To customers using the network microphone

About the user manuals

This document provides descriptions of how to use the network microphone with NV300 series in connection with the fisheye network camera (hereinafter referred to as "fisheye camera").
This document provides descriptions about only the major available operations when using the network microphones. Refer to the Installation Guide and the Operating Instructions for the basic performance and operations of this product.

Supported software version

The functions of the network microphone described in this document is available when the software version is V1.10 or later. Refer to the Operating Instructions for how to check the software version.

Audio recording and playback using the network microphone

The audio input to the network microphone will be recorded as the audio of the fisheye camera. Also, the audibility around the specified location can be improved while live images are displayed.

> **IMPORTANT:**
> - The registration is required for both microphone and fisheye camera. The registration of the network microphone by itself cannot perform recording or audio output.
> - Operation with the network microphone is allowed only when the image compression method of the fisheye camera is selected for H.264.
> - Sound pick up is still available outside the specified location.

Supported microphones

WV-SMR10   V1.10 or later

Compatible cameras

WV-SW458 series   V1.55 or later
WV-SF438   V1.55 or later
WV-SF448   V1.55 or later
WV-SFN480   V1.11 or later
WV-SFV481   V1.11 or later

Register the network microphone

Register the network microphone and the fisheye camera with the recorder.
The network microphone can be registered via Network in the same manner as the Panasonic cameras. Refer to the Operating Instructions for further information.

Note:
- Registration of a network microphone occupies one camera registration field in the setup window.
- When a network microphone is detected, its ID (last 4 digits of the MAC address) will be displayed in "Results".

Select a camera number of the fisheye camera in "Audio" of "Advanced recording setup".

REC & event > Recording setup > Advanced recording setup

Recording setup	Event setup	Advanced setup

Advanced recording setup

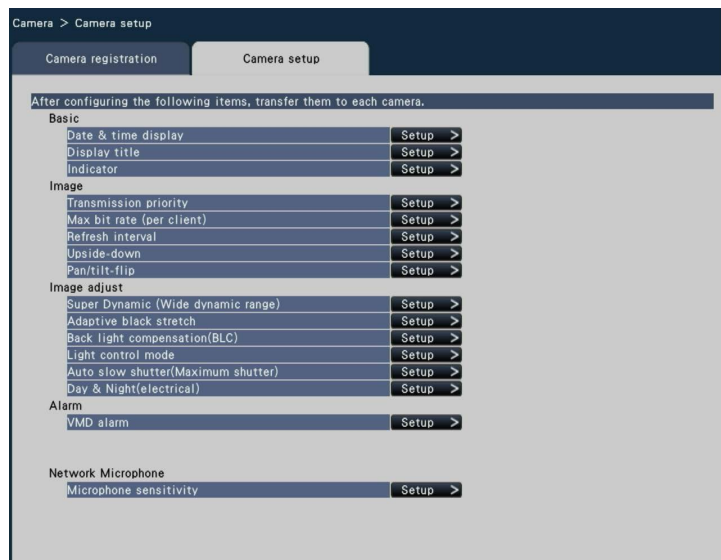| Camera	Model	Compression	Basic setup				Schedules
			Image capture size ▼	Rate ▼	Quality ▼	Audio ▼	Schedule ▼
1	SF438(FE)	H.264	SXVGA(1280x960) ▼	30 ips ▼	SF ▼	On ▼	Schedule1 ▼
2	SMR10		▼	▼	▼	Cam.1 ▼	▼
3			VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼	Schedule1 ▼
4			VGA(640x480) ▼	10 ips ▼	FQ ▼	Off ▼	Schedule1 ▼

Note:
- Only the camera number registered in the "Fisheye" (FE), "Fisheye + Double Panorama" (FE+DP), "Fisheye + Quad PTZ" (FE+4PTZ), or "Panorama" (P) mode of the fisheye camera can be selected.
- The same fisheye camera cannot be selected for "Audio" of the multiple network microphones.
- Automatically "On" will be set for the "Audio" of the fisheye camera selected by "Audio" of the network microphone.
- Automatically "Off" will be set for "Audio" of the fisheye camera deselected by "Audio" of the network microphone.
- The network microphone will perform audio recording according to the schedule of the selected fisheye camera.

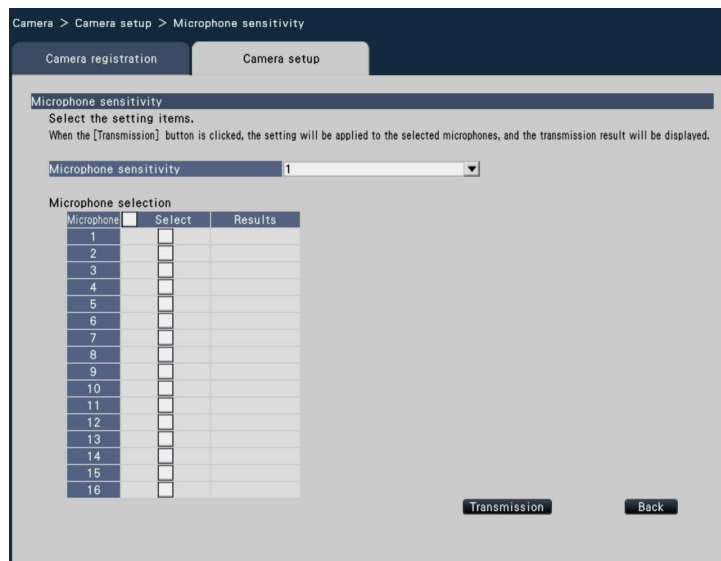# Adjust the sensitivity of the network microphone

Click the [Setup >] button of "Microphone sensitivity" in the [Camera setup] tab.

Set the "Microphone sensitivity", mark the "Select" checkbox, and then click the [Transmission] button.

→ The setting will be applied to the selected microphones, and transmission result will be displayed in "Results".

[Microphone sensitivity]
Set up the sensitivity of each network microphone according to the installation environment.
Microphone sensitivity: 0 High sensitivity/ 1/ 2/ 3 Default/ 4/ 5 Low sensitivity

[Transmission] button
Transmits the setting of the microphone sensitivity to the network microphone. Once transmission is completed and the setting is applied to the network microphone, "OK" will be displayed in "Results". If the display reads "Authentication error", etc., the microphone connection or the setting may have failed.

[Back] button
Click the button after completing the settings. The screen returns to the [Camera setup] tab.

Hear audio from the main monitor

The audio will be output when a fisheye camera connected with a network microphone is selected in the main monitor. Non-directional audio will be output in the default state.

> **IMPORTANT:**
> - The audio of the network microphone cannot be heard on a web browser.
> - The audio cannot be heard by selecting a camera number with which a network microphone is registered.
> - When the network microphone is used in the multicast transmission, the audio of the live image will not be output.

The recording indicator of the camera number with which network microphone is registered will not be displayed in the operation panel in the control screen and the wide view.
Example) When a network microphone is registered with Camera 2

Set up the sound collecting position

The sound collecting position of the network microphone can be set during the live image display, playback, or media playback.
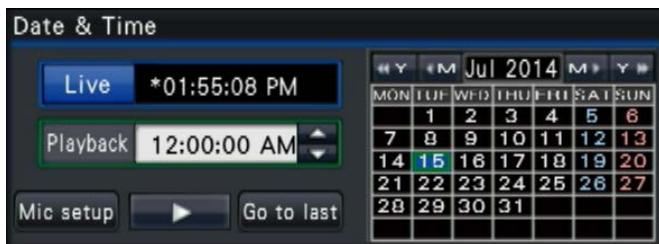
> **IMPORTANT:**
> - The sound collecting position can be specified only when fisheye images are displayed. When other than fisheye images are displayed, the position specified on the image and the sound collecting position will not be consistent.
> - During compensation display of the fisheye image, the audio will be output based on the position specified with the fisheye image.

Step 1

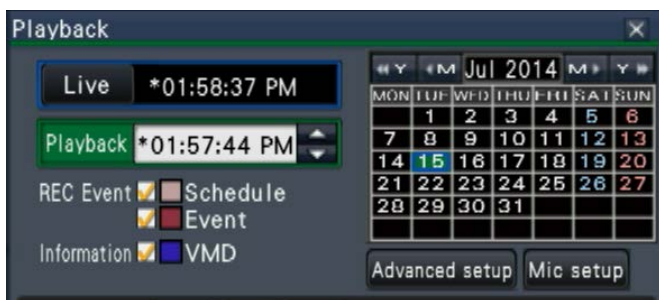Switch to 1-screen of the fisheye camera for which sound collecting position to be set.

During live image display

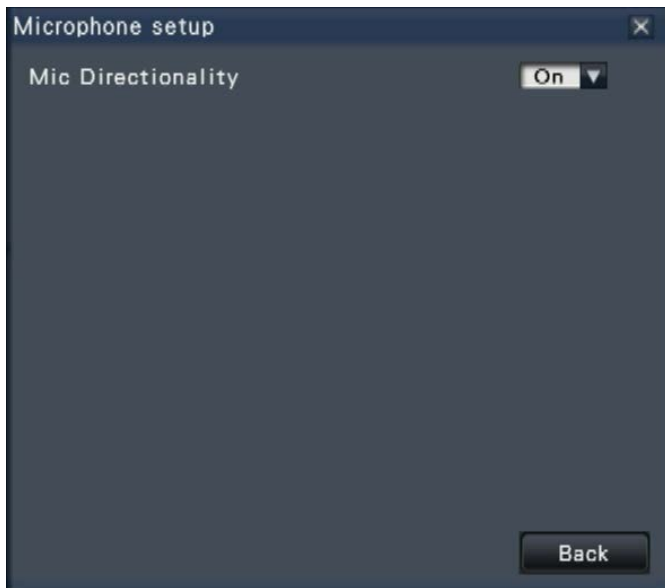**During playback**

During media playback

Note:
- During multiscreen or wide view display, the sound collecting position cannot be set.
- The [Mic setup] button is enabled only when images are displayed on 1-screen in the control screen.

Step 2

Click the [Mic setup] button.

→ The "Microphone setup" panel will be displayed.

[Mic Directionality]

The sound directionality can be set up.

    Off: No directionality

    On: Directionality set over a specified sound collecting position

The sound collecting position will be displayed on the camera image with 🎤 icon.

To change the sound collecting position, click on the image at any place where you wish to hear a sound.

Note:

- The directionality of the microphone and the sound collecting position are memorized per camera number.
- The directionality of the microphone and the sound collecting position are retained even if the recorder is rebooted (however note that changing the camera registration or initializing the settings will reset all the settings).
- If clicked on a place beyond the setting range, the sound collecting position will not be changed.
- The icon which indicates the sound collecting position will appear only when the microphone setup panel is displayed and "On" is selected for the directionality of the microphone.
- When playing back the recorded images of the camera in which audio from the network microphone is recorded, non-directional sound may be played if the network microphone has not been registered with the corresponding camera number.

Hear audio from PC

The copied/downloaded data files can be played using the dedicated viewer software.
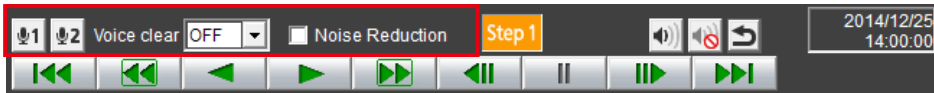When the audio from the network microphone is recorded to the audio data (file name.n3a), audibility around the specified location can be improved with the mouse operation on the image.

Step 1

To specify a sound collecting position, click the 🎤 button. (The 🎤 button will be displayed when playback is started.)
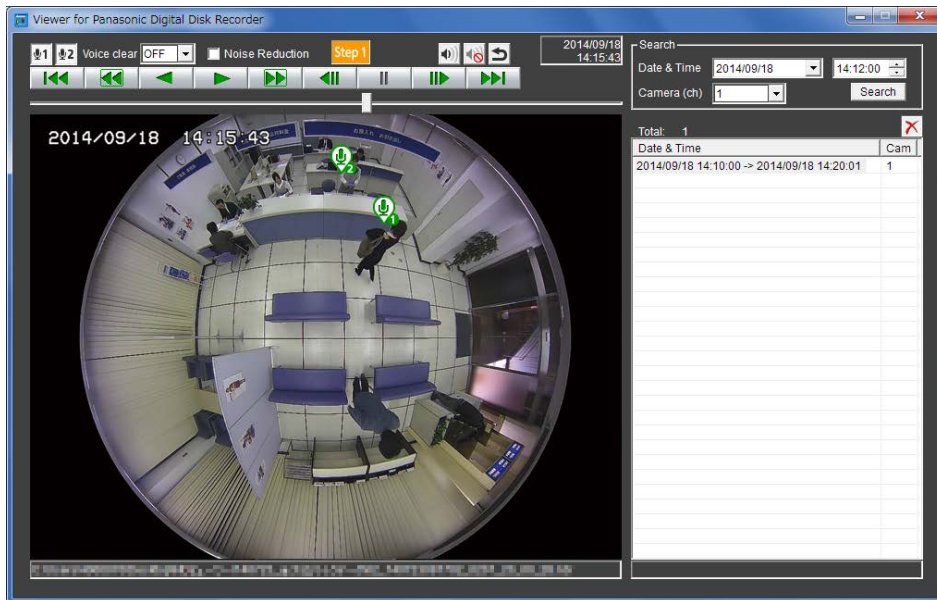

→ The menu for setting the sound collecting position will be displayed.

Step 2

The sound collecting position can be specified at two points at maximum. When 🎤1 and/or 🎤2 is clicked, the icon will be displayed on the screen. Drag the icon and drop it at a desired location.
→ The audibility of the place where the icon is dropped will be improved.

Note:
- For the image data with no audio from the network microphone is recorded, the 🎤 button will not be displayed.
- When "Aspect" is selected for the display format, the 🎤 button will be displayed.
- The audibility can be adjusted with the "Voice clear" setting.
  Off: Not adjustable
  Low: Low effect
  High: High effect
- The audio noise reduction function will always be enabled if "Noise Reduction" is marked.
- The audio from the network microphone will not be played with the viewer software copied/downloaded from the recorder using the software version of V1.10 or before. Use the viewer software of the recorder with the software of V1.10 or later.

When the fisheye images of the fisheye camera are displayed in 1-screen PTZ/4-screen PTZ with compensation, the audio from the network microphone will be output at the sound collecting position previously specified with the fisheye image. To change the position, return to the fisheye image display.