

Network Camera Recorder

User's Guide

Software Version 1.0

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Features

Network Camera Recorder is software exclusively designed for use with Sony SNC-M1/M1W/M3/M3W Network Cameras. Network Camera Recorder allows you to monitor images of the cameras, record them and play back the recorded data.

Monitoring of up to four cameras

This application allows simultaneous viewing of up to 4 cameras, as well as recording and playback. It also provides for the control of the pan/tilt, and digital zoom. Additionally, monitoring of the audio from the built-in or connected microphone is possible.

Recording of camera image

This application allows recording of the image as well as audio from the camera. A recording schedule can be set by day, or by week at preset times, on each camera.

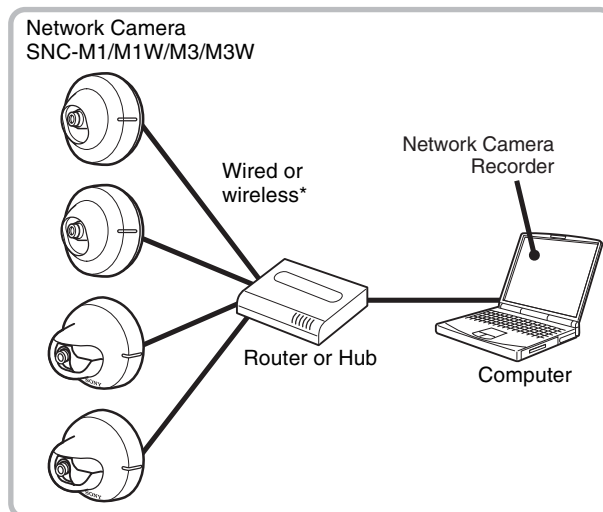
Playback of recorded data

This application allows various playback modes of the recorded data, such as fast-forward, rewind, frame playback, slow playback and cue to the point where playback started.

System Configuration

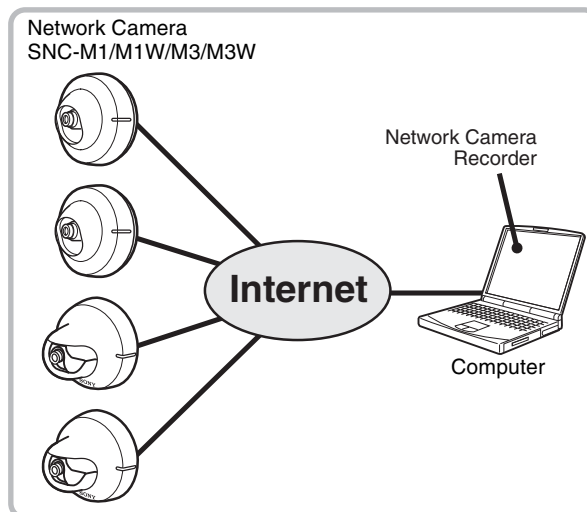
Cameras are connected to a network and controlled by a computer with Network Camera Recorder installed.

LAN



* Wireless LAN connection is available for the SNC-M1W and SNC-M3W only.

Internet



Note

Do not access the camera via Network Camera Recorder or the Web browser while it is accessed by another Network Camera Recorder.

System Requirements

OS

Windows 2000 Service Pack 4,
Windows XP Home Edition Service Pack 2,
Windows XP Professional Service Pack 2

Processor

Intel Pentium III, 1 GHz or higher

Memory

256 MB or more

Network

10 BaseT or more

Disk space required for installation

150 MB or more

Disk space required for recording (for one hour)

JPEG (images only, frame rate: 10fps)

Image Quality	QQVGA	QVGA	VGA
Level 1	110 MB	310 MB	960 MB
Level 5	170 MB	490 MB	1,500 MB

MPEG4 (images only)

64 kbps	2048 kbps
30 MB	900 MB

Audio

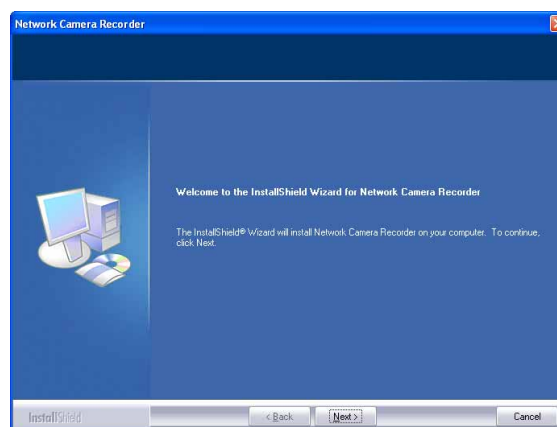
16 kbps	24 kbps	32 kbps	40 kbps
7 MB	11 MB	14 MB	18 MB

The required disk space depends on the settings, recording scenes, status of communication line, etc. The above are reference values.

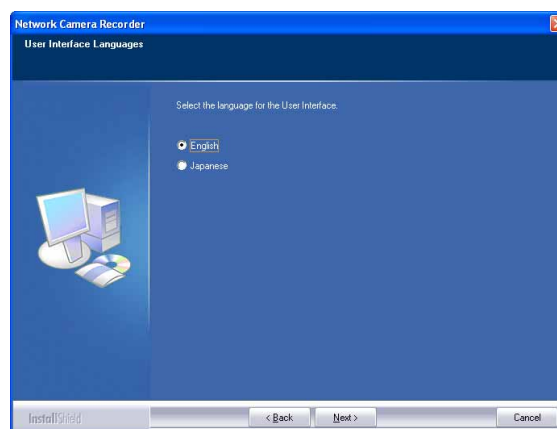
Installing Network Camera Recorder

To install Network Camera Recorder, open the software package and perform the following procedure. For installation, you should log in the computer as the Power User or Administrator.

- 1 Double-click **NCR_Setup.exe** of the package. The installation wizard appears on the screen.



- 2 Click **Next**. The **User Interface Languages** dialog appears.



Select the language you want to install.

Note

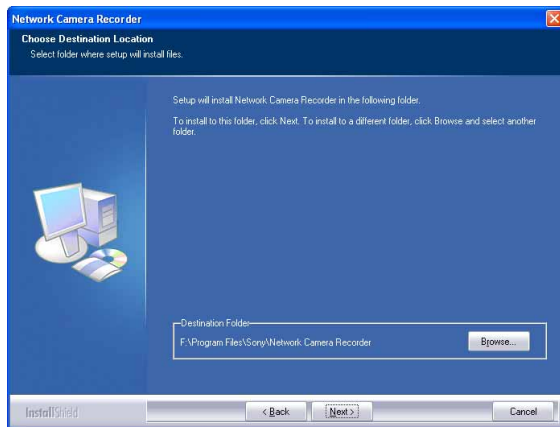
Once you have selected and installed the language, you need to reinstall the program to change the language.

- 3** Click **Next**.
The **License Agreement** dialog appears.



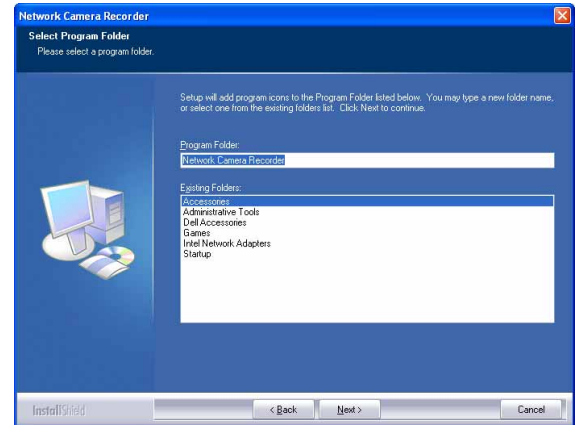
Read the License Agreement carefully, and if you accept the agreement, select **I accept the terms of the license agreement**. You cannot continue the installation if you do not accept the agreement.

- 4** Click **Next**.



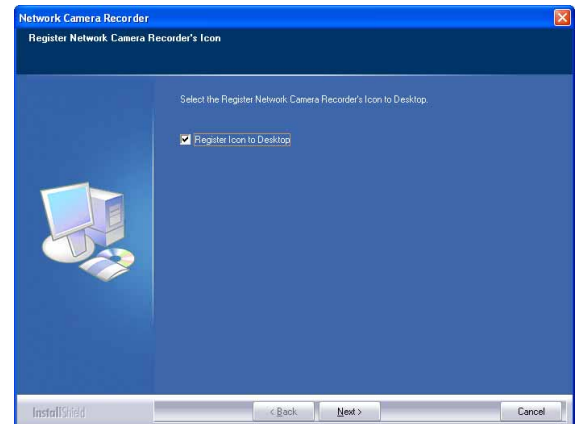
The **Choose Destination Location** dialog appears. The default destination location is set to “C:\...\Sony\Network Camera Recorder”. To change to another location, click **Browse...**, navigate to a folder in which to install the program, and click **OK**. Then click **Next** to display the **Select Program Folder** dialog.

- 5** Click **Next**.
The **Select Program Folder** dialog appears.



The default folder is set to “Network Camera Recorder.” To change to another folder name, enter your preferred name in the text box.

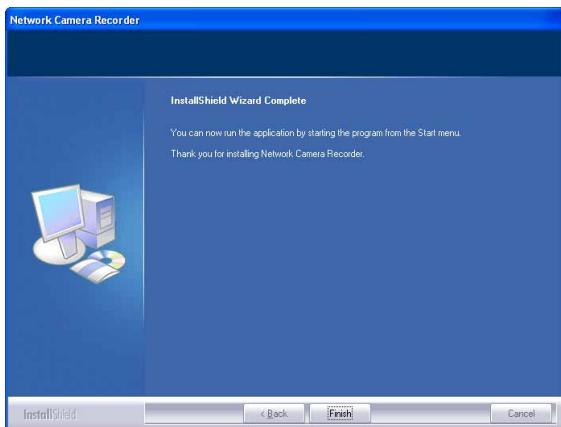
- 6** Click **Next**.
Installation of the program starts.
When installation is finished, the **Register Network Camera Recorder's Icon** dialog appears.



To create the icon on the desktop, select **Register Icon to Desktop**.

- 7** Click **Next**.

The **InstallShield Wizard Complete** dialog appears.



Click **Finish** to complete installation.

If the message requiring restarting appears, restart the computer.

To uninstall Network Camera Recorder

To uninstall Network Camera Recorder, follow the normal uninstall procedure for Windows. Even if Network Camera Recorder has been uninstalled, the setup and recorded data are not deleted. To delete these data, delete the installation folder and the path specified for the storage location manually.

Let's Use Network Camera Recorder

This section introduces the basic operations of Network Camera Recorder step by step for a user using the software for the first time after installation. For detailed operations, read the “Operations” and “Setups” chapters on pages 12 and after.

Operation procedures

1. Start the program.

To view the image of the camera...

2. Register the camera.

3. Assign a camera to the monitor window.

After the image of the camera is displayed...

4. Control the camera.

5. Record the camera image.

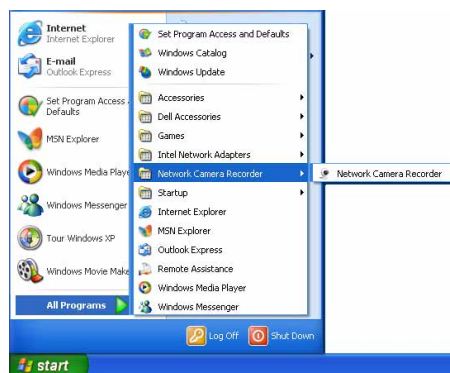
6. Play the recorded image.

Notes

- Before using, connect the camera to the network and turn ON the power.
- For using Network Camera Recorder, you should log in the computer as the Power User or Administrator.

1. Start the Program

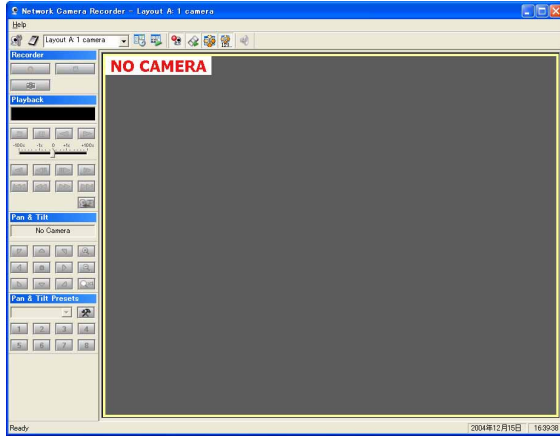
Select **All Programs** from the Windows **start** menu, then select **Network Camera Recorder** and **Network Camera Recorder** in sequence.




You can start the program by double-clicking the Network Camera Recorder icon on the desk top, if provided.



Network Camera Recorder starts and the main window appears.



To exit the program

Click  in the upper right corner of the main window.



2. Register the Camera

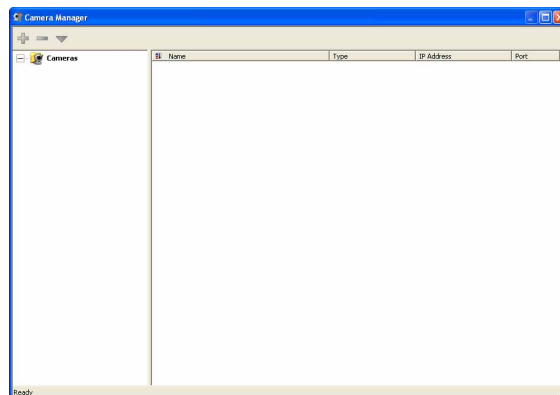
To monitor the image of the camera, first you need to register the camera on Network Camera Recorder.


1 Click  (Camera Manager) in the main window.

Camera Manager

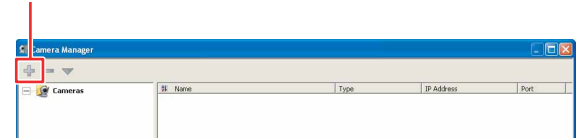




The **Camera Manager** window appears.



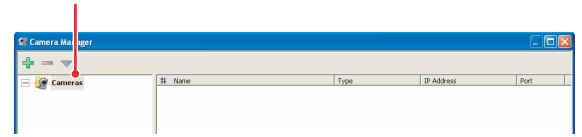
2 Click  (Add Camera).

Add Camera



If the  icon is not green, click **Cameras**. The  (Add Camera) icon turns green and is enabled.

Cameras

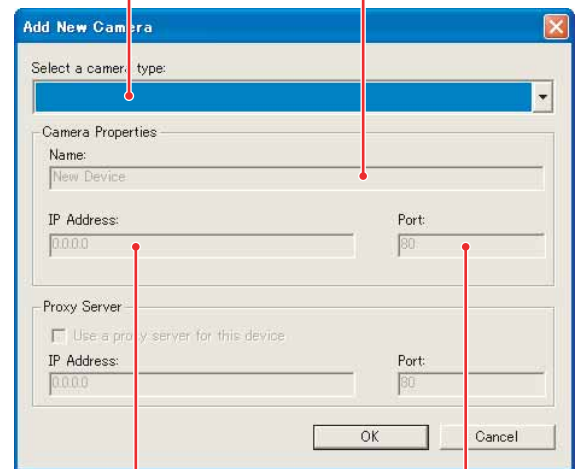


The **Add Camera** dialog appears.

3 Select or enter the parameters in the **Add Camera** dialog.

Select a camera type.

Camera name



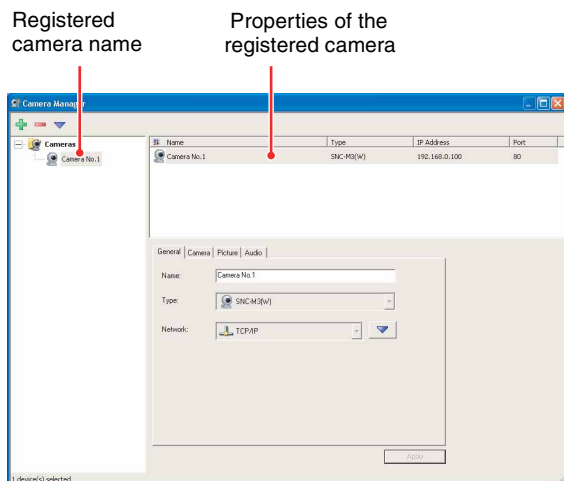
Camera IP address


Port number

- Enter the same IP address as that used for monitoring the camera using Web browser.
- The port number is **80** by default. For details on the port number, refer to the User's Guide of the Network Camera.

For details on the settings, see “Registering a Camera” in the “Setups” chapter (page 24).

- 4 Click **OK**,
The camera is now registered.



- 5 Click  in the upper right corner to close the **Camera Manager** window.

Tip

For registration of two or more cameras and the setting of camera properties, see “Setting a Camera” in the “Setups” chapter (page 24).

3. Assign a Camera to the Monitor Window

As the second step for monitoring, you need to assign the registered camera to the monitor window. As no camera has been assigned by default, “NO CAMERA” is displayed on the monitor screen.

- 1 Right-click on the monitor window of the main window.
A pop-up menu appears.

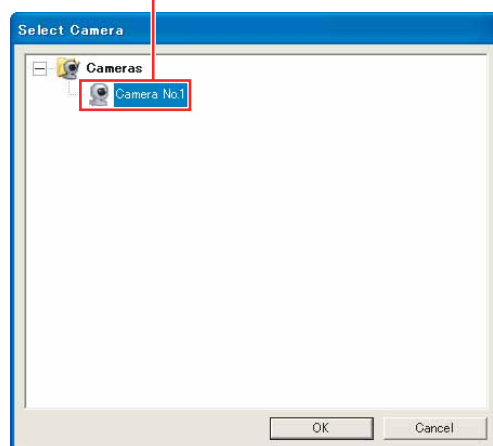


- 2 Click **Select Camera...** in the pop-up menu.
The **Select Camera** dialog appears.

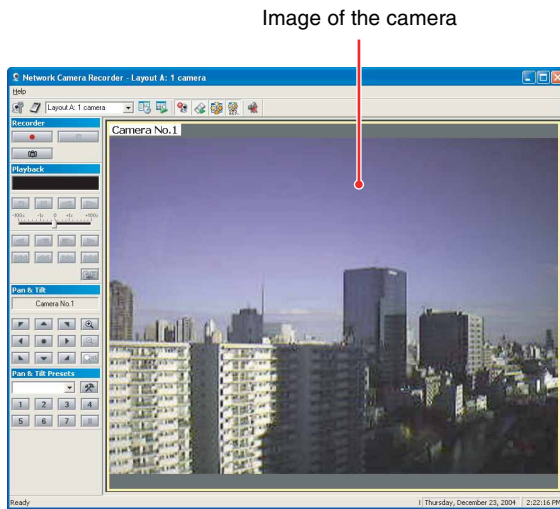


- 3 Click on the name of the camera you want to monitor.

Click on the camera name.



- 4** Click **OK**.
The image of the camera appears in the monitor window.

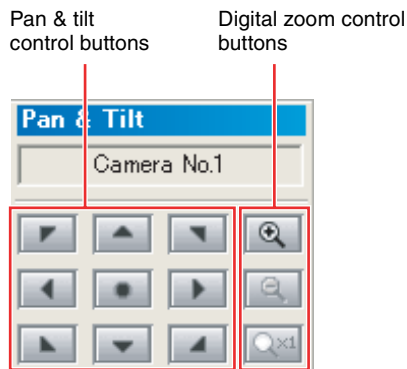


Tip

You can simultaneously display the images of two or more cameras in the monitor window. For details, see “Assigning a Camera to the Monitor Window” in the “Setups” chapter (page 28).

4. Control the Camera

After monitoring is achieved, you can control the camera angle (pan and tilt) and digital zoom. (Pan and tilt are operable on the SNC-M3 and SNC-M3W only.) For these operations, use the buttons on the **Pan & Tilt** toolbar.



For details on the function of each button, see “Controlling the Camera” in the “Operations” chapter (page 15).

5. Record the Camera Image

You can record the image of the camera you are monitoring.
For recording, use the buttons on the **Recorder** toolbar.

To start recording



To stop recording

Tips

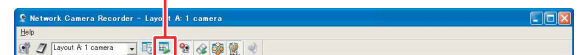
- You can preset a recording schedule such as the date or the days of the week and perform the recording automatically according to the schedule. For details, see “Scheduling Recordings” in the “Setups” chapter (page 30).
- The default storage location of recordings is set to “C:\Program Files\Sony\Network Camera Recorder\Recordings\”. For changing the storage location, see “Assigning a Storage Location” in the “Setups” chapter (page 29).

6. Play the Recorded Image

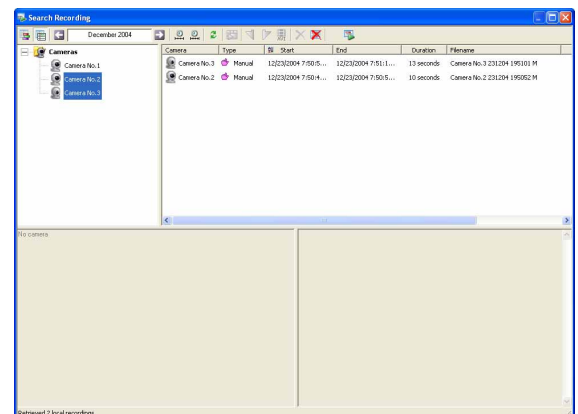
You can search for the recording stored in the computer and play back the recorded image.

- 1** Click  (Search Recording) in the main window.

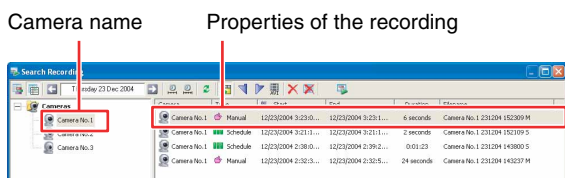
Search Recording



The **Search Recording** window appears.



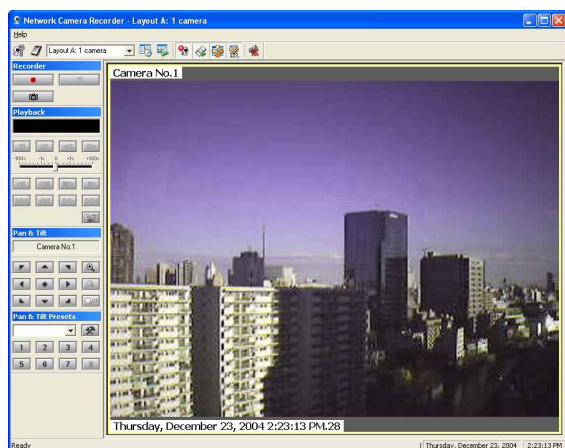
- Click on the camera name on the camera tree. The properties of the recordings are displayed in the list view.



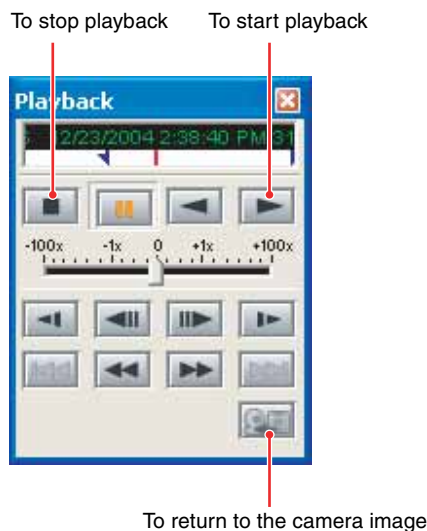
Tip

If the properties of the recording you want to play back do not appear in the list, search for it using the and buttons. You can also use the and buttons for searching recordings. For details, see “Searching for Recordings” in the “Operations” chapter (page 17).

- Double-click on the recording data you want to play back. The display goes back to the main window and the image of the selected recording appears in the monitor window.



- Click (Play) on the **Playback** toolbar. Playback starts. By clicking (Cue to Begin), the display goes back to the image at the beginning of the recording and playback stops.



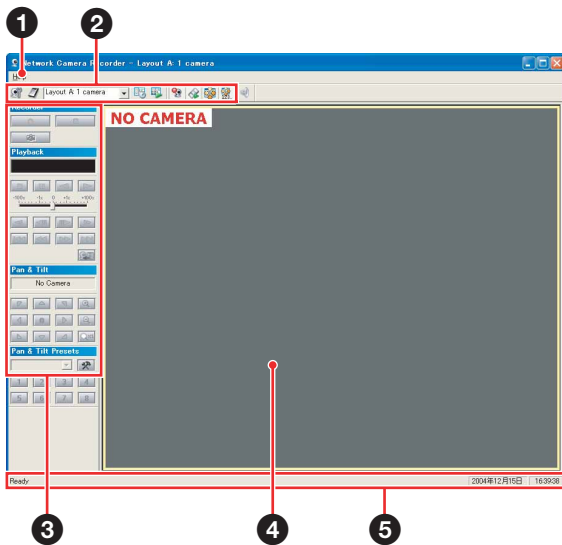
- To return to monitoring the camera image, click (Return to Camera(s)) on the **Playback** toolbar.

Tips

- The buttons on the **Playback** toolbar allow various playback modes such as fast-forward, rewind, frame playback, slow playback, and cue to the beginning. For details, see “Playing Back the Located Recording” in the “Operations” chapter (page 20).
- You can also view the playback in the preview window of the **Search Recording** window and control it using the **Playback** toolbar displayed in the **Search Recording** window.

Main Window of Network Camera Recorder

When you launch Network Camera Recorder for the first time, the following main window is displayed. This section explains the configuration of the main window.



- 1 Help menu**
Provides version information on the application of Network Camera Recorder.
- 2 Main toolbar**
Provides access to the major functions of the Network Camera Recorder application.
For the function of each button, see the explanation page for each function.



- Camera Manager (page 24)
- Storage Location (page 29)
- Layout A: 1 camera Select Layout box (page 28)
- Schedule Editor (page 30)
- Search Recording (page 17)
- Toggle Recorder Toolbar (page 17)
- Toggle Playback Toolbar (page 20)
- Toggle Pan & Tilt Toolbar (page 15)

- Toggle Pan & Tilt Presets Toolbar (page 15)
- Audio Mute (page 14)

- 3 Functional Toolbars**
Allows control of the camera.
The display of each functional toolbar is enabled or disabled by the specific toggle button on the main toolbar.

 - Recorder Toolbar** (page 17)
 - Playback Toolbar** (page 20)
 - Pan & Tilt Toolbar** (page 15)
 - Pan & Tilt Presets Toolbar** (page 15)
- 4 Monitor window**
Displays the image of the camera or the playback image. There is no image by default.
- 5 Status bar**
Gives a summary of the current activities of the application and error messages.

Monitoring

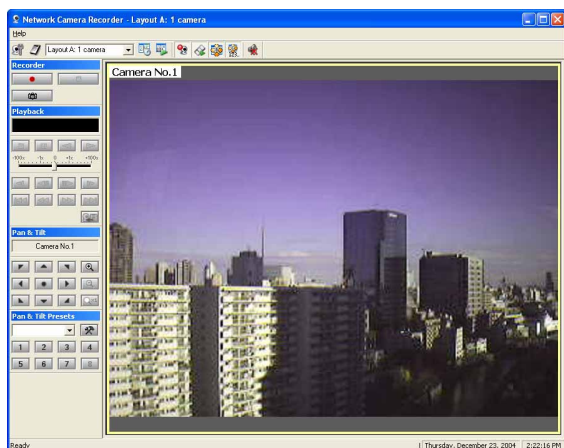
This section explains the procedure of monitoring from the selected camera.

Before monitoring, you need to register the camera(s) in the Network Camera Recorder application and assign the camera(s) to the monitor window.

For registration of cameras and assignment to the monitor window, see the “Setups” chapter on page 24.

- 1 Start Network Camera Recorder to display the main window.
For starting, see “1. Start the Program” on page 7.

The image(s) of the camera(s) appear(s) in the monitor window according to the selected layout.



- 2 Control the camera using the **Pan & Tilt** toolbar and **Pan & Tilt Presets** toolbar.
For details, see “Controlling the Camera” on page 15.

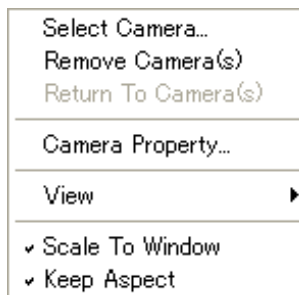
To monitor audio

When a microphone is connected to the selected camera, you can monitor the audio together with the camera image.

If you are monitoring multiple cameras, click on the monitor window showing the image of the camera whose you want to monitor. The audio of the selected camera is heard.

Using the Pop-up Menu in the Monitor Window

Right-clicking in the monitor window with a camera image displays a pop-up menu. The pop-up menu allows you to change the monitoring camera and the display items in the monitor window, etc.



To change the camera in the monitor window

- 1 Select **Select Camera...** from the pop-up menu.
The **Select Camera** dialog appears.



- 2 Select the camera you want to monitor, then click **OK**.
The image in the monitor window changes to the image of the selected camera.

Note

If the application cannot establish communication with the selected camera, the message “NO CONNECTION” appears in the monitor window. Check the registered data of the camera and the network status.

To turn off the image of the camera from the monitor window

Select **Remove Camera(s)** from the pop-up menu. The image of the selected camera disappears from the monitor window and the message “NO CONNECTION” appears.

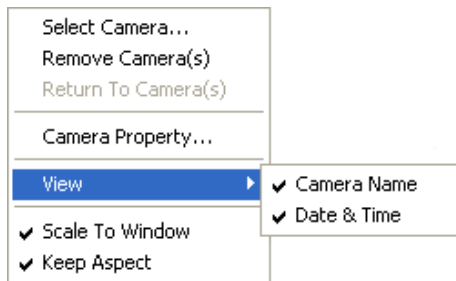
To return to monitoring the camera image

To change the display in the monitor window from playback of the recorded image to camera monitoring, select **Return to Camera(s)** from the pop-up menu.

To select the items to be displayed in the monitor window

The camera name and the date and time can be displayed in the monitor window.

- 1 Right-click in the monitor window to display the pop-up menu.
- 2 Select **View** from the pop-up menu, then right-click. The **View** submenu is displayed.



- 3 From the submenu, click on the item you want to show in the monitor window to make the checkmark visible. To hide the item, click on it again to clear the checkmark.

Display in the monitor window

Camera name



Date & time

To scale the monitoring image to fit the monitor window



You can scale the image in the monitor window using **Scale to Window** and **Keep Aspect** in the pop-up menu.

Scale to Window: Click on this item to make the checkmark visible to enable scaling of the camera image according to the size of the monitor window.

Click on it again to clear the checkmark, and the image size is fixed to that set by the camera. In this position, the camera image may be larger than the monitor window, and the portion of the image beyond the monitor window cannot be seen.

Keep Aspect: Click on this item to make the checkmark visible to keep the aspect ratio of the scaled image. This item is enabled only when **Scale to Window** is selected. When **Scale to Window** is cleared, the image is displayed in the size set by the camera, always keeping its aspect ratio.

To mute the sound


Clicking the  (Audio Mute) button on the main toolbar mutes the monitoring or playback sound. Click on  again to cancel muting.

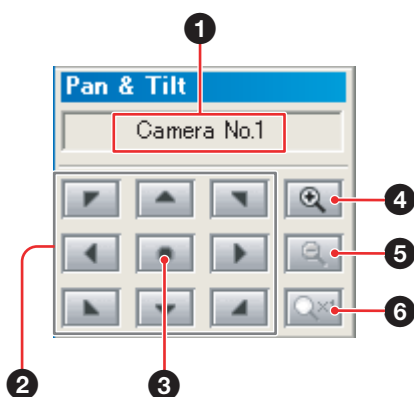
Controlling the Camera




You can control pan, tilt and digital zoom of the camera during monitoring, or move the camera to the preset position.

Panning, Tilting and Digital Zooming (SNC-M3/M3W only)

Use the **Pan & Tilt** toolbar to control the camera.

To display or hide the **Pan & Tilt** toolbar, click the  (Toggle Pan & Tilt Toolbar) button on the main toolbar.



- 1 Camera name box**
Displays the name of the camera to be controlled. Click the box to display the **Select Camera** dialog for changing the camera to be controlled.
- 2 Pan & Tilt direction buttons**
Click the button to move the camera in the direction shown on the button.
- 3 Pan & Tilt center button**
Click the button to move the camera to the center position.
- 4  Digital zoom in button**
Click the button to zoom in.
× 1.25, × 2, × 2.5, × 3, × 4, × 5, × 6, × 7, × 8, × 9, × 10, × 15, × 20 and × 25 are available.
- 5  Digital zoom out button**
Click the button to zoom out.
- 6  Digital zoom cancel button**
Click the button to cancel digital zoom and return to normal monitoring (× 1).

Note


During digital zooming, the pan & tilt function of the camera does not operate properly. The camera only pans and tilts within the ×1 image area using the pan and tilt direction buttons.

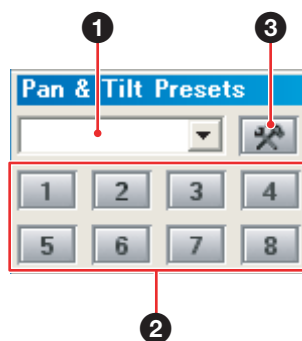
Panning & Tilting Using the Preset Function of the Camera (SNC-M3/M3W only)


The SNC-M3/M3W is equipped with the preset function to store up to 8 camera positions.

You can move the camera to the preset position specified in the camera using the buttons on the **Pan & Tilt Presets** tool bar. Storing new positions is also possible.

To pan & tilt using the Pan & Tilt Presets toolbar


To display the **Pan & Tilt Presets** toolbar or hide the display, click the  (Toggle Pan & Tilt Presets Toolbar) button on the main toolbar.

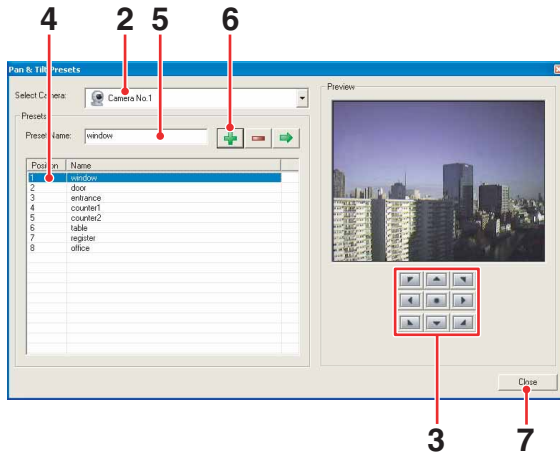



- 1 Preset select box**
Select the preset name indicating the preset position to which you want to move the camera from the drop-down list, and the camera moves to the selected position.
- 2 Preset number buttons**
Click the button indicating the preset position to which you want to move the camera, and the camera moves to the selected position. The buttons without the preset position stored are grayed out.
- 3  Customize Presets button**
When you want to change a preset position or store a new preset position, click this button to display the **Pan & Tilt Presets** dialog. For details, see “To store new preset positions” on page 16.

To store new preset positions


You can store up to 8 preset positions.

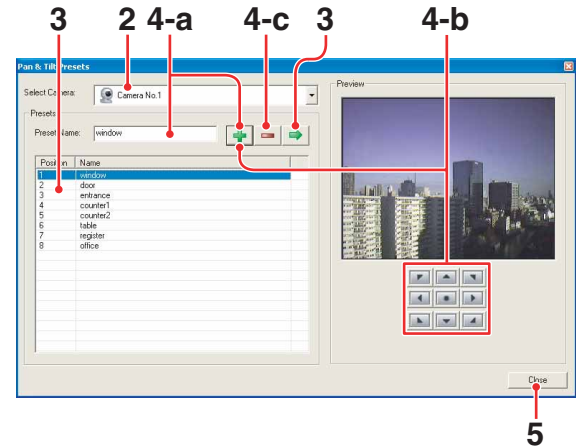
- 1 Click the  (Customize Presets) button on the **Pan & Tilt Presets** toolbar.
The **Pan & Tilt Presets** dialog appears.







- 2 Select the camera from the drop-down list of the **Select Camera** box.
- 3 Observing the preview image, move the camera to your preferred position using the pan & tilt control buttons.
- 4 Click the preset position number in the list to which you want to store the current position.
- 5 Enter the preset name in the **Preset Name** box within 32 characters.
- 6 Click the  (Update Selected Preset Position) button.
The current position is stored as a preset position.
To store other preset positions, repeat steps 2 to 5.
- 7 Click the **Close** button to close the dialog.


To edit or delete a preset position

- 1 Click the  (Customize Presets) button on the **Pan & Tilt Presets** toolbar.
The **Pan & Tilt Presets** dialog appears.



- 2 Select the camera from the drop-down list of the **Select Camera** box.
- 3 Select the preset position you want to change or delete and click the  (Move Camera to Selected Preset) button.
The camera moves to the selected preset position.
- 4 Change the required item(s).
 - a. **To change the preset name:** Enter a new name in the **Preset Name** box, then click the  (Update Selected Preset Position) button to store the new name.
 - b. **To change the position of the camera:** Move the camera to the preferred position using the pan & tilt control buttons, then click the  (Update Selected Preset Position) button to store the new position.
 - c. **To delete the preset position:** Click the  (Clear Selected Preset Position) button.

Note

Clicking the  button saves the current camera position, and the preset name if entered. Therefore, you need to move the camera to the preset position even when you want to change the preset name only.

- 5 Click the **Close** button to close the dialog.


Recording the Camera Image (Manual Recording)

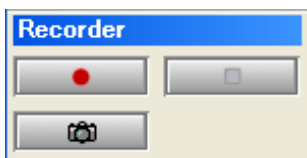
You can record the current images during monitoring or take a snapshot.




This section explains how to record manually using the buttons on the **Recorder** toolbar.

For a scheduled recording, see “Scheduling Recordings” on page 30.

Recording Using the Recorder Toolbar

To display or hide the **Recorder** toolbar, click the  (Toggle Recorder Toolbar) button on the main toolbar.



-  Record: Click the button to start recording.
-  Stop: Click the button to stop recording.
-  Snapshot: Click the button to take a snapshot of the current image and store it in the bmp (bitmap) format.

Tips


- The recorded images and snapshots are stored in the previously specified location of the computer. For specifying the storage location, see “Assigning a Storage Location” on page 29.
- To search for a record, see “Searching for Recordings” on page 17.

Playing Back Recorded Images

You can search for recorded data and view playback either in the preview window of the **Search Recording** window or in the monitor window of the main window.

Searching for Recordings

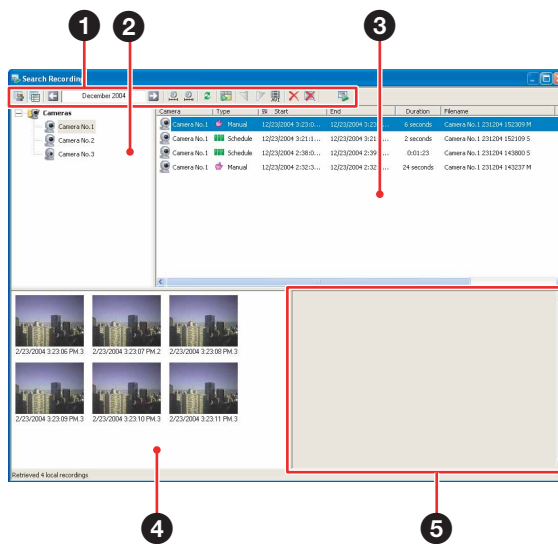
For searching for a file of recorded data, use the **Search Recording** window.

To display the **Search Recording** window, click the  (Search Recording) button on the main toolbar.

Notes

- To view the playback image on the monitor window, you need to click on the monitor window to select it (to be framed in yellow) before displaying the **Search Recording** window. If it is not selected, the located recording will not be displayed in the monitor window.
- When the **Search Recording** window is displayed, the audio of the image displayed in the monitor window of the main window cannot be heard. Only the audio of the image being played back in the **Search Recording** window is heard.
- Snapshots cannot be searched for.

Search Recording window



- 1 Search Recording toolbar**
The buttons on this toolbar are used to search for recordings.



 View Recording TimeLine

-  View Recording List
-  Previous Date
- Date Picker box
-  Next Date
-  Zoom In Date & Time
-  Zoom Out Date & Time
-  Refresh Recordings
-  Preview Selected Recording
-  Mark In for Exporting
-  Mark Out for Exporting
-  Export Recording
-  Delete Recording
-  Cleanup Recordings
-  Open Recording File

2 Camera tree

Displays the cameras registered in Network Camera Recorder in a tree configuration. Select the camera to limit the recordings to be searched for by the camera.

3 List view or Timeline view

The recordings are listed or shown on the timeline.


4 Thumbnails of recording

Thumbnails of the selected recording file are shown.

5 Preview window

Displays the image of the selected recording.

Note

The searched data is not updated during recording. To update the file list, click the  (Refresh Recordings) button on the Search Recording toolbar.

To search by camera

To search for a recording made with the specified camera, select the camera from the camera tree.



To select multiple cameras, hold the <Shift> key and left-click the mouse.

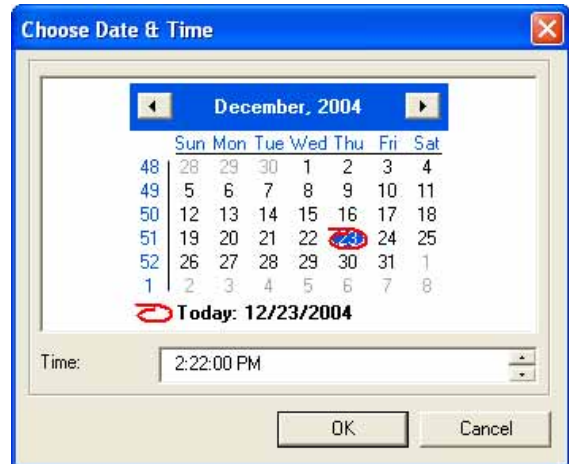
The data recorded by the selected camera(s) are shown on the list view or timeline in the **Search Recording** window.

To search by date and time



To search for a recording made on a specified date and time, select the date and time with the calendar or date picker. The data recorded on the specified date and time are shown on the list view or timeline in the **Search Recording** window.

To specify the date and time with the calendar

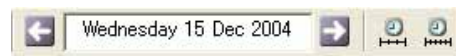
Click on the date picker box, and the calendar appears.





Click the date you want to specify on the calendar. You can also specify the time by selecting it from the **Time** box under the calendar. Then click **OK**.

To go back to the calendar of previous months, click the  button. To go to the calendar of upcoming months, click the  button.

To limit/expand the searching range



To search for a recording using a time scale more precise than the current one, click the  (Zoom In Date & Time) button on the Search recording toolbar. To use a time scale less precise than the current one, click the  (Zoom Out Date & Time) button.

Examples of searching range

2004: recordings in 2004 (year)

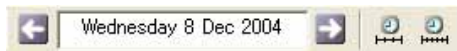
December 2004: recordings in December, 2004

Week 50 2004: recordings in the 50th week of 2004

Wednesday 15 Dec 2004: recordings on Wednesday, December 15, 2004

15 Dec 2004 13:31:19: recordings at 13:31:19 on December 15, 2004

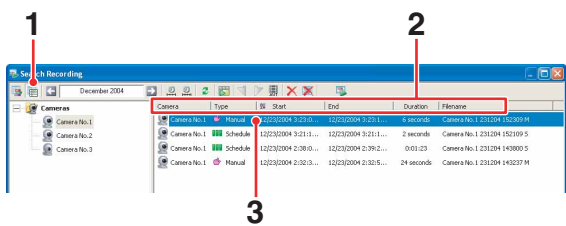
To select the previous or next timeline



To move forward the date and time displayed in the date picker box, click the (Next Date) button. To move backward the date and time, click the (Previous Date) button.

The display moves forward or backward in units of the selected time scale.

To search for a recording from the list view

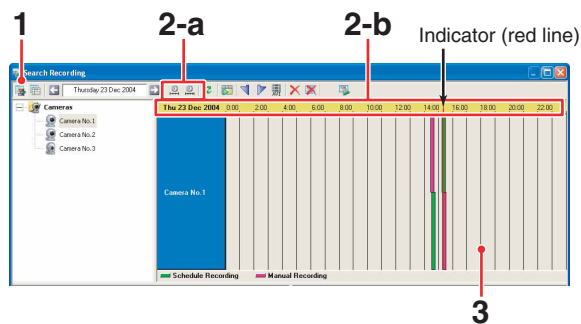


- 1 Click the (View Recording List) button on the Search Recording toolbar. The recordings made by the selected camera(s) or within the selected searching range are displayed in the list.
- 2 Show the recording you want to play back in the list. To sort the recordings, click on the header item.
- 3 Double-click on the recording. The playback image appears in the monitor window.

Items in the list view

- Camera:** Displays the name of the camera used for recording.
- Type:** Displays the type of recording: Manual or Schedule .
- Start:** Displays the recording start date and time.
- End:** Displays the recording end date and time.
- Duration:** Displays the recording duration.
- Filename:** Displays the file name of the recording.
- # Files:** Displays the number of files into which the recording is separated.
- Start Available:** The available playback start time is displayed here, because some files at the beginning of the recording may have been overwritten by the “Old file overwriting” function and the start time has changed. For details on the “Old file overwriting” function,” see “Assigning a Storage Location” on page 29.

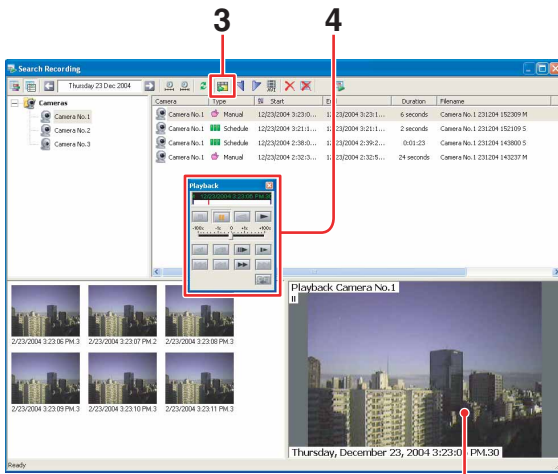
To search for a recording using the timeline




- 1 Click the (View Recording TimeLine) button on the Search Recording toolbar. The recordings made by the selected camera(s) or within the selected search range are displayed on the timeline.
- 2 Scroll the timeline to show the recording you want to play back.
 - a. Click the or button. The timeline is zoomed in or out around the indicator (red line).
 - b. Double-click the yellow header section. Double-click the left button to zoom in the timeline, or double-click the right button to zoom it out. For example, if you double-click the left button on Wednesday when a week is displayed, the timeline is zoomed in to display only 24 hours of Wednesday.
- 3 Double-click on the recording. The playback image appears in the monitor window.

Displaying a Preview Image

You can display a preview image of the selected recording in the preview window of the **Search Recording** window. You can also view the playback in the preview window.



Preview image


- 1 Search for the recording you want to preview. For details on searching, see “Searching for Recordings” on page 17.
- 2 Click to select the recording.
- 3 Click the  (Preview Selected Recording) button on the Search Recording toolbar. The first frame of the selected recording appears in the preview window and the **Playback** toolbar is displayed.
- 4 To play back, use the buttons on the **Playback** toolbar.

Playing Back the Located Recording

You can play back the located recording using the **Playback** toolbar.


For searching for the recording, see “Searching for Recordings” on page 17.

Playback toolbar

To display the **Playback** toolbar, click the  (Toggle Playback Toolbar) button on the main toolbar.



To return to monitoring the camera image

Click the  (Return to Camera(s)) button on the **Playback** toolbar.

Date/time and timeline



Indicator (red line)

The date and time of the recording is displayed on the upper part of the timeline. The header “M” indicates manual recording, and “S” indicates scheduled recording.

If you click the indicator (red line) on the timeline or click and drag it, playback starts from the indicator position.

Note

When some part of the recording has been deleted by the “Old file overwriting” function, the arrow indicating the export start position is displayed on the timeline of the **Playback** toolbar. The arrow shows the beginning of the recording that remains and there is no data to the left of the arrow.

For details on the “Old file overwriting” function and export, see “Assigning a Storage Location” on page 29.

Normal playback, reverse playback, pause and cue

Use the following buttons.



- Cue to Begin: Play from the beginning
- || Pause: Pause of play
- ◀ Reverse: Reverse play at normal speed
- ▶ Play: Normal play at normal speed

Tip

You can start playback from the beginning of the recording by clicking a thumbnail shown in the **Search Recording** window.

Shuttle slider



To navigate quickly through the recorded images, left-click the shuttle slider and hold and drag it. Moving the shuttle slider to the left or right accelerates the playback speed within 0 (normal) to 100 times for either fast-forward or rewind.

Fast-forward, rewind, various-speed playback

You can play back recordings at various speeds using the following buttons.



- ◀|| Slow Rewind: Reverse play at $\times 1/5$ play speed
- ◀||| Previous Frame: Moves one frame back.
- |||▶ Next Frame: Moves one frame forward.
- ||▶ Slow Forward: Play at $\times 1/5$ play speed
- ◀◀ Previous Recording: Play of the recording previously made with the same camera
- ◀◀ Rewind: Rewind at $\times 5$ play speed
- ▶▶ Fast-forward: Fast-forward at $\times 5$ play speed
- ▶▶ Next Recording: Play of the next recording made with the same camera

Note

For MPEG4 recordings, reverse playback is disabled. Images will be distorted if you perform reverse playback using the shuttle slider.

To play the previous or next recording

If more than one recording is located, it is possible to play between recordings.

Click the ◀◀ (Previous Recording) button on the **Playback** toolbar to start play at the beginning of the recording previously made on the timeline.

Click the ▶▶ (Next Recording) button to start play at the beginning of the next recording on the timeline.

Note

The ◀◀ and ▶▶ buttons are disabled on the **Playback** toolbar in the **Search Recording** window. Use these buttons on the **Playback** toolbar in the main window.

Deleting Recordings

You can delete recording(s) by specifying the camera or the storage duration.

Note

The recording being made cannot be deleted.

To delete a selected recording

Select the recording you want to delete in the **Search Recording** window, then click the ✕ (Delete Recording) button on the Search Recording toolbar.

To delete recordings by specifying the condition

- 1 Click the ✕ (Cleanup Recordings) button on the Search Recording toolbar. The **Cleanup Recordings** dialog appears.
- 2 Set the parameters in the **Cleanup Recordings** dialog.






Cleanup for: Select **All cameras** to delete all the recordings made with all the cameras. Select **Only the selected cameras** to delete the recordings made with the cameras selected from the camera tree.

Cleanup all recording older than/until: Set the storage duration of recordings (days). The recordings older than the set days will be deleted automatically.

- Click **OK**.
To close the dialog without deleting, click **Cancel**.

Exporting to an AVI File


You can export a recorded file to the AVI format.

- Search for and select the recording you want to export in the **Search Recording** window. For searching for the recording, see “Searching for Recordings” on page 17.
- Display the preview image of the selected recording by clicking the  (Preview Selected Recording) button on the Search Recording toolbar.
- Play back the recording using the buttons on the **Playback** toolbar.
- Specify the part of the recording you want to export while observing the playback image. Click the  (Mark In for Exporting) button on the search recording toolbar at the scene you want to start export. Click the  (Mark Out for Exporting) button on the search recording toolbar at the scene you want to finish export.

Tips

- Set the export start and end positions immediately before exporting, because they are not stored in memory.
- The arrows indicating the export start and end positions are displayed on the timeline of the **Playback** toolbar. (The arrows are displayed at the recording start and end points by default.)



- Click the  (Export Recording) button on the search recording toolbar. The **Export Recording** dialog appears.
- Set the parameters in the **Export Recording** dialog. For details on each parameter, see “Export Recording dialog” on page 22.
- Click **Export**.

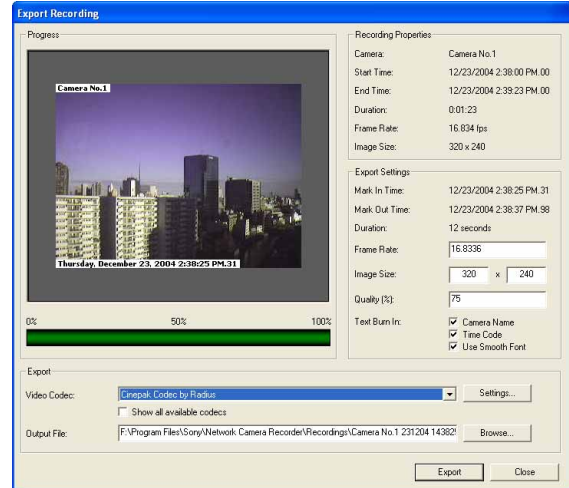
File conversion starts. Watch the progress bar to monitor the conversion.

- When the conversion is completed, click **Close**.

Note

Audio data cannot be converted into an AVI file.

Export Recording dialog



Recording Properties

Displays information on the recording.

Camera: Name of the camera used for recording

Start Time: Recording start date and time

End Time: Recording end date and time

Duration: Recording duration

Frame Rate: Frame rate for recording

Image Size: Image size for recording

Export Settings

Displays export information. Set parameters relating to exporting.

Mark In Time: Export start time set in the **Search Recording** window

Mark Out Time: Export end time set in the **Search Recording** window

Duration: Export duration

Frame Rate: Enter the frame rate for exporting.

Image Size: Enter the image size for exporting.

Quality (%): Enter the image quality for exporting between **0** to **100%**. Maximum image quality is obtained with the **100%** setting.

Text Burn In: Select the **Camera Name** and **Time Code** checkboxes if you want to include information in text format. Select the **Use Smooth Font** checkbox if you want to use Smooth Font.

Export

Set the parameters relating to export execution.

Video Codec: Enter the video codec used for export. If necessary, click the **Settings...** button to modify the properties of video codec.


Show all available codecs: By selecting this checkbox, a wide choice of video codecs among from all the ones available for your computer is possible.

Output File: Enter the path of the destination of export. Click the **Browse...** button to browse and select the destination folder.

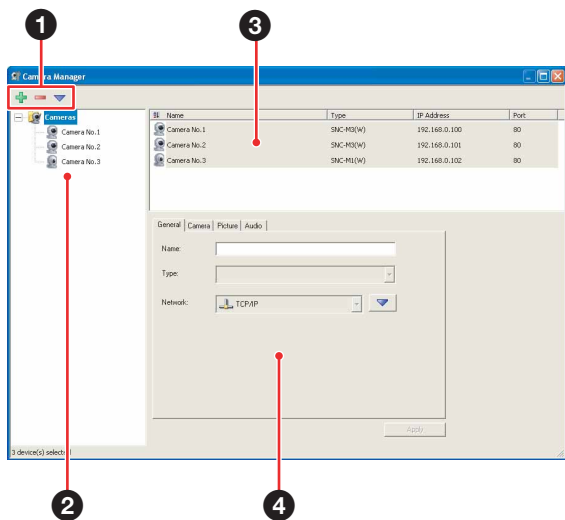
Note

You cannot play back the exported AVI file if your computer is not equipped with the codec used for exporting.




Setting a Camera

To set up a camera, display the **Camera Manager** window by clicking the  (Camera Manager) button.

Camera Manager Window



1 Camera Manager toolbar

-  Add Camera
-  Delete Camera(s)
-  Edit Camera(s)

2 Camera tree

Displays the cameras registered in Network Camera Recorder in a tree configuration.

3 Camera list


Displays the information of the cameras registered in Network Camera Recorder in list view.

4 Camera Properties dialog



Set up the properties of the camera.

Registering a Camera

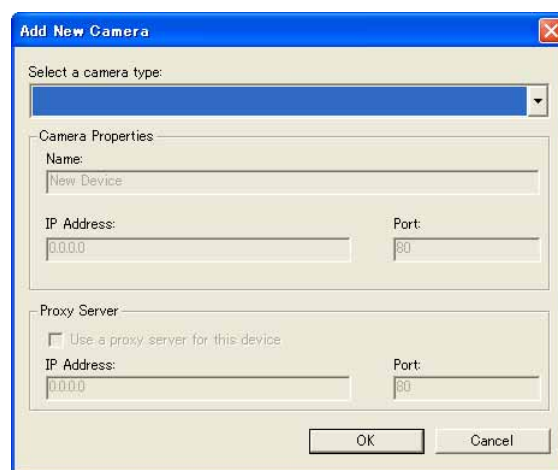
When you connect a new camera to the network, register the camera using the following procedure. Up to four cameras can be registered.

- 1 Click the  (Add Camera) button on the Camera Manager toolbar.
The **Add New Camera** dialog appears.

Note

If the  button is grayed out, click on **Cameras** in the camera tree. The  button turns green and is enabled.

- 2 Set the parameters in the **Add New Camera** dialog.



Select a camera type: Select the model name of the camera from the drop-down list.

Name: Enter the name of the camera.

IP address: Enter the IP address or host name of the camera.

Port: Enter the port number of the camera.

Proxy Server: If you access the camera via a proxy server, select the **Use a proxy server for this device** checkbox and enter the IP address or host name of the proxy server and the port number.

- 3 Click **OK**.

Registration of the camera is completed, and the camera information is displayed in the camera tree and camera list.

To register the another camera(s), repeat steps 1 to 3.

Setting the Camera Properties

After registration of the camera in the **Camera Manager** window, set the properties of the camera.

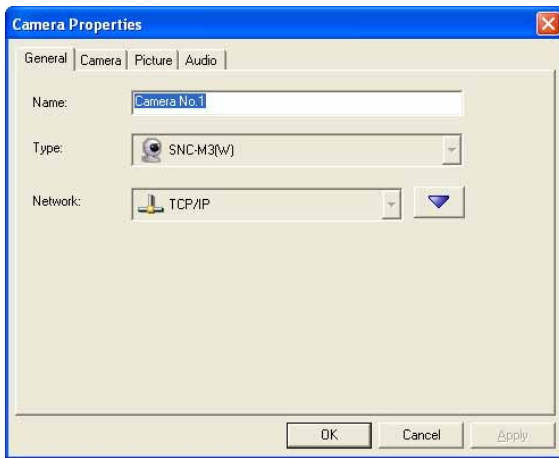
To start the setting, select the camera from the camera tree or the camera list. Then set the parameters on the **Camera Properties** dialog. The **Camera Properties** dialog has four tabs.

Note

It will take about 30 seconds maximum to apply the modified settings on the **Camera Properties** dialog to the camera.

General tab

Displays the basic information on the camera.



Name

Displays the camera name. To change the camera name, enter a new name in this box.

Type

Displays the camera model name.

Network

Displays **TCP/IP**.

Network edit button

To change the network settings, click this button. The **Network Settings** dialog appears.

For details, see “Network Settings dialog” below.

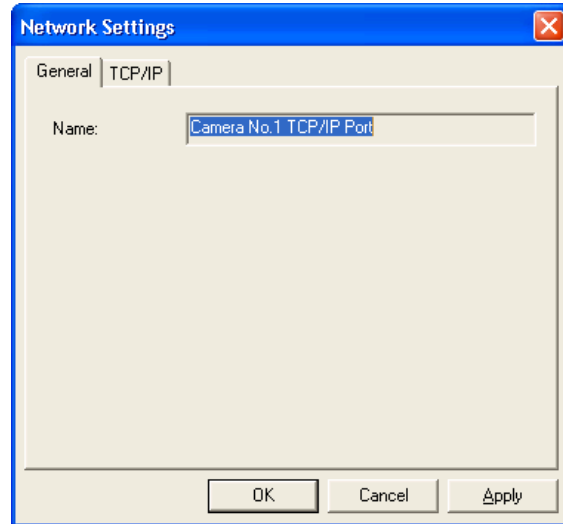
Network Settings dialog

Use this dialog to modify the network settings made when the camera has been registered.

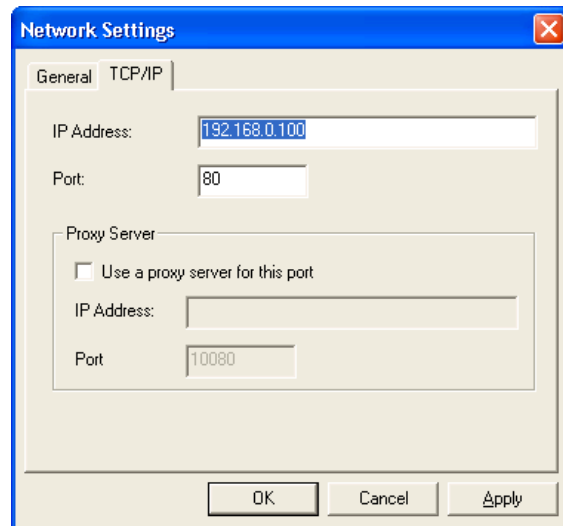
The **Network Settings** dialog has two tabs.

Network Settings – General tab

Displays the port name in the **Name** box.



Network Settings – TCP/IP tab



IP Address

Enter the IP address or host name of the camera.

Port

Enter the port number of the camera.

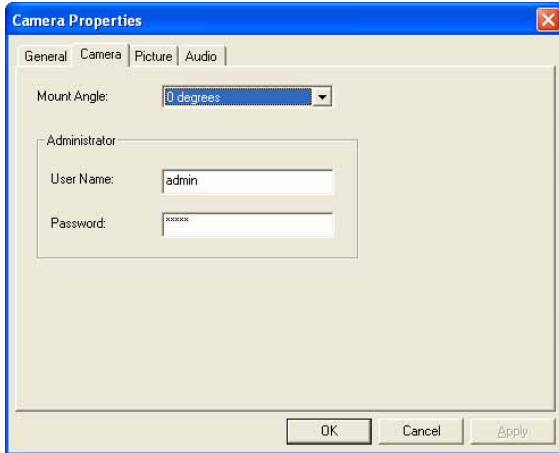
Proxy Server

If you access the camera via a proxy server, select the **Use a proxy server for this port** checkbox and enter the IP address or host name of the proxy server and the port number.

To save the settings, click **OK**.

Camera tab

Perform the settings relating to communication, etc.



Mount Angle

Select the angle at which the camera is mounted.
0, 90, 180 and **270** degrees are available.

Administrator

Enter the user name and the password of the Administrator of the registered camera.

Note

Be sure to enter the Administrator's user name and password. Network Camera Recorder does not operate properly with a user other than Administrator.

Picture tab

Perform the settings relating to the image of the camera.

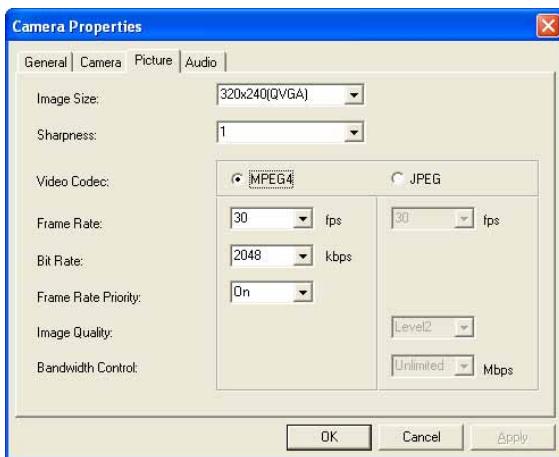


Image Size

Select the size of the camera image.
160 x 120 (QQVGA), **320 x 240 (QVGA)** and **640 x 480 (VGA)** are available.

Sharpness

Select the sharpness of the camera image.
Select between **3** and **-3**. Maximum sharpness is obtained with the **3** setting.

Video Codec

Select the video codec, **MPEG4** or **JPEG**.

Frame Rate

Select the frame rate.

1, 2, 3, 4, 5, 6, 8, 10, 15, 20, 25 and **30** fps are available.

Notes

- Maximum frame rate is 15 fps when the Image Size is **640 x 480 (VGA)** and the Video Codec is **JPEG**.
- For JPEG images, 1, 2, 3 and 4 fps cannot be set via the Web browser, because these parameters are included in the Network Camera. Even if you select 30 fps when 1 to 4 fps has been set on the Network Camera, the setting in Network Camera Recorder does not change from 1 to 4 fps when it is restarted. Setting a value other than 30 fps via the Web browser allows change in the setting in Network Camera Recorder. The changed value will be applied when Network Camera Recorder is next restarted.

Bit Rate

Set this parameter when **MPEG4** is selected.

64, 128, 256, 384, 512, 768, 1024, 1536 and **2048** kbps are available.

Frame Rate Priority

Set this parameter when **MPEG4** is selected. If you select **On**, the bit rate is automatically adjusted to keep a stable frame rate even if the frame rate of image transmission becomes lower due to the network condition.

Image Quality

Set the image quality of JPEG images between **Level 1** and **Level 5** when **JPEG** is selected. Maximum image quality is obtained with the **Level 5** setting.

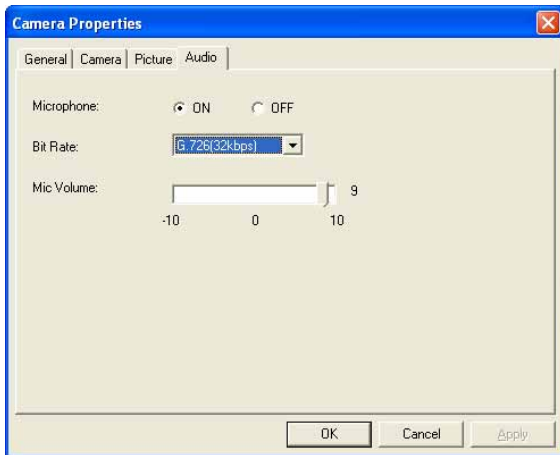
Bandwidth Control

Limits the network bandwidth with which the camera outputs the signal when **JPEG** is selected.

0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0 and **4.0** Mbps and **Unlimited** are available

Audio tab

Perform the settings relating to the microphone connected to the camera.



Microphone

Select **ON** to transmit the audio signal input from the microphone connected to the camera.

Bit Rate

Select the bit rate to transmit the audio signal input from the microphone connected to the camera.

G.726 (16kbps), **G.726 (24kbps)**, **G.726 (32kbps)** and **G.726 (40kbps)** are available.

Note

When 16 kbps is selected, audio may delay to image in about three seconds maximum during monitoring. Audio and video are almost synchronized when they are played back.

Mic Volume

Set the volume input from the microphone connected to the camera. Maximum volume is obtained with the **10** setting.

Changing the Camera Properties


- 1 Select the camera whose properties you want to change from the camera tree or the camera list in the **Camera Manager** window. The **Camera Properties** dialog appears.
- 2 Change the parameters in the **Camera Properties** dialog. For details on each parameter, see “Setting the Camera Properties” on page 25.
- 3 Click the **Apply** button in the **Camera Properties** dialog to save the changed settings.

Note

The camera properties cannot be changed while the camera is in recording mode.

Deleting a Camera

To delete the registered camera, proceed as follows:

- 1 Select the camera you want to delete from the camera tree or the camera list in the **Camera Manager** window.
- 2 Click the  (Delete Camera(s)) button on the **Camera Manager** toolbar. A confirmation dialog appears.
- 3 Click **Yes**. The selected camera is deleted.

Note

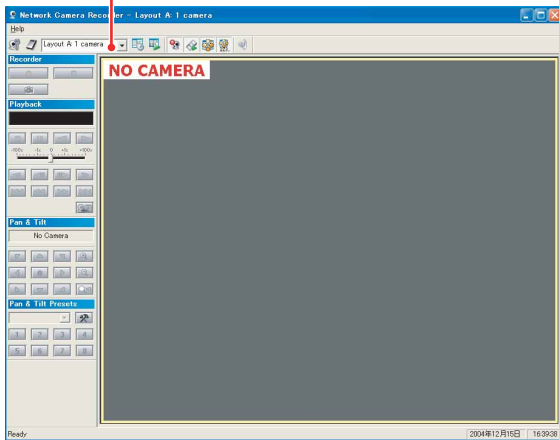
The recordings associated with the camera will remain, but cannot be displayed. If you want to delete the recordings, delete them before deleting the camera.

Assigning a Camera to the Monitor Window

Network Camera Recorder provides eight types of monitor window layouts. Select one of the layouts according to the number of cameras you want to monitor and assign the camera(s) to the monitor window.

Selecting a Layout

Select Layout box

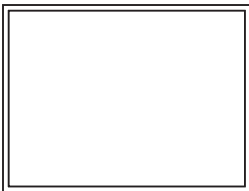


Click on the Select Layout box on the main toolbar and select a layout from the drop-down list. The monitor window changes to the selected layout.

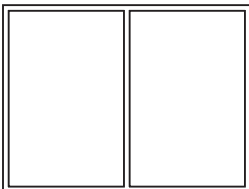
Layout types

The following eight layouts are available.

Layout A: 1 camera



Layout B: 2 cameras



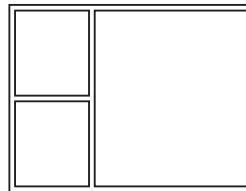
Layout C: 2 cameras



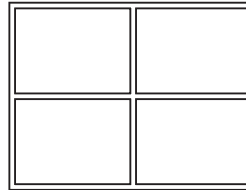
Layout D: 3 cameras



Layout F: 3 cameras



Layout G: 4 cameras



Layout H: 4 cameras



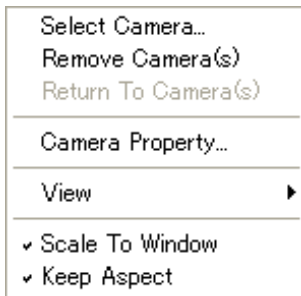
Layout I: 4 cameras



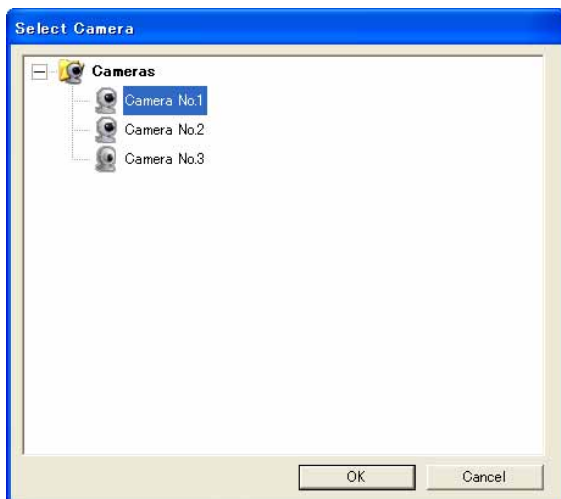
Assigning a Camera to the Monitor Window

Assign a camera to each monitor window of the selected layout as follows.

- 1 Right-click on the monitor window to which you want to assign a camera. The pop-up menu appears.



- 2 Select **Select Camera...**. The **Select Camera** dialog appears.



- 3 Select the camera you want to monitor, then click **OK**. The image of the selected camera is displayed in the monitor window.


To assign two or more cameras, repeat steps 1 to 3.

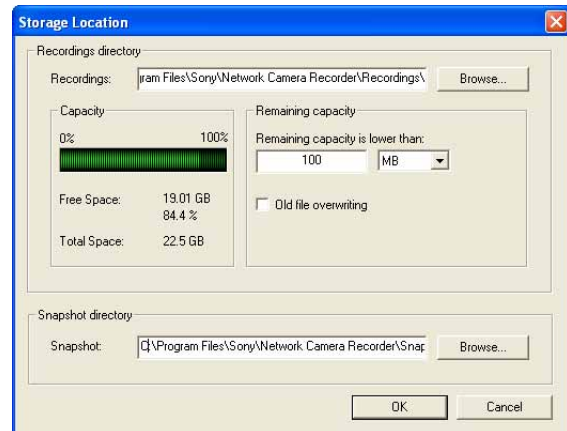
Note

If the camera is not connected to the network correctly, the message “NO CONNECTION” appears and alarm beeps sound.

Assigning a Storage Location

You can specify the storage location for recorded video files and for snapshots.

- 1 Click the  (Storage Locations) button on the main toolbar. The **Storage Location** dialog appears.
- 2 Set the parameters in the **Storage Location** dialog.



Recordings: Enter the full path of the storage location. Click the **Browse ...** button to browse and select the folder.

Capacity: Displays information of the drive specified in the path.

Remaining capacity: Set the capacity remaining to trigger the recording cleanup task in either **%** or **MB**.

If the remaining capacity is lower than the set value, the following error message appears:

“Storage Location Manager Cannot record : Free disk space is only aaa - 50 (work area) = bbb MB (ccc %)?

aaa: Current remaining capacity

bbb: Capacity required for recording

ccc: The proportion that bbb occupies in the drive

The error message appears when the size “bbb” is lower than the value set on

Remaining capacity.

To perform recording, delete unnecessary data.

Old file overwriting: This function automatically overwrites and deletes old files to secure a recording capacity. By selecting this checkbox, an old file is automatically overwritten by a new file when the remaining capacity becomes lower than the set value. If the checkbox is cleared, recording stops and an error message appears when the remaining capacity reaches the set value.

A recording is stored in multiple files. As this “Old file overwriting” function overwrites file by file, portions of a recording may be deleted file by file from the beginning.

Snapshot directory: Enter the full path of the storage location for snapshots. Click the **Browse...** button to browse and select the folder.

Notes

- To secure a recording capacity, the "Old file overwriting" function is always active while Network Camera Recorder is running, even when no recording is carried out. Therefore, old files will be deleted if another application program uses a disk space and the remaining capacity of the drive becomes lower than the value specified on **Remaining capacity**.
- The “Old file overwriting” function is activated for the path currently specified. If you change the path, data in the old path cannot be overwritten.
- If overwriting of an old file failed, the following error message appears:
 “Storage Location Manager Cannot overwrite the oldest file : cannot access the oldest file. Recording will be stopped. [file name]...”
 After [file name], the path and the file name are displayed.
 This error message appears when the recording to be overwritten is being played back, etc.
 Stop playback or delete unnecessary data, then start recording again.

- 3** To save the changed settings, click **OK**. To close the dialog without saving the changed settings, click **Cancel**.

Scheduling Recordings


Network Camera Recorder allows recording of camera images according to the predetermined schedule for each camera.

This section explains how to create a schedule.

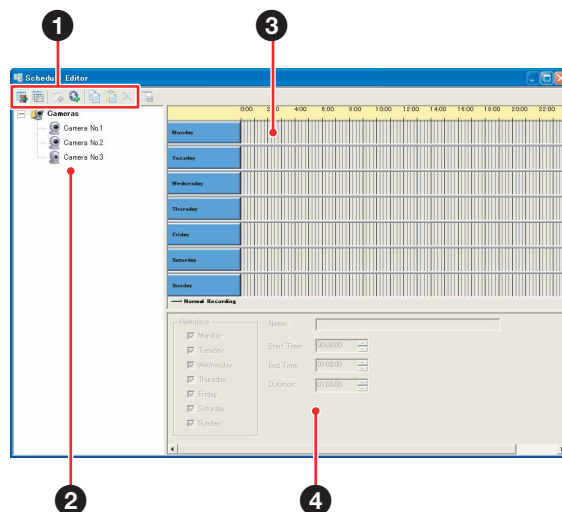
For manual recording using the **Recorder** toolbar buttons during monitoring, see “Recording the Camera Image (Manual Recording)” on page 17.

Schedule Editor

The Schedule Editor is used for creating a recording schedule.









To display the **Schedule Editor** window, click the  (Schedule Editor) button on the main toolbar.

Schedule Editor



1 Schedule Editor toolbar



-  View as Week
-  View as List
-  Insert Date/Time Item
-  Insert Recurrent Item
-  Copy Schedule
-  Paste Schedule
-  Remove Item
-  Apply Schedule

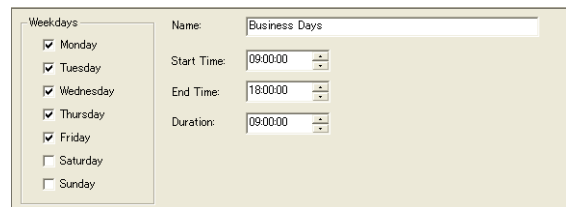
- 2 Camera tree**
Displays the cameras registered in Network Camera Recorder in a tree configuration.
- 3 Week view or list view**
Displays the created schedules on a weekly calendar along the timeline or in the list of information.
- 4 Schedule Properties dialog**
Set the properties of a schedule.

- 4** Set the parameters of the schedule in the Schedule Properties dialog.
For details of the setting, see “To set the schedule parameters” on page 31.

The set event is displayed on the timeline and recording is activated according to the schedule.

To set the schedule parameters

Set the following parameters in the Schedule Properties dialog.

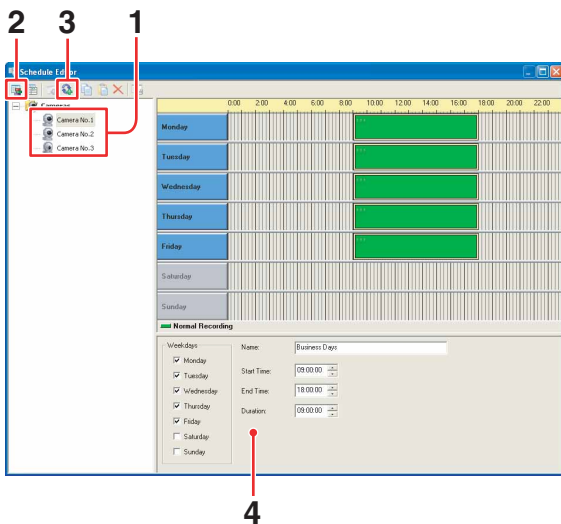


Creating Recording Schedules

There are two types of scheduled events: An event that occurs on a specific date and time, and a recurrent event that occurs every week.

The week view is used for creating recurrent events, and the list view is used for creating both date/time events and recurrent events.

To create a recurrent event using the week view



- 1** Select the camera for which you want to create a schedule from the camera tree.
- 2** Click the (View as Week) button on the Schedule Editor toolbar.
The timeline of the week view appears in the right window.
- 3** Click the (Insert Recurrent Item) on the Schedule Editor toolbar.
A dummy event is displayed as a green square on the timeline and the Schedule Properties dialog is enabled.

To create a date/time event, use the list view.

Weekdays

For a recurrent event, select the days of the week on which recording is to be performed.

Name

Enter the name of the schedule.

Start Time or Start Date

Set the start time (for a recurrent event) or the start date and time (for a date/time event).

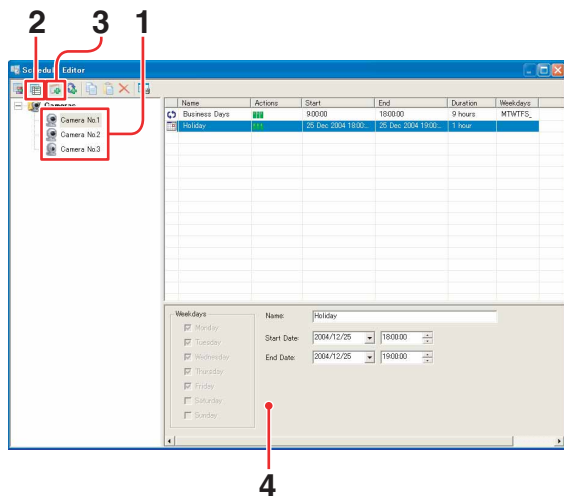
End Time or End Date

Set the end time (for a recurrent event) or the end date and time (for a date/time event).

Duration

For a recurrent event, set the duration of recording.

To create a date/time event using the list view



- 1 Select the camera for which you want to create a schedule from the camera tree.
- 2 Click the (View as List) button in the Schedule Editor toolbar.
The list view appears in the right window.
- 3 Click the (Insert Date/Time Item) on the Schedule Editor toolbar.
A dummy event is displayed in the list and the Schedule Properties dialog is enabled.

To create a recurrent event, use the week view.
- 4 Set the parameters of the schedule in the Schedule Properties dialog.
For details of the setting, see “To set the schedule parameters” on page 31.

The set event is displayed in the list and recording is activated according to the schedule.

Items in the list view

The items that configure a schedule are displayed in the list view.

Name	Actions	Start	End	Duration	Weekdays
Business Days		9:00:00	18:00:00	9 hours	MTWTFSS
Holiday		25 Dec 2004 18:00:00	25 Dec 2004 19:00:00	1 hour	

Type of event: Displays the (recurrent event) or (date/time event) icon.

Name: Displays the name of the schedule.

Actions: Displays the (recording) icon.

Start: Displays the start date and time (day, month, year, hour:minutes:seconds) for the event.

End: Displays the end date and time (day, month, year, hour:minutes:seconds) for the event.

Duration: Displays the recording duration (day, hours, minutes or seconds)

Weekdays: Displays the abbreviations of the days of the week for a recurrent event.

M	Monday
T	Tuesday
W	Wednesday
T	Thursday
F	Friday
S	Saturday
S	Sunday

To save the schedule

Click the (Apply Schedule) button on the Schedule Editor toolbar.

Then click **OK** in the confirmation dialog.

To change the schedule

Select the event you want to change in the list view or week view, and change the parameters in the Schedule Properties dialog.

To delete the schedule

Select the event you want to delete in the list view or week view, and click the (Remove Item) button on the Schedule Editor toolbar. The selected schedule is deleted. You can delete schedules one by one.

To copy the schedule

To copy the schedule for one camera to another camera, use the (Copy Schedule) and (Paste Schedule) buttons on the Schedule Editor toolbar.

- 1 Select the camera with the original event from the camera tree in the Schedule Editor window.
- 2 Click the (Copy Schedule) button on the Schedule Editor toolbar.
- 3 Select the destination camera from the camera tree in the Schedule Editor window.
- 4 Click the (Paste Schedule) button on the Schedule Editor toolbar.
The event is now copied to the destination camera.

Note

This function copies all the schedule events created for one camera to another camera. You cannot select one of the schedule events and copy/paste it.

Troubleshooting

If Network Camera Recorder does not function correctly, check the following:

Symptom	Cause and solution
The image of the Network Camera cannot be displayed.	Confirm that the image of the camera is displayed using the Web browser. Then, set up Network Camera Recorder using the data registered for the Web browser (page 25). For monitoring via the Web browser, refer to the User's Guide of the Network Camera.
"NO CONNECTION" appears even if the camera is connected.	The communication may be affected by network conditions or ambient wave conditions (for a wireless connection). For details on wireless connection, refer to the User's Guide of the Network Camera.
The recording cannot be located.	Try to change the time scale and search again (page 18).
No sound is heard.	<ul style="list-style-type: none"> Click the audio mute button on the main toolbar of the main window to cancel audio muting (page 14). Click on the monitor window to select it (to be framed in yellow). Sound will not be heard if no monitor window is selected. Adjust Mic Volume on the Audio tab of the Camera Properties dialog (page 27).
Poor monitoring sound	Change the audio bit rate to a higher value such as G.726 (40kbps) (page 27).
Audio and video are not synchronized.	It is possible that audio and video data may not be synchronized. This is not a failure.
Exported data cannot be viewed on another computer.	The codec used for export must be installed on the computer.
No sound is heard during playback of the data exported to an AVI file.	Audio data cannot be exported to the AVI file.
Network Camera Recorder operates normally, but an error message is displayed at the bottom of the window.	The display of the last error message is held at the bottom of the window. It will disappear by restarting Network Camera Recorder.

Symptom	Cause and solution
The frame rate or the image quality decreases when the camera or the computer is used with wireless connection.	The wireless connection may provide a lower communication speed than that for the wired connection, causing a lower frame rate, image quality and audio quality. Try to select a smaller image size or select MPEG4 in the Camera Properties dialog (page 25).
The camera properties cannot be changed and the following error message appears: "xxxx (camera name) Unknown Flow Controller Administrator User name and the Password are incorrect. Please check them.: Received HTTP status code 401 Unauthorized."	The error message appears when you did not enter the user name and the password of the Administrator registered in the Network Camera in the Camera tab of the Camera Properties dialog. Correct the user name and the password on Administrator (page 26). For the registration of Administrator on the Network Camera, refer to the User's Guide of the Network Camera.

Glossary

AVI (Audio Video Interleave)

The format developed by Microsoft Corporation to store a moving image and audio in a file.

The data in the AVI file can easily be managed using Microsoft Windows. Various CODECs can be applied to the AVI data.

Bit rate

The rate at which data bits are transmitted.

CODEC (COmpressor DECompressor)

Software/hardware for coding/decoding video and audio data.

fps (frame per second)

The unit of frame rate, indicating the number of frames transmitted from the camera per second.

Frame

A moving image is composed of multiple still images. A frame is one still image.

Frame rate

The number of frames of a moving image that can be transmitted per second.

JPEG

Abbreviation for Joint Photographic Expert Group. The still image compression technology or standards of the ISO (International Organization for Standardization) and ITU-T. Popularly used as image compression format on the Internet, etc.

MPEG4

Abbreviation for Moving Picture Experts Group4. One of the MPEG standards for image compression format aiming to transmit images at a high compression rate with lower picture quality.

Pan & tilt

Pan is horizontal movement of the camera head. Tilt is vertical movement of the camera head.

Proxy server

A server or software that acts as an intermediary between a local network and the Internet so that it can connect to the Internet in place of a computer on a local network

Snapshot

A still image captured from a moving image of the camera

TCP/IP

TCP is an abbreviation for Transmission Control Protocol. A standard protocol used for the Internet connection.

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