



Linear PCM Recorder

Operating Instructions

Overview

Getting Started

Recording

Playback

Editing

Utilizing Your Computer

Menu Operations

Additional Information

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

WARNING

Do not expose the batteries (battery pack or batteries installed) to excessive heat such as sunshine, fire or the like for a long time.

For the customers in China

RATED CURRENT CONSUMPTION: 800 mA

AC adaptor: AC-ES608K3

Do not install AC adaptor in a confined space, such as a bookcase or built-in cabinet.

As the main plug of AC adaptor is used to disconnect the AC adaptor from the mains, connect it to an easily accessible AC outlet. Should you notice an abnormality in it, disconnect it from the AC outlet immediately.

AC adaptor is not disconnected from the mains as long as it is connected to the AC outlet, even if the unit itself has been turned off.

To reduce the risk of fire or electric shock, do not expose AC adaptor to dripping or splashing, and do not place objects filled with liquids, such as vases, on AC adaptor.

- The recorded music is limited to private use only. Use of the music beyond this limit requires permission of the copyright holders.
- Sony is not responsible for incomplete recording/downloading or damaged data due to problems of the linear PCM recorder or computer.
- Depending on the types of the text and characters, the text shown on the linear PCM recorder may not be displayed properly on device. This is due to:
 - The capacity of the connected linear PCM recorder.
 - The linear PCM recorder is not functioning normally.
 - Content information is written in the language or the character that is not supported by the linear PCM recorder.

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Manuals

Finding information from printed manuals

- **Operating Instructions (this manual)**
Describes the operations of the linear PCM recorder.
- **Using Sound Forge Audio Studio LE (supplied)**
Describes installation procedures and basic operations of Sound Forge Audio Studio LE.

Finding information on your computer, smart phone, or tablet

- **Help Guide**
Provides detailed pieces of information including tips for enjoying your linear PCM recorder, troubleshooting guides, and more. You can access the Help Guide page at the following address: <http://rd1.sony.net/help/icd/pcmd100/cn/>
You can also view the Help Guide on your smart phone or tablet.

What you can do with the PCM-D100



For recording practice sessions

- The built-in microphones of the PCM-D100 allow you to record musical performances easily without complicated microphone setup.
- The DPC (Digital Pitch Control) feature provides quick or slow playback of a musical performance and the key control feature provides tone adjustments that are ideal for modeling your playing on the playback from the recorder (pages 48-49).
- The supplied remote control (receiver and transmitter units) allows you to control PCM-D100 operations remotely: starting and stopping recording, playback operations, and other basic operations (page 30).
- You can attach an optional tripod to the recorder.
- The cross-memory recording feature allows you to make a long recording by switching the destination folder of recorded files from the built-in memory to a memory card (page 44).

Continued on the next page →



For outdoor recording

- The high-sensitivity 15mm built-in microphones enable easy and high-quality outdoor recording.
- You can also connect an external microphone (not supplied) to the stereo mini-plug of the PCM-D100.
- You can use the supplied wind screen to reduce the noise caused by wind or breath.
- The pre-recording feature allows you to buffer sound sources for a maximum of five seconds prior to the point when the recording button is actually pressed (page 39).
- The long battery life allows you to record for approximately 8 hours with four LR6 (size AA) alkaline batteries.

- The supplied carrying case is ideal for carrying the PCM-D100 outside. The recorder can be attached to your belt with the belt strap of the carrying case.

As a high-quality music player

- The PCM-D100 supports digital recording from an external device, allowing you to preserve your music library as original digital recordings.
- You can exchange digital sound files with your computer and external device. This feature allows you to transfer digital recording to your computer to save them, or copy digital files from your computer to play back on the PCM-D100 or transfer to an external device for playback.

Audio file formats you can record or play on the PCM-D100

The linear PCM recorder can make a high-quality recordings in DSD, LPCM, and MP3 file formats. The recorder also supports playback of a variety of file formats (DSD, LPCM, FLAC, AAC, MP3, WMA).

DSD (Direct Stream Digital)

The digital audio technology that is also used for super audio CDs. Conventional digital audio systems such as CDs, DVDs, and PC sound use the LPCM format. DSD, however, is a digital audio format quite different from the LPCM format.

The size of an audio signal is expressed as the density (shade) of a single-bit digital pulse, realizing supreme sound quality that has never existed before. It reproduces the original sound with the highest fidelity by removing the "digital taste" of conventional LPCM systems.

DSD

Direct Stream Digital

LPCM (Linear Pulse Code Modulation)

A digital audio format that records pure sounds without compressing the source sound.

By recording each element of the source sound as it is, the LPCM format can reproduce the expressions and presence of the original sound. The 96kHz 24 bit recording, regarded as the standard recording format of major recording studios, realizes high-density recording exceeding DAT (48 kHz 16 bit) and audio CD (44.1 kHz 16 bit) recording. Due to its flat frequency response covering low and wide ranges, the LPCM format records files in rich sound quality. The sound is recorded in a file format (.wav) that can be played on conventional computers.

Use the LPCM format for versatility.

MP3

The MP3 file format compresses sound data to reduce the file size.

Although it only cuts sound in the range inaudible to human ears, the sound quality is inferior to that of the LPCM format.

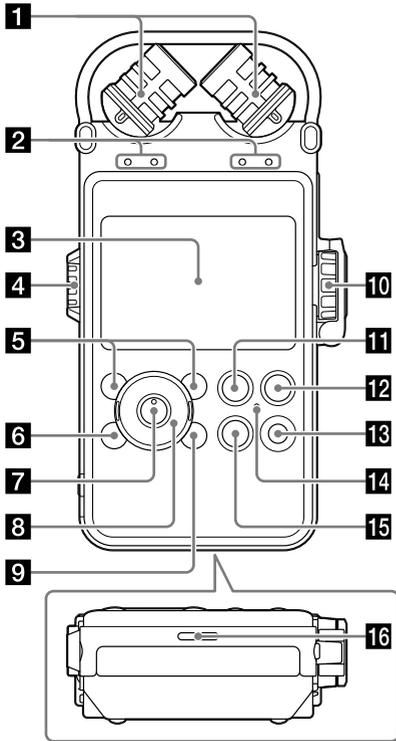
Use the MP3 format for sharing files on the Internet or reducing file size.

Notes

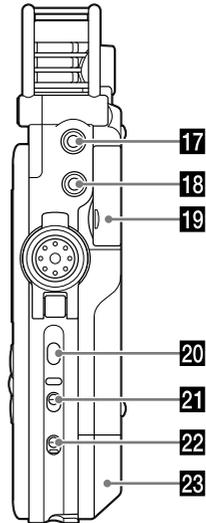
- You can record a DSD file with higher sound quality than an LPCM. The data is, however, recorded in a file format (.dsf) that cannot be played in a conventional computer. Play or edit the file on the PCM-D100 or another device that supports the DSD file format.
- Sound Forge Audio Studio LE does not support or handle DSD files.
- Noise may occur when using the linear PCM recorder to edit DSD files.

Identifying parts and controls

Front



Right side



1 Built-in microphones (page 32)**2 Peak level lamps (L/R) (page 36)**

Displays the left and right peak levels of an audio signal input with -12dB (green) and OVER (red) lamps.

3 Display window (page 16)**4 Volume dial (pages 38, 45)**

Adjust the playback volume by turning the dial to set the desired level (0 to 10), indicated by the “—” mark next to the display window.

5 F1/F2 function key buttons (page 73)

You can register frequently-used functions to these buttons.

6 HOME/BACK button (page 23)

Press briefly to display the previous window. Press and hold for 1 second or more to display the HOME menu.

7 ► (play/enter) button*¹ (page 45)**8 Control button (▲, ▼, ◀, ▶ (review/fast reverse), ►► (cue/fast forward))****9 OPTION button (page 23)**

Press to display the OPTION menu.

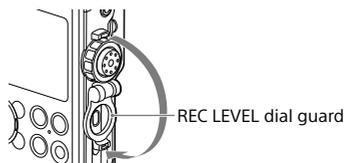
10 REC LEVEL (recording level) dial (page 36)

Adjust the recording volume by turning the REC LEVEL dial to display the desired level (0 to 10) in the “—” position next to the display window.

To adjust the right and left channels simultaneously, turn the external dial. To change the balance of recording levels between the right and left channels, press and hold the inner dial, and then turn the inner dial for left channel adjustment or the external dial for right channel adjustment.

REC LEVEL dial guard

To prevent unintentional operations, close the REC LEVEL dial guard. Open the REC LEVEL dial guard before adjusting the volume.

**11 || PAUSE button/indicator (pages 37, 46)****12 ● REC (recording) button/indicator (page 36)****13 T-MARK (track mark) button (page 53)****14 ACCESS indicator (pages 20, 24, 72)**
Flashes when the recorder is accessing memory.**15 ■ STOP button (pages 37, 46)****16 Built-in speaker (page 45)****17 MIC (microphone) jack (page 40)****18 LINE IN (OPT) (line input (optical)) jack (pages 40, 42, 43)****19 Memory Stick™/SD card slot*² (page 24)****20 LIGHT button**

Turns the backlight of the display on or off.

21 POWER switch (page 20)

Turns the power “ON” or “OFF.”

22 HOLD switch (page 31)

When set to “ON,” the buttons on the recorder are locked to prevent accidental operation. It is recommended that you set this switch to “ON” during recording and playback. To unlock the controls, set the switch to “OFF.”

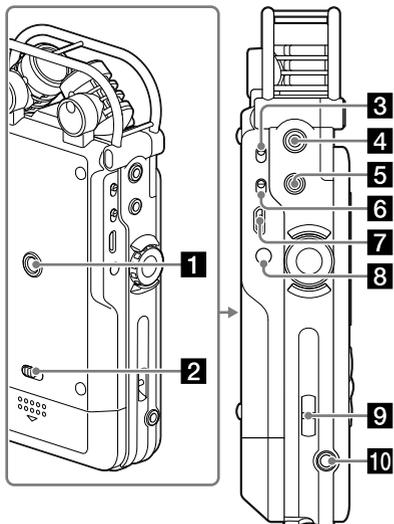
23 Battery compartment cover (page 19)

*¹ There is a tactile dot. Use this as a reference point for operations, or to identify each button or jack.

*² In this manual, Memory Stick™ and SD cards are generally referred to as “memory cards.” The Memory Stick™/SD card slot is referred to as the “memory card slot.”

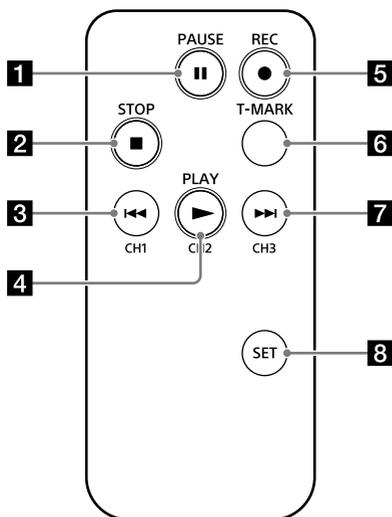
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Left side



- 1** Hole for attaching the tripod (not supplied)
- 2** Battery cover lock lever
- 3** INPUT switch (pages 35, 40, 42, 43)
Set to "MIC" (microphone) to record an audio signal input from the built-in microphones or an external microphone connected to the MIC jack.
Set to "LINE" to record an audio signal output from external device connected to the LINE IN (OPT) jack.
- 4** LINE OUT (OPT) (line output (optical)) jack (page 50)
- 5**  (headphones) jack (pages 38, 45)
- 6** MIC ATT (microphone attenuator) switch (page 33)
- 7**  USB connector (page 62)
- 8** DC IN 6V jack (page 21)
- 9** Slot for a wrist strap (strap not supplied.)
- 10** REMOTE jack (page 29)

Remote control (transmitter unit)



1 || PAUSE button

2 ■ STOP button

3 ◀◀ (review/fast backward) /CH1 (channel 1) button

4 ▶ PLAY/CH2 (channel 2) button

5 ● REC (record) button (page 29)

6 T-MARK (track mark) button
Adds a track mark at the current position of the selected file.

7 ▶▶ (cue/fast forward) /CH3 (channel 3) button

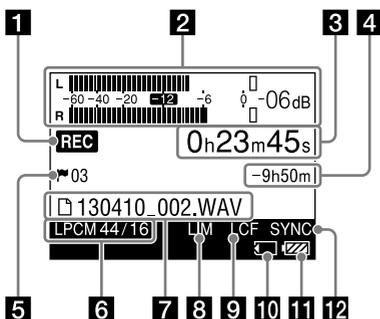
8 SET button (page 30)

Press and hold the SET button and press CH1, CH2, or CH3 to set a channel to the remote control.

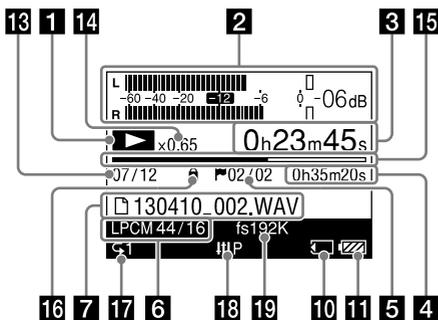
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Display window

■ Display during recording



■ Display during playback



Note

The windows in this subsection display indications, numbers or items for explanation purposes and may differ from actual windows.

1 Recording/playback status

Displays the following according to the current operation:

REC	Recording
● (Flashing)	Paused during recording standby for recording
▶	Playback
▶ (Flashing)	Paused during playback
■	Stop
◀◀ / ▶▶	Fast reverse/forward
◀◀ / ▶▶	Go to previous/next files

2 Level meter/peak values (page 36)

Displays the level meter and the maximum value of the peak level. When the level exceeds the set value, **OVER** appears.

3 Elapsed recording/playback time display

Counter information

4 Remaining recording time/file length

In recording: Displays the remaining recording time in hours, minutes, and seconds.

10 hours or more: in hours.

Between 10 minutes and 10 hours: in hours and minutes.

Less than 10 minutes: in minutes and seconds.

In playback: Displays the file length.

5 Track mark (page 53)

Displays the track mark number at the current position. Displayed only when a track mark is set.

6 Recording mode (page 68)

Displays the recording mode currently specified in the menu in the stop mode.

During playback or recording this displays the recording mode of the current file.

7 File name/folder name

The file name is displayed during recording, playback, recording/playback stop and pause. The folder name is displayed in recording stop or standby mode.

8 Limiter / S/N 100dB setting (pages 69, 70)

Displayed when the "LIMITER" or "S/N 100dB" is enabled.

9 LCF setting (page 70)

Displayed when the "LCF(Low Cut)" is enabled.

10 Memory card indicator

Displayed when the current memory is a memory card.

11 Remaining battery power (page 20)**12 Digital SYNC REC setting (page 43)**

Displayed when "Digital SYNC REC" is enabled.

13 File location information

Displays the number of the selected file and the total number of files in the folder.

14 DPC information (page 49)

Displays the playback speed selected in "DPC."

15 Progress bar

Displays the progress of the playback.

16 Protection indicator (page 59)

Appears when a file is protected.

17 Play mode indicator (page 72)

Displays whether normal, continuous, repeat, or shuffle playback mode is set.

18 Effect indicator (page 48)

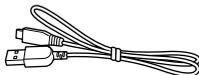
Displayed when an effect mode is selected in "Effect" in the menu.

19 Upsampling information (page 49)

Displays the frequency of upsampling.

Checking the supplied accessories

- USB cable (1)
(Supplied in the carrying case)



- AC adaptor AC-ES608K3 (6V) (1)



- Carrying case (1)

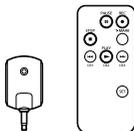


The external pocket can hold the remote control (transmitter unit), and the inner pocket can hold batteries and the battery case.

- Wind screen (1)



- Wireless remote control (receiver unit (1) and transmitter unit (1))
(Supplied in the carrying case)



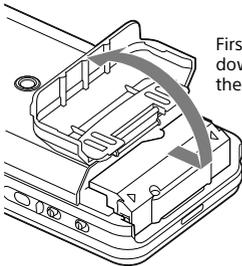
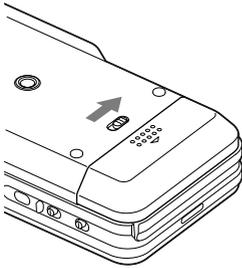
- Four LR6 (size AA) alkaline batteries
(Supplied in the carrying case)
- Operating Instructions (this manual)
- Using Sound Forge Audio Studio LE
The "Sound Forge Audio Studio LE" software allows you to edit data, create a CD, and perform other operations on your computer. The Sound Forge Audio Studio LE software does not support DSD files recorded with the linear PCM recorder.
For an overview of the software and details on installation procedures, refer to the supplied manual "Using Sound Forge Audio Studio LE."

Preparing a power source

Inserting batteries

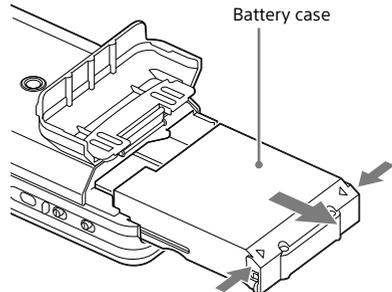
Use the supplied LR6 (size AA) alkaline batteries.

- 1** Slide the battery cover lock lever to "RELEASE" to release the lock and open the battery compartment cover on the rear of the recorder.



First slide the cover downward and then open it.

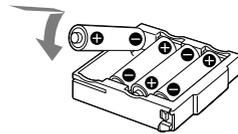
- 2** Pull out the battery case from the recorder.



Push the buttons on both sides of the battery case to pull it out.

- 3** Insert four LR6 (size AA) alkaline batteries into the battery case.

Be sure to insert the batteries with the \oplus and \ominus ends in the right position.



- 4** Insert the battery case back into the recorder, and close the battery compartment cover.

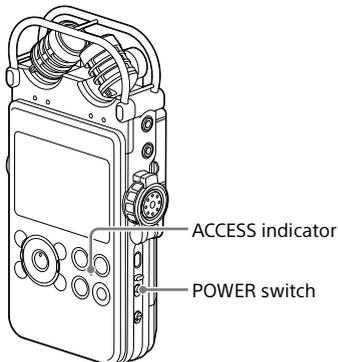
Notes

- Turn off the power of the recorder before taking out the battery case.
- Make sure to insert the battery case and close the battery compartment cover firmly, so that the battery cover lock lever is switched to "LOCK" to lock the cover.

Continued on the next page →

Turning the power on

Slide the POWER switch to the "ON" position.



When the POWER switch is set to the "ON" position, "Power On," and then "Please wait" appear on the display, and the ACCESS indicator flashes. Information required for operation is read from the recorder's built-in memory.

When you turn on the recorder for the first time after purchasing

The display changes to the clock set menu as the clock is not set when you purchase the recorder.

Turning the power off

Slide the POWER switch to "OFF." "Power off" appears on the display, and the power is turned off.

When to replace the batteries

When using batteries, the remaining battery power is indicated on the display.

 There is sufficient battery power.



 Replace all four batteries.



"Low battery" appears on the display when there is no power left.

The recorder will not operate.

Notes

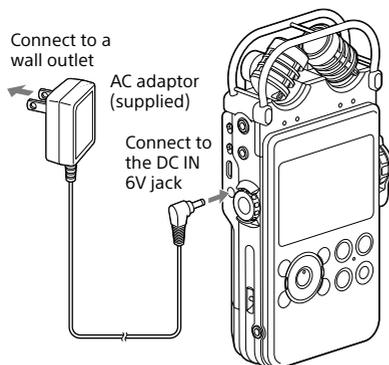
- When the linear PCM recorder operates on batteries, and you leave the linear PCM recorder in the stop mode without attempting an operation for approximately 10 minutes, the display turns off and the linear PCM recorder enters the sleep mode.
- When you turn the power on again within 4 hours of the last time the power was turned off, the power will come on quickly. The window displayed when the power was turned off resumes.

Notes on using rechargeable batteries

- You can use rechargeable batteries with the recorder.
- You cannot use the linear PCM recorder to charge a battery.
- To use rechargeable batteries, select "HOME" menu →  "Settings" → "Common Settings" → "Battery Setting," and then select "NiMH Battery."
- Use a recharger to recharge batteries at room temperature.

To operate with the AC adaptor

Connect the supplied AC adaptor to the DC IN 6V jack.



Note on the AC adaptor

Use only the supplied AC adaptor. Using any other AC adaptor may cause a malfunction.



Polarity of the plug

Note

- When "Please wait" appears on the display or the ACCESS indicator flashes, the recorder is accessing memory. During this time, do not remove batteries and do not disconnect the AC adaptor, or do not disconnect or connect the USB cable. Doing so may damage the data.

Setting the clock

Recorded audio files are named using the date and time of the clock. By setting the clock before recording, recordings will be saved with the correct date and time.

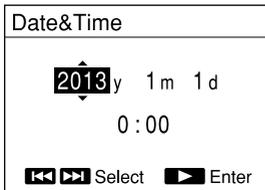
Setting the clock just after purchasing

When the linear PCM recorder is turned on before the clock has been set, "Set Date&Time?" appears on the display. After a while, the message disappears automatically and a confirmation message appears.

- 1 Press **◀◀** and **▶▶** to select "Yes" and press the **▶** button.

The "Date&Time" window is displayed.

- 2 Press **▲** and **▼** to set the year (y), and then press the **▶** button to fix the value.



You can move the cursor to the year, month, day, hour and minute by pressing **◀◀** and **▶▶**.

- 3 Repeat step 2 to set the month (m), day (d), hour, and minute. Press the **▶** button after setting the minute to start the clock.

"Setting completed" is displayed and the clock reflects the setting.

To reset the clock

- 1 While the recorder is stopped, press and hold the HOME/BACK button for 1 second or more.

The HOME menu is displayed.

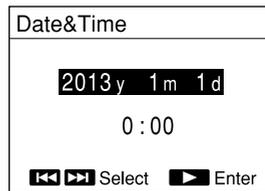
- 2 Press **▲** and **▼** to select "⚙ Settings" and then press the **▶** button.

The "Settings" menu is displayed.

- 3 Press **▲** and **▼** to select "Common Settings," and then press the **▶** button.

- 4 Press **▲** and **▼** to select "Date&Time," and then press the **▶** button.

The "Date&Time" display appears.



- 5 While the current time setting is being selected, press the **▶** button.

- 6 Press **▲** and **▼** to set year (y), and then press the **▶** button.

- 7 Repeat this procedure to set the month (m), day (d), hours and minutes in this order.

You can move the cursor to the year, month, day, hour and minute by pressing **◀◀** and **▶▶**.

When you set the minute and press the **▶** button, "Setting completed" is displayed and the clock reflects the setting.

Note

- If you leave the recorder for several weeks with no batteries inserted, the date and time change to the default settings. In this case, reset the clock.

Using the HOME and OPTION menus

Selecting the desired function from the HOME menu

By pressing and holding the HOME/BACK button for 1 second or more, you can display the HOME menu, the starting point for the functions of your linear PCM recorder. From the HOME menu, you can select the desired function or change settings.

- 1 Press and hold the HOME/BACK button for 1 second or more.

The HOME menu is displayed.



- 2 Press ▲ and ▼ to select the desired function, and then press the ► button.

You can select the following functions:

Record	Displays the window for recording. You can start recording by pressing the ●REC button.
Recorded Files	Allows you to select and play the desired recorded file.
Music	Allows you to select and play the desired file from those transferred from your computer.
Settings	Allows you to configure various settings of the linear PCM recorder in the settings windows.
Return to REC / Return to Playback	Displays the windows you displayed before entering the HOME menu.

- 3 When a window urging you to make settings, press ▲ and ▼ to select the desired item, and then press the ► button.

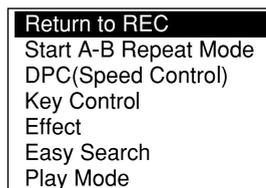
- 4 Press ▲ and ▼ to select the desired setting item, and then press the ► button.

Making settings from the OPTION menu

By pressing the OPTION button, you can display the OPTION menu, which allows you to change the settings for each function of the linear PCM recorder. The OPTION menu items vary depending on the function you are using (page 66).

- 1 Press the OPTION button after you have selected a function with the HOME menu.

The OPTION menu for the current function is displayed.



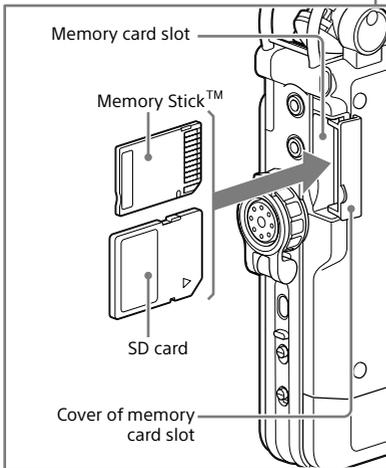
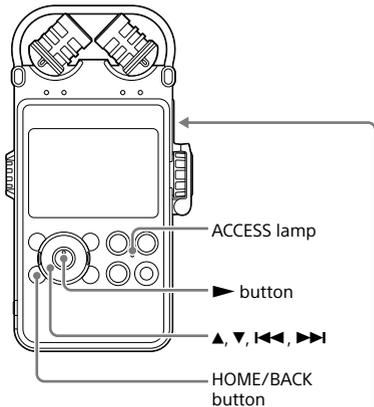
- 2 Press ▲ and ▼ to select the desired item, and then press the ► button.

- 3 Press ▲ and ▼ to select the desired setting item, and then press the ► button.

Tips

- To return to the previous window, press the HOME/BACK button during operations.
- When multiple pages exist, you can switch pages by pressing ◀◀ and ▶▶.

Using a memory card (not supplied)



In addition to the built-in memory, you can record audio files using a memory card (not supplied).

Inserting a memory card

Before recording, be sure to copy all of the data saved in the memory card to a computer and format the memory card on the linear PCM recorder so that it contains no data (page 73).

- 1 Open the cover of the memory card slot.
- 2 Insert a memory card into the memory card slot firmly until it clicks, in the direction shown in the illustration on the left, and close the cover.

"Please wait" appears on the display and the ACCESS indicator flashes. Information required for operation is read from the memory card.

"Switch to Memory Card?" appears on the display.

- 3 Press ◀ and ▶ to select "Yes" or "No," and then press the ► button.

Note

Select "Recorded Files" or "Music" from the HOME menu, and insert a memory card while playback or a recorded file or music file is stopped. If the memory card is inserted during playback or recording, "Stop and reinsert Memory Card" is displayed.

Compatible memory cards

You can use the following memory cards with the linear PCM recorder.

SD cards up to 2 GB: supported

SDHC cards from 4 GB to 32 GB: supported

SDXC cards 48 GB or more: not completely supported^{*1}

Memory Stick PRO Duo™ and Memory Stick PRO-HG Duo™ cards up to 32 GB: supported^{*2}

^{*1} To use this card on a PC running Windows XP, you need to install Microsoft Update KB55704. For details, consult the PC manufacturer.

When you connect your linear PCM recorder via a USB cable to an AV device that does not support exFAT*, you cannot import or play data from the device. Before connecting, check that the AV device supports exFAT. If it does not support exFAT, a message instructing you to format your linear PCM recorder may appear. Never format the linear PCM recorder. Doing so will erase all the recorded data.

* exFAT is a file system used in the SDXC memory card.

^{*2} The linear PCM recorder supports Memory Stick PRO Duo™ and Memory Stick PRO-HG Duo™ only. Any other type of Memory Stick™ is not supported.

Due to the file system specifications of the linear PCM recorder, you can record LPCM/DSD files smaller than 2 GB and MP3 files smaller than 1 GB using a memory card.

Notes

- Operation of all types of compatible memory cards is not guaranteed.
- During recording and playback, do not remove or insert a memory card, do not remove batteries, do not disconnect the AC adaptor, or do not disconnect or connect the USB cable. Doing so may damage the data.

To remove the memory card

Be sure that the ACCESS indicator light is off, and then push the memory card into the recorder. When it pops out, remove it from the memory card slot.

Note

When "Please wait" appears on the display or the ACCESS indicator flashes, the recorder is accessing memory. During this time, do not remove or insert a memory card, do not remove batteries, do not disconnect the AC adaptor, or do not disconnect or connect the USB cable. Doing so may damage the data.

Switching the memory

- 1 Press and hold the HOME/BACK button for 1 second or more to return to the HOME menu, then select "Settings" → "Common Settings" → "Select Memory," and then press the ► button.

The "Select Memory" window is displayed.

- 2 Press ▲ and ▼ to select "Built-In Memory" or "Memory Card," and then press the ► button.

The memory is switched to the selected memory.

Folder and file structure

The structure of these folders and files differs from that of the built-in memory.

For details about the specifications of the folders and files, see pages 63, 64.

Continued on the next page →

Notes

- If a memory card is not recognized, remove it and then insert it into the linear PCM recorder again.
- Do not insert or remove the memory card during recording/playback/formatting. Doing so may cause a malfunction of the recorder.
- If you use a memory card formatted with other device than the linear PCM recorder, you cannot record files properly. Make sure to use a memory card formatted with the linear PCM recorder.
- If you format a memory card containing recorded data, the recorded data will be deleted. Be careful not to delete important data.
- The recorder is accessing memory while "Please wait" appears on the display or the ACCESS indicator flashes. During this time, do not remove the memory card. Doing so may damage the data.
- The recorder does not support parallel data transfer.
- You cannot use a ROM (read-only-memory) type or write-protected memory card.
- Data may be damaged on the following occasions:
 - The memory card is removed or the recorder is turned off during a read or write operation.
 - The memory card is used in a location subject to static electricity or electrical noises.
- Do not insert any liquid, metal, flammable or any object other than a memory card into the memory card slot. Doing so may cause fire, electric shock, or malfunctions.
- Do not leave a memory card within the reach of small children. They might accidentally swallow it.
- We assume no responsibility for any loss or damage of recorded data.
- We recommend that you save a backup of any important data.
- When you use a memory card without a write-protect setting, make sure not to edit or delete data by accident.
- Do not touch the terminal of a memory card with your hand or a metal object.
- Do not strike, bend or drop a memory card.
- Do not disassemble or modify a memory card.
- Do not expose a memory card to water.
- Do not use a memory card under the following conditions:
 - Locations beyond the required operating conditions, including locations, such as the hot interior of a car parked in the sun and/or in the summer, the outdoors exposed to direct sunlight, or a place near a heater.
 - Humid locations or locations with corrosive substances present.
- When using a memory card, make sure to check the correct insertion direction into the memory card slot.
- MagicGate™ is the collective name of content protection technologies developed by Sony. The linear PCM recorder does not support data recording/playback that requires MagicGate™ functions.

Selecting a file

Selecting a file from the folder list

You can select a desired file for playback or editing from the HOME menu.

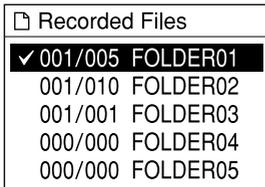
- 1 Press and hold the HOME/BACK button for 1 second or more.

The HOME menu is displayed.

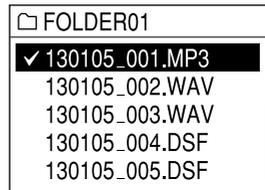


- 2 Press ▲ and ▼ to select “Recorded Files” or “Music,” and then press the ► button.

The folder list is displayed. If multiple pages exist, you can move to the next page or the previous page by pressing ◀◀ or ▶▶.



- 3 Press ▲ and ▼ to select a desired folder, and then press the ► button. The file list is displayed.
- 4 Press ▲ and ▼ to select a desired file, and then press the ► button.



Notes

- In the stop mode window, you can switch files by pressing ◀◀ and ▶▶.
- At the time of purchase, there are 5 folders (FOLDER01 to FOLDER05) in the folder selection window of “Recorded Files.”
- To select the memory (Built-In Memory or Memory Card), see “Switching the memory” on page 25.

Continued on the next page →

Selecting a file by date from the calendar

You can play a file recorded using the linear PCM recorder by searching from the calendar.

- 1 Press and hold the HOME/BACK button for 1 second or more.
The HOME menu is displayed.
- 2 Press ▲ and ▼ to select "Recorded Files," and then press the ► button.
The folder list is displayed.
- 3 Press the OPTION button to display an option menu.
- 4 Select "File Selection," and then press the ► button.
The file selection menu is displayed.
- 5 Press ▲ and ▼ to select "Display by Date," and then press the ► button.
The calendar is displayed.

4	2013					
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

- 6 Press ◀◀ and ▶▶ to select a date, and then press the ► button.

Dates for which a recorded file exists are underlined.

You can move to the previous week or the following week from the selected date by pressing ▲ and ▼. Press and hold each button to move continuously.

When you press the ► button, the files recorded on the selected date are displayed by the recording times.

2013y4m10d
✓ 10:34
11:45
13:05
20:00
22:55

- 7 Press ▲ and ▼ to select the recording time of the desired file, and then press the ► button.

Notes

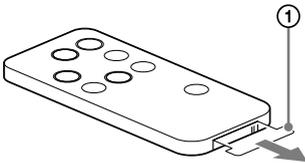
- You need to set the clock in advance to select a recording date from the calendar and play a file (page 22).
- If you specify a date for which no recorded files exist, "No File" will be displayed. Select a date for which recorded files exist.
- You can search for and play only the files displayed when you select "Recorded Files."

Using the remote control

You can use the supplied remote control (receiver and transmitter units) to control operations such as recording, playback and track mark settings of the linear PCM recorder.

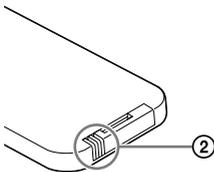
Inserting batteries into the wireless remote control transmitter unit

Before using the remote control, remove the insulation sheet ①.

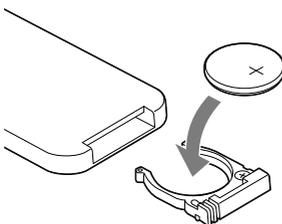


The wireless remote control transmitter unit will not function properly when the battery is drained. In this case, follow the steps below to replace the battery.

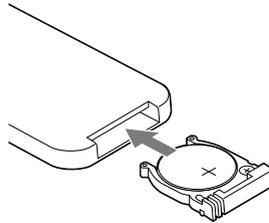
- 1 While pressing tab ②, insert your fingernail into the slit to pull out the battery case.



- 2 Insert a new battery with the + side facing up.



- 3 Replace the battery case into the wireless remote control transmitter unit until it clicks into place.

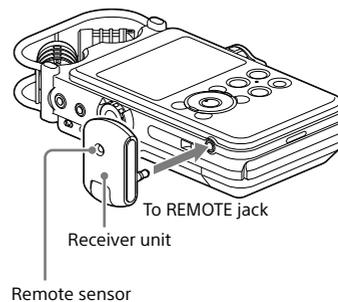


Note

The wireless remote control transmitter unit uses a Sony CR2025 lithium battery. Using a different battery may cause the risk of fire or explosion.

Connecting the receiver unit

Insert the supplied receiver unit into the REMOTE jack of the linear PCM recorder. Rotate the receiver unit so that its remote sensor faces the front of the transmitter unit.

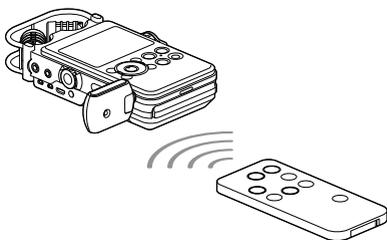


Continued on the next page →

Controlling operations from the transmitter unit

Press the appropriate buttons on the transmitter unit to control operations on the linear PCM recorder. You can start, pause and stop recording and playback, and set a track mark.

The LED on the receiver unit lights during recording, and flashes during pause or in standby mode.

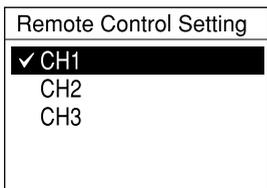


Changing the channel for the remote control

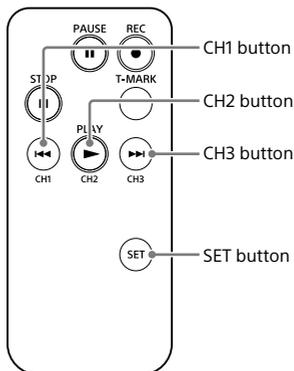
When remotely controlling multiple linear PCM recorders, assign an identical channel number to each linear PCM recorder and the transmitter unit to prevent interference.

- 1 In the stop mode, press and hold the HOME/BACK button for 1 second or more, select "Settings" → "Common Settings" → "Remote Control Setting," and then press the ► button.

The "Remote Control Setting" menu is displayed.



- 2 Press ▲ and ▼ to select "CH1," "CH2," or "CH3" and then press the ► button.
- 3 In the stop mode, press and hold the HOME/BACK button for 1 second or more, select "Record," and press the ► button.
- 4 Point the remote control transmitter unit at the remote sensor of the receiver unit.
- 5 On the transmitter unit of the remote control, press the button of the channel number you selected in step 2 (CH1, CH2 or CH3), while pressing the SET button.



Press operation buttons on the transmitter unit. If you can operate the linear PCM recorder, the settings have been configured successfully. If not, redo the setting procedures.

Note

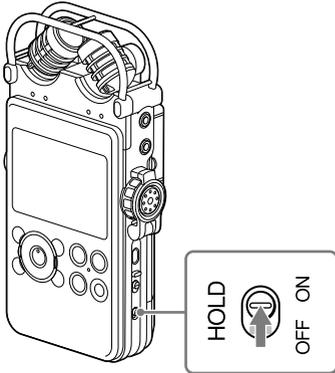
The remote control range may become shorter when the remote control is used outdoors (in direct sunlight) or under a fluorescent lamp. In such cases, move away from the fluorescent lamp, or move to a position that is not in direct sunlight.

Preventing unintentional operations (HOLD)

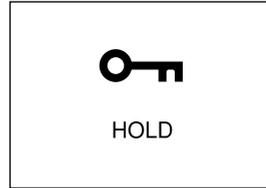
You can disable all the buttons (HOLD) in order to prevent unintentional operations when you carry the linear PCM recorder, etc.

To disable the button operations

Slide the HOLD switch to "ON" to disable the buttons while the power is on.



"HOLD" appears for approximately 3 seconds, indicating that all the button operations are disabled.



Releasing the HOLD function

If you operate buttons on the linear PCM recorder when the HOLD function is set, "HOLD. Slide HOLD switch to activate." appears on the display.

To release the HOLD function, slide the HOLD switch to "OFF."

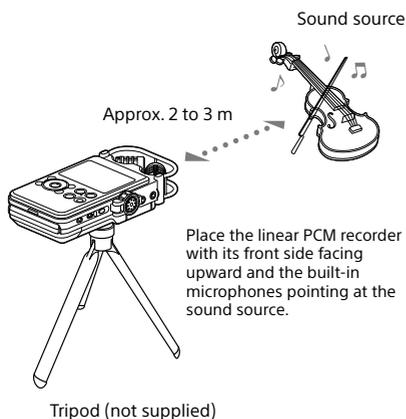
Preparation before recording

When you position the linear PCM recorder, place it so that the microphones point to the sound source. For accurate recording of left and right sources, place the linear PCM recorder with its front side facing upward (see the illustration below).

The placement of the linear PCM recorder and the direction of the microphone depend on the sound source, the microphone, the settings of the linear PCM recorder, etc. It is recommended that you try recording with the linear PCM recorder in various positions and settings after referring to the illustration below and the characteristics of the microphone.

Example: Placement when recording a musical performance using the built-in microphones

For best results, place the linear PCM recorder about 2 to 3 m from the sound source. Referring to the characteristics of the built-in microphones, adjust direction of the linear PCM recorder and the angle of the microphones.

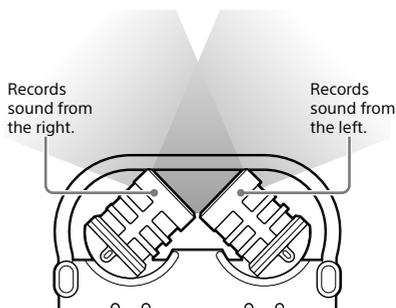


On the characteristics of the built-in microphones

The built-in microphones are unidirectional. You can change the directions of the microphones.

When rotating both capsules of the microphones to 90° to face inside (X-Y position)

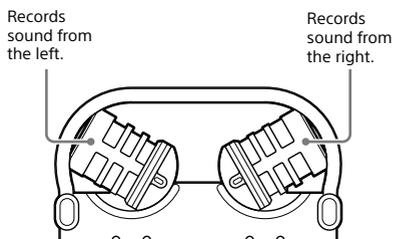
The microphone on the right gathers sound from the left; the microphone on the left records sound from the right. You can obtain natural and profound stereo sound recording. This position is recommended for recording close-by sound sources such as a solo performance or a session of two or three people. However, if you place the microphones too close to the sound source, please note that the microphones may catch the sounds reversely.



When rotating both capsules of the microphones to 120° to face outside (Wide stereo position)

The microphone on the right records sound from the right; the microphone on the left records sound from the left.

You can obtain dynamic stereo sound recording. This position is recommended for recording a remote sound source such as a chorus, an orchestra, or other performance of a large number of people.



To switch the microphone input sensitivity

Use the MIC ATT switch.

Usually set it to the "0" position. When recording loud sounds, set it to the "20" position.

Continued on the next page →

To reduce noise in the recording

Sounds that may be recorded as noise

The linear PCM recorder may record various sounds in addition to the target sound. Noises that may be recorded include:

- A rustling noise that may be caused when you touch the linear PCM recorder
- Breath that hits the microphones of the linear PCM recorder
- Sound that may be caused when you touch a table
- Buzzing or humming noises from air-conditioners, projectors, or computers

To reduce noise, do not touch the linear PCM recorder during recording. Also, do not make the kinds of sounds mentioned above that may be recorded as noise.

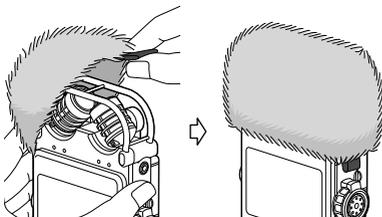
To position the linear PCM recorder using a tripod (not supplied)

By attaching an optional tripod to the hole on the back of the linear PCM recorder, you can adjust the angles of the linear PCM recorder and the microphones more precisely. This also prevents noise caused when holding the linear PCM recorder in your hand.

To use the supplied wind screen

By fitting the optional wind screen to the built-in microphones, you can reduce noise caused by wind or breath that hits the microphones directly.

Be sure to set the wind screen so that the peak level lamps are covered.



Setting the LCF(Low Cut)

To reduce noise such as projector noise caused by air from the projector air vents, enable LCF(Low Cut) (low cut filter) in the menu.

Press and hold the HOME/BACK button for 1 second or more to display the HOME menu, and select "Settings" → "Recording Settings" → "LCF(Low Cut)." For details, see page 70.

Setting the LIMITER

To reduce distortion that may be caused by a sudden input of loud sound, enable "LIMITER" in the menu.

Press and hold the HOME/BACK button for 1 second or more to display the HOME menu, and select "Settings" → "Recording Settings" → "LIMITER." For details, see page 69.

Note

When you enable LIMITER, set the S/N 100dB to "OFF."

Setting the S/N 100dB

By using a S/N ratio as high as 100 dB, you can reduce noise in recording even when the recording level is low.

To enable this function, enable S/N 100dB in the menu.

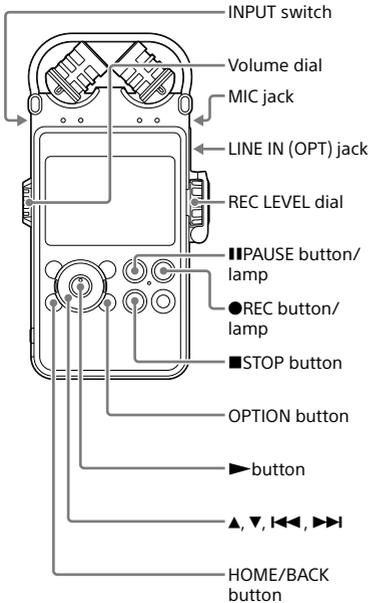
Press and hold the HOME/BACK button for 1 second or more to display the HOME menu, and select "Settings" → "Recording Settings" → "S/N 100dB." For details, see page 70.

Notes

- When S/N 100dB is enabled, LIMITER setting becomes disabled.
- When recording a DSD file, LIMITER and S/N 100dB settings become disabled.

Recording analog sound

This section explains how to record analog sound signals from the line output of an external device or by using the built-in or external microphones.



Recording using the built-in microphones

This sub-section explains how to record sound sources in the built-in memory with the built-in microphones.

To change the sampling frequency, quantifying bit number, or memory drive for a recording, go to the menu display. The default sampling frequency and quantifying bit number are "44.1 kHz 16 bit."

1 Position the linear PCM recorder and the built-in microphones, referring to "Preparation before recording" (page 32).

2 Set the INPUT switch to the "MIC" (microphones) position.

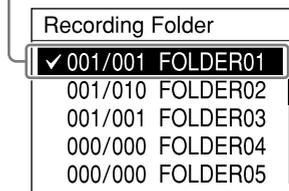
3 Press and hold the HOME/BACK button for 1 second or more, select "Record", and then press the ▶ button.

The recording stop mode window is displayed.

If you do not change the "Recording Folder," skip to step 6.

4 When you want to change the "Recording Folder," press the OPTION button to display the OPTION menu, select "Recording Folder," and then press the ▶ button. The screen to select a folder is displayed.

Currently selected folder



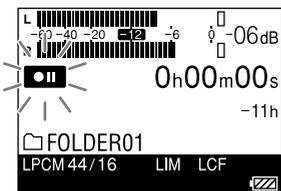
Continued on the next page →

- 5** Press the ▲ and ▼ buttons to select the desired folder, and press the ► button.

You can save recorded files in a folder in the VOICE folder. You can record a maximum of 199 files in each folder.

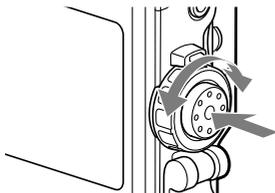
- 6** Press the ● REC button.

The linear PCM recorder stands by for recording, and ●|| display flashes.



- 7** Open the REC LEVEL dial guard (page 13) and turn the REC LEVEL dial to adjust the recording level while referring to the display.

To adjust the right and left channels simultaneously, turn the external dial. To change the balance of recording levels between the right and left channels, press and hold the inner dial, and then turn the inner dial for left channel adjustment or the external dial for the right channel adjustment.



You can check the recording level on both the peak meter of the display and the peak level lamps. Adjust the level closer to -12dB for an appropriate range that is suitable for your sound source.

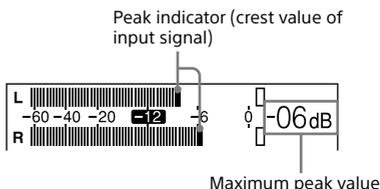
When checking the level on the peak meter of the display

When recording sound that has “sharp attack” parts such as percussive sound, use the peak meter to check the level.

The maximum peak value is displayed.

When “Peak Hold” in the OPTION menu is set to “Manual,” PEAK appears under the peak value, and will remain even after you turn off the recorder until you execute “Reset Peak Data” in the OPTION menu (page 69).

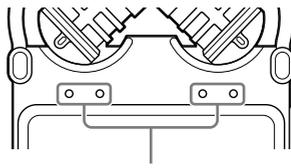
If OVER appears when the maximum peak value is output, distortion may occur.



When checking the level on the peak level lamps

The peak level lamps for the left and right channels light according to the input signal levels.

If the “OVER” lamp lights up in red (when the recording level exceeds -1dB), distortion may occur.



- Peak level lamps
- 12 dB (green): Distortion will not occur. (The recording level is -12 to -1dB.)
- OVER (red): The recording level is more than -1dB. Lower the level.

Note

The peak level lamps do not light during digital recording.

8 Press **II** PAUSE (or **▶**) button.

The standby for recording is released, and recording starts. **REC** lights on the display while recording is in progress.

To pause recording

Press the **II** PAUSE button during recording.

● II and the counter display flash. Press the button again to restart recording.

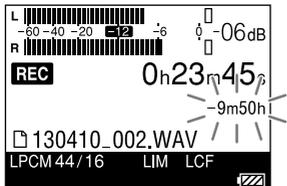
The linear PCM recorder does not start recording again automatically. Be sure to press the **II** PAUSE button again to restart recording.

To stop recording

Press the **■** STOP button.

Remaining recordable time display

When the remaining recordable time is less than 10 minutes during recording, the remaining recordable time flashes on the display.



When the remaining time runs out, "Memory Full" appears and recording stops.

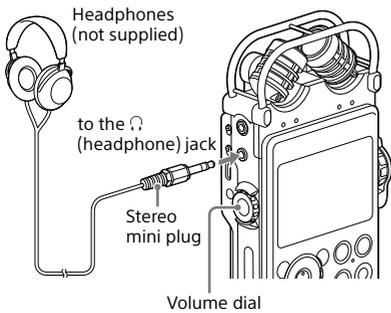
Notes

- While **REC** is lit on the display, do not remove the batteries, the AC adaptor or a memory card. Doing so may damage the data.
- If the linear PCM recorder remains in stop mode for about 10 minutes or longer, the linear PCM recorder will enter low-power consumption mode automatically. Power, however, is consumed during the low-power mode. When you are not going to use the linear PCM recorder, please turn off the power.
- Noise may be recorded if an object, such as your finger, etc., accidentally rubs or scratches the linear PCM recorder during recording.
- Do not connect the USB cable to the linear PCM recorder during recording. Doing so stops recording automatically (because connection with a computer has priority).
- If the size of a file exceeds 1 GB for an MP3 file and 2 GB for an LPCM/DSD file during recording, a new file is created automatically and the excess portion will be recorded as a new file.

Monitoring the recording

Connect optional headphones or earphones to the ♪ (headphone) jack of the linear PCM recorder to monitor the recording sound. The volume of monitored sound can be adjusted by turning the volume dial.

The volume of monitored sound does not affect the recording volume.

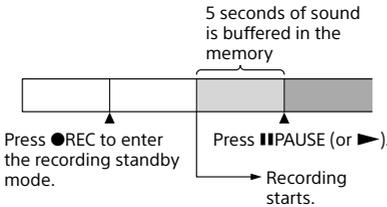


Notes

- If you turn up the volume excessively or place the headphones near the microphone while monitoring recording, the microphone may pick up the sound from the headphones, causing acoustic feedback (howling sound).
- For best results, use encapsulated-type headphones, which have less sound leakage.

Recording a few seconds in advance, before starting to record (Pre-recording)

The pre-recording feature allows you to record sound sources for a maximum of five seconds prior to the point when the recording is started.



5 Press the || PAUSE (or ►) button

The standby for recording mode is released, and recording starts. Sound is saved from a maximum of 5 seconds prior to the point when the button is pressed.

Notes

- When the remaining recordable time is less than 10 seconds, the pre-recording function is disabled.
- During digital recording, the pre-recording function is disabled.
- If the time between steps 4 and 5 is less than 5 seconds, pre-recording is done only for that number of seconds.

- 1 Press and hold the HOME/BACK button for 1 second or more, select "Record", and then press the ► button.

The recording stop mode window is displayed.

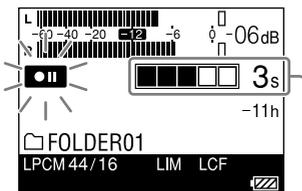
- 2 Press the OPTION button to display an option menu, select "Pre-Recording," and then press the ► button.

The "Pre-Recording" window is displayed.

- 3 Press ▲ and ▼ to select "ON," and press the ► button to fix the setting.

- 4 Press the ● REC button.

The linear PCM recorder stands by for recording, and ● || flashes on the display. The last 5 seconds of sound is buffered in the memory.



Number of seconds to be buffered in the memory

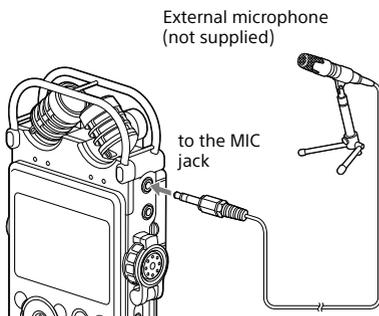
Recording using other devices

Recording with an external microphone

You can connect an optional external microphone to the linear PCM recorder.

- 1 Connect an external microphone to the MIC (microphone) jack of the linear PCM recorder, and adjust the position of the microphone.

For the characteristics of the microphone, refer to the operating instructions supplied with it.



When you connect an external microphone to the MIC (microphone) jack of the linear PCM recorder in stop mode, the "Plug In Power" menu is displayed. To use a plug in power microphone, select "ON." If you select "OFF," the plug in power function is disabled.

- 2 Follow steps 2 and 8 of "Recording using the built-in microphones" (page 35) to start recording.

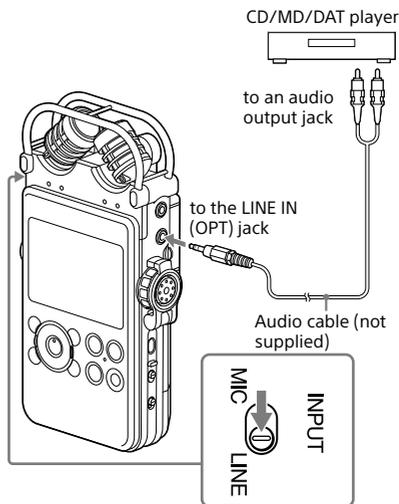
Notes

- When an external microphone is connected to the MIC (microphone) jack of the linear PCM recorder, the built-in microphones cannot be used for recording.
- When "Plug In Power" is set to "ON," the linear PCM recorder supplies power to a connected plug-in power microphone.

Recording from external equipment (Line Input)

You can connect an external device such as a CD player, MD player, or DAT player to the linear PCM recorder and record its playback sound.

- 1 Connect the audio output jacks of the external equipment to the LINE IN (OPT) jack of the linear PCM recorder by using an optional audio cable.

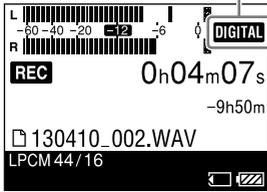


- 2 Set the INPUT switch to the "LINE" position.
- 3 Follow steps 3 and 7 of "Recording using the built-in microphones" (page 35).
- 4 Start playback on the external equipment.
- 5 Press the **|| PAUSE** (or **▶**) button where you want to start recording. The standby for recording mode is released, and recording starts.

Digital recording

This section explains digital recording: recording digital sound signals from an external digital device such as a CD or DAT player.

When digital signals are input



Notes

- During digital recording, the following features cannot be used:
Setting the recording level/MIC ATT switch/LIMITER setting/Setting the recording mode/LCF setting/SBM setting/pre-recording/S/N100dB
- When the remaining recordable time is less than 10 seconds, digital recording may be disabled.

Digital recording signals the linear PCM recorder supports

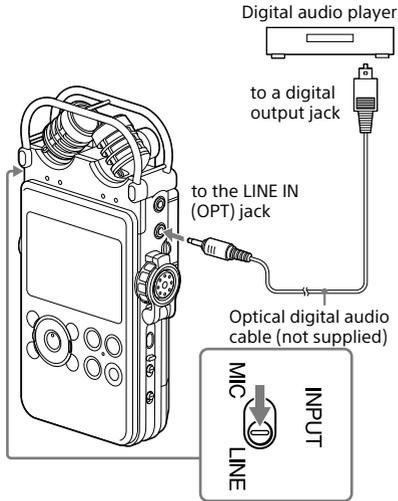
The linear PCM recorder supports the following digital signals when a digital device such as a CD, MD or DAT player is connected to the LINE IN (OPT) jack.

When incompatible signals are input, "Unknown digital signal" is displayed and you cannot record the signals.

- Linear PCM 44.1/48.0/88.2/96/176.4/192.0 kHz digital signals are supported.
- You cannot record the copyrighted digital signals (SCMS: Serial Copy Management System). If such signals are input, "The digital signal cannot be copied." is displayed. Some digital devices output copyrighted digital signals. For example, an MD or DAT media containing copyrighted recorded material outputs copyrighted digital signals, which cannot be recorded with the linear PCM recorder.
- When the sampling quantifying bit number is 16 bits or less, or unstable, it is recorded at the 16 bit rate. Otherwise, it is recorded at 24 bits.

Recording digital signals from external equipment (Optical Input)

- 1 Connect an optional optical digital audio cable from the digital output jacks of external digital equipment to the LINE IN (OPT) jack of the linear PCM recorder.



- 7 Press the **|| PAUSE** (or **▶**) button when you want to start recording. The standby for recording mode is released, and recording starts.

Note

- To start recording automatically with file information from an external device, see "Synchronizing recording with playback (Digital Synchronized Recording)" (page 43).

- 2 Set the INPUT switch to the "LINE" position.
- 3 Press and hold the HOME/BACK button for 1 second or more, select **Settings** → "Recording Settings" → "Digital SYNC REC," and then press the **▶** button.
The "Digital SYNC REC" window is displayed.
- 4 Press the **▲** and **▼** buttons to select "OFF," and press the **▶** button to fix the setting.
- 5 Follow steps 3 to 6 of "Recording using the built-in microphones" (page 35).
- 6 Start playback on the external equipment.

Synchronizing recording with playback (Digital Synchronized Recording)

Some portable digital devices such as portable CD/MD/DAT players do not output digital signals while playback is stopped. With the signals from those devices, you can start recording automatically (Digital Synchronized Recording).

- 1** Connect the digital output jacks of the external digital equipment to the LINE IN (OPT) jack of the linear PCM recorder using an optional optical digital cable.
- 2** Set the INPUT switch to the "LINE" position.
- 3** Press and hold the HOME/BACK button for 1 second or more, and then select "Settings" → "Recording Settings" → "Digital SYNC REC," and then press the ► button.
The "Digital SYNC REC" window is displayed.

- 4** Press the ▲ and ▼ buttons to select "ON," and press the ► button to fix the setting.
- 5** Follow steps 3 and 6 of "Recording using the built-in microphones" (page 35) to make the linear PCM recorder standby, ready for recording.
- 6** Start playback on the external equipment.
With file information from the connected external device, recording starts automatically. When files of the playback signals switch, recording continues as a new file.

Notes

- When a different digital signal is input, it is recorded as a new file since different signals cannot be saved in a file.
- During digital recording, the counter display might show approximately one second later than the actual recording.
- During digital recording from a CD/MD/DAT player, the linear PCM recorder may fail in synchronized recording mode depending on the type of source data or operations attempted.
- We cannot guarantee the operation of all types of CD/MD/DAT players. Some external devices you use may not operate properly.
- When the remaining recordable time is less than 10 seconds, you may not be able to use synchronized recording function.

Recording across memory media (Cross-Memory Recording)

When the built-in memory or a memory card currently being used becomes full during recording, the linear PCM recorder automatically switches its destination to the other memory media and continues recording (Cross-Memory Recording).

- 1 In the stop mode, press and hold the HOME/BACK button for 1 second or more, select "Settings" → "Recording Settings" → "Cross-Memory Recording," and then press the ► button.**

The "Cross-Memory Recording" menu is displayed.

- 2 Press ▲ and ▼ to select "ON," and then press the ► button.**

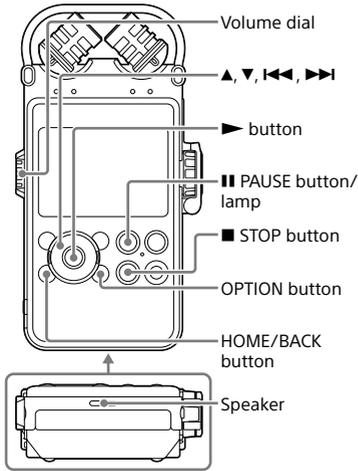
- 3 Start recording.**

When the current memory media becomes full during recording, "Switch memory and continue recording" appears in the window. Recording continues as a new file in the recordable folder with the earliest folder number available on the other memory media.

Notes

- If the other memory media is also full, a message is displayed and the linear PCM recorder stops recording.
- When you play the original file recorded with cross-memory recording, the linear PCM recorder does not play the other file automatically.
- Cross-memory recording will not work if you insert a memory card into the linear PCM recorder during recording.
- You cannot set "Cross-Memory Recording" during playback. To set this function, stop the linear PCM recorder.
- When you record a file by using the Cross-Memory Recording function, part of recorded sound may be interrupted after the memory is switched.

Playing a file



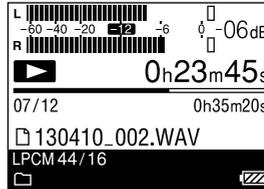
You can play a file recorded using the linear PCM recorder or a music file transferred from your computer through the built-in speaker.

1 Select a file you want to play using the HOME menu (page 27).

2 Press the ► button.

Playback starts.

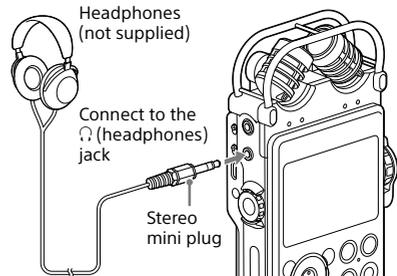
▶ is lit on the display. All of the files in the folder are played in order of file number.



3 Adjust the volume with the volume dial.

Listening through headphones

Connect optional headphones or earphones to the ◯ (headphones) jack of the linear PCM recorder.



Continued on the next page →

Operations during playback

To	Operation
Stop playback	Press the ■ STOP button.
Pause playback	Press the ■ PAUSE button.  and the counter display flash. To resume play after pausing, press the ■ PAUSE button again.
Fast forward (Cue)	Press and hold the ►► button.*
Fast reverse (Review)	Press and hold the ◀◀ button.*
Go back to the beginning of the current file	Press the ◀◀ button once.
Go back to previous files	Press the ◀◀ button repeatedly.**
Go to the beginning of the next file	Press the ►► button once.**
Go to the beginning of subsequent files	Press the ►► button repeatedly.

* If you press and hold the button, the linear PCM recorder moves forward or backward slowly at first, and then at a gradually higher speed.

** These operations are for when "EASY SEARCH" in the OPTION menu is set to "OFF."

Displaying the current file information

In play or playback stop mode, display the OPTION menu and select "File Information."

You can display various information on the current file including the recording date, file size, title, artist information, record mode, or LCF/LIMITER settings.

You can scroll the display by pressing ▲ and ▼.

When files are played to the end of the last file

- When you play or fast play to the end of the last file, "FILE END" lights up for 5 seconds. When "FILE END" lights off, the linear PCM recorder will stop at the beginning of the last file.
- If you press and hold the ◀◀ button while "FILE END" is lit, the files are played rapidly, and normal playback will start at the point where you release the button.
- If the last file is long and you wish to start playback at a later part of the file, press and hold the ►► button to go to the end of the file and then press the ◀◀ button while "FILE END" is lit to go back to the desired point.
- For files other than the last one, go to the beginning of the next file and then fast-rewind to the desired point during playback.

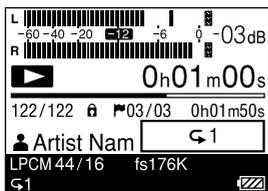
Notes

- During playback, do not remove the batteries or AC adaptor. Doing so may cause noise in audio output from the LINE OUT (OPT) jack and ◑ (headphones) jack.
- To jump to the recording function quickly, press the ●REC button or select "Return to REC" from the OPTION menu.
- Do not set the volume to an excessively high level. The volume is set at a higher level than a conventional device due to the high output level of headphones. Please set the volume to a moderate level.

Playing a file repeatedly

During playback, press and hold the **▶** button.

The repeat play mark (**↺** 1) appears. The selected file will be played repeatedly.



To exit the repeat play mode

To resume normal playback, press the **▶** button again.

To change the playback mode

You can select the playback mode, such as shuffle play or repeat play, in the menu. In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Play Mode," and then press the **▶** button.

Playing a specific section repeatedly (A-B repeat)

- 1 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Start A-B Repeat Mode," and then press the **▶** button.

"Set Start of A-B Repeat" is displayed.

- 2 During playback, press **▼** to specify the starting point (A).

"Set End of A-B Repeat" is displayed.

- 3 Press **▼** again to specify the finishing point (B).

The specified section is played repeatedly. To change the range of the A-B repeat playback, press **▼** again during the A-B repeat playback and perform the steps 2 and 3.

To cancel A-B repeat playback, press the OPTION button to display the OPTION menu, select "End A-B Repeat Mode," and then press the **▶** button.

Searching a desired point quickly (Easy Search)

The Easy Search function allows you to quickly locate the point at which you can also wish to start playback. You can set the skip time interval, which is useful for locating a desired point in a long meeting or other recording.

- 1 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Easy Search," and then press the **▶** button.
- 2 Press **▲** and **▼** to select "ON" or "Set Skip Time," and then press the **▶** button.

If you select "ON," the "Easy Search" setting menu is closed.

If you select "Set Skip Time," proceed to the next step.

- 3 Press **▲** and **▼** to select "Forward Skip Time" or "Reverse Skip Time," and then press the **▶** button.
- 4 Press **▲** and **▼** to select the time interval, and then press the **▶** button.
- 5 To set the other time interval, press the **▶** button and repeat steps 3 through 4.
- 6 When you have finished configuring this setting, press **▲** and **▼** to select "ON," and then press the **▶** button.

When "Easy Search" is set to ON

When you press **◀◀** or **▶▶** briefly, you can quickly move the playback position back or forward by the specified skip time.

Setting the playback sound quality

Selecting the sound effect

You can set the effect you want for the playback of a selected file.

- 1 Select a file you want to play using the HOME menu (page 27).
- 2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Effect," and then press the ► button.
- 3 Press ▲ and ▼ to select the desired effect, and then press the ► button.

OFF*	Disables the effect function.
Pop P	Stresses middle ranges, ideal for vocals.
Rock R	Emphasizes high and low ranges for a powerful sound
Jazz J	Emphasizes high ranges for lively sound.
Base1 BA1	Emphasizes the bass sound.
Base2 BA2	Emphasizes the bass sound even more.
Custom C	You can design your own custom sound level for 5 bands and for "CLEAR BASS."

* At the time of purchase, "OFF" is selected.

Customizing the sound level

Select "Custom" in step 3 to display the custom setting window.

Press ◀◀ and ▶▶ to select a frequency band from 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, and 16 kHz, and then press ▲ and ▼ to adjust the level. You can adjust in 7 steps from -3 to +3. To adjust the clear bass level, select "Clear Bass," and press ▲ and ▼ to adjust the level. You can adjust the level in 4 steps from 0 to +3.

When you have finished configuring this setting, press the ► button.

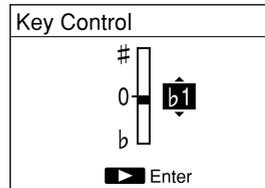
Adjusting the playback tone (Key Control)

You can adjust the playback sound to higher or lower semitones in 13 steps. This is useful for practicing songs to be recorded in accompaniment.

- 1 Select a file you want to play using the HOME menu (page 27).
- 2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Key Control," and then press the ► button.
- 3 Press ▲ and ▼ to adjust the playback tone (key control).

The playback tone is adjusted a halfnote higher (#1 - #6).

The playback tone is adjusted a halfnote lower (b1 - b6).



At the time of purchase, "0" is selected.

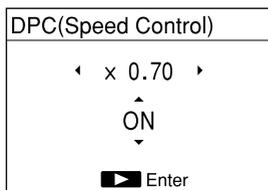
Adjusting the playback speed (DPC (Speed Control))

You can adjust the playback speed in a range from 0.25 times to 2.00 times. The file is played in natural tones using a digital processing function.

- 1 Select a file you want to play using the HOME menu (page 27).
- 2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "DPC (Speed Control)," and then press the ► button.
- 3 Press ▲ and ▼ to select "ON," and press ◀ and ▶ to adjust the playback speed.

The speed decreases by 0.05 times (from $\times 1.00$ to $\times 0.25$).

The speed increases by 0.10 times (from $\times 1.00$ to $\times 2.00$).



At the time of purchase, "OFF" is selected.

- 4 Press the ► button.

Improving the playback sound quality (Upsampling)

By interpolating and raising the sampling frequency to 2 times or 4 times the original frequency of the source sound, you can improve the playback sound quality.

This function is only valid for PCM files. The original and up-converted sampling frequencies are as follows:

Original frequencies	$\times 2.0$	$\times 4.0$
44.1 kHz	88.2 kHz	176.4 kHz
48 kHz	96 kHz	192 kHz
88.2 kHz	176.4 kHz	176.4 kHz
96 kHz	192 kHz	192 kHz
176.4 kHz/ 192 kHz	—	—

—: Invalid. Upsampling is not performed when the original frequency is 176.4 kHz or 192 kHz.

- 1 Select a file you want to play using the HOME menu (page 27).
- 2 In the stop mode, press and hold the HOME/BACK button for 1 second or more, select "Settings" → "Playback Settings" → "Upsampling," and then press the ► button.
- 3 Press ▲ and ▼ to select " $\times 2.0$ " or " $\times 4.0$," and press the ► button.

Notes

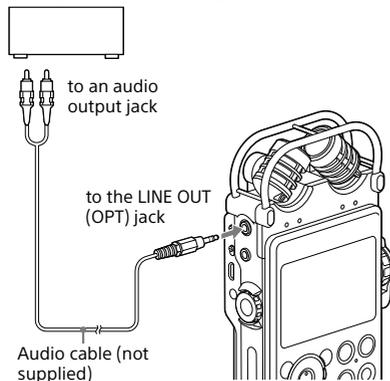
- When you enable "Upsampling", "DPC(Speed Control)", "Effect," and "Key Control" are disabled.
- At the time of purchase, "OFF" is selected.

Connecting external equipment for playback

To output recorded files from speakers of external equipment, connect the audio input jack or digital input jack of the external equipment to the LINE OUT (OPT) jack of the linear PCM recorder using an audio cable or optical digital cable.

Connecting an analog device

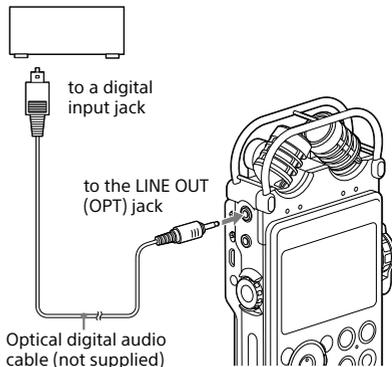
AV amplifier/player (analog type)



- 1 Select a file you want to play using the HOME menu (page 27).
- 2 Press the ► button.
Playback starts.

Connecting a digital device

AV amplifier/player (digital type)

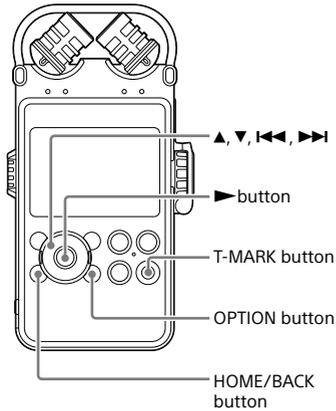


- 1 Select a file you want to play using the HOME menu (page 27).
- 2 Press the ► button.
Playback starts.

Note

The linear PCM recorder can output LPCM 44.1/48.0/88.2/96.0/176.4/192.0 kHz, 16/24 bit digital signals.
Playback may not be possible depending on the connected device or environments.

Organizing files



Moving a file to a different folder

You can move a selected file to the desired folder.

- 1 Select the file you want to move from the HOME menu (page 27).
- 2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Move/Copy File," and then press the ► button.
- 3 Press ▲ and ▼ to select "Move to Built-In Memory" or "Move to Memory Card," and press the ► button.

Move to Built-In Memory
Move to Memory Card
Copy to Built-In Memory
Copy to Memory Card

- 4 Press ▲ and ▼ to select "Recorded Files" or "Music" as the destination, and press the ► button.
- 5 Press ▲ and ▼ to select the folder that you want to move the file to, and press the ► button.

The file is moved and appears as the last file in the destination folder.

To cancel moving the file

Press the HOME/BACK button while "Please wait" appears on the display. "Interrupt process?" is displayed. Press ◀ and ▶ to select "Yes," then press the ► button to cancel moving.

Note

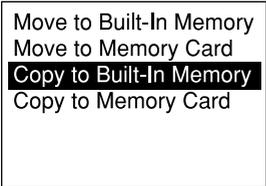
- You cannot move a protected file. To move the file, release the protection first, and then move the file.

Continued on the next page →

Copying a file to a different folder

You can copy a selected file to the desired folder. This function is useful for saving a backup.

- 1 Select the file you want to copy from the HOME menu (page 27).
- 2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Move/Copy File," then press the ► button.
- 3 Press ▲ and ▼ to select "Copy to Built-In Memory" or "Copy to Memory Card," and press the ► button.



Move to Built-In Memory
Move to Memory Card
Copy to Built-In Memory
Copy to Memory Card

- 4 Press ▲ and ▼ to select "Recorded Files" or "Music" as the destination, and press the ► button.
- 5 Press ▲ and ▼ to select the folder that you want to copy the file to, and press the ► button.

The file is copied and appears as the last file in the destination folder.

To cancel copying the file

Press the HOME/BACK button while "Please wait" appears on the display. "Interrupt process?" is displayed. Press ◀◀ and ▶▶ to select "Yes," then press the ► button to cancel copying.

Sorting file names

Files in the current folder can be sorted by file name, which is useful when organizing files that have been copied or moved to the current folder.

- 1 In file list, press the OPTION button to display the OPTION menu, select "Sort File Names," and then press the ► button.

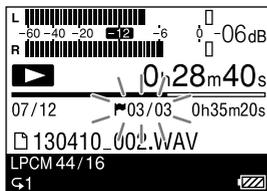
The files in the folder are sorted in alphanumerical order.

Using track marks

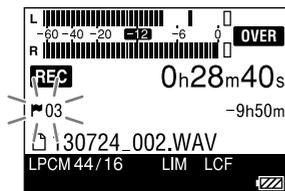
Adding a track mark

You can add a track mark at a point at which you would like to divide a file later or that you want to locate during playback. You can add a maximum of 98 track marks to each file. During recording, recording pause, or playback, press the T-MARK button at the position where you want to add a track mark. The  (track mark) indicator flashes three times, and a track mark is added.

During playback



During recording



To locate a track mark and start playback

Press  and  in the stop mode. When the  (track mark) indicator flashes once, press the  button.

Notes

- You cannot add a track mark to a protected file. To add a track mark to the file, release the protection first, and then add a track mark.
- You cannot add a track mark to a music file.
- You cannot add a track mark while using the Digital Synchronized Recording function.
- You cannot add a track mark to a DSD file.

Erasing a track mark

You can erase the track mark that is located immediately before the current position.

- 1 Select the file with the track mark you would like to erase from the HOME menu (page 27).
- 2 Stop at a position after the track mark you would like to erase.
- 3 Press the OPTION button to display the OPTION menu, select "Erase Track Mark" → "Current Track Mark," and then press the  button.
- 4 When "Erase Track Mark?" is displayed, press  and  to select "Yes," and press the  button.

The selected track mark is erased.

To cancel erasing the track mark

In step 4, select "No," and press the  button.

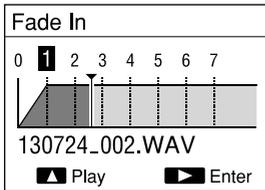
To erase all of the track marks in the selected file at once

In step 3, press the OPTION button to display the OPTION menu, select "Erase Track Mark" → "All Track Marks," and then press the  button. When "Erase all Track Marks?" is displayed, press  and  to select "Yes," and then press the  button. All of the track marks in the selected file are erased.

Setting fading in/out effects

You can add fading in/out effects to a file recorded in the LPCM (.wav) format. Fading time can be specified for each fading in and fading out effect.

- 1 Select the recorded LPCM (.wav) file to which you want to add a fading in/out effect from the HOME menu (page 27).
- 2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Fade" → "Fade In," "Fade Out," or "Fade In/Out," and then press the ► button.
- 3 Press ◀◀ and ▶▶ to specify the fading in or out time in 1 second steps up to 7 seconds, and press the ► button.



To play the fading in/out effect for confirmation, press ▲.

When you press the ► button, a confirmation message is displayed.

If you select "Fade In/Out" in step 2, the setting window for fading out time is displayed. Repeat the procedures in step 3.

- 4 When "Execute?" is displayed, press ◀◀ and ▶▶ to select "Yes," and press the ► button.

The file is saved as a new file with the fading in/out effect.

To cancel fading in/out effects

- Press the HOME/BACK button while "Please wait" appears on the display. "Interrupt process?" is displayed. Press ◀◀ and ▶▶ to select "Yes," and press the ► button.
- Select "No" in step 4, and press the ► button.

Tip

- The newly saved file with the fading in/out effect included is named with a sequential number (eg., "_1") as a suffix.

Notes

- You cannot add fade in/out effects to:
 - Files other than files recorded in the LPCM (.wav) format.
 - Files shorter than 20 seconds.
 - Music files
- Depending on the file size, it may take more than 5 minutes to complete fading.

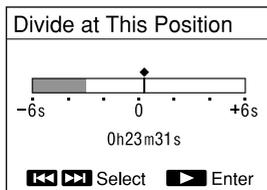
Dividing a file

Dividing a file at the current position

You can divide a file into two parts while in the stop mode. When a long recording is made, you can divide the file to easily find the point from which you want to play back. Files can be divided until the total number of files in the folder reaches the maximum permitted number.

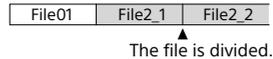
- 1 Select the recorded file that you want to divide from the HOME menu (page 27).
- 2 Stop the file at the position where you want to divide the file.
- 3 Press the OPTION button to display the OPTION menu, select "Divide" → "Divide Current Position," and then press the ► button.
A period of approximately 4 seconds from the dividing point will be played back repeatedly.
- 4 Press ◀◀ and ▶▶ to adjust the position to be divided, if necessary.

You can adjust the position to be divided by approximately 0.25 seconds in a range of approximately 6 seconds before and after the current position.



- 5 When "Divide?" is displayed, press ◀◀ and ▶▶ to select "Yes," and press the ► button.

The file is divided into two. New file numbers are added to the divided files.



Dividing a file at all of the track mark positions

You can divide a file at all of the track mark positions.

- 1 Select the recorded file that you want to divide from the HOME menu (page 27).
- 2 Press the OPTION button to display the OPTION menu, select "Divide" → "At All Track Marks," and then press the ► button.
- 3 When "Divide at all Track Marks?" is displayed, press ◀◀ and ▶▶ to select "Yes," and press the ► button.

The file is divided at all of the track mark positions. All of the existing track marks in the files will be erased.

To cancel division

Press the HOME/BACK button while "Please wait" appears on the display. "Interrupt process?" is displayed. Press ◀◀ and ▶▶ to select "Yes," and press the ► button.

Continued on the next page →

Dividing a file (continued)

Tip

- The divided files are named as follows:
 - “Divide at This Position”: The divided files will be suffixed with a sequential number (“_1,” “_2”).
 - “At All Track Marks”: A suffix made up of a sequential number (“_01,” “_02”) is added to each of the divided files.

Notes

- You cannot divide a file if:
 - The file is recorded by a device other than the linear PCM recorder.
 - The file is protected.
 - You try to divide the file at a point less than 0.5 seconds from the beginning or the end of the file.
 - The total number of recorded files reaches the maximum number of recordable files.
 - The new file name exceeds the maximum number of characters.
 - The file name after division is identical to an existing file in the folder.
 - There is a track mark less than 0.5 second from the division position (only when dividing at all of the track mark positions).
- If there is a track mark within 0.5 seconds of the dividing position (only when you are dividing a file at the current position), the division will be proceeded by erasing the track mark.

Combining files

You can combine two recorded LPCM (.wav) or DSD (.dsf) files into one. Select two files that are identical in file format (including sampling frequency, bit rate, and number of channels), saved in the same folder.

1 From the HOME menu (page 23), select the first recorded LPCM or DSD file that you would like to combine.

2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Combine," then press the ► button.

This displays the list of files from which you can select a file to combine after the file selected in step 1.

3 Press ▲ and ▼ to select the file that you would like to combine, and press the ► button.

If selecting a DSD file, proceed to the step 4.

If selecting select a WAV file, proceed to the step 5.

4 Press ▲ and ▼ to select "Cross Fade Combine" or "Direct Combine," and press the ► button.

- Direct Combine: Only select this option to combine two files that are originally from a continuous recording but were automatically divided due to file size limitations.
- Cross Fade Combine: Select this option to combine to separate files that have intermittent sounds, or to combine at a dividing point.

5 When "Execute?" is displayed, press ◀◀ and ▶▶ to select "Yes," and press the ► button.

The two files are combined into one and saved as a new file. The new combined file will be named as the file name of the first file suffixed with a sequential number (e.g. "_1").

To cancel combining

Press the HOME/BACK button while "Please wait" appears on the display. "Interrupt process?" is displayed. "Interrupt process?" is displayed. Press ◀◀ and ▶▶ to select "Yes," and press the ► button.

Notes

- You cannot combine files if the total number of recorded files reaches the maximum number of recordable files.
- You cannot combine files if the total file size exceeds the maximum file size for a LPCM/DSD file (2 GB).
- You cannot combine MP3 files.
- You can combine protected files.
- When you combine DSD files, noise may occur at the combined point.

Erasing files

Erasing a file

You can select a file and erase it.

- 1** Select a file that you want to erase from the HOME menu (page 27).
- 2** In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Erase" → "Erase a File," and then press the ► button. "Erase?" appears and the specified file is played for confirmation.
- 3** Press ◀◀ and ▶▶ to select "Yes," and press the ► button. The file is erased.

To cancel erasing

In the step 3, select "No" in step 3, and press the ► button.

Erasing all of the files in a folder or on a particular date

You can erase all of the files in a folder by selecting "By Folder" in the file selection or on particular date by selecting "Display by Date" in the file selection.

- 1** Select the folder or the date that contains the files you would like to erase from the HOME menu (page 27).
- 2** In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Erase" → "Erase All" or "Erase All on This Date," and then press the ► button.
- 3** When "Erase all files in this folder?" or "Erase all files on this date?" is displayed, press ◀◀ and ▶▶ to select "Yes," and press the ► button. The files in the folder or on the specified date are erased.

Notes

- Once a file has been erased, you cannot retrieve it.
- You cannot erase a protected file. To erase the file, release the protection first.

Tips

- When a file is erased, the remaining files will move forward so that there is no space between files.
- To erase part of a file, divide the file into two files first, select the file you want to erase, then proceed to steps 2 and 3.

Protecting a file

You can protect an important file. A protected file is marked with the **Ⓜ** (protect) indicator and is regarded as a read-only file that you cannot erase or edit.

1 Select the recorded file that you want to protect from the HOME menu (page 27).

2 In play or playback stop mode, press the OPTION button to display the OPTION menu, select "Protect," and then press the ► button.

The file is protected.

To release the protection

In step 2, press the OPTION button to display the OPTION menu → "Do Not Protect," and press the ► button.

Registering a function to F1/F2 function keys

By registering frequently-used functions to the F1 and F2 buttons, you can quickly access these functions and display the setting windows just pressing the F1 or F2 key.

- 1 Press and hold the HOME/BACK button for 1 second or more to display the HOME menu, select “ Settings” → “Common Settings” → “Function Key Setting,” and then press the ► button.**

The “Function Key Setting” window is displayed.

- 2 Press ▲ and ▼ to select “F1” or “F2,” and then press the ► button.**

The functions you can assign to the selected function button are listed.

- 3 Press ▲ and ▼ to select the desired function, and press the ► button.**

The selected function is assigned to the button.

To quit the menu, press the HOME/BACK button.

Tip

At the time of purchase, the following functions are allocated to the F1 and F2 buttons:

F1: LIMITER

F2: LCF(Low Cut)

Using the linear PCM recorder with your computer

When the linear PCM recorder is connected to your computer, you can transfer data between them linear PCM recorder and your computer.

Copying files from the linear PCM recorder to your computer to store them

Copying files from your computer to the linear PCM recorder to play them

Using the linear PCM recorder as USB memory

You can save image data or text data from the computer temporarily in the linear PCM recorder. For details, see the Help Guide.

Creating an audio CD

You can select files and burn them to an audio CD.

→ Refer to the supplied manual "Using Sound Forge Audio Studio LE."

Managing and editing files using the Sound Forge Audio Studio LE software

The Sound Forge Audio Studio LE software allows you to transfer the files that you have recorded using the linear PCM recorder to your computer to manage and edit them. You can also transfer files stored on your computer to the linear PCM recorder.

→ Refer to the supplied manual "Using Sound Forge Audio Studio LE."

System requirements for your computer

For details on the system requirements for your computer, see page 84, or refer to the supplied manual "Using Sound Forge Audio Studio LE."

Note

Sound Forge Audio Studio LE does not support DSD files.

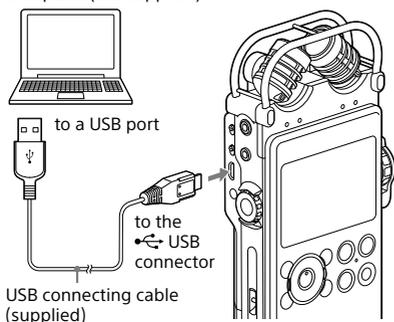
Connecting the linear PCM recorder to your computer

To exchange files between the linear PCM recorder and your computer, connect the linear PCM recorder to your computer.

- 1 Connect the USB connector of the linear PCM recorder with the USB port of a running computer using the supplied USB connecting cable.**

The linear PCM recorder is recognized by the computer as soon as the connection is made. While the linear PCM recorder is connected to the computer, "Connecting" is displayed in the display window of the linear PCM recorder.

Computer (not supplied)



- 2 Make sure the linear PCM recorder has been recognized properly.**

On the Windows screen; open "My Computer" or "Computer," and make sure that "PCMRECORDER" or "MEMORY CARD" has been recognized.

On the Mac screen; make sure that a "PCMRECORDER" or "MEMORY CARD" drive is displayed on the Finder.

Structure of folders and files

You can display the structure of folders and files of the linear PCM recorder on your computer by connecting the linear PCM recorder to your computer. Folders and files can be displayed by opening "PCMRECORDER" or "MEMORY CARD" in Explorer on a Windows computer or Finder on a Mac.

The linear PCM recorder creates two default folders for each media: the VOICE and MUSIC folders (shaded in the following structure illustrations).

Transferring files from your computer to your linear PCM recorder

Drag the desired file or folder to the VOICE or MUSIC folder.

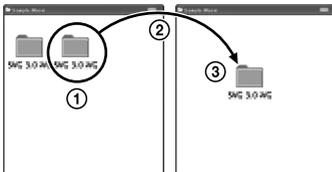
It is recommended that you transfer files to the MUSIC folder, since the VOICE folder is to save files recorded by the linear PCM recorder.

Tip

To locate files easily, we recommend that you place files in a folder and transfer the entire folder to the MUSIC folder. If you transfer a file directly to the MUSIC folder, it is displayed under "♪♪ Music."

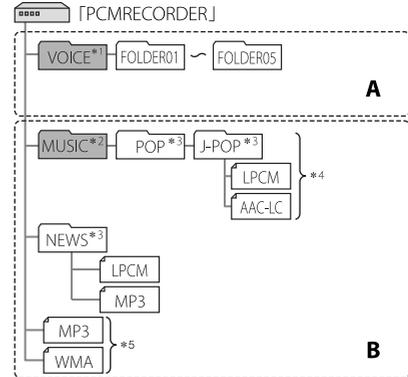
Transferring files or folders from your linear PCM recorder to your computer

Drag the desired file or folder from the linear PCM recorder into a folder on your computer.



Built-in memory

The folders and files in the built-in memory of the linear PCM recorder are displayed on the computer screen as shown.



A: Folder containing files recorded using the linear PCM recorder

B: Folder containing files transferred from your computer

*1 The VOICE folder contains 5 folders (FOLDER01 to FOLDER05). Folders and files under the VOICE folder are displayed within "Recorded File" in the HOME menu.

*2 You can transfer music folders from your computer to the MUSIC folder. Folders under the MUSIC folder are displayed within "♪♪ Music" in the HOME menu.

*3 The name of folders in which music files are stored are displayed unchanged on the linear PCM recorder, so it is convenient to put an easy-to-remember name on the folder in advance. Folders shown in the illustration are examples of folder names.

*4 The linear PCM recorder can recognize up to 8 levels of folders transferred to the linear PCM recorder.

*5 If you transfer music files to the root directory, they are classified as being in "No Folder."

Continued on the next page →

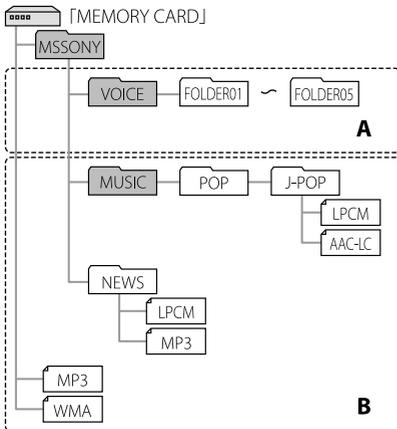
Structure of folders and files (continued)

Tips

- The title or artist name, etc., registered in the music files, can be displayed on the linear PCM recorder. It is useful if you input the information using the software you use to make the music files on your computer.
- If no title, or artist name has been registered "No Data" will be displayed in the display window of the linear PCM recorder.

When connecting the linear PCM recorder with your computer after the destination memory media has been set to "Memory Card," the structure of folders is different from that when the destination memory media is set to "Built-In Memory."

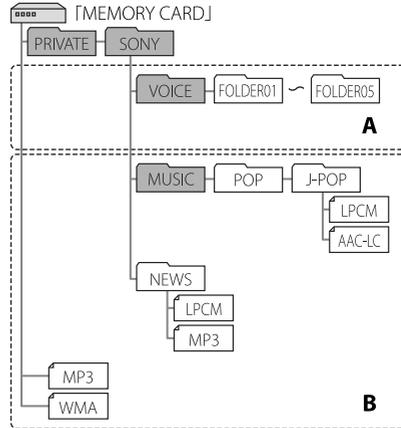
Memory Stick™



A: Folder containing files recorded using the linear PCM recorder

B: Folder containing files transferred from your computer

SD card



A: Folder containing files recorded using the linear PCM recorder

B: Folder containing files transferred from your computer

Folder structure on the linear PCM recorder

The folder structures displayed on the linear PCM recorder are different from those displayed on your computer.

Note

- A folder containing no file that can be played back on the linear PCM recorder is not displayed on the linear PCM recorder.

Disconnecting the linear PCM recorder from your computer

Follow the procedures below; otherwise, when the linear PCM recorder contains data files, the files may be damaged.

1 Make sure that the ACCESS indicator on the linear PCM recorder does not light.

2 Perform the following operation on your computer.

On the Windows taskbar at the bottom right of the desktop, left-click the following icon.



Then, left-click “Eject PCMRECORDER” (Windows 7, Windows 8), or “Safely remove USB Mass Storage Device” (Windows XP, Windows Vista). The icon and menu displayed can be different on different operating systems. The icon may not be always displayed on the taskbar depending on your computer settings.

On a Mac screen, click the removal icon of the “PCMRECORDER” that appears on the sidebar of the Finder.

3 Disconnect the linear PCM recorder from the USB port of the computer.

OPTION menu items

After you have selected a function from the HOME menu, you can display the OPTION menu by pressing the OPTION button.

The OPTION menu items displayed differ depending on the display on the window:

Folder selection window, file selection window, or stop or record window.

Record

■ In stop mode

OPTION menu item	See page:
Recording Folder	35
REC Mode	68
SBM(Super Bit Mapping)	68
Peak Hold	69
LIMITER	69
S/N 100dB	70
LCF(Low Cut)	70
Pre-Recording	39
Erase a File	58

■ In recording mode

OPTION menu item	See page:
Peak Hold	69
LIMITER	69
S/N 100dB	70
LCF(Low Cut)	70

Recorded Files

■ In folders/calendar display

OPTION menu item	See page:
File Selection	28

■ In file list display

OPTION menu item	See page:
File Selection	28
Sort File Names	52
Protect	59
Erase a File	58
Erase All Files	58
Combine	57
Fade	54
Move/Copy File	51, 52
File Information	46

■ In file selection display

OPTION menu item	See page:
Return to REC	—
Start A-B Repeat Mode	47
DPC(Speed Control)	49
Key Control	48
Effect	48
Easy Search	47
Play Mode	72
Protect	59
Erase a File	58
Erase Track Mark	53
Divide	55
Combine	57
Fade	54
Move/Copy File	51, 52
File Information	46

🎵 Music

■ In file list display

OPTION menu item	See page:
Sort File Names	52
Protect	59
Erase a File	58
Erase All Files	58
Move/Copy File	51, 52
File Information	46

■ In file selection display

OPTION menu item	See page:
Start A-B Repeat Mode	47
DPC(Speed Control)	49
Key Control	48
Effect	48
Easy Search	47
Play Mode	72
Protect	59
Erase a File	58
Move/Copy File	51, 52
File Information	46

Settings menu items

Menu	Item	Settings (*: Default setting)
Recording Settings	Recording Folder	You can select the destination folder where you save the files recorded using the linear PCM recorder (page 35). FOLDER01*/FOLDER02/FOLDER03/FOLDER04/FOLDER05
	REC Mode	<p>You can set the recording mode in which the files are recorded.</p> <ul style="list-style-type: none"> •LPCM You can select the sampling frequency and quantifying bit number for recording. 192 kHz/24 bit 176.4 kHz/24 bit 96 kHz/24 bit 96 kHz/16 bit 88.2 kHz/24 bit 88.2 kHz/16 bit 48 kHz/24 bit 48 kHz/16 bit 44.1 kHz/24 bit 44.1 kHz/16 bit* •MP3 320 kbps 128 kbps •DSD 2.8 MHz •Dual Recording When you make a recording, you can save it in two separate files, one in LPCM format and one in MP3 format. You can select the sampling frequency and bit number for the LPCM file and the bit number for the MP3 file. <p>Notes</p> <ul style="list-style-type: none"> • Sampling frequency is a value that represents how many times an analog signal is converted into a digital signal (A/D conversion) per second. The larger the sampling frequency value, the better the sound quality, but it also increases the volume of data. The sound quality of 44.1 kHz is equivalent to that of a CD, 48 kHz is equivalent to that of a DAT, and 96 kHz is equivalent to DVD Audio. • Quantifying bit number is a value that represents the volume of data for one second of audio. The larger the bit number, the larger the volume of data and the better the sound quality.
	SBM (Super Bit Mapping)	<p>When LPCM 16bit REC Mode is selected, you can reduce noise using the Super Bit Mapping function.</p> <p>ON: The Super Bit Mapping function works to reduce noise. OFF*: The Super Bit Mapping function is disabled.</p> <p>Note</p> <ul style="list-style-type: none"> • Super Bit Mapping significantly increases the dynamic range acoustically by reducing noise that is particularly easy to hear within the band audible to humans. In order to improve the audio quality when converting 20-bit data into 16 bits, the top 4 bits of information within the lower data, which is usually discarded, is integrated into the 16-bit data.

Menu	Item	Settings (*: Default setting)
Recording Settings	Peak Hold	<p>You can select whether the maximum value of the input signals (peak value) is maintained.</p> <p>Auto*: The peak value is not maintained and is reset periodically.</p> <p>Manual: The peak value is maintained and displayed until you stop recording or execute "Reset Peak Data."</p>
	LIMITER	<p>With two A/D converters for one channel, the linear PCM recorder always reserves audio signals that are 12 dB lower than audio processed in the normal circuit in addition to the normal audio signals. If an over-input occurs, recorded data from the point at which the over-input starts is replaced and compensated. The limiter prevents sound distortion using a limiter minus time constant (not available for analog).</p> <div style="text-align: center;"> </div> <p>You can set the time required for recovery from the influences of the digital limiter circuit:</p> <p>OFF*: The limiter function is disabled.</p> <p>150ms: The linear PCM recorder recovers within 150 milliseconds.</p> <p>1 sec: The linear PCM recorder recovers within one second.</p> <p>1 min: The linear PCM recorder recovers within 1 minute.</p> <p>Notes</p> <ul style="list-style-type: none"> • The limiter circuit functions to keep the signal level below the maximum input level. When a loud sound is input suddenly, the excess part of the sound is automatically set within the range of the maximum input level in order to prevent distortion. • The limiter circuit of the linear PCM recorder does not compensate for clipping when audio over 12dB is input. In this case, sound may be distorted. • When the setting is enabled, the peak value with the limiter circuit in operation appears if the maximum peak value exceeds 0dB. • The recovery time represents the period when the linear PCM recorder records sound at a volume 12dB lower than the normal circuit. In recordings where over-input occurs periodically, the recording volume may be changed so frequently that it disturbs you. If this occurs, try a longer recovery time setting.

Continued on the next page →

Settings menu items (continued)

Menu	Item	Settings (*: Default setting)
Recording Settings	S/N 100dB	<p>With two A/D converters for one channel, the linear PCM recorder always reserves audio signals that are 12 dB lower than audio processed in the normal circuit in addition to the normal audio signals. If an over-input occurs, recorded data from the point at which the over-input starts is replaced and compensated. Replacement is executed while maintaining the linearity of two A/D converters of different levels, realizing a high S/N ratio. Noise can be suppressed even with a low recording level.</p> <p>ON: S/N 100dB function is enabled. OFF*: S/N 100dB function is disabled.</p> <p>Note</p> <ul style="list-style-type: none"> • If the S/N 100dB function is enabled, the LIMITER function is automatically disabled.
	LCF(Low Cut)	<p>When the low cut filter is activated, audio under the following frequencies is filtered and attenuated. This function reduces noise caused by the flow of an air-conditioner, outdoor air, etc.</p> <p>OFF*: The LCF(Low Cut) function is disabled.</p> <p>75 Hz: Audio under the 75 Hz frequency is attenuated. 150 Hz: Audio under the 150 Hz frequency is attenuated.</p> <p>Note</p> <ul style="list-style-type: none"> • The 75 Hz filter may slightly affect the recorded sound quality. If you find that the setting is not effective enough, try "150Hz."
	Pre-Recording	<p>You can buffer sound for approximately 5 seconds in the memory when you press the ●REC button and the recorder is in standby for recording mode. When you press the ■PAUSE button or the ► button to start recording, recording actually starts 5 seconds prior to the point where the button is pressed (pre-recording function).</p> <p>ON: The pre-recording function is activated. When you start recording, the recorder starts recording sound 5 seconds prior to the point where the button is pressed.</p> <p>OFF*: The pre-recording function is disabled. When you start recording, recording starts at the point where the button is pressed.</p>
	Digital SYNC REC	<p>You can start recording simultaneously with input playback signals from an external device connected to the LINE IN (OPT) jack during digital recording.</p> <p>ON: Synchronized recording is enabled. OFF*: Synchronized recording is disabled. To start recording, press the ●REC button and the ■PAUSE button or the ► button.</p>
	Plug In Power	<p>When a plug in power type microphone is connected to the MIC jack of the linear PCM recorder, the linear PCM recorder can supply power to the microphone. You can turn the plug in power function on and off:</p> <p>ON: The linear PCM recorder supplies power to the connected plug in power type microphone. OFF*: The linear PCM recorder does not supply power to the connected plug in power type jack.</p>

Menu	Item	Settings (*: Default setting)
Recording Settings	Cross-Memory Recording	<p>When the built-in memory or a memory card currently being used becomes full during recording, the linear PCM recorder automatically switches its destination to the other memory media and continues recording. You can enable or disable the Cross-Memory function.</p> <p>ON: The Cross-Memory Recording function is enabled. OFF*: The Cross-Memory Recording function is disabled. When the current memory media becomes full, the linear PCM recorder stops recording.</p>
Playback Settings	DPC(Speed Control)	<p>By using the DPC (Digital Pitch Control) function, you can adjust the playback speed in a range from 0.25 times to 2.00 times (page 49). The speed decreases by 0.05 times (from x0.25 to x1.00) The speed increases by 0.10 times (from x1.00 to x2.00).</p>
	Key Control	You can adjust the playback sound to higher or lower semitones, in 13 steps: #1 to #6, 0*, b1 to b6 (page 48).
	Effect	You can set the effect you want for playback according to the file to be played. You can also customize effects (page 48).
	Upsampling	By interpolating and raising the sampling frequency to 2 times or 4 times the original frequency of the source sound, you can improve the playback sound quality (page 49).
	Easy Search	<p>By setting the forward or backward skip time interval, you can quickly locate the point at which you wish to start playback (page 47).</p> <p>ON: You can skip forward or backward by the specified skip time by pressing ►► or ◀◀ in the playback mode. OFF*: The Easy Search function is disabled. When you press ►► or ◀◀, the linear PCM recorder will move to the next or previous file.</p> <p>Set Skip Time: Sets the time to go forward or backward in easy searching. Forward Skip Time: Sets the time to skip forward when you press ►►. (5sec, 10sec*, 30sec, 1min, 5min, or 10min) Reverse Skip Time: Sets the time to skip backwards when you press ◀◀. (1sec, 3sec*, 5sec, 10sec, 30sec, 1min, 5min, or 10min)</p>

Continued on the next page →

Settings menu items (continued)

Menu	Item	Settings (*: Default setting)
Playback Settings	Play Mode	<p>You can select the playback mode, such as shuffle play or repeat play, according to your purpose.</p> <p>1 Play 1 File: Only the currently selected file is played.</p> <p> Play Folder*: All files in the currently selected folder are played.</p> <p>ALL Play All Files: All of the files are played.</p> <p> Repeat 1 File: The currently selected file is played repeatedly.</p> <p> Repeat Folder: Files in the currently selected folder are played repeatedly.</p> <p> ALL Repeat All: All of the files are played repeatedly.</p> <p> Shuffle in Folder: All files in the currently selected Music folder are played in random order.</p> <p> ALL Shuffle All Files: All files in all of the Music folders are played in random order.</p>
	File Selection	<p>You can select the folder list display mode of the recorded files.</p> <p>By Folder*: A folder list is displayed.</p> <p>Display by Date: A calendar is displayed.</p>
Common Settings	LED	<p>The ACCESS indicator, peak level lamps, ●REC indicator, and ■■PAUSE indicator light up or flash to represent the operational status of the recorder.</p> <p>ON*: The indicators light up or flash.</p> <p>OFF: The indicators do not light up or flash.</p>
	Select Memory	<p>You can select the memory media on which you want to store a file, or which contains the file you want to play, edit, or copy.</p> <p>Built-In Memory*: Files are saved on the built-in memory of the linear PCM recorder.</p> <p>Memory Card: Files are saved on the memory card.</p>
	Language	<p>You can select the language to be used for messages, menus, folder names, file names, etc.</p> <p>English/ 简体中文 (Simplified Chinese)*</p>
	Date&Time	<p>You can set the clock (page 22).</p>
	Time Display	<p>You can select between 12 hour-clock and a 24 hour-clock.</p> <p>12-Hour: 12:00AM = midnight, 12:00PM = noon</p> <p>24-Hour*: 0:00 = midnight, 12:00 = noon</p>
	Remote Control Setting	<p>To avoid interference, you can allocate channel numbers to the supplied remote control (receiver unit and transmitter unit).</p> <p>CH1*: Channel 1 is allocated to the remote control.</p> <p>CH2: Channel 2 is allocated to the remote control.</p> <p>CH3: Channel 3 is allocated to the remote control.</p>

Menu	Item	Settings (*: Default setting)
Common Settings	Battery Setting	For optimum operations, you can select the type of batteries you are using for the linear PCM recorder. Alkaline Battery*: Select this option if using alkaline batteries. NiMH Battery: Select this option if using rechargeable NiMH batteries.
	Function Key Setting	By registering frequently-used functions to the F1 and F2 buttons, you can quickly access these functions and display the setting windows with just pressing the F1 or F2 key (page 60). F1: LIMITER* F2: LCF(Low Cut)*
	Reset All Settings	You can reset the menu items to their default settings. Yes: "Please wait" appears, and the menu settings are reset. No: Menu items are not initialized. Note • The following menu items are not initialized: Protect, Select Memory, Date&Time
	Format	You can format the memory media currently selected (the built-in memory or the memory card), erasing all of the data in the memory and resetting the folder structure to its default status. Be sure to confirm whether the currently selected memory is the built-in memory or the memory card, and then select "Yes." Notes • Do not use your computer to format the media. • If you format the built-in memory, all data stored there will be erased. (Protected files are also erased.) Note that once the files are erased, you cannot retrieve them.
	System Information	You can check the system information such as the linear PCM recorder model name, the free memory space of the linear PCM recorder and a memory card, and the version number of the software. You can scroll through the display by pressing ▲ and ▼.

Precautions

On power

Operate the unit only on 6.0V DC with four alkaline batteries or 4.8V DC with four nickel metal hydride rechargeable batteries or 6.0V with AC adaptor.

On safety

Do not operate the linear PCM recorder while driving, cycling, or operating any motorized vehicle.

On handling

- Do not subject the linear PCM recorder to strong shock or vibration. Doing so may cause a malfunction of the linear PCM recorder.
- Do not place the linear PCM recorder in the following locations:
 - Anywhere extremely hot. Never expose it to temperatures above 60°C.
 - Under direct sunlight or close to heaters
 - In a sun-heated car with the windows closed (especially in summer)
 - In a humid place, such as in a bathroom
 - Anywhere dusty
- Should any solid object or liquid fall into the linear PCM recorder, remove the batteries and have the linear PCM recorder checked by qualified personnel before operating it any further.
- Be careful not to allow water to splash on the linear PCM recorder. The linear PCM recorder is not waterproof. In particular, be careful in the following situations.
 - When you have the linear PCM recorder in your pocket and go to the bathroom, etc.
 - When you bend down, the linear PCM recorder may drop into the water and may get wet.
 - When you use the linear PCM recorder in an environment where the unit is exposed to rain, snow, or humidity.

– In circumstances where you get sweaty. If you touch the linear PCM recorder with wet hands or if you put the linear PCM recorder in the pocket of sweaty clothes, the linear PCM recorder may get wet.

- You may feel pain in your ears if you use the headphones when the ambient air is very dry. This is not because of a malfunction of the headphones, but because of static electricity accumulated in your body. You can reduce static electricity by wearing non-synthetic clothes that prevent the emergence of static electricity.

On headphones output

Do not set the volume to an excessively high level. The volume is set at a higher level than a conventional device due to the high output level of headphones. Please set the volume to a moderate level.

On noise

- Noise may be heard when the linear PCM recorder is placed near an AC source, a fluorescent lamp, or a mobile phone during recording or playback.
- Noise may be recorded when an object, such as your finger, etc., rubs or scratches the linear PCM recorder during recording.

On the built-in microphones

The built-in microphones are high-performance electret condenser microphones. Do not expose them to strong wind or water.

On maintenance

When the exterior is dirty, clean the surface gently with a soft cloth slightly moistened in water, and then wipe it again with a dry cloth. Do not use alcohol, benzene, or thinner, etc., to avoid damaging the finish.

Backup recommendations

To avoid potential risk of data loss caused by accidental operation or malfunction of the linear PCM recorder, we recommend that you save a backup copy of your recorded files on a computer.

Troubleshooting

If you experience trouble with your linear PCM recorder, try the following solutions.

- 1** Turn off the linear PCM recorder completely by removing the batteries and the AC adaptor, and then turn it on again. Or use the linear PCM recorder to initialize the built-in memory or the memory card. (Note that initializing will delete all data in the memory or in the memory card.)
- 2** Read through the symptoms and solutions on pages 76 to 79 and messages on pages 80 to 82 to check your recorder.
- 3** Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Please access the following support home page to get the support information about your linear PCM recorder:

<http://www.sony-asia.com/support>

Note that recorded files may be deleted during service or repair work.

Continued on the next page →

Troubleshooting (continued)

Symptom	Cause/Solution
The linear PCM recorder does not operate.	<ul style="list-style-type: none"> •The batteries have been inserted with the +/- facing in the incorrect direction. Reinsert them correctly (page 19). •The batteries have run out. Replace them with new ones (page 19). •The buttons are locked with the HOLD switch. Set the HOLD switch to the "OFF" position (page 31). •The POWER switch is set to the "OFF" position. Set it to the "ON" position.
You cannot start recording.	<ul style="list-style-type: none"> •The INPUT switch is in the wrong position. Set it to the "MIC" (microphones) position when using the built-in microphones or an external microphone to input audio for recording. Set it to the "LINE" position when external equipment is connected for recording (pages 35, 40, 42, 43). •If a recording starts and no playback sounds are heard, the recording volume may be too low. Turn the REC LEVEL dial to adjust the volume. •You cannot record in folders managed under "♪ Music." •The memory is full, or the maximum number of files (199 files) have already been recorded. You cannot record any more files. Select another folder (page 27) or erase some of the files (page 58). Or store the files on the hard disk of your computer (page 63), and then erase them from the linear PCM recorder. You can also use a memory card with sufficient capacity (page 24). •The write-protect switch of a memory card is set to the "LOCK" position. Release the write-protect setting. •Check the "Plug In Power" setting of the menu if using an external microphone.
Digital Synchronized Recording cannot be performed.	<ul style="list-style-type: none"> •Digital Synchronized Recording cannot be performed if the connected device outputs digital signals, even when playback is stopped.
The ACCESS indicator, peak level lamps, or ● REC / ■ PAUSE indicators do not light/flash.	<ul style="list-style-type: none"> •The "LED" item in the "Common Settings" menu is set to "OFF." Display the menu and set it to "ON" (page 72).
You cannot erase a file.	<ul style="list-style-type: none"> •The inserted memory card is write-protected. Release the write-protect setting. •When you use a Windows computer, the file or the folder containing the file is set to "Read-only" on the computer. Display the file or the folder using Windows Explorer and remove the check for "Read-only" under "Properties." •When you use a Mac computer, the file or the folder containing the file is set to "Locked" on the computer. Display the file or the folder on Mac Finder and remove the check for "Locked" under "GetInfo" of "File." •The remaining battery power is insufficient. Connect the AC adaptor to the linear PCM recorder (page 21), or replace the batteries with new ones (page 19). •The file is protected. Reset the protection setting.

Symptom	Cause/Solution
You cannot divide a file.	<ul style="list-style-type: none"> •You need a certain amount of free space in the memory to divide a file. •199 files have been recorded in the selected folder. Erase some of the files or select another folder. •Because of the system limitations, you may not be able to divide a file at the very beginning or at the very end of the file. •You cannot divide files other than those recorded using the linear PCM recorder (e.g., a file transferred from a computer). •You cannot divide a protected file. To divide the file, release the protection first.
You cannot move a file.	<ul style="list-style-type: none"> •You cannot move a protected file. To move the file, release the protection first.
Noise is heard.	<ul style="list-style-type: none"> •An object, such as your finger, etc., accidentally rubbed or scratched the linear PCM recorder during recording so that noise was recorded. •Noise may occur if many small-sized files are recorded in the current memory. Save the files on the hard disk of your computer (page 63), and then format the memory (page 73). •The linear PCM recorder was placed near an AC source, a fluorescent lamp, or a mobile phone during recording or playback. Move the linear PCM recorder away from them. •Noise may occur if the plug of the connected external microphone was dirty when recording. Clean the plug. •Noise may occur if the plug of the connected headphones is dirty during playback or monitoring the recording sound. Clean the plug.
The sound picked up is distorted.	<ul style="list-style-type: none"> •The INPUT switch is in the wrong position. Set it to the position that corresponds to the sound source and connections (pages 35, 40, 42, 43). •Adjust the recording level to an appropriate range (page 36). •The sound source is too loud when recording with an external microphone. Set the MIC ATT switch to the "20" position (page 33), or move the microphone away from the sound source. •The sound source has parts that are too loud. Adjust the value in "LIMITER" in the menu display (page 69).
Noise occurs during recording.	<ul style="list-style-type: none"> •When monitoring the recording sound with headphones, they are too close to the microphone. Decrease the sound level from the headphones or keep the microphone away from them.
"--y--m--d --:--" is displayed as the recorded date.	<ul style="list-style-type: none"> •Set the clock (page 22). The date and time of recording are displayed after the clock is set.
There are fewer OPTION menu items in the menu display.	<ul style="list-style-type: none"> •Some menu items are not displayed during playback or recording.

Continued on the next page →

Troubleshooting (continued)

Symptom	Cause/Solution
The linear PCM recorder is not recognized by your computer. A folder/file cannot be transferred from your computer.	<ul style="list-style-type: none"> • Disconnect the linear PCM recorder from your computer and reconnect it. • Operation is not guaranteed if you use any system environment other than those that the linear PCM recorder supports. • Depending on the USB port position, the linear PCM recorder may not be recognized. If this happens, try another port.
The file transferred from your computer is not displayed or cannot be played back.	<ul style="list-style-type: none"> • The linear PCM recorder can recognize up to 8 levels of folders. • The files other than those the linear PCM recorder supports may not be displayed. Check the compatible file formats.
A character in a folder or file name is displayed in unreadable characters.	<ul style="list-style-type: none"> • The linear PCM recorder cannot support or display some special characters and symbols that are entered on a computer using Windows Explorer or the Mac Finder.
The "Please wait" display does not disappear.	<ul style="list-style-type: none"> • If the linear PCM recorder is required to process a large amount of data, the message may be displayed for an extended period of time. This is not a malfunction of the linear PCM recorder. Wait until the message disappears. In this case, do not remove the batteries or AC adaptor.
You cannot record files up to the maximum recording time noted on page 88.	<ul style="list-style-type: none"> • If there are other formatted data (for example, images) saved in the memory, you cannot record files up to the maximum. • A memory card requires a minimum amount of memory, even when recording very short files. As a result, the actual total recording time of the memory card may be shorter than the maximum recording time of the linear PCM recorder. • The maximum recording time indicated on page 88 is estimated. It varies depending on the number of files. • Due to the limitations of the recording system, the sum of the total recorded time in the counter (elapsed time) and the remaining recording time may be shorter than the maximum recording time of the linear PCM recorder. • Even when "Memory Full" is displayed and the linear PCM recorder stops recording, the linear PCM recorder has an extra memory space for editing. This is not a malfunction of the linear PCM recorder. • If the recording data volume of one file requires over 1 GB for an MP3 file and 2 GB for an LPCM/DSD file, the subsequent recording starts as a new file due to the specifications of the linear PCM recorder.
The memory card is not recognized.	<ul style="list-style-type: none"> • Since the memory card may contain image data or other files, the memory required for creating initial folders is insufficient. Use Windows Explorer or other tools to erase unnecessary files or initialize the memory card on the linear PCM recorder. • Select "Memory Card" from "Select Memory" of the "Common Settings" menu.
No sound comes from the built-in speaker.	<ul style="list-style-type: none"> • Headphones are plugged in. Remove the headphones (page 45).

Symptom	Cause/Solution
Sound comes from the built-in speaker even when headphones are plugged in.	<ul style="list-style-type: none"> • If you plug in the headphones not securely during playback, the sound may come from the speaker. Unplug the headphones, and then insert them securely.
Playback speed is too fast or too slow.	<ul style="list-style-type: none"> • "DPC(Speed Control)" in the menu is effective and the linear PCM recorder plays at the specified playback speed. Set "DPC(Speed Control)" to "OFF," or adjust the playback speed appropriately.
A file cannot be played back.	<ul style="list-style-type: none"> • Files other than those the linear PCM recorder supports may not be played back. For details, see the specifications (page 84).

Error messages

Message	Meaning/Solution
Set Date&Time?	The clock is not set. Set it before operating the linear PCM recorder (page 22).
Only activated for 16-bit LPCM	The "SBM" item is effective only when the quantifying bit number is set to 16 bit (page 68).
File full	The total number of files including folders has reached the maximum (4,095 files), and you cannot record or divide any more files. To reduce the number of files, record new files in another folder, erase unnecessary files (page 58), or store some of the files on your computer (page 63).
Memory full	There is no remaining data space in the built-in memory or the Memory Stick™. Erase unnecessary files (page 58), or store some of the files on your computer (page 63) and then erase the contents of the memory.
Memory Card locked	The inserted memory card is write-protected. Remove the memory card, and release the write-protect setting.
Read only Memory Card	A read-only memory card is inserted. Use a memory card that the linear PCM recorder supports (page 25).
Memory Card access denied	A memory card with an access control function is inserted. Functions including recording and playback are limited, and you cannot use the memory card with the linear PCM recorder. Use a memory card that the linear PCM recorder supports (page 25).
Memory Card not supported	An incompatible memory card is inserted. Use a memory card that the linear PCM recorder supports (page 25).
Unknown Memory Card	A memory card that is not supported is inserted. Use a memory card that the linear PCM recorder supports (page 25). We cannot guarantee operations with unknown media.
No Memory Card	A memory card is not inserted into the linear PCM recorder, and you therefore cannot perform operations including "Copy to Memory Card," "Move to Memory Card," "Memory Card" from "Select Memory," or "Cross-Memory Recording." Insert a memory card that the linear PCM recorder supports (page 25).
File protected	For Windows computers You cannot erase files that are set to "Read-only" on the computer. Display the file using Windows Explorer and remove the check for "Read-only" under "Properties." For Mac computers You cannot erase files that are set to "Locked" on the computer. Display the file in the Mac Finder and remove the check for "Locked" under "GetInfo" of "File."
Unknown data	The file you are trying to play or record is an unsupported type of data or a different file format. It cannot be played or recorded on the linear PCM recorder.

Message	Meaning/Solution
File damaged	The file you are trying to play or edit is damaged. It cannot be played or edited on the linear PCM recorder.
No file	There are no files in the selected folder.
Continue recording with new file	The file size of the file being recorded exceeds 1 GB for an MP3 file and 2 GB for an LPCM/DSD file. A new file is created and recording continues as a new file.
Switch memory and continue recording	When "Cross-Memory Recording" is set to "ON" and the current memory becomes full, recording continues after switching the destination to the other memory media.
Switch recording folder	The Recording Folder is full. Recording continues after switching the destination folder to another available folder.
Low battery level	The remaining battery power is insufficient. You cannot erase a file or format the memory, or perform other operations. Replace the batteries with new ones (page 19), or connect the AC adaptor to the linear PCM recorder (page 21).
No digital signal	No digital signal is input from the optical cable connected to the LINE IN (OPT) jack of the linear PCM recorder during digital recording. Check the connection.
The digital signal cannot be copied.	A copy-protected sound source is input from the optical cable connected to the LINE IN (OPT) jack of the linear PCM recorder during digital recording. Recording cannot be performed.
No Track marks	There are no track marks for the selected file. You cannot execute those menu commands to erase track marks or divide a file at all track mark positions.
Track marks are full	You cannot add another track mark as the maximum number of track marks have already been added to the file. Erase unnecessary track marks (page 53).
Memory Card error	Insert the memory card again. If this message appears again, the memory card may have a problem. If this occurs, connect the memory card to your computer, perform data recovery, save a backup to your computer, and then use the linear PCM recorder to format the memory card.
Built-In Memory needs to be formatted/Memory Card needs to be formatted	The linear PCM recorder cannot operate with the built-in memory or a memory card that has been formatted by other devices. Format the built-in memory or the memory card using the formatting function in the Settings menu of the linear PCM recorder. Do not use your computer to format the built-in memory or the memory card.
File in format that does not allow editing	<ul style="list-style-type: none"> • You attempted to add a track mark to a file that does not support track marks. • You attempted to divide a file that does not support division. • You attempted to add a fading in/out effect to a file that does not support fading. • You attempted to combine files that do not support combining.

Continued on the next page →

Error messages (continued)

Message	Meaning/Solution
Invalid operation	<ul style="list-style-type: none"> •You cannot divide or set a track mark in files in the folders managed under “ Music.” •If a memory card has a bad block (BADBLOCK) on it, the card cannot be written to. Prepare a new memory card to replace the current one. •The file name has reached the maximum number of characters; you cannot divide the file. Shorten the file name. •The “At All Track Marks” function cannot be used because there is a track mark within 0.5 seconds of the dividing position. •The “At All Track Marks” function cannot be used because there is a track mark within 0.5 seconds of the beginning of a file or the end of the file. •The file is too short to divide as the file length is less than 1 second. •The “Divide Current Position” function cannot be used at a position within 0.5 seconds of the beginning or end of a file.
Operation invalid while recording/Operation invalid while playing	<ul style="list-style-type: none"> •You cannot perform some OPTION menu or “Settings” menu items during recording or playback. Try operations after recording or playback is finished.
Low battery	The batteries have run out. Replace the batteries with new ones (page 19).
System error	A system error has occurred. Remove the batteries or the AC adaptor to turn off the linear PCM recorder completely, and then turn on the linear PCM recorder again. If this message appears again, consult with qualified Sony personnel (see the warranty for contact information).
Process error	A process error has occurred. Remove the batteries or the AC adaptor to turn off the linear PCM recorder completely, and then turn on the linear PCM recorder again. If this message appears again, consult with qualified Sony personnel (see the warranty for contact information).
Hold.... Slide HOLD switch to activate.	You cannot operate the linear PCM recorder as the HOLD switch is set to “ON.” (However, you can control the linear PCM recorder with the optional remote control.) To operate the linear PCM recorder, set the HOLD switch to “OFF” (page 31).
Deactivated in this screen	You pressed the F1 or F2 button when the function keys are not configured.

System limitations

There are some system limitations of the linear PCM recorder. The issues described below are not malfunctions of the linear PCM recorder.

Symptom	Cause/Remedy
You cannot record files up to the maximum recording time.	If you record files in a mixture of recording modes, the recordable time varies between the maximum recording time of the highest recording mode to those of the lowest recording mode. The sum of the number on the counter (elapsed recording time) and the remaining recording time may be less than the linear PCM recorder's maximum recording time.
You cannot display or play back music files in order.	If you have transferred music files using your computer, those files may not be transferred in the order they were transferred because of system limitations. If you transfer music files from your computer to the linear PCM recorder one by one, you can display and play back the music files in the transferred order.
A file is divided automatically.	The file being recorded has reached the maximum size limit (2 GB for an LPCM/DSD file, and 1 GB for an MP3 file). Therefore, it is automatically divided.
You cannot enter lowercase characters.	Depending on the combination of characters used for the name of a folder made on your computer, the characters may change to all capitals.
Unreadable characters or "□" are displayed in a folder name, title, artist name, or file name.	A character which cannot be displayed on the linear PCM recorder has been used. The linear PCM recorder cannot support or display some special characters and symbols that can be entered using Windows Explorer or Mac Finder.
When you set A-B repeat playback, the set positions move a little.	Depending on the files, the set positions may move.
The remaining recording time becomes shorter when you divide a file.	You need a certain amount of free space for a file management area to divide a file. Therefore, the remaining recording time will be shortened.

Specifications

System requirements

When you use the linear PCM recorder connected to a computer or as a USB mass storage device, your computer must meet the operating system requirements and port environment described below.

To use your computer with the Sound Forge Audio Studio LE software, see "Using the Sound Forge Audio Studio LE" supplied.

Operating systems

- Windows 8
- Windows 8 Pro
- Windows 7 Ultimate Service Pack 1 or higher
- Windows 7 Professional Service Pack 1 or higher
- Windows 7 Home Premium Service Pack 1 or higher
- Windows 7 Home Basic Service Pack 1 or higher
- Windows 7 Starter Service Pack 1 or higher
- Windows Vista Ultimate Service Pack 2 or higher
- Windows Vista Business Service Pack 2 or higher
- Windows Vista Home Premium Service Pack 2 or higher
- Windows Vista Home Basic Service Pack 2 or higher
- Windows XP Media Center Edition 2005 Service Pack 3 or higher
- Windows XP Professional Service Pack 3 or higher
- Windows XP Home Edition Service Pack 3 or higher
- Mac OS X (v10.5 - v10.8)

Pre-installed

Notes

- One of the above operating systems should be by default pre-installed. Any operating system other than those indicated above, upgraded operating systems or multi-boot environment are not supported.
- 64 bit versions of Windows XP are not supported.
- For the latest version information and compatibility with your operating system, please access the customer support home page for the linear PCM recorder.

Hardware environment

- Sound board: Sound boards compatible with any of the supported operating systems
- Port: USB port
- Disk drive: To create a music CD, you need a CD-R/RW drive.

Note

The following systems are not supported:

- Operating systems other than the ones indicated in this topic
- Personally constructed computers or operating systems
- Upgraded operating systems
- Multi-boot environment
- Multi-monitor environment

Design and specifications

Capacity (User available capacity: when the built-in memory is formatted with the linear PCM recorder)

32 GB (approx. 25.60 GB = 27,487,790,694 Byte)

A part of the memory capacity is used as a management area.

Maximum number of folders (for a drive)
400 folders

Maximum number of files (for a folder)
199 files

Maximum number of files (for a drive)
4,074 files (When 21 folders are contained in a drive.)

Frequency range

(Input from the LINE IN (OPT) jack, output from the LINE OUT (OPT) jack when recording/playing back) (0 dB to -6 dB):

- DSD 2.8MHz/1bit (STEREO):
20 Hz - 50,000 Hz

(Input from the LINE IN (OPT) jack, output from the LINE OUT (OPT) jack when recording/playing back) (0 dB to -2 dB):

- LPCM 192kHz/24bit:
20 Hz - 45,000 Hz
- LPCM 176.4kHz/24bit:
20 Hz - 45,000 Hz
- LPCM 96kHz/24,16bit:
20 Hz - 40,000 Hz
- LPCM 88.2kHz/24,16bit:
20 Hz - 38,000Hz
- LPCM 48kHz/24,16bit:
20 Hz - 22,000 Hz
- LPCM 44.1kHz/24,16bit:
20 Hz - 20,000 Hz
- MP3 320 kbps: 20 Hz - 20,000 Hz
- MP3 128 kbps: 20 Hz - 16,000 Hz

Compatible file formats*1

*1 Not all encoders are supported.

DSD

- Bit rate: 1 bit
- Sampling frequencies: 2.8224 MHz
- File extension: .dff, .dsf

FLAC

- Bit rate: 24/16 bit
- Sampling frequencies:
44.1/48/88.2/96/176.4/192 kHz
- File extension: .flac

FLAC

- Bit rate: 16 bit
- Sampling frequencies: 22.05 kHz
- File extension: .flac

Linear PCM

- Bit rate: 24/16 bit
- Sampling frequencies:
44.1/48/88.2/96/176.4/192kHz
- File extension: .wav

Linear PCM

- Bit rate: 16 bit
- Sampling frequencies: 22.05 kHz
- File extension: .wav

MP3*2

- Bit rate: 32 kbps - 320 kbps (Supports variable bit rate (VBR))
- Sampling frequencies:
16/22.05/24/32/44.1/48 kHz
- File extension: .mp3

*2 The playback of MP3 files recorded using the linear PCM recorder is also supported.

Continued on the next page →

Specifications (continued)

WMA^{*3}

- Bit rate: 32 kbps - 192 kbps(Supports variable bit rate (VBR))
- Sampling frequencies: 44.1 kHz
- File extension: .wma

^{*3} WMA Ver. 9 is compatible, however, MBR (Multi Bit Rate), Lossless, Professional, and Voice are not supported. Copyright-protected file cannot be played back.

AAC-LC^{*4}

- Bit rate: 16 kbps - 320 kbps (Supports variable bit rate (VBR))
- Sampling frequencies: 11.025/12/16/22.05/24/32/44.1/48 kHz
- File extension: .m4a

^{*4} Copyright-protected file cannot be played back.

Signal-to-noise ratio (S/N) (Input from the LINE IN (OPT) jack, output from LINE OUT (OPT) jack when recording/playing back) (1 kHz IHF-A)

- DSD 2.8MHz/1bit: 98 dB or above
- LPCM 192kHz/176.4kHz/96kHz/88.2 kHz/48kHz/44.1 kHz 24bit: 96 dB or above (for /S/N 100dB OFF)/100 dB or above (for S/N 100dB ON)

Total harmonic distortion (Input from the LINE IN (OPT) jack, output from LINE OUT (OPT) jack when recording/playing back)

- DSD 2.8MHz 1bit: 0.008% or below (1 kHz, 22 kHz LPF)
- LPCM 192kHz/176.4kHz 24bit, 96kHz/88.2kHz/48kHz/44.1kHz 16bit/24bit: 0.006% or below (1 kHz, 22 kHz LPF)

Speaker

Approx. 16 mm dia.

Input/output

MIC (microphone) jack (stereo mini jack)

Input impedance: 22 k Ω
Rated input level: 2.5 mV
Minimum input level: 0.7 mV

🎧 (headphone) jack (stereo mini jack)

Rated output level: 400 mV
Maximum output level:
25 mW + 25 mW or more
Load impedance: 16 Ω

LINE IN (OPT) jack

Input impedance: 22 k Ω
Rated input level: 2.0 V
Minimum input level: 450 mV
Input level: -27 dBm to -14 dBm
(for optical digital input)
Absorption wavelength:
660 nm (Typ) (for optical digital input)

LINE OUT (OPT) jack

Output impedance: 220 Ω
Rated output level: 1.7 V
Load impedance: 22 k Ω
Output level: -21 dBm to -15 dBm
(for optical digital output)
Emission wavelength: 640 nm to 680 nm (for optical digital output)

DC IN 6V jack (EIAJ connector)

USB connector (micro-B, Hi-speed USB, Mass Storage Class)

Card slot

Memory StickTM/SD memory card slot

Playback speed control (DPC)

2.00 times - 0.25 times (LPCM/MP3/
WMA/ AAC-LC/FLAC)

General

Maximum power output
200 mW

Power requirements

Four LR6 (size AA) alkaline batteries
(supplied)/AC adaptor (supplied):
6 V DC

Four nickel metal hydride rechargeable
batteries NH-AA (not supplied):
4.8 V DC

Power consumption
3.7 W

Operating temperature
5 °C - 35 °C

Dimensions (JEITA)*⁵

Approx. 72.0 × 156.8 × 32.7 mm (w/h/d)
(not including projecting parts and
controls)

Mass Approx. 395 g (including batteries)
(JEITA)*⁵

*⁵ Values measures according to JEITA (Japan
Electronics and Information Technology Industries
Association) standards.

Supplied accessories

Refer to "Checking the supplied
accessories" on page 18.

Optional accessories*⁶

Stereo headphones
MDR-1R
MDR-Z1000

*⁶ Depending on the region, some of the optional
accessories are not available.

Design and specifications are subject to
change without notice.

Continued on the next page →

Specifications (continued)

Maximum recordable time*1 *2

The total maximum recordable time (approximate) of all the folders is as follows.

Built-in memory (32 GB)

REC Mode	Maximum recordable time
DSD 2.8MHz/1bit (STEREO)	Approx. 10 hrs 50 min.
LPCM 192kHz/24bit (STEREO)	Approx. 6 hrs 35 min.
LPCM 176.4kHz/24bit (STEREO)	Approx. 7 hrs 10 min.
LPCM 96kHz/24bit (STEREO)	Approx. 13 hrs 15 min.
LPCM 96kHz/16bit (STEREO)	Approx. 19 hrs 50 min.
LPCM 88.2kHz/24bit (STEREO)	Approx. 14 hrs 25 min.
LPCM 88.2kHz/16bit (STEREO)	Approx. 21 hrs 35 min.
LPCM 48kHz/24bit (STEREO)	Approx. 26 hrs 30 min.
LPCM 48kHz/16bit (STEREO)	Approx. 39 hrs 45 min.
LPCM 44.1kHz/24bit (STEREO)	Approx. 28 hrs 50 min.
LPCM 44.1kHz/16bit (STEREO)	Approx. 43 hrs 15 min.
MP3 320 kbps (STEREO)	Approx. 190 hrs
MP3 128 kbps (STEREO)	Approx. 477 hrs

Memory Card

REC Mode	Memory Card						
	2 GB	4 GB	8 GB	16 GB	32 GB	64 GB	128 GB
DSD 2.8MHz/1bit (STEREO)	Approx. 45 min.	Approx. 1 hr 30 min.	Approx. 3 hrs 0 min.	Approx. 6 hrs 5 min.	Approx. 12 hrs 15 min.	Approx. 24 hrs 30 min.	Approx. 49 hrs 5 min.
LPCM 192kHz/24bit (STEREO)	Approx. 25 min.	Approx. 55 min.	Approx. 1 hr 50 min.	Approx. 3 hrs 40 min.	Approx. 7 hrs 25 min.	Approx. 14 hrs 50 min.	Approx. 29 hrs 45 min.
LPCM 176.4kHz/24bit (STEREO)	Approx. 30 min.	Approx. 1 hr 0 min.	Approx. 2 hrs 0 min.	Approx. 4 hrs 0 min.	Approx. 8 hrs 5 min.	Approx. 16 hrs 15 min.	Approx. 32 hr 30 min.
LPCM 96kHz/24bit (STEREO)	Approx. 55 min.	Approx. 1 hr 50 min.	Approx. 3 hrs 40 min.	Approx. 7 hr 25 min.	Approx. 14 hrs 50 min.	Approx. 29 hrs 45 min.	Approx. 59 hrs 35 min.
LPCM 96kHz/16bit (STEREO)	Approx. 1 hr 20 min.	Approx. 2 hrs 45 min.	Approx. 5 hrs 35 min.	Approx. 11 hrs 10 min.	Approx. 22 hrs 20 min.	Approx. 44 hrs 40 min.	Approx. 89 hrs 25 min.
LPCM 88.2kHz/24bit (STEREO)	Approx. 1 hr 0 min.	Approx. 2 hrs 0 min.	Approx. 4 hrs 0 min.	Approx. 8 hrs 5 min.	Approx. 16 hrs 10 min.	Approx. 32 hrs 25 min.	Approx. 64 hrs 55 min.

REC Mode	Memory Card						
	2 GB	4 GB	8 GB	16 GB	32 GB	64 GB	128 GB
LPCM 88.2kHz/16bit (STEREO)	Approx. 1 hr 30 min.	Approx. 3 hrs 0 min.	Approx. 6 hrs 5 min.	Approx. 12 hrs 10 min.	Approx. 24 hrs 20 min.	Approx. 48 hrs 40 min.	Approx. 97 hrs 20 min.
LPCM 48kHz/24bit (STEREO)	Approx. 1 hr 50 min.	Approx. 3 hrs 40 min.	Approx. 7 hrs 25 min.	Approx. 14 hrs 50 min.	Approx. 29 hrs 45 min.	Approx. 59 hrs 35 min.	Approx. 119 hrs
LPCM 48kHz/16bit (STEREO)	Approx. 2 hrs 45 min.	Approx. 5 hrs 35 min.	Approx. 11 hrs 10 min.	Approx. 22 hrs 20 min.	Approx. 44 hrs 40 min.	Approx. 89 hrs 25 min.	Approx. 178 hrs
LPCM 44.1kHz/24bit (STEREO)	Approx. 2 hrs 0 min.	Approx. 4 hrs 0 min.	Approx. 8 hrs 5 min.	Approx. 16 hrs 10 min.	Approx. 32 hrs 25 min.	Approx. 64 hrs 55 min.	Approx. 129 hrs
LPCM 44.1kHz/16bit (STEREO)	Approx. 3 hrs 0 min.	Approx. 6 hrs 5 min.	Approx. 12 hr 10 min.	Approx. 24 hrs 20 min.	Approx. 48 hrs 40 min.	Approx. 97 hrs 20 min.	Approx. 194 hrs
MP3 320 kbps (STEREO)	Approx. 13 hrs 25 min.	Approx. 26 hrs 50 min.	Approx. 53 hrs 40 min.	Approx. 107 hrs	Approx. 214 hrs	Approx. 429 hrs	Approx. 858 hrs
MP3 128 kbps (STEREO)	Approx. 33 hrs 30 min.	Approx. 67 hrs 5 min.	Approx. 134 hrs	Approx. 268 hrs	Approx. 536 hrs	Approx. 1,073 hrs	Approx. 2,147 hrs

*1 When you are going to record continuously for a long time, you may need a supplied AC adaptor. For details on the battery life, see "Battery life."

*2 The maximum recording time in this topic for your reference only, and may differ depending on the card specifications.

The maximum playback time of a music file/number of files *3

Bit rate	Playback time	Number of files
256 kbps	Approx. 238 hrs	Approx. 3,570 files

*3 In the case where MP3 files of 4 minutes each are transferred to the linear PCM recorder.

Continued on the next page →

Battery life*4

When using alkaline batteries (Continuous using of Sony alkaline battery LR6(SG)) (supplied)

REC Mode	Recording		Playback	
	With monitor	without monitor	through speakers*5	with headphones
DSD 2.8MHz/1bit (STEREO)	Approx. 8 hrs	Approx. 12 hrs	Approx. 17 hrs	Approx. 17 hrs
LPCM 192kHz/24bit (STEREO)	Approx. 10 hrs	Approx. 18 hrs	Approx. 15 hrs	Approx. 15 hrs
LPCM 96kHz/24bit (STEREO)	Approx. 11 hrs	Approx. 22 hrs	Approx. 18 hrs	Approx. 18 hrs
LPCM 44.1kHz/16bit (STEREO)	Approx. 12 hrs	Approx. 25 hrs	Approx. 21 hrs	Approx. 21 hrs
MP3 320 kbps (STEREO)	Approx. 12 hrs	Approx. 25 hrs	Approx. 21 hrs	Approx. 21 hrs

When using nickel metal hydride rechargeable batteries (Continuous using of Sony nickel metal hydride rechargeable battery NH-AA) (not supplied)

REC Mode	Recording		Playback	
	With monitor	without monitor	through speakers*5	with headphones
DSD 2.8MHz/1bit (STEREO)	Approx. 9 hrs	Approx. 11 hrs	Approx. 15 hrs	Approx. 15 hrs
LPCM 192kHz/24bit (STEREO)	Approx. 10 hrs	Approx. 16 hrs	Approx. 14 hrs	Approx. 14 hrs
LPCM 96kHz/24bit (STEREO)	Approx. 12 hrs	Approx. 19 hrs	Approx. 16 hrs	Approx. 16 hrs
LPCM 44.1kHz/16bit (STEREO)	Approx. 13 hrs	Approx. 22 hrs	Approx. 18 hrs	Approx. 18 hrs
MP3 320 kbps (STEREO)	Approx. 13 hrs	Approx. 22 hrs	Approx. 18 hrs	Approx. 18 hrs

*4 Measured value by the standard of JEITA (Japan Electronics and Information Technology Industries Association).
The battery life may shorten depending on how you operate the linear PCM recorder.

*5 When playing back music through the built-in speaker with the volume level set to 3

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Package List

```
alsa-lib
alsa-utils
e2fsprogs
gcc-lib
glibc
procps
busybox
dosfstools
mdadm
udev
u-boot
linux-kernel
```

Information on libFLAC

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Information on libalac

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