i·PRO

Operating Instructions

Secure Communication Kit

Model No. **WJ-NXS01 / WJ-NXS01W
WJ-NXS04 / WJ-NXS04W
WJ-NXS16 / WJ-NXS16W
WJ-NXS32 / WJ-NXS32W**

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.

Contents

Introduction

Preface

The Secure Communication Kits (WJ-NXS01, WJ-NXS01W, WJ-NXS04, WJ-NXS04W, WJ-NXS16, WJ-NXS16W, WJ-NXS32, WJ-NXS32W) (hereinafter, product) are license kits to use the security function of the separately sold network disk recorder (hereinafter, recorder).
Each Secure Communication Kit allows the following number of cameras to be registered. According to the number of cameras, register a suitable combination of the Secure Communication Kits.

WJ-NXS01, WJ-NXS01W	WJ-NXS04, WJ-NXS04W	WJ-NXS16, WJ-NXS16W	WJ-NXS32, WJ-NXS32W
1 camera	4 cameras	16 cameras	32 cameras

The Secure Communication Kit consists of an "Activation Key Card" with the "MPR ID" and the "Activation Key No." written on it.

In the manuals of this product, the network camera hereinafter referred to as camera, the personal computer hereinafter referred to as PC.

Security function

The product provides security functions between "the recorder and a PC" and "the recorder and a camera".

Security function between the recorder and a PC

- The SSL communication is used for the communication between the recorder and the PC.
  * The security function between the recorder and the PC is available without registration of the license.

Security function between the recorder and a camera

- The SSL communication is used for the communication between the recorder and the camera.
  * The Security function between the recorder and a camera is available without registration of the license for WJ-NX310K Series, WJ-NX410K Series and WJ-NX510K Series.
- It allows the image for recording to be encrypted and transmitted by the camera. The image will be decrypted when it is played.
  · Displays the encrypted live image of the camera.
  · Plays the recorded and encrypted image.
  · Exports the recorded and encrypted image to an external medium.

Restrictions

The following operational restrictions are applied when the secure communication license is registered.
- If the camera connection method is set to "Internet mode" and the number of cameras exceeds 32, communication may become unstable. It is recommended to use within 32 cameras.
- If a camera set for data encryption is displayed on 4-screen or more of the main monitor or the sub monitor, its live image is thinned. I frames only are displayed for the H.264/H.265 images and the image is thinned to 1 ips for the JPEG image.
- Playback speed may become slow. Audio may break up if the image is played with audio.

About the user manuals

This documents explains registration of license of the product in the recorder and necessary settings before starting the operation. Please also read the operating instructions of your recorder when using this product since it is assumed it will be used after registering it with the recorder.
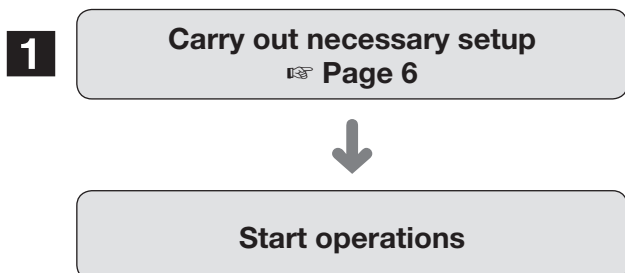
This document uses screen photos of WJ-NX400K as an example.

Trademarks and registered trademarks

- All other trademarks identified herein are the property of their respective owners.
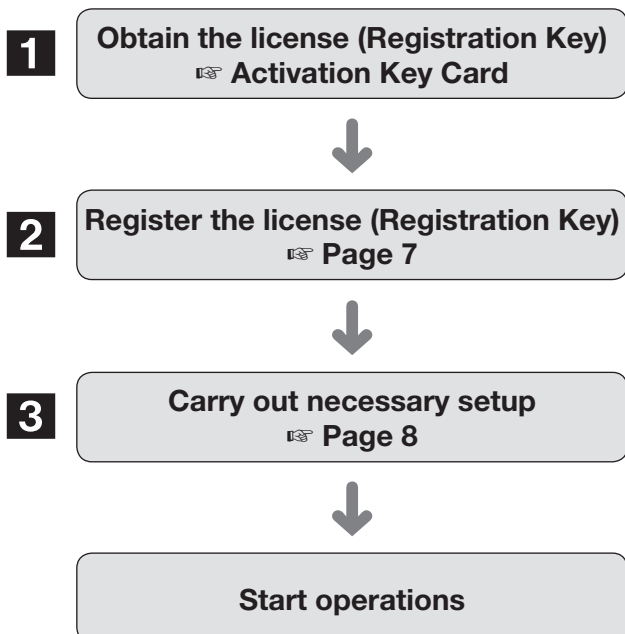
Operations flow

Use the security function between the recorder and a PC only

1	**Carry out necessary setup** ☞ **Page 6**

↓

Start operations

1 Set the connection to communicate with the PC.

Use the security function between the recorder and a camera

1	**Obtain the license (Registration Key)** ☞ **Activation Key Card**

↓

2	**Register the license (Registration Key)** ☞ **Page 7**

↓

3	**Carry out necessary setup** ☞ **Page 8**

↓

Start operations

1 Obtain the "Registration Key" by following the instructions on the "Activation Key Card" of the product.

2 Register the "Registration Key" obtained at the procedure **1** in the recorder.

3 Set the connection and the data encryption to communicate with the camera.

Use the security function between the recorder and a PC only

Carry out necessary setup

■ Setup of the security between the recorder and the PC

Set the connection between the recorder and the PC.

Note:
- Registration of license for the Secure Communication Kit is not required for the setup of the security between the recorder and the PC.
- For WJ-NX310 series, WJ-NX410K, WJ-NX510K, refer to the manuals of your recorder.
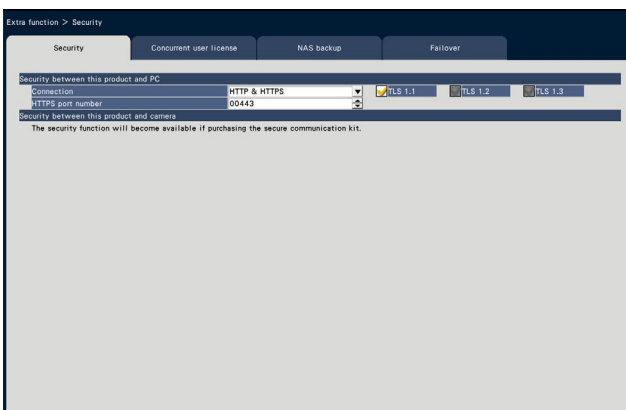---

Step 1

Turn on your recorder.

Step 2

Click the [Setup] button on the upper-right side of the control screen displayed on the main monitor.
→ The setup screen will be displayed.

Step 3

Click [Extra function] of [Advanced setup] on the setup menu.
→ The [Security] screen will be displayed.

[Connection]
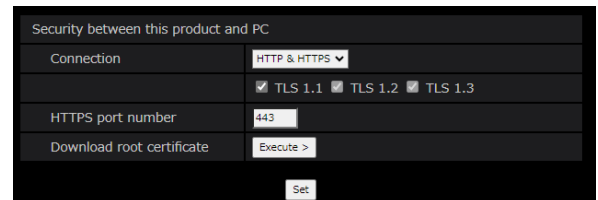Set the connection between the recorder and the PC.
　　HTTP & HTTPS
　　　: The HTTP and HTTPS connections are available.
　　HTTPS
　　　: The HTTPS connection is only available.
Default: HTTP & HTTPS

Note:
- If HTTPS is set, the port forwarding function does not work.

[HTTPS port number]
Designate the HTTPS port number used by the recorder on the SSL communication with the PC.
　　1 - 65535
Default: 443

Note:
- When you change the HTTPS port number, the communication may be disabled due to the network setting. In this case, ask your network administrator.
- The following port numbers and the port numbers used for the HTTP port, for the FTP port, for the site alarm receiving port, and for port forwarding are unavailable. 20, 21, 23, 25, 42, 53, 67, 68, 69, 79, 105, 110, 123, 161, 162, 546, 547, 995, 10001, 10002, 10003, 10004, 10005, 10006, 10007, 50000 - 50255
- The root certificate can be downloaded from the web browser's setup menu.

Use the security function between the recorder and a camera

To use the security function, the product license (Registration Key) must be registered in your recorder.
Only users such as administrators or authorized users can register the "Registration Key".

Important:
- Register the "Registration Key" of the recorder itself first.
- A PC or a mobile phone accessible to the Internet is necessary to acquire the "Registration Key".

Registration of license

Step 1

Obtain the "Registration Key" by following the "Activation Key Card" of the product. Refer to the "Activation Key Card" for further information.

Step 2

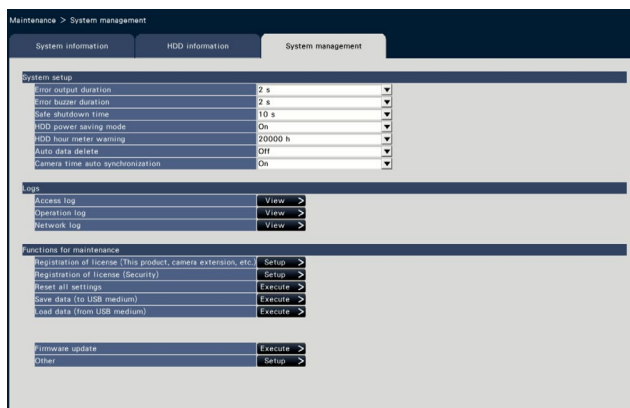Turn on your recorder.

Step 3

Click the [Setup] button on the upper-right side of the control screen displayed on the main monitor.
→   The setup screen will be displayed.

Step 4

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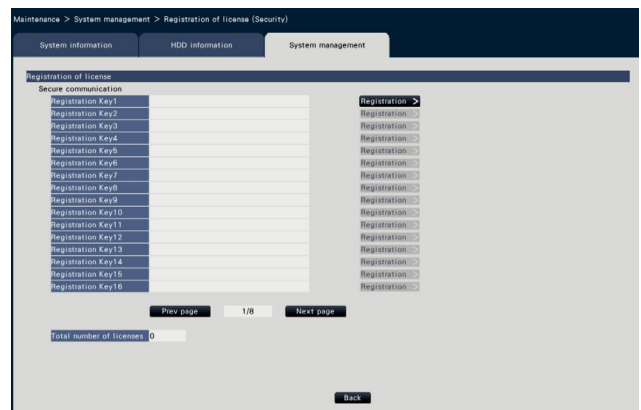→   The [System management] screen will be displayed.

Step 5

Click the [Setup >] button of "Registration of license (Security)" under "Functions for maintenance".
→   The license registration (Security) screen will be displayed.

Step 6

Click the [Registration >] button of "Registration Key" under "Secure communication".
→   The "Registration key input" screen will be displayed.
Enter the obtained "Registration Key" in the "Registration Key" field using the on-screen keyboard, and click the [Registration] button.
→   The "Registration key input" screen will return to the license registration screen.
When you register multiple licenses, repeat the above procedures (Click the [Registration >] button of "Registration Key" under "Secure communication").

Note:
- When an error message is displayed, enter the valid "Registration Key" again.
- The number of registered licenses is displayed in the "Total number of licenses" field.

Carry out necessary setup

■ Security setting between the recorder and the camera

Set the connection between the recorder and the camera, and the data encryption.

Note:
- Individual security settings are available for the number of cameras displayed in the "Total number of licenses" field.
- One license allows settings of the "Connection" and the "Data encryption" for one camera.
- A license is required for setting either the "Connection" or the "Data encryption" only.
- For WJ-NX310 series, WJ-NX410K, WJ-NX510K, refer to the manuals of your recorder.
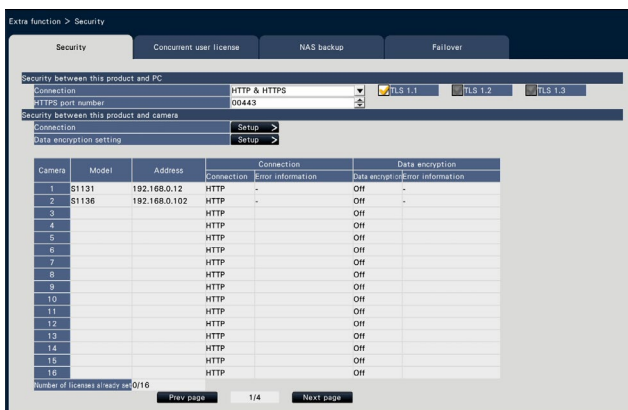
Settings of connection

Step 1

Click the [Setup] button on the upper-right side of the control screen displayed on the main monitor.
→ The setup screen will be displayed.

Step 2

Click [Extra function] of [Advanced setup] on the setup menu.
→ The [Security] screen will be displayed.

Note:
- Setting items of the "Security between this product and camera" will be displayed once the license of the Secure Communication Kit is registered.
- If the CA certificate has expired, "-(Expired)" is displayed in the Error information field.

Step 3

Click [Setup >] button of "Connection".
→ The setup screen for the connection will be displayed.
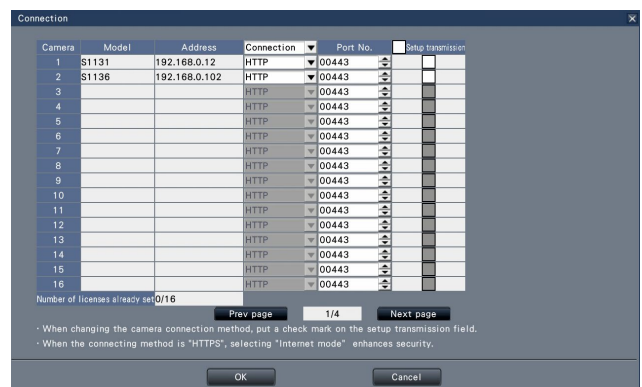
[Connection]
Set the connection between the recorder and the camera.
    HTTP: The HTTP connection is only available.
    HTTPS: The HTTPS connection is only available.
Default: HTTP

Note:
- When the camera is not supported by the SSL, checkboxes of the HTTPS and the setup transmission cannot be selected.

[Port No.]
Designate the HTTPS port number used by the camera on the SSL communication with the recorder.
    1 - 65535
Default: 443

[Setup transmission]
Select a camera to which the setting is sent. Check a camera to which you want to send the set connection.

[Number of licenses already set]
The total number of licenses that can be set and the number of set licenses are displayed as follows.
    aaa / bbbb
aaa : Number of licenses already set
bbbb: The total number of registered licenses on the license registration (Security) screen
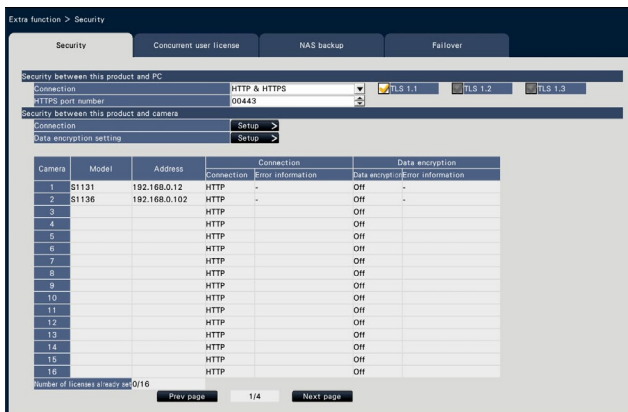
Setup of the data encryption

Step 1

Click the [Setup] button on the upper-right side of the control screen displayed on the main monitor.
→ The setup screen will be displayed.

Step 2

Click [Extra function] of [Advanced setup] on the setup menu.
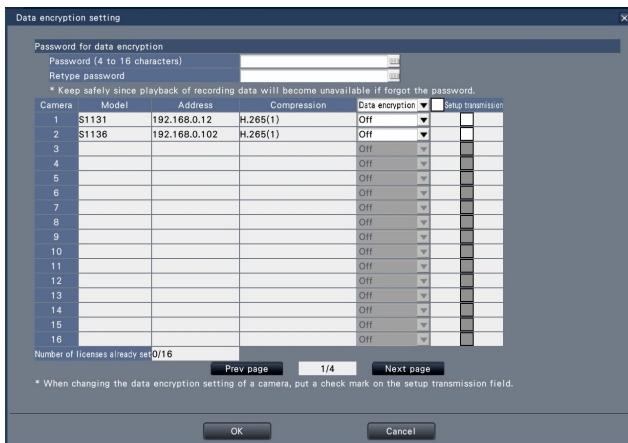→ The [Security] screen will be displayed.

Step 3

Click [Setup >] button of "Data encryption setting".
→ The data encryption setting screen will be displayed.

■ **Password for data encryption**
[Password (4 to 16 characters)]

Enter a password for data encryption to set the camera using the on-screen keyboard.
Set the password with alphanumeric and symbols between 4 and 16 characters (inclusive).

Note:
- If the data encryption is not used at all, you do not have to set the password.

[Retype password]

Re-enter the password that you entered "Password (4 to 16 characters)" for confirmation.

[Compression]

Displays the compression of the image data to be encrypted.

Note:
- Cameras whose image compression is set to H.265(1), H.264(1) or MJPEG to use the data encryption. If the image compression is set to H.265(3), H.265(4), H.264(3) or H.264(4), the recorder cannot communicate with the camera.
  If the image compression is set to MJPEG, some cameras may not support the data encryption.

[Data encryption]

Encrypts the data between the recorder and the camera.
    Off: Does not use the data encryption
    On: Uses the data encryption
Default: Off

Note:
- When the camera is not supported by the data encryption, checkboxes of the data encryption and the setup transmission cannot be selected.

[Setup transmission]

Select a camera to which the setting is sent. Check a camera to which you want to send the set data encryption.

[Number of licenses already set]

The total number of licenses that can be set and the number of set licenses are displayed as follows.
    aaa / bbbb
aaa   : Number of licenses already set
bbbb: The total number of registered licenses on the license registration (Security) screen

Use the security function between the recorder and a camera (continued)

Important:
- Data from cameras whose data encryption is set to On will be encrypted.
- Data is automatically decrypted using a password for the data encryption currently set to the recorder during the live image display and the playback.
- If the password for the data encryption is changed during operation, images recorded before changing the password will not be played (decryption error). The main monitor displays the black screen (with a key mark)* instead of the image. The web browser and the view software display the black screen instead of the image.
  * The black screen may not contain the key mark.

  Please perform the following operation in order to continue the playback.

  Playback using the main monitor
  ①Pressing the left button of the mouse on the black screen (with the key mark) long displays a screen for entering a password to decrypt the image.
  ②Enter a password for the data encryption set in recording the image that you want to display.
  · The password can be entered on the live image and the playback image.
  · If the password for the data encryption was changed multiple times in the past, enter the password each time through the above operation.

  Playback using the web browser
  ①If a decryption error occurs, a screen to enter a password will be displayed.
  ②Enter a password for the data encryption set in recording the image that you want to display.
  · The password can be entered on the live image and the playback image. The password is required for each displayed camera.
  · If the password for the data encryption was changed multiple times in the past, enter the password each time through the above operation.

  Playback using the viewer software
  ①If a decryption error occurs, a screen to enter a password will be displayed.
  ②Enter a password for the data encryption set in recording the image that you want to display. If a wrong password is entered, restart the operation from the beginning.

- The password for the data encryption entered to continue the playback does not overwrite that of the current recording.
- The password cannot be entered on the image displayed on the thumb nail screen, setting screens for the timeline and for changing the display position of the camera, the VMD search screen and the camera registration screen.
- For a camera with data encryption set to On, the camera image is not displayed on the camera switching screen of the main monitor, and "Decoding error" is displayed on the status bar. In addition, "Decoding error" is displayed for the thumbnail image of the camera in the setup menu of the web browser.
- If the data encryption setting of this product and the JPEG data encryption setting of the camera do not match, the thumbnail image on the setup screen may be displayed broken.