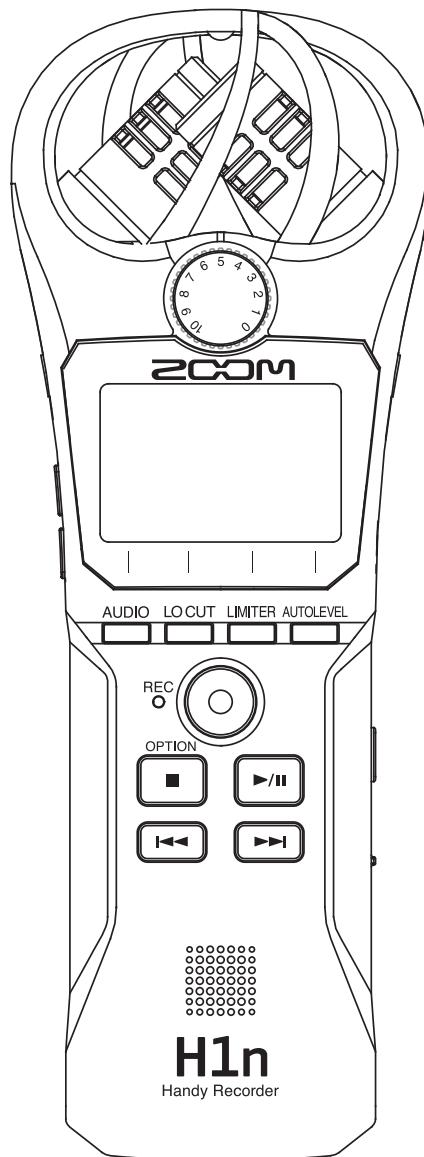


**ZOOM**®

# Handy Recorder

# H1n



# Operation Manual

You must read the Usage and Safety Precautions before use.

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# Usage and Safety Precautions

In this operation manual, symbols are used to highlight warnings and cautions that you must read to prevent accidents. The meanings of these symbols are as follows.

|   |  |  |  |
|---|--|--|--|
|  <b>WARNING</b> | Something that could cause serious injury or death |  <b>CAUTION</b> | Something that could cause injury or damage to the equipment |
|---|--|--|--|

## Other symbols used

|  |  |
|--|--|
|  An action that is mandatory |  An action that is prohibited |
|--|--|

## **WARNING**

### ■ Operation with batteries

-  Use 2 commercially-available AAA batteries (alkaline dry cell batteries, NiMH batteries or lithium dry cell batteries).
-  Carefully study the warning indications of the batteries before use.
-  Always keep the battery and SD card covers closed during use.

### ■ Alterations

-  Do not open the case or modify the product.

## **CAUTION**

### ■ Product handling

-  Do not drop, bump or apply excessive force to the unit.
-  Be careful not to allow foreign objects or liquids to enter the unit.

### ■ Battery handling

-  Install batteries with the correct +/- orientations.
-  Use the specified batteries.  
Do not use new and old batteries together. Do not use batteries of different brands or types together.
-  Remove the batteries when the unit will not be used for a long time.  
If a leak occurs, thoroughly wipe the battery case and battery terminals to remove the leaked fluid.

### ■ Operating environment

-  Do not use in extremely high or low temperatures.
-  Do not use near heaters, stoves and other heat sources.
-  Do not use in very high humidity or where it could be splashed by water.
-  Do not use in places with frequent vibrations.
-  Do not use in places with much dust or sand.

### ■ Volume

-  Do not use at a loud volume for a long time.

### ■ Interference with other electrical equipment

In consideration of safety, the **H1n** has been designed to minimize its emission of electromagnetic waves and to suppress interference from external electromagnetic waves. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves could result in interference if placed nearby. If this occurs, place the **H1n** and the other device farther apart.

With any type of electronic device that uses digital control, including the **H1n**, electromagnetic interference could cause malfunction, corrupt or destroy data and result in other unexpected trouble. Always use caution.

## ■ Cleaning

Use a soft cloth to clean the exterior of the unit if it becomes dirty. If necessary, use a damp cloth that has been wrung out well to wipe it.

Never use abrasive cleansers, wax or solvents such as alcohol, benzene or paint thinner.

## ■ Breakdown and malfunction

If the unit becomes broken or malfunctions, immediately disconnect the AC adapter, turn the power off and disconnect other cables. Contact the store where you bought the unit or ZOOM service with the following information: product model, serial number and specific symptoms of breakdown or malfunction, along with your name, address and telephone number.

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## FCC regulation warning (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## For EU Countries



## Declaration of conformity

# Introduction

Thank you very much for purchasing a ZOOM **H1n** Handy Recorder (hereafter, "**H1n**").  
The **H1n** has the following features.

## 90° XY mic

The 90° XY mic captures three-dimensional images of sound.

This stereo mic uses a matched pair and can handle a maximum sound pressure of 120 dB SPL, enabling it to record clearly without distortion even during band rehearsals and club performances.

## Straightforward interface

The input level can be adjusted simply by turning a dial, and recording settings can be changed without complicated procedures.

After learning it once, the simple user interface allows settings to be made without hassle.

## Display with great visibility and language localization

The full-dot display allows the interface to change as needed.

Moreover, parameter names, messages and other information can be shown in the set language using the capabilities of this display.

## USB audio interface that uses asynchronous transfer

The asynchronous transfer system used is not impacted by computer jitter, enabling faithful reproduction of the original sound.

## Additional recording functions from other models

The features include automatic recording that monitors the input level to determine when to start, pre-recording to prevent missing beginnings, and sound marks that are useful for synchronizing with external equipment.

The **H1n** also has a new self-timer function that is convenient when recording alone.

## Overdubbing function

New sounds can be recorded over existing recordings nondestructively.

Since a new file is created and the original file is left unchanged, you can overdub without worrying about mistakes.

## Advanced playback functions

Speed adjustment, A-B repeat, playback position skipping and other functions are useful for transcribing, studying and learning pieces of music. This recorder is useful even after recording.

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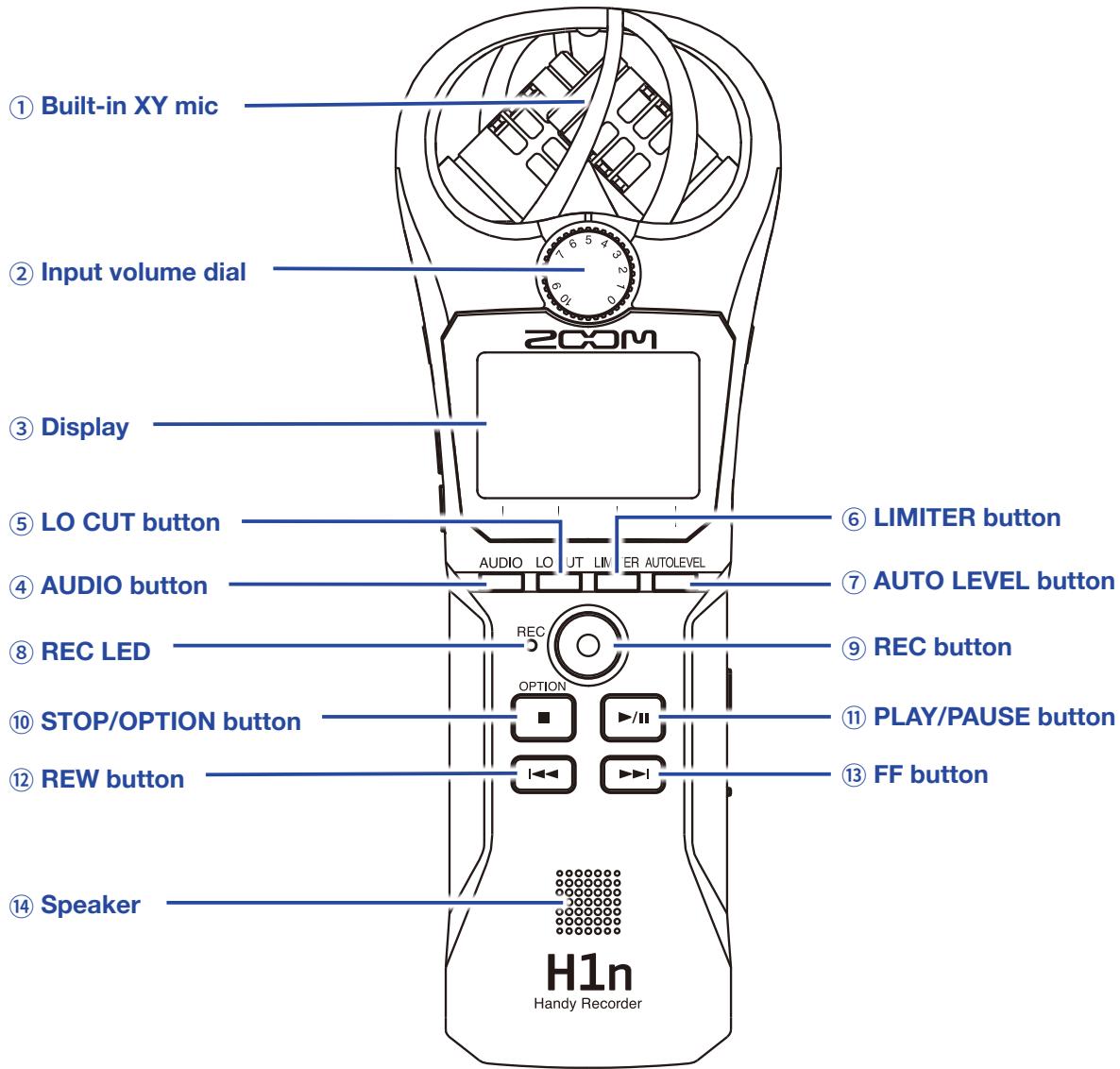
Adding languages

## Troubleshooting

## Specifications

# Names of parts

## ■ Front



### ① Built-in XY mic

This has two crossing directional mics. This mic can record a three-dimensional sound with natural depth and width.

### ② Input volume dial

Use to adjust the input level.

### ③ Display

This shows various types of information.

### ④ AUDIO button

Use this to operate the function shown 1st from the left at the bottom of the display.

### ⑤ LO CUT button

Use this to operate the function shown 2nd from the left at the bottom of the display.

**⑥ LIMITER button**

Use this to operate the function shown 3rd from the left at the bottom of the display.

**⑦ AUTO LEVEL button**

Use this to operate the function shown 4th from the left at the bottom of the display.

**⑧ REC LED**

This lights during recording. It blinks rapidly when the input sound level is high.

**⑨ REC button**

Use to start recording.

**⑩ STOP/OPTION button**

Use to stop file playback and show various functions.

**⑪ PLAY/PAUSE button**

Use to start and pause playback of recorded files.

**⑫ REW button**

Use to skip files and search backward to a playback position.

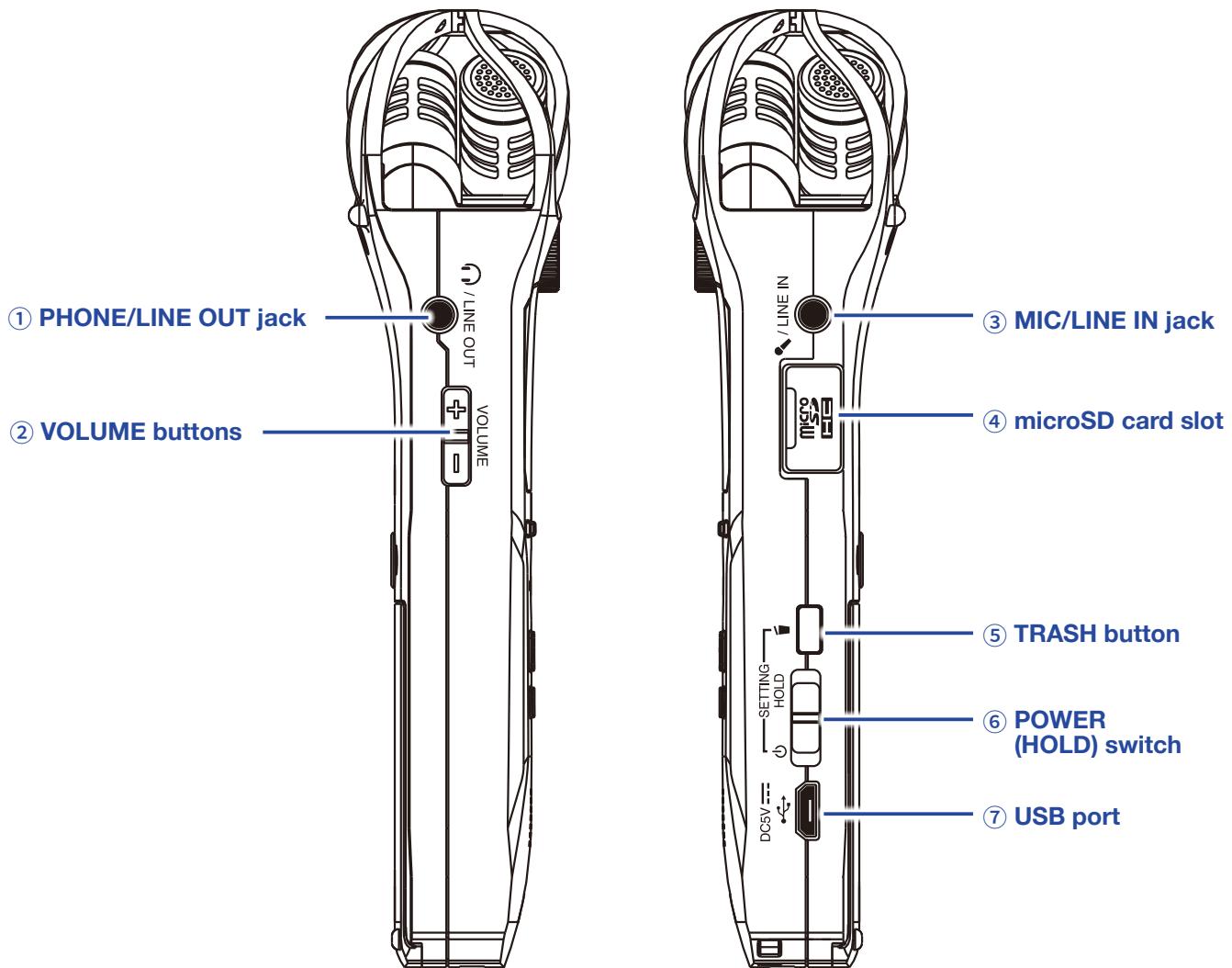
**⑬ FF button**

Used to skip files and search forward to a playback position.

**⑭ Speaker**

Sound is output here during file playback.

## ■ Left and right sides



### ① PHONE/LINE OUT jack

This can output sound to headphones or a connected device.

### ② VOLUME buttons

Use to adjust the volume.

### ③ MIC/LINE IN jack

A connected mic can be used to record. Mics that require plug-in power can be used with this jack.

### ④ microSD card slot

Insert a microSD card here.

### ⑤ TRASH button

Use to delete recorded files.

### ⑥ POWER (HOLD) switch

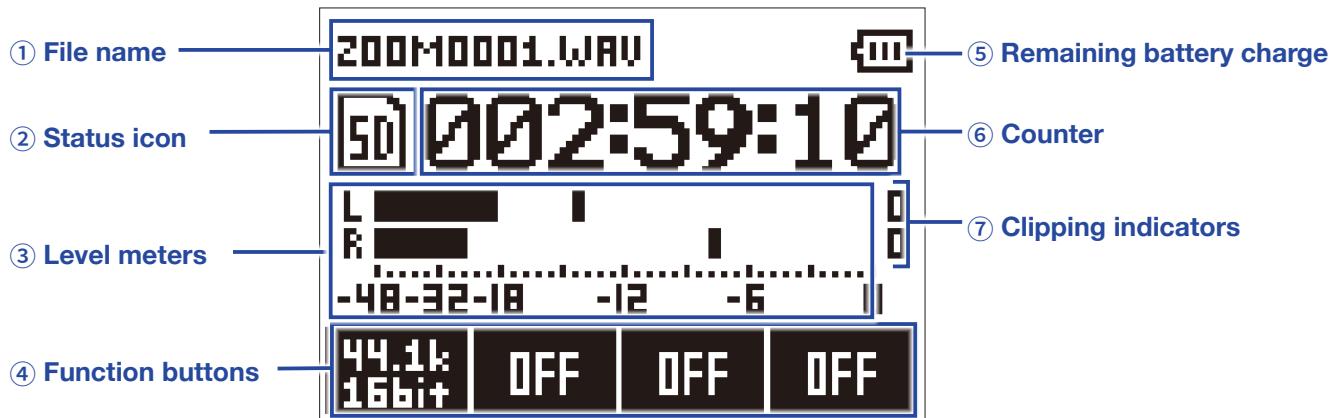
Use this to turn the power ON/OFF and to disable button operation.

### ⑦ USB port

Connect this to a computer or iOS device to use the H1n as an audio interface or card reader.

# Display overview

## Recording Screen



### ① File name

This shows the name of the file being recorded.

### ② Status icon

This shows the recording status.

Ready   Recording   Paused   Overdubbing ([Overdubbing](#))

### ③ Level meters

These shows the current input levels.

### ④ Function buttons

These show functions that can be set on the Recording Screen.

From left to right, these correspond to , , , and .

### ⑤ Remaining battery charge

This shows the remaining battery charge. When the remaining battery charge becomes low, replace the batteries ([Using batteries](#)) or connect an AC adapter ([Using an AC adapter](#)).

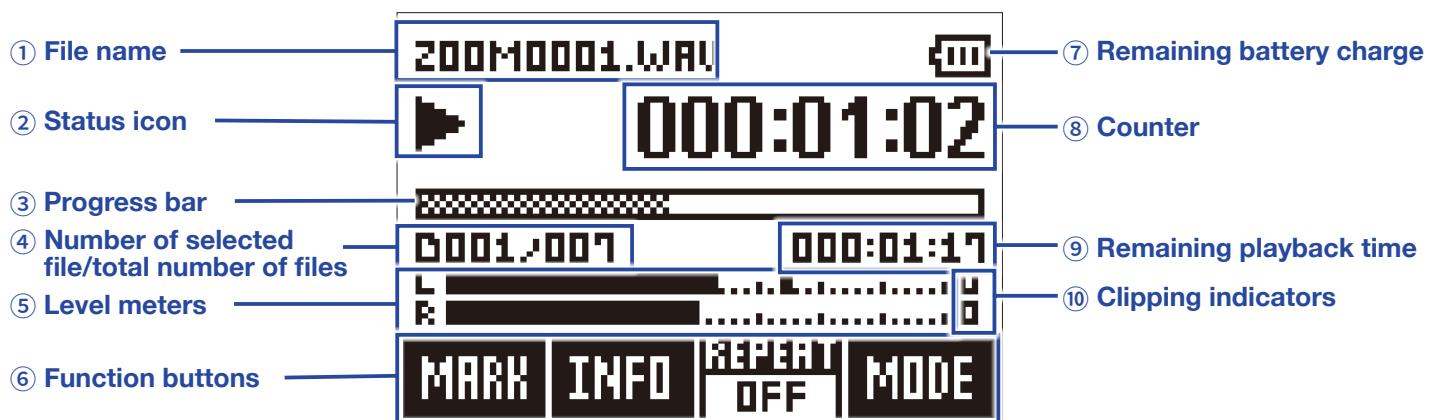
### ⑥ Counter

This shows either the current elapsed recording time or the remaining available recording time ([Setting how the counter appears](#)).

### ⑦ Clipping indicators

These appear lit when loud sounds are input. If the clipping indicators light, adjust the input level ([Adjusting input levels](#)) or set the limiter ([Setting the limiter](#)).

# Playback Screen



## ① File name

This shows the name of the file being played.

## ② Status icon

This shows the playback status.

▶ Playing    ■ Paused    ⏪ Searching backward    ⏩ Searching forward  
⏮ Jumping to the previous file/mark    ⏩ Jumping to the next file/mark

## ③ Progress bar

This shows the current playback location.

## ④ Number of selected file/total number of files

## ⑤ Level meter

These show the input levels of the playing audio.

## ⑥ Function buttons

These show functions that can be set on the Playback Screen.

From left to right, these correspond to **AUDIO**, **LOCUT**, **LIMITER** and **AUTOLEVEL**.

## ⑦ Remaining battery charge

This shows the remaining battery charge. When the remaining battery charge becomes low, replace the batteries (→ "Using batteries") or connect an AC adapter (→ "Using an AC adapter").

## ⑧ Counter

This shows the playback time from the file beginning.

## ⑨ Remaining playback time

This shows the remaining time of the playing file.

## ⑩ Clipping indicator

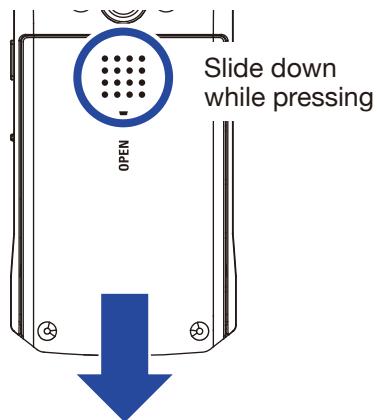
These appear lit when the output levels are high.

# Preparations

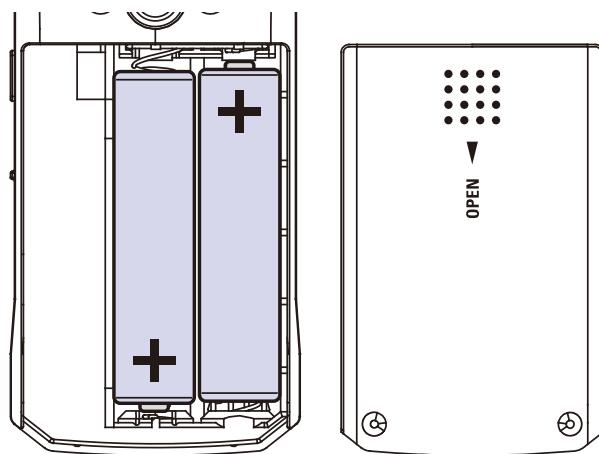
## Providing power

### Using batteries

1. Turn the power off and then remove the battery cover.



2. Install the batteries.



3. Replace the battery cover.

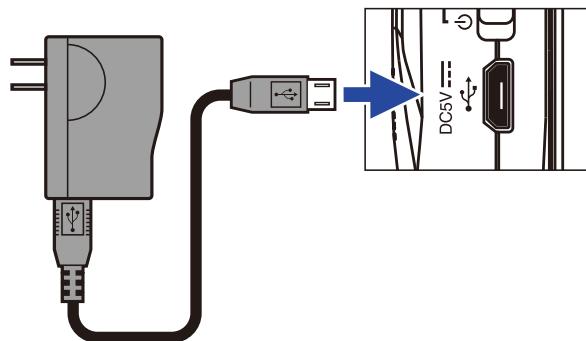
#### NOTE

- Use only one type of battery (alkaline, NiMH or lithium) at a time.
- If the remaining battery power indicator becomes 0, turn the power off immediately and install new batteries.
- After installing the batteries, set the battery type correctly (→ ["Setting the type of battery used"](#)).

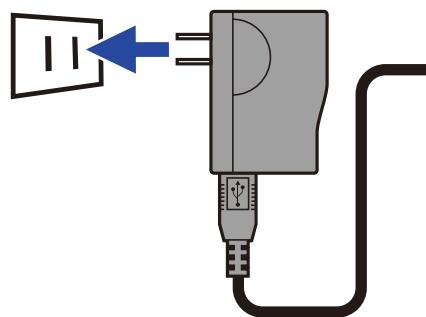
## Using an AC adapter

---

1. Connect the cable of an AD-17 AC adapter to the USB port.

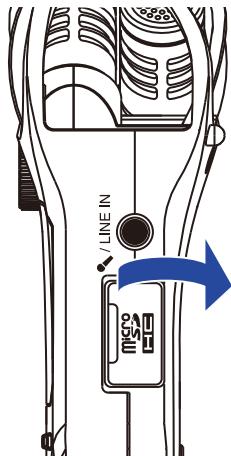


2. Plug the AC adapter into an outlet.

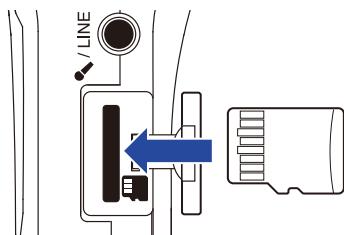


# Inserting microSD cards

1. Turn the power off and then open the microSD card slot cover.



2. Insert the microSD card into the card slot.



To remove a microSD card, push it further into the slot and then pull it out.

3. Close the microSD card slot cover.

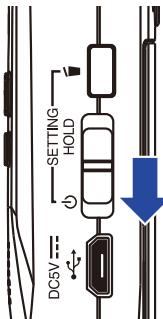
## NOTE

- Always make certain that the power is off when inserting or removing a microSD card. Inserting or removing a card while the power is on could result in data loss.
- When inserting a microSD card, be sure to insert the correct end with the top side up as shown.
- Recording and playback are not possible when a microSD card is not loaded in the **H1n**.
- To format a microSD card, see "[Formatting microSD cards](#)".

# Turning the power on/off

## Turning the power on

1. Slide  toward .



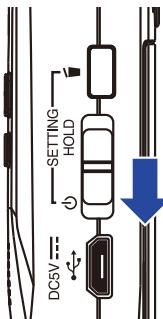
This turns the power on and opens the Recording Screen.

### NOTE

- The first time you turn the power on after purchase, you must set the language ( $\rightarrow$  ["Setting the language shown"](#)) and the date/time ( $\rightarrow$  ["Setting the date and time"](#)).
- If "No SD Card!" appears on the display, confirm that a microSD card is inserted properly.
- If "Invalid SD Card!" appears on the display, the card is not formatted correctly. Format the microSD card ( $\rightarrow$  ["Formatting microSD cards"](#)) or use a different microSD card ( $\rightarrow$  ["Inserting microSD cards"](#)).

## Turning the power off

1. Slide  toward .



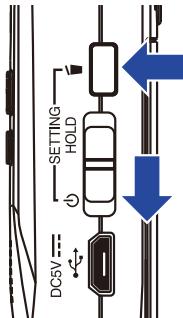
### NOTE

Keep sliding the switch until "Goodbye See You!" appears.

# Setting the language shown

Set the language shown on the display.

1. While pressing , turn the power on.



This opens the SETTING screen.

2. Use  and  to select "Language", and press .



3. Press  or  to select the language to use, and press .



This completes setting the language.

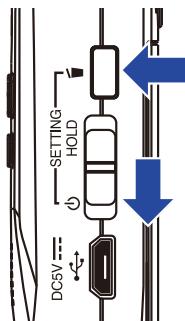
## HINT

The first time you turn the power on after purchase, this screen opens automatically.

# Setting the date and time

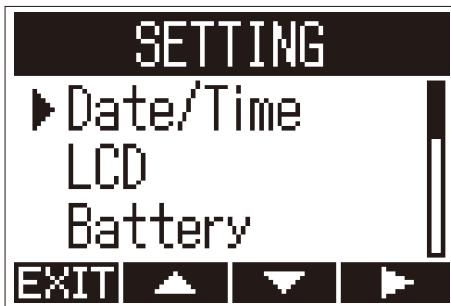
Set the date and time so the recorder can add this data to recording files.

1. While pressing , turn the power on.



This opens the SETTING screen.

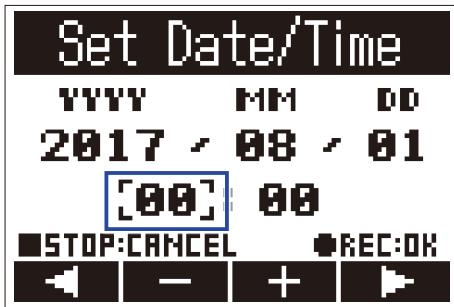
2. Use  and  to select "Date/Time", and press .



3. Use  and  to select "Set Date/Time", and press .



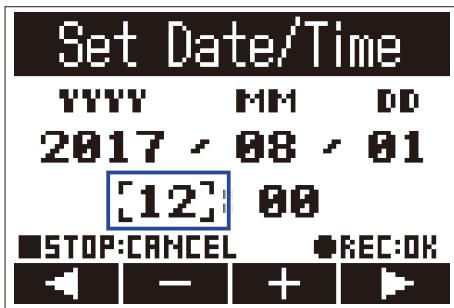
- 4.** Use **AUDIO** and **AUTOLEVEL** to move the cursor.



**HINT**

The first time you turn the power on after purchase, this screen opens automatically after you set the language used.

- 5.** Use **LOCUT** and **LIMITER** to change the value selected by the cursor.



- 6.** Press **●**.

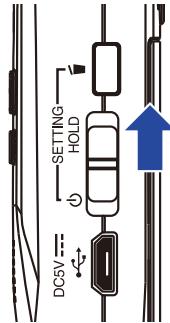
This completes setting the date and time.

# Preventing misoperation

Misoperation during recording can be prevented by using the HOLD function to disable use of the **H1n** buttons.

## Activating the HOLD function

1. Slide  to HOLD.



## Deactivating the HOLD function

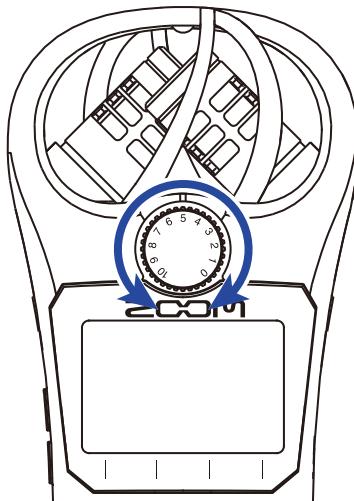
1. Slide  back to the middle.

# Recording

## Adjusting input levels

### Adjusting levels manually

1. Turn the input volume dial.



#### HINT

- Adjust so that the peak level stays around –12dB.
- If the sound distorts even when you lower the input level, try changing mic positions and adjusting the output levels of connected devices.
- To cut noise from wind and other sources during recording, see "[Reducing noise](#)".
- To stop input signal clipping, see "[Setting the limiter](#)".

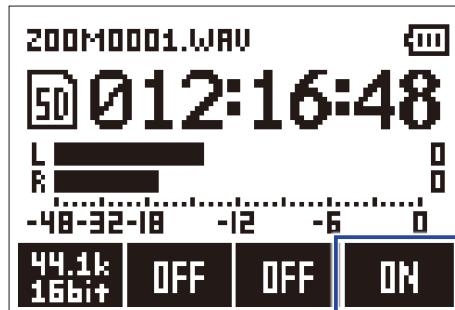
#### NOTE

If the REC LED is blinking, the sound could be distorted, so lower the input level.

## Using automatic level adjustment

This function automatically adjusts the input level according to the input signal.

1. Press  to select ON.



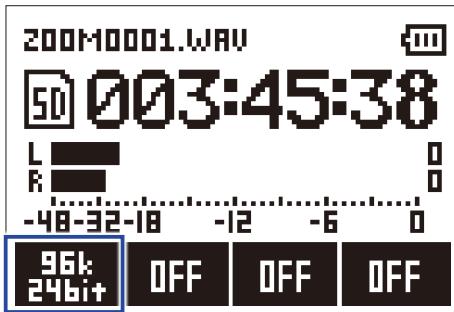
### NOTE

When automatic level adjustment is ON, turning the input volume dial has no effect.

# Selecting the recording format

The recording format can be selected in consideration of audio quality and file size.

1. Press  to select the recording format.



The display shows the selected recording format and the remaining possible recording time.

The following recording formats can be set.

| Setting        | Recording format    | Audio quality | File size  |
|----------------|---------------------|---------------|------------|
| 96k<br>24bit   | 96 kHz/24-bit WAV   | High<br>↑     | Large<br>↑ |
| 48k<br>24bit   | 48 kHz/24-bit WAV   |               |            |
| 48k<br>16bit   | 48 kHz/16-bit WAV   |               |            |
| 44.1k<br>16bit | 44.1 kHz/16-bit WAV |               |            |
| MP3<br>320k    | 320 kbps MP3        |               |            |
| MP3<br>256k    | 256 kbps MP3        |               |            |
| MP3<br>192k    | 192 kbps MP3        |               |            |
| MP3<br>128k    | 128 kbps MP3        |               |            |
| MP3<br>48k     | 48 kbps MP3         |               | ↓<br>Small |

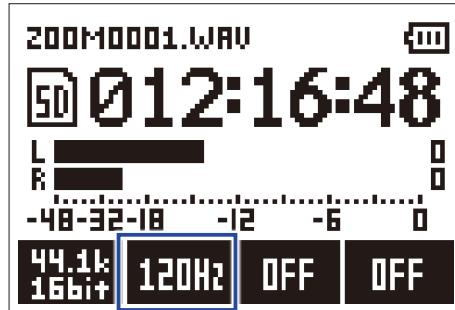
## NOTE

- WAV format is better for recording when audio quality is important.
- Since the MP3 format uses compression, the audio quality is reduced, but the file size is smaller. This is convenient when you want to save large amounts of recordings and use less space on the microSD card, for example.

## Reducing noise

This function can reduce low-frequency noise, including wind and vocal pops.

1. Press  to set the cutoff frequency.



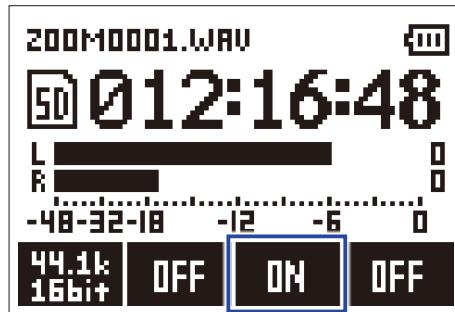
### HINT

Select OFF, 80Hz, 120Hz or 160Hz as the frequency.

## Setting the limiter

The limiter can prevent distortion by controlling input signals that have excessively high levels.

1. Press  to select ON.

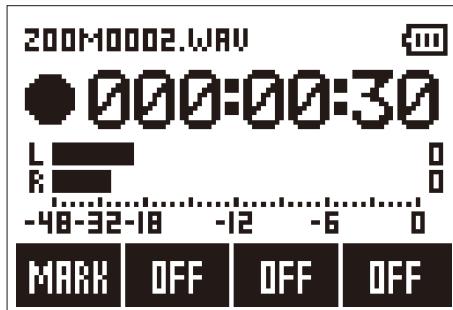


### NOTE

When the input sensitivity is high (input volume dial is set to a large value), noise will be more noticeable when the signal level is low.

# Recording

## 1. Press ●.



The following operations are possible during recording.

|              |                              |
|--------------|------------------------------|
| Pause/resume | Press ▶/■                    |
| Add a mark   | Press <small>AUDIO</small> ■ |

### NOTE

- Marks are used as cue points. During playback, press ▶◀ or ▶▶ to jump to a mark position.
- When recording is paused, a mark will be added automatically at that point.
- Up to 99 marks can be added to each recording.
- If the file size exceeds 2 GB during recording, a new file will be created automatically and recording will continue without pause.

## 2. Press ●.

This ends recording.

# Using additional recording functions

When the Recording Screen is open, press  to enable use of additional recording functions.

## Recording automatically (AUTO REC)

Recording will start automatically when the input level exceeds the set value.

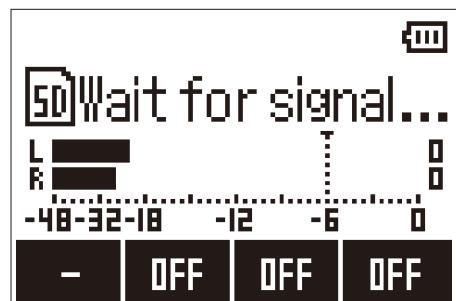
1. While pressing , press  to set the recording starting level.



### HINT

The input level can be set to Off, -48 dB, -24 dB, -12 dB or -6 dB.

2. Press .



This will start automatic recording standby.

### HINT

You can press  again to start recording immediately.

3. Press  to end recording standby or stop recording.

### NOTE

This cannot be used with the SELF TIMER function. When automatic recording is enabled, the self timer will be disabled.

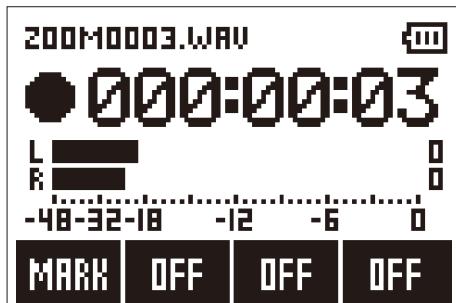
## Capturing audio before recording starts (PRE REC)

The input signal can be captured for about 2 seconds before (●) is pressed. This is useful when a performance starts suddenly, for example.

1. While pressing (■), press (LOCUT) to turn it ON.



2. Press (●).



This starts recording the input signal from 2 seconds earlier.

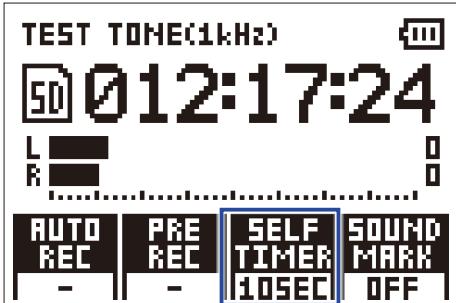
**NOTE**

This cannot be used with the SELF TIMER function. When PRE REC is enabled, SELF TIMER will be disabled.

# Recording with the SELF TIMER

Recording starts automatically after the set time passes.

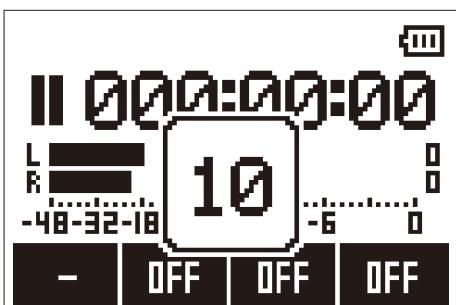
1. While pressing **[■]**, press **LIMITER** to set the timer.



**HINT**

The timer can be set to OFF, 3SEC, 5SEC or 10SEC.

2. Press **(○)**.



This starts the self timer countdown, and the REC LED blinks.

**HINT**

During the countdown, you can press **(○)** again to start recording immediately.

3. Press **[■]** to end recording standby or stop recording.

**NOTE**

- This cannot be used with the AUTO REC function. When the SELF TIMER is enabled, AUTO REC will be disabled.
- This cannot be used with the PRE REC function. When the SELF TIMER is enabled, PRE REC will be disabled.

## Enabling the SOUND MARK function

Tone signals (sound markers) can be output from the LINE OUT jack when recording is started and stopped. When recording audio for video with the **H1n**, sending the **H1n** output signal to the camera input can make aligning audio and video easier.

1. While pressing , press  to turn it ON.



# Adjusting connected equipment levels (playing test tones)

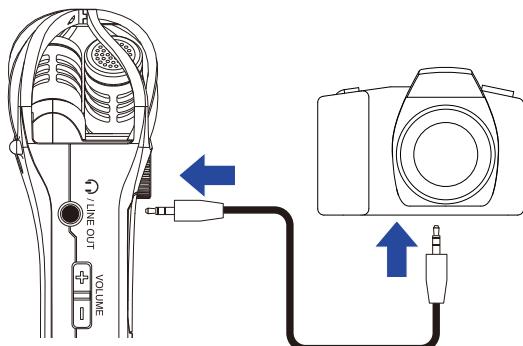
When the H1n is connected to a digital SLR camera or other external device, a test tone can be played to match their output levels.

1. Minimize the input gain of the other device.

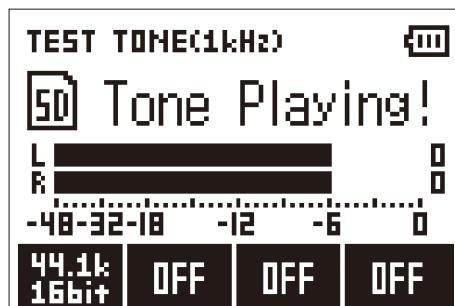
**NOTE**

If the automatic gain control function on the other device is on, turn it off.

2. Use an audio cable to connect the external mic jack of the other device with the PHONE/LINE OUT jack of the H1n.



3. While pressing **[■]**, press **[▶/II]**.



This plays a test tone from the PHONE/LINE OUT jack.

**NOTE**

Be careful of the volume if you are monitoring the sound with headphones, for example.

**HINT**

The test tone is a 1kHz sine wave at -6 dBFS.

4. Adjust the input gain of the other device.

While checking the audio level meter of the connected device, make small adjustments to the input gain of that device until the audio signal level is about –6 dB.

5. Press **[■]**.

This stops the test tone.

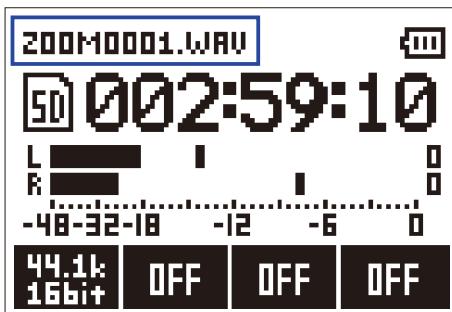
**NOTE**

See the operation manual of the other device for information about its operation.

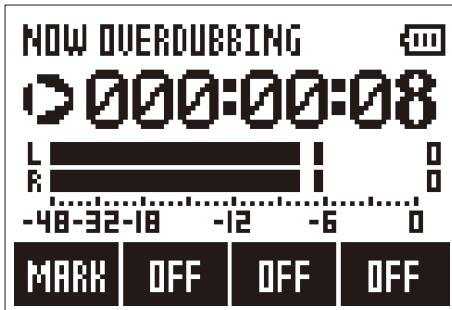
# Overdubbing

You can record over a file as it is playing back and save it as a new file. This is convenient when, for example, recording a performance one part at a time.

1. Press and to select a file.



2. While pressing , press .



This starts overdubbing.

3. Press .

This stops overdubbing.

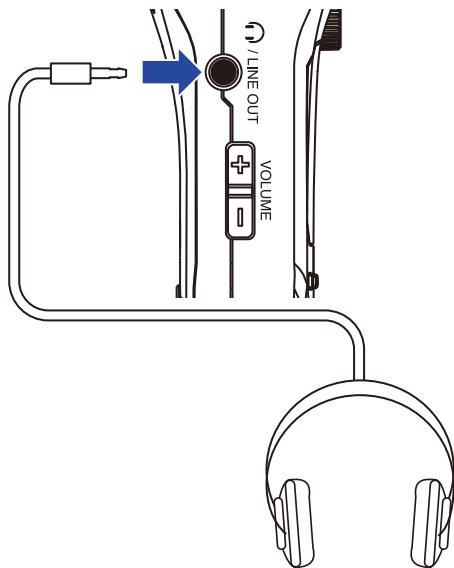
## NOTE

- The AUTO REC, PRE REC, SELF TIMER and SOUND MARK functions will be disabled.
- Overdubbing is not possible if the recording format of the file is MP3.
- Overdubbing will record a file with the same format as the original file.

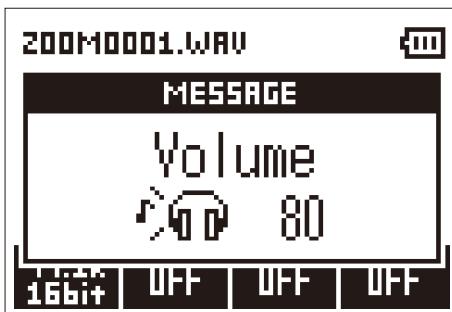
# Monitoring recording

The sound being recorded can be monitored using headphones.

1. Connect headphones to the PHONE/LINE OUT jack on the H1n.



2. Press **+** and **-** to adjust the monitoring volume.



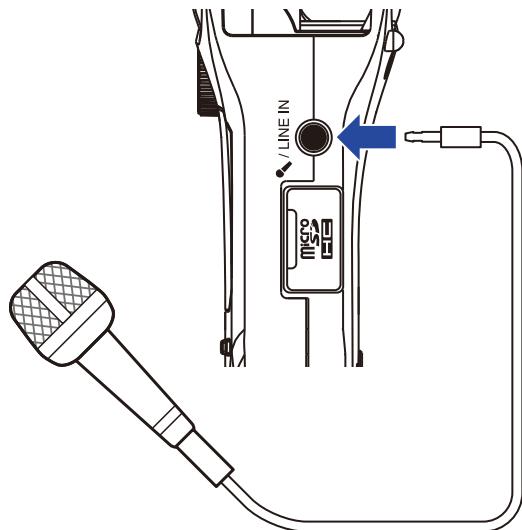
## HINT

The monitoring volume can be set from 0 to 100.

# Using external mics

A connected mic can be used to record sound.

1. Connect an external mic to the MIC/LINE IN jack on the **H1n**.



2. Press .

This starts recording.

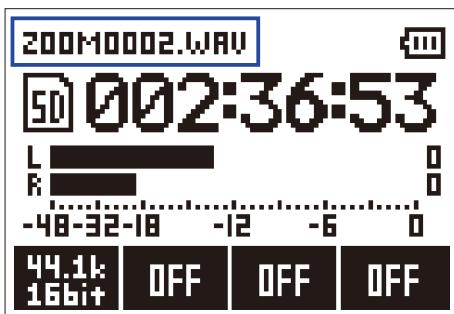
**NOTE**

- The built-in XY mic is disabled when an external mic is connected.
- The **H1n** can supply plug-in power if the connected mic uses it.

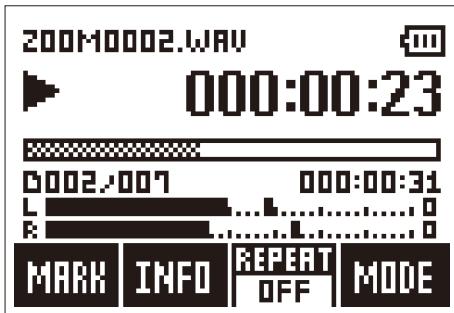
# Playback

## Playing recordings

1. Press and to select the file for playback.



2. Press .



The following operations are possible during playback.

|   |                        |
|---|------------------------|
| Pause/resume  | Press                  |
| Search forward  | Press and hold         |
| Search backward   | Press and hold         |
| Add a mark  | Press  during playback |
| Jump to the next mark (if one exists)<br>Play the next file (if no mark exists)         | Press                  |
| Jump to the previous mark (if one exists)<br>Play the previous file (if no mark exists) | Press                  |

### HINT

- Marks are used as cue points.
- If you press after the last mark during playback, the next file will be played.

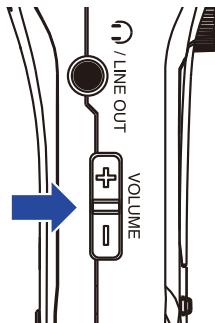
If you press before the first mark during playback, the previous file will be played.

3. Press .

Playback stops and the Recording Screen opens.

# Adjusting the volume

1. Press  and .



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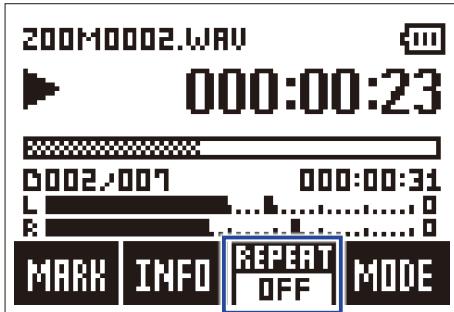
## HINT

- The volume can be adjusted separately for the speaker and headphones.
  - The volume can be set from 0 to 100.
-

## Using repeat playback

Just the file currently playing or all the files saved on the microSD card can be played back repeatedly.

1. Press  to set the repeat type.



The following repeat types can be used.

| Setting value | Explanation   |
|---------------|---|
| OFF           | Every file from the selected one to the last one will be played back. |
| ONE           | The selected file will be played repeatedly.                          |
| ALL           | All files will be played back repeatedly.                             |