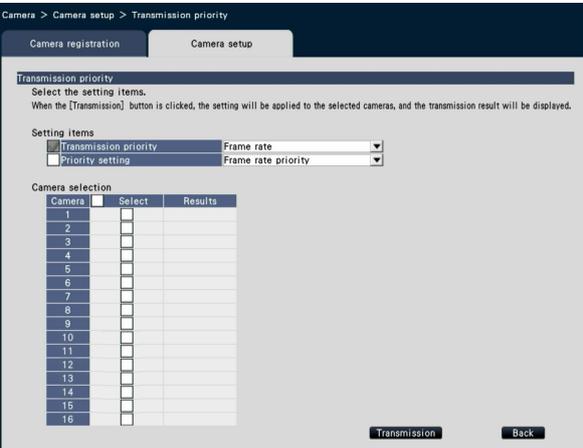


New functions (Software V1.70)

Due to software upgrade, the following new functions have become available.

Details on the new functions	Reference pages
<p>Control of the washer and wiper with WV-SUD638 (scheduled to be released in September 2016*¹) is available. *1: As of July 2016</p> <p>[Main monitor]</p>  <p>[Web browser]</p>  <p>High : The wiper wipes the glass once every 4 seconds. Low : The wiper wipes the glass once every 8 seconds. 1 shot : The wiper wipes the glass 5 times. Washer : Applies a preset action of the washer and wiper. Refer to the operating instructions of WV-SUD638 for further information.</p> <p>When the [Start] button is clicked, the selected action will start. When the [Stop] button is clicked, the action will stop.</p> <p>Note:</p> <ul style="list-style-type: none">The following operations are not available during the washer is in action.<ul style="list-style-type: none">The start and stop operations of the wiperPan/ tilt/ zoom/ focus controlThe start operation of "Auto mode"The move operation ([Go]) of "Preset"The washer action needs to be set by the camera. Refer to the operating instructions of WV-SUD638 for further information.	<p>Operating Instructions page 112, page 155</p>

Details on the new functions	Reference pages
<p>Following error actions are added to “Error logs” and “Notification by e-mail” by Damage notification from WV-SUD638.</p> <p>Hardware error notification</p> <ul style="list-style-type: none"> Display of the status display panel / Error log <ul style="list-style-type: none"> Hardware error : Cam. xx Notification by e-mail <ul style="list-style-type: none"> CAM xx HARDWARE ERROR Output from connector <ul style="list-style-type: none"> Camera error output <p>Wiper rubber exchange timing notification</p> <ul style="list-style-type: none"> Display of the status display panel / Error log <ul style="list-style-type: none"> Wiper rubber : Cam. xx Notification by e-mail <ul style="list-style-type: none"> CAM xx REPLACE WIPER RUBBER Output from connector <ul style="list-style-type: none"> Camera error output <ul style="list-style-type: none"> • “xx” indicates the camera number. 	<p>Operating Instructions page 91, page 179</p>
<p>The following values, which are set automatically to Camera 1 or 2 when the face matching function and the statistics processing function are activated, are changed.</p> <ul style="list-style-type: none"> • Shutter speed (Light control mode) : 1/250 fix → 1/100 fix • AGC : On(High) → On(Low) 	<p>Installation Guide page 12</p>
<p>Priority setting is added to the camera image transmission priority.</p>  <p>[Priority setting]</p> <p>When the [Transmission priority] is set to “Frame rate”, select “Frame rate priority” or “Image quality priority” to give priority.</p> <p>Frame rate priority</p> <ul style="list-style-type: none"> Give priority to the frame rate, while the image quality may degrade depending on objects. <p>Image quality priority</p> <ul style="list-style-type: none"> Reduce the image degradation, while the frame rate may drop depending on objects. 	<p>Operating Instructions page 27</p>

New functions (Software V1.40)

Due to software upgrade, the following new functions have become available.

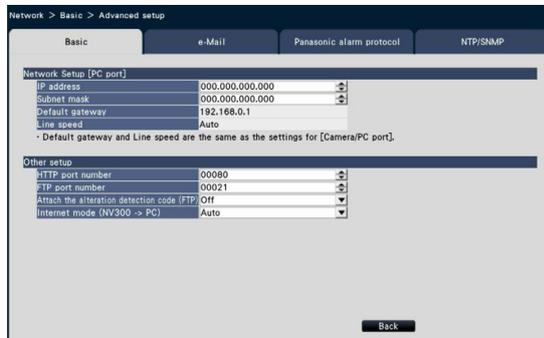
Details on the new functions	Reference pages
<p>Thai is added as a display language for the main monitor and for the web browser on the PC.</p> <p>[Language] Japanese/ English/ Français/ Español/ Deutsch/ Italiano/ Русский/ Português/ ไทย Default: English</p>	<p>Operating Instructions page 18</p>
<p>When the power to the external storage device connected to the "COPY" port is shut, an error message will be displayed. When the following message is displayed, remove the external storage device.</p> <div style="background-color: black; color: white; padding: 5px; margin: 10px 0;"> <p>The external storage device connected to the copy port isn't available. Remove the device.</p> </div> <p>Important:</p> <ul style="list-style-type: none"> Do not connect the devices such as a hard disk run by USB bus power to the "COPY" port. If connected, it will activate the protection circuit and stops the power supply. 	<p>Operating Instructions page 135</p>
<p>An image paused during playback can be saved to the external storage device connected to the "COPY" port.</p> <p>Note:</p> <ul style="list-style-type: none"> When both an SD card and an external storage device are connected, a prompt message to confirm the saving destination will be displayed. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">Confirmation</p> <p style="text-align: center;">Select a destination medium to store the current paused image.</p> <p style="text-align: center;"> <input checked="" type="radio"/> SD <input type="radio"/> COPY port </p> <p style="text-align: center;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </p> </div>	<p>Operating Instructions page 125</p>

Details on the new functions

Reference pages

A function to transmit camera live images (H.264) via the Internet is added.

It is possible to transmit H.264 images without changing the broadband router settings configured for JPEG image transmission.



[Line speed]

On: H.264 images and audio will be transmitted using the HTTP port.

Off: H.264 images and audio will be transmitted using the UDP port.

Auto: If the network address of the sending destination is not the same with the recorder, H.264 images and audio will be transmitted using the HTTP port.

Default: Auto

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page 54, page 153

A function is added to memorize the compensated display position of the fisheye images of the fisheye camera even after the power to the recorder is turned off.

Note:

- When the display is switched to 1-screen after the power to the recorder is turned on, the image will be displayed with the compensated position memorized right before the power is turned off.

To customers using the
extensive options for Fisheye
network cameras
page 1

New functions (Software V1.30)

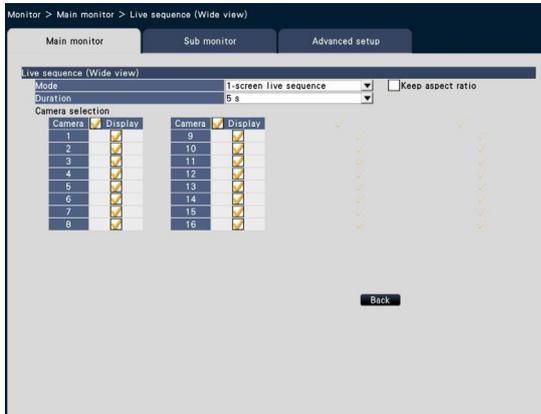
Due to software upgrade, the following new functions have become available.

Details on the new functions	Reference pages
<p>Face matching and statistical processing function can be used with two cameras. Refer to "Extension function of face matching and statistical processing" (page 9) for further information.</p>	<p>Operating Instructions of Additional Business Intelligence Kit</p>
<p>The following settings are added to the image capture size of recorded images.</p> <p>Aspect ratio: 4:3 5M (2560x1920)</p> <p>Aspect ratio: 16:9 4KUHD (3840x2160)</p> <p>Important:</p> <ul style="list-style-type: none"> When any of the above setting is selected, display of live images on the monitor or on the web browser may delay for approx. 2 seconds. Operation speed may drop during re-encoding transmission of images recorded with the image capture size of 5M or 4KUHD. However, this will happen due to the performance of this product, not due to a malfunction. When selecting 5M or 4KUHD for the image capture size, it is recommended to use a PC with one of the following CPUs to obtain the operational comfort. CPU: Intel® Core™ i7 4770 or faster Depending on the load state of the PC, live images from a camera may be displayed with some broken parts. However, this will not affect the recording. <p>Note:</p> <ul style="list-style-type: none"> To. When using re-encoding transmission of images recorded with the image capture size of 5M or 4KUHD, check the " Enables re-encoding transmission of data higher resolution than QXGA(2048x1536)" checkbox in "Other setup" on the [Advanced setup] tab of the "Monitor" page. 	<p>Operating Instructions page 42, page 51</p>

Live sequence in the full screen on the main monitor is enabled.

[Setup]

[Live sequence (Wide view)]



■ Live sequence (Wide view)

Sets up a sequential display (image switching) of camera images.

[Mode]

Specifies the display method of the camera images.

1-screen live sequence

: Displays 1-screen camera images by switching.

4-screen live sequence

: Displays 4-screen camera images by switching.

9-screen live sequence

: Displays 9-screen camera images by switching.

Default: 1-screen live sequence

[Keep aspect ratio]

If this checkbox is checked, the ratio of the camera image will be maintained regardless of the aspect ratio of the display.

[Duration]

Specifies the switching interval of the camera image.

3s/ 5s/ 10s

Default: 5s

[Camera selection]

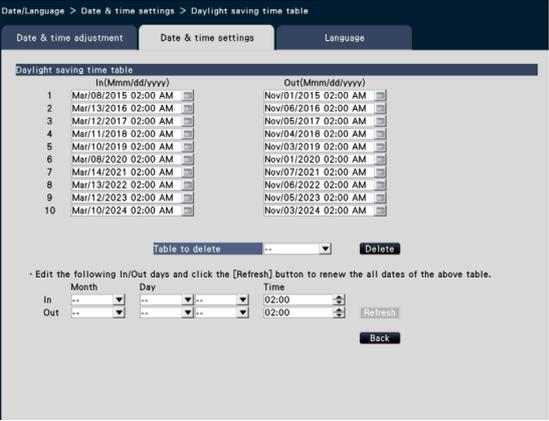
Selects the camera to enable the sequential display. Check the checkbox of the camera to display. The selected camera images will be displayed in numerical order.

Note:

- During 4-screen and 9-screen live sequence, the selected camera will be displayed aligned from the top.

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Details on the new functions	Reference pages
<p>[Operation]</p>  <p>The sequence can be started by clicking the sequence button  provided on the operation panel displayed in the full screen. To stop the sequence, click one of the multi-screen buttons (other than the sequence button).</p> <p>Note:</p> <ul style="list-style-type: none"> • During sequence, the camera image cannot be switched by drag-and-drop of the camera number panel onto the live image. • Audio will not be output during sequence. (Audio will be output if the audio to be output is fixed with "Audio output camera" in the [Advanced setup] tab of the "Monitor" page.) • The sequence will be started after login, if the "Sequence(Wide view)" is selected for "Default screen" in the [User registration] tab and the [Administrator setup] tab of the "User management" page. • In 9-screen live sequence (4- and 9-screen live sequences in 4K output), a black screen will be displayed when camera image is switched. • For the cameras whose compression method is JPEG and the image capture size is higher than QXGA (2048x1536), camera images cannot be displayed in 4- and 9-screen (only 9-screen in 4K output) live sequences. 	<p>Operating Instructions page 104</p>
<p>During 1-screen display in the full screen, digital zoom function using the mouse wheel is available.</p> <ul style="list-style-type: none"> • The display will be zoomed having the cursor position as the center. • The zoom rate is x0.25 for x1 to x2; x0.5 for x2 to x4; and x1 for x4 to x8. • If the image is clicked during zoom display, the click point will shift to the center of the display. 	<p>Operating Instructions page 111</p>
<p>The display method of sub-monitor is changed.</p> <ul style="list-style-type: none"> • When displaying images with the aspect ratio of 1:1, the ratio will be maintained regardless of the aspect ratio of the display. • If "Keep aspect ratio" is selected for "Mode" in the [Sub monitor] tab of the "Monitor" page, the ratio of the camera image will be maintained regardless of the aspect ratio of the display. 	<p>Operating Instructions page 50</p>

Details on the new functions	Reference pages
<p>The screen pattern of the main monitor in the 4K output is extended.</p> <ul style="list-style-type: none"> All the screen patterns selected in "Select multiscreen buttons displaying on wide view operation panel" in the [Advanced setup] tab of the "Monitor" page can be displayed. 	<p>Operating Instructions page 51</p>
<p>Continuous frame advance is possible if the frame advance (NEXT IMAGE) button of the main monitor and viewer software is kept pressed.</p>	<p>Operating Instructions page 125, page 174</p>
<p>Time and date setting for the summer time can be updated collectively.</p>  <p>Fill the In/Out section at the bottom of the window, and click the [Refresh] button. The date and time in the In/Out section can be updated collectively.</p>	<p>Operating Instructions page 17</p>
<p>During 1-screen display of live images of the camera on the web browser, the image will be displayed by dropping the frame temporarily, if drawing process is delayed depending on the load state or performance of the PC.</p>	<p>Operating Instructions page 153</p>
<p>During 1-screen playback on the web browser, the image will be played by slowing the playback speed temporarily, if drawing process is delayed depending on the load state or performance of the PC. At this time, audio will be muted.</p>	<p>Operating Instructions page 160</p>

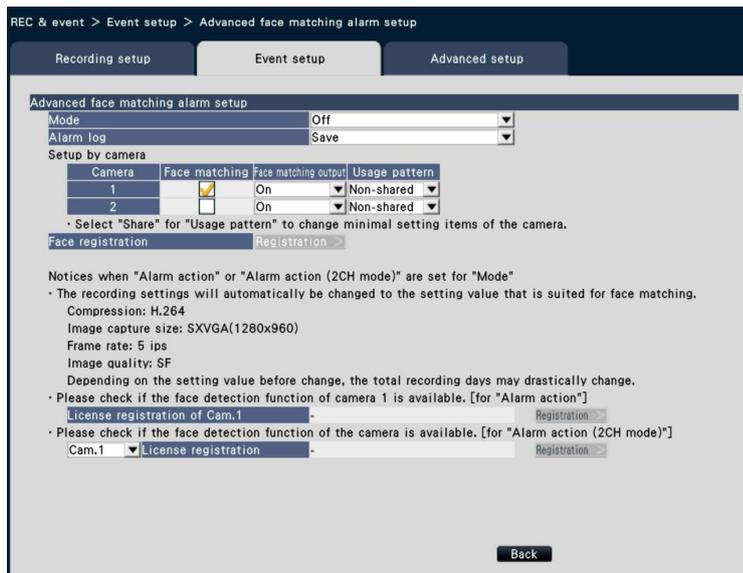
Extension function of face matching and statistical processing

Some conventional functions are extended since the function of face matching and statistical processing become available with two cameras.

Additional function 1

A mode to allow face matching and statistical processing using two cameras is added.

■ Advanced setting of face matching alarm



[Mode]

Selects the behavior when face matching alarm is input.

Off: Disables the face matching alarm function.

Alarm action: Executes the face matching alarm action.

Alarm action (2CH mode): Executes the face matching alarm action using two cameras.

Default: Off

Note:

- When "Alarm action" or "Alarm action (2CH mode)" is selected, the settings of image quality or compression method of the camera will be automatically changed to the followings. The recording duration may be largely changed depending on the originally set value.
 - Compression: H.264
 - Image capture size: SXVGA (1280x960)
 - Frame rate: 5 ips
 - Image quality: SF
- To select "Alarm action (2CH mode)", "Off" or "On (2CH mode)" should be selected for "Accumulate statistics data" in the [Business intelligence] tab of the "Extra function" page (page 8).

[Setup by camera]

When "Alarm action" is selected for "Mode", face matching can be performed only by Cam.1.

When "Alarm action (2CH mode)" is selected for "Mode", face matching can be performed only by Cam.1 and Cam.2. To use the face matching function, cameras that support the face detection function need to be set.

[Face matching]

Selects a camera to be used for face matching.

[Usage pattern]

Specifies whether to use the camera only with this recorder or with other devices including the use of PC software (WV-ASF900).

Non-shared: Uses the camera exclusively.

Share: Uses the camera with other devices.

Default: Non-shared

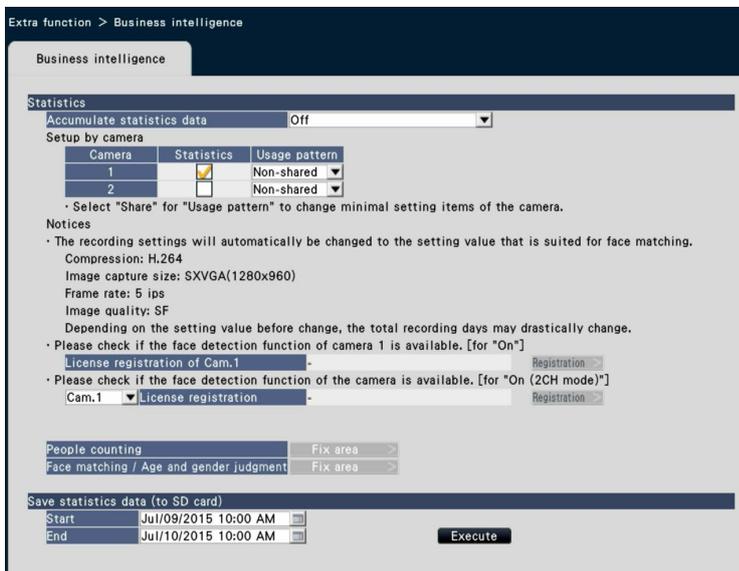
Note:

- Some camera cannot be used with other devices.
- When selecting "Share", directly set up the camera as required.
- The settings are subject to [Usage pattern] of statistical processing function.

[License registration of Cam.1 (Cam.2)]

The availability of face detection function of Cam.1 (Cam.2) can be checked. If the license is not registered, the licence of each function can be registered by clicking the [Registration.>] button after selecting the camera. Refer to the operating instructions of the camera in use for further information about the face detection function of the camera.

■ Business intelligence



[Accumulate statistics data]

Specifies whether to process data (accumulate data) of face matching results. The statistical processing will not be performed in the period where "Off" is set. Therefore, data will be neither saved nor displayed in the graph.

Off: Disables statistical processing.

On: Enables statistical processing.

On (2CH mode): Enables statistical processing with two cameras.

Default: Off

Note:

- When "On" or "On (2CH mode)" is selected, the settings of image quality or compression method of the camera will be automatically changed to the followings: The recording duration may be largely changed depending on the originally set value.
 - Compression: H.264
 - Image capture size: SXVGA (1280x960)
 - Frame rate: 5 ips
 - Image quality: SF
- To select "On (2CH mode)", "Off" or "Alarm action (2CH mode)" should be selected for "Mode" in "Advanced face matching alarm setup" on the [Event setup] tab accessed from the "REC & event" page (page 6).

[Setup by camera]

When "On" is selected, statistical processing can be performed only by Cam.1. When "On (2CH mode)" is selected, statistical processing can be performed only by Cam.1 and Cam.2.

[Accumulate statistics data]

Selects a camera to be used for statistical processing.

[Usage pattern]

(☞ Advanced setting of face matching alarm)

[License registration of Cam.1 (Cam.2)]

(☞ Advanced setting of face matching alarm)

[Save statistics data (to SD card)]

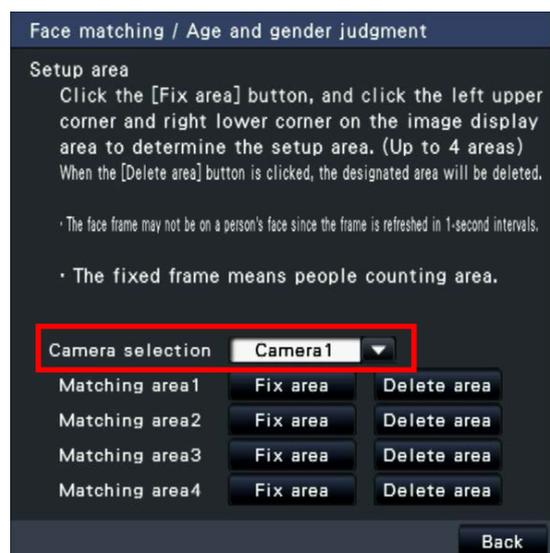
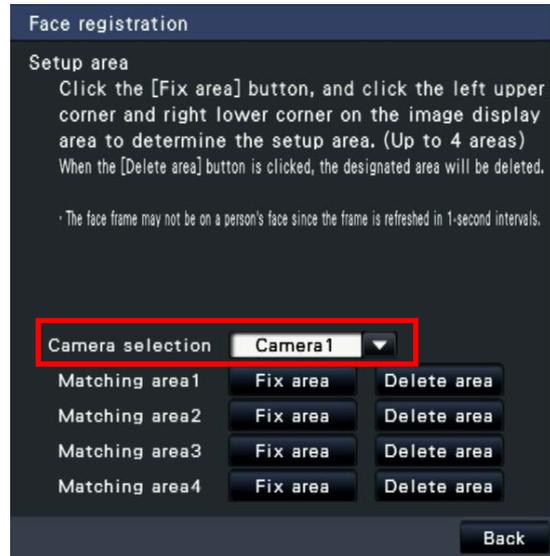
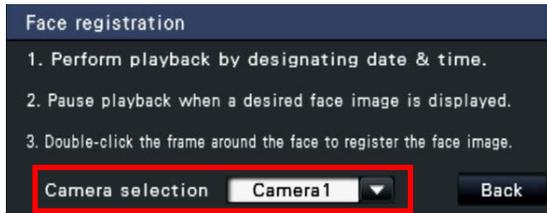
Saves the statistics data to the SD card in the range from the specified start point to the end point.

Note:

- The statistics data of Cam.1 and Cam.2 will be saved regardless of registration of cameras.
- When saving statistics data from the web browser to the PC, select Cam.1 or Cam.2.

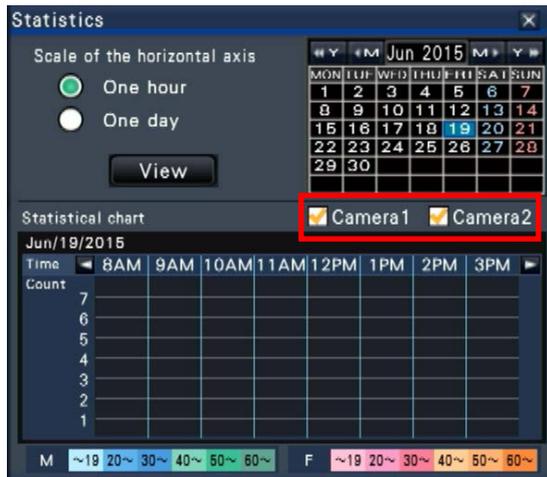
Additional function 2

The camera selection menu is added to the face matching new registration; face matching area setting; and area settings for people count, face matching, age and gender judgment. Camera images to be displayed will be switched when the selection of camera is changed.



Additional function 3

Whether to display the statistical graph can be set per camera. To display the statistical graph, check the checkbox of each camera.



New functions (Software V1.21)

Due to software upgrade, the following new functions have become available.

Details on the new functions	Reference pages
The "Optional extension for Fisheye network camera" is now available without registering the license.	To customers using the extensive options for Fisheye network cameras page 1
The following functional limitation on image capture setting added in V1.20 is removed: <ul style="list-style-type: none">In the case of displaying the same images on the main monitor and sub monitor, when multi-screen is set for one monitor and 1-screen is set for the other, the images from the camera will not be displayed on the multi-screen monitor.	-

New functions (Software V1.20)

Due to software upgrade, the following new functions have become available.

Details on the new functions	Reference pages
<p>The schedule settings can be set up to 4 patterns.</p>	<p>Operating Instructions page 40</p>
<p>The following settings are added to the image capture size of recorded images.</p> <p>Aspect ratio 16:9 WQHD (2560x1440)</p> <p>Aspect ratio 1:1 1.6M (1280x1280) 4M (2048x2048) 8M (2816x2816) 9M (2992x2992)</p> <p>Important:</p> <ul style="list-style-type: none"> • When any of WQHD, 4M, 8M and 9M is selected for the image capture size, display of live images on the monitor or the web browser may delay for approx.2 seconds. • In case that the newly added setting above is applied and images from the same camera are displayed on both the main monitor and the sub monitor, if trying to display images on a multi-screen on one of them and on a single screen on the other, images from the camera will not be displayed on the monitor used for the multi-screen. • Operation speed may be dropped during re-encoding transmission of images recorded with WQHD, 4M, 8M or 9M of the image capture size setting or during displaying 4M/8M/9M images with correction. However, this will happen due to performance of this product and not due to a malfunction. • When any of WQHD, 4M, 8M and 9M is to be selected for the image capture size for your operation, it is recommended to use a PC with one of the following CPUs to obtain the operational comfort. CPU: Intel® Core™ i7 4770 or faster 	<p>Operating Instructions page 42, page 51</p>

Important:

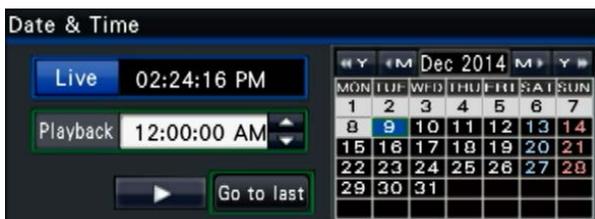
- Depending on the load state of the PC, live images from a camera may be displayed with some broken parts. However, this will not affect the recording.
- When over FHD (1920x1080) is to be selected for the image capture size, the images on a 4-screen of the browser will be displayed with the selected refresh interval.

Note:

- To perform the re-encoding transmission with the setting of WQHD, 4M, 8M or 9M, put the check mark on "Enables re-encoding transmission of data higher resolution than QXGA(2048x1536)" under "Other setup" under "Advanced setup" of "Monitor". In this case, it is impossible to display images on a 24-/32-screen on the full-screen of the main monitor. Note also that even when any of "4-screen live sequence", "9-screen live sequence" and "16screen" is selected for "Mode" of the sub monitor, "1-screen live sequence" will forcibly be applied.
- When displaying images with the aspect ratio of 1:1 on the main monitor or the browser, proportion of the displayed images will be kept regardless of the aspect ratio of the display screen.

Dates when images recorded on the HDD will be displayed in white on the calendar.

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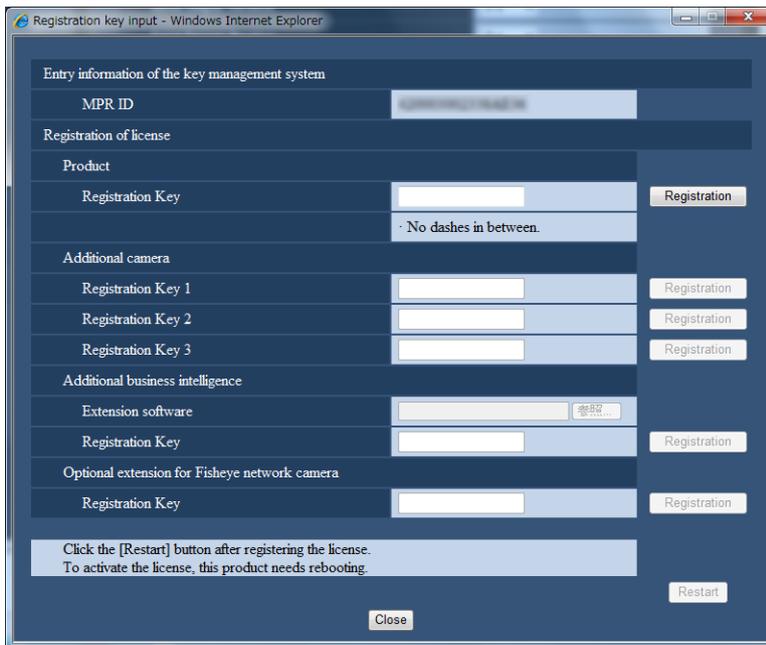
Registration of various licenses can be performed on a web browser.

STEP1

Click the [Maintenance] button and then click the [System management] tab.

STEP2

Click the [Setup >] button of [Registration of license].



STEP3

Enter the activation key to be registered, and click the [Registration] button.

To apply "Additional business intelligence", designate the extension software first and then click the [Registration] button.

STEP4

Click the [Restart] button.

→ This product will be restarted and the registration of the activation key will be completed.

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Operating Instructions of
Additional Business
Intelligence Kit:
page 7

Control of the AUX output terminal of the connected camera is available.

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[Main monitor]



Move to page "2/2" using the button on the upper right of the Camera control [Advanced]. Select the terminal number of AUX and then click the [Open]/[Close] button.

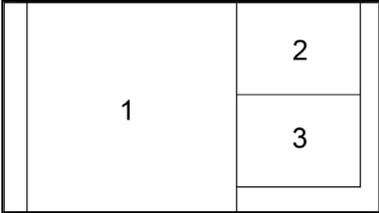
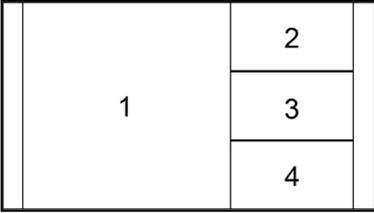
- The AUX terminal will be in the "open" state when the [Open] button is clicked.
- The AUX terminal will be in the "close" state when the [Close] button is clicked.

[Web browser]



Change the operational mode from "Auto mode" to "AUX". Select the terminal number of AUX and then click the [Open]/[Close] button.

- The AUX terminal will be in the "open" state when the [Open] button is clicked.
- The AUX terminal will be in the "close" state when the [Close] button is clicked.

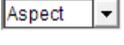
Details on the new functions	Reference pages
<p>The main monitor (HDMI) can output "4K (3840x2160) p/30 Hz" and "4K (3840x2160) p/25 Hz (hereinafter referred to as 4K).</p> <p>When a 4K monitor is connected to the "Main monitor" in "Other setup" of "Monitor" - "Advanced setup" tab, and the checkbox "Enables displaying images in the wide view via 4K HDMI when 4K monitor is connected with the main monitor" is marked, the wide view output will be automatically switched to 4K.</p> <p>Important:</p> <ul style="list-style-type: none"> • The sub monitor (HDMI) is not supported for 4K output. • During the 4K output on the main monitor, images will not be displayed on the sub monitor. • Up to 4-screen display is available for the 4K output. • The live images set to 60ips will be displayed with the selected refresh interval. • It may take around 5 seconds to switch between the operation window display and the full screen display when a 4K compatible monitor is connected. Depending on the monitor in use, noise may be displayed during the switch of display. • Depending on the monitor in use, the 4K output will not be correctly performed. Check if the model in use is compatible with 4K output with HDMI. <p>Note:</p> <ul style="list-style-type: none"> • When not using the 4K output with a 4K compatible monitor, remove the check mark from " Enables displaying images in the wide view via 4K HDMI when 4K monitor is connected with the main monitor " under "Other setup" under "Advanced setup" of "Monitor". 	<p>Installation Guide page 46</p> <p>Operating Instructions page 51</p>
<p>2 new layouts are added to the full screen of the main monitor.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>3-screen (1:1, 4:3)</p>  </div> <div style="text-align: center;"> <p>4-screen (1:1, 16:9)</p>  </div> </div>	<p>Operating Instructions pages 51, page 106, page 107</p>

New functions are added to the viewer software. The design of the buttons is also refined.

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-  : Enlarges images.
-  : Returns to the original size.
-  : Displays images on a full screen.

 : Changes the display type.

Aspect Images will be fit in the screen while maintaining the aspect ratio.

Scaling Images will be stretched and shrunken to fit in the screen.

DotByDot images will be displayed in conversion of "1 pixel =1 dot". When the inside of the display area is clicked, images will be moved to position the clicked point as the center point.

 : Adjusts the audio volume. The audio volume can be adjusted in 3 steps by clicking this button.

 : Switches between audio playback/mute.

New functions (Software V1.10)

Due to software upgrade, the following new functions have become available.

Details on the new functions	Reference pages
<p>Panasonic network microphone can now be used with Panasonic fisheye network camera.</p> <p>Read "To customers using the network microphone" for further information.</p>	-