cgi-bin/get_recording_seq_search_results (Added)			

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents				
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence		
Ver1.80 (4.33.06) Mar.,'15	Ver1.80 (4.33.06) Mar.,'15	Ver1.80 (4.33.06) Mar.,'15	C				x	<p>Added on Dec. 21, 2015</p> <p>Unable to display H.264 images on Google Chrome. Because Google Chrome does not support QuickTime Player since Sept. 1, 2015 due to change their policy about NPAPI plugins.                      For more details, please refer to the following page;  <a href="https://support.google.com/chrome/answer/6213033?hl=en">https://support.google.com/chrome/answer/6213033?hl=en</a></p>	-	Supported Safari, Firefox and Google Chrome to display H.264 and JPEG; Notes: 1. Tested each browser as follows; Safari: v5.1.7 Google Chrome: v38.0.2125 Firefox: v32.0.3 2. Required installing plug-in software for QuickTime Player to display H.264. 3. Limitations are as follows; <About H.264> - Unicast only. - Delay approx. 3 seconds due to buffering by Quick Time Player. <Audio> - Supporting audio in H.264 only (not in JPEG). - Encoding format: G.711/AAC-LC/AAC-LC(HIGH QUALITY) - One way audio output (Camera to PC) only. <Full Screen Display> New window to be opened. But it does not display the image if it exceeds the number of access allowed.		
							x	-	-	Improved display on Internet Explorer while Compatible view = "OFF".		
							x	-	-	Added a hyper-link to extension software screen on Upgrade the firmware of Operating Instructions Maintenance of the camera.		
							x	-	-	Improved picture quality from the beginning of streaming transmission while in advanced variable bitrate.		
							x	-	-	Improved process of a best shot face image selection on WV-ASF900.		
							x	-	-	Improved the cgi command "/cgi-bin/get_capability" as follow; Added minimum frame rate (fps) by each resolution in device information.		
							x	-	-	Added a cgi command "/cgi-bin/get_capability2", extended the device information received against "/cgi-bin/get_capability".		
						x				The icon of live alarm looked i-VMD. (Occurrence frequency : High)	Has Installed iVMD (WV-SAE200) and when selected alarm detection type were "VMD".	Fixed.
						x				No error even if specifying ProfileG and being sent by "Set/AddScopes" command. (Occurrence frequency : High)	-	Fixed.
		x				"Overwrite" to be "OFF" unexpectedly at settings of recording by sending "Overwrite = ON" for JPEG with activating OnVIF command (CreateRecordingJob). (Occurrence frequency : High)	-	Fixed.				

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents					
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence			
Ver1.80 (4.33.06) Mar.,'15	Ver1.80 (4.33.06) Mar.,'15	Ver1.80 (4.33.06) Mar.,'15	C			x		Distorted date and time display on live image. (Occurrence frequency : Low)	-	Fixed.			
						x		Displayed false error, The specified unicast port2(Audio) is already in use. Please change the port number. (Occurrence frequency : High)	Go into the setting of "Audio detection" after setting "AAC-LC" as audio encoding format.	Fixed.			
								<b>For 720p models [WV-SFV311, WV-SF310, WV-SFR311, WV-SFR310, WV-SFN311(L), WV-SFN310, WV-SPN311, WV-SPN310, WV-SPW611, WV-SPW611L and WV-SPW311LH] only.</b>					
						x		The image capture size drop-down list for JPEG(3) may be blanked. (Occurrence frequency : High)	[Settings] Image capture size: 1.3Mpixel [4:3], 30fps JPEG(1): 160x120 pixels JPEG(2): QVGA JPEG(3): VGA [Operation] Select image capture size to be "1.3Mpixel [4:3], 60fps", then click "Set" button.	Fixed.			
						x		Concerning with the cgi command /cgi-bin/set_h264?nr_h264_resolution=xxxx VIQS area would not be resized even if sending it. As a result of this issue, streaming may be defocused (like low resolution). (Occurrence frequency : High)	-	Fixed.			
						x		Result of self-diagnostic may be a false error. (Occurrence frequency : High)	-	Fixed.			
						x		Unable to open "System log"-tab in "Maintenance" page for several minutes. (Occurrence frequency : High)	When inserting a SD memory card that has been formatted by another model numbered camera and its write protect switch is set to "LOCK".	Fixed.			
						x		Unable to transmit H.264 in RTSP. (Occurrence frequency : High)	In OnVIF and transmitting H.264 with RTSP control, after repeatedly connecting / disconnecting session total 77 times.	Fixed.			
						x		<b>For SFV311/SFV310, SFN311/SFN310, SFR311/SFR310 only</b>					
						x		Sending an internal log as UDP packet. (Occurrence frequency : High)	Serial number: NFVxxxxxx Or, manufactured in June, 2013.	Fixed.			
		x		Time may restore January 1, 1970, unexpectedly and back to correct date/time after 2 hours. (Occurrence frequency : Very low)	While in high load such as 8x iVMD, JPEG recording, H.264 recording and 5x streaming.	Fixed.							
		x		iVMD setting to be enabled unexpectedly. (Occurrence frequency : High)	By installing the extension software, SAEASF, and activated.	Fixed.							
		x		Paused recording onto SD memory card and restart automatically. (Occurrence frequency : High)	By sending OnVIF streaming request to the stream of recording onto SD memory card.	Fixed.							

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver1.82 (4.33.06) Apr.,'15	Ver1.82 (4.33.06) Apr.,'15	Ver1.82 (4.33.06) Apr.,'15	C			x		Camera continued to reboot after restoring settings data. (Occurrence frequency : High)	The settings data had been stored from the camera firmware version 1.71 or older and restored it to the camera version 1.80.	Fixed.
	-					x		<b>For WV-SFV311/SFR311/SFN311/SFV310/SFR310/SFN310/SFN311L/SPW311LH only</b> Enabled preset buttons of PTZ control on BB-HNP17 when registering onto BB-HNP17.	-	Fixed.
Ver1.83 (4.33.06) Apr.,'15	Ver1.83 (4.33.06) Apr.,'15	Ver1.83 (4.33.06) Apr.,'15	C				x	-	-	Added a cgi command to retrieve setting values from SD memory card.
							x	-	-	Added a function to download H.264 recording files, configured maximum 20MB, onto SD memory card. (WV-ASM200 must be upgraded version 3.30 or newer.)
							x	-	-	Added a function to recover stopping video transmission by restarting camera.
						x			HTTP access may not be accepted.	By once disconnect LAN cable at PC side while downloading CSV file.
						x	-	-	Improved the accuracy of VMD (Video Motion Detection). Note: This might affect the number of detections if you had adjusted its sensitivity.	
Ver1.84 (4.33.06) May,'15	Ver1.84 (4.33.06) May,'15	Ver1.84 (4.33.06) May,'15	C				x	It may not return from the problem with the SD memory card.	When "ArgosView" is used to backup JPEG.	Fixed to response an error at the time of SD memory card abnormal.
-	-						x	<b>For WV-SPW631L/SPW631LT/SPW611(L) only</b> Downloading MP4 files from WV-ASM200 may fail.	In the case, data of the file exists across the SD memory card 1 and 2.	Fixed.
Ver1.85 (4.33.06) July,'15	Ver1.85 (4.33.06) July,'15	Ver1.85 (4.33.06) July,'15	C				x	-	-	Improved downloading MP4 file that allows to select SD memory card 1 or 2. (WV-ASM200 must be version 3.40 or newer).
							x	Setting may be changed from "On(pan/tilt head)" to "Off" unexpectedly by switching turn power off and on	After changing the "RS458 operation screen" from "Off" to "On(pan/tilt head)".	Fixed.
							x	Vide may vary depends on the internal setting memory of intensity control.	While the settings are as follow; - IR LED light is in use - Super Dynamic is in active. - Intensity control is disabled in grey.	Fixed.
Ver1.86 (4.38.07) July,'15	Ver1.86 (4.38.07) July,'15	Ver1.86 (4.38.07) July,'15	C				x	<b>For Chinese market models (WV-SFN311H/WV-SFN310H/WV-SFN311LH/WV-SPN311H/WV-SPW531LH/WV-SPW311LH) only</b> -	-	Added a button 简易录像功能 in the "Live" page.
							x	<b>For Chinese market models (WV-SFN311H/WV-SFN310H/WV-SFN311LH/WV-SPN311H/WV-SPW531LH/WV-SPW311LH) only</b> The setting of time zone may not reflected correctly by synchronizing with NTP server.	In a case, changed Time zone setting after changing "Time adjustment" from "manual" to "Synchronization with NTP server".	Fixed.

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents						
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence				
Ver1.87 (4.38.07) Aug., '15	Ver1.87 (4.38.07) Aug., '15	Ver1.87 (4.38.07) Aug., '15	C				x	-	-	Supported Additional Business Intelligence Kit, Model WJ-NVF30.				
							x	On backup function related with WJ-ND400, 1 second JPEG picture(s) on SD memory card may be missing.	At the timing when the recording was switched.	Fixed.				
							x	-	-	Improved picture quality. 1. Resolution feeling. 2. Signal to Noise (S/N) Ratio. 3. H.264 image quality by changing transmission priority control from "frame rate" to "image quality".				
						x	Change of time zone setting may not be effected even if it would be synchronized.	When changing time zone setting after changing Time adjustment by NTP from "Off" to "On".	Fixed.					
						x	<b>For WV-SFV311/SFR311/SFN311/SFN311L/SPN311/SPW631L(LT)/SPW611(L)/SPW531LH/SPW311LH only</b>							
						x	Unable to restore backed-up settings data.	Made backup data after auto-focusing under black/white.	Fixed.					
Ver1.88 (4.38.07) Nov., '15	Ver1.88 (4.38.07) Nov., '15	Ver1.88 (4.38.07) Nov., '15	C				x	Ignored OnVIF (ProfileG) command "Rate-Control:no".	While playing back in RTSP from SD memory card.	Fixed.				
							x	picture may occur hunting. (Occurrence frequency : Rear)	-	Fixed.				
Ver2.00 (4.38.08) Jan., '16	Ver2.00 (4.38.08) Jan., '16	Ver2.00 (4.38.08) Jan., '16	C				x	<b>For WV-SFN311H/SFN311LH/SFN310H/SPN311H/SPW531LH/SPW311LH only</b>						
							x	Chinese On Screen Display (OSD) may be disappeared.	-	Fixed.				
							x	-	-	Supported the OnVIF command, StartFirmwareUpgrade, to upgrade the firmware.				
							x	-	-	Added "Smart Coding mode" function.				
							x	-	-	Made encrypting the firmware. <b>To upgrade the firmware from version 1.88 or older, required 2-step upgrading;</b> - First step: upgrade to version 9.99. - Second step: upgrade to version 2.00.				
							x	-	-	Supported Safari/Firefox/Google Chrome at configuration settings Note: Tested version; - Safari: Version 5.34.57 - Google Chrome: Version 44.0.2403 (Except displaying H.264 images) - Firefox: Version 39.0.0				
						x	<b>For Chinese market models (WV-SFN311H/WV-SFN311LH/WV-SFN310H/WV-SPN311H/WV-SPW531LH/WV-SPW311LH) only.</b>							
						x	-	-	Added 25fps as a choice at the setting of image capture mode.					
						x	<b>For Chinese market models (WV-SFN311H/WV-SFN311LH/WV-SFN310H/WV-SPN311H/WV-SPW531LH/WV-SPW311LH) only.</b>							
						x	-	-	Added mixing up 16:9 and 4:3 aspect ratio as a choice at the setting of image capture mode.					

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents				
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence		
Ver2.00 (4.38.08) Jan.,'16	Ver2.00 (4.38.08) Jan.,'16	Ver2.00 (4.38.08) Jan.,'16	C				x	For WV-SFV311 only.				
										-	Added a function of Monitor output from Audio output terminal.	
									x	Wrote settings onto the Flash-ROM by clicking the "Set" button on menu setting page even if nothing changed. (Occurrence frequency : High)	-	Fixed.
									x	-	-	Changed the upper limit value of the set of IVMD function on External software. [Prev.] 100%, 150%, 200%, 250%, 300% [New] 100%, 150%, 200%, 250%, 300%, 350%, 400%, 450%, 500%, Unlimited
									x	-	-	Changed the word in Chinese at SD memory card information (SD记忆卡信息) in System log (系统日志); [Prev.] 错误内容 (Description) [New] 内容 (Description)
									x	-	-	Changed the action to the following cgi commands; - /cgi-bin/get_capability - /cgi-bin/get_capability2
Ver2.02 (4.38.08) Mar.,'16	Ver2.02 (4.38.08) Mar.,'16	Ver2.02 (4.38.08) Mar.,'16	U				x	-	-	Corrected the vulnerability by upgrading OSS for NTP; [Prev.] ntp-4.2.6 p3 [New] ntp-4.2.8 p4		
							x	Maintenance page layout may collapse. (Occurrence frequency : High)	In the page of User mng.	Fixed.		
Ver2.03 (4.38.08) Mar.,'16	-	-	C				x	SD MOUNT indicator (SD MOUNT) does not light even if a SD memory card were mounted. (Occurrence frequency : High)	On firmware version 2.00 and version 2.02.	Fixed.		
Ver2.40 (4.38.08) Apr.,'16	Ver2.40 (4.38.08) Apr.,'16	Ver2.40 (4.38.08) Apr.,'16	C				x	Except Chinese market models (WV-SFN311H/WV-SFN311LH/WV-SFN310H/WV-SPN311H/WV-SPW531LH/WV-SPW311LH).		Added a choice to select a certification when using HTTPS. This is effective from products manufactured in April, 2016. Those serial numbers are as follow; "PDxxxxxx", PExxxxxx, PFxxxxxx and after. "Qxxxxxxx", Rxxxxxxx and after.		
							x	Except Chinese market models (WV-SFN311H/WV-SFN311LH/WV-SFN310H/WV-SPN311H/WV-SPW531LH/WV-SPW311LH).		Added a choice to select a certification when using the "Alteration detection". This is effective from products manufactured in April, 2016. Those serial numbers are as follow; "PDxxxxxx", PExxxxxx, PFxxxxxx and after. "Qxxxxxxx", Rxxxxxxx and after.		

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level				Issue (Phenomenon)	Occurrence condition	Correspondence
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U			
Ver2.40 (4.38.08) Apr.,'16	Ver2.40 (4.38.08) Apr.,'16	Ver2.40 (4.38.08) Apr.,'16	C				x	-	-	1. Changed factory default setting value at User Authentication from "OFF" to "ON". 2. Deleted pre-registered User name (admin), and Password (12345). 3. All users must register User name(s) and Password(s) at initial access. - User name: 1 to 32 characters - Password; 8 to 32 characters, two or more types of characters among alphabets, numbers and symbols. Note: Currently registered User name(s) and Password(s) will NOT be deleted by upgrading firmware, however, you have to register them under the new policy (above "3") after initializing (default reset) by the INITIAL SET button or by the setup menu.
							x	-	-	For Chinese market models (WV-SFN311H/WV-SFN311LH/WV-SFN310H/WV-SPN311H/WV-SPW531LH/WV-SPW311LH). only.
							x	Best shot of face may not be sent.	If the duration of tracking were too short.	Fixed.
Ver2.41 (4.38.08) Apr.,'16	Ver2.41 (4.38.08) Apr.,'16	Ver2.41 (4.38.08) Apr.,'16	C				x	Added on June 15, 2016 it may take too long to startup. (Occurrence frequency : Low)	-	Fixed.
-	-	Ver2.43 (4.38.08) May,'16	C				x	Except WV-SPW531LH and WV-SPW311LH. Unable to connect the cameras by the HTTPS protocol.	After turning power off and on if the connection protocol were configured in "HTTPS" and using with the Root Certification Authorities (CA).	Fixed.
Ver2.43 (4.38.08) May,'16	Ver2.43 (4.38.08) May,'16						x	Unable to restore the backup file of configuration.	Saved on firmware version on 1.71 or older to firmware version 2.00 or newer.	Fixed.
Ver2.50 (4.39.00) July,'16	Ver2.50 (4.39.00) July,'16	Ver2.50 (4.39.00) July,'16	C				x	-	-	Added choices of "Bandwidth control(bit rate)". 1024kbps/15360kbps/20480kbps/25600kbps/30720kbps/35840kbps/40960kbps/51200kbps
							x	-	-	Added choices of "On(Mid)" and "On(High)" to "Smart Coding mode".
							x	-	-	Except SPW631L, SPW631LT and SPW531LH. Added choice of "2M pixel[16:9(30fps mode)] at "Image Capture mode". Note: while choosing this, unable to choose "1280 x 720"
							x	-	-	OnVIF: Supported "WS Addressing".
							x	-	-	Added information about place of product destination and model number with suffix to the reply of CGI command "/cgi-bin/getinfo".
							x	-	-	Updated hyperlink to the web sites of support.

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents				
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence		
Ver2.50 (4.39.00) July, '16	Ver2.50 (4.39.00) July, '16	Ver2.50 (4.39.00) July, '16	C				x	Layout of image display may be collapsed.	By inputting "</script>" at input-field.	Fixed.		
											Corrected the vulnerability by upgrading OSS for NTP; [Prev.] ntp-4.2.6 p4 [New] ntp-4.2.8 p7	
								x	Unable to change settings of "Transmission priority" and "Refresh interval" simultaneously by CGI command, "/cgi-bin/set_h264".	On firmware version between 2.01 and 2.43.	Fixed.	
								x	Confirmation window would not appear even if "Bandwidth control(bit rate)" to be set less than "Max bit rate (per client)".	When attempting to set "Bandwidth control(bit rate)" to be set less than "Max bit rate (per client)" on "H.264(2)" through "H.264(4)".	Fixed.	
										For Chinese market models (WV-SFV631LH/WV-SFV611LH/WV-SFN631LH/WV-SFN611LH/WV-SPN631H/WV-SPN611H) only.		
									x			Changed responses to CGI command "/cgi-bin/get_capability"; - Added 25/50fps at "viqs.support_mode" (a parameter that image capture mode can use VIQS) - Changed text string from "min_framerate.2m_2fps" to "min_framerate.2m_25fps".
Ver2.52 (4.39.00) Dec., '16	Ver2.52 (4.39.00) Dec., '16	Ver2.52 (4.39.00) Dec., '16	C				x	Setting of "Refresh interval" left "8s" internally (should become "1s") even if settings both "Smart coding = On" and "H.264 streaming = SD" although "Smart coding" become "Off". As a result, recording in H.264 on SD memory card may be abnormal.		Fixed.		
							x	The camera may restart, unexpectedly.	In a case, connect/disconnect H.264 streaming, repeatedly.	Fixed.		
							x	Replied to the "SetVideoSourceMode" command (ONVIF).		Fixed.		
Ver2.54 (4.39.00) Mar., '17	Ver2.54 (4.39.00) Mar., '17	Ver2.54 (4.39.00) Mar., '17	C				x	The Real-time Pull-Point Notification Interface did not conform to ONVIF.		Fixed.		
							x			Improved security.		
							x	Unable to work time adjustment function synchronizing with NTP server.	When the difference between the clock and the NTP server is within 5 seconds.	Fixed.		
Ver2.54 (4.39.00) Mar., '17	Ver2.54 (4.39.00) Mar., '17	Ver2.54 (4.39.00) Mar., '17	C				x	Streaming in RTSP for the network disk recorder, Model WJ-NX400, may stop.	In case of operating continuously.	Fixed.		
							x	Refresh interval may be switched to "8s", unexpectedly.	By changing "Transmission priority" of H.264 for the options other than "VBR", initiated by PSSCT or WJ-NV300 only if it is the first time from the installation of the camera.	Fixed.		

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver2.56 (4.39.23) Sept.,'17	Ver2.56 (4.39.23) Sept.,'17	Ver2.56 (4.39.23) Sept.,'17	U				x	-	-	Changed company name to the new company name in the plug-in (ActiveX) software.
							x	-	-	Updated the URL of support website displayed on screen.
							x	-	-	Improved security.
							x	-	-	In CGI command of "get_io2", added new parameter "3" for "format" so that possible to obtain Command alarm / i-VMD information.
Ver2.58 (4.39.23) Mar.,'18	Ver2.58 (4.39.23) Mar.,'18	Ver2.58 (4.39.23) Mar.,'18	C				x	-	-	Added new Panasonic alarm notifications as follow; SD-MEMORY WRITE ERROR SD-MEMORY READ ERROR SD-MEMORY DELETE ERROR SD-MEMORY FILESYSTEM ERROR SD-MEMORY OTHER ERROR
							x	-	-	Discarded a restriction that only "Unicast port (AUTO)" in RTSP transmission would be available when "Transmission type" is "On".
							x	Leaked POST connection.	in a case of disconnect network in "over HTTP" for 2 and half minutes or more.	Fixed.
							x	Image capture size may become incorrect.	By setting Image capture size from Image Viewer.	Fixed.
							x	Administrator password may be deleted.	-	Fixed.
Ver2.60 (4.39.23) Jun.,'18	Ver2.60 (4.39.23) Jun.,'18	Ver2.60 (4.39.23) Jun.,'18	C				x	-	-	Changed factory default setting for Authentication method; Previous: "Digest or Basic" New: "Digest"  For more details: <a href="#">security_upgrade_June2018.pdf</a>
							x	-	-	Changed password policy that it must include at least 3 types of characters among "upper case letters / lower case letters / numbers / symbols". For more details, click here. <b>Note:</b> Original passwords and authentication method of products on the system are kept unchanged even firmware and software have been updated.  For more details: <a href="#">security_upgrade_June2018.pdf</a>
							x	-	-	Added user authentication at host authentication.
							x	Except Chinese market models (WV-SFN311H/WV-SFN311LH/WV-SFN310H/WV-SPN311H/WV-SPN531H/WV-SPW311LH).		
							x	-	-	Became saving history of login failure into system log.
							x	-	-	Changed saving setting data with encryption. Note: unable to restore the setting data if you would downgrade the firmware.

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents			
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence	
Ver2.60 (4.39.23) Jun.,'18	Ver2.60 (4.39.23) Jun.,'18	Ver2.60 (4.39.23) Jun.,'18	C				x	-	-	Made some other security measures enhanced.	
							x	-	-	Added "Drawing method", "Decoding options" and "Frame Skip Options (When PC is Heavy Processing Load)" onto plug-in software.	
							x	-	-	Changed factory default setting for transmission rate: Previous: Unlimited New: 51200kbps	
						x	If an RTSP header contains two or more User-Agent headers. no HTTP400(Bad Request) error returned and ignore the second and subsequent User-Agentheaders.	-	Fixed.		
Ver2.70 (4.39.23) Sept.,'18	Ver2.70 (4.39.23) Sept.,'18	Ver2.70 (4.39.23) Sept.,'18	C			x	<b>Revised on Nov. 7, 2018</b> Frame rate <b>and bit rate</b> may drop.	By transmitting JPEG live images continuously over 1 year without being rebooted.	Fixed.		
Ver4.00 (4.39.23) Feb.,'19	Ver4.00 (4.39.23) Feb.,'19	Ver4.00 (4.39.23) Feb.,'19	C				x	May not be able to change the save destination at the time of FTP periodical transmission error.	-	Fixed.	
							x	ONVIF RTSP Multicast transmission may not work.	-	Fixed.	
							x	-	-	Improved to link HTTP alarm function with "HTTP max segment size" setting in "Network setting"	
							x	-	-	ONVIF: Supported DTT v18.06.	
							x	<b>Except Chinese market models.</b>	-	-	Enhanced security.
							x	-	-	Changed the URLs of hype-link destination according to change of support page URL (from "http" to "https").	
							x	<b>For Chinese market models only.</b>	-	-	Changed factory default settings as follow; - Internet mode (over HTTP) from "On" to "Off" - Image capture mode from 30fps to 25fps, SD from "Off" to "On" - Date/time display format from "DD/MM/YYYY" to "YYYY/MM/DD" - Time zone from "GMT+00:00" to "GMT+08:00"
							x	<b>Except WV-SFN310 and WV-SFN310H.</b>	-	-	Fixed.
							x	The recorded data of the log one before the relevant time might be downloaded when downloading the recorded data from the log list.	-	Fixed.	
			x	Camera may restart unexpectedly while receiving ONVIF command continuously.	-	Fixed.					
			x	-	-	Changed the responce of "/cgi-bin/get_io2?format=3&"; It became not to notify CGI response each time even if detecting command alarm continuously.					

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver4.00 (4.39.23) Feb.,'19	Ver4.00 (4.39.23) Feb.,'19	Ver4.00 (4.39.23) Feb.,'19	C				x	Except WV-SFN310 and WV-SFN310H. Camera may restart when a file which cannot be deleted were created during JPEG overwrite recording on the SD memory card.	-	Fixed.
							x	Except WV-SFN310 and WV-SFN310H. When deleting SD card data on the log list screen, data that can not be deleted may be left while displaying the play window.	-	Fixed.
							x	Communication error may occur while connecting with WJ-NX series recorders. (Occurrence frequency: Rare)		Fixed.
							x	Transmission type (H.264/H.265) and image capture size of stream may not be changed (transmission type and image capture size hold before change).	If those were changed within 2 minutes after the network had been disconnected with over RTSP connection.	Fixed.
							x	Solid black screen may appear during sequencing with the network disk recorder due to it takes time to output the video.	-	Fixed.
							x	Camera may reboot, unexpectedly.	When sequencing the network disk recorder or the video management software (WV-ASM series)	Fixed.
							x	Except WV-SFN310 and WV-SFN310H. Camera may reboot, unexpectedly.	By downloading the SD memory backed up data with the network disk recorder	Fixed.
Ver4.10 (4.39.23) June,'19	Ver4.10 (4.39.23) June,'19	Ver4.10 (4.39.23) June,'19	C				x	-	-	Security has been enhanced.
							x	Audio may not output by attempting to connect two sessions simultaneously and failure to authenticate one of them.	-	Fixed.
							x	-	-	Added an ONVIF command, "DeviceIO:GetVideoSources".
							x	-	-	Added a note in the window of DDNS setting page when using "Dynamic DNS Update", "Dynamic DNS Update(DHCP)".
							x	For Chinese market models only -	-	Changed factory default setting of the time zone to Chinese Standard Time(CST), UTC+8.
							x	-	-	Display the license of open source software (OSS) on upgrade screen.
							x	ONVIF communication may become a cause of destroying resources.		Fixed.
			x	-	-	Fixed Session Description Protocol/SDP (IPv6) on ONVIF.				
			x	Unable to find ONVIF search.	-	Fixed.				

## WV-SFV311/SFV310/SFR311/SFR310/SFN311(L)/SFN310/SPN311/SPN310/SPW631L(T)/SPW611(L)/SPW531LH/SPW311LH Firmware Release Note

VER (ActiveX Ver) Release Date			Priority Rank Level	Priority Rank Level A: Recommend to apply (Major or serious update) B: When issue happened C: Maintenance timing U: Function /Performance improvement (Not Necessary to update)				Contents		
WV-SFV311 WV-SFV310 WV-SFR311 WV-SFR310 WV-SFN311(L) WV-SFN310	WV-SPN311 WV-SPN310	WV-SPW631L WV-SPW631LT WV-SPW611L WV-SPW531LH WV-SPW311LH		A	B	C	U	Issue (Phenomenon)	Occurrence condition	Correspondence
Ver4.10 (4.39.23) June,'19	Ver4.10 (4.39.23) June,'19	Ver4.10 (4.39.23) June,'19	C				x	-	-	The file may not be found by opening the log list during overwrite recording of the SD memory card and attempt to browse.
Ver4.30 (4.39.24) May,'20	Ver4.30 (4.39.24) May,'20	Ver4.30 (4.39.24) May,'20	C				x	The camera may show a black image on the "Live" page.	-	Fixed.
								Except Chinese market models, WV-SFN310H, WV-SFN311H, WV-SFN311LH, WV-SPN311H, WV-SPW311LH and WV-SPW531LH.		
							x	-	-	Improved the response when reconnecting in HTTPS connection on Windows 10.
Ver4.70 (4.39.24) Mar.,'21	Ver4.70 (4.39.24) Mar.,'21	Ver4.70 (4.39.24) Mar.,'21	U				x	Except Chinese market models, WV-SFN310H, WV-SFN311H, WV-SFN311LH, WV-SPN311H, WV-SPW311LH and WV-SPW531LH.		
								-	-	Improved the [HTTP alarm notification] function as follows: 1. Supports Digest authentication - The camera performs either "Digest" or "Basic" authentication according to the response from the HTTP server when initially accessed without ID and password. 2. Adds an error log for the failure in HTTP server user authentication - Displays "<HTTP alarm notification> authentication error" in the system log when the authentication fails. 3. Supports HTTPS Communication - Entering "https://" in [Address] enables HTTPS communication.
							x	-	-	Enabled both digital certificates "Digicert" and "GlobalSign". Note: Firmware upgrade does not change the certificate in a camera. <a href="#">Click here for further information in case of SSL communication.</a>
							x	Except Chinese market models, WV-SFN310H, WV-SFN311H, WV-SFN311LH, WV-SPN311H, WV-SPW311LH and WV-SPW531LH.		
							x	-	-	Changed the behavior related to bit rate when the communication protocol is changed from "HTTP" to "HTTPS" as below. Previous versions: the camera automatically sets the bit rate to 4 Mbps when the selected one is larger than 4 Mbps. This version or later: the camera does not change the bit rate.