New functions and addendum

・This document contains descriptions of how to set the new functions and their restrictions. Refer also to the Operating Instructions of this product.
・Depending on the model used, the screens shown in the explanations may differ to the actual camera screens.
・This document is for the following models.
WV-X1551LN, WV-X2551LN, WV-X2251L, WV-X1571LN, WV-X2571LN, WV-X2271L

Due to software upgrade, the following functions have been added and changed to this product.

・Firmware Ver.1.30

No.	Functions	Item (Page)	Page
1	Added “Control log” to “Extension Software”	Ext. software	4
2	Added “Ext. software mode” to “SD memory card”	SD memory card	5

・Firmware Ver.1.40

No.	Functions	Item (Page)	Page
3	Change the initial value of Network Settings and DHCP behavior in IPv4 network of Network	Network (Network)	6
4	Add ONVIF® settings in Network	Network (Network)	7
5	Add the SRTP settings in "Advanced" of "Network"	Advanced (Network)	8
6	Enable the HTTP alarm notification function to support the HTTPS communication and the Digest authentication	Notification(Alarm)	9
7	Add to the system log when authentication fails for the HTTP alarm notification function	System log(Others)	11

・Firmware Ver.1.50

No.	Functions	Item (Page)	Page
8	Add to the system log when recording stream fails to write	Maintenance (Status)	12
9	Add a function to notify the user of writing failures in the recording stream with a unique alarm	Maintenance (Status)	13
10	Add a note when the bit rate of the recording stream is set to a value exceeding recommended value	Image/Audio (Image)	14
11	SDK version display	Ext. software (Software mng.)	15
12	Expanded functionality of camera title on screen	Basic (Basic)	17
13	Change AI-VMD and AI Privacy Guard to be pre-installed	Ext. software	19
14	Change the default values of the schedule setting screen	Ext. software	20

	of the ext. software	(Operation sched.)	
15	Add AI-VMD related alarms as an event in the log list	Loglist	21
16	Add AI-VMD related logs to SD memory card play screen events	SD memory card	22
17	Add an audio detection alarm	Alarm	23
18	Add audio detection to event types	Easy Setup (Event function)	24
19	Add audio detection to alarm settings	Easy Setup	25
20	Add "Note" regarding audio detection to [Save trigger] of SD memory recording	Basic (SD memory card)	26
21	Add a link to audio detection settings in alarm settings	Alarm (Alarm)	27
22	Add audio detection settings	Alarm (Audio detection)	28
23	Add audio detection as a notification event for the destination of notification	Network (Advanced)	30
24	Add audio detection to SNMP trap notification events	Network (Advanced)	32
25	Add audio detection permission to schedule settings	Schedule	33
26	Add grid display function to the live page	Live page	34
27	Add a grid display function to the zoom/focus adjustment page	Image/Audio (Image quality)	35
28	Extend authentication password for the destination of notification	Network (Advanced)	36
29	Add “Note” regarding the registering the registration key	Ext. software (Software mng.)	37

・Firmware Ver.1.51

No.	Functions	Item (Page)	Page
30	Change AI-VMD and AI People Detection to be pre-installed	Software mng.	38

・Firmware Ver.1.60

No.	Functions	Item (Page)	Page
31	Using the recording function is changed when the Ext. software mode is On	Advanced (Network)	39
32	Change the initial value of “Overwrite” of SD memory card to On	SD memory card (Basic)	40
33	Add the supplementary explanation of On/Off of Internet mode to the setting screen	Image (Image/Audio)	41
34	Add NTP test function	Advanced (Network)	42
35	Add TLS settings to HTTPS	Advanced (Network)	43
36	Add MQTT function	Advanced (Network)	44
37	Add a system log when MQTT function fails	Status (Maintenance)	48
38	Add LLDP function	Advanced (Network)	49

・Firmware Ver.2.01

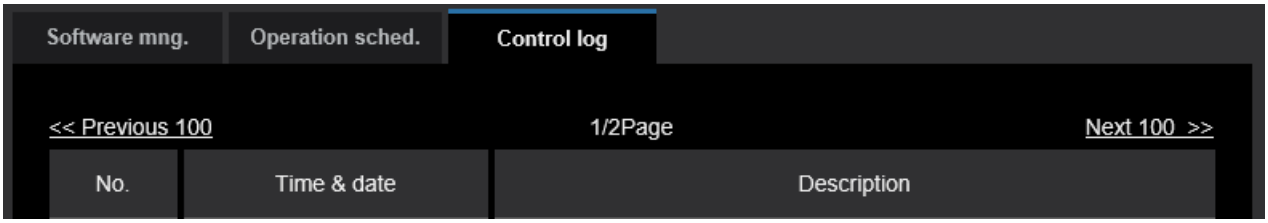
No.	Functions	Item (Page)	Page
39	Changed new GUI (Graphical User Interface)	-	51
40	About removal of functions due to end of Internet Explorer support	-	52
41	Add AI-VMD alarm area information on TCP alarm notification	Notification(Alarm)	53
42	Add Image transmission log on Status page	Status (Maintenance)	54

1. Added “Control log” to “Extension Software”

(Operating Instructions Perform management of the extension software and the schedule setting [Ext. software])

The control log about the extension software will be displayed.

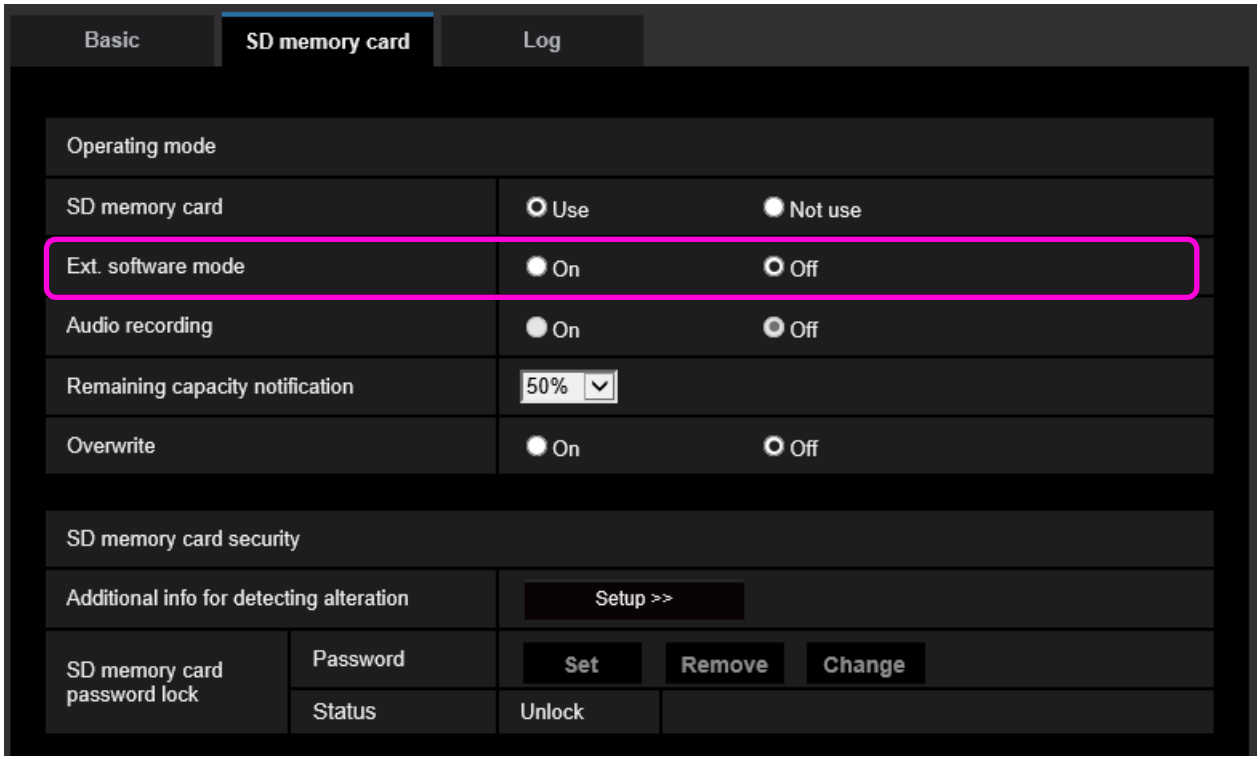
Up to 200 control logs can be saved on the built-in memory of the camera.
When the saved control logs have reached the maximum number, the newer logs will overwrite the older control logs. In this case, the oldest log is the first to be overwritten.
The control logs will be displayed in group of 100 logs each, and the logs will be saved even when the power of the camera is turned off.



[Next 100 >>]
When clicking “Next 100 >>”, the next 100 control logs will be displayed.
[Number of pages display]
The currently opened page will be displayed in the “page/total page” format.
[<< Previous 100]
When clicking “<< Previous 100”, the previous 100 control logs will be displayed.
[No.]
The serial number of the control log will be displayed.
[Time & date]
Time and date at the error occurrence will be displayed.
[Description]
The descriptions about the control log will be displayed.
For further information about the control logs, refer to our website below.
https://i-pro.com/global/en/surveillance/training-support/support/technical-information
<Control No.: C0317>

2. Added “Ext. software mode” to “SD memory card”

(Operating Instructions Configure the settings relating to the SD memory card [SD memory card])



[Ext. software mode]

Set this setting to “On” when the installed extension software uses the SD memory card in this product.

- **On**: The extension software can use the SD memory card in this product.
  In this case, recording on the SD memory card using the functions of this product will become unavailable.
- **Off**: The extension software cannot use the SD memory card in this product.
- **Default**: Off

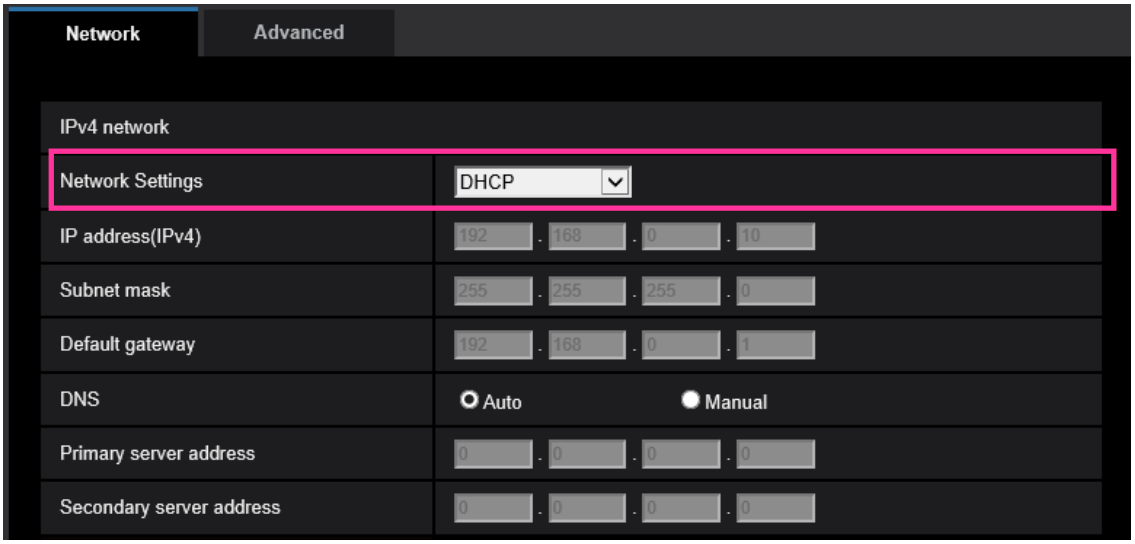
Note

For further information about the extension software, refer to our website below.
https://i-pro.com/global/en/surveillance/training-support/support/technical-information
<Control No.: C0103>

3. Change the initial value of Network Settings and DHCP behavior in IPv4 network of Network

(Operating Instructions “Configuring the network settings” [Network]-“Configuring the network settings” [Network])

Change the initial value of Network Settings and DHCP behavior in IPv4 network of Network.



IPv4 network

[Network Settings]

Select the method of how to configure the IP address from the following.

- **Static:** The IP address is configured by entering manually on “IP address (IPv4)”.
- **DHCP:** The IP address is configured using the DHCP function.
  If the camera cannot acquire an IP address from the DHCP server, set the IP address to 192.168.0.10.
  After that, once an IP address is acquired from the DHCP server, change it to that IP address.
- **Auto (AutoIP):** The IP address is configured using the DHCP function. When the DHCP server is not found, the IP address is automatically configured.
- **Auto (Advanced):** Using the DHCP function, network address information is referred to, and an unused IP address is configured to the camera as a static IP address. The configured IP address is automatically determined within the subnet mask range by the camera. When the DHCP server is not found, the IP address is set to 192.168.0.10.
- **Default:** DHCP

4. Add ONVIF® settings in Network

(Operating Instructions “Configuring the network settings” [Network]-“Configuring the network settings” [Network])

Add ONVIF® settings in the network settings.

[ONVIF®]

Set the ONVIF to On/Off.

On: Enables the access from the ONVIF camera.

Off: Disables the access from the ONVIF camera

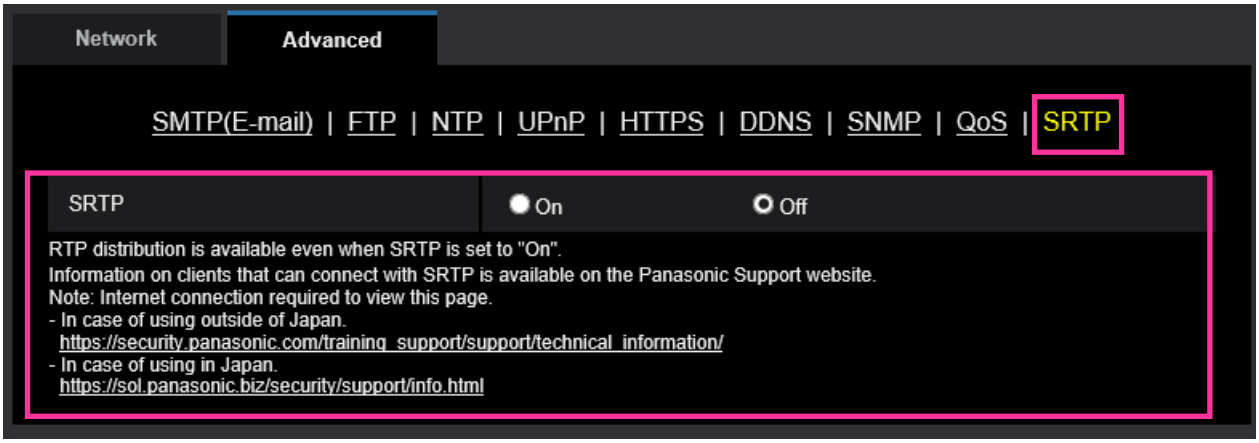
Default: On

*ONVIF is the trademark of ONVIF, Inc.

5. Add the SRTP settings in "Advanced" of "Network"

(Operating Instructions “Configuring the network settings” [Network] - “Configure advanced network settings” [Advanced])

The SRTP settings has been added to "Advanced" of "Network".
The Secure Real-time Transport Protocol (SRTP) can encrypt the "Real-time Transport Protocol (RTP)" for real-time playback of data such as voice and video, thus increasing the security of communication.



[SRTP]
On/Off the SRTP function.
On: Enables the SRTP distribution on SRTP-compatible clients.
Off: Disables the SRTP distribution on SRTP-compatible clients.
Default: Off

Note

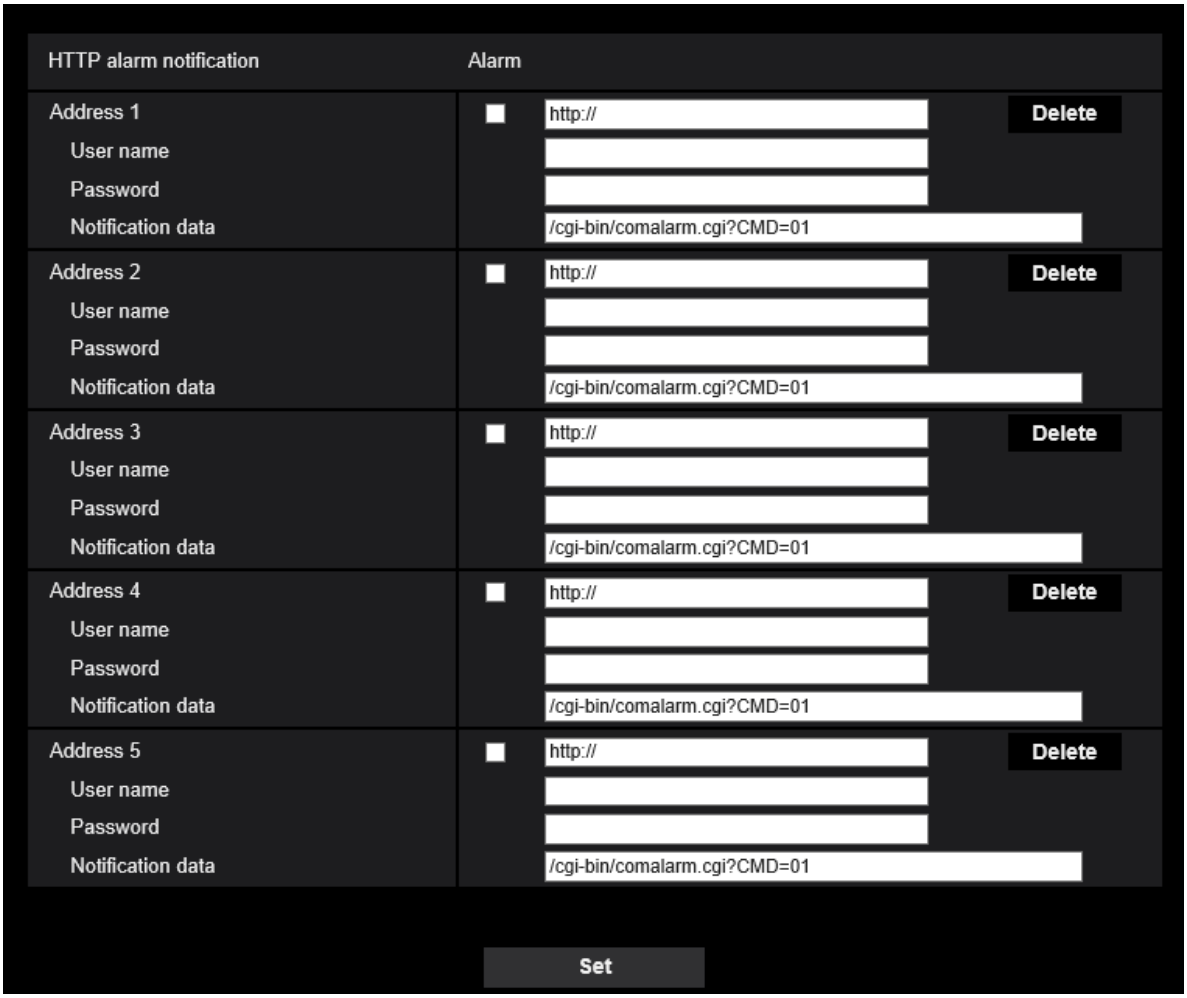
- RTP distribution is available even when SRTP is set to "On".
- Information on clients that can connect with SRTP is available on the Panasonic Support website.
  https://i-pro.com/global/en/surveillance/training-support/support/technical-information
  <Control No.: C0318>

6. Enable the HTTP alarm notification function to support the HTTPS communication and the Digest authentication

(Operating Instructions “Configure the alarm settings” [Alarm] – “Configuration of the settings relating to alarm notification” [Notification] – “Configure the settings relating to HTTP alarm notification”)

The HTTP alarm notification function is now supporting the HTTPS communication and Digest authentication.

- **HTTPS Communication**: Implement alarm notification over HTTPS communication by entering https:// in [Address].
- **Digest authentication**: Support Digest authentication with the HTTP server.



[Address 1] - [Address 5]

Enter the destination IP address or host name of the HTTP alarm notification. Up to 5 destination server addresses can be registered.

• **Available characters:** Alphanumeric characters, the colon (:), the period (.), the underscore (_), and the hyphen (-).

• **Default:** http://

Example of entry: “http://IP address of the HTTP server + : (colon) + port number” or
http://Host name: (colon) + port number
“https://IP address of the HTTP server + : (colon) + port number” or
https://Host name: (colon) + port number

[User name]

Enter the user name (login name) to access the HTTP server.

- **Available number of characters:** 0 - 63 characters
- **Unavailable characters:** " & : ; ¥

[Password]

Enter the password to access the HTTP server.

- **Available number of characters:** 0 - 63 characters
- **Unavailable characters:** " &

Note

- Basic authentication or Digest authentication is performed on authentication request of the HTTP server.

7. Add to the system log when authentication fails for the HTTP alarm notification function

(Operating Instructions “Others” – “About the displayed system log”)

When the HTTP server user authentication fails, an error is added to "Error indications relating to HTTP alarm notification".

Category	Indication	Description
HTTP alarm notification	Authentication error	• Entered user name or password may be incorrect. Check if the HTTP alarm notification settings are configured correctly.

8. Add to the system log when recording stream fails to write

(Operating Instructions “Others” – “Maintenance” - Check the status [Status])

A system log has been added for errors in the write process of the recording stream to the log related to SD memory cards.

Category	Indication	Description
SD memory card	<SD>Format	Successfully formatted the SD memory card.
	<SD>Format error	Error occurred when formatting the SD memory card.
	<SD> Write-protect ON (Locked card)	A write-protected SD memory card is inserted.
	<SD> Detection error	The SD memory card could not be correctly recognized.
	<SD> Write error	An error occurred when writing to the SD memory card.
	<SD> Read error	An error occurred when reading from the SD memory card.
	<SD> Delete error	An error occurred when deleting data from the SD memory card.
	<SD> File system error	An error occurred in File system of the SD memory card.
	<SD> Undefined error	An error other that the ones above has occurred for the SD memory card.
	<SD> An abnormality occurs in continuity of the SD memory recording. Check the recording bit rate setting of the SD memory recording.	An error occurred when writing to the SD memory card.
	<SD> An error occurs in the SD memory card. Check the status of the SD memory card.	The SD memory card write process still generates data loss. Make sure that the SD memory card is properly recognized. If the card is not recognized, reboot the unit, or remove and reinsert the SD memory card to check.

9. Add a function to notify the user of writing failures in the recording stream with a unique alarm

(Operating Instructions “Others” – “Maintenance” - Configure the alarm settings [Alarm])

－Configuration of the settings relating to alarm notification［Notification］－

Configure the settings relating to Panasonic alarm protocol)

Add the write processing error of the recording stream to the occurrence condition of the Panasonic alarm protocol notification of “Diag.”

Panasonic alarm protocol

• ［Panasonic alarm protocol］

Select “On” or “Off” to determine whether or not to provide notification by Panasonic alarm protocol according to the settings for the “Alarm” and “Diag.” checkboxes of “Destination of notification” below.

- When an alarm is detected (“Alarm”)
- When a notification of the remaining capacity of the SD memory card has been provided (“Diag.”)
- When the SD memory card has become full (“Diag.”)
- When the SD memory card cannot be recognized (“Diag.”)
- When there is a write error on the SD memory card (“Diag.”)

Default: Off

Destination of notification

• [Address 1] - [Address 8]

Enter the destination IP address or host name of the Panasonic alarm protocol from the following.

Up to 8 destination server addresses can be registered.

[Alarm] checkbox: When the checkbox is checked, the Panasonic alarm notification will be provided upon an alarm occurrence.

[Diag.] checkbox: When the checkbox is checked, notification using Panasonic alarm protocol will be provided in the following cases.

– When notification of the remaining capacity of the SD memory card has been provided

– When the SD memory card has become full

– When the SD memory card cannot be recognized

– When the SD memory card cannot be written

[Destination server address]: Enter the destination server address or host name.

Available characters: Alphanumeric characters, the colon (:), the period (.), the underscore (_), and the hyphen (-).

To delete the registered destination server address, click the [Delete] button respective to the desired destination server address.

10. Add a note when the bit rate of the recording stream is set to a value exceeding recommended value

(Operating Instructions “Image/Audio” - Configure the settings relating to Stream [Image]

Add the statement that it is possible that an error may occur in the continuity of SD memory card recording, if you set a bit rate that exceeds the recommended value in “Note” of “Max bit rate (per client) *”.

[Max bit rate (per client)*]:

Note

• The bit rate for “Stream” is restricted by “Bandwidth control (bit rate)” on the [Network] tab on the “Network” page. When a value with “*” attached is set, images may not be streamed.

• It is recommend that the bit rate setting of the stream to be 8192 kbps or lower. Setting a value higher than 8192 kbps may cause abnormalities in the continuity of the recorded video.

• When the refresh interval is too short, the actual bit rate may exceed the set bit rate depending on the subject.

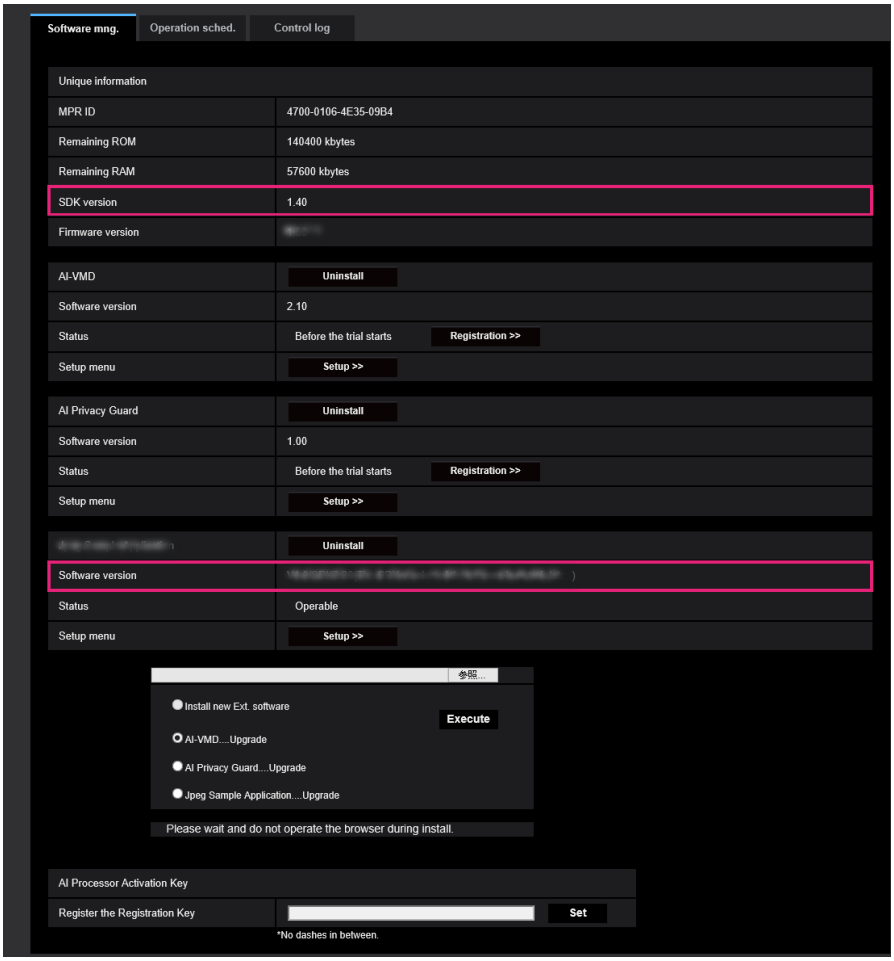
• Depending on the number users connecting at the same time or the combination of features used, the bit rate may be lower than the configured value. Check the transmission of images after changing settings.

11. SDK version display

(Operating Instructions – Perform management of the extension software and the schedule setting [Ext. software] - Perform the installation, uninstallation and version upgrade of the extension software [Software mng.])

The firmware version and SDK version of the camera and ext. software have been added to the software management screen.
If the SDK version of the camera is older than the ext. software, a message will be displayed to that effect.

Installing the extension software



Unique information

[SDK version]

Display the version information of the SDK installed in the camera. If the ext. software you install requires a version number higher than the one shown here, the ext. software may not work properly.

[Software version]

The version information of the installed camera software will be displayed.

Extension software

[Version]

If you have installed ext. software, the version information of the installed ext. software is displayed along with the version information of the SDK installed in the ext. software.

If the version information of the SDK embedded in the camera is less than the version number required by the ext. software, the ext. software may not operate properly.

Note

• For ext. software that does not have SDK version information installed, the SDK version information will not be displayed.

12. Expanded functionality of camera title on screen

(Operating Instructions - Configure the basic settings of the camera [Basic])

Change the maximum amount of text that can be displayed for Camera title on screen. Add transparent display function to date/time & Camera title on screen, and add character size options.

[Camera title on screen]

Enter a character string to be displayed on the image.
Available number of characters: 0 - 40 characters
Available characters: 0-9, A-Z, a-z and the following marks.
! " # $ % & ' ( ) * + , - . / : ; = ?
Default: None (blank)

Note

• "Camera title on screen" can be set with up to 2 lines.

[OSD] - [Display style]

Select "Transparent" or "Opaque" for "Display style".

• **Transparent:** Date/time and camera title on screen will be displayed with transparent letters.

• **Opaque:** Date/time and camera title on screen will be displayed with opaque letters (white letters on black background).

Default: Transparent

Note

• When "Opaque" is selected, the opaque black part may be set wider than the section where date/time and camera title on screen are displayed depending on the character size and number of characters.

[OSD] - [Character size]

Select the character size of the date and time as well as text displayed in the image.

• **50%:** Displays in 50% of the standard size.

• **75%:** Displays in 75% of the standard size.

• **100%:** Displays in the standard size.

• **150%:** Displays in 150% of the standard size.

• **200%:** Displays in 200% of the standard size.

Default: 100%

IMPORTANT

• If the settings for [Date/time position] and [Camera title position] are different, the frame rate may be lower than the specified value.

• If the settings for [Date/time position] and [Camera title position] are different, characters may be displayed incorrectly or overlapped depending on the [Character size] setting and the number of characters used. After completing the settings, confirm the result on the "Live" page.

• If "150%" or "200%" is selected for [Character size], the frame rate may be lower than the specified value.

• Depending on the setting and the numbers of characters used for [Character size], and the setting and image capture size of images, characters may be cut off or hard to read.
After completing the settings, confirm the result on the “Live” page.

Note

• Even when “50%” or “75%” is set, OSD will be displayed in the standard size (100%) when displaying 640x360 or 320x180 images.

13. Change AI-VMD and AI Privacy Guard to be pre-installed

(Operating Instructions - Perform management of the extension software and the schedule setting [Ext. software])

The AI motion detection function ("AI-VMD") and AI privacy guard, which were previously ext. software, are now pre-installed. Also, add that AI-VMD and AI Privacy Guard will be pre-installed in the "Note".

Management of the extension software and the schedule setting can be performed on the “Ext. software” page. The “Ext. software” page has the [Software mng.] tab and the [Operation sched.] tab.

Note

• AI-VMD (WV-XAE200W) and AI Privacy Guard (WV-XAE201W) are pre-installed. For details, please refer to the respective instruction manuals.

• If your camera software version is less than 1.50, then upgrading to 1.50 or later will also install AI-VMD (WV-XAE200W) and AI Privacy Guard (WV-XAE201W).

14. Change the default values of the schedule setting screen of the ext. software

(Operating Instructions - Perform management of the extension software and the schedule setting [Ext. software] - Set a schedule of the extension software [Operation sched.])

AI-VMD and AI Privacy Guard, which were previously ext. software, are now pre-installed. Also, AI-VMD will be initially displayed in the schedule setting screen of the ext. software.

How to set the schedules

1. Select software for which an operation schedule is set from the extension software list.

2. At [Operating day of week], select a day of week and a time table where the operation schedule is to be set.

3. Specify a period of time on “Time table 1” and “Time table 2” where the schedule is to be executed.
To execute for 24 hours, specify the period of time as [00:00] - [00:00].

4. Click the [Set] button after completing the settings.

Note

• When you open the schedule setting window of the ext. software, "AI-VMD" is selected as the default setting. Available AI-VMD [Operation details] settings are Off, Detect 1, and Detect 2. For details, refer to the instruction manual of AI-VMD (WV-XAE200).

15. Add AI-VMD related alarms as an event in the log list

(Operating Instructions – Display the log list)

Add AI-VMD related alarms to events that cause a log to occur.

⑤ Log list

• **[Event]:** The event type will be displayed.

– **MN/SC:** Log by “Manual/Schedule”

– **TRM1:** Alarm by alarm input to Terminal 1

– **TRM2:** Alarm by alarm input to Terminal 2

– **TRM3:** Alarm by alarm input to Terminal 3

– **VMD:** Alarm by VMD alarm

– **SCD:** Alarm by SCD alarm

– **COM:** Alarm by command alarm

– INT: Intruder Alarm by AI-VMD

– LOI: Loitering Alarm by AI-VMD

– DIR: Direction Alarm by AI-VMD

– CLD: Cross Line Alarm by AI-VMD

– **FTP:** Logs saved from FTP periodic image transmission errors

Note

• INT/LOI/DIR/CLD will be displayed at a AI-VMD alarm occurrence.

16. Add AI-VMD related logs to SD memory card play screen events

(Operating Instructions - Playback of images on the SD memory card - Playback "Stream(1)"/"Stream(2)"/"Stream(3)"/"Stream(4)" images saved to the SD memory card)

Add AI-VMD related alarms to display of events that cause a log to occur.

① **Slider bar**

• **[Event]:** The event type will be displayed.

– **MN/SC:** Log by "Manual/Schedule"

– **TRM1:** Alarm by alarm input to Terminal 1

– **TRM2:** Alarm by alarm input to Terminal 2

– **TRM3:** Alarm by alarm input to Terminal 3

– **VMD:** Alarm by VMD alarm

– **SCD:** Alarm by SCD alarm

– **COM:** Alarm by command alarm

– INT: Intruder Alarm by AI-VMD

– LOI: Loitering Alarm by AI-VMD

– DIR: Direction Alarm by AI-VMD

– CLD: Cross Line Alarm by AI-VMD

Note

• INT/LOI/DIR/CLD will be displayed at a AI-VMD alarm occurrence.

17. Add an audio detection alarm

(Operating Instructions – Action at an alarm occurrence – Alarm type)

A new audio detection function has been added. Also, an audio detection alarm will be added to the alarm types.

Terminal alarm: When an alarm device such as a sensor is connected to the alarm input terminal, an alarm operation is performed when the connected alarm device operates.

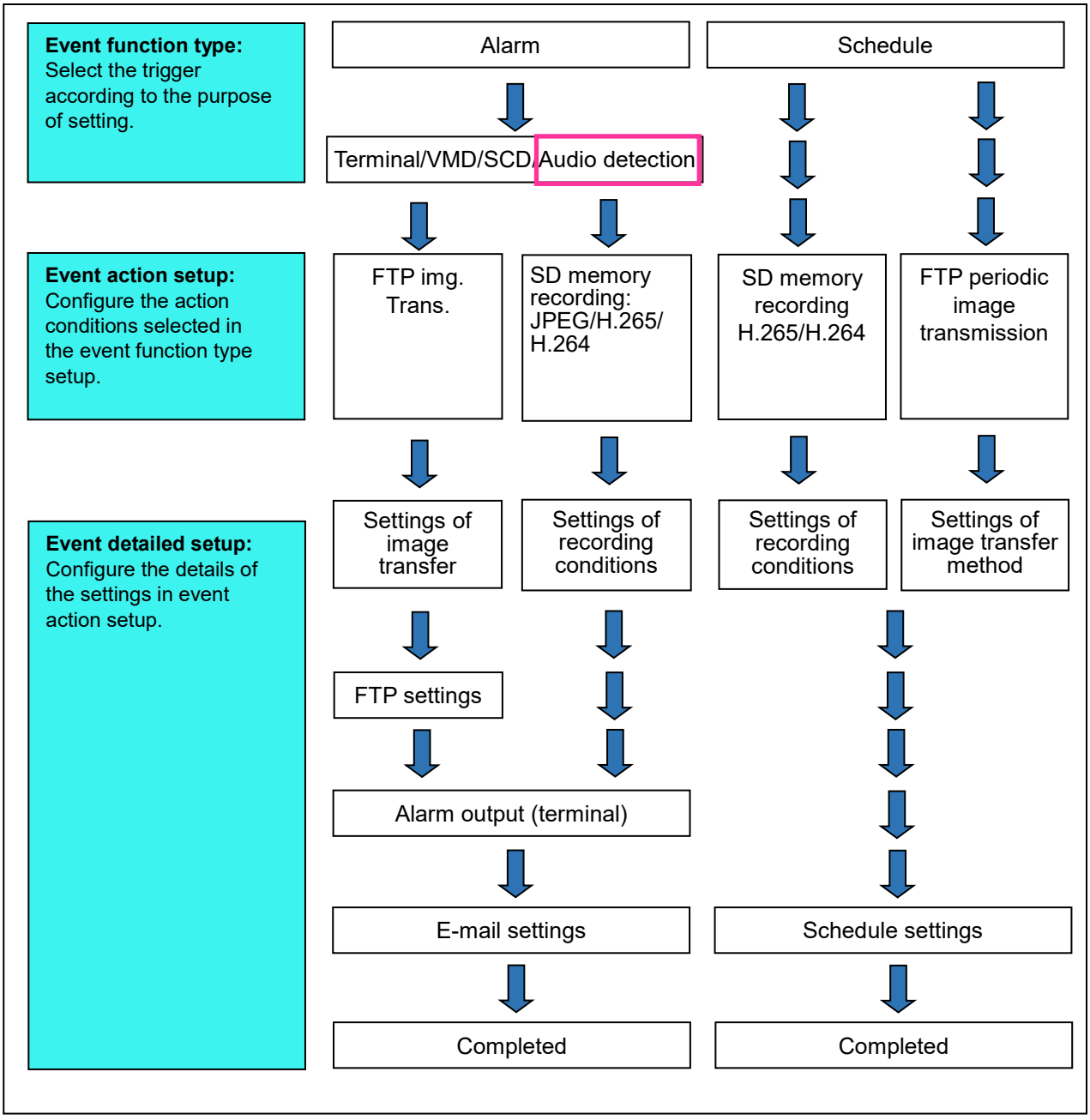
- **Terminal alarm:** When connecting an alarm device such as a sensor to the alarm input terminal of the camera, the alarm action will be performed when the connected alarm device is activated.
- **VMD alarm:** When motion is detected in the set VMD area, the alarm action will be performed.
  *VMD stands for “Video Motion Detection”.
- **SCD alarm:** This function triggers an alarm action when observed a change in the state of a subject such as by covering the camera with a cloth, a cap or others, or by changing the camera direction largely.
- **Command alarm:** When a Panasonic alarm protocol is received from the connected device via a network, the alarm action will be performed.
- **Audio detection alarm:** When the configured audio detection level is exceeded, the alarm action will be performed.
- **Alarm notification from the extension software:** In case that the extension software having an alarm function is installed, an alarm action will be taken when an alarm is issued by the alarm function of the extension software.
  For further information about the extension software, refer to our website
  (https://i-pro.com/global/en/surveillance/training-support/support/technical-information
  <Control No.: C0103>)

18. Add audio detection to event types

(Operating Instructions – Use Easy Setup [Easy Setup] – Configure the schedule/alarm (event function type setup menu)

A new audio detection function has been added. Also, audio detection will be added to the "Event behavior setting flow".

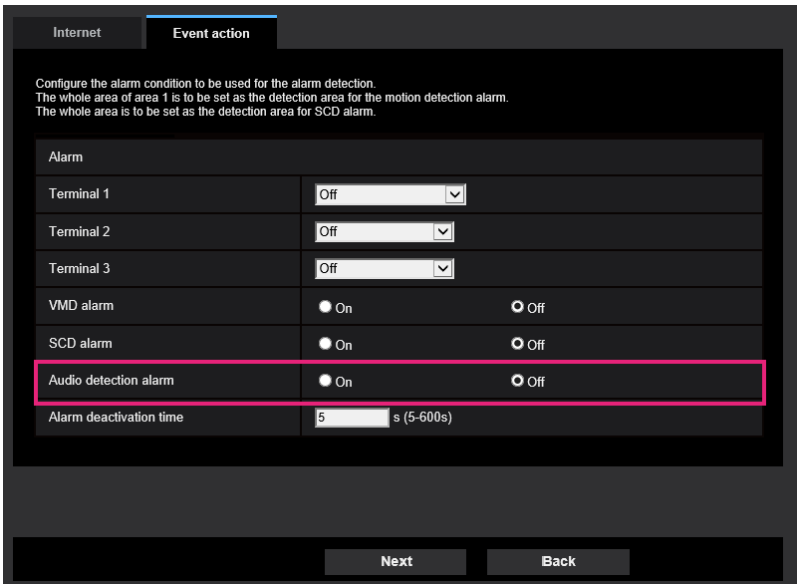
Flow of event action setup



19. Add audio detection to alarm settings

(Operating Instructions – Use Easy Setup [Easy Setup] – Alarm: Configure the terminal and VMD (alarm setup menu)

A new audio detection function has been added. Also, an audio detection alarm On/Off will be added to the alarm types.



Alarm

• **[VMD alarm]**

On: If the VMD area is not configured, the entire region is configured. To configure the VMD area, use the [VMD area] tab on the “Alarm” page.

Off: Disables all VMD states

Default: Off

• **[SCD alarm]**

On: If the SCD area is not configured, the entire region is configured. To configure the SCD area, use the [SCD area] tab on the “Alarm” page.

Off: Disables all SCD states

Default: Off

• **[Audio detection alarm]**

On: Uses audio detection alarms. All of the detection targets for AI audio classification will be selected.

Off: Does not use audio detection alarms.

Default: Off

20. Add "Note" regarding audio detection to [Save trigger] of SD memory recording

(Operating Instructions – Configure the basic settings of the camera [Basic] - Configure the settings relating to the SD memory card [SD memory card]

A new audio detection function has been added. However, it should be noted that no recording will be made to the SD memory card even if an audio detection alarm occurs.

Recording stream

[Save trigger]

Note

When “Stream(1)”, “Stream(2)”, “Stream(3)”, or “Stream(4)” is selected for “Recording format”, “FTP periodic image transmission error” is unavailable.

• To enable alarms to occur, alarm settings must be configured in advance on the [Alarm] tab.

• When “JPEG(1)” or “JPEG(2)” is selected for “Recording format”, “Schedule” is unavailable.

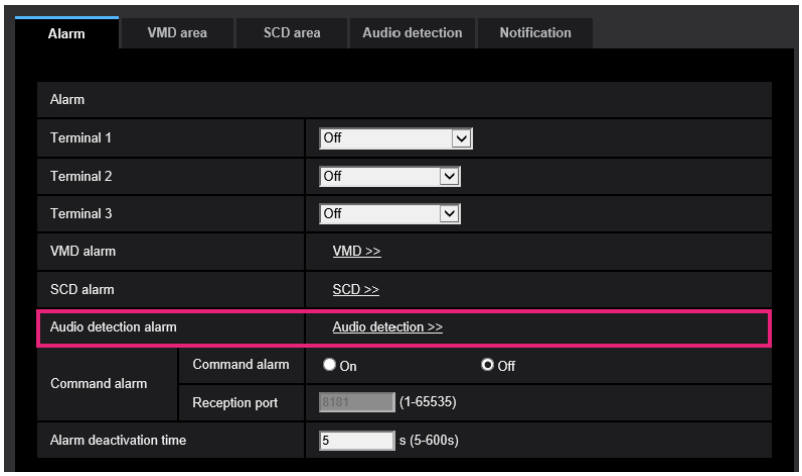
• When connected with our network disk recorder, “Save trigger” may be displayed in a gray-out state as “Network failure”. To change the setting of “Save trigger” after disconnecting the recorder, set “Not use” for “SD memory card” once and then set “Use” again.

• Even if [Save trigger] is set to [Alarm input], in the case of an alarm with audio detection, images will not be saved to the SD memory card.

21. Add a link to audio detection settings in alarm settings

(Operating Instructions – Configure the alarm settings [Alarm] - Configure the settings relating to the alarm action [Alarm])

A new audio detection function has been added. Also, a link will be added to the audio detection settings in the alarm settings.



Alarm

- **[VMD alarm]**
  When clicking “VMD >>”, the [VMD area] tab of the “Alarm” page will be displayed.
- **[SCD alarm]**
  When clicking “SCD”, the [SCD area] tab of the “Alarm” page will be displayed.
- **[Audio detection alarm]**
  When clicking “Audio detection”, the [Audio detection] tab of the “Alarm” page will be displayed.
- **[Command alarm]**

Select “On” or “Off” to determine whether or not to receive the command alarm.

The command alarm is the function that provides notification of a Panasonic protocol alarm from the other cameras. When “On” is selected, alarm actions will be performed between multiple cameras.

Default: Off

22. Add audio detection settings

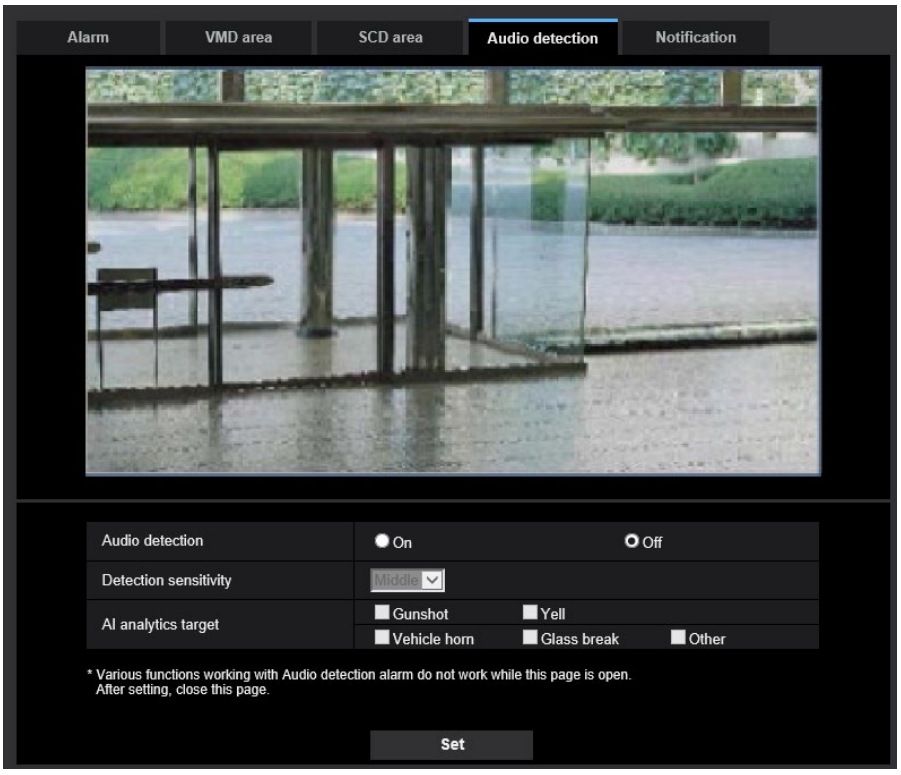
(Operating Instructions – Configure the alarm settings [Alarm] - Configure the settings relating to audio detection [Audio detection])

A new audio detection function has been added. With that, a tab will be added to the alarm page to configure the audio detection settings.

Click the [Audio detection] tab on the “Alarm” page. The settings relating to audio detection can be configured in this section.

IMPORTANT

- The alarm occurrence indication button will be displayed when sound is detected by the audio detection function.
- The alarm occurrence notification button is also displayed when the alarm input is accepted by the terminal alarm or when the command alarm is accepted.
- Depending on the network environment, notification may be delayed.
- The audio detection feature is not suitable to be used in situations where high reliability is constantly required (such as a prevention system). We are not responsible for any accidents or damages that may occur.



- **[Audio detection]**

Select “On” or “Off” to determine whether or not to perform audio detection.

On: Performs audio detection.

Off: Does not perform audio detection.

Default: Off

• **[Detection sensitivity]**

Adjust the sensitivity of Volume from “Low”, “Middle”, or “High”.

Default: Middle

• **[AI analytics target]**

Select the detection target for AI audio classification.

• **Gunshot:** Detects sound of gunshots, sound of explosions, impulsive sound and plosive sound.

• **Yell:** Detects screams and yells.

• **Vehicle Horn:** Detects car horns.

• **Glass Break:** Detects sound of glass breaking.

• **Other:** Detects other sounds than Gunshot, Yell, Vehicle Horn, Glass Break.

Note

• In the following cases, sounds to be detected may not be detected.

– When the duration of Yell, Vehicle Horn or Glass Break is shorter than 1 second

– When the difference between the sound to be detected and noise is less than 6dB

– When raindrops directly hit the camera or microphone

• When multiple sounds of different types occurred at the same time, an alarm notification as triggered by only one type among these types will be provided.

23. Add audio detection as a notification event for the destination of notification

(Operating Instructions – Configure the network settings [Alarm] - Configure advanced network settings [Advanced] - Configure the settings related to sending E-mails)

A new audio detection function has been added. Also, add audio detection to the notification events of the notification destination, and add an audio detection alarm to the alarm events entered in the email body.

- **[Address 1] - [Address 4]**

Enter the destination E-mail address. Up to 4 destination E-mail addresses can be registered.

Available number of characters: 3 - 128 characters

Available characters: Alphanumeric characters, the at sign (@), the period (.), the underscore (_), and the hyphen (-).

To delete the registered address, click the [Delete] button respective to the desired address.

Terminal 1: Notify by e-mail when an alarm occurs in Terminal 1.

Terminal 2: Notify by e-mail when an alarm occurs in Terminal 2.

Terminal 3: Notify by e-mail when an alarm occurs in Terminal 3.

VMD: Notify by e-mail when motion is detected.

SCD: Notify by e-mail when SCD has occurred.

Command alarm: Notify by e-mail when a command alarm is entered.

Audio detection: Notify by e-mail when audio detection has occurred.

Diag.:

– When a notification of the remaining capacity of SD memory card has been provided

– When the SD memory card has become full

– When the SD memory card cannot be recognized

- **[E-mail body(alarm)]**

Enter the E-mail body.

Available number of characters: 0 - 50 characters

Cause of alarm: The cause of alarm %p% is added in the e-mail body. %p% is replaced by the cause of alarm and sent.

– For VMD alarm: “VMD”

– For SCD alarm: “SCD”

– For terminal alarm: Terminal name set in “Terminal 1”, “Terminal 2”, and “Terminal 3” of “Terminal name”. (Example: If the name of Terminal 1 is “Terminal1”, it is “Terminal1”)

– For command alarm: “CMD”

– For audio detection alarm (AI audio classification, Gunshot): “Audio detection Gunshot”

– For audio detection alarm (AI audio classification, Yell): “Audio detection Yell”

– For audio detection alarm (AI audio classification, Vehicle Horn): “Audio detection Vehicle Horn”

– For audio detection alarm (AI audio classification, Glass Break): “Audio detection Glass Break”

– For audio detection alarm (AI audio classification, Other): “Audio detection”

Occurrence time: The time of occurrence %t% will be added to the e-mail body. %t% will be replaced by the time of occurrence of the alarm (HH:MM:SS) and sent.

- **Default:**

– Cause of alarm: Checked

– Occurrence time: Checked

– E-mail body: The %p% alarm was occurred at %t%.

24. Add audio detection to SNMP trap notification events

(Operating Instructions – Configure the network settings [Network] - Configure advanced network settings [Advanced] - Configure the settings relating to SNMP)

A new audio detection function has been added. Also, audio detection alarm settings will be added to the SNMP trap settings.

SNMP trap setting

• [Alarm] - [VMD] - [On/Off]

When the check box is checked, a trap will be sent at the time when a video motion detection is activated.

Default: Not checked (Off)

• [Alarm] - [VMD] - [Trap string]

Set the string of characters to be used for the trap of [VMD].

Available number of characters: 0 - 20 characters

Available characters: 0-9, A-Z, a-z and the following marks.

! " # $ % & ' ( ) * + , - . / : ; = ?

Default: VMD alarm

• [Alarm] - [Audio detection] - [On/Off]

When the check box is checked, a trap will be sent at the time when an audio detection alarm occurs.

Default: Not checked (Off)

• [Alarm] - [Audio detection] - [Trap string]

Set the string of characters to be used for the trap of [Audio detection].

Available number of characters: 0 - 20 characters

Available characters: 0-9, A-Z, a-z and the following marks.

! " # $ % & ' ( ) * + , - . / : ; = ?

Default: audio

• [Alarm] - [Command alarm] - [On/Off]

When the check box is checked, a trap will be sent at the time when a command alarm occurs.

Default: Not checked (Off)

• [Alarm] - [Command alarm] - [Trap string]

Set the string of characters to be used for the trap of [Command alarm].

Available number of characters: 0 - 20 characters

Available characters: 0-9, A-Z, a-z and the following marks.

! " # $ % & ' ( ) * + , - . / : ; = ?

Default: cmd

Note

• In order for SNMP trap notification to work when an alarm occurs, the alarm operation must be configured.

To make settings related to alarm operation, refer to "Configure the alarm settings [Alarm]" in the Operating Instructions.

25. Add audio detection permission to schedule settings

(Operating Instructions – Configure the settings relating to the schedules)

A new audio detection function has been added. Also, audio detection permission settings will be added to the schedule settings.

On the “Schedule” page, it is possible to configure the settings relating to schedules as follows.

- Alarm permission (Terminal alarm 1, 2, 3)
- Alarm permission (Terminal alarm 1)
- Alarm permission (Terminal alarm 2)
- Alarm permission (Terminal alarm 3)
- VMD permission
- SCD permission
- Audio detection permission
- Access permission
- SD memory recording
- Scene file
- FTP periodic image transmission
- Allow e-mail transmission (Schedule 5 only)
- Reboot (Schedule 5 only)

The “Schedule” page has only the [Schedule] tab

1 Select an action to be assigned to the schedule from “Schedule mode”.

“Off” is selected at the default.

Off: No action will be taken for the respective schedule.

Alarm permission (Terminal alarm 1, 2, 3): Alarm input (terminal alarm) will be allowed during the period of the schedule.

Alarm permission (Terminal alarm 1): Terminal 1 alarm input will be allowed during the period of the schedule.

Alarm permission (Terminal alarm 2): Terminal 2 alarm input will be allowed during the period of the schedule.

Alarm permission (Terminal alarm 3): Terminal 3 alarm input will be allowed during the period of the schedule.

VMD permission: The video motion detection (VMD) function will be active during the period of the schedule.

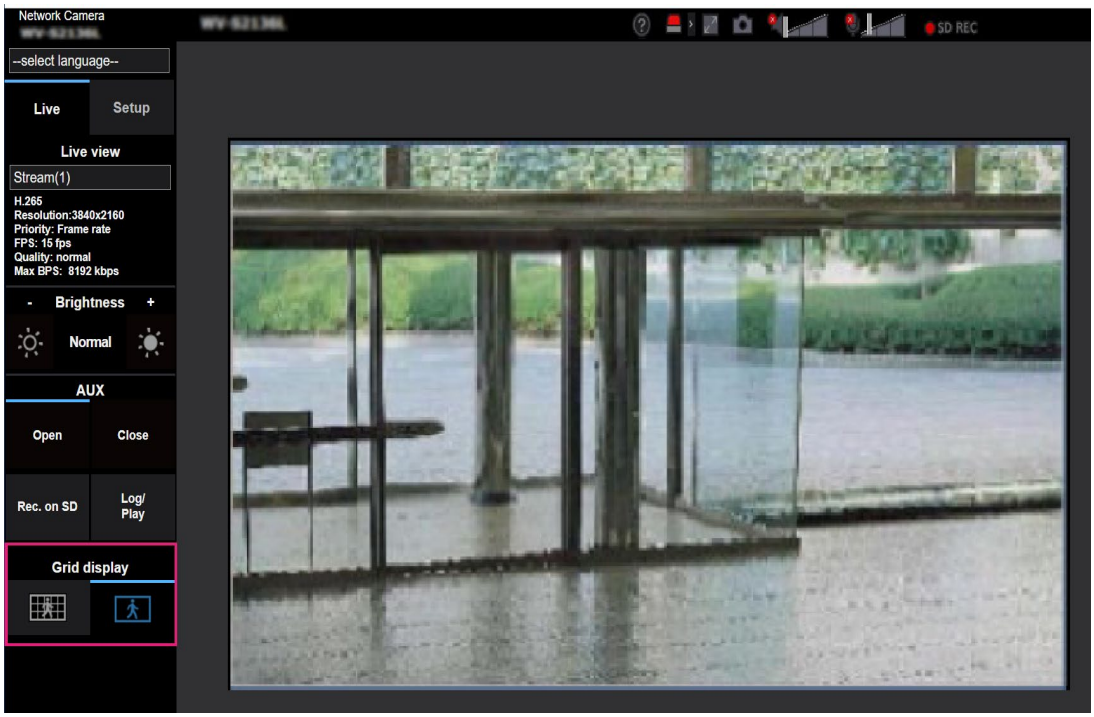
SCD permission: The scene change detection (SCD) function will be active during the period of the schedule.

Audio detection permission: The audio detection function will be active during the period of the schedule.

26. Add grid display function to the live page

(Operating Instructions – Monitor images on a PC – About the “Live” page)

Add a grid display function to the live page when accessed by browsers other than Internet Explorer (IE).



- **[Grid display] buttons**

Select On/Off to determine whether or not to use the grid display for position adjustment of this product when using the extension software.

For further information about the grid adjustment, refer to our support website below.

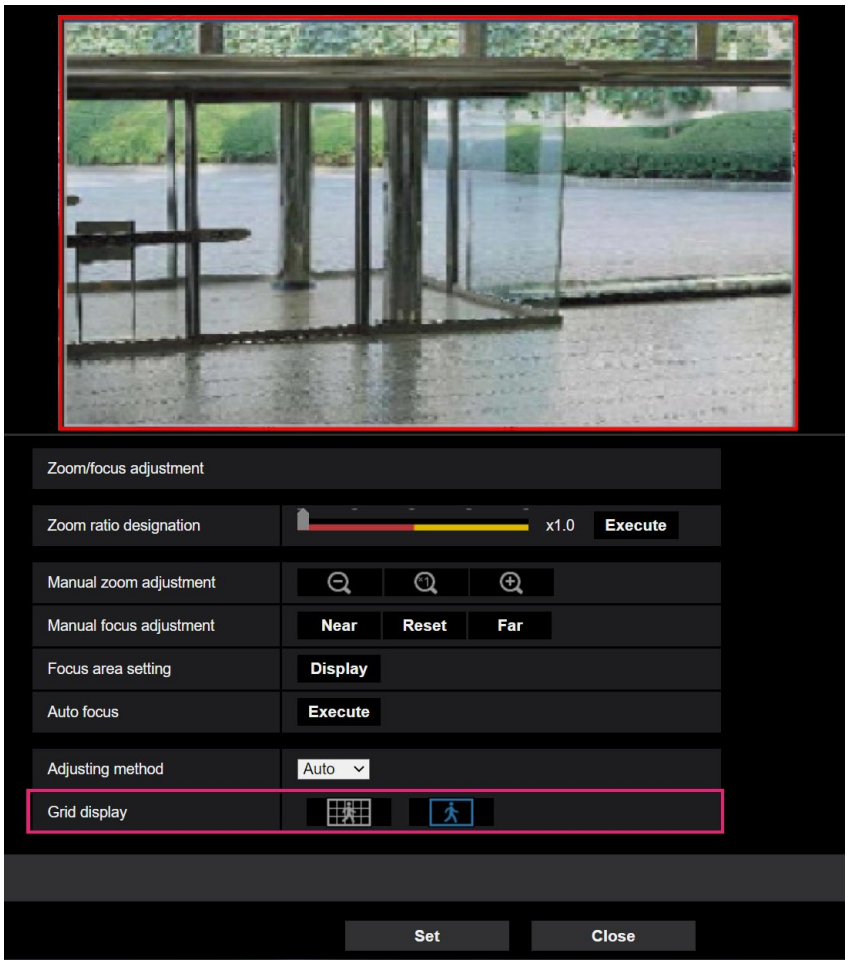
https://i-pro.com/global/en/surveillance/training-support/support/technical-information

<Control No.: 0320>

27. Add a grid display function to the zoom/focus adjustment page

(Operating Instructions – Configure the settings relating to images and audio [Image/Audio] – Configure the settings relating to image adjust, zoom/focus, privacy zone, VIQS, and lens distortion compensation [Image quality] - Adjust the zoom and focus)

Add a grid display function to "Zoom/Focus Adjustment" in the "Image Quality" tab of the Image/Audio page.



• **[Grid display] buttons**

Select On/Off to determine whether or not to use the grid display for position adjustment of this product when using the extension software.

For further information about the grid adjustment, refer to our support website below.

https://i-pro.com/global/en/surveillance/training-support/support/technical-information

<Control No.: 0320>

28. Extend authentication password for the destination of notification

(Operating Instructions – Configure the network settings [Network] – Configure advanced network settings [Advanced] - Configure the settings related to sending E-mails)

The number of characters that can be entered for the authentication password of the destination of notification has been expanded to 128 characters.

- **[Authentication − Password]**

Enter the password to access the server.

Available number of characters: 0 - 128 characters

Unavailable characters: " &

29. Add “Note” regarding the registering the registration key

(Operating Instructions – Perform management of the extension software and the schedule setting [Ext. software] - Perform the installation, uninstallation and version upgrade of the extension software [Software mng.])

Add to "Note" a note that the unit will restart after registering the registration key.

Installing the extension software

4 Acquire a registration key and then register the registration key.

Note

• Depending on the type of the extension software, registration of the registration key will be required. Refer to the operating instructions of the extension software for how to acquire and register a registration key.

• After registering the registration key, the camera will be reboot. After rebooting the camera, check that the registration key is registered, and setting the extension software.

30. Change AI-VMD and AI People Detection to be pre-installed

(Operating Instructions – Perform management of the extension software and the schedule setting [Ext. software])

Change the pre-installed Ext. software AI Video Motion Detection (“AI-VMD”) and AI Privacy Guard to AI-VMD and AI People Detection. Along with that, it is stated in "Note" that AI-VMD and AI People Detection are pre-installed.

Management of the extension software and the schedule setting can be performed on the “Ext. software” page. The “Ext. software” page has the [Software mng.] tab and the [Operation sched.] tab.

Note

- AI-VMD and AI People Detection are already installed. For further information, refer to the respective operating instructions.
- Pre-installed AI People Detection limits the frame rate to a maximum of 15fps on 4K network cameras. If you want to use the camera at 30fps, uninstall the AI People Detection.
- The camera software upgrade will not change the installed Ext. software.

31. Using the recording function is changed when the Ext. software mode is On

(Operating Instructions – Configure the basic settings of the camera [Basic]) – Configure the settings relating to the SD memory card [SD memory card])

Even if the Ext. software mode is set to On, the recording function to SD memory card by this product function can be used.

[Ext. software mode]

Set this setting to “On” when the installed Ext. software uses the SD memory card of this product.

• **On:** The Ext. software can use the SD memory card of this product.

• **Off:** The Ext. software cannot use the SD memory card of this product.

Default: Off

Note

・ For information about the software, refer to our support website https://i-pro.com/global/en/surveillance/training-support/support/technical-information <Control No.: C0103>.

・ When the Ext. software mode is set from On to Off, it is recommended to format the SD memory card.

・ When operating the Ext. software that uses an SD memory card, the operation of the recording function to the SD memory card cannot be guaranteed.

32. Change the initial value of “Overwrite” of SD memory card to On

(Operating Instructions – Configure the basic settings of the camera [Basic]) – Configure the settings relating to the SD memory card [SD memory card])

[Overwrite]

Determine whether or not to overwrite when the remaining capacity of the SD memory card becomes insufficient.

• **On:** Overwrites when the remaining capacity of the SD memory card becomes insufficient. (The oldest image is the first to be overwritten.)

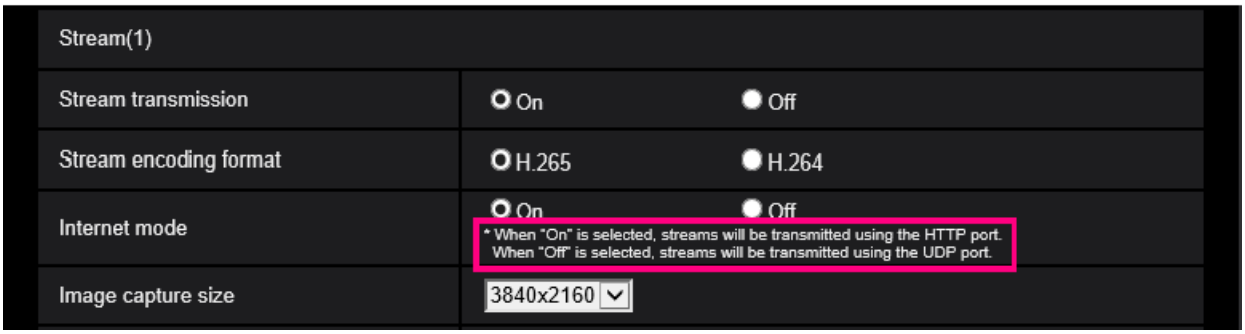
• **Off:** Stops saving images on the SD memory card when the SD memory card becomes full.

• **Default:** On

33. Add the supplementary explanation of On/Off of Internet mode to the setting screen

(Operating Instructions – Configure the settings relating to images and audio [Image/Audio] – Configure the settings relating to Stream [Image])

Add the supplementary explanation of On/Off of Internet mode setting.



[Internet mode]

Select “On” when transmitting H.265 (or H.264) images via the Internet. It is possible to transmit stream without changing the broadband router settings configured for JPEG image transmission.

- **On:** H.265 (or H.264) images and audio will be transmitted using the HTTP port. Refer to [HTTP port] for further information about the HTTP port number settings.
- **Off:** H.265 (or H.264) images and audio will be transmitted using the UDP port.
- **Default:** On

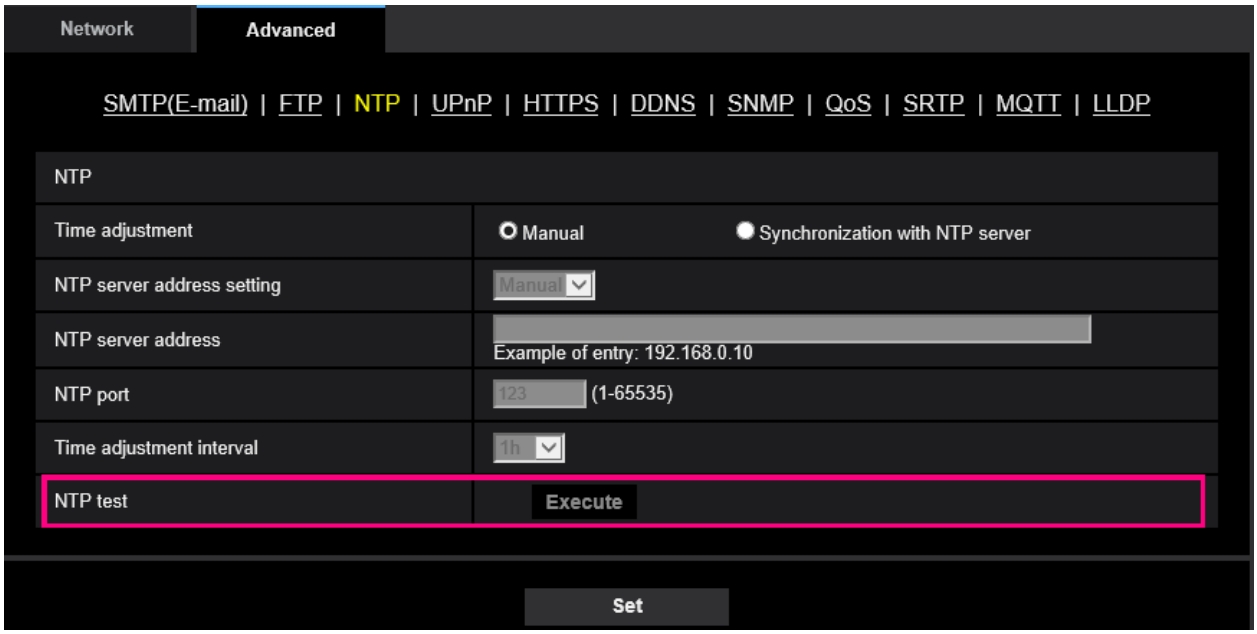
Note

- When “On” is selected, only “Unicast port (AUTO)” will be available for “Transmission type”.
- When “On” is selected, it may take time to start displaying stream images.
- When “On” is selected, stream images may not be displayed depending on the number of the concurrent access user and audio data availability, etc.
- When “On” is selected, only IPv4 access is available.

34 Add NTP test function

(Operating Instructions – Configuring the network settings [Network] – Configure advanced network settings [Advanced] – Configure the settings relating to the NTP server)

Add a test function for time synchronization to check if it can communicate with NTP server.



[NTP test]

Select “Synchronization with NTP server” for “Time adjustment”, set the NTP server information, and then click the “Execute” button. You can communicate with the NTP server, synchronize the time, and check the NTP operation.

Note

・If the NTP test succeeds, “NTP time correction has succeeded.” is displayed.

・If the NTP test fails, “NTP time correction has failed.” is displayed.

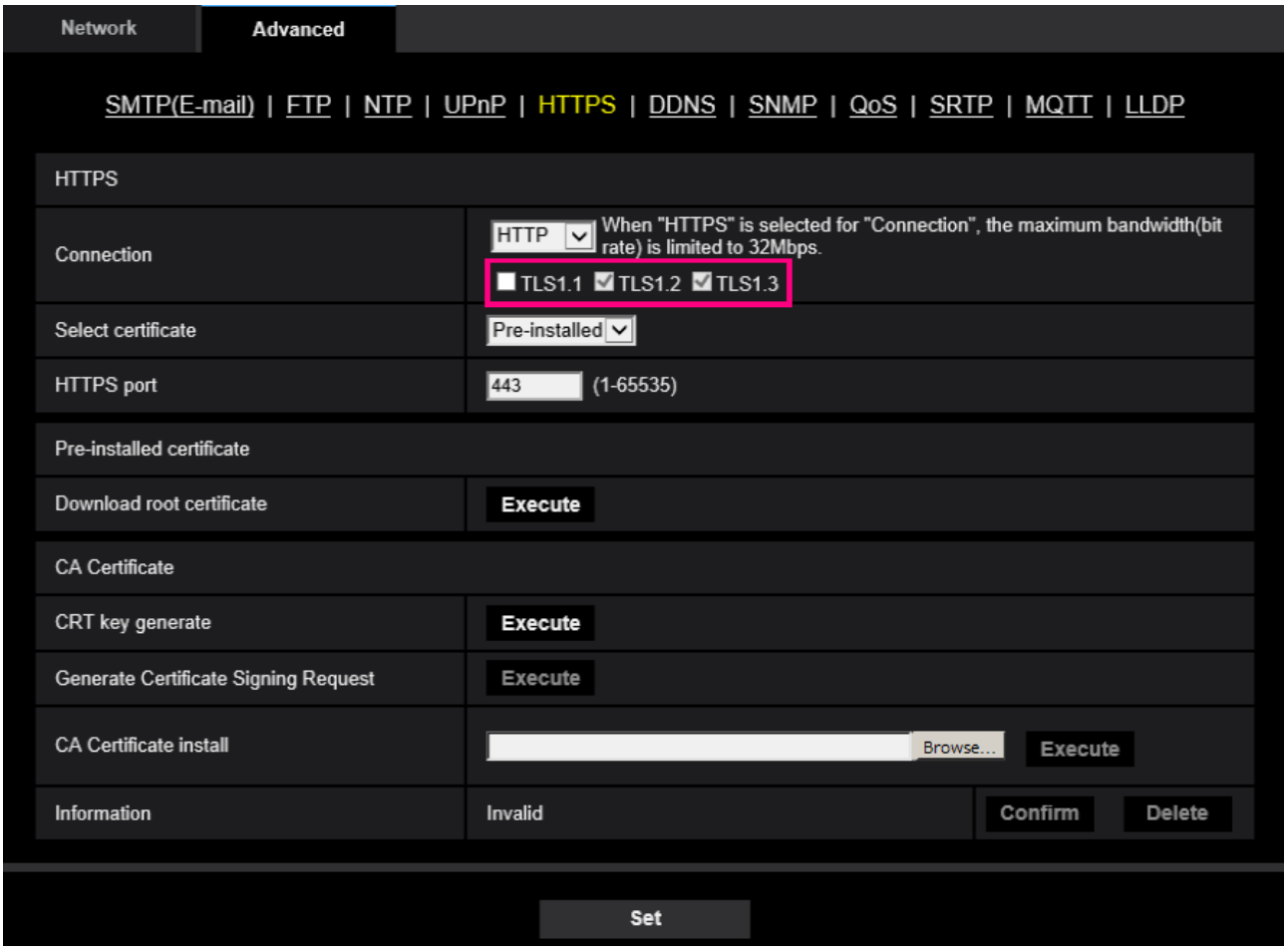
・When “Time adjustment” is set to “Manual”, the “Execute” button of NTP test is grayed out.

・When “Time adjustment” is set to “Synchronization with NTP server” and the “NTP server address” is not set, the “Execute” button for the NTP test will be grayed out.

35. Add TLS settings to HTTPS

(Operating Instructions – Configuring the network settings [Network] – Configure advanced network settings [Advanced] – Configure the HTTPS settings)

Add TLS1.1, TLS1.2 and TLS1.3 selection items to the HTTPS connection method.



[HTTPS - Connection]

Select the protocol used to connect the camera.

- **HTTP:** HTTP and HTTPS connections are available.
- **HTTPS:** Only the HTTPS connection is available.
- **Default:** HTTP

Select the TLS to use when HTTPS is selected.

- **TLS1.1**: Enable/Disable.
- **TLS1.2**, **TLS1.3**: Always enabled and cannot be disabled.
- **Default: TLS1.1**:Disabe、**TLS1.2**: Enable, **TLS1.3**: Enable

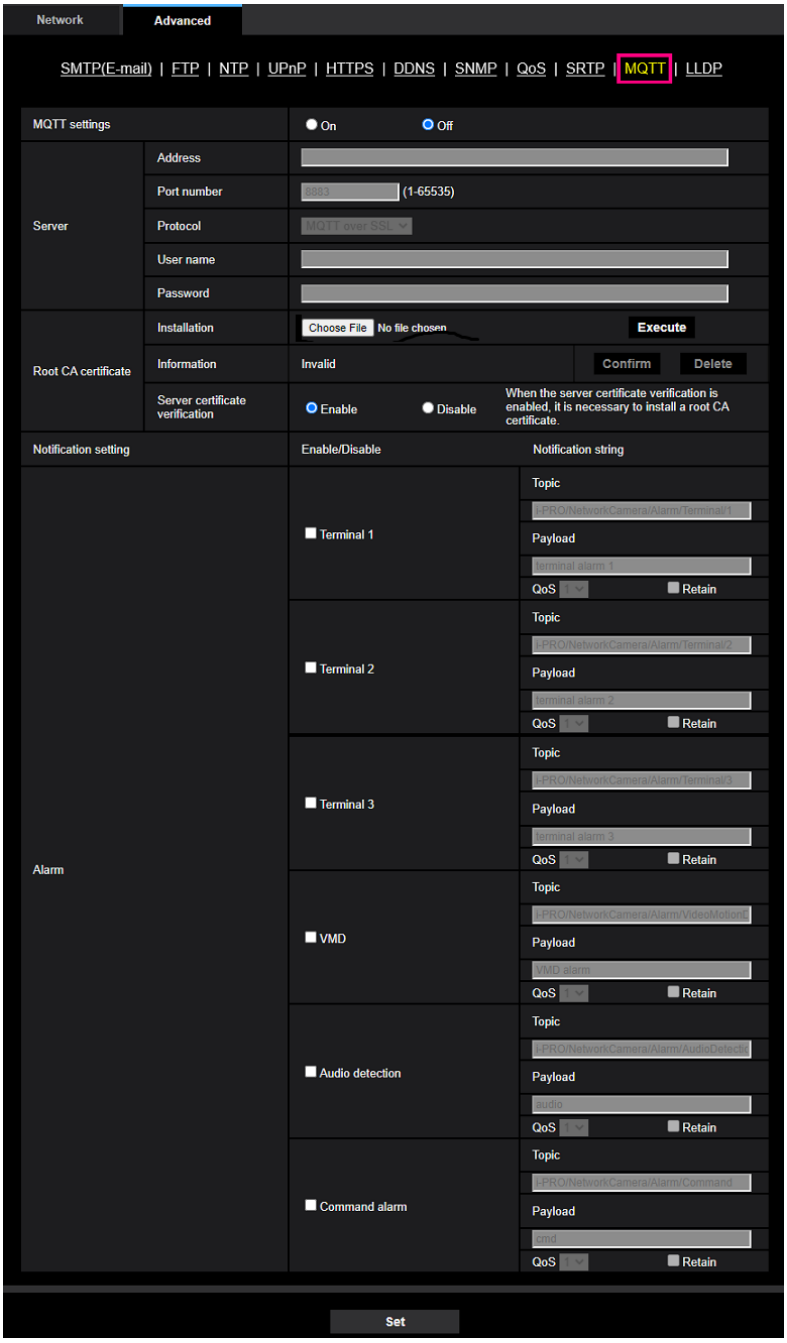
Note

- To change to an HTTPS connection when HTTP is selected, perform HTTPS connection settings first. The HTTPS connection will be available even if the setting is changed to HTTP afterwards.

36. Add MQTT function

(Operating Instructions – Configuring the network settings [Network] – Configure advanced network settings [Advanced])

MQTT (Message Queueing Telemetry Transport) has been added to “Advanced” of “Network”. When an alarm occurs, the MQTT server can be notified of the event action by the alarm.



[MQTT settings]

Set On/Off whether to enable/disable the MQTT function.

When set to On, or it is On when the camera starts up, it will connect to the set server.

When the set alarm occurs, the settings will be notified to the server.

Default: Off

Server

[Address]

Enter the IP address or host name of the MQTT server to be notified when an alarm occurs.

Available number of characters: 1 - 128 characters

Available characters: Alphanumeric characters, the colon (:), the period (.), the underscore (_), and the hyphen (-)

Default: None (blank)

[Port]

Enter the port number of the MQTT server.

Available port number: 1 - 65535

Default: 8883

The following port numbers cannot be set because they are used by this product.

20, 21, 23, 25, 42, 53, 67, 68, 69, 80, 110, 123, 161, 162, 443, 554, 995, 10669, 10670

[Protocol]

Select the protocol to use when connecting to an MQTT server from MQTT over SSL/MQTT over TCP.

Default: MQTT over SSL

[User name]

Enter the user name to access the MQTT server.

Available number of characters: 0 - 32 characters

Unavailable characters: " & : ; ¥

[Password]

Enter the password to access the MQTT server.

Available number of characters: 0 - 32 characters

Unavailable characters: " &

Root CA certificate

[Install]

Install the root CA certificate issued by the certification authority.

In the "Open File Dialog" that appears when you click the [Select File] button, select the root CA certificate file issued by the certification authority, and then click the [Execute] button to install the root CA certificate.

The data format of the root CA certificate is PEM format or DER format.

[Information]

The root CA certificate information is displayed.

Invalid：The root CA certificate is not installed.

Root CA certificate host name：Indicates that the certificate is installed.

［Confirm］The details of CA certificate can be checked with the button.

［Delete］The CA certificate will be deleted with the button.

[Server certificate verification]
When [Protocol] is set to “MQTT over SSL” and [Server certificate verification] is set to “Enable”, the server certificate is verified using the root CA certificate registered during the SSL connection.
Default：Enable

Note
・When [Server certificate verification] is set to “Enable”, install the root CA certificate.

Notification setting
[Alarm]
Check the alarm events to be notified to the MQTT server.
Terminal 1: Notifies the MQTT server when an alarm occurs at terminal 1.
Terminal 2: Notifies the MQTT server when an alarm occurs at terminal 2.
Terminal 3: Notifies the MQTT server when an alarm occurs at terminal 3.
VMD: Notifies the MQTT server when motion detection occurs.
Audio detection: Notifies the MQTT server when audio detection occurs.
Command alarm: Notifies the MQTT server when a command alarm is entered.

[Topic]
Set the MQTT topic name to be sent. Topics have a hierarchical structure separated by "/".
Available number of characters: 1 - 128 characters
Available characters: Alphanumeric characters, "/"
Default:
Terminal 1：i-PRO/NetworkCamera/Alarm/Terminal/1
Terminal 2：i-PRO/NetworkCamera/Alarm/Terminal/2
Terminal 3：i-PRO/NetworkCamera/Alarm/Terminal/3
VMD：i-PRO/NetworkCamera/Alarm/VideoMotionDetection
Audio detection：i-PRO/NetworkCamera/Alarm/AudioDetection
Command alarm：i-PRO/NetworkCamera/Alarm/Command

[Payload]
Set the MQTT message payload.
Available number of characters: 1 - 128 characters
Available characters: Alphanumeric characters
Default:
Terminal 1：terminal alarm 1
Terminal 2：terminal alarm 2
Terminal 3：terminal alarm 3
VMD：VMD alarm
Audio detection：audio
Command alarm：cmd

[QoS]
Select the QoS level from 0, 1, 2.The communication quality improves in the order of 0<1<2.
0: The message is delivered at most once with QoS0. There is no guarantee that the message will reach the server.
1: The message is delivered at least once with QoS1. The message is guaranteed to reach the destination, but may be duplicated.

2: The message is delivered exactly once with QoS2. It guarantees that the message arrives just once.
Default: 1

[Retain]
Check this box if you want the MQTT server to save the last notified message.
Defalut: Unchecked

37. Add a system log when MQTT function fails

(Operating Instructions – Others – About the displayed system log)

Add a system log when an error occurs in the MQTT function.

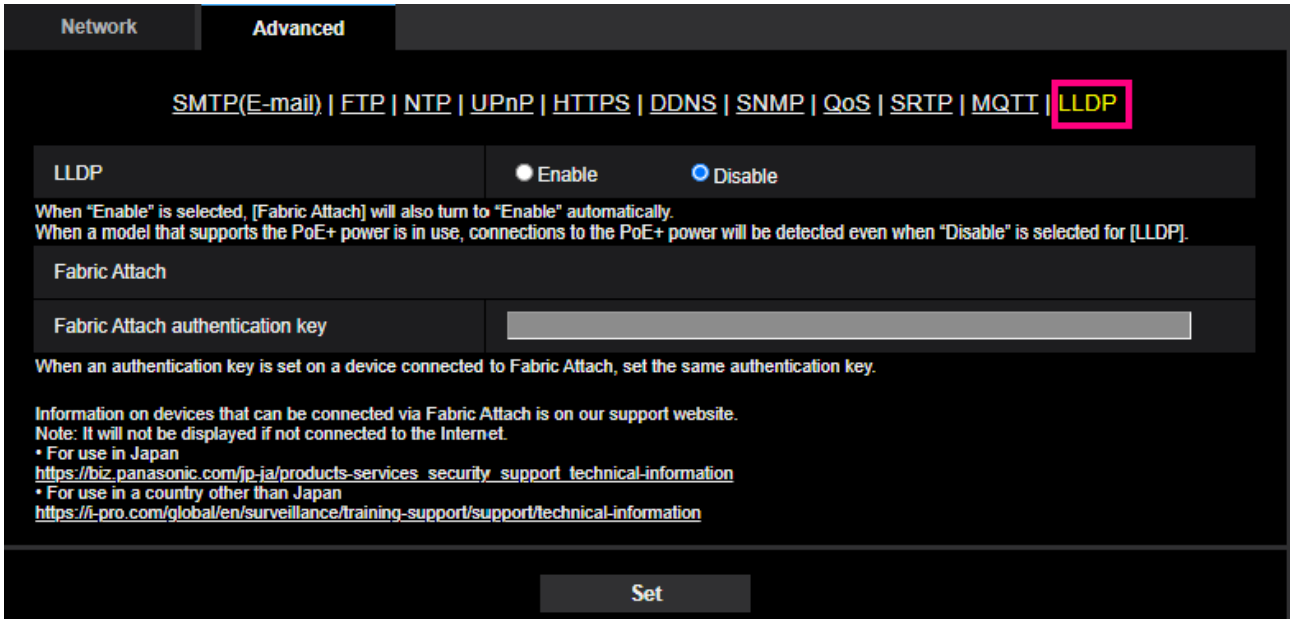
Error display related to MQTT

Category	Indication	Description
MQTT	<MQTT> Connection error	When the connection to the server fails, certification verification fails, or is disconnected (except for disconnections from the camera due to setting change)
	<MQTT> Notification error	When publishing to the server fails

38. Add LLDP function

(Operating Instructions – Configuring the network settings [Network] – Configure advanced network settings [Advanced])

LLDP (Link Layer Discovery Protocol) has been added to [Advanced] of [Network]. Interoperability can be achieved by sending and receiving camera's device information to and from LLDP-compatible devices.



[LLDP]

Enable/Disable whether to enable the LLDP function and Fabric Attach.

Default: Disable

When set to “Enable”, LLDP including TLVs with the checks in the table below will be sent.

End Of LLDPDU TLV	Chassis ID TLV	Port ID TLV	Time To Live TLV	Port Description TLV	System Name TLV	System Description TLV	System Capability TLV	Management Address TLV	IEEE802.3 Power via MDI TLV	Fabric Attach Element TLV
✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

* Models that support PoE+ power supply will send LLDP including TLVs with the checks in the table below for PoE+ power supply even if set to “Disable”.

End Of LLDPDU TLV	Chassis ID TLV	Port ID TLV	Time To Live TLV	Port Description TLV	System Name TLV	System Description TLV	System Capability TLV	Management Address TLV	IEEE802.3 Power via MDI TLV	Fabric Attach Element TLV
✓	✓	✓	✓						✓	

Fabric Attach

[Fabric Attach authentication key]

Enter the key to be used for Fabric Attach authentication. Note that this is valid only when “LLDP” is “Enable”.

Available number of characters: 0 - 32 characters (If Fabric attach authentication is not performed, leave it blank.)

Available characters: Alphanumeric characters

Default: None (blank)

Note

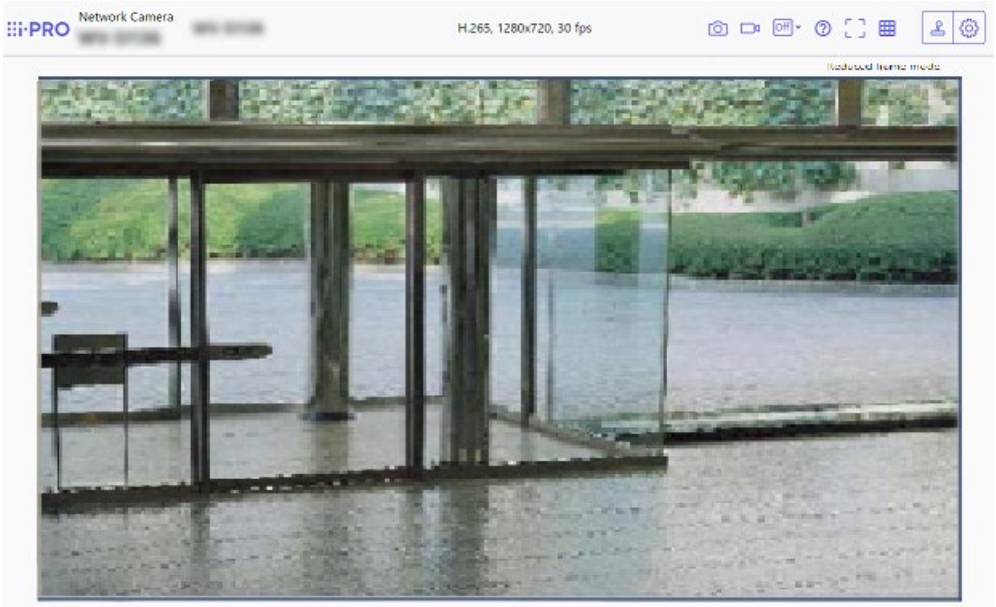
• Click the [Set] button to restart the product. After restarting, the product cannot be operated for about 2 minutes, just like when the power is turned on.

• For information about devices that can be connected using Fabric Attach, refer to our support website.
https://i-pro.com/global/en/surveillance/training-support/support/technical-information

39. Changed new GUI (Graphical User Interface)

(Operating Instructions)

Changed to a new GUI. The “Set” menu of the GUI before change is displayed by clicking the “Settings” [⚙] button of the new GUI and then clicking the “Camera detailed setting” [⚙] button on the “Detailed setting” tab.
Refer to the following technical information website [New functions and addendum (New GUI) <Control No.:C0324> for more information.
https://i-pro.com/global/en/surveillance/training-support/support/technical-information



40. About removal of functions due to end of Internet Explorer support

(Operating Instructions)

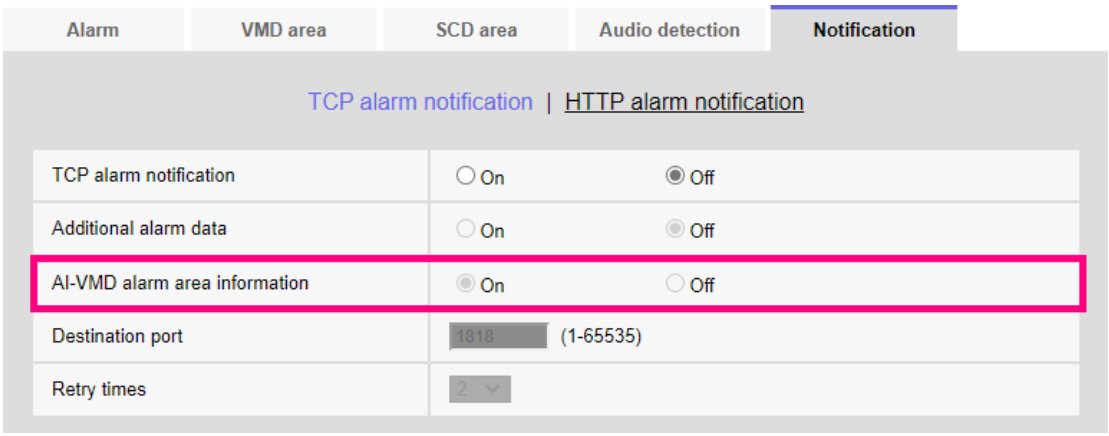
Microsoft ended support for the Web browser “Internet Explorer” on June 15, 2022. We have also terminated support for “Internet Explorer” for our cameras, and deleted the following functions that are only compatible with “Internet Explorer”.

No	Menu	Tab menu	Delete function
1	Live	-	“Viewer Software” button
2	Basic	Basic	“Status update mode” settings
3	Basic	Basic	“Status reception port” settings
4	Basic	Basic	“Viewer software (nwcv4Ssetup.exe)” settings
5	Basic	SD memory card	"SD memory card images acquisition”
6	Basic	Log	“Log”
7	Image or Image/Audio	Image	“Internet mode (over HTTP)” settings
8	Maintenance	Upgrade	“Viewer software installation counter”

41. Add AI-VMD alarm area information on TCP alarm notification

(Operating Instructions - Configure the alarm settings [Alarm] - Configuration of the settings relating to alarm notification [Notification] - Configure the settings relating to TCP alarm protocol)

Add AI-VMD alarm area information on TCP alarm notification.



[AI-VMD alarm area information]

Determine whether or not to send notifications for AI-VMD alarm detection area numbers with the TCP alarm protocol by selecting On/Off.

• **Default:** On

Note

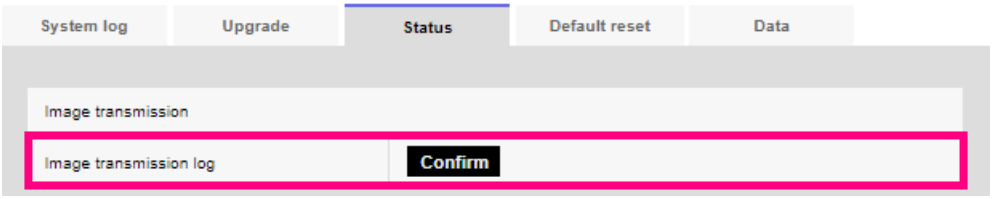
• This setting is displayed if you have installed the extension software AI-VMD.

• This setting is displayed if it is set to AI-VMD in the alarm settings.

42. Add Image transmission log on Status page

(Operating Instructions - Maintenance of the camera [Maintenance] - Check the status [Status])

Add Image transmission log on Status page.



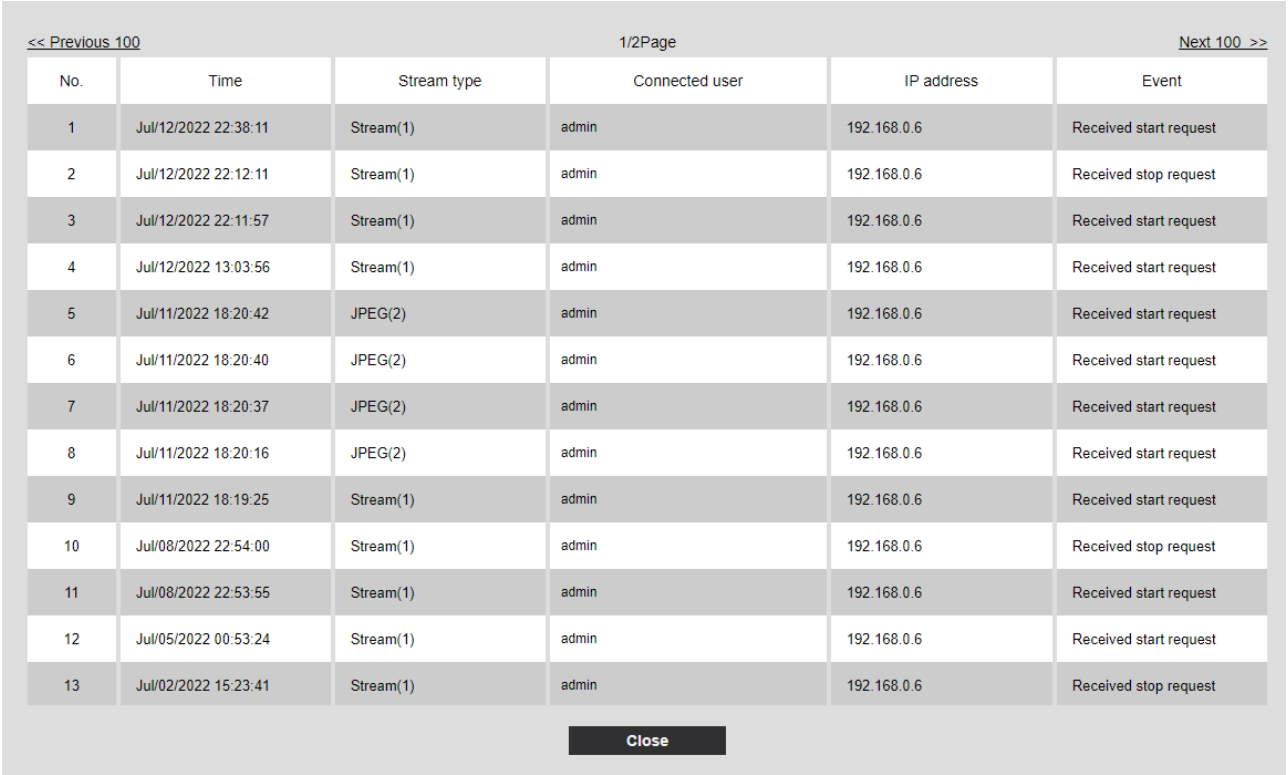
Click the “Confirm” button, to display the image transmission log in a separate window.

Up to 4,000 image transmission logs can be saved on the SD memory card when the SD memory card is inserted after selecting “Use” for “SD memory card” on the [SD memory card] tab (Configure the settings relating to the SD memory card [SD memory card]”).

When “Not use” is selected for “SD memory card”, up to 100 image transmission logs can be saved on the built-in memory of the camera.

When the saved image transmission logs have reached the maximum number, the newer logs will overwrite the older image transmission logs. In this case, the oldest log is the first to be overwritten.

The image transmission logs will be displayed in group of 100 logs each, and the logs will be saved even when the power of the camera is turned off.



[<< Latest 100]

When clicking “<< Latest 100”, the latest 100 image transmission logs will be displayed.

[Next 100 >>]

When clicking “Next 100 >>”, the next 100 image transmission logs will be displayed.

[Number of pages display]

The currently opened page will be displayed in the “page/total page” format.

[<< Previous 100]

When clicking “<< Previous 100”, the previous 100 image transmission logs will be displayed.

[No.]

The serial number of the image transmission logs will be displayed.

[Time]

Time and date at the error occurrence will be displayed.

[Stream type]

The stream type (Stream(*), JPEG(*), SD memory card playback) of the image transmission logs will be displayed.

* displays the number.

[Connected user]

The user of the image transmission will be displayed.

Note

・If “Off” is selected for [User auth.], “-” will be displayed.

[IP address]

The IP address of the image transmission will be displayed.

[Event]

Start requests, stop requests, and start errors (heavy access) of the image transmission will be displayed.

Note

・A stop request may not be logged in the following cases.

– When settings related to the stream are changed, such as the image mode, stream, or resolution
– When moving to the setting screen from the Live image
– When the Live image is closed
– When the network is disconnected