



Operating Instructions

Additional Business Intelligence Kit

Model No. **WJ-NXF02, WJ-NXF02W**



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

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Preface

Additional Business Intelligence Kit WJ-NXF02, WJ-NXF02W (hereinafter, this product) is a license kit intended to improve the usefulness of Network Disk Recorder (hereinafter, recorder) WJ-NX200K and WJ-NX200K/G, WJ-NX300K and WJ-NX300K/G. By registering the license of this product, the face matching function will become available and it checks if facial features of people in live images are matched with facial features of the registered people, and issues an alarm if a matched face is found. The statistical processing for the results of the face matching will also become available and it displays the result on the main monitor connected with the recorder.

Features

Face matching function

By matching registered face images with a face displayed on live images in real time and by notifying the matching result, it will be possible to check guests or discover suspicious people. That can be an aid to crime prevention.

Statistical processing function

The number of people whose faces are detected can be classified according to each gender and age for a day or a specified time period to create and display a statistical graph. The age distribution is classified by color. In addition, the statistical result can be saved as a CSV file* in a USB medium or on a PC connected via a network.

* CSV file: A file that can be edited using a spreadsheet software such as Microsoft® Office Excel®.

About the user manuals

This document describes how to register the license for this product into a recorder, what to configure before starting the operation and how to operate the product. The product is intended to be used after its license is registered into the recorder. Together with the document, be sure to read the operating instructions provided with the recorder in use.

Depending on the descriptions, the model WJ-NX200 or WJ-NX300 may be omitted as the recorder and the screen shots are of WJ-NX200. The screens used in these operating instructions show the case that the number of the connected cameras is 16.

Adobe® Reader® is required to read the PDF files on the provided CD-ROM. When Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.

System requirements for a PC

When operating this product on a PC, refer to the operating instructions of the recorder in use for further information about system requirements for a PC.

Trademarks and registered trademarks

- Adobe, Acrobat Reader and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- Microsoft and Excel are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.
- All other trademarks identified herein are the property of their respective owners.

Abbreviations

In this manual, network disk recorders are described as recorder, and network cameras are described as cameras.

Face matching and statistical processing

- To use this product, Camera 1 or Camera 2 is required to support the face detection function.
Refer to the "readme.txt" on the CD-ROM provided with recorder about the supported cameras. The maximum number of faces that can be detected simultaneously depends on the detection performance of the camera.
- If HTTPS is set for the setting "Security between this product and PC", this product can not be used. Set it to HTTP & HTTPS.
- The statistical processing function and face matching function are available only with Camera 1 and Camera 2.
- When using this product, the settings for camera are automatically changed for face matching.

Compression: H.265/H.264

Image capture size: SXVGA (1280×960)

Frame rate: 5 ips

Image quality: SF

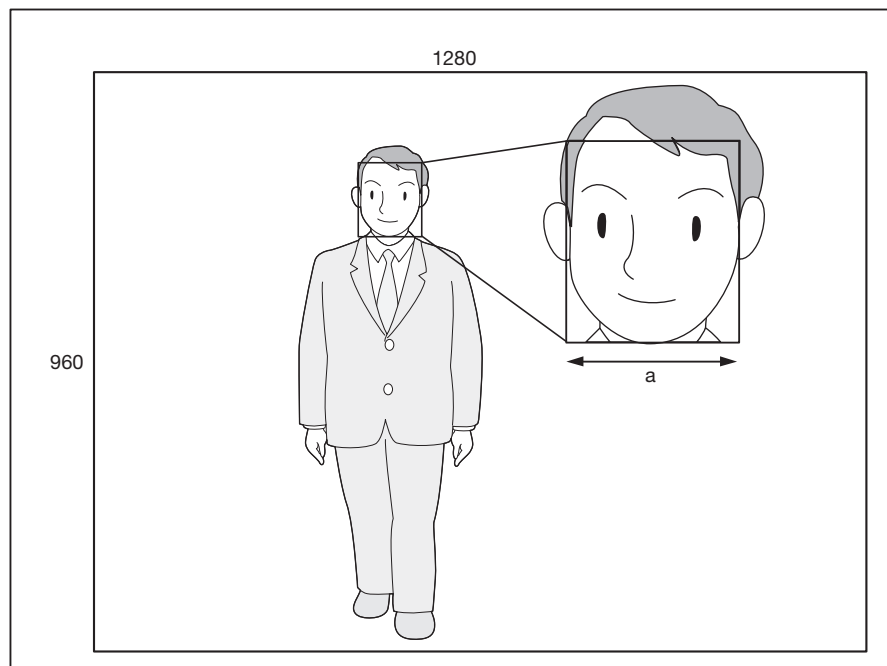
* Retaining the original values may considerably change the recording time.

- The maximum number of people who can be registered for the face matching function is 100. Up to 100 registrations can be set as the face matching target.
- While the setup screen is being displayed, the face matching function and the statistical processing function are not available.
- Functions that can be used from a web browser on a PC are limited to displaying the statistical processing status and downloading a CSV file of the statistical processing result, etc.
- Up to 4000 data of the statistical processing result can be saved per hour. When too many people appear in images at the same time, some data cannot be accumulated.
- Maximum available period to save the statistical processing result on a hard disk drive is 1 year. After 1 year, data will be deleted from the oldest one.
- The performance of the face matching and statistical processing function depends on the detection performance of the camera and the processing performance of the recorder. When too many people appear in images at the same time, some faces may not be processed.
- Face matching alarm does not apply event recording.

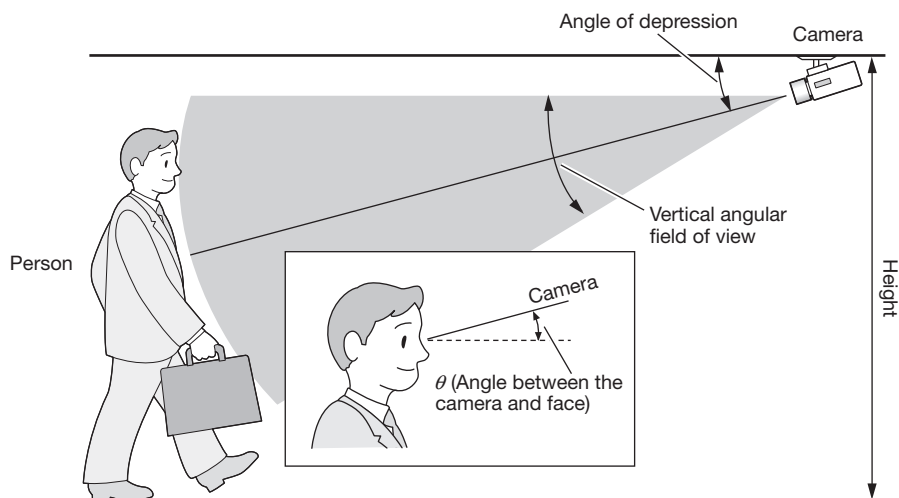
Notation about the installation and setup of the camera

When performing the installation and setup of the camera, note the following so that the performance of the face matching function is maintained.

- Install the camera so that the width ("a" in the illustration) of a face image becomes 125 pixels or more.
Example) When the image capture size is "1280×960", the width of the face image should be 1/10 or more of the whole screen.



- Adjust the height, angle of depression and vertical angular field of view of the camera so that the angle between the camera and face (" θ " in the illustration) becomes 15 ° or less.



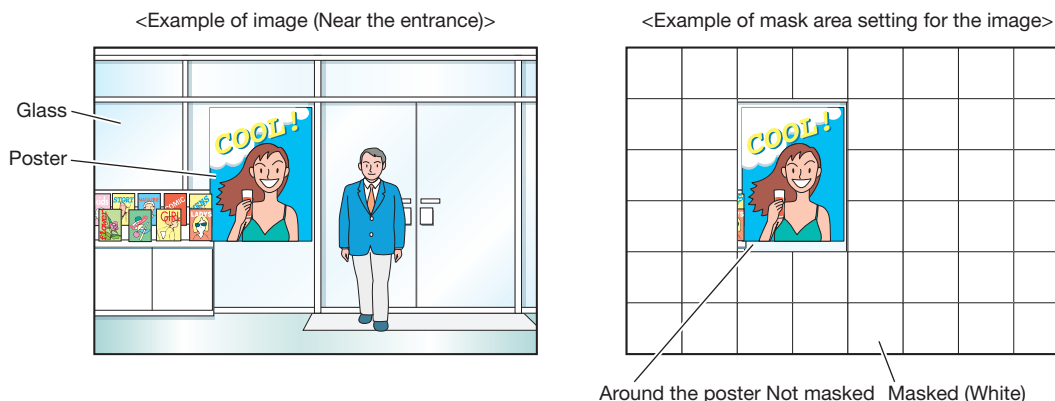
Example of camera adjustment (When shooting a person whose height is 170 cm {5.58 feet})

Height	Angle of depression	Vertical angular field of view (Zoom ratio)	Distance between the camera and a person
2.3 m {7.55 feet}	10 °	12 ° (6x)	3.3 m - 8.5 m {10.83 feet - 27.89 feet}
2.3 m {7.55 feet}	15 °	18 ° (4x)	3.0 m - 5.5 m {9.84 feet - 18.04 feet}

- When the face matching function is activated by the setting, the settings for camera will automatically be changed as follows. Refer to the operating instructions of the connected camera for further information.

Video encoding format	H.265/H.264
Image capture size	1280×960
Frame rate	5 ips
Max bit rate (per client)	2048 kbps / 3072 kbps / 4096 kbps (Automatically selected by the camera number and camera's video transmission format)
Refresh interval	1 s
Super Dynamic	Off
Adaptive black stretch	Off
Back light compensation (BLC)	Off
Shutter speed (Light control mode)	1/100 fix
AGC	On(Low)
Black & white mode	Off
DNR	Low
Face detection	On

- By masking an area with remarkable luminance change, it is possible to shoot images on which faces can be recognized more accurately.
When shooting images on a place where strong light sources may affect from outside, the following settings can reduce the light influence.



Cases not suited for face matching

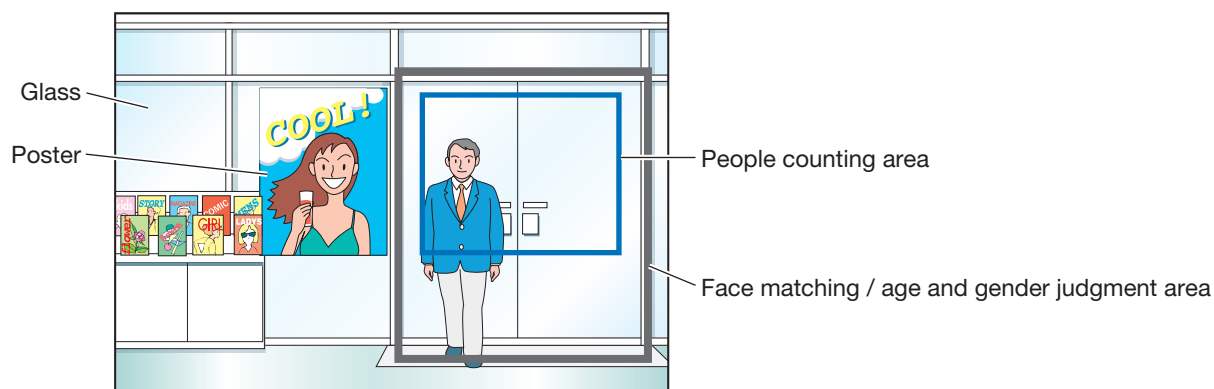
The matching accuracy varies depending on installation, settings and adjustment of the camera, ambient environment and object. Therefore, face matching may not be performed in the following cases.

- Illuminance levels are dispersed. (Example: Outdoors)
- Faces are interrupted by such objects as medical masks, sunglasses or helmets.
- Faces are not directed to the front side.
- Photographic subjects are moving quickly.
- Under the influence of strong external light (such as the headlights of a car, rising sunlight or setting sunlight)

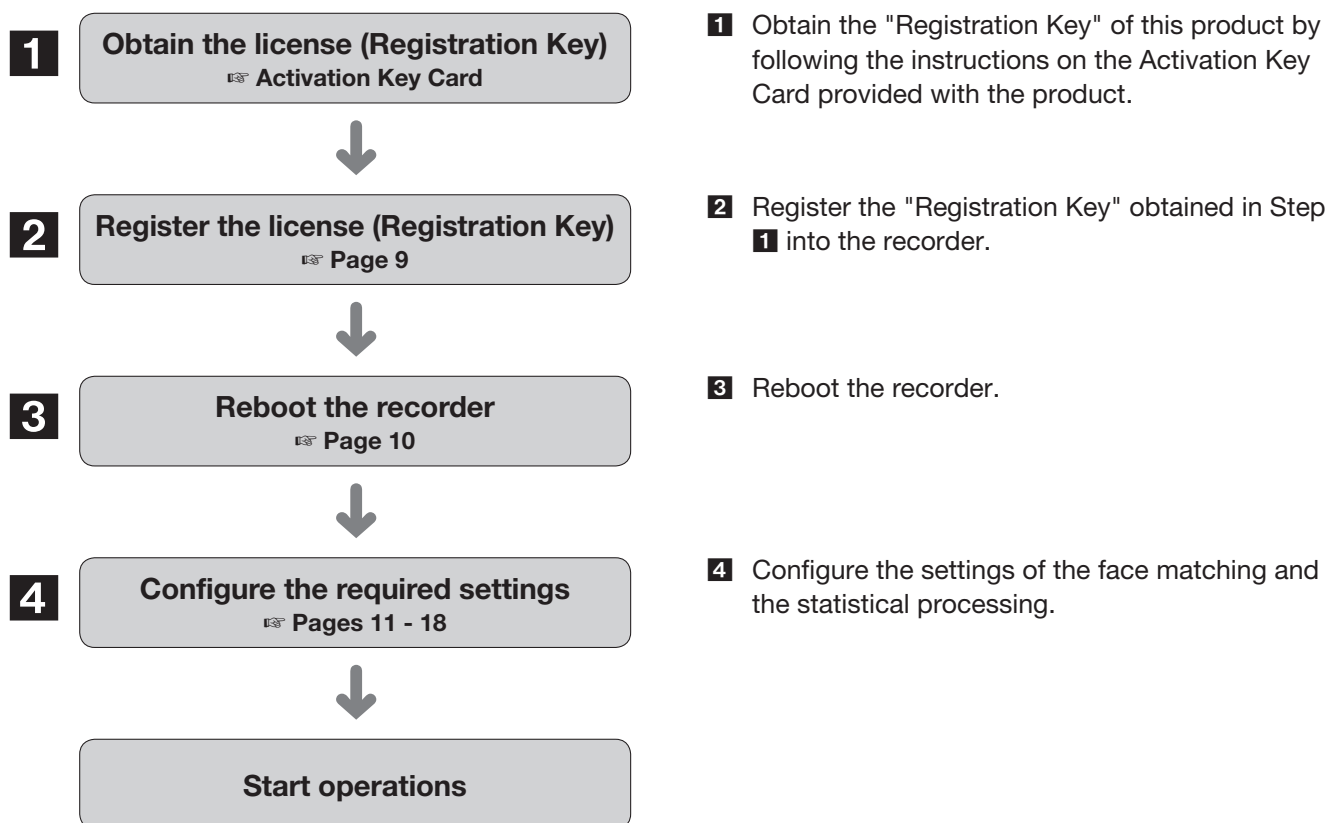
To improve the performance of face matching

- Register the target face images from the images recorded by the camera installed under the same conditions.
- Perform settings for the camera so that the camera can shoot face images at a balanced illuminance level both in the daytime and nighttime.
- Install the camera so that the camera can move within the assumed moving pathway of photogenic subjects.
- Configure the settings of the people counting area and the face matching / age and gender judgment area (☞ Page 15) to avoid counting the same person repeatedly and avoid targeting people's faces printed on a poster.
- Configure the setting so that the people counting area is included in the face matching / age and gender judgment area.

<Example of the area setting>



Operations flow



Register the license (Registration Key)

To use the face matching function and the statistical processing function, it is required to register the license (Registration Key) of this product in recorder in use.
Only the administrator and users of an allowed level (refer operating instructions of the recorder) can register the "Registration Key".

Important:

- Register the "Registration Key" of the recorder before registering the "Registration Key" of this product.
- After registering the "Registration Key", be sure to click the [Restart] button to reboot the recorder. Otherwise, the license will not become effective.
- As necessary, perform the settings of the extra functions since these settings are currently default.

How to register the license

Step 1

Obtain the "Registration Key" by following the instructions on the Activation Key Card provided with Additional Business Intelligence Kit (WJ-NXF02, WJ-NXF02W). Refer to the Activation Key Card for further information.

Step 2

Prepare the extension software. (refer "Activation Key Card")

Step 3

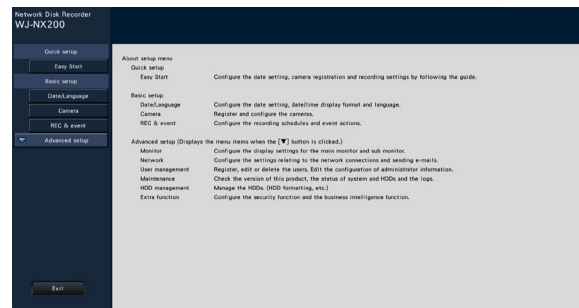
Start the recorder in use. (refer operating instructions of the recorder)

Step 4

Click the [Setup] button.

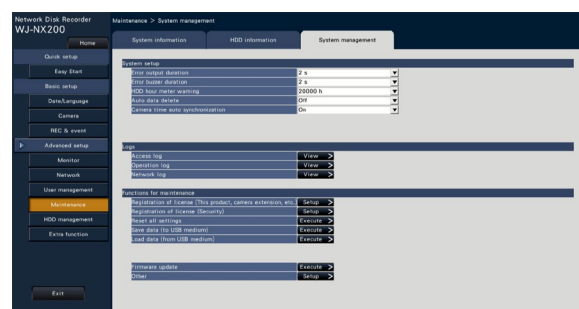


→ The setup menu will be displayed.



Step 5

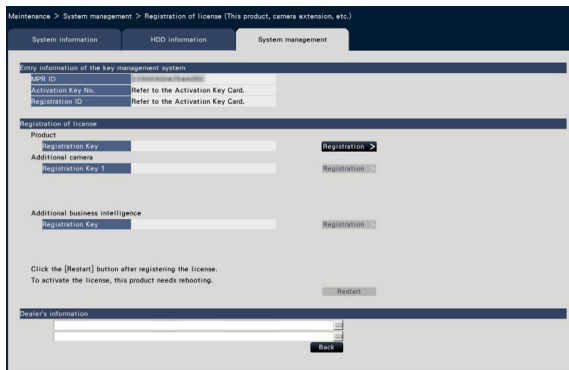
Click "Advanced setup" → [Maintenance] → the [System management] tab on the setup menu.
→ The "System management" page will be displayed.



Step 6

Click the [Setup >] button of [Registration of license (This product, camera extension, etc.)].

→ The registration window will be displayed.



Step 7

Click the [Registration >] button of "Additional business intelligence" - "Registration Key".

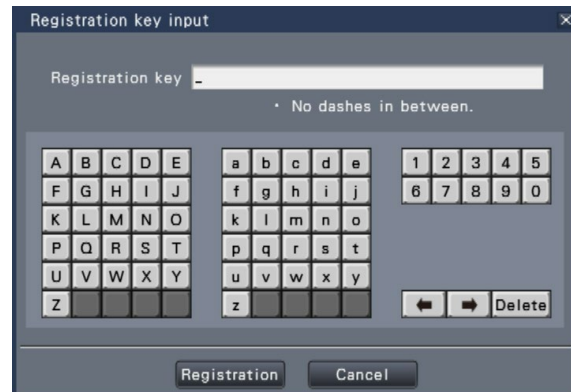
→ The "Registration key input" window will be displayed.

Note:

- "The file was not found."
 - Click the [Close] button and check if the extension software is saved in the designated directory on the USB medium.
- "Software in the USB medium is incorrect."
 - Click the [Close] button and check if the extension software is the correct one.

Step 8

Enter the "Registration Key" for this product using the on-screen keyboard, and click the [Registration] button.



→ The "Registration key input" window will return to the registration window.

Note:

- When an error message is displayed, enter the effective "Registration Key" again on the entry field.

Step 9

Click the [Restart] button on the registration window to register the license.

→ The recorder will reboot, the license will become effective.

Proceed to "Setup the business intelligence" (Page 11).

Setup the business intelligence

Set up face matching alarm [Face matching]

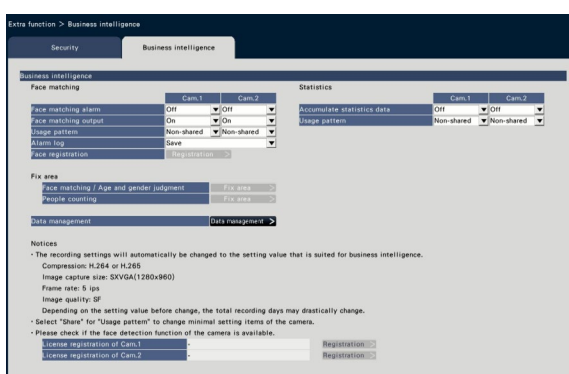
By registering the license of this product in recorder, configuration of the settings relating to the face matching alarm will become available. Configure the settings relating to the face matching alarm that will be triggered when a previously registered face image is detected among the camera's live images.

Face matching can be triggered only by Camera 1 and Camera 2.

To use the face matching function, a camera supporting the face detection function needs to be installed.

Note:

- It is possible to check if the face detection function is available on [License registration of Cam.1] or [License registration of Cam.2]. When the license is not registered, it is possible to register the license by clicking the [Registration >] button. For further information about face detection function of camera, refer to the operating instructions of the cameras in use.



■ Face matching

[Face matching alarm]

Select the actions to be taken when receiving a face matching alarm input signal.

Off: Does not activate a face matching alarm action.

On: Activates a face matching alarm action.

Default: Off

Important:

- Face matching alarm does not apply event recording.

Note:

- When "On" is selected, the image quality and compression method of camera will automatically be changed as follows. Retaining the original values may considerably change the recording time.
Compression: H.265/H.264
Image capture size: SXVGA (1280×960)
Frame rate: 5 ips
Image quality: SF

[Face matching output]

Select whether or not to output an alarm signal from the face matching alarm output terminal on the recorder's rear panel when a face matching alarm is detected.

On: Outputs alarm signals.

Off: Does not output alarm signals.

Default: On

[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.

[Alarm log]

(📖 operating instructions of the recorder)

[Face registration] button

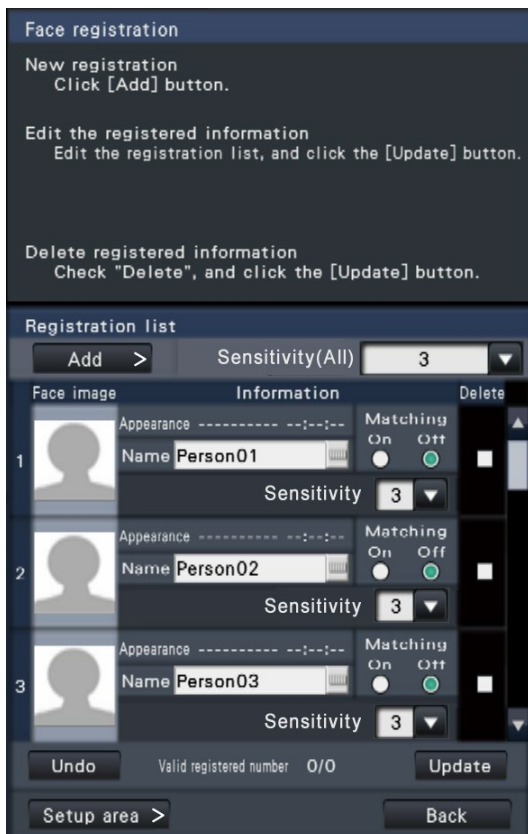
Register face images to be used for face matching. Set the "Face matching alarm" to "On" to register face image and click the button to display the face registration window. (📖 Page 12)

[Setup via recorder's main monitor]

Click the [Registration >] button to display the face registration window.

Register face images [Face registration]

Use this page to register new face images, to check already registered face images or to assign names to the face images.



Note:

- Face images can be registered only on images recorded when "On" is selected for "Face matching alarm" (☞ Page 11).

● [Add >] button

Register new face images. (☞ Page 13)

● [Sensitivity(All)]

Set the sensitivity level of the face matching to be applied to all face images.

1(Low)/ 2/ 3/ 4/ 5(High)

Default: 3

● [Face image]

This is the area where registered face image is displayed.

● [Appearance]

Displays the date & time when a face image appeared.

● [Name]

Enter the name to be assigned to the face image (in up to 12 characters) using the on-screen keyboard (☞ operating instructions of the recorder).

● [Matching]

Select whether or not to activate the face matching function.

On: Activates the face matching function.

Off: Does not activate the face matching function.

Default: Off

● [Sensitivity]

Set the sensitivity level of the face matching for each face image.

1(Low)/ 2/ 3/ 4/ 5(High)

Default: 3

● [Delete]

To delete images, mark their checkboxes.

● [Update] button

Use this button to register or delete the changes made to the image, the assigned name and the setting for face matching actions.

● [Undo] button

Use this button to undo the changes made to the image, the assigned name and the setting for face matching actions, and to return it to the state it was in when last clicking the [Update] button. Once the [Update] button has been clicked, the state before updating cannot be restored. In addition, a face image once deleted cannot be restored.

● [Setup area >] button

The window for setting up the matching area will be displayed. (☞ Page 14)

● [Back] button

Return to the "Business intelligence" set up page.

Register face images [Add]

A maximum of 100 face images can be registered. If 100 face images have already been registered, add new images after having deleted some of the registered images.

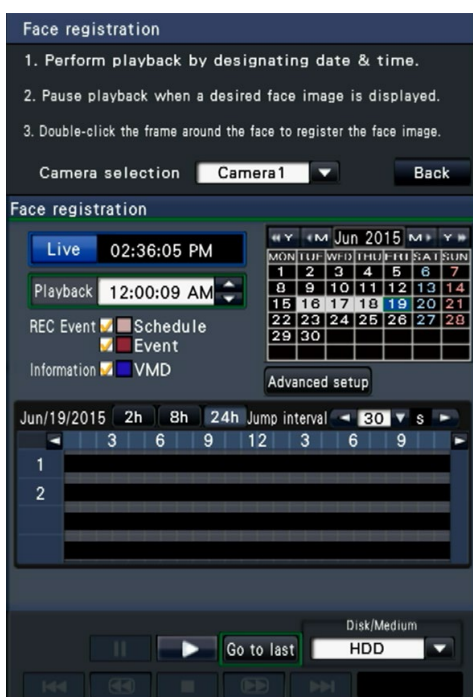
Note:

- The face registration is not available for data recorded by the SD memory backup function.

Step 1

Click the [Add >] button in the face image registration window. If the sensitivity or changed name has not already been updated, click the [Update] button before adding it.

→ The "Face registration" window will be displayed.



Step 2

Assign the camera number to be played at the camera selection and play back the recorded data containing the face image on the playback operation panel to register for face matching. Refer to the operating instructions of the recorder for further information about the playback operation.

→ The image is played back in the image display area.

Step 3

As soon as the face image to register is displayed, pause playback.

→ The facial features detected in the image are displayed inside a frame with the frame size (horizontal × vertical).



Note:

- Register the face image so that the face width (frame width) is 125 pixels or more.

Step 4

If the displayed face image is acceptable for registration, double-click the face frame.

→ The screen returns to the face image registration window, and the selected face image will be displayed in the face image display area.

Important:

- The facial feature may not be in the frame due to the motion speed of the object. Register the image in which the face (eyes and nose) is in the frame.

Note:

- When returning to the face image registration window without applying the face image, click the [Back] button.

Step 5

If necessary, configure the setting for face matching actions, open the on-screen keyboard (OSK operating instructions of the recorder) to assign a name, and click the [Update] button.

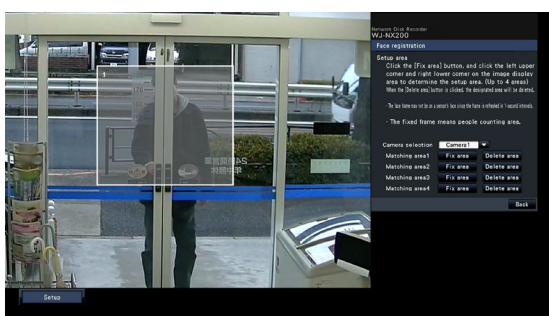
Set up matching area [Setup area]

Set up to 4 areas for matching face images while displaying live images. At the default, the whole area on the camera images is set to match face images. By designating the matching areas, it is possible to reduce the operation failure.

Step 1

Click the [Setup area >] button (Page 12) on the face image registration window.

→ The window for setting up the matching area will be displayed. The portion where the camera detected a matching face will be displayed within a green frame in the image display area. (The frame will be updated every second.)



Step 2

Click the [Fix area] button next to the respective matching area. A maximum of 4 matching areas can be registered to allow for polygonal shapes.

Step 3

On the displayed image, click the top left corner and bottom right corner of the square that will become the area.

→ The designated portion will be displayed in gray and registered as a matching area.

If even part of the green frame is overlapped with the matching area, the portion within a green frame will be targeted for the face matching function.

Note:

- As the Matching areas will be set up to match the image display area divided into 16×16 segments, the top left and bottom right detection areas may not be exactly as designated.
- To delete a registered area, click the [Delete area] button for the matching area to delete.

Step 4

To complete the settings, click the [Back] button.

→ The screen returns to the face image registration window.

Configure the settings of the statistical processing [Statistics]

Configure the area settings to enhance the accuracy of the statistical processing and save the statistical processing data on a USB medium. Only the administrator and users of an allowed level can configure the settings. (See operating instructions of the recorder)

[Accumulate statistics data]

Select whether or not to execute the statistical processing (data accumulation) of the face detection results. The statistical processing will not be executed in the period that is set to "Off", and the statistics data will not be accumulated or displayed on the graph.

Off: Does not execute the statistical processing.

On: Executes the statistical processing.

Default: Off

[Usage pattern]

Refer to [Usage pattern] (Page 11) of "Set up face matching alarm".

Set up target areas [Face matching / Age and gender judgment], [People counting]

Configure the setting of target areas to enhance the accuracy of the statistical processing.

While displaying live images, up to 4 people counting areas and up to 4 face matching / age and gender judgment area can be set up. At the default, the whole camera image is targeted for the statistical processing. It is possible to enhance the accuracy of the statistical processing by setting up the areas.

Face matching / Age and gender judgment

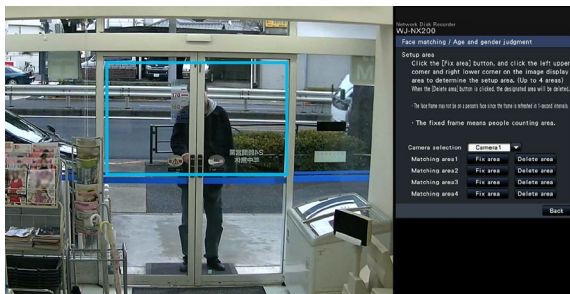
[Face matching / Age and gender judgment]

Register the areas to perform face matching / age and gender judgment. The result of the face detection that is performed in this area will be targeted for the face matching and the statistical processing according to ages and genders. The settings are the same as the area settings for face matching that is performed on [Face registration]. (☞ Page 14)

Step 1

Click the [Fix area >] button of "Face matching / Age and gender judgment" on the business intelligence setup page (☞ Page 11).

→ The window for setting up the face matching / age and gender judgment area will be displayed.



The following are displayed on the image display area.

Green frame: Face detection (The frame will be updated every second.)

Aqua frame: People counting area (☞ Page 16)

Step 2

Click the [Fix area] button next to the respective face matching / age and gender judgment area. A maximum of 4 areas can be registered to allow for polygonal shapes.

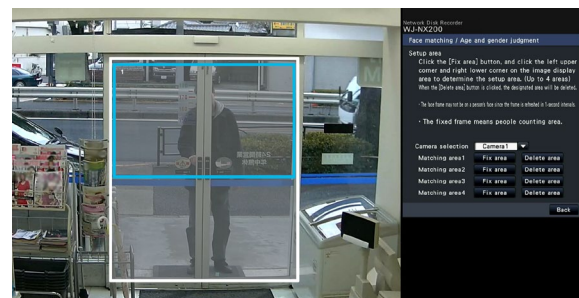
Important:

- Configure the setting so that the people counting area is included in the face matching / age and gender judgment area.

Step 3

On the displayed image, click the top left corner and bottom right corner of the square that will become the area.

→ The designated area will turn gray and will be registered as a face matching / age and gender judgment area. If even part of the green frame is overlapped with the face matching / age and gender judgment area, the portion within a green frame will be targeted for the statistical processing.



Step 4

To complete the settings, click the [Back] button.

→ The screen returns to the business intelligence setup page.

Note:

- As each area will be set up to match the image display area divided into 16×16 segments, the top left and bottom right detection areas may not be exactly as designated.
- To delete a registered area, click the [Delete area] button for the area to delete.

People counting

[People counting]

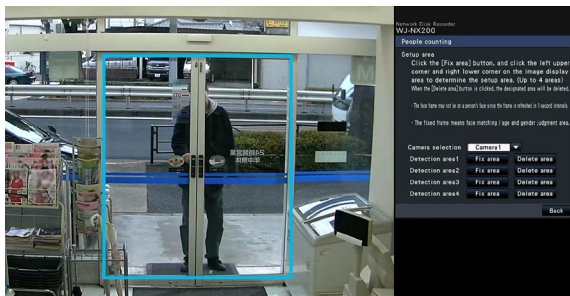
Set up areas to count people. The number of people will be targeted for counting when a person appears in the area. The number will be counted when the person moves outside of the image.

Limit the people counting area on the entrance or a reception area in a store to avoid counting the same person repeatedly.

Step 1

Click the [Fix area >] button of "People counting" on the business intelligence setup page (Page 11).

→ The window for setting up the people counting area will be displayed.



The following are displayed on the image display area.

Green frame: Face detection (The frame will be updated every second.)

Aqua frame: Face matching / age and gender judgment area (Page 15)

Step 2

Click the [Fix area] button next to the respective people counting area. A maximum of 4 areas can be registered to allow for polygonal shapes.

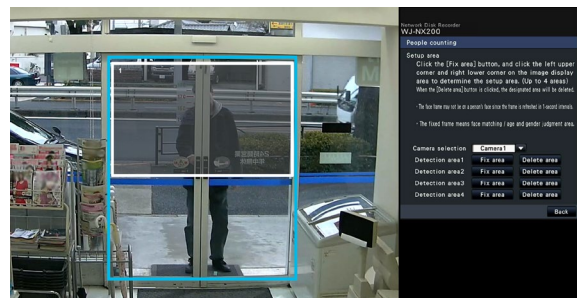
Note:

- It is recommended to select such places as the entrance or the reception area in a store where the same person does not appear repeatedly in the area.
- Configure the setting so that the people counting area is included in the face matching / age and gender judgment area.

Step 3

On the displayed image, click the top left corner and bottom right corner of the square that will become the area.

→ The designated area will turn gray and will be registered as a people counting area. If even part of the green frame is overlapped with the people counting area, the portion within a green frame will be set to count the number of people.



Step 4

To complete the settings, click the [Back] button.

→ The screen returns to the business intelligence setup page.

Note:

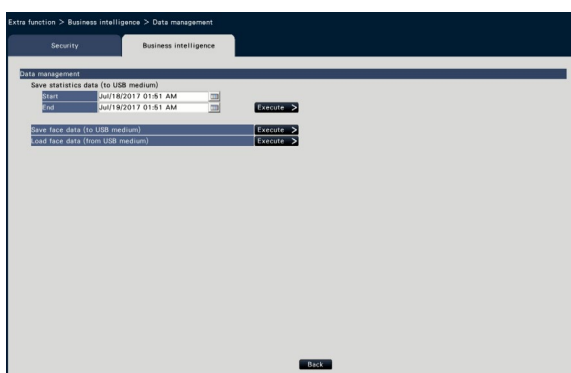
- As each area will be set up to match the image display area divided into 16×16 segments, the top left and bottom right detection areas may not be exactly as designated.
- To delete a registered area, click the [Delete area] button for the area to delete.

Save the statistics data on the USB medium

The statistical processing result can be saved on the USB medium in the format of a CSV file. It is possible to designate the period to save the data by date & time. Refer to page 25 for further information about the statistics data.

Note:


- Insert a USB medium into the main unit of recorder in advance.
 - When using an unformatted USB medium or a USB medium formatted with other devices, format the USB medium on the recorder.
 - Refer to the operating instructions of the recorder for further information about how to handle the USB medium.
 - Maximum available period to save the statistical processing result is 1 year. After 1 year, data will be deleted from the oldest one. It is recommended to make back-up copies regularly on a USB medium.
-



[Save statistics data (to USB medium)]

Set the start time and the end time of the period to save statistics data on the USB medium.

Step 1

Click the  icon of "Start" and "End".

→ A calendar will be displayed. Refer to the operating instructions of the recorder for further information about how to set the date using the calendar.

Step 2

Click the [Execute >] button.

→ The following confirmation window will be displayed to save the statistics data on the USB medium.

Note:

- If the saving period is long, it will take time to save.
-

Save/load the face matching data

Save the face matching data on the USB medium and load it from the USB medium.

[Save face data (to USB medium)]

Saves the face matching data on the USB medium.

When the [Execute >] button is clicked, the confirmation window appears and the face matching data will be saved.

[Load face data (from USB medium)]

Loads the face matching data saved in a USB medium on the recorder. When the [Execute >] button is clicked, the confirmation window appears and the face matching data will be loaded.

Business intelligence function

Face matching function

When the face matching function is activated, it detects facial features of people in images, matches them against similar facial features recorded earlier or contained in live images, and issues an alarm when a match is found.

Important:

- Face matching does not work while the setup window is displayed.
 - Face matching alarm does not apply event recording.
 - Immediately after startup or after transferring to an operational screen from the setup page, it takes 10 seconds at maximum until the face registration function to be activated.
 - When several people appear in images at the same time, face matching may take time, or it may not be possible to match all facial images.
 - A detected person displayed on the face matching result window may sometimes not be the same as the one who has registered the facial image.
-

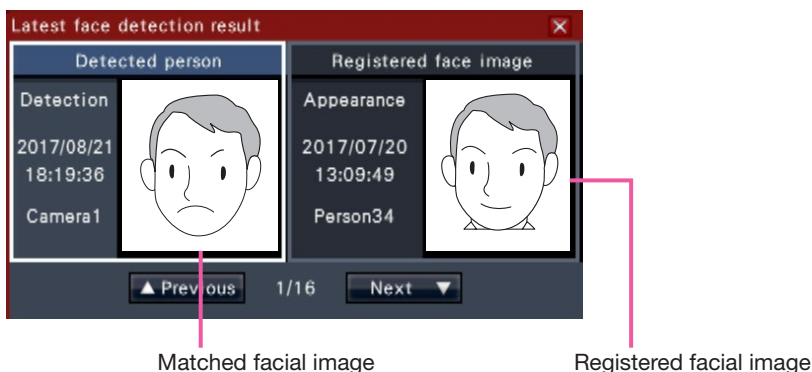
Face matching alarm actions

When a face matching alarm occurs, the following notifications will be issued:

An alarm indication and the name of the facial image (name of detected person) will be displayed in the status display area.



The latest face matching result will be displayed



Note:

- When the face matching alarm is detected in wide view, the operation panel will open automatically.
 - When copying or playing back images, the face matching result window will not be displayed.
 - Up to 16 facial images can be memorized. It is possible to switch between facial images by clicking the [Previous]/[Next] buttons. The face image is cleared by logout operation or power-off.
-

Other alarm actions

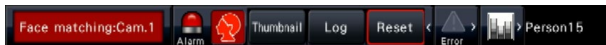
- The alarm indicator on the front panel of the recorder will blink.
- The buzzer sounds.
- A face matching alarm is output from a terminal on the rear panel (if set up).
- An alarm e-mail is sent (if set up).

Reset face matching alarm

Proceed as described below to cancel the face matching alarm.

Step 1

Click the [Alarm] button on the status display panel.
→ The alarm [Reset] button will be displayed.



Note:

- To close the face matching result window, click the [x] button.

Step 2

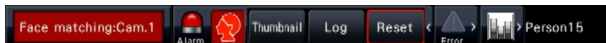
Click the alarm [Reset] button.
→ The face matching alarm indication disappears.
Alarm actions (buzzer/terminal output) will be stopped at the same time.

Display the face matching thumbnail again

Proceed as described below to display the face matching result window again after having closed it once.

Step 1

Click the [Alarm] button on the status display panel.
→ The [Thumbnail] button will be displayed.



Note:

- The face matching result window display the latest matching facial images found. The face matching results are updated even while the face matching result window is opened.

Step 2

Click the [Thumbnail] button.
→ Click this button to display the face matching result window.


Statistical function

If the license for this product is registered, the following buttons will become available on the status display panel of the control screen and that of the wide view screen. Refer to the operating instructions of the recorder for further information about the control screen or the status display panel.



① Statistical status button

Indicates the status of statistical processing. This button turns gray while the statistical processing is being stopped. It is possible to display/hide the statistical result button by clicking this button.

 : The statistical processing is being performed.

 : The statistical processing is being stopped.

② Statistical display button

Indicates the statistical result on the operation panel of the control screen.

When this button is clicked, wide view screen will be changed to the control screen.

Display the statistical result

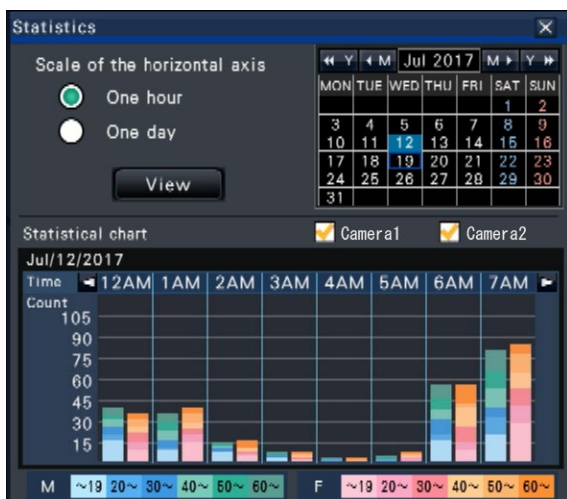
Step 1

Click the [Statistics] button on the status display panel.

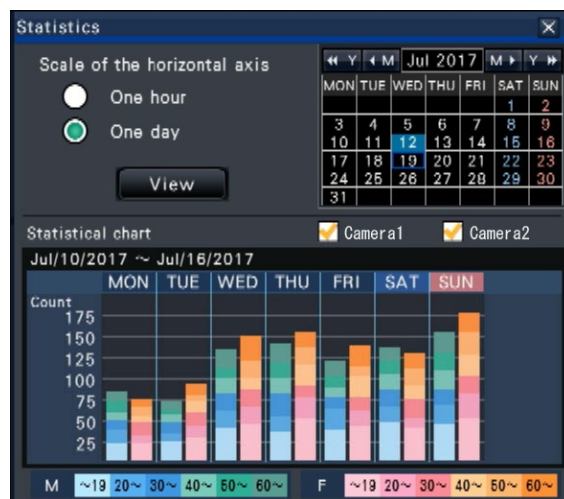


→ The statistical result panel will be displayed on the operation panel (The wide view screen will be changed to the control screen.).

<Scale of the horizontal axis: One hour>



<Scale of the horizontal axis: One day>



[Operation via recorder's main monitor]

Step 2

Select the date to display the statistical result. Select the year, month and day from the calendar.
(☞ operating instructions of the recorder)

Step 3

Select the scale of the horizontal axis.
When "One hour" is selected, the statistical result per hour in the day (for 24 hours) selected in Step 2 is targeted for display. When "One day" is selected, the statistical result per day in the week from Monday to Sunday including the day selected in Step 2 is targeted for display ("One hour" has been selected for the "Scale of the horizontal axis" when the statistical result panel is displayed.).

Step 4

Click the [View] button.

→ The statistical graph will be displayed in accordance with the setting. Each time the [View] button is clicked, the statistical result will be refreshed to the newest status.

Note:

- The graph will not be displayed when designating the period in which the statistical processing has not been performed. Besides, it is impossible to display the statistics data of more than 1 year ago.
- When "One hour" is selected for "Scale of the horizontal axis", it is possible to display the next or previous hour by clicking the [<] or [>] button of the statistical graph. (It is impossible to go to the next or previous day.)
- When "One day" is selected for "Scale of the horizontal axis", it is impossible to click the [<] or [>] button.

Step 5

Click the [x] button to close the statistical result panel.

<How to view the statistical graph Example: When "One hour" is selected for "Scale of the horizontal axis">



Horizontal axis: When "One hour" is selected for "Scale of the horizontal axis", the statistical graph will be displayed on an hourly basis (up to 24 hours), when "One day" is selected, the statistical graph will be displayed on a weekly basis divided into each day of the week.

Vertical axis: The total number of people accumulated through the face matching function is displayed according to each gender and age. The graph bars are classified into the following colors by age. Therefore, it is possible to grasp at first sight the distribution of people by number and age for a specified time period or a specified day of the week.

19 years old or less/ 20 to 29 years old/
30 to 39 years old/ 40 to 49 years old/
50 to 59 years old/ 60 years old or more

The scale of the vertical axis will be displayed in accordance with the maximum value of the number of people to be displayed on the graph.

Note:

- The same person may sometimes be counted more than one time since people counting is performed each time a face is detected. The number of people should be referred to only as an indication.
- Immediately after startup or after transferring to an operational screen from the setup page, it takes 10 seconds at maximum until the accumulate statistics data function to be activated.
- People whose gender cannot be judged will not be displayed on the graph. However, they will be saved as statistics data. (☞ Page 23)

Setup the business intelligence

From the web browser on a PC connected to the recorder via network, it is possible to save the statistics data on the PC or check the status of face matching action or statistical processing operation.

Refer to the operating instructions of the recorder for further information about the required network settings, the security functions, and the login procedure.

Save the statistics data on the PC

From the web browser, it is possible to save the statistics data on the PC.

Step 1

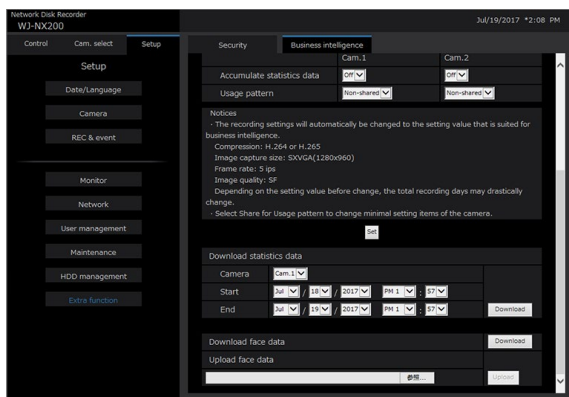
Click the [Setup] button on the top page (refer to the operating instructions of the recorder) of the web browser on the PC.

→ The setup menu will be displayed.

Step 2

Click the [Extra function] button and then click the [Business intelligence] tab.

→ The business intelligence setup page will be displayed.



Step 3

Set the camera number, year, month, date and time of the start point and end point for "Download statistics data".

Step 4

Click the [Download] button.

→ The confirmation window will be displayed. Follow the instructions and save the file in any directory on the PC.

The statistics data will be saved as a CSV file.

Refer to page 25 for further information about the statistics data.

Note:

- If the designated period is long, it will take time to save.

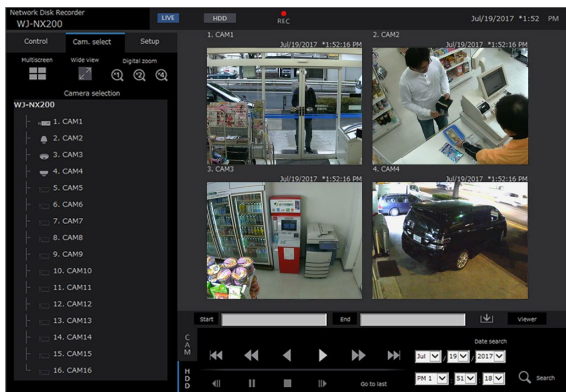
Business intelligence function

Check the status of face matching and statistical processing

It is possible to check whether the face matching or statistical processing is being performed or stopped in the status display area on the top page.

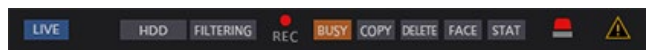
Step 1

Start the web browser on the PC to log into the recorder. (See operating instructions of the recorder)
→ The top page will be displayed.



Step 2

While the statistical processing is being performed, the display in the status display area will be as follows.



FACE : Indicates that face matching is being performed (only if the face matching function has been set up).

STAT : Indicates that the statistical processing is being performed (only if the statistical processing has been set up).

About the statistics data

The statistics data will be saved in the following format and with the following content as a CSV file.

File name:

(Ex: If the date & time is designated between April 20, 2011 7:00:00 and April 27, 2011 20:00:00 when the data is saved)

01_110420070000_110427200000_rr_nn.csv

- The camera number will be given automatically to the first 2 digits of the file name.
- Only the last 2 digits of the year will be given to the file name.
- rr: When the same data is saved more than one time, sequential numbers will be given automatically to these files.
- nn: When the number of lines in a file exceeds 65536, the file will be divided in two or more and sequential numbers will be given automatically to these files.

When the statistics data is downloaded from the web browser, it is impossible to divide the file in two or more automatically. In such a case, "00" will be given instead of "nn".

Destination to save:	Operation on the recorder	USB medium [Drive]:\NVR\STATISTICIS
	Web browser	Any folder on the PC

<Example of display: When the statistics data is opened with Microsoft® Office Excel®>

#localtime, gmtime, timezone, summertime, gender, age,

#gender, 0:male, 1:female, 255:unknown

2011/04/21 0:24:36 01,	2011/04/20 15:24:36 01,	GMT+9:00,	0,	0,	7
2011/04/21 0:24:36 17,	2011/04/20 15:24:36 17,	GMT+9:00,	0,	0,	42
2011/04/21 0:24:36 17,	2011/04/20 15:24:36 17,	GMT+9:00,	0,	1,	17
2011/04/21 0:24:36 26,	2011/04/20 15:24:36 26,	GMT+9:00,	0,	0,	6
2011/04/21 0:24:36 32,	2011/04/20 15:24:36 32,	GMT+9:00,	0,	0,	60
2011/04/21 0:24:36 34,	2011/04/20 15:24:36 34,	GMT+9:00,	0,	1,	28
⋮	⋮	⋮	⋮	⋮	⋮

Item names of data will be displayed on the 1st line, the description of "gender" will be displayed on the 2nd line, and the data of each person whose face has been matched will be displayed on the 3rd or subsequent lines.

[localtime]

Displays the time when a person appeared in the form of "year, month, day" + "hour, minute, second" + "two decimal places of second".

[gmtime]

This is an item for data management. Displays the Greenwich mean time.

[timezone]

Displays the setting value of the time zone that is set for the recorder.

[summertime]

Displays whether the current date & time is in the summertime if "Daylight saving time" is activated for the recorder.

0: Out of the summertime
1: In the summertime

[gender]

Displays the gender judgment result of a person.

0: Male
1: Female
255: Judgment is impossible.

[age]

Displays the age judgment result.

255: Judgment is impossible.

Note:

- If the statistics data is downloaded from the web browser when there is a file whose number of lines exceeds 65536, designate the start point and end point of the data to download so that the file can be divided and saved in two or more. (Page 23)
-

Troubleshooting

Before asking for repairs, check the symptoms with the following table.

Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution	Ref. pages
The following message is displayed on the statistics result panel. "Buy Additional Business Intelligence Kit to display the statistical graph."	<ul style="list-style-type: none">The license (Registration Key) of Additional Business Intelligence Kit has not been registered. Register the license.	—
"Count" (the number of people) to be displayed on the graph becomes 0.	<ul style="list-style-type: none">Is "Off" selected for the setting for statistical processing? To perform the statistical processing, select "On".	14
	<ul style="list-style-type: none">The settings of the people counting area and that of the face matching / age and gender judgment area may be improperly configured. Configure the setting so that the people counting area is included in the face matching / age and gender judgment area.	15, 16

For U.S. and Canada:

**Panasonic System Communications Company of North America,
Unit of Panasonic Corporation of North America**

www.panasonic.com/business/
For customer support, call 1.800.528.6747
Two Riverfront Plaza, Newark, NJ 07102-5490

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada
(905)624-5010
www.panasonic.ca

For Europe and other countries:

Panasonic Corporation

<http://www.panasonic.com>

Panasonic Corporation
Osaka, Japan

Authorised Representative in EU:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany