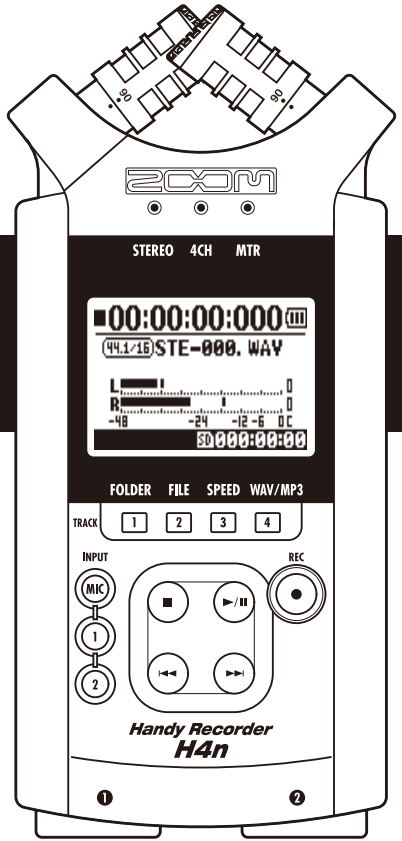
English



H4next
Handy Recorder

OPERATION MANUAL

ZOOM

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Special features of H4n

Thank you very much for purchasing our ZOOM H4n Handy Recorder (hereinafter abbreviated to H4n).
The H4n has the following special features.

• An all-in-one handy recorder.

You can enjoy recording and creating your own music any time, any where with the H4n.
The H4n has a very compact 280 g lightweight design, equipped with high quality stereo condenser microphones capable of an XY pickup pattern, a built-in speaker, SD card recording, mixer and internal effects.

• Interface from any field recording to multi-track recording.

The H4n is equipped with recording operation modes: <STEREO mode> which is capable of high quality sound stereo recording, <4CH mode> which can record 2 different sound sources and <MTR mode> which is capable of recording and playback 4 tracks/2 tracks at the same time. You can record a melody as it comes to mind or entire band performances. You can collect sound effects in the field and even create your own music, recording vocals and instruments on multiple tracks. In <STAMINA mode> you can record for up to 11 hours using batteries only.

• Equipped with newly innovated XY Stereo Microphone variable angle from 90 to 120 degree.

The H4n features mobility of the built-in microphones to address to a wider range of recording scenarios. If you want a wider area of sound, you can set the microphones to 120 degrees. Or set them to 90 degrees for a clearer sound source around the center. Either way, the microphones are equipped on the same XY style axis, so you can record natural stereo sound with no phase difference.

• XLR/standard phone combo jacks allow connection of microphones and guitars directly.

We load various connection tools enable to wide ranges of recording with H4n. The stereo and condenser microphones, the instruments like guitar, bass, keyboard and so on can be connected directly to this compact H4n.

• It can be used as an Audio Interface/SD card reader for a computer.

An onboard USB 2.0 Hi-Speed jack allows direct connection to a computer. You can use it as an audio interface with built-in effects (sampling rate 44.1 kHz). You can also use the H4n as an SD card reader for your computer. You can even take the recorded files from your computer and create an audio CD using those files as material in any DAW software.

• Other built-in functions: Tuner/Metronome/Karaoke.

The H4n can be used as a standard chromatic tuner. It is also capable of more irregular tuning functions, like for a 7-string guitar or a 5-string bass, along with others. The H4n has a metronome function convenient for practice and multi-track recording.
You can change playback speed between the ranges of 50% to 150%.
There are many effective functions equipped such as central cancel function for stereo files, Karaoke function with various key control, language learning and voice training function.

In order to understand various functions of the H4n and make use of it for a long time, please read this manual carefully.
After reading through it, keep the manual with the certificate of guarantee safely.

The H4n is ideal for the following scenarios

Vocal recording

Recording acoustic guitar sound

Piano recitals

Live performance recording

The band practices

Transfer analogue sound sources to digital sources

Recording the meetings

Any field sound recording

Drum practice recording

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Safety precautions for users

SAFETY PRECAUTIONS

In this manual, the warning and caution symbols are used to highlight dangerous accidents and troubles for users to read so that accidents can be prevented. The meanings of these symbols are as follows:

If the users ignore this symbol and handle the device the wrong way, serious injury or death could result.

If the users ignore this symbol and handle the device the wrong way, bodily injury and damage to the equipment could result.

Please read through the following safety tips and precautions to ensure hazard-free use of the H4n.

Power requirements

Since power consumption of this unit is fairly high, we recommend the use of an AC adapter whenever possible. In case you use batteries, use either alkaline or nickel-metal hydride batteries.

[AC adapter operation]

- Make sure to use only an AC adapter, DC5 center plus 1A (ZOOM AD 14 A/D).The use of other than the specified type may damage the unit and pose a safety hazard.
- Connect the AC adapter only to an AC outlet that supplies the rated voltage required by the adapter.
- When disconnecting the AC adapter from the AC outlet, make sure grasp the adapter itself and never pull at the cable.
- During lightning or when not using for an extended period, disconnect the AC adapter from the AC outlet.

[Battery operation]

- Use two conventional size AA-1.5 volt batteries.
- H4n cannot be used for recharging. Pay close attention to the labeling of the batteries to make sure you choose the correct ones.
- When not using for an extended period, remove the batteries from the unit.
- If battery leakage has occurred, wipe the battery compartment and battery terminals carefully to remove all remnant of battery fluid.
- When using the unit, the battery compartment cover should be closed.

Environment

To prevent unexpected troubles and malfunctions, avoid using H4n in environment where it will be exposed to:

- Extreme temperatures
- Heat sources such as radiators or stoves
- High humidity or moisture
- Excessive dust or sand
- Excessive vibration or shock

Handling

- Never place any objects filled with liquids, such as a vase, on the H4n since this can cause electric shock.
- Never place naked flame sources, such as lighted candles, on the H4n since this can cause fire.

- The H4n is a precision instrument. Do not exert undue pressure on the keys and other controls. Take care not to drop, bump, and do not subject it to shock or excessive pressure, which can cause serious troubles.
- Take care that no foreign objects (coins or pins etc.) or liquids (water, alcoholic drinks and juice)can enter the unit.
- Do not place the H4n speaker closer to other precision instruments (watch and computer), electronic medical instruments, or magnetic cards.

Connecting cables and input and output jacks

You should always turn off the power to the H4n and all other equipment before connecting or disconnecting any cables. Make sure to disconnect all a connection cables and the power code before moving the H4n.

Alterations

Never open the case of the H4n or attempt to modify the product in any way since this can result in damage to the unit.

Volume

Do not use the H4n at a loud volume for a long time since this can cause hearing impairment.

USAGE PRECAUTIONS

Electrical interference

For safety considerations, the H4n has been designed to provide maximum protection against the emission of electromagnetic radiation from inside the device, and protection from external interference. However, the equipment that is very susceptible to interference or that emits powerful electromagnetic waves should not be placed near the H4n, as the possibility of interference cannot be ruled out entirely.
With any type of digital control device, the H4n included, electromagnetic interference can cause malfunctioning and can corrupt or destroy data. Care should be taken to minimize the risk of damage.

Cleaning

Use a soft, dry cloth to clean the H4n. If necessary, slightly moisten the cloth. Do not use abrasive cleanser, wax, or solvents (such as paint thinner or cleaning alcohol), since these may dull the finish or damage the surface.

Please keep this manual in a convenient place for future reference.

Copyright warnings

■ Recording of live performances

Many artists and most live venues do not allow recording and photography and will check for cameras and recorders at the entrance. Even if recording is allowed, it is prohibited to sell, distribute, or upload to the Internet without the organizer's authorization. Copyright violation is a crime.

■ Capturing music and sound files

Saving music to CD, MP3, or other media, reproducing files for personal use can be considered a copyright violation.

Trademarks:
- The SD symbol and SDHC symbol are trademarks.
- The use of MPEG Layer-3 audio compression technology is licensed from Fraunhofer IIS and Sisvel SpA.
- Windows is a registered trademark of US Microsoft Corporation.
- Mac OS and Macintosh is a trademark of Apple Inc.
- Steinberg and Cubase are registered trademarks of Steinberg Media Technologies GmbH Inc.
- Names of manufacturers and products are each respective owner's trademarks or registered.

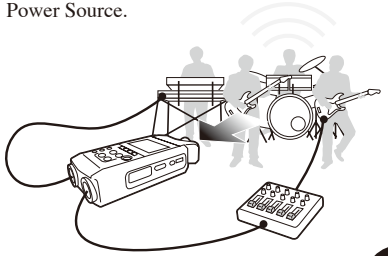
Getting started

1-1 Recording flow using the H4n

The following is the basic flow of recording operation for the H4n. Depending on the object and purpose of the recording, you can select various mode settings for optional quality recording. With the H4n on-board guitar and mic modeling, multi-track recording capability, and the ability to use your own microphones, you can adapt the H4n to any situation and enjoy numerous recording styles.

Connection to other machinery

1) The H4n has built-in microphones as well as 2 input jacks with phantom power for use with any external microphone. A USB cable is included to connect H4n to the computer.
The H4n is powered by AA batteries or a Plug-in Power Source.



P.029

Switch on

P.019

Set-up

Select the Mode

2) You can select among 4 Modes; STEREO, 4CH, MTR & STAMINA suitable for different input sources and editing/output of recording.

- **STEREO Mode**
- **4CH Mode**
- **MTR Mode**
- **STAMINA Mode**

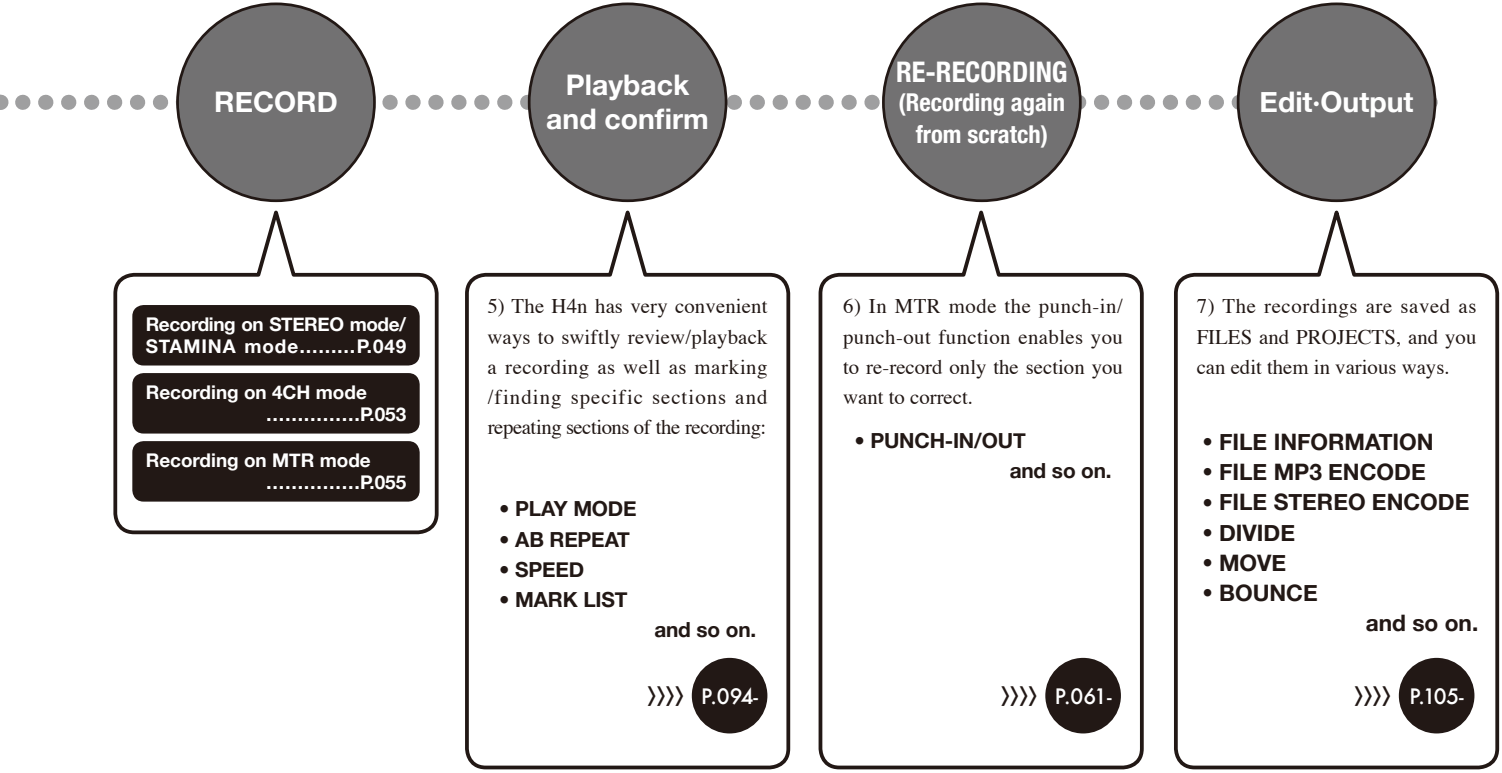
P.037

Set-up the recording method

3) You can select your favorite settings;

- **AUTO REC**
- **REC LEVEL AUTO**
- **LO CUT**
- **COMP/LIMIT**
- **MONO MIX**
- **TUNER**
- **METRONOME**
- **EFFECT/PATCH**
- **KARAOKE** **and so on.**

P.065-


RECORD
Recording on STEREO mode/ STAMINA mode.....P.049
Recording on 4CH mode P.053
Recording on MTR mode P.055
Playback and confirm
5) The H4n has very convenient ways to swiftly review/playback a recording as well as marking /finding specific sections and repeating sections of the recording:
• PLAY MODE
• AB REPEAT
• SPEED
• MARK LIST
and so on.
P.094-
RE-RECORDING (Recording again from scratch)
6) In MTR mode the punch-in/ punch-out function enables you to re-record only the section you want to correct.
• PUNCH-IN/OUT
and so on.
P.061-
Edit·Output
7) The recordings are saved as FILES and PROJECTS, and you can edit them in various ways.
• FILE INFORMATION
• FILE MP3 ENCODE
• FILE STEREO ENCODE
• DIVIDE
• MOVE
• BOUNCE
and so on.
P.105-

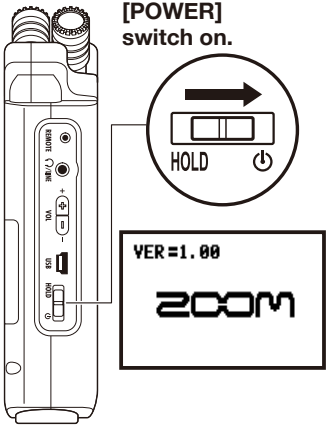
1-2 Easy recording guide [STEREO MODE]

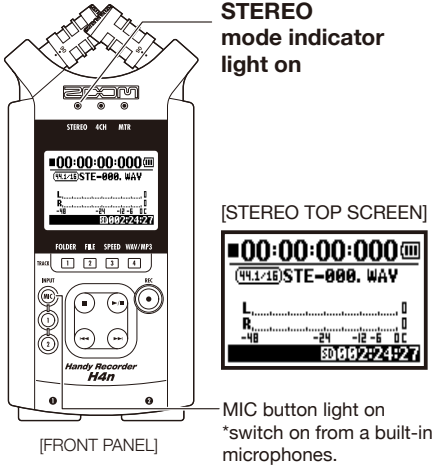
The following is basic recording instructions using the built-in stereo microphone and a built-in speaker on STEREO MODE.

1 Power switch ON

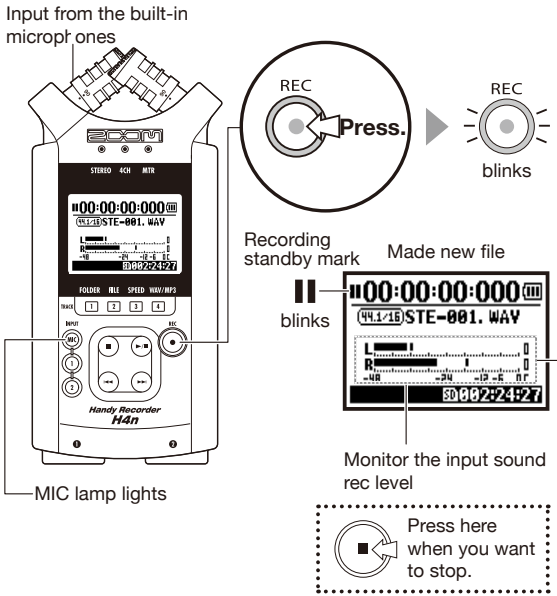
2 Confirm STEREO MODE

3 KEEP RECORDING STANDBY CONDITION

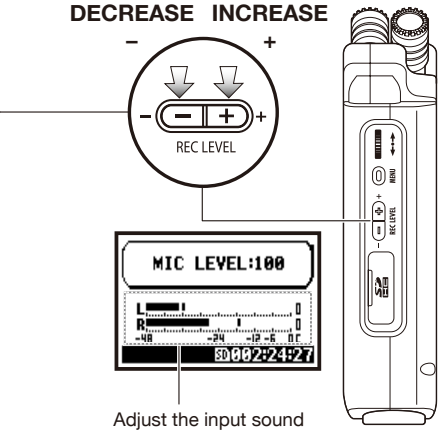




In case of a wrong MODE indicator or a wrong screen ›››› P.038



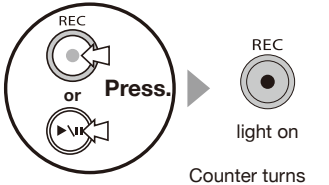
4 ADJUST INPUT LEVEL

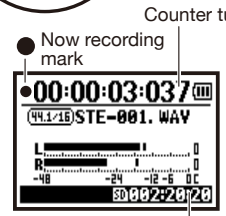


Adjust the input sound rec level

[RIGHT PANEL]

5 START RECORDING





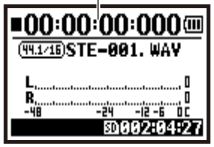
SD CARD remaining capacity low

Temporary Stop Re-recording
Counter doesn't return 0

The mark is put
Applied to the file at the WAV file format

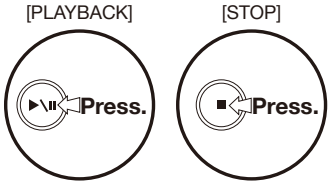
6 STOP RECORDING

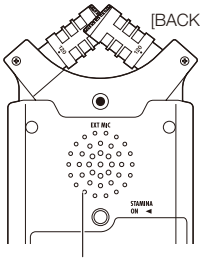
Counter returns 0:00:00:00:000



In detail ›››› P.049

7 PLAYBACK

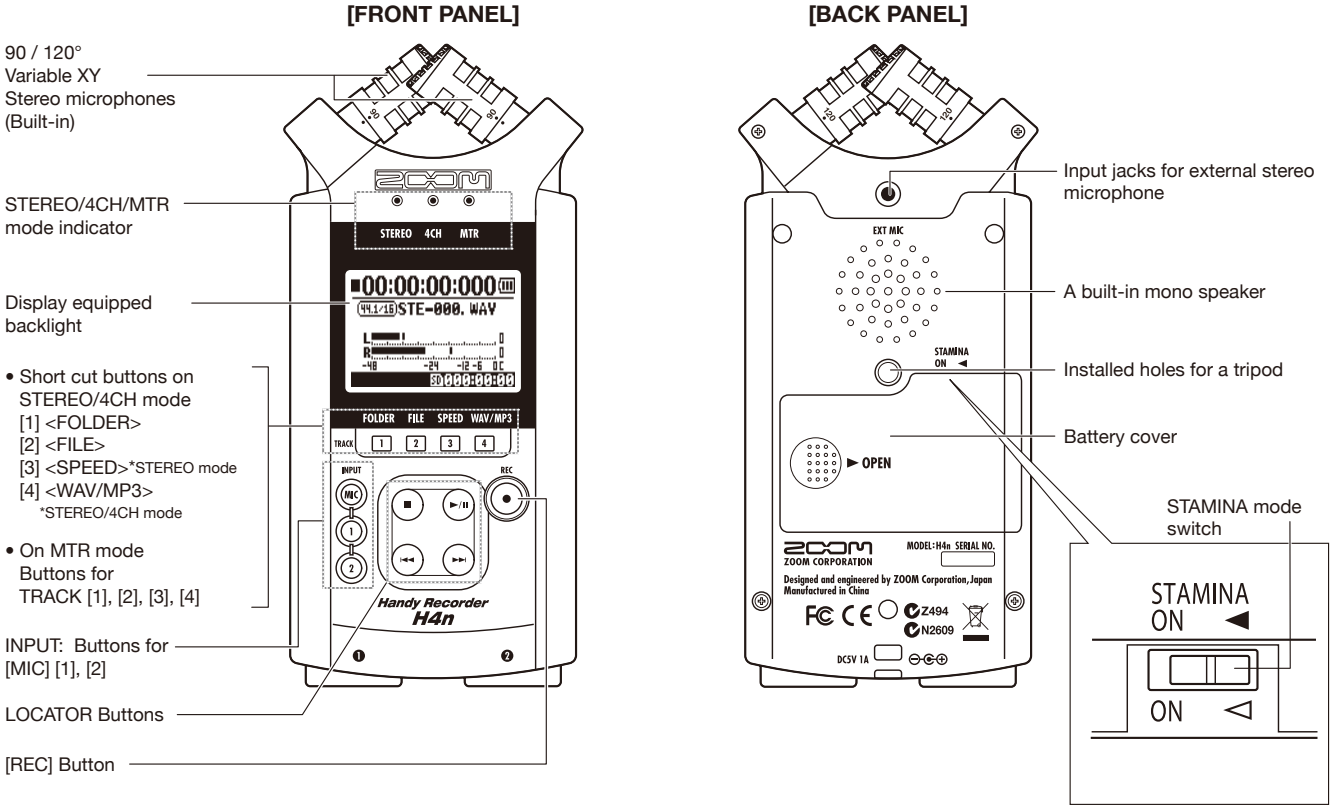




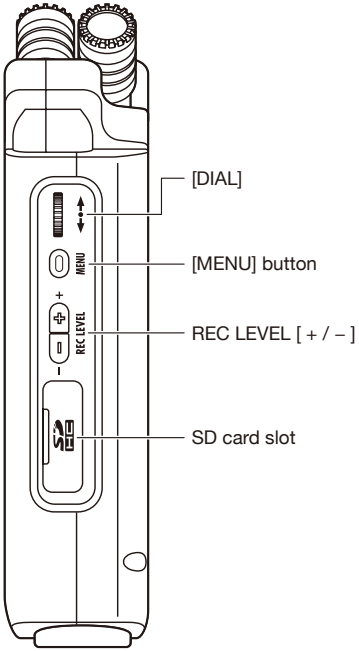
Output: Built-in speaker

In detail ›››› P.094

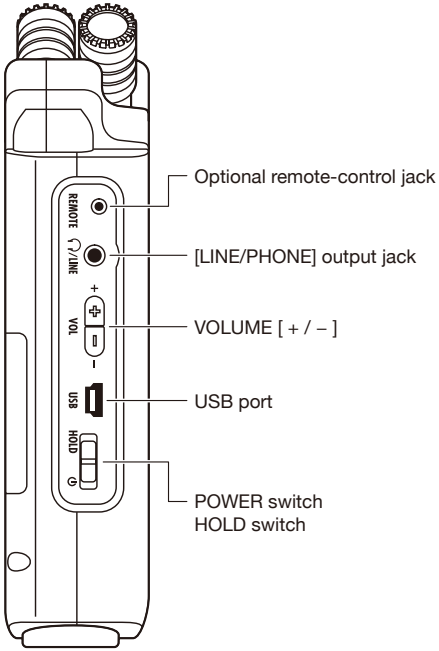
2-1 Name and function of each part



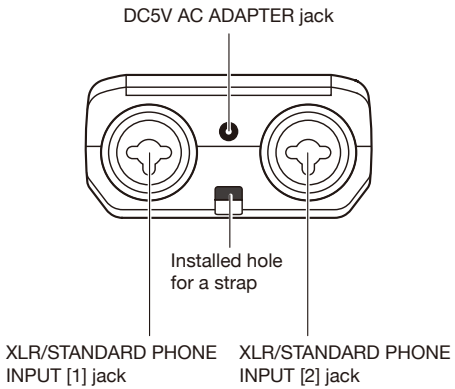
[RIGHT PANEL]



[LEFT PANEL]



[BOTTOM PANEL]

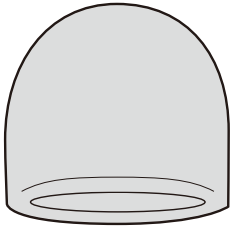


2-2 Installation of the attachments and options

The following attachments are included in the H4n package.
Before use, please make sure that you have each attachment (and optional items).

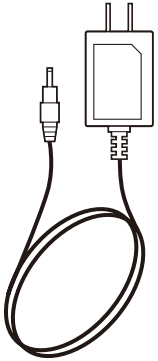
SD CARD

WINDSHIELD



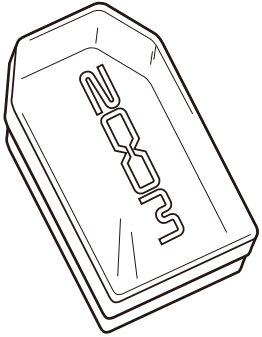
MICROPHONE STAND ADAPTER

AC ADAPTER
(ZOOM AD-14A/D)



USB CABLE

MAIN BODY CASE

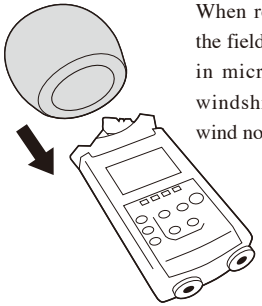


Instruction manual

DAW start-up guide

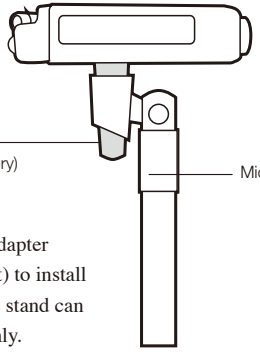
Cubase LE4

•How to use the windshield



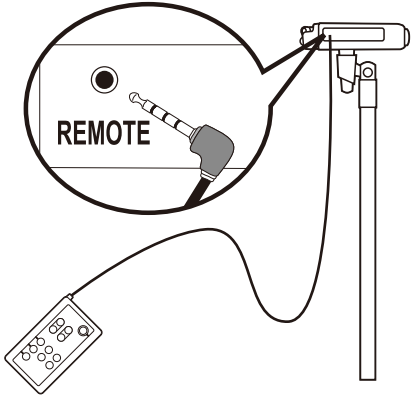
When recording outside in the field, covering the built-in microphones with this windshield, you can emit wind noise or blast.

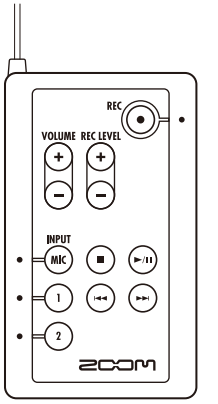
•How to install a microphone stand



Use a microphone adapter (optional attachment) to install the H4n unit and the stand can grip the adapter firmly.

Remote control (Option, sold separately)





[FRONT PANEL]

[SIDE PANEL]

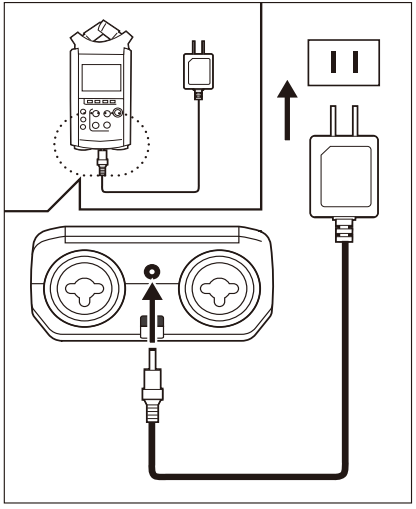
Operation of remote control ›››› P.045

3 Battery/Power outlet setting

Power for H4n recorder is supplied by domestic power source and batteries.

• Domestic power source

An AC adapter is included.

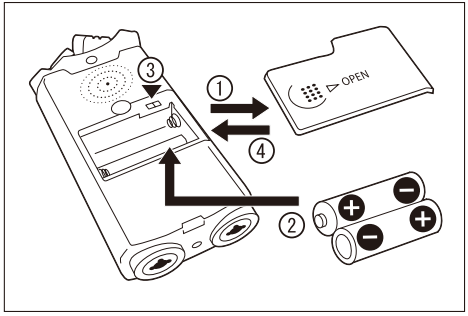


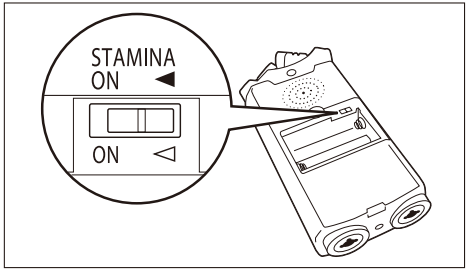
An attached AC adapter
Zoom AD-14

Use of an AC adapter other than the one included may cause trouble.

• Battery installation

Install two size AA batteries (IEC R6)





1 Open the battery compartment cover.

NOTE:

Make sure power switch off!

Whenever you open the battery compartment cover, plug in and plug out the AC adapter, make sure power off, otherwise the recording data can be destroyed.

2 Insert two size AA batteries ensuring you match the polarity markings (+ and –).

* Illustration : open the battery compartment cover and insert batteries.

3 Set the Stamina Mode Switch.

* Illustration of a Stamina Switch on.

◀ : Use in general (Using AC adapter, batteries)

ON: Stamina Mode On (Eco-power mode when using batteries)

4 Close the battery compartment cover.

* Illustration of closing the battery compartment cover.

Ref. ☞ Explanation about the Stamina Mode. P.037

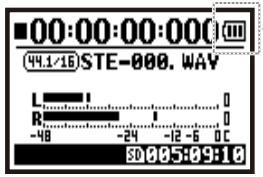
• Battery's approximate lifetime

Alkaline battery	in general use	about 6 hours
	in stamina mode use	about 11 hours

* Approximate lifetime when it is used for continuous recording on WAV 44.1 kHz/16bit format.

• Remaining lifetime of the battery

When "Low Battery!" indication appears, immediately switch off unit and exchange batteries, or shift power source to AC adapter.



When remaining battery life is getting short, "Low Battery" indication will be shown every two seconds and the power will switch off shortly after.

NOTE:

Usable batteries

You can use conventional alkaline and nickel metal hydride batteries.

Power supply from USB

Connect the USB cable to the H4n while it's already connected to the computer with the power switch off, and power is automatically turned on via USB bus power supply. This function is only available when the H4n is used as an SD card reader or an audio interface.

HINT:

To measure the lifetime of the battery

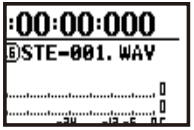
The remaining lifetime of the battery is measured more precisely, setting the using battery type on the H4n.

Saving period for the setting <DATE/TIME>

Whenever power supply is off by dead battery, the H4n can save the date/time setting for three minutes. When the saving time is over, the setting will be return to the primary value.

Screen indicator for power

Using batteries

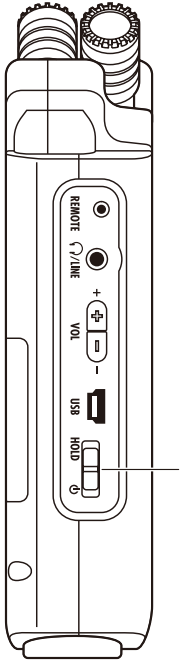


Using AC adapter

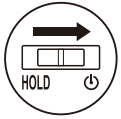
Ref. ☞ <USB BUS POWER> P.033
Ref. ☞ <BATTERY TYPE> P.128

4-1 Power On and Off, How to use power and hold switch

[LEFT PANEL]



POWER ON / BOOTING UP



1 [Preparation]
Make sure all equipment is turned off.

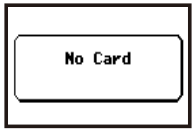
2 Insert SD card.

3 [Power On _ Boot up]
Slide the power switch.

4 Switch on connecting instruments and monitors in turn.

NOTE

- Before power switch on, lower the volume of instruments and monitors connected to the H4n.
- The display says "No Card" when booting up, make sure that the SD card is inserted correctly.

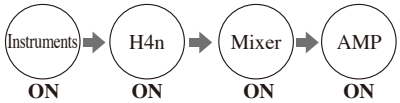


- The display says "Reset DATE/TIME" when booting up, the date and time setting is the primary value.

Ref. P.028
<DATA/TIME>

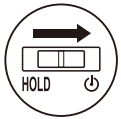
HINT: Procedure for power on.

To connect more than one machinery, turn power switch on in the following order:



POWER OFF / SHUT DOWN

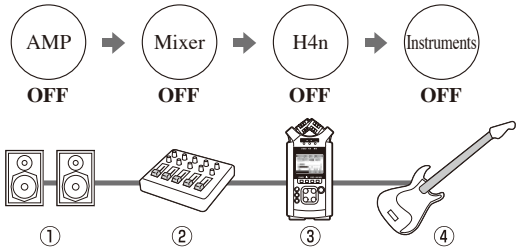
1 [Preparation]
Turn power switch off, first the monitor system then instruments.



2 [Power Off _ Shut down]
Slide the power switch.

* shut down screen

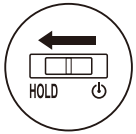
HINT Procedure for power off



HOLD Function

The H4n features a HOLD function to make any button operation inactive, preventing errors during recording.

To make HOLD function valid, slide the power switch to HOLD.



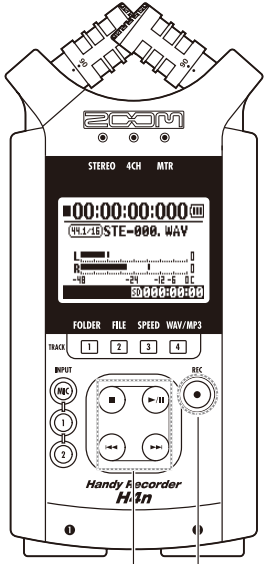
* 'Key Hold' display

If you press any button during HOLD function on, the screen will display 'Key Hold' for two seconds. To get out of the HOLD mode, reverse the power switch as the beginning.

4-2 How to use the [REC] and locator buttons

Buttons like [REC], [STOP], [PLAY/PAUSE], [FF], [REW] have all different functions according to each MODE.

[FRONT PANEL]



[REC] button

Locator buttons

STEREO/4CH/STAMINA MODE

REC

[REC] button

Stop	Enter recording standby mode and reset the counter to 0
Recording Standby	Start recording and the counter begins to move
Record / Playback	Place a mark (only for WAV FILE)

LOCATOR BUTTONS

[STOP] button

Recording, recording standby, recording temporary stop	Stop recording and return to 0
Playback, playback temporary Stop	Stop playback and the counter stops

[PLAY/PAUSE] button

Stop	Start playback and the counter begins to move
Recording, temporary stop	Suspend recording temporary and restart
recording standby	Start recording and the counter begins to move
Playback,temporary stop	Suspend playback temporary and restart

[FF], [REW] buttons

Stop	Less than one second press	[FF] button displays a next file [REW] button returns to the head of the file * However if there is a marker in a WAV file, the button moves to the marking place.
Playback	More than one second press	Repeating a short time partial playback, operate wind-forward and rewind. The longer the time of pressing, the faster gets its speed. Stop at the end or the beginning of the file.
Playback temporary stop		

MTR MODE

REC

[REC] button : Having a recording standby track

Set to overwrite recording

Stop	Become recording standby condition
Record, Recording Standby	Stop recording (You can continue playback while recording)
Playback	Stop recording and the counter to 0

Set always new recording

Stop	Stop recording and the counter stops
Recording Standby	Start recording and the counter begins to move

LOCATOR BUTTONS

[STOP] button

Recording	Stop recording and the counter stops
Playback	Stop playback and the counter stops
Temporary stop / Temporary stop	Stop each movement

[PLAY/PAUSE] button

Stop	Start playback
Recording	While overwrite setting : No function While always new setting:Suspend recording temporary
Recording standby	Start recording and the counter begins to move
Playback	Suspend playback temporary

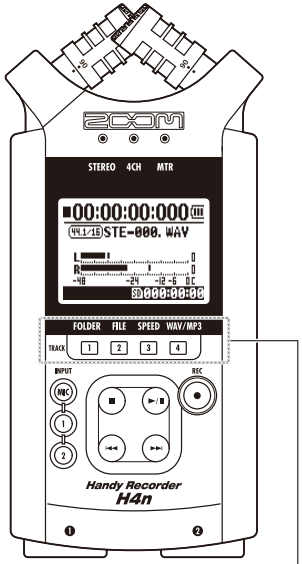
[FF] [REW] buttons

Stop	Less than one second press down	[FF] : Enables to operate wind-forward per second [REW]: Returns to the head of the file
Playback	More than one second press	Repeating a short time partial playback, operate wind-forward and rewind
Temporary stop		

4-3 How to use the track [1], [2], [3] and [4] buttons

The buttons of TRACK [1] _ [4] have different functions according to each MODE.

[Front Panel]



TRACK [1]_[4]

MTR MODE

Switch from 'RECORDING' to 'PLAYBACK' of the tracks, or the other way around

1 2 3 4

When you start recording, press the track number you want to record and the track becomes 'Recording Standby' status. That track number button lights on.

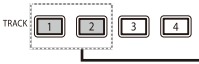
Make settings of the track and the input source

After selecting the track, make input source setting. Using the INPUT button you can make recording on monaural, stereo and combination of those.

Select only one track

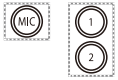
* track #2-#4 are the same, press the number you select

Select two tracks



* track #3 and #4 are the same

For stereo input you select from [MIC] and [1] [2]



For monaural input you select either from [1] or [2]

* Input selections are those four different combinations.

* Those operations are not valid during recording and playback.

STEREO/4CH/STAMINA MODE

1 **Move to the <FOLDER SELECT> menu**

2 **Move to the <FILE> menu**

3 **Move to the <SPEED> menu (only STEREO MODE)**

4 **Move to the <REC FORMAT> menu (STEREO MODE,4CH MODE)**

* Valid only when you are not operating record·playback job.

HINT:

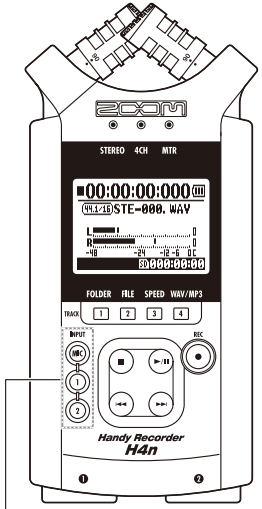
Even if you press one track button set for stereo link, the other 2 tracks correspond to it and move the same.

Ref. ☞ STEREO LINK P.060

4-4 How to use the input [MIC], [1] and [2] buttons

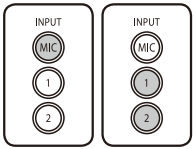
These buttons have different functions depending on the various modes.

[FRONT PANEL]



INPUT [1] & [2] buttons

STEREO/STAMINA MODE



Select INPUT [MIC] or INPUT [1] [2] = the selected one light on.

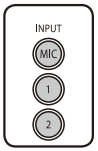
Either you select the INPUT [1] or INPUT [2] button, they will both respond the same

Both buttons light up after the selection. (Once lighted the buttons do not respond)

Any other settings about input sources like [REC LEVEL, should be made to the lighted target.

* When the presently selected input clips its button will blink.

4CH MODE

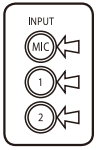


Use all input sources like [MIC], [1] and [2] = All [MIC], [1] and [2] light on.

When you switch to 4CH, H4n will receive 2- system stereo inputs from [MIC] and [1] [2] altogether. When you press the lighted button, each shows its input level and you can make adjustment to recording level operating [REC LEVEL].

* When the input clips the corresponding button blinks.

MTR MODE



Make the settings individually on [MIC], [1]and [2] depend on stereo or monaural input = the corresponding button lights on.

You can select individually INPUT [MIC], [1] and [2]

- When you use built-in and the external stereo microphones, select INPUT [MIC].
- When you make stereo input using the external input jack, select both INPUT [1] and [2]. You press either INPUT [1] or [2] button and then press another button.

* When the selected input clips its button blinks.

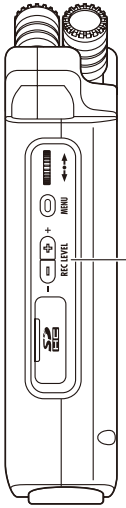
HINT:

What is clip? The input level reaches up to the maximum which the H4n can record, that is 0 dB. In this case the recording sound can be distorted and need adjustment of recording level.

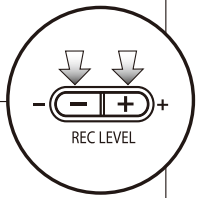
4-5 How to use REC LEVEL and VOLUME

These keys enable to adjust the levels of recording input and output volume.
(All the modes are the same)

[LEFT PANEL]



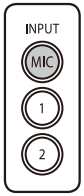
REC LEVEL



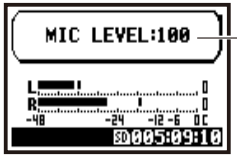
'REC LEVEL' THE ENTIRE MODE IS IN COMMON

The recording levels coming from the INPUT [1] & [2] will be adjusted in 100 levels from 1 to 100 with the (+/–) key.

Press the 'REC LEVEL' = Adjusting

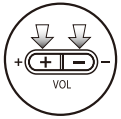


Target setting:
Press INPUT [MIC], [1] and [2] buttons and select the input source which you want to adjust the recording level.



1 _ 100
+ : Increase reception level (amplify)
– : Decrease reception level (reduce)

[VOLUME] THE ENTIRE MODE IS IN COMMON

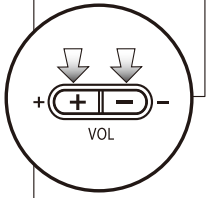


Press the 'VOL' = Adjusting

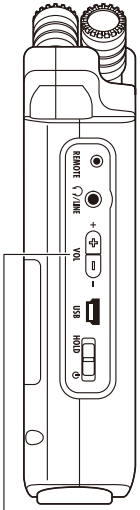
Output volume from a built-in speaker and output jacks will be adjusted in 101 levels from 0 to 100 with the (+/–) key.

0 _ 100
+ : Increase Volume
– : Decrease Volume

VOLUME



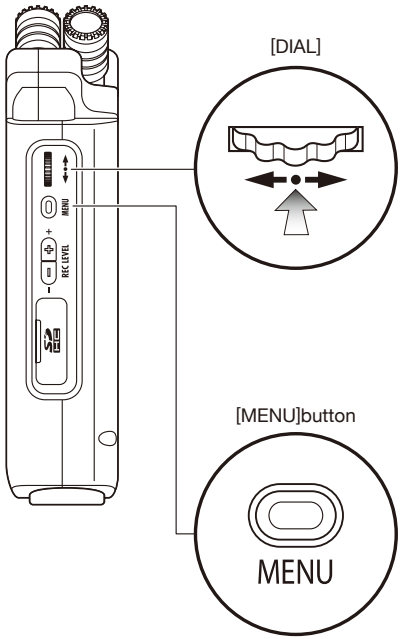
[RIGHT PANEL]



4-6 How to use [DIAL] and [MENU] buttons

[DIAL] and [MENU] buttons are used for various settings while recording and playback.
Here are some basic explanations about each operation.

[RIGHT PANEL]



The basic operation for [DIAL]

Select

Rotate the [DIAL] = select an item

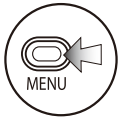
Rotate the [DIAL], and the cursor on the display will move along the [DIAL]

Press

Press the [DIAL] = confirm the selection

Press down [DIAL], your selection is confirmed.
→ for additional selections, move on to the next screen.
→ When you complete selections, the screen returns back to the previous one.

The basic operation for [MENU] button

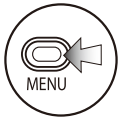


Select

Calling [MENU] screen

When setting recording or playback method, Press [MENU] button at the top screen of each mode.

Canceling the setting



Long Press

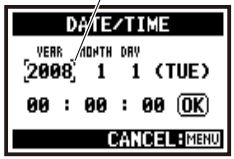
If you press the [MENU] button during any setting operation, its operation will be canceled and the screen returns back to the previous one.
To cancel setting operation and to return back to the top screen of the each mode, press [MENU] button for more than 2 seconds.

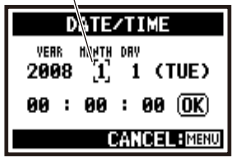
The operation when [ ] cursor is on display (Date·Time Setting, Changing File Name Directory, etc)

When you rotate the [DIAL], [ ] moves accordingly.

Pressing [DIAL] down, change the numbers and letters.

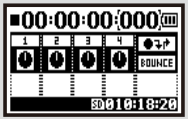
[ ] move accordingly.





The item letters or numbers are reversed →Rotate [DIAL] to change the numbers and letters→Press [DIAL] down to confirm your selection.

[DIAL] operation on the top screen



Moving [DIAL] on the top screen, 'cursor' moves. Pressing (highlight) [ ] enables to operate 'COUNTER' or to move to the setting menu.

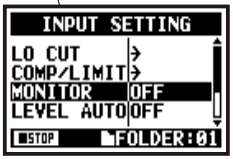
* Available only on MTR mode.

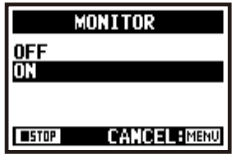
The operation when the selections are listed on screen

By rotating the [DIAL], the selection lists will move accordingly.

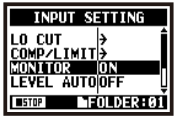
Push [DIAL] down, to confirm your selection.

[ ] move accordingly.





the screen returns back to the previous one.



About the '→' on the selection lists

When you see this display, there are more selections on the next screen. Highlight arrow and press [DIAL] to move on to the next screen.

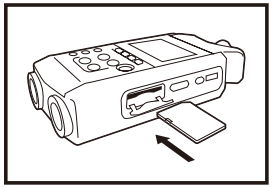
5-1 Insert a SD card

The SD card is required to record. Make sure to turn off power before inserting or removing the SD card.

[How to install the SD card]

1 Make sure power is off.

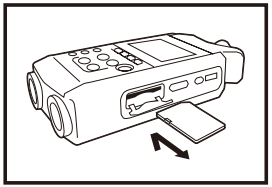
2 Insert the SD card into the slot.



[How to remove the SD card]

1 Make sure power is off.

2 By pushing remove the SD card from the slot.



SD card capacity time to record (approx.)

4GB SDHC card	Recording time
WAV 44.1 kHz/16 bits (measured in terms of stereo track)	approx. 380 minutes
MP3 44.1 kHz/128 kbps (measured in terms of stereo track)	approx. 68 hours

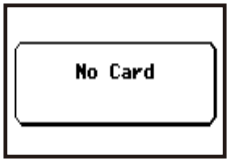
NOTE:

POWER OFF !

Never insert or remove the SD card while the power is on. This may destroy the data.

CAUTIONS WHEN INSERTING SD CARD

- You can use 16MB_2GB and 4_32GB SD card. Regard to up-to-date SD cards please see and check at our ZOOM site: http://www.zoom.co.jp.
- When you use the SD card for your computer, digital camera or other machine, formatting in the H4n is required.
- When “No Card” is seen on the display on at the boot-up, check if the SD card is correctly inserted.
- When “Format Card” is seen on the display at booting-up, this means the SD card has not been formatted in the H4n. To format, press [DIAL] down and select OK button.
- When the booting-up screen says “Card Protect”, the card is covered with OVERWRITE PROTECT. To release this protect slide the lock switch of the SD card.



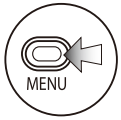
"Warning" no SD card in when booting - up.

"Warning" SD card in unable to recognized. Press <YES>, all the data will be deleted.

Ref. ☞ To use SD card for H2/H4 P.134

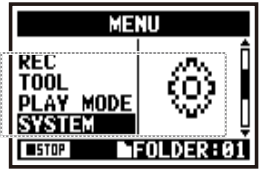
5-2 Set date and time <DATE/TIME>

Each file will automatically record the date/time.
To facilitate searching for files by date, be sure to set the date/time after every battery change.



1 Press.

2 Select <SYSTEM> and press.

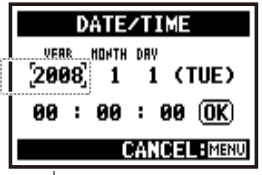


3 Select <DATE/TIME> and press.

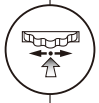
5 Select <OK> and press.

4 Set YEAR→MONTH→DAY→TIME (Time: Minute: Second)

Select the item on <DATE/TIME>:

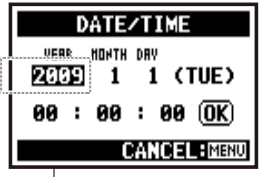


You can select the item while moving [ ] of the [DIAL].



Press the [DIAL]
*** The selected item figures are reversed.**

[Change the figure number]:

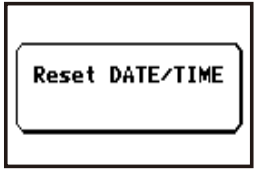


You can select the number by rotating the [DIAL].

Press the [DIAL]
* [ ] comes out on display.

NOTE:

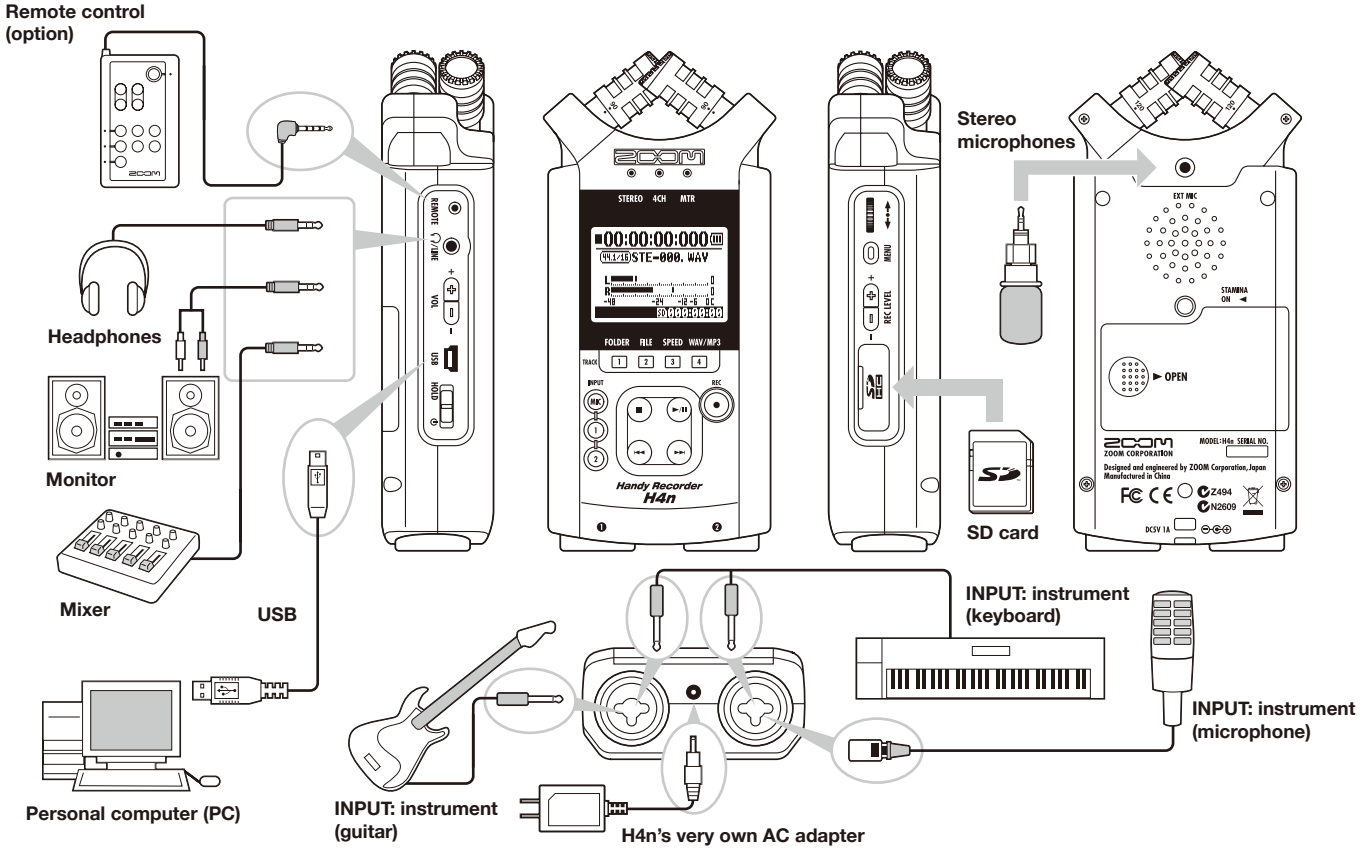
When "Reset DATE/TIME" is seen on the display at the booting-up, the date/time needs to be set.



- When power off for more than three minutes, the setting of the date/time will be return to the beginning one.
- You cannot use this setting during recording and playback.

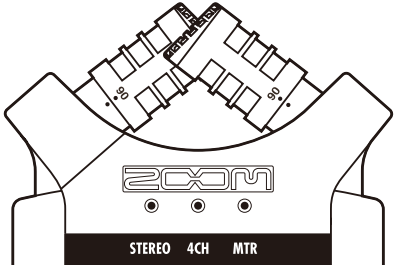
6-1 Setting up: How to connect to outside machines

H4n can make various connections along with different recording occasions.



6-2 Setting up: Built-in microphones

These are special features of the H4n built-in microphones.



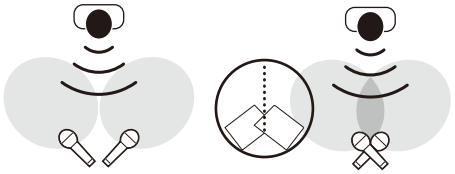
High quality microphones in an XY pattern ensure a natural stereo image when recording sounds.

Stereo recording is often done by placing two microphones in a V shape. Pointing microphones outward will result in stereo separation, however responsiveness for area directly in front of the microphone will be low, causing problems with depth reception.

H4n adapted X Y stereo system recommends placing two microphone units in like "X" shape. By pointing microphones inward at a crossing angle, the H4n can cover a wide area and at the same time, captures sound sources in the center with clarity and definition. At the same time the sound collecting spots are almost centered and no topology difference between right and left channels.

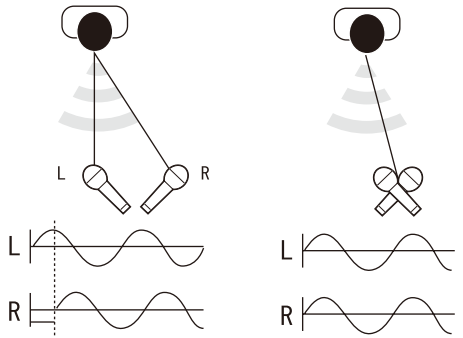
LOCATION OF THE MICROPHONES UNDER XY SYSTEM

Collect the sound around centering position.



General stereo microphones **H4n stereo microphones**

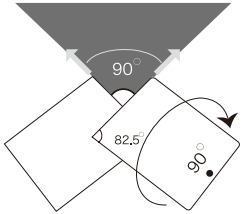
Stereo images with no topology difference



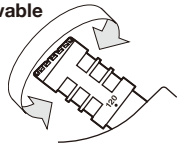
General stereo microphones **H4n stereo microphones**

DIRECTIVITY OF 90°, 120°

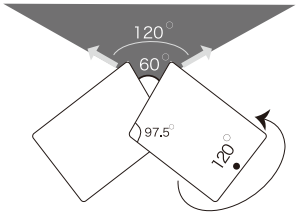
Center 90°



movable



Width 120°

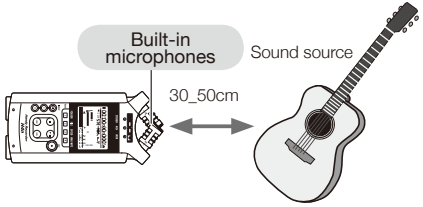


6-3 Setting up: Built-in microphones /outside microphone with plug-in power

The input jack for the external microphone is suitable to <PLUG-IN> power uses.

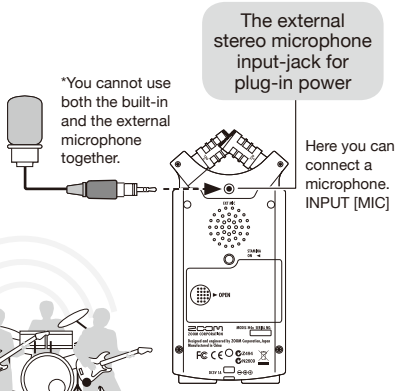
Close microphone recording

Please put H4n 30 - 50 cm away from the sound source.



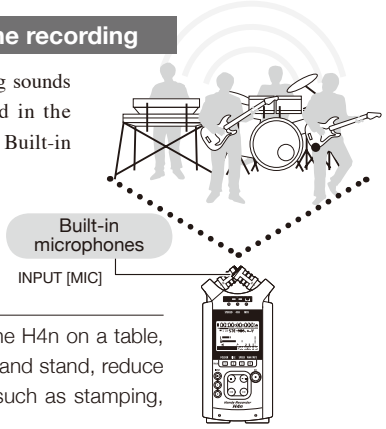
External microphone recording

When you use the external microphone, be sure to select the correct setting.



Off microphone recording

Make sure the recording sounds sources are all located in the range of T zone of the Built-in microphones.



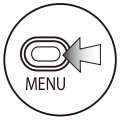
HINT:

When you set place the H4n on a table, a chair, or on a tripod and stand, reduce the vibration sounds such as stamping, drums, etc.

NOTE:

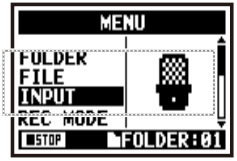
Plug-in and phantom power can not be set during recording and playback.

[How to make setting of <PLUG-IN> power]

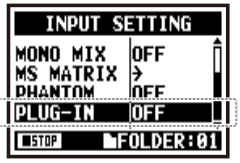


1
Press.

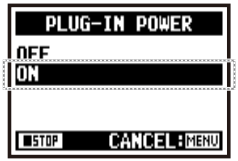
2
Select <INPUT> and press.



3
Select <PLUG-IN> and press.



4
Select<ON> and press.

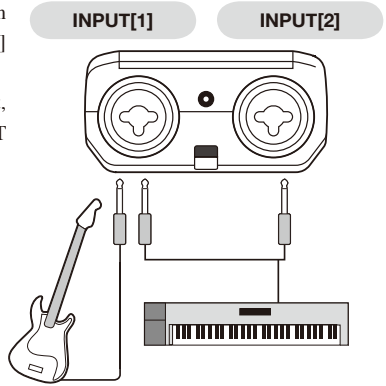


6-4 Setting up: INPUT [1], [2] connections and phantom power source

Using INPUT [1] and INPUT [2] you can connect to a guitar, a bass, a keyboard, etc.

Connecting to instruments

For a guitar or a bass, you can directly plug into either INPUT [1] or INPUT [2].
For a keyboard with stereo output, you can plug into both the INPUT [1] and the INPUT [2].



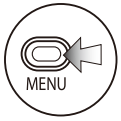
Connecting to a microphone

To connect a microphone you connect X L R plugs to INPUT [1] and INPUT [2]. In case you need phantom power, such as using a condenser microphone, be sure to select the following setting.

NOTE:

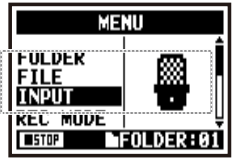
Some condenser microphones cannot operate with +24V phantom power, but comparing to +48V setting this function is useful for battery operation to economize electric consumption.

[How to make setting of <PHANTOM> power]



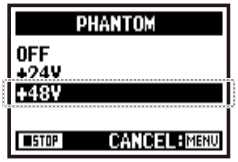
1 Press.

2 Select <INPUT> and press.



3 Select <PHANTOM> and press.

4 Select the voltage and press.



6-5 Setting up: USB connection, H4n used as an Audio Interface

When you use the H4n as an Audio Interface (AUDIO I/F), make the following settings.

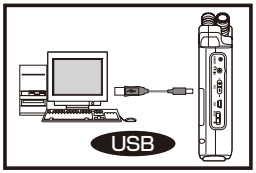
From power ON

Connect H4n to computer with USB cable.

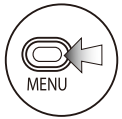
From power OFF

Using USB bus power, H4n start booting-up
Display of USB setting screen

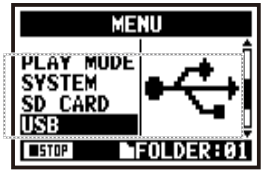
1 Connect H4n to computer with USB cable.



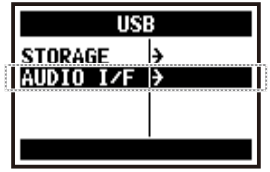
2 Press on the top screen.



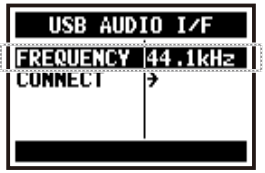
3 Select <USB> and press.



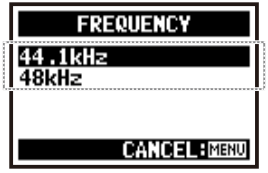
4 Select <AUDIO I/F> and press.



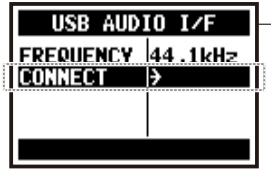
5 Select <FREQUENCY> and press.



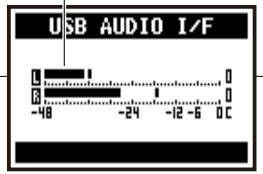
6 Select a sampling rate and press.



7 Select <CONNECT> and press.



displayed input or output level



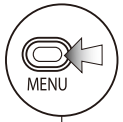
Two channels can be sent and received while it connects a computer and by using of 44.1kHz or 48 kHz.

displayed a active function

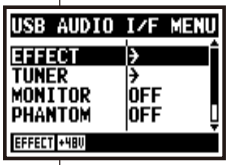
Ref. ☞

<EFFECT>	P.083
<TUNER>	P.075
<MONITOR>	P.071
<PHANTOM>	P.032
<PLUG-IN>	P.031

[Button operation during setting and <AUDIO I/F> menu]



Press.

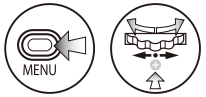


Select and press.

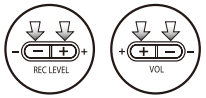
<AUDIO I/F> MENU

EFFECT	Use EFFECT (only on 44.1 kHz)
TUNER	Use TUNER
MONITOR	Use MONITOR
PHANTOM	Use PHANTOM power
PLUG-IN	Use PLUG-IN power
DISCONNECT	Disconnect

[You can use those buttons during setting]

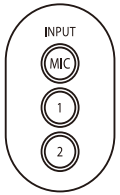


*** Call [MENU] and make setting**



*** Adjust input / output level**

[Selection of input source]



When you press the INPUT button corresponding to its input source, it lights and is confirmed the selection.

While not using input, press the lighted button and make light off, you make no input condition.

* No input can send no signals to a computer and operate no monitoring.

Selecting input, input signals are sent to a computer.

To monitor the input signals in H4n you must run <MONITOR> setting on.

NOTE:

- You cannot change a sampling rate while computer is recognizing H4n as an audio interface.
- To connect as an Audio I/F, make sure that a sampling rate (step 6) matches the recording software and playback file.
- You cannot use this setting during recording and playback.

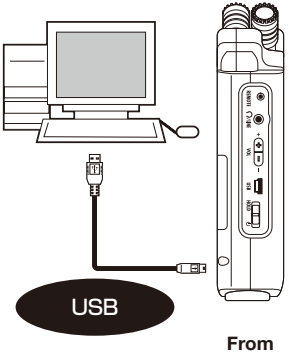
HINT:

Usage of AUDIO INTER FACE

- You can record input signals of the H4n on the audio track of DAW software, and listen to its outcomes.
- You can also work those input signals in the H4n built-in <EFFECT> function.
- The <EFFECT> can be used when the sampling rate is 44.1 kHz.
- Making connection not necessary for a specific driver.
- When using different DAW software, please read their guidebooks together.

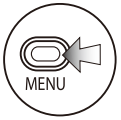
6-6 Setting up: USB connection, H4n used as a SD card reader

When you use the H4n as a SD card reader, make the following settings.



From power ON

1 After it's powered 'ON', connect the H4n to the computer with the USB cable.



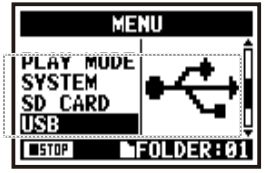
2 Press on the top screen.

From power OFF

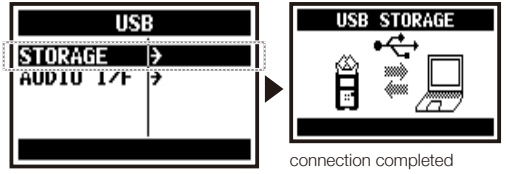
Connect H4n to computer with USB cable.

Using USB bus power, H4n start booting-up Display of USB setting screen

3 Select <USB> and press.



4 Select <STORAGE> and press.



connection completed

NOTE:

- Before physically unplugging USB cable (and H4n) from computer, be sure to perform the "safely remove hardware" function on the computer first. Unplugging USB cable (and H4n) without performing this function may damage files.
- Compatible operating system
  Windows XP
  Mac OS X (10.2 or later)

HINT:

USB bus power

USB bus power is the method to supply power from a computer through the USB cable.
Connecting USB with the H4n power off condition, H4n automatically boots up and displays USB menu.

Usage of a SD card reader

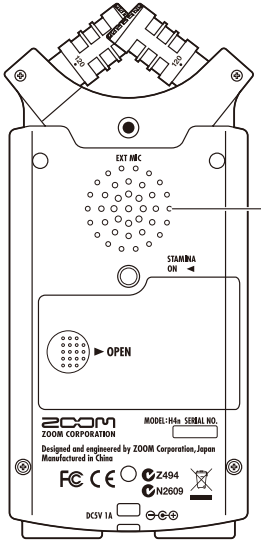
- A computer can use the recording data of the H4n.
- The H4n can use the music data created on a computer.

The file names available

The H4n cannot operate the files with the letters more than half-size alphabets and numerals.

6-7 Setting up: A built-in speaker

The H4n is equipped with a built-in mono speaker.



H4n built-in speaker

This is a mono speaker for playback. Without connecting headphones to [LINE/PHONE] jack, you can easily playback the recorded data and listen.

NOTE:

There is no output when [LINE/PHONE] jack is plugged in.
When setting is the <MONITOR>, there is no output of the input signals.
The built-in speaker cannot be used when recording in standby on MTR mode.

HINT:

When you can use this function:

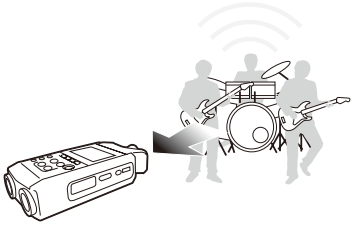
- The FILE playback
- Using as <AUDIO I/F>.
- Nothing connected to the [LINE/PHONE] jack.

7-1 About H4n modes

There are four operational modes in H4n: STEREO/STAMINA, 4 CH (CHANNEL), MTR (MULTI TRACK) mode.
You can choose the mode according to your need.

• STEREO mode

You can easily create a stereo recording via the built-in microphones or an external microphone.
The STEREO mode is convenient to record a band's live performance, acoustic instrument, voice, lecture, or a subtle soundscape. you can then transfer the file to a stereo WAV/MP3 recorder,player.



- Only one chance performance of 'live' or rehearsal recording.
- In-line recording of a single instrument.
- Field recording.
- Voice memo-like recording for melody.
- Record important points during conference recording.

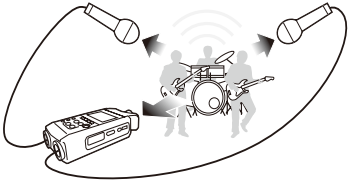
• STAMINA mode

This is an economical mode to make a battery life longer. This is important when recording for long periods of time: STAMINA mode reduces the number of battery changes. The STEREO mode controls operational functions a little.
Continuous usage time for a Alkaline battery: approximately 11 hours (battery life can be less, depending on your usage)
Only possible to record · playback on stereo WAV 4.1 kHz / 16 bit Format, MP3.
When using batteries, STAMINA mode can be set the STAMINA switch on before the booting up. ▶P.017

- 'Live' outside recording.
- At the conference, or the places difficult to change batteries.

• 4CH mode

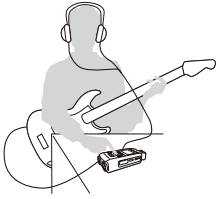
In 4CH mode, you can simultaneously record stereo input signals from two systems.
You can catch both live sounds via a stereo microphone and instrumental in-line input sounds via an external microphone simultaneously.



- Simultaneous recording with both line input and a microphone.
- Simultaneous recording both in front and back spaces.
- Simultaneous recording in places both far away via a line and closer to the H4n.
- 4CH recording of the surrounding sounds to edit environment sound sources.
- Recording space and air atmosphere to feel at a live location.

• MTR mode

The MTR mode can be used for a wide range of purposes. In MTR mode, you can combine and mix favorite tracks (either stereo or mono).
You can make <EFFECT> and duplicate recording and use sound sources from different modes for multiple functions. When creating a demo, you can record background sounds at home and record instrumental sounds recording at the studio while listening to the back ground sounds.

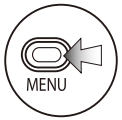


- Recording section by section and combine them of each track.
- Duplicate recording, re-recording from the beginning.
- Recording used <EFFECT>
- Adjusting balances of each sound after recording.
- Rehearsals indoor or outside.

7-2 Selecting a <MODE> and its confirmation

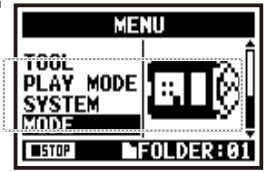
To plug in external machines, be sure to select the suitable mode depending on your purpose.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



1 Press.

2 Select <MODE> and press.



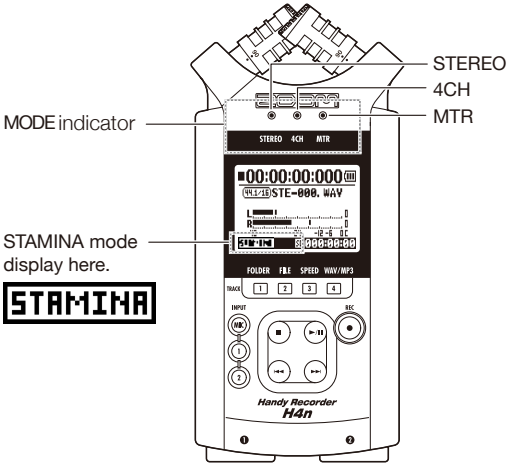
3 Select a mode among STEREO, 4CH and MTR and press.

* For a STAMINA mode you can set up at the buttons in the battery box.

HINT:

Confirmation of the mode

- You can confirm the current mode on 'MODE indicator' at FRONT PANEL.
- The mode when you switch on is the same mode you selected when switched off.
- When you use the machine at first and re-set time, the mode is set 'STEREO'.

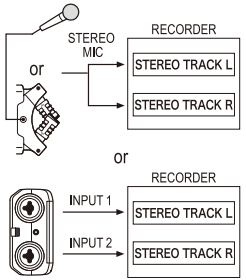


7-3 Details about modes

Input and output levels as well as saving and formatting data are different in each mode.

STEREO mode

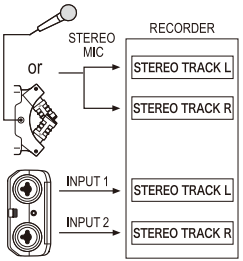
STAMINA MODE



In STEREO mode, you can select 2 different inputs either INPUT[MIC] or INPUT[1] and INPUT[2], and operate them as one stereo file.
Those data is saved in the 10 fixed folders as the FILE.

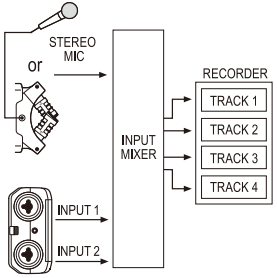
In STAMINA mode, the functions are limited to maximize the battery life time.

4CH mode

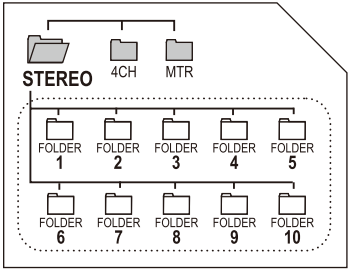


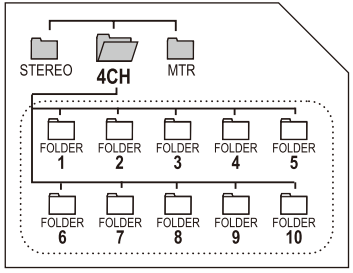
When both INPUT[1] and INPUT[2] are used at the same time, play back.
You can operate recording as two stereo files.
The data is saved in the 10 fixed folders as the FILE.

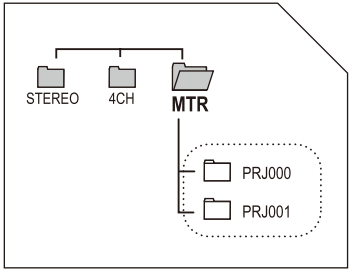
MTR mode



You can combine tracks with the INPUT[1], INPUT[2] and MONAURAL and STEREO types, depend on the setting and available your own <OVERWRITE> recordings, to the recording files different from other mode.
Only in the MTR mode you can control data and settings as the PROJECT unit.







STEREO STAMINA

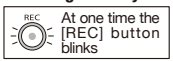
• Explanation of the top screen

Display of recorder's condition

■ STOP

❚❚ Recording Standby

blink



At one time the [REC] button blinks

● REC

At one time [REC] button lights on

▶ PLAY

❚❚ PAUSE

blink

FILE FORMAT

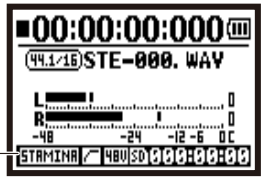
File format during selecting, recording and playback.

- WAV FILE: Hz/bit
- MP3 FILE: bit rate

96/24 **Display example of 96kHz/24bit**

128kbps **Display example of MP3 128kbps**

STAMINA MODE

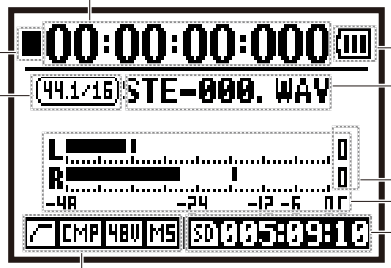


Stamina Icon

Counter

Recording lapse and playback lapse:

Display: 00(time):00(minute):00(second):000(1/1000second)



Indicator of option settings: VALID or NOT VALID

When each optional function is valid, display says following:

<LO CUT> function P.068

CMP **<COMP/LIMIT> function** P.069

48V **<PHANTOM> power source 48V/24V** P.032

MS **<MS STEREO MATRIX>** P.073

REMAINING BATTERY LIFETIME during battery running

When the display of "Low Battery" is sown, it is time to change battery.

FILE NAMES

FILE NAMES during selecting, recording and playback work.

If there is no file in any folder, the screen says 'No Data'.

CLIP METER

The clip meter turns light on when the recording and playback level reach to 0dB and continues to light on until the work completes.

LEVEL METER

Display the recording and playback level.

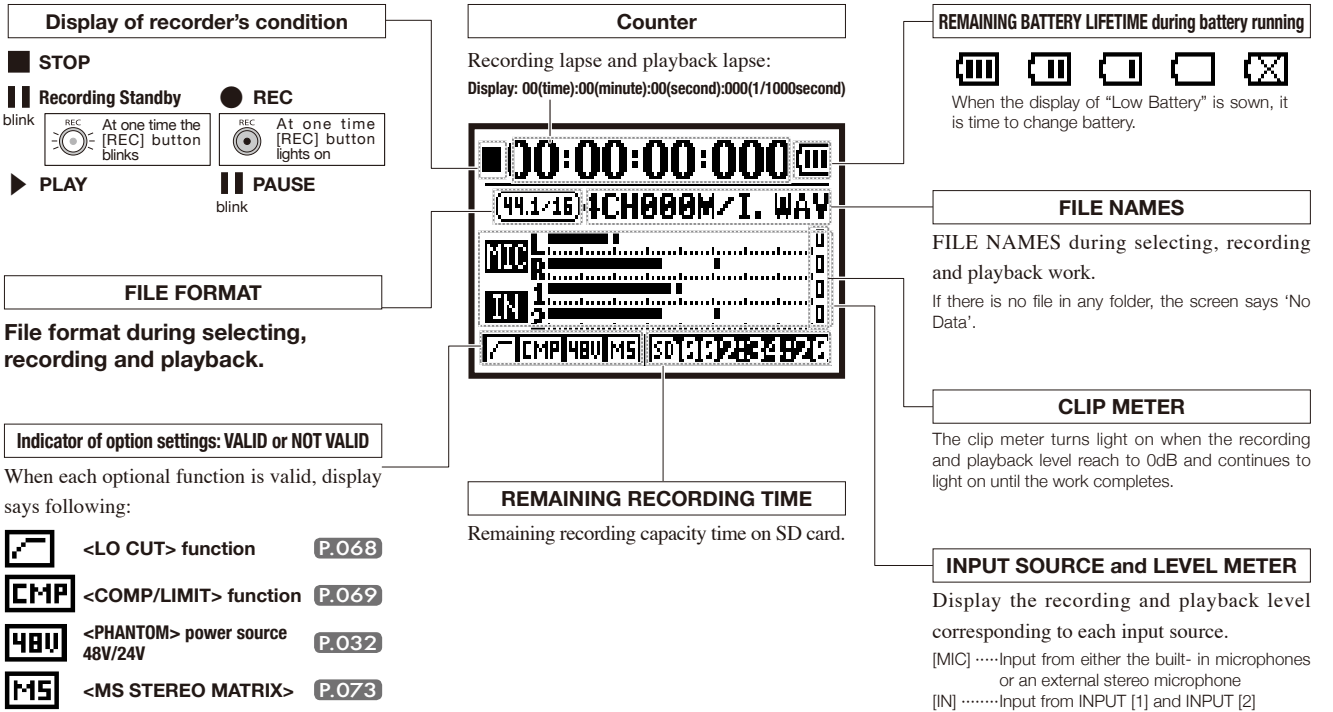
REMAINING RECORDING TIME

Remaining recording capacity time on SD card.

8-2 <MODE> screen: 4CH mode

4CH

• Explanation of the top screen



8-3 <MODE> screen: MTR mode

MTR

• Explanation of the top screen

[DIAL] operations on the top screen

① 00:000 ② ③ ④ BOUNCE

Display of recorder's condition

■ STOP

● REC

❚❚ Recording Standby
blink only when recording [ALWAYS NEW] setting

REC At one time [REC] button lights on

REC At one time the [REC] button blinks

❚❚ PAUSE
blink only when recording <ALWAYS NEW> setting

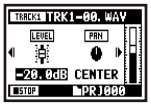
▶ PLAY

TRACK NUMBER

During recording standby operation the track or its icon is highlighted.

② TRACK MENU ICON

Per each track the corresponding setting like 'sound volume', 'pan' and 'stereo or monaural' should be made. This is the entrance to the TRACK menu. P.059



LEVEL METER

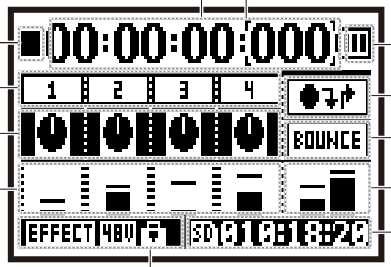
Here appear the recording and playback level corresponding to each [1] _ [4] track.

① Counter

Recording lapse and playback lapse:

Display: 00(time):00(minute):00(second):000(1/1000second)

Cursor



Indicator of option settings: VALID or NOT VALID

When each optional function is valid, display says following:

EFFECT <EFFECT> function P.081

48V <PHANTOM> power source 48V/24V P.032

<PROTECT> function P.125

REMAINING RECORDING TIME

Remaining recording capacity time on SD card.

Counter Function: Appoint time

Ref. ☞ P.102

REMAINING BATTERY LIFETIME during battery running

When the display of "Low Battery" is sown, it is time to change battery.

③ AUTO PUNCH IN and AUTO PUNCH OUT ICONS

Here's the point setting place for Punch In and Punch Out.

Depend on MTR recording modes, the display appears.

During OVERWRITE recording: appear
During ALWAYS NEW recording: Not appear P.058

④ BOUNCE ICON

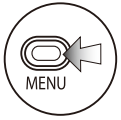
Here's the entrance of <BOUNCE> menu writing on the 'MONO' or 'STEREO' files about the current mixing results. P.123

L R LEVEL METER

Display the output level altogether mixed 4 tracks.

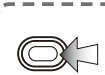
8-4 <MODE> screen: MAIN MENU

Menu item list displayed by [MENU] button.



1 **Press.**

2 **Select items and press.**



CANCEL:
To return back to the top, press [MENU] button more than 2 seconds.

HINT:

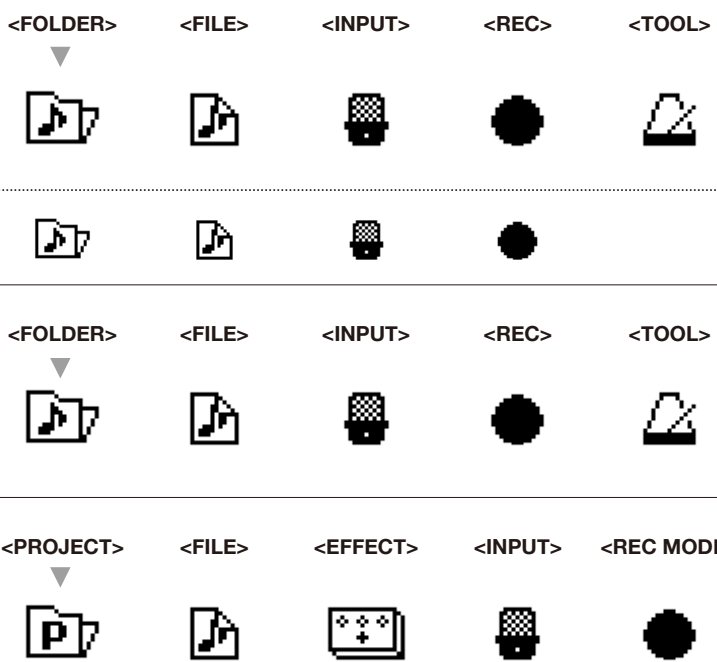
▼ MARK: The item with this mark is the one first appears on the menu screen when the booting-up or just after changing the mode. After that (secondly) the item previously using appears on screen.

STEREO mode

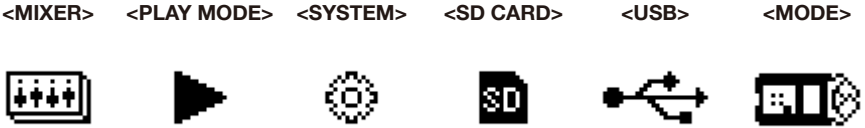
STAMINA mode

4CH mode

MTR mode

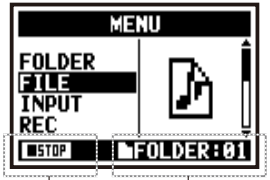


When using batteries, STAMINA mode can be set the STAMINA switch on before the booting up. P.017



Display at the bottom of Menu screen

On the menu available for recording and playback, the level of the current recorder condition is displayed at the left bottom of the screen.



On the right bottom of the screen the current folder number is displayed (On Stereo, 4ch and Stamina mode).

On MTR mode the project name working currently is displayed.

Stop

Playback temporary stop

Playback

Recording Standby / Recording temporary stop

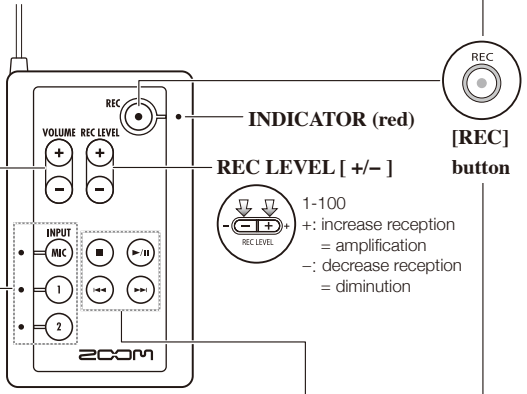
Recording Standby
On MTR mode and recording on OVERWRITE

Recording

9 Option: Remote control operation

When you use the optional remote controller, you can operate the H4n from a distance.

Remote control button operation



VOLUME [+/–]

0-100
+: increase (higher)
–: decrease (lower)

INPUT buttons, [MIC] [1] [2] AND INDICATORS (green, yellow, red)

Select the input source
* the indicator corresponding to the button shows input condition.
Green : The input source selected
Yellow : The level of the input is over –6dB.
Red : The input is clipping

INDICATOR (red)

REC LEVEL [+/–]

1-100
+: increase reception = amplification
–: decrease reception = diminution

[REC] button

Recording and placing marks.

STEREO / 4CH / STAMINA	Stop	Become recording standby condition and reset the counter to 0
	Recording Standby	Start recording and the counter begins to move
	Recording / Playback	Place a mark (only for WAV FILE)

This can be used only when the recording standby track available.

MTR

Set to overwrite recording

Stop	Become recording standby condition
Record, Recording Standby	Stop recording (You can continue playback while recording)
Playback	Stop recording and the counter to 0

Set always new recording

Stop	Stop recording and the counter stops
Recording Standby	Start recording and the counter begins to move

LOCATOR buttons

[FF], [REW] buttons

STEREO / 4CH / STAMINA	Stop	Less than one second press: [FF] button displays a next file. [REW] button returns to the head of the file. * However if there is a marker in a WAV file, the button moves to the marking place
	Playback	More than one second press: Repeating a short time partial playback, operate wind-forward and rewind. The longer the time of pressing, the faster gets its speed. Stop at the end or the beginning of the file.
	Playback temporary stop	

MTR	Stop	Less than one second press: [FF] : Enables to operate wind-forward per second. [REW]: Returns to the head of the file
	Playback	More than one second press: Repeating a short time partial playback, operate wind-forward and rewind
	Playback temporary stop	

[STOP] button

STEREO / 4CH / STAMINA	Record, Recording Standby, Temporary stop	Stop recording and return to 0
	Playback temporary stop	Stop playback and the counter stops

MTR	Recording	Stop recording and the counter stops
	Playback	Stop playback and the counter stops
	Recording temporary stop	Stop each movement
	Playback temporary stop	

[PLAY/PAUSE] button

STEREO	Stop	Start playback and the counter begins to move
4CH	Recording standby	Suspend recording temporary and restart
	Recording,temporary stop	Suspend recording temporary and restart
STAMINA	Playback, temporary stop	Start recording and the counter begins to move

MTR	Stop	Start playback
	Recording	While overwrite setting : No function. While always new setting : Suspend recording temporary
	Recording standby	Start recording and the counter begins to move
	Playback	Suspend playback temporary

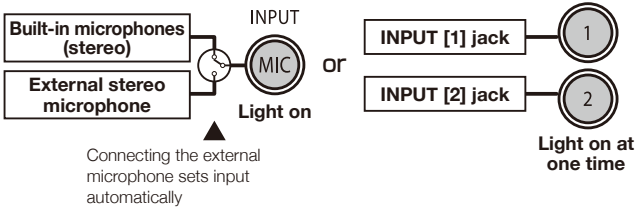
Operations

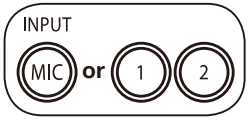
1-01 Setting / Recording: Set input source and recording level

Control settings for the targets, built-in microphones or external input jacks.

STEREO MODE

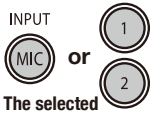
Use the stereo input source of either [MIC] or INPUT [1] [2].



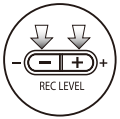


1 Select INPUT and press.

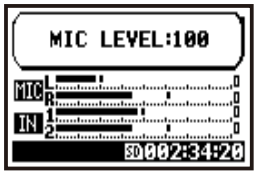
* Selection is available at any time during Stop, Recording Standby or Recording.



The selected buttons light on.

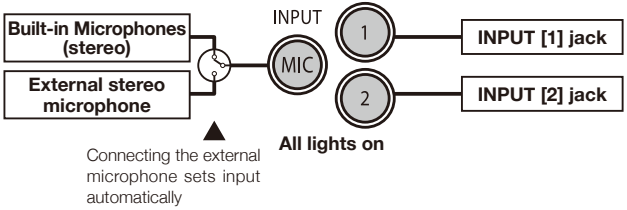


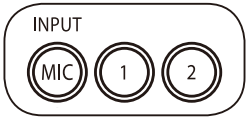
2 Press REC LEVEL and adjust the levels.

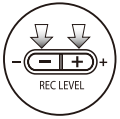


4CH MODE

Use both [MIC] and INPUT [1] [2] stereo input.







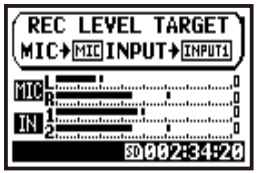
1 Select INPUT and press.

The recording level selected is displayed

2 Press REC LEVEL and adjust the levels.

HINT:

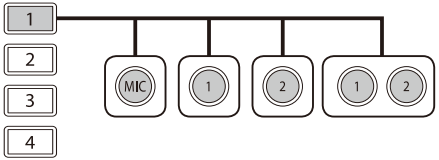
On the top screen of the 4CH mode, press REC LEVEL button, and display “REC LEVEL TARGET” appears. Select the input and press.



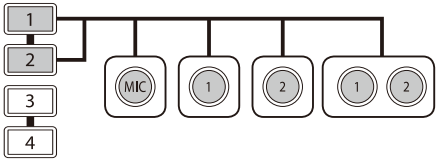
MTR MODE

On each track make the input setting of monaural or stereo.

SELECT the input per track one by one and adjust.

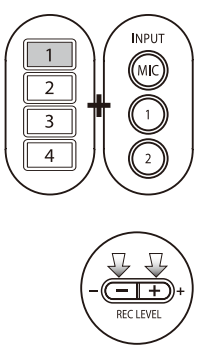


SELECT the input to 2 tracks and adjust.



TRACK 1	TRACK 2	TRACK 3	TRACK 4
MONAURAL	STEREO	MONAURAL	MONAURAL
STEREO		MONAURAL	MONAURAL
MONAURAL	MONAURAL	STEREO	
STEREO		STEREO	

Use the REC LEVEL



1 Press the selected track and input button.

2 Press REC LEVEL and adjust the level.

HINT:

You can make different recording on multiple tracks separately on MTR mode. Make desirable selections of input sources freely when recording.

1-02 Setting / Recording: Recording in STEREO and STAMINA mode

This is a way to record in both stereo and stamina modes using the built-in or stereo microphones.

[RECORDING DIRECTION]

Confirmation of the mode. (Stereo mode)

 # Change the FILE setting.
• REC FORMAT,
• FILE NAME TYPE

Use the recording functions.
AUTO REC/STOP, PRE REC, REC LEVEL AUTO

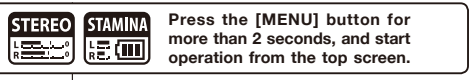
 # Use METRONOME

1. Recording standby
2. Select the input source
3. Adjust the recording level of the source

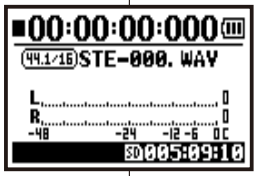
Recording
4. Start recording: Temporary stop, Start recording again, Put a mark

5. Recording completes

#marks mean you can record without those settings.



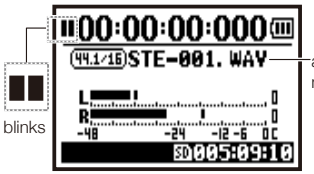
Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



STEREO MODE TOP

light blinks

1 [RECORDING STANDBY] press.



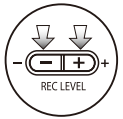
blinks

a new file name here

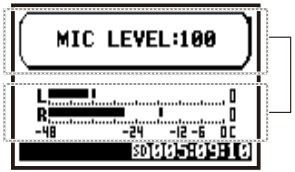
light on

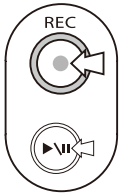
2 Select an input source and press.

Using a built-in microphones, press [REC], connecting to external devices INPUT [1] and INPUT [2]



3 Adjust the recording level of the input source.

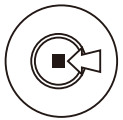




light on

4 [REC START] press.

The number figures rotate.



light off

5 [REC FINISH] press.

The counter returns back to 0.

[TEMPORARY STOP]

[RECORDING AGAIN]

HINT:

<REC FORMAT>

On STEREO mode can be made 19 different setting using. WAV & MP3.

If you want to change, operate before recording.

<FILE NAME> change

The file names are named automatically.

You can choose from two: <DEFAULT> and <DATE>.

<DEFAULT> : STE-×××

<DATE> : 090531-×××

* The recording date is written. The initial notation is <DEFAULT>

MARK

When the recording format is WAV, you can put the mark on your file pressing [REC] button while recording. You can move swiftly to the marked position during playback. When you make a temporary stop on WAV FILE, the mark will be placed at the stop position.

NOTE:

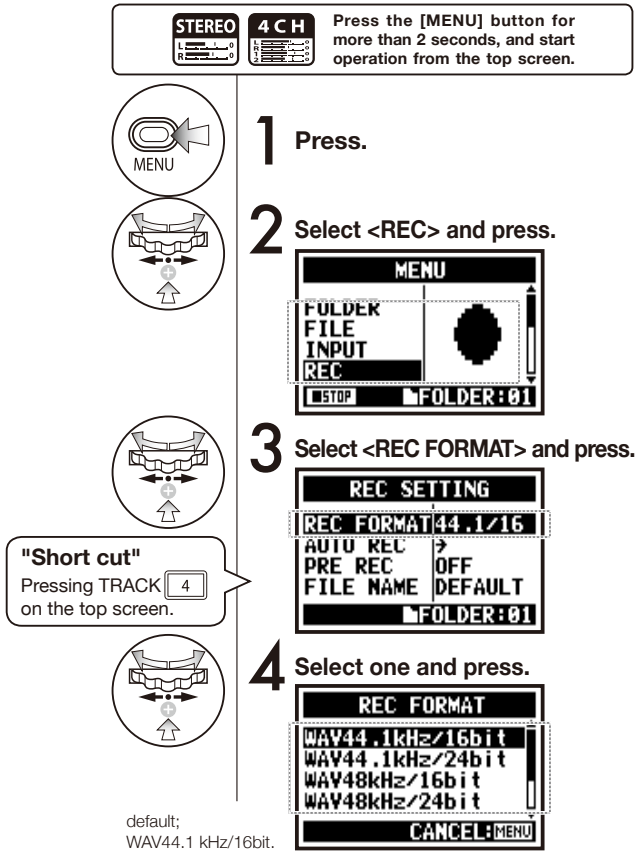
While recording and playback, no <REC FORMAT> change nor FILE NAME TYPE change is possible.

Ref. ☞

<REC FORMAT>	P.051	<FILE NAME>	P.052
Mark setting	P.096	<METRONOME>	P.079
<AUTO REC>	P.065	<PRE REC>	P.067
<REC LEVEL AUTO>	P.070		

1-03 Setting / Recording: Recording format <REC FORMAT>

Make the setting of recording format <REC FORMAT> before the recording.



NOTE:

How to use WAV and MP3 format

- The WAV FILES with no compression are used for high quality sound recording. Because data is not compressed, the volume of the file will increase compare to MP3 format.
- MP3 FILES decrease the sound quality because of data compression, but are useful to save SD card capacity and to record much more sounds.

HINT:

VARIETY OF WAV FILES

Selections are: Sampling Rate/ Frequency (44.1/48/96 kHz), the frequency when changing analogue signals to digital signal, Quantum bit numeral value indicating the minuteness of dynamics (16/24 bit).

The bigger the number, the higher the sound quality, but the more file capacity is required.

The WAV files recorded on STEREO/4CH/STAMINA mode correspond to BWF (Broadcast Wave Format) and documented the marks and production date.

VARIETY OF MP3

Select the bit rate which indicates information volume per minute. The bigger the numeral number, the lower the rate of compression and the higher the sound quality. The higher compression MP3 will consumes less capacity of SD card.

VBR (Variable Bit Rate) means the bit rate style variable according to the input information volume.

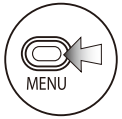
REC FORMAT	
STEREO mode	
WAV	44.1kHz/16bit 44.1kHz/24bit 48kHz/16bit 48kHz/24bit 96kHz/16bit 96kHz/24bit
MP3	48kbps 56kbps 64kbps 80kbps 96kbps 112kbps 128kbps 160kbps 192kbps 224kbps 256kbps 320kbps VBR
4CH mode	
WAV	44.1kHz/16bit 44.1kHz/24bit 48kHz/16bit 48kHz/24bit

1-04 Setting / Recording: File name <FILE NAME>

When recording, a file name is automatically assigned. To change that, take the following steps.

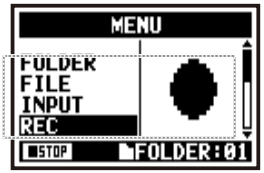
STEREO

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

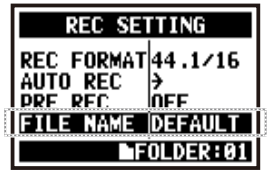


1 Press.

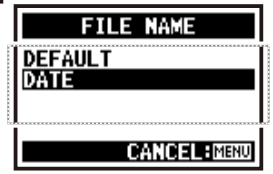
2 Select <REC> and press.



3 Select <FILE NAME> and press.



4 Select and press.



The initial notation is <DEFAULT>

File Name	
STEREO mode:	
<DEFAULT>	STE-×××.wav (mp3) : 'STE-'3 figures, extension * <MONO MIX> setting MONO-×××.wav(mp3) : 'MONO' 3 figures, extension
<DATE>	090531-×××.wav(mp3) : year, date yymmdd-3 figures, extension
4CH mode:	
No change	4CH-×××M.wav Record file of the built-in microphones: '4CH-' 3 figures 'M' extension 4CH-×××I.wav Record file of the external input: '4CH-' 3 figures 'I' extension
MTR mode:	
STEREO FILE MONO FILE	TRK1-××.wav : 'TRK' track number- 2 figures, extension * On stereo tracks put the track number like [1] [2] using L and R.

NOTE:

- You can set the DATE type only on STEREO mode.
- You can use other file names on STEREO and MTR mode. Those setting is operated on <FILE RENAME>
- When you name the file other than the H4n and include except half-size alphabets and figures, you cannot operate on the H4n.

Ref. ☞
<FILE RENAME>
P.109

1-05 Setting / Recording: Recording on 4CH mode

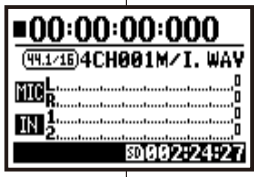
This is the method to record 4 channel stereo sounds coming from the built-in mic and the external input jack.

[RECORDING DIRECTION]

- Change to 4CH mode
- # Change the FILE setting.
  • REC FORMAT
- # Use the recording functions:
  • AUTO REC/STOP
  • PRE REC
  • REC LEVEL AUTO
- # Use the METRONOME
- 1. Recording standby.
  2. Select the input source.
  3. Adjust the recording level of the source.
- Recording operation.
  4. Start recording
  • temporary stop
  • record again
  • put a mark on a file.
- 5. Recording completes.

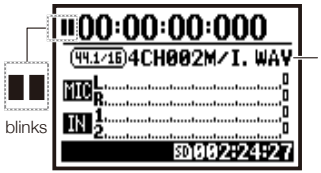
#You can record skipping this step.

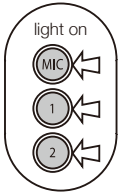
4CH **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**



STEREO MODE TOP

1 [RECORDING STANDBY] press.

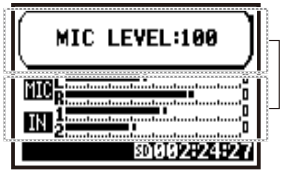


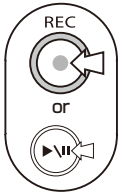


2 [Adjust the recording level] Select the input sources and press.

* When you use a built-in microphones: select [MIC]
Connection from outside: INPUT [1] and [2]

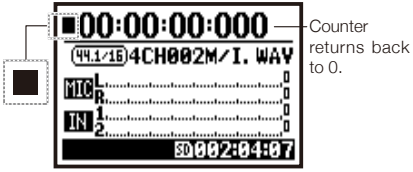
3 Adjust the recording level of the input sources.





4 [START RECORDING] press.

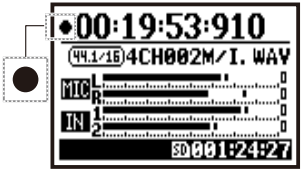
5 [COMPLETE RECORDING] press.



[TEMPORARY STOP]

Counter doesn't return back to 0.

[RECORDING AGAIN]



Continue recording from the position stopped on the same file.

HINT:

FILE NAME

On 4CH mode the input from the built-in and the external microphones is saved separately as STEREO WAV FILE.

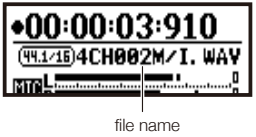
Those 2 files are always administered as one pair and named as followings depend on the input:

[MIC] file: 4CH×××M.wav

INPUT [1] [2] file: 4CH×××I.wav

On screen 2 files noted 'M/I' at one time.

* You cannot change the file name.



<REC FORMAT> CHANGE

If you want change, operate before recording.

Mark

While the recording format is WAV, if you press [REC] button during recording operation, the mark is put on the file and you can move swiftly to the marked position during playback.

When you pause, that becomes the mark position.

NOTE:

While recording and playback, no <REC FORMAT> is possible.

Ref. ☞

<REC FORMAT> P.051
<FILE NAME> P.052
Mark setting P.096
<METRONOME> P.079
<AUTO REC> P.065
<PRE REC> P.067
<REC LEVEL AUTO> P.070
Mode change P.038

1-06-1 Setting / Recording: Recording in MTR mode

Making proper use of tracks, you can create a recording that combines monaural and stereo.

[RECORDING DIRECTION]

Change to MTR mode

Create a new PROJECT.

Record the first track.

Select the [REC] mode

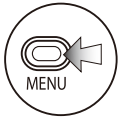
<OVERWRITE> and SAVE. **# Setting up PUNCH IN/OUT** **# Use the METRONOME** **# Set up the EFFECT**	**<ALWAYS NEW>.** **# Use the METRONOME** **# Set up the EFFECT**
Recording Standby	
Select the track to record **• Select the input source** **• Adjust the recording level of the source**	**Select the track to record** **• Select the input source** **• Adjust the recording level of the source**
Start recording	
	Temporary Stop **Re-start**
Complete recording	
Make setting (mix) **• TRACK MENU setting** **Adjust the track** **• LEVEL • PAN**	**Make setting (mix)** **• TRACK MENU setting** **Adjust the track** **• LEVEL • PAN**

Record the second track

This means you can record without this setting.

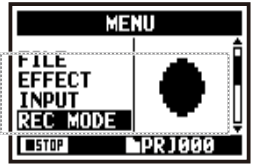
Change to <REC MODE>, <OVERWRITE/ ALWAYS NEW>

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



1 Press.

2 Select <REC MODE> and press.



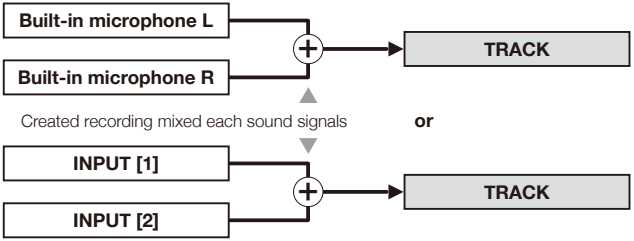
3 Select either <OVERWRITE> or <ALWAYS NEW> and press.

About INPUT SOURCE and TRACK

Only one recording track

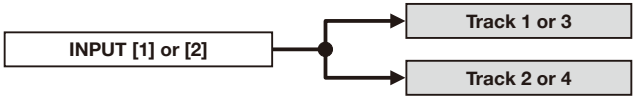
1. Input source comes from either INPUT [1] or INPUT [2].

2. Input sources come from either [MIC] or INPUT [1] [2].



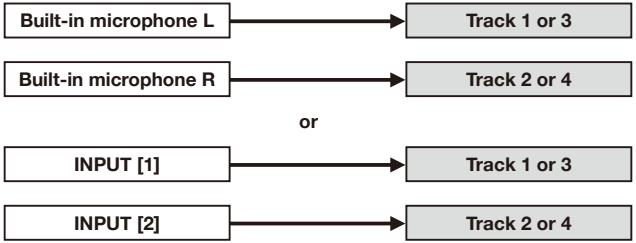
Two recording tracks

1. Input source comes from either INPUT [1] or INPUT [2].



The same signals are sent to both tracks.

2. The input source comes from either [MIC] or INPUT [1] [2].

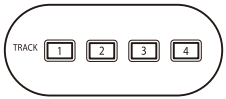


1-06-2 Setting / Recording: Recording <OVER WRITE> in MTR mode

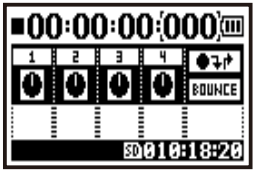
You can select either two recording style modes.
Using the <OVERWRITE> mode, you can overwrite new sounds on the existing file.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

According to each necessity, make the settings
☞ Input setting … P.055
☞ Recording functions … P.059–



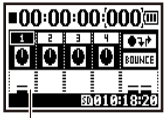
1 Select the TRACK.



MTR MODE TOP

1

The selected 'TRACK' light on.



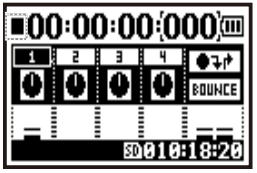
displays input level

REC

light on

REC

2 Press.

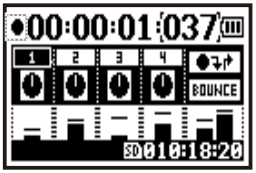


Counter won't be reset to 0 when using.

light on

REC

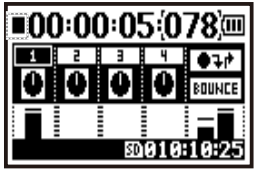
3 [START RECORDING] press.



light off

REC

4 [STOP RECORDING] press.



Counter doesn't return back to 0.

It returns to the position in which the recording began with the [REW] button. The content recorded by pushing [PLAY/PAUSE] button can be confirmed.

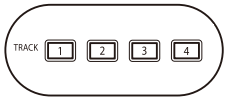
1-06-3 Setting / Recording: Recording <ALWAYS NEW> in MTR mode

In ALWAYS NEW, a new file is made whenever it records.

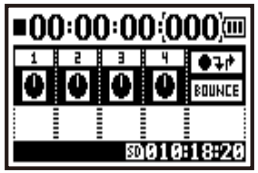
Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

According to each necessity, make the settings

☞ Input setting … P.055
☞ Recording functions … P.059–

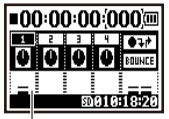


1 Select the TRACK.



MTR MODE TOP

The selected TRACK light on.

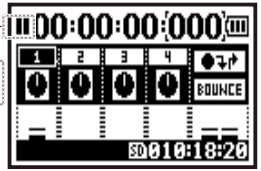


displays input level

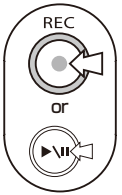
Light blinks

2 Press.

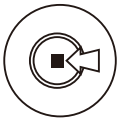
blink



Counter won't be reset to 0 when using.

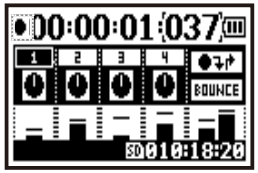


light on

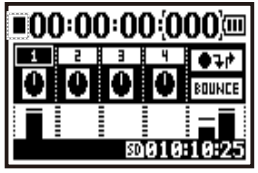


light off

3 [START RECORDING] press.



4 [STOP RECORDING] press.



Counter return back to 0.

The recorded file can be reproduced by pushing [PLAY/PAUSE] button.

1-07 Setting / Recording: TRACK MENU in MTR mode

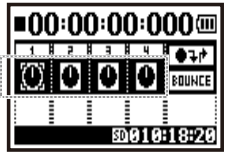
This is an exclusive menu available only on MTR mode to set a track.
Link tracks together, create a stereo track, or you can create a special setting for output effects.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

Selecting a target project and start ……P.119

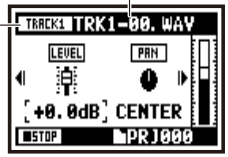
Select TRACK MENU

1 **On the top screen select 'TRACK MENU ICON' and press.**



TRACK MENU icon

TRACK MENU
file names allocated to tracks



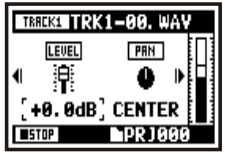
currently selecting track

HINT LEVEL

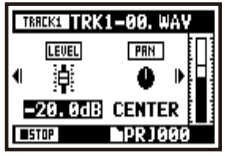
Set the output level of a track
Setting value: Mute, –48.0dB _ +12.0dB
Default: 0.0dB

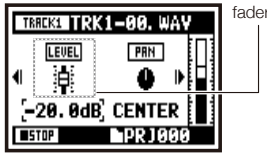
Adjust the output level of a track

Select <LEVE> and press.



Set the value and press.





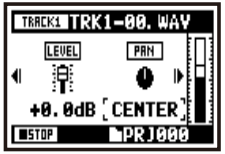
fader Icon changes

HINT: PAN

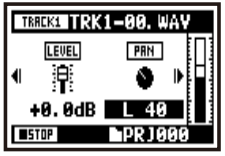
Set the balance of Left and Right position of the tracks
Setting value: L100 _ C _ R100
Default: C (Center)

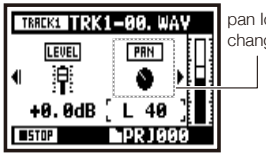
Adjust the output pan of a track

Select <PAN> and press.



Set the value and press.





pan Icon changes

NOTE:

Setting for <STEREO LINK>, <FILE> and <KARAOKE> is not available during recording, playback and also when tracks are on recording.

HINT: STEREO LINK

You can make setting to create a 'STEREO 1' track combined with 2 tracks from 1/2 and 3/4 or to create a monaural track. Setting value: ON/OFF Default: OFF

NOTE:

- You can make playback operation of only a monaural file on 'MONO TRACK' and a stereo file on 'STEREO TRACK'.
- When you make setting changes of <STEREO LINK>, it becomes "NO DATA" which has no file selection.
- When you change from 'ON' to 'OFF', the setting of <PAN> turns to the previous one.
- When you change from 'OFF' to 'ON', the setting of <LEVEL> and <PAN> return to 'DEFAULT'.

NOTE:

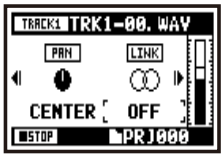
- You cannot record on the <KARAOKE> track.
- When the <STEREO LINK> turns on automatically with a monaural track setting, it turns to "NO DATA" condition.
- When the <KARAOKE> track has been set, you cannot make the other tracks <KARAOKE>.

HINT:

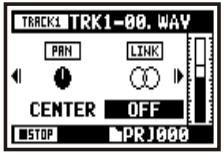
You can make 'KARAOKE TRACK' setting either two tracks from track 1/2 or 3/4. You can set <KEY CONTROL> and <CENTER CANCEL> operations.
Setting value: ON/OFF Default: OFF

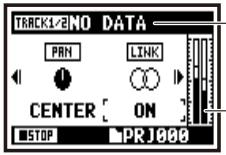
Setting <STEREO LINK>

Select <STEREO LINK> and press.



Set the value and press.



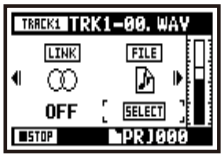


When change the format, the display says "NO DATA".

The display of 'LEVEL METER' changes 'STEREO'.

Allocate files to a track

Select <FILE> and press.

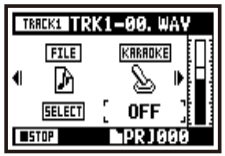


Select the <FILE> to be allocated and press.

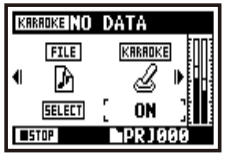
Display for the file list available to allocate with corresponding file style.

Setting <KARAOKE>

Select <KARAOKE> and press.



Set the value and press.



1-08-1 Setting / Recording: Re-recording, <PUNCH IN/OUT> automatic

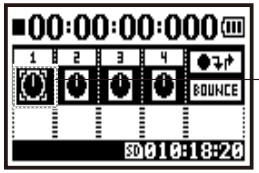
This function, <PUNCH IN/OUT>, allows you to partially re-record a recorded file.
Here we explain how to start <PUNCH IN> and end <PUNCH OUT> automatically.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

Change from <REC MODE> to <OVERWRITE> P.055

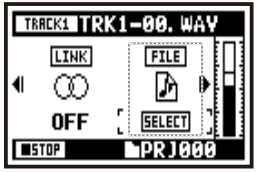
Allocate files to a track

1 On the top screen select 'TRACK MENU ICON' and press.

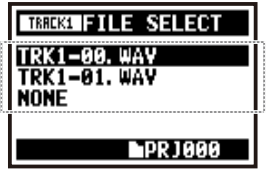


TRACK MENU icon

2 Select <FILE> and press.

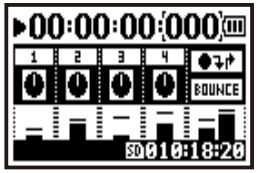


3 Select any desirable <FILE> and press.

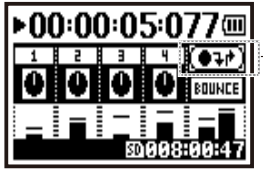


Set the recording start position, <PUNCH IN>

4 Press[START PLAYBACK].

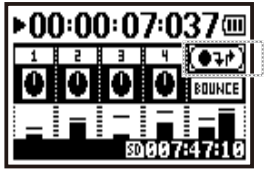


5 Select PUNCH IN _ PUNCH OUT ICON and press.



PUNCH IN / PUNCH OUT icon

6 Find the desirable position for 'PUNCH IN' and press.



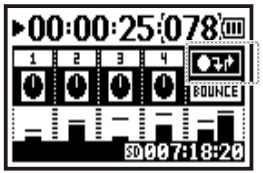
Icon interchanges

NOTE

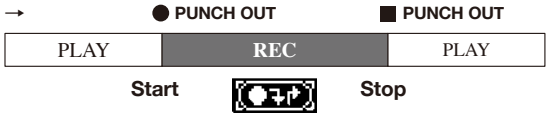
Setting available on MTR mode and <OVERWRITE> recording.

Set the recording end position, <PUNCH OUT>

7 Press the desirable position for 'PUNCH OUT'.



The PUNCH OUT setting confirmed

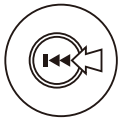


the practical re-recording parts

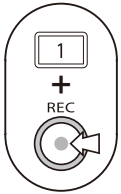
HINT:

- You can make position setting for <PUNCH IN / OUT> using counter while stopping. First set each time and move the cursor to <PUNCH IN / OUT>, and then press [DIAL].
- During <PUNCH OUT> _ Step 7-, if you press [DIAL] again, all the setting will be cancelled.

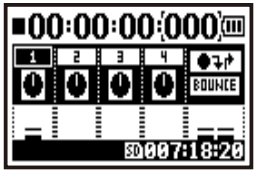
Re-recording



8 Rewind the file to the head (Counter: 0) or to the position to start re-recording 'PUNCH IN'.

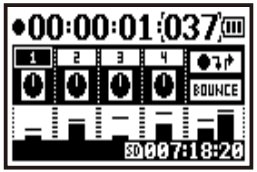


9 Press TRACK [1], Recording Standby.



[1] In a range of punch in and out setting, the light on and outside of the range the light blinks.

10 Press TRACK [1] [PLAYBACK _ RECORDING].



When reaches the recording start position 'PUNCH IN': REC light on, and automatically start recording.
[1] When reaches the recording end position 'PUNCH OUT': [1] light blinks=automatically end.

Ref. ☞ Appointing the time using a counter P.102

1-08-2 Setting / Recording: Re-recording, <PUNCH IN/OUT> manual

Using [OVERWRITE] recording operation in MTR mode, you can manually punch in and out. Press [REC] button during playback, from that pressed position you can start re-recording.

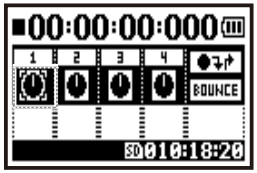
MTR

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

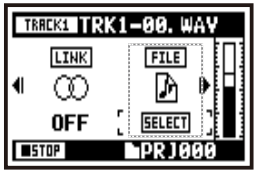
Change from <REC MODE> to <OVERWRITE> P.055

Allocate files to a track

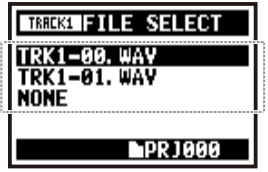
1 **On the top screen select 'TRACK MENU ICON' and press.**



2 **Select <FILE> and press.**

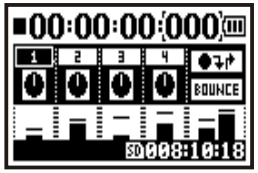


3 **Select any desirable <FILE> and press.**



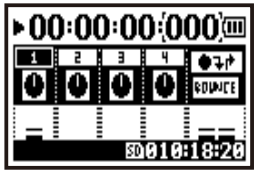
Playback

4 **Press [RECORDING STANDBY].**



1 light on

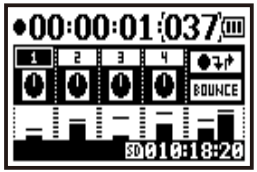
5 **Press [START PLAYBACK].**



Re-recording (Manual <PUNCH IN/OUT>)

6 Performance (Not recording).

7 Press [START RECORDING].

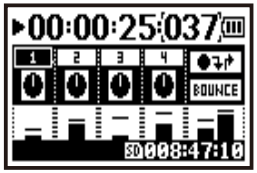


REC light on

1 light on

8 Performance (Recording).

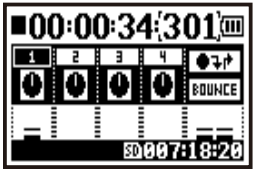
9 Press [FINISH RECORDING].

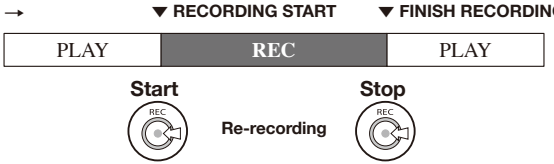


REC light off

1 light on

10 Press [PLAYBACK FINISH].

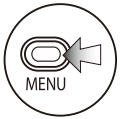




2-01-1 Recording function <AUTO REC>

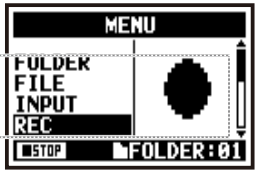
The H4n can detect when the input surpasses the standard level, and can automatically start recording from the recording standby position.

Pressing the [MENU] button long for two seconds, start to operate from the top screen of the MODE.

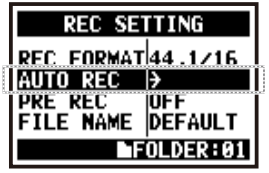


1 Press.

2 Select <REC> and press.

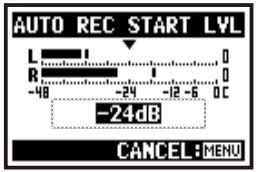


3 Select <AUTO REC> and press.



4 [START LEVEL SETTING] Select <START LVL> and press.

5 Adjust the level.



Set the input level to start recording automatically.

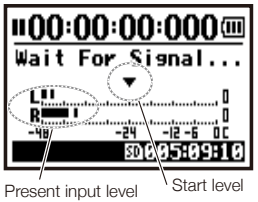
6 Select<ON/OFF> and press.

7 Select<ON>and press.

HINT:

Display of "Wait for Signal"

While <AUTO REC> operation is on, the display of "Wait for Signal" appears during recording standby. That watches whether the present input level goes over the recording start level.



When the present level goes over the start level, recording starts. At this point press [REC] button and you can also start recording.

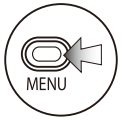
NOTE:

- You cannot use this setting during recording and playback.
- You cannot use this functions together with <REC LEVEL AUTO>, <PRE REC> and <PRE COUNT>.

2-01-2 Recording function <AUTO REC STOP>

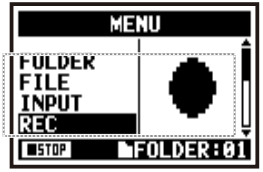
When <AUTO REC> is on and recording, the H4n will automatically stop recording when the input sound volume lowers to the specified level.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

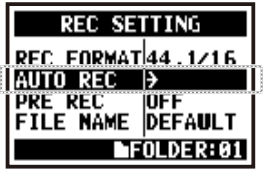


1 Press.

2 Select <REC> and press.

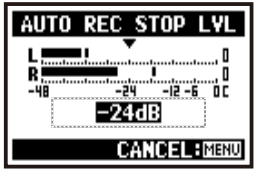


3 Select <AUTO REC> and press.



4 [STOP LEVEL SETTING]
Select <STOP LVL> and Press.

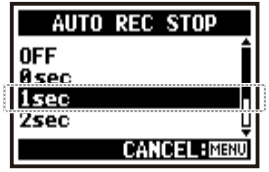
5 Adjust the level.



Set the input level to give an automatic stop signal

6 Select <AUTO STOP> and press.

7 Select the time setting.



Select from 1 - 5 seconds setting after the input signals are lower down than STOP LEVEL till finishing.

HINT:

When<[AUTO REC STOP> is on, 'STOP LEVEL' display appears during recording.

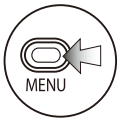
NOTE:

- You cannot use this function during recording and playback.
- When <AUTO REC STOP> is on, you can finish recording with pressing [STOP] button.

2-02 Recording function <PRE REC>

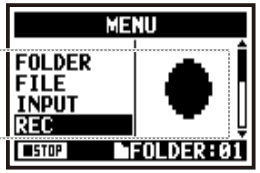
The <PRE REC> setting can be initialized with pressing the [REC] button, automatically adding the previous 2 seconds to your recording.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

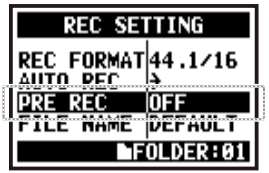


1 Press.

2 Select <REC> and press.



3 Select <PRE REC> and press.



4 Select <ON> and press.

HINT

When [PRE REC] is on, H4n can always save input signals during recording standby for a certain period.
Pressing [REC] button, start recording. H4n can record maximum 2 seconds tracing backward from the saving data.

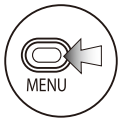
NOTE

- You cannot use this setting during recording and playback.
- You cannot use this functions together with<AUTO REC>and<PRE COUNT>.
- I When recording on 96 kHz, 4CH mode, record maximum one second tracing backward.

2-03 Recording function <LO CUT>

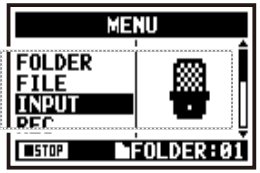
The <LO CUT> filter setting allows you to eliminate wind or blowing noises.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

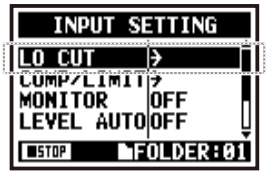


1 Press.

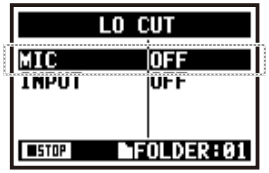
2 Select <INPUT> and press.



3 Select <LO CUT>and Press.



4 Select the setting input source.



5 Select the setting numerical target.

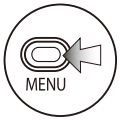
HINT:

- You can Select the <LO CUT> filter among eleven frequencies, such as OFF, 80, 98, 115, 133, 150, 168, 185, 203, 220, and 237 Hz. When selecting higher numbers, you should verify the outcome before recording.
- The smaller the numeral figures get, the lower become cut-off frequency and lower frequencies will be cut off.

2-04 Recording function <COMP/LIMIT>

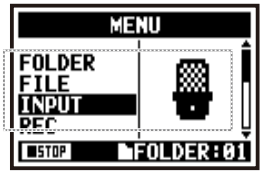
The <COMP / LIMIT> setting can compensate for volume differences. For each input source, low level input signals are lifted up and high level input signals are controlled down when recording.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

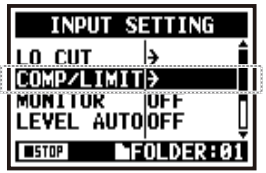


1 Press.

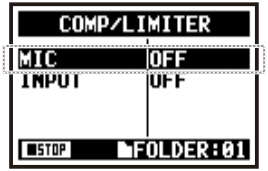
2 Select <INPUT> and press.



3 Select <COMP/LIMIT> and press.



4 Select the setting input source.



5 Select the setting target.

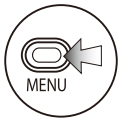
HINT:

OFF	Compressor and Limiter are off	
COMP1 (GENERAL)	Standard compressor	The compressor can compress higher level sounds and raise the level.
COMP2 (VOCAL)	Compressor suitable for vocal	
COMP3 (DRUM)	Compressor suitable for drum and percussion	
LIMIT1 (GENERAL)	Standard limiter	The limiter can compress when the input signals go over the fixed level
LIMIT2 (CONCERT)	Limiter suitable for 'live'	
LIMIT3 (STUDIO)	Limiter suitable for 'studio' recording	

2-05 Recording function <REC LEVEL AUTO>

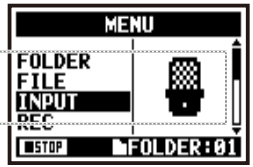
This function enables to watch the input level while recording standby, and adjusts the maximum level at 6dB during recording.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



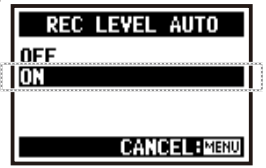
1 Press.

2 Select <INPUT> and press.



3 Select <LEVEL AUTO>and press.

4 Select <ON>

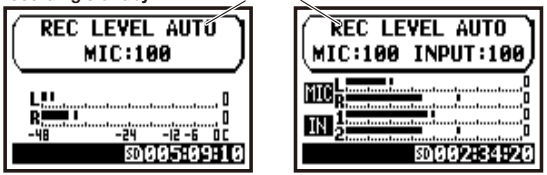


HINT:

Set <REC LEVEL AUTO>, and the current input is displayed while recording standby. If the volume surpass 6dB during recording and the input level is adjusted once more, the newly adjusted level are displayed for 2 seconds.

Display when recording standby

Present input level



STEREO MODE 4CH MODE

Display when -6dB is exceeded while recording

NOTE:

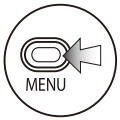
- You cannot use this function together with <AUTO REC>.
- You cannot use this setting during recording and playback.

2-06 Recording function <MONITOR>

STEREO 4CH MTR

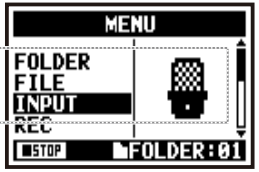
The sounds during standby condition are monitored through the speaker.
Even when you are not in standby condition, the input sound levels can be previewed. Follow the next steps.

STEREO 4CH MTR **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**

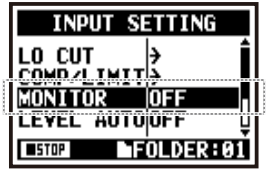


1 Press.

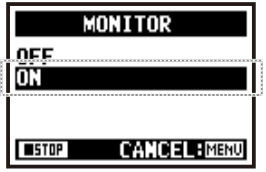
2 Select <INPUT> and press.



3 Select <MONITOR> and press.



4 Select <ON> and press.



HINT:

You can always monitor the input source through [LINE/PHONE MINI STEREO OUT] during recording standby.
Except this condition <MONITOR> setting is required.

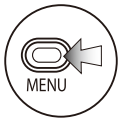
NOTE:

You cannot monitor the input sound through the built-in speaker.

2-07 Recording function <MONO MIX>

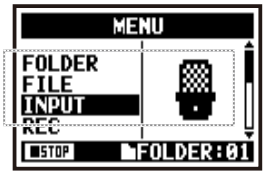
Mix the selecting inputs (L/R signals), and then send the same signals to each L/R channel.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

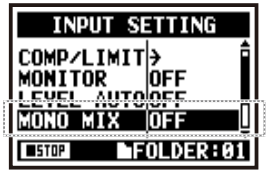


1 Press.

2 Select <INPUT> and press.



3 Select <MONO MIX> and press.



4 Select <ON> and press.

NOTE:

- The name of the recorded file making <MONO MIX> valid is “MONO-xxx”
- You cannot use this function together with <MS STEREO MATRIX>.
- You cannot use this setting during recording and playback.

2-08 Recording function <MS STEREO MATRIX>

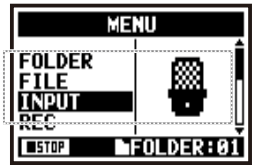
This function enables to convert the stereo microphone signals under MS system to the regular stereo L/R signals.

STEREO 4CH **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**

MENU

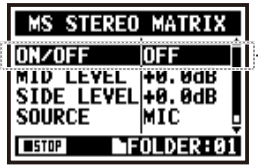
1 **Press.**

2 **Select <INPUT> and press.**



3 **Select <MS MATRIX> and press.**

4 **Make each setting accordingly.**

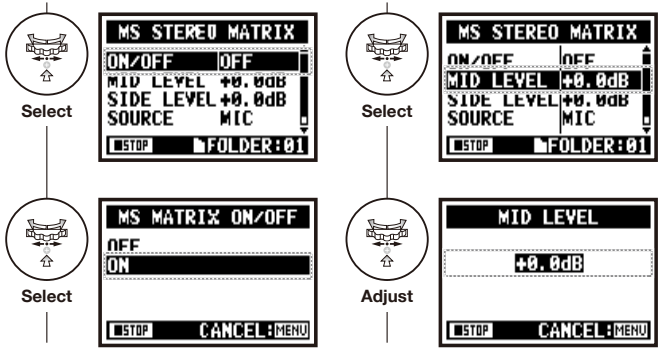


<ON / OFF>

Make the setting <ON/OFF> of <MS STEREO MATRIX>.

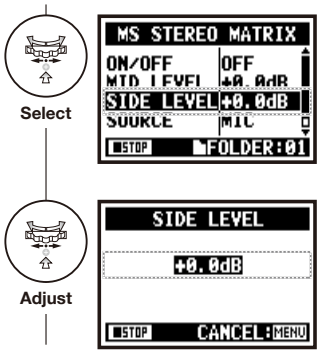
<MID LEVEL>

<MID>is a directional microphone receiving the recording targets.
Setting value: MUTE, –48.0 _ +12.0dB
Default: +0.0dB



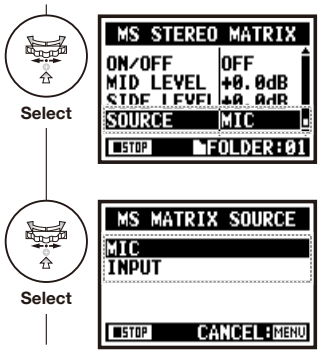
<SIDE LEVEL>

A bi-directional microphone <SIDE> and <MID> are perpendicular each other.
Setting value: MUTE, –48.0 _ +12.0dB
Default: +0.0dB



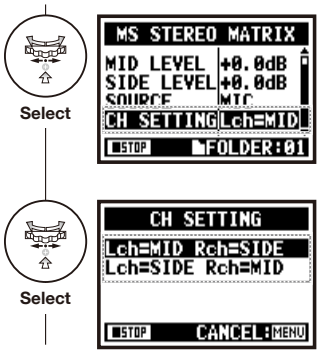
<SOURCE>

Enable to select what input is effective.
(Only on 4CH mode)



<CH SETTING>

Allocate <MID> inputs and <SIDE> inputs between
L-ch (INPUT [1]) and R-ch (INPUT [2]).



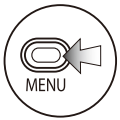
NOTE:

You cannot use this function together with <MONO MIX>.

3-01-1 Tuner <TUNER (CHROMATIC) >

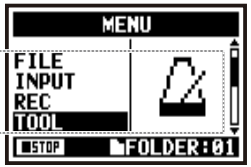
This is a tuner to display [NOTE] for the input signals at the chromatic mode.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

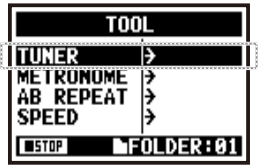


1 Press.

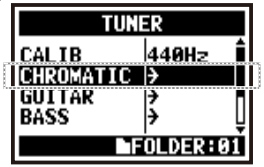
2 Select <TOOL> and press.



3 Select <TUNER> and press.

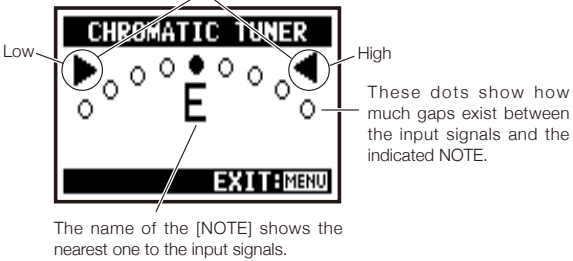


4 Select <CHROMATIC> and press.



5 Tuning.

The indicator shows the input signals are higher or lower than the 'NOTE' described below.
Both marks light on when the inputs signals match the 'NOTE'.



HINT:

- The input source signals selected at the present become the tuning target.
- Operating under 4CH mode, at Step 4 select <INPUT> and select the input source, and then continue to steps 5.

NOTE:

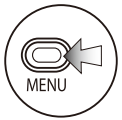
Not available during recording and playback.

Ref. ☞ Display of tuning
Relationship between string numbers and notes P.078

3-01-2 Tuner, all other <TUNER>

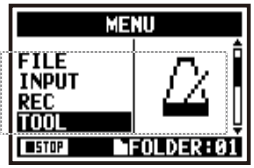
Aside from CHROMATIC, there are other tuning modes such as GUITAR, BASS, OPEN A, OPEN D, OPEN E, OPEN G and DADGAD.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

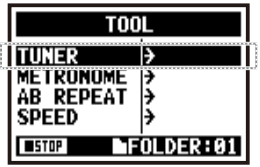


1 Press.

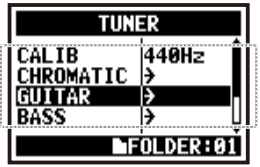
2 Select <TOOL> and press.



3 Select <TUNER> and press.

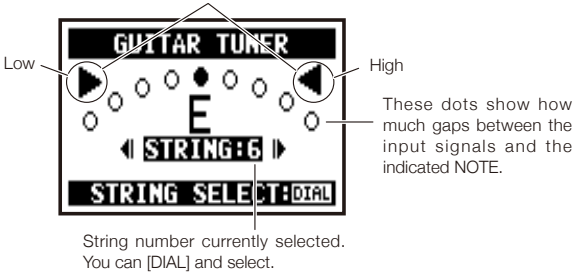


4 Select the tuning mode and press.



5 Tuning.

The indicator shows the input signals are higher or lower than the 'NOTE' described below. Both marks light on when the input signals match the 'NOTE'.



HINT:

- The input source signals selected at the present become the tuning target.
- Operating under 4CH mode, at Step 4 select <INPUT> and select the input source, and then continue to steps 5.

NOTE:

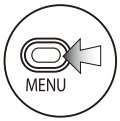
Not available during recording and playback.

Ref. ☞ Display of tuning
Relationship between string numbers and notes P.078

3-01-3 Tuner <TUNER (CALIB) >

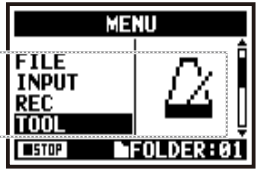
This function allows you to make settings for calibration (Frequency of A code) or a tuner.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

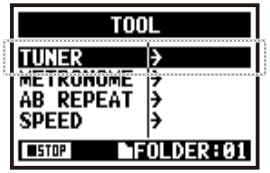


1 Press.

2 Select <TOOL> and press.

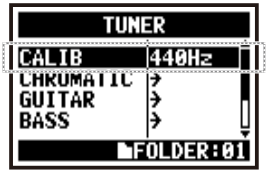


3 Select <TUNER> and press.

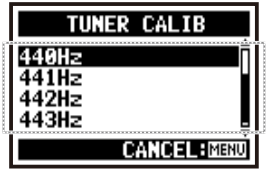


The <TUNER> operation up to here is in common.

4 Select <CALIB> press.



5 Select frequency numbers.



HINT:

- The initial setting is 440Hz.
- You can make any setting per 1Hz from 435Hz to 445Hz.

NOTE:

Not available during recording and playback.

3-01-4 Tuner <TUNER (INPUT) >

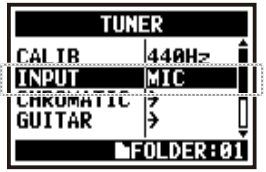
Only on 4CH MODE

The tuner on 4CH mode can make setting of input source tuning.

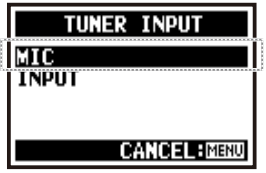
Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

〈TUNER〉...P.075

4 **Select <INPUT> and press.**

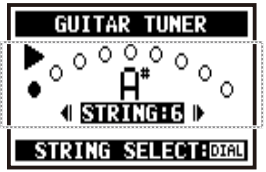


5 **Select input source and press.**

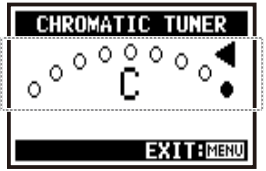


HINT:

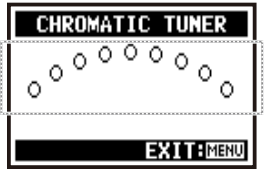
Tuning display



When tuning is low



When tuning is high



No input sound (chromatic)

Tuner type and code

Tuner type	String number/ note name						
	1	2	3	4	5	6	7
GUITAR	E	B	G	D	A	E	B
BASS	G	D	A	E	B		
OPEN A	E	C#	A	E	A	E	
OPEN D	D	A	F#	D	A	D	
OPEN E	E	B	G#	E	B	E	
OPEN G	D	B	G	D	G	D	
DADGAD	D	A	G	D	A	D	

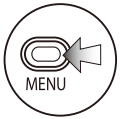
NOTE:

Not available during recording and playback.

3-02 Metronome <METRONOME>

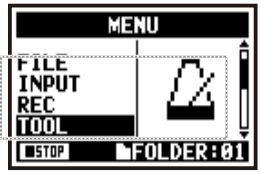
The metronome has other convenient functions such as click, pre-count, tempo, sound, etc.

STEREO 4CH MTR **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**

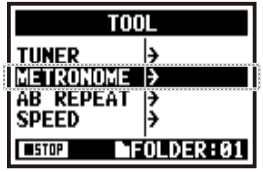


1 Press.

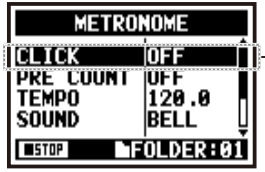
2 Select <TOOL> and press.



3 Select <METRONOME>and press.

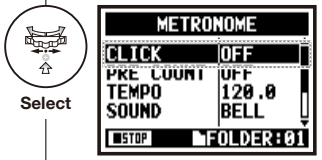


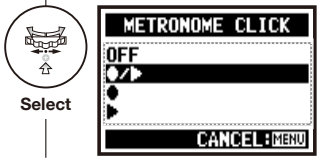
4 Make each setting selection.



<CLICK>

Set for the beginning time of the metronome sound. This setting cannot be used while recording and playback.



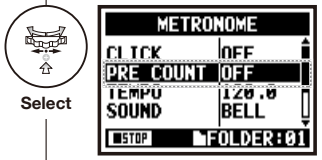


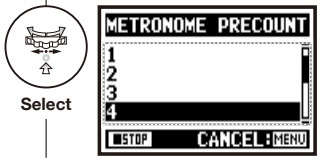
Select conditions

OFF
● / ▶ --Recording / Playback
● ---Only during recording
▶ ---Only during playback

<PRE COUNT>

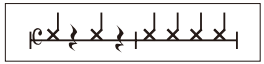
Set the count number just before the beginning of recording. Setting is impossible when <PRE REC> and <AUTO REC> is ON.





Select beat.
Select among OFF,1-8 beat and SPECIAL.

Count of <SPECIAL>

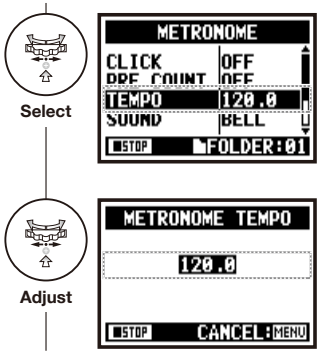


NOTE:

The metronome starts sounding at the first point of recording—the beginning of playback. Thus, if you're starting in the middle of a tune, sometimes the sounding point may be out of sync compared to the composition.

<TEMPO>

Set the metronome speed.

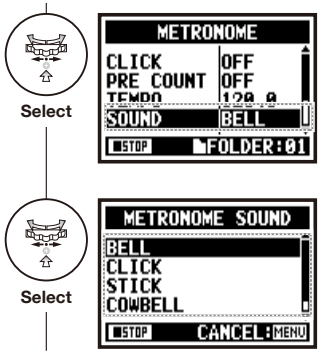


default: 120.0.

You can set between 40.0 and 250.0 BPM, per 0.1.

<SOUND>

Set the metronome tone.

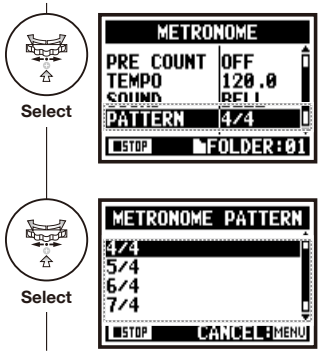


default: bell sound.

You can select among BELL, CLICK, STICK, COWBELL and HI-Q.

<PATTERN>

Set the pattern of the metronome.

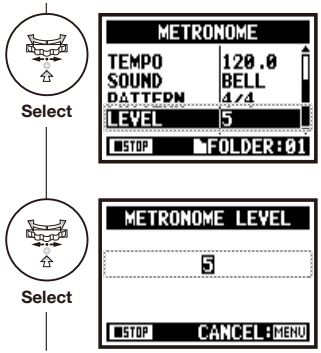


default: 4/4.

You can select among 0/4 (no accent), 1/4_ 8/4, and 6/8.

<LEVEL>

Set for the volume of the metronome.

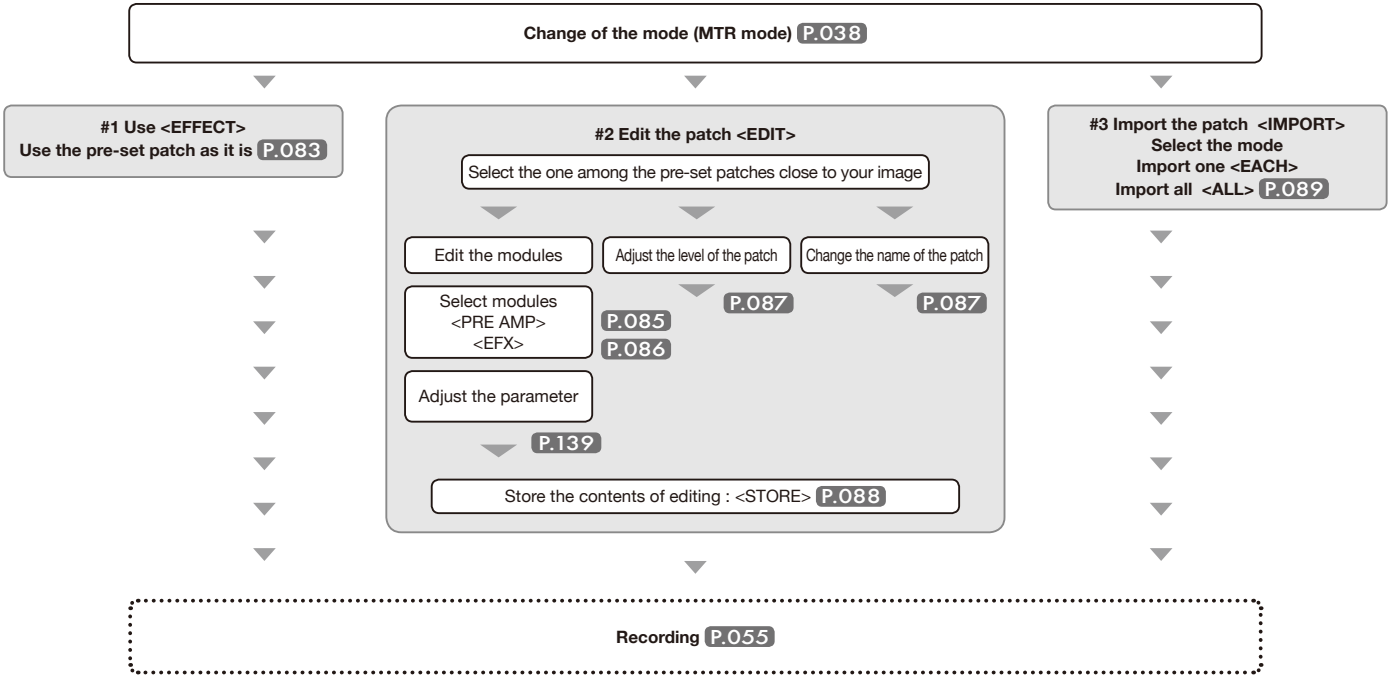


You can select among eleven levels.

3-03-1 All about EFFECT

Brief outline about how to use <EFFECT>, its flow, input and output

[Flow of the EFFECT]



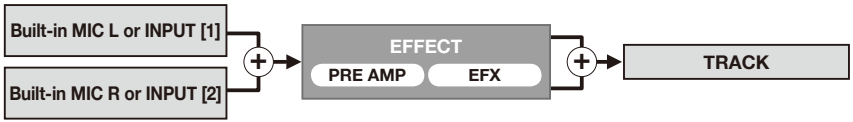
About input and output of [EFFECT]

Effect you can use on MTR mode from monaural and stereo input. The flow of signals will change corresponding to the input sources and recording tracks.

One recording track:

1. Input source comes from either INPUT [1] or [2]

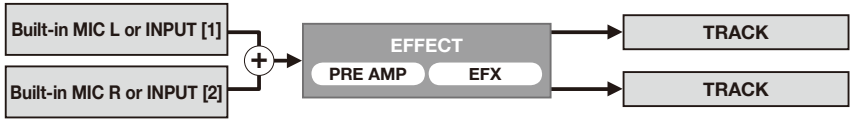
2. Input source comes from either [MIC] or INPUT [1] [2]



Two recording tracks:

1. Input source comes from either INPUT [1] or [2]

2. Input source comes from either [MIC] or INPUT [1] [2]

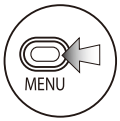


3-03-2 Effect <EFFECT>

Only on MTR MODE

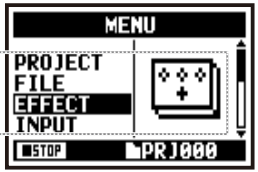
Using the EFFECT made up of 2 modules in MTR mode, you can add various effects to the input signals.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



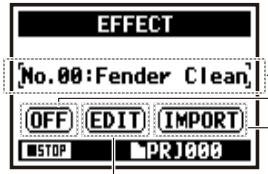
1 Press.

2 Press <EFFECT> and press.



3 Press <ON> and press.

4 Select No. : PATCH NAME and press.



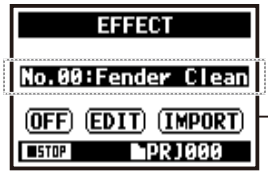
PATCH NUMBER: PATCH NAME.

ON/OFF for <EFFECT>
If it on, display is OFF.

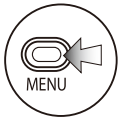
IMPORT: Carry in a PATCH from the other PROJECT

EDIT: Create a new PATCH, Edit a PATCH.

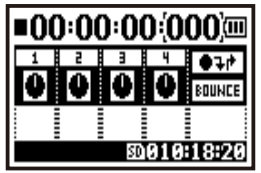
5 Select PATCH and press.



Ref. ☞
patch list P.148
P.149



6 Pressing [MENU] for more than two seconds returns you to the top screen.



NOTE:

PATCH

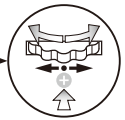
There are 2 types of modules and parameter settings on MTR mode which are saved as 'Patch'.

60 patches are available and 50 of them have been programmed.

3-03-3 Effect <EDIT>, patch edit

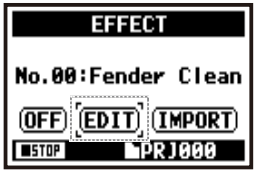
Only on MTR MODE

You can create your own patch combining <EFFECT> and adjust the PARAMETER.

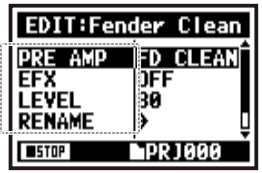


5 Select the nearest image No. :PATCH NAME and press.

6 Select <EDIT> and press.



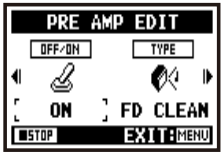
7 Select the PARAMETER which you want to change and press.



EDIT MENU

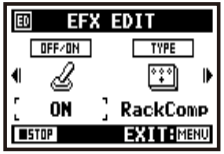
<PRE AMP>

Edit of PRE AMP module that simulates characteristic of guitar amplifier and base amplifier.



<EFX>

Edit of EFX module including space effect of modulation sound effect of chorus and delay, etc.



<LEVEL>

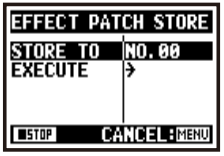
Adjust PATCH level.

<RENAME>

Change the PATCH NAME.

<STORE>

Save the set the PATCH.



3-03-4 Effect <EDIT (PRE AMP) >, editing PRE AMP modules

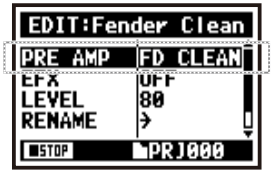
Only on MTR MODE

You can edit the PATCH using PRE SET EFFECT.

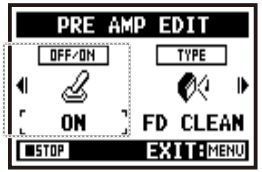
Select the nearest image PATCH and edit it....P084

ADJUST PRE AMP module

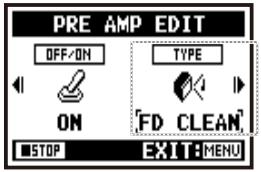
7 Select <PRE AMP>and press.



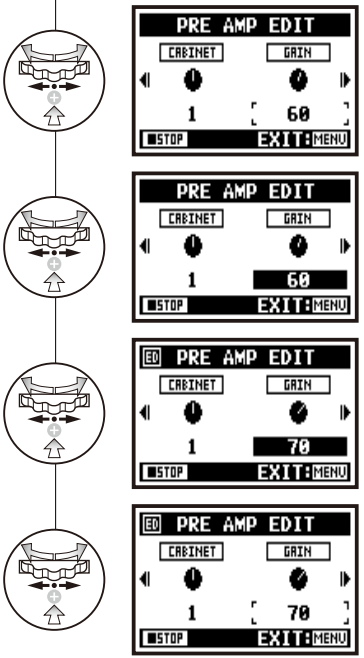
8 Press <ON/OFF> and PRE AMP module turns on.



9 Select editing PARAMETER and press.



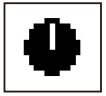
ADJUST PARAMETER



ICON

PRE AMP MODULE CONDITION
ON / OFF

EFFECT TYPE: SET THE AMP TYPE



CABINET.EQ.LEVEL. ETC.

ZNR ICON

Ref. ☞
PRE AMP module PARAMETER
P.139

3-03-5 Effect <EDIT (EFX) >, editing EFX modules

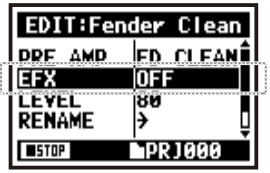
Only on MTR MODE

Edit the patch by selecting from various parameters that correspond closest to your desired effect.

Select the nearest image PATCH and edit it....P084

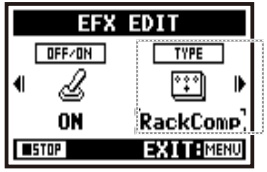
ADJUST EFX module

7 **Select <EFX> and press.**



8 **Press <ON/OFF> and EFX module turns on.**

9 **Select editing PARAMETER and press.**



HINT:

To select PRE AMP and EFX modules, make setting after changing the module status ON.
Default: OFF does not display parameters and no setting available.

No "OFF" condition modules are selected during

ICON

PRE AMP MODULE CONDITION
ON / OFF

EFFECT TYPE: SET THE EFX

VARIOUS PARAMETERS

Ref. ☞
EFX module PARAMETER
P.141

3-03-6 Effect <EDIT (LEVEL/RENAME) >

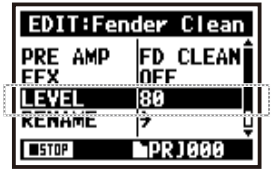
Only on MTR MODE

Adjust the levels of the patch and change the name.

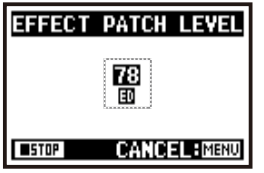
EFFECT〈EDIT〉...P.084

LEVEL

1 Select <LEVEL> and press.

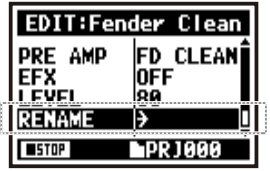


2 Change the number and press.

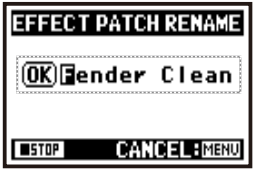


RENAME

1 Select <RENAME> and press.



2 Change the PATCH name and press.



3 Select <OK> and press.

NOTE:

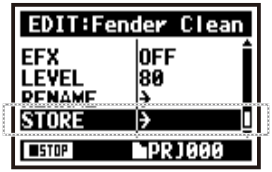
When the value is changed, 'ED' display comes up.
Without <STORE> operation, press [MENU] button and return to the top without the edit/change saved.

3-03-7 Effect <EDIT (STORE) >

EFFECT〈EDIT〉...P.084

STORE

10 **Select <STORE> and press.**



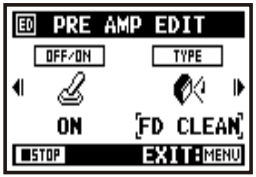
11 **Select the 'PATCH No.' where to save and press.**

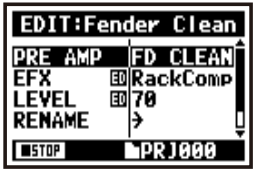
12 **Select <EXECUTE> and press.**

NOTE:

The items you edited have 'ED' display and confirmed by <STORE>operation.

Select not <STORE>. (not stored)





Confirmed <STORE>.

Select "YES" and it will be overwritten.
When you want no overwriting, you can store a separate patch at <STORE> operation. Patches are stored per a project.

3-03-8 Effect <IMPORT>, taking in a patch from another PROJECT

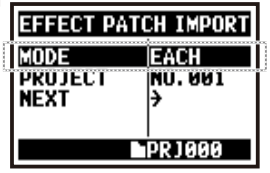
You can apply the edited and saved EFFECT PATCH, used in other project to the current PROJECT.

SELECTED EFFECT...P.083<EFFECT>

<ALL> read in all patches

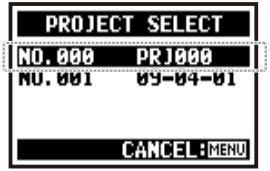
1 Press <IMPORT> from the <EFFECT> screen.

2 Select <MODE> and press.



3 Select your desired mode and press.

4 Select PROJECT and press.



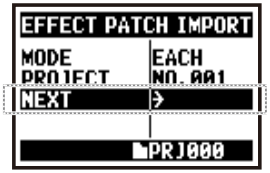
5 Select <NEXT> and press.

6 Select <YES> and press.

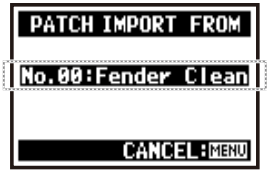
All the patch selected at step 4 are now read in to the present project.

<EACH> import one patch

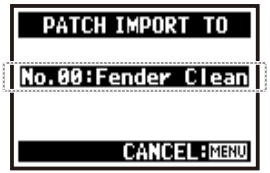
5 Select <NEXT> and press.



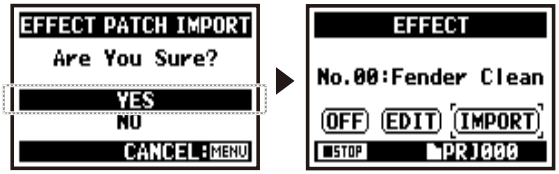
6 Select an import patch and press.



7 Select which patch you want to import to the present project and press.



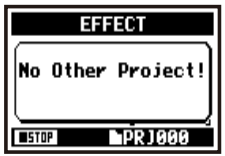
8 Select <YES> and press.



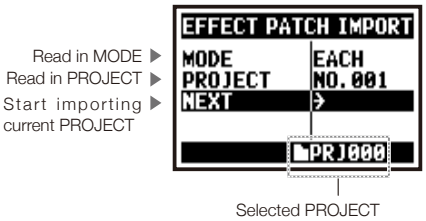
The patch selected at step6 is now imported to the present project.

NOTE:

When pressing the <IMPORT>, “No Other Project!” display will appear when there is no PROJECT.



HINT:



3-04-1 A sing-along machine <KARAOKE> preparation

Create spontaneous music files and convert them into KARAOKE form, then record vocals or additional guitar sounds over those files.

[Flow of the KARAOKE]

[Preparation]

Prepare the stereo files for the background

Create a new project for "Karaoke" P.118

Import the file to the project
- Copy the file to the project folder P.039
- Use <MOVE> function.....P.117

[Setting KARAOKE]
(Prepare tracks for the Karaoke)
1. Select 'TRACK MENU ICON' and open the 'TRACK MENU'
2. Make <KARAOKE> on.
3. Allocate files.

[Adjustment of the Karaoke tracks]
- LEVEL
- CENTER CANCEL
- KEY
- FINE·FINE

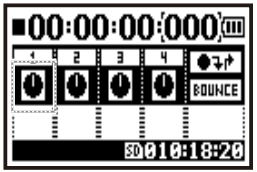
[KARAOKE OPERATION]
4. Connect the microphone
5. Make the setting for the recording tracks
6. Make 'RECORDING' on.
   - Playback
   - Recording

MTR

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

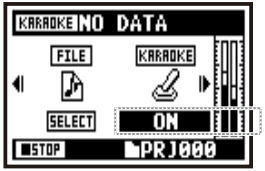
KARAOKE track preparation

1 Select TRACK MENU icon and press.



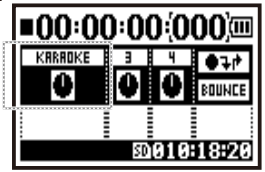
2 Select <KARAOKE> and press.

3 Select <ON> and press.

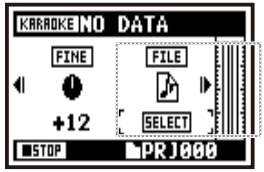


Allocate an optional file on to KARAOKE track

4 Select TRACK MENU icon and press.



5 Select <FILE> and press.

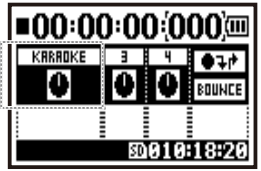


6 Select an optional file and press.

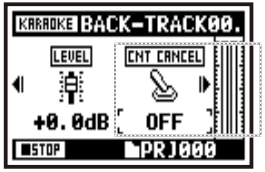
Continue to the next page

Make CENTER CANCELATION of the KARAOKE track

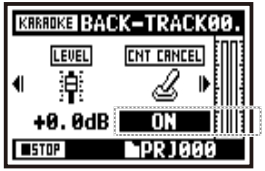
7 Select TRACK MENU icon and press.



8 Select <CNT CANCEL> and press.

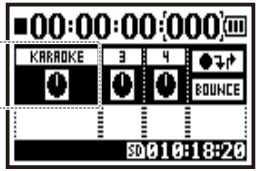


9 Convert that into <ON> and press.

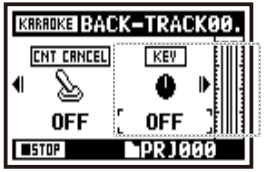


Change the KEY of KARAOKE track

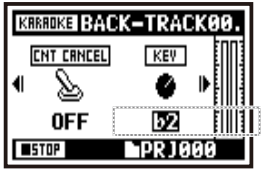
10 Select TRACK MENU icon and press.



11 Select <KEY> and press.

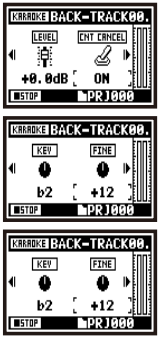


12 Adjust and press.



HINT:

The contents of KARAOKE TRACK are different from a general TRACK MENU.



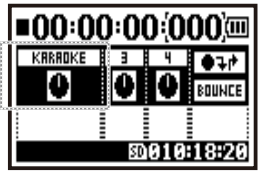
(LEVEL)
(CNT CANCEL)
(KEY)
(FINE)
(FILE)
(KARAOKE)

3-04-2 A sing-along machine <KARAOKE> recording

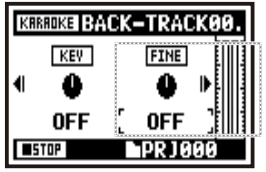
Only on MTR MODE

A slight adjustment of KARAOKE TRACK KEY.

13 Select TRACK MENU icon and press.

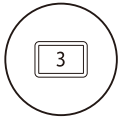


14 Select <FINE> and press.



15 Make adjustment and press.

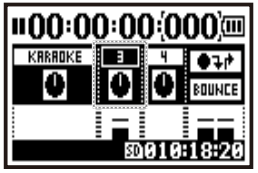
Recording on KARAOKE



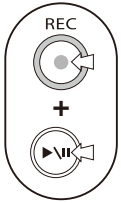
1 Connect the microphone.

Press the INPUT button corresponding to the connected input jack.

2 Select the track menu icon and press.



3 Press 'PRACTICE' (no recording).



4 [START RECORDING]
Press [REC] button and make recording standby condition. After that press [PLAY/PAUSE] button to start recording.

NOTE:

You cannot use this function together with <EFFECT>.

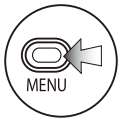
Ref. ☞
<TRACK MENU> P.059

4-01 Playback : Playback files (stereo, 4ch and stamina modes)

STEREO 4CH STAMINA

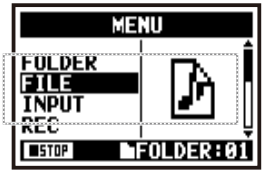
Immediately after recording, you can playback the file by pressing the [PLAY/PAUSE] button.
If you prefer to call up the files for later playback, take the following steps.

STEREO 4CH STAMINA **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**



1 Press.

2 Select <FILE> and press.

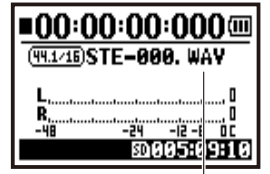


"Short cut"
Pressing TRACK [2] on the top screen.

3 Select the targeted file and press.

4 Select <SELECT> and press.

5 [START PLAYBACK] Press.



You should confirm the file name.

"Short cut"
You can select the file in the folders on the top screen.

HINT:

- On the top screen you can move directly to Step 3, just press TRACK [2] button.
- If you press [PLAY/PAUSE] button after selecting files, the selected file starts playback immediately.
- You can select files in the folder directly using [DIAL] from the top screen.

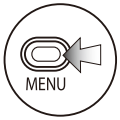
Ref. ☞
<FILE SELECT> P.104

4-02 Playback : <PLAY MODE>

STEREO 4CH STAMINA

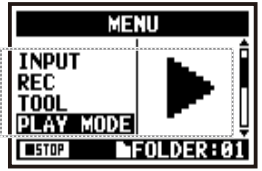
Aside from general playback, you can also select
1) one file only playback, 2) repeat playback of one file, and 3) all files repeat playback.

STEREO 4CH STAMINA **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**



1 Press.

2 Select <PLAY MODE> and press.

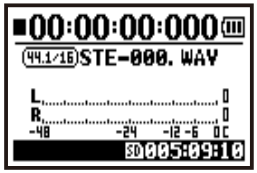


3 Select a play mode and press.

Select desirable mode.

PLAY ALL	Playback all the files in the folder.
PLAY ONE	Playback one file.
REPEAT ONE	Playback repeat of one composition only.
REPEAT ALL	Playback all files in the folder.

4 [START PLAYBACK] Press.



NOTE:

You cannot use this setting during recording and playback.

4-03 Playback : Setting marks

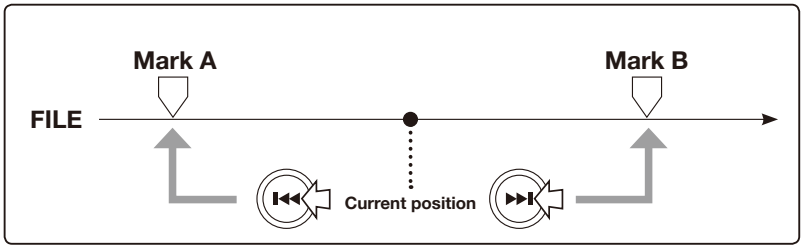
While operating file playback you can create marks at desired spots.
You can move easily to the spot during playback.

How to create marks .....

During playback operation, press the [REC] button.

How to playback the marked file .....

You can move to the marked position pressing [FF] and [REW] buttons in the files with marks.



NOTE:

- Mark function is available only in case of WAV format.
- The maximum marks you can place in one file are 99.
- The mark stricken once cannot be deleted.

HINT:

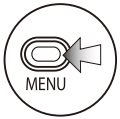
- Pressing [REC] button during recording, you can create marks.
- You can recognize marks in the file in the <MARK LIST>.

Ref. ☞ <MARK LIST> P.115

4-04 Playback : <AB REPEAT>

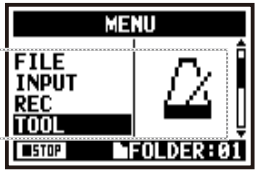
The <AB REPEAT> repeat setting allows you to playback two points on the file repeatedly.

STEREO 4CH **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**

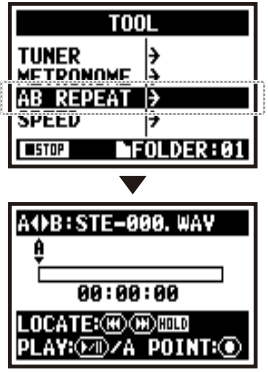


1 Press.

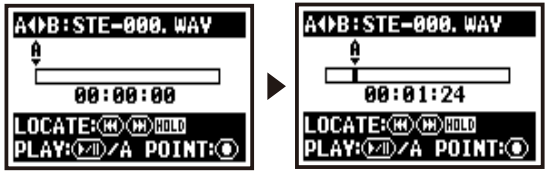
2 Select <TOOL> and press.



3 Select <AB REPEAT > and press.

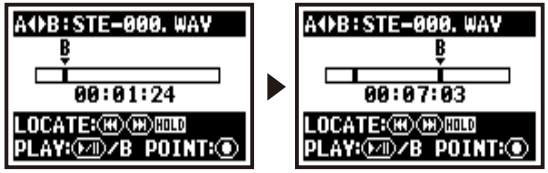


4 [START PLAYBACK] Press.



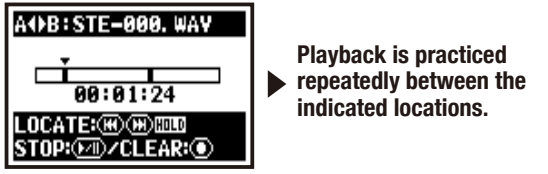
point A moves.

5 [Set up point A] Press.



The point A is placed a mark, and changes into B and moves.

6 [Set up point B] Press.

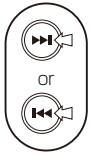


Playback is practiced repeatedly between the indicated locations.

HINT:

You can make setting of point [A] and [B] during stopping.

HINT:



Movable with a long press.

Caution:

When you move around in the file using [FF] and [REW] buttons, and whenever you press the button for less than 2 seconds (quick press), automatically move to the next file. If there is a mark, move to the marked point. Press [FF] and [REW] buttons for more than 2 seconds (long press) and you can move to your desirable point.

<AB REPEAT>

FIX/CLEAR of A & B point	REC
STOP	
PLAYBACK/TEMPORARY STOP of the file	
Holding the key for more than one second, operate wind-forward and rewind	
Just press the button, and move back or forward to the file * However if there is a marker in a WAV file, the button moves to the marking place.	

After setting up A and B points press the [REC] button, you can cancel all settings.

NOTE:

During recording and playback, you cannot make any settings after Step 3 of <AB REPEAT>.

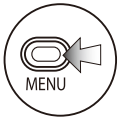
4-05 Playback : <SPEED>

Only on STEREO MODE

You can adjust playback speed of the file.

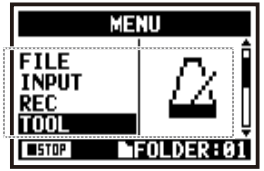
Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

"Short cut"
Pressing TRACK [3] on the top screen.

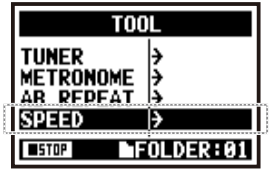


1 Press.

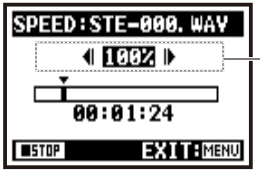
2 Select <TOOL> and press.



3 Select <SPEED> and press.

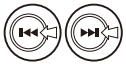


4 Adjust playback speed.

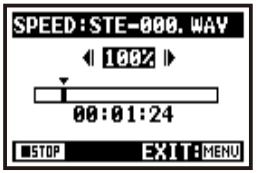


You can set up playback speed between 50% and 150% with increments or decrements of 5%.

or



5 [START PLAYBACK] Press.



NOTE:

During recording and playback, you cannot make any settings after Step 3 of <SPEED>.

HINT:

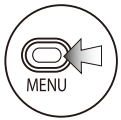
- You can move swiftly to this menu pressing TRACK [3] button on the top screen of each mode.
- You can set up playback speed between 50% and 150% with increments or decrements of 5%. (Default; 100%)
- You can move the playback location using [FF] [REW] button.

4-06 Playback : <MIXER>

Only on 4CH MODE

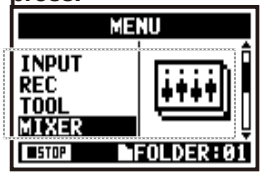
You can playback 2 stereo files of 4CH mode mixing LEVEL with PAN.

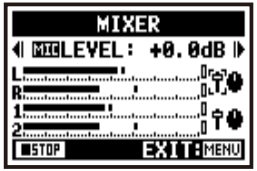
Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



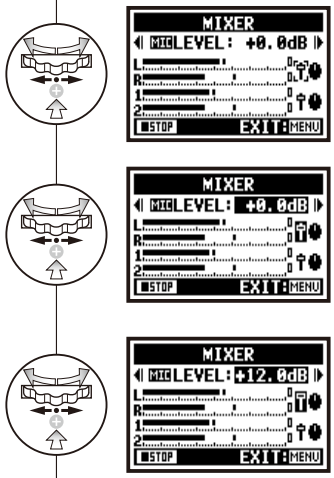
1 Press.

2 Select <MIXER> and press.



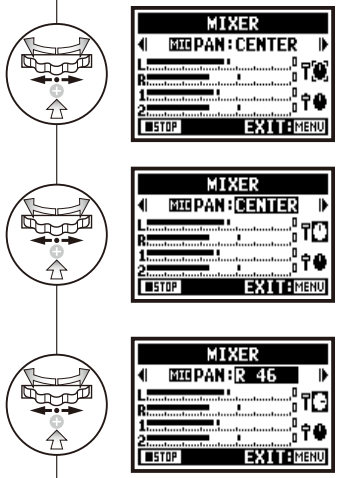


<LEVEL> setting



MUTE
48.0dB_+12.0dB
Default; -0.0dB

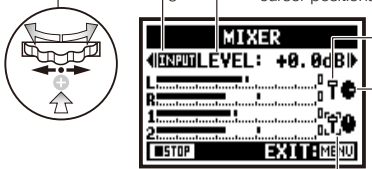
<PAN> setting



L 100 _ C _ R 100
Default; Center

the file now makes setting

the name of the parameter where the cursor positions and its setting value



fader Icon

pan pod Icon

the cursor setting the parameter

after setting, confirm with the icons

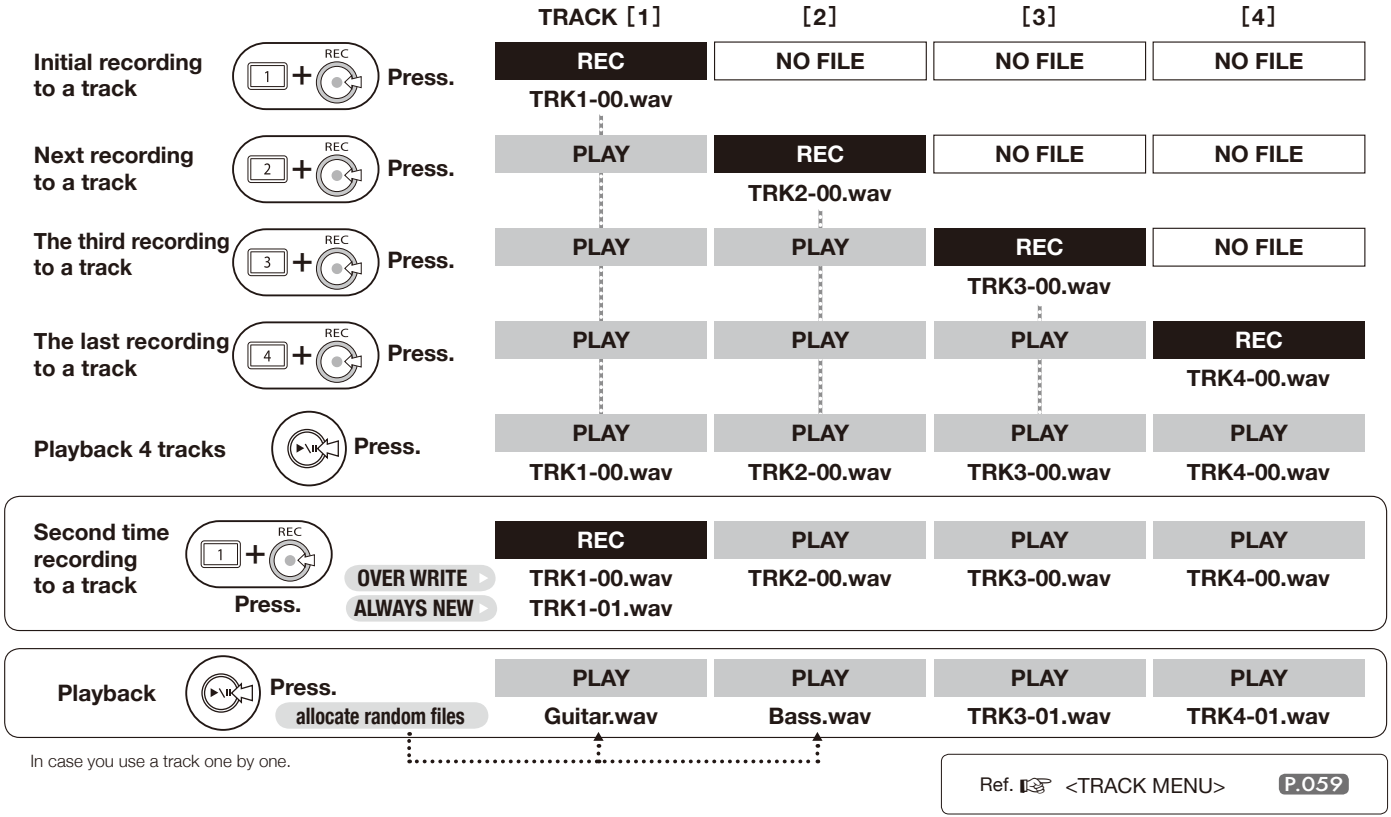
HINT:

The move in the mixer screen: Repetition of [MIC] LEVEL _ [MIC] PAN _[INPUT] LEVEL_ [INPUT] PAN

4-07 Playback : Playback files (MTR mode)

Only on MTR MODE

There are various ways to playback on MTR mode: Create files differently according to a recording mode and allocate random files to tracks and then playback them at one time.



In case you use a track one by one.

Ref. ☞ <TRACK MENU> P.059

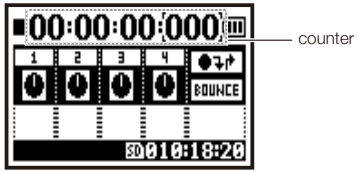
4-08 Playback : Appointing time with a counter

Only on MTR MODE

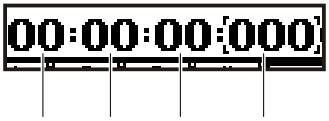
You can appoint the recording time or any time randomly using a counter which indicates time lapse of the work.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

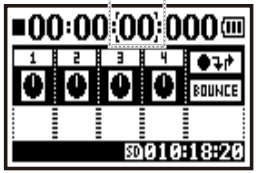
1 Select the counter figures on the top screen and press.



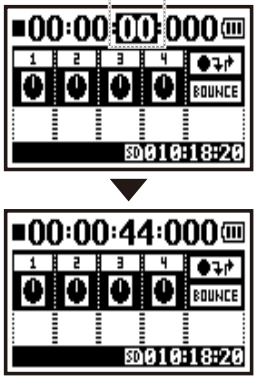
HINT



2 Set the time: Select the figures according to the appointing hour / minute / second.



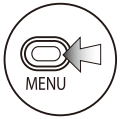
3 Change the figures and press.



5-01 Edit / Output : <FOLDER SELECT>

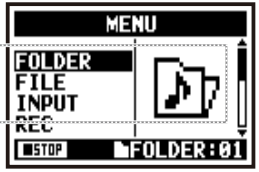
The folder that stores the recording result and the file for the reproduction is chosen.

STEREO 4CH STAMINA **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**



1 Press.

2 Select <FOLDER> and press.



"Short cut"
Pressing TRACK [1] on the top screen.

3 Select an optional folder and press.

present folder

NOTE:

- You cannot use this setting during recording and playback.
- You can select any one separately among 10 folders in STEREO/ STAMINA and 4CH mode.

HINT:

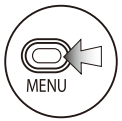
You can call the <FOLDER SELECT> pressing TRACK [1]button on the top screen.

5-02 Edit / Output : <FILE SELECT>

Selecting playback files from the file list.

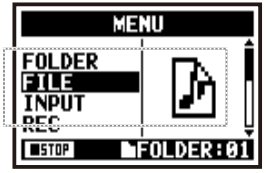
STEREO 4CH MTR STAMINA

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



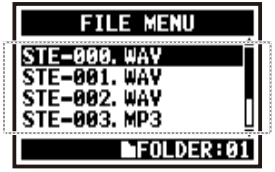
1 Press.

2 Select <FILE> and press.



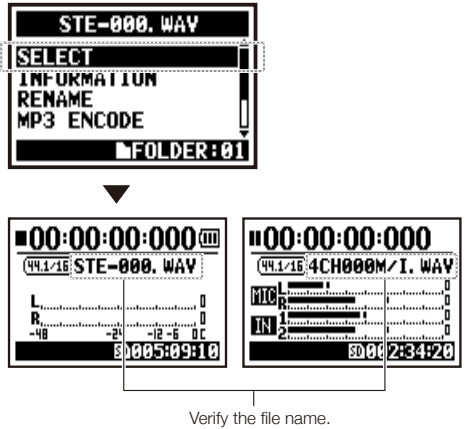
"Short cut"
Pressing TRACK [2] on the top screen.

3 Select an optional file and press.



<FILE> operation to here is the same

4 Select <SELECT> and press.



Verify the file name.

HINT:

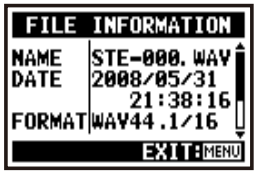
- You can select files in the folder directly using [DIAL] from the top screen.
- You can move the step 3 <FILE SELECT> pressing TRACK [2] button on the top screen.

5-03 Edit / Output : <FILE INFORMATION>

This function displays the selected file information.

SELECTING THE FILES…P.104 <FILE SELECT>

4 **Select <INFORMATION> and press.**



NAME	Name of the file
DATE	The recorded date of the file, or the renewal date when it created by PC or other device.
FORMAT	The format of the file. * On MTR Mode, display is either MONO or STEREO.
SIZE	Capacity of the file. (kB or MB)
TIME	The recording time of the file.

5-04 Edit / Output : <FILE DELETE>

Delete a selected file.

SELECTING THE FILES…P.104 <FILE SELECT>

4 **Select <DELETE> and press.**

5 **Select <YES> and press.**

a deleting file

NOTE:

Caution;
Once deleted, you cannot retrieve the file.

5-05 Edit / Output : <FILE DELETE ALL>

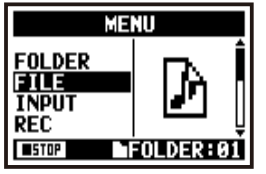
Delete all the files in the folders and projects.

SELECTING THE FILES…P.104 <FILE SELECT>

4 **Select <DELETE ALL> and press.**

5 **Select <YES> and press.**

The name of the folder or the project to delete files.



NOTE:

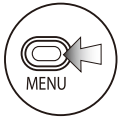
Once deleted, you cannot retrieve the file.

5-06 Edit / Output : <FILE (COPY)>

Only on MTR MODE

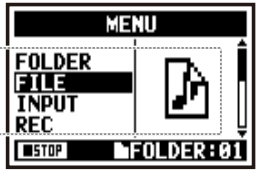
You can make file copies on MTR mode and create the copy in the same project on MTR mode.
This function is convenient when you cannot make a mistake to overwrite recording or to save the copy.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



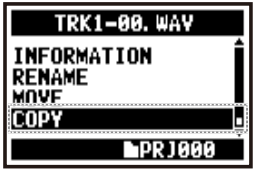
1 **Press.**

2 **Select <FILE> and press.**

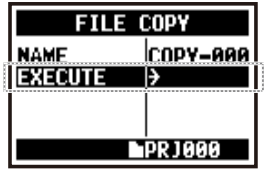


3 **Select your desired file and press.**

4 **Select <COPY> and press.**



5 **Select <EXECUTE> and press.**



HINT:

Change the file name: The name of the file name to make copy is “COPY-XXX”. You can change that if necessary.

Ref. ☞
<FILE RENAME>
P.109

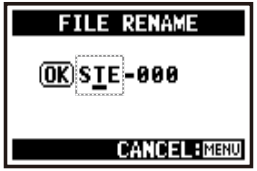
5-07 Edit / Output : <FILE RENAME>

On STEREO, MTR and STAMINA MODE, you can change the name of the file.
When recorded on 4CH MODE, the file names cannot be changed.

SELECTING THE FILES…P.104 <FILE SELECT>

4 Select <RENAME> and press.

5 [Make change of each letter or number.] Select and press.



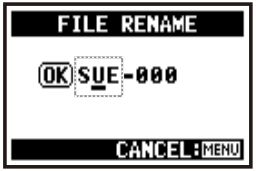
select the letter to be changed

press the [DIAL] and then the letter is reversed

6 [Input a letter or number.] Select.

select the letter with [DIAL]

7 Press.



press the [DIAL] and then the change is confirmed

8 Select <OK> and press.

HINT:

Display when the file name is over 12 characters.

When the name of the file has more than 12 letters, a triangle mark appears telling letters available outside the screen.

When converting letters, follow the next order:

(space)!#$%&'()+,-0123456789;=@ABCDEFGHIJKLMNOPQRSTUVWXYZ[]^_`abcdefghijklmnopqrstuvwxyz{}~

NOTE:

In case of two files with the same name. The display shows "This file name already exists!", the screen returns to the previous one and you will need to create a different name.

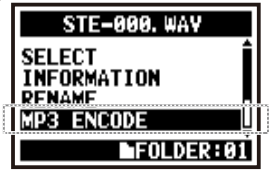
5-08 Edit / Output : <FILE MP3 ENCODE>

Only on STEREO MODE

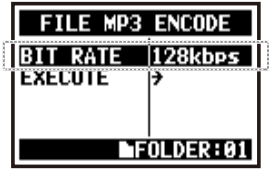
On STEREO MODE you can encode WAV FILE into MP3 FORMAT (Optional bit rate).

SELECTING THE FILES…P.104 <FILE SELECT>

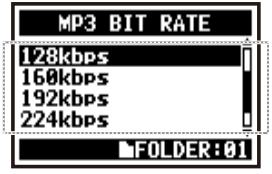
4 **Select <MP3 ENCODE> and press.**



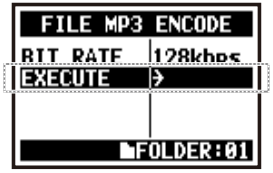
5 **Select <BIT RATE> and press.**



6 **Select your desired bit rate and press.**



7 **Select <EXECUTE> and press.**



HINT:

- The name of the encode-completed file becomes automatically the “Original file name.mp3”
- You cannot have two files with the same name. When the screen says “The file name already exists!”, select <RENAME> and create a different name.

Bit rate that can be selected unit : kbps	48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320, VBR Default; 128 kbps

Ref. ☞ <FILE RENAME> P.109

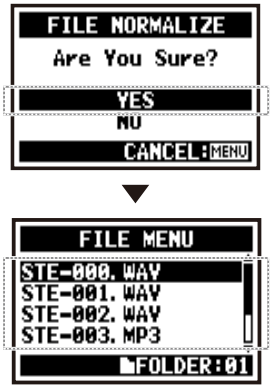
5-09 Edit / Output : <FILE NORMALIZE>

This function automatically adjusts up to 0dB of the file's maximum level for enhanced sound quality and audio consistency.

SELECTING THE FILES…P.104<FILE SELECT>

4 **Select <NORMALIZE> and press.**

5 **Select <YES> and press.**



NOTE:

<NORMALIZE> function is available only in case of WAV format.

5-10 Edit / Output : <FILE STEREO ENCODE>

This function makes WAV FILE on 4CH STEREO encode to STEREO FILE.
The encoded files are stored in the folder on STEREO mode.

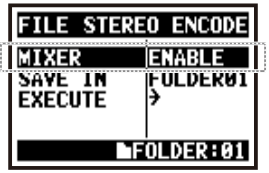
SELECTING THE FILES…P.104 <FILE SELECT>

Select <STEREO ENCODE>

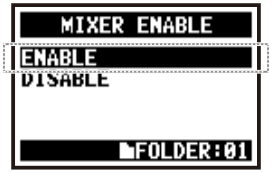
4 **Select <STEREO ENCODE> and press.**

Set up <MIXER>: You should select to make MIXER settings effective when you start encoding.

5 **Select <MIXER> and press.**



6 **Select and press.**



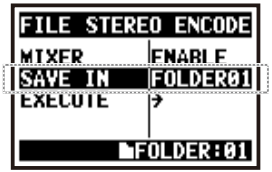
Ref. ☞
<MIXER> P.100

ENABLE	means to make setting effective.
DISABLE	means to inactivate setting, in other words mix two files 1:1

Select <SAVE IN>

Select the folder on STEREO mode to save the encoded files.

7 Select <SAVE IN> and press.



8 Select the <SAVE IN> folder and press.

EXECUTION

9 Select <EXECUTE> and press.

HINT:

You cannot have two files with the same name. If the screen says “File name exists!”, select <RENAME> and set up a different name.

The encoded files are stored in the folder.
The file name automatically given is the same as the one on 4CH mode but M/I is changed to MIX.

Ref. ☞
<FILE RENAME> P.109

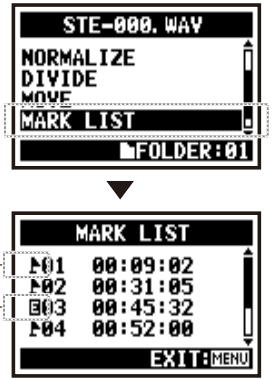
5-11 Edit / Output : <MARK LIST>

STEREO 4CH STAMINA

You can view the list of marks put in the WAV FILE.

SELECTING THE FILES…P.104 <FILE SELECT>

4 Select <MARK LIST> and press.



NOTE:

The H4n will place the mark on the point automatically when sound dropout happens during recording.

HINT:

When there are no marks on the required files, the display will show "No Mark!".

Sound dropout (skipping) of a SD card

When you transfer the recorded data to a SD card, sometimes the speed of processing does not go in time and Sound dropout happens.

The speed of processing is different depend on mode, kind of <REC FORMAT>, type of SD card, etc. If the processing work is light, Sound dropout hardly happens, and when the work is heavy, it often happens. In that case, change <REC FORMAT> to lighter.

	STEREO MODE	4CH MODE
Heavy ▲	WAV96kHz/24bit	WAV48kHz/24bit WAV44.1kHz/24bit
	WAV96kHz/16bit	WAV48kHz/16bit WAV44.1kHz/16bit
	WAV48kHz/24bit WAV44.1kHz/24bit	
	WAV48kHz/16bit WAV44.1kHz/16bit	
▼ Light	MP3	

Ref. ☞
<REC FORMAT> P.051
Setting the mark P.096

5-12 Edit / Output : <DIVIDE>

Only on STEREO MODE

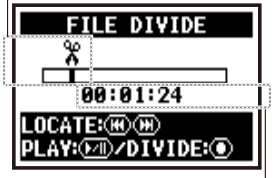
On STEREO MODE, you can divide files at any desired position.

SELECTING THE FILES…P.104 <FILE SELECT>

4 Select <DIVIDE> and press.

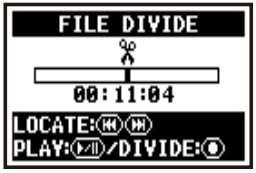
5 [START PLAYBACK] Press.

Up: the current position in the file.



Below: the current time in the file.

6 [DIVIDE POSITION] You should press at the desirable dividing spot.



7 Select <Yes> and press.

Operation of button on <DIVIDE>

DIVIDE	REC
PLAYBACK or TEMPORARY STOP of the file	
Holding the button for more than one second 'HOLD'. WIND-FORWARD and REWIND	
Moves for one second. The marked file moves to the 'MARK'. (Just press)	

HINT:

- After the <DIVIDE> operation, there will be 2 files: the first portion will get [A] and the second one will get [B] at the end of the file name.

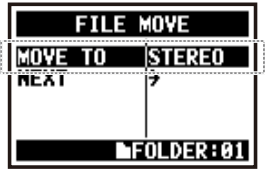
5-13 Edit / Output : <MOVE>

This function is used to move files to a different folder or mode.

SELECTING THE FILES…P.104 <FILE SELECT>

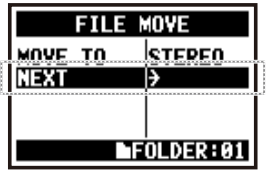
4 Select <MOVE> and press.

5 Select <MOVE TO> and press.

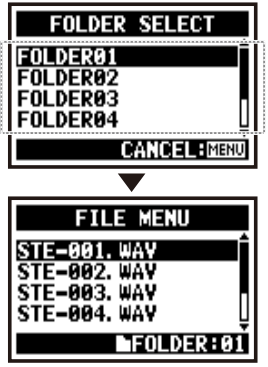


6 Select the moving mode.

7 Select <NEXT> and press.



8 Select the moving folder(project).



Ref. ☞
<NEW PROJECT> P.118
<FILE RENAME> P.109

NOTE:

MOVABLE FILE FORMAT

- Only stereo files can move to stereo folder. Monaural files cannot move to the stereo folders.
- Only 4CH files can move to 4CH folders.
- Moving to the MTR project you need 44.1 kHz/16bit format.
- If you try to move the files in the other format, the screen says, “44.1 kHz/16 bit WAV Format Only! ”.

MOVE TO MTR FOLDER

To move to the folders on MTR mode, the project folders must be prepared. If there is no project folder, The screen says “No Project!”.

5-14 Edit / Output : <NEW PROJECT>

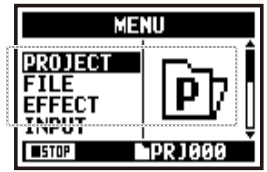
Only on MTR MODE

Here you can make a new project dealing with music as a unit and make settings for 'AUDIO TRACK' or 'EFFECT' in MTR mode.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

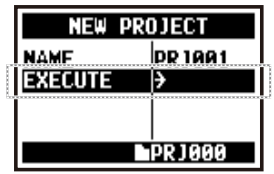
1 **Press.**

2 **Select <PROJECT> and press.**



3 **Select <NEW PROJECT> and press.**

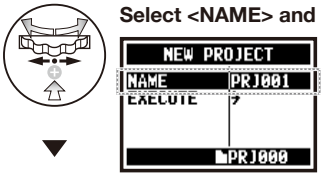
4 **SELECT <EXECUTE> and press.**



HINT:

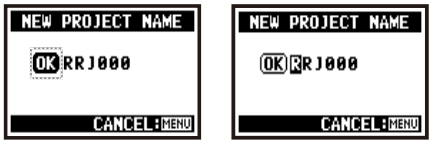
To change the name of the new project.

Select <NAME> and



Select the letter to change and press.

Select <OK> and press.



Numbering of the projects

- The H4n gives the number from the youngest 1 in turn automatically.
- You cannot change the number.
- You can use the same name in multiple projects

The maximum number of the projects

You can create a maximum of 1000 projects. Each project name can be up to 8 letters long.

(space)!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{¦}~

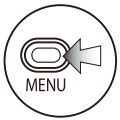
When you change letters, you can change in the above-mentioned order:

5-15 Edit / Output : <PROJECT (SELECT) >

Only on MTR MODE

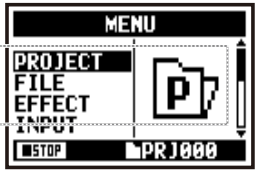
Import in the other projects stored in the SD card.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



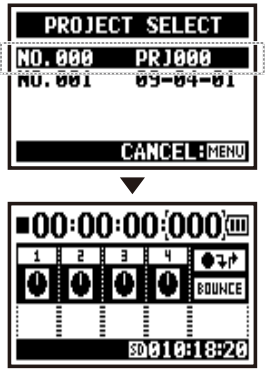
1 Press.

2 Select <PROJECT> and press.



3 Select <SELECT> and press.

4 Select a your desired project and press.

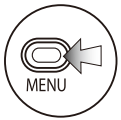


5-16 Edit / Output : <PROJECT (DELETE) >

Only on MTR MODE

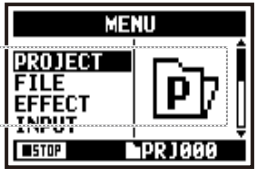
This function is to delete project.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



1 **Press.**

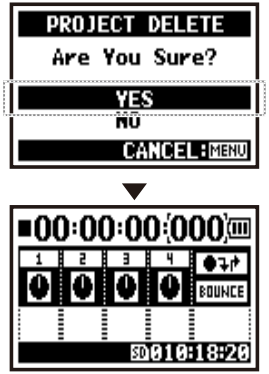
2 **Select <PROJECT> and press.**



3 **Select <DELETE> and press.**

4 **Select a project to be deleted and press.**

5 **Select <YES> and press.**



NOTE:

Once deleted, you cannot retrieve the project.

HINT:

You cannot delete a project under protection. You need to release it from protection before delete operation.

Ref. ☞ <PROTECT> P.125

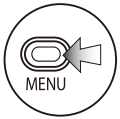
5-17 Edit / Output : <PROJECT (RENAME) >

Only on MTR MODE

You can change the name of the project.

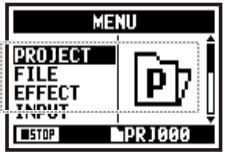
MTR

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



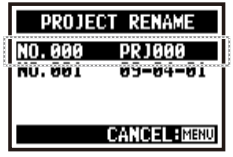
1 Press.

2 Select <PROJECT> and press.

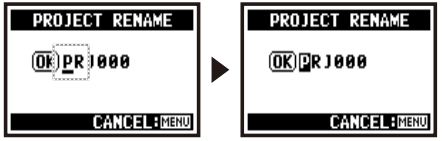


3 Select <RENAME> and press.

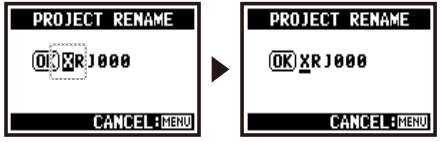
4 Select the project to change the name and press.



5 Select the letter to change and press.



6 Change the letter and press.



7 Select <OK> and press.

When you change letters, you can change in the following order:

(Space)!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\ ]^_`abcdefghijklmnopqrstuvwxyz{¦}~

HINT:

Project number;

- The H4n gives the number from the youngest 1 in turn automatically.
- You cannot change the number.
- You can use the same name in multiple projects.

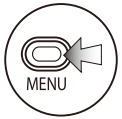
5-18 Edit / Output : <PROJECT (COPY) >

Only on MTR MODE

Copy the project and create a new project with a new number.

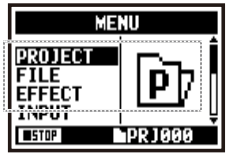
Select a target project and start operation....P.119

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



1 **Press.**

2 **Select <PROJECT> and press.**

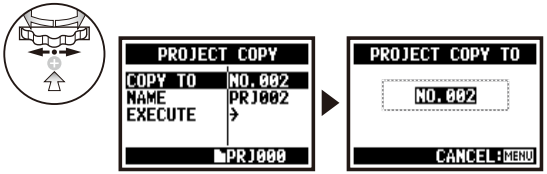


3 **Select <COPY> and press.**

4 **Select <EXECUTE> and press.**

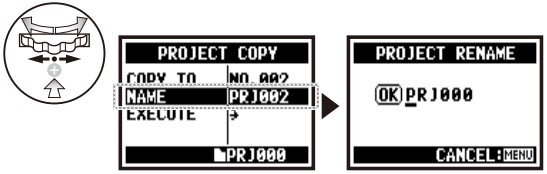
HINT:

Change a project number of the copy to move to.



Display the youngest number that has not yet been used.

Change the project name to after copy.



Ref. ☞ <PROJECT(RENAME)> P.121

5-19 Edit / Output : <PROJECT (BOUNCE) >

You can make one file in MONO or STEREO, collecting the mixed of MTR mode results recently created.

Select a target project and start operation....P.119

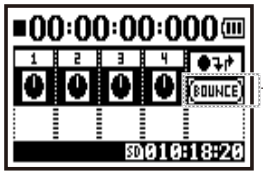
MTR

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

Select <BOUNCE>

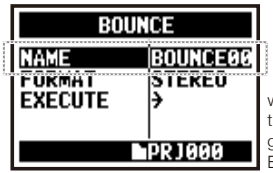
Select the name to bounce to. # If you have no change, precede to next.→

1 Select <BOUNCE> on the top screen and press.



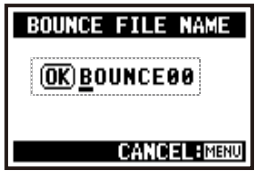
BOUNCE icon

2 Select <NAME> and press.



when you do not change the name, automatically given a file name: BOUNCE XX

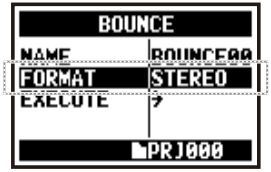
3 Change the name of the file one by one.



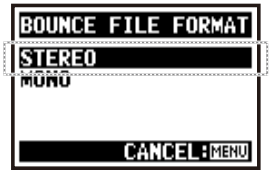
Ref. ☞ <FILE RENAME> P.109

Select the type capable to output

4 Select <FORMAT> and press.



5 Select the file type and press.



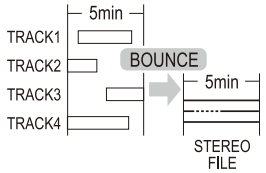
STEREO	STEREO file
MONO	MONAURAL file

Execution

6 Select <EXECUTE> and press.

HINT:

BOUNCE means to put together the various music data divided in different tracks and files into the stereo or monaural files.



If you make <BOUNCE> operation, a new file will be created in the same project.

NOTE:

You cannot use this setting during recording and playback.

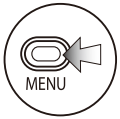
5-20 Edit / Output : <PROJECT (PROTECT) >

Only on MTR MODE

Using the PROTECT function on your project prohibits dividing of tracks and the change of files in that project.

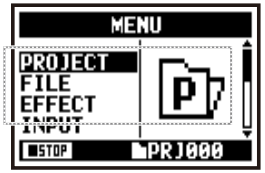
Select a target project and start operation....P.119

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



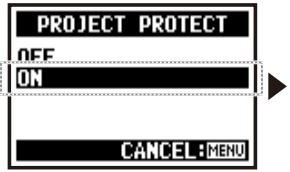
1 **Press.**

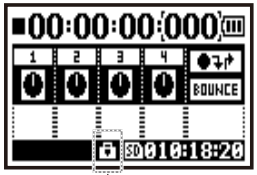
2 **Select <PROJECT> and press.**



3 **Select <PROTECT> and press.**

4 **Select <ON> and press.**





The mark shows the protected projects.

NOTE:

If you try to change a file allocated in a track, the screen will say "Project Protected".

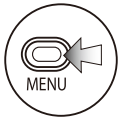
HINT:

<PROTECT> is useful protection against the case when the setting of the completed music might be changed mistakenly.

6-01 Utility : <DISPLAY BACK LIGHT>

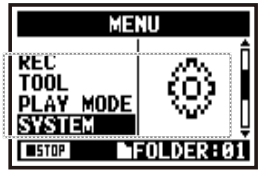
You can set the lighting time of the LCD BACK LIGHT on the display.

STEREO 4CH MTR STAMINA **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**



1 Press.

2 Select <SYSTEM> and press.



3 Select <LIGHT> and press.

4 Select the time you desire and press.

OFF	Switch off the light all the time.
ON	Switch on the light all the time.
15sec	Light on for 15 seconds after the last key operation.
30sec	Light on for 30 seconds after the last key operation.

* default; 15 seconds.

NOTE:

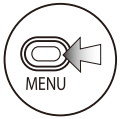
You cannot use this setting during recording and playback.

6-02 Utility : <DISPLAY CONTRAST>

Adjust the display contrast.

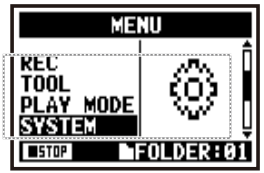
STEREO 4CH MTR STAMINA

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



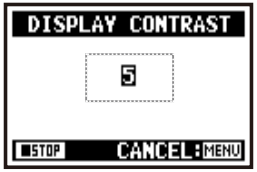
1 Press.

2 Select <SYSTEM> and press.



3 Select <CONTRAST> and press.

4 Change the number and press.



* You can adjust from #1 to #8.
  A higher the number
  corresponds to more contrast.

1 ↓ 8	weak get lighter ↑ ↓ strong get darker

* default; #5

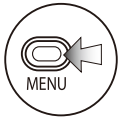
NOTE:

You cannot use this setting during recording and playback.

6-03 Utility : <BATTERY TYPE>

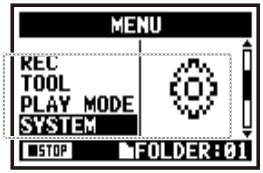
By setting your battery type, H4n can correctly display the remaining lifetime of the battery.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



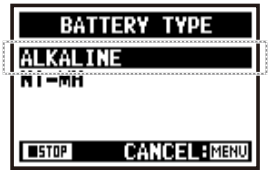
1 Press.

2 Select <SYSTEM> and press.



3 Select <BATTERY> and press.

4 Select the battery type and press.



ALKALINE	Alkaline battery
Ni-MH	Nickel hydrogen storage battery

* Default; ALKALINE

NOTE:

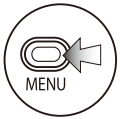
Battery that can be used.

- Please use the alkaline or the nickel hydrogen storage battery.
- You cannot use this setting during recording and playback.

6-04 Utility : <VERSION>

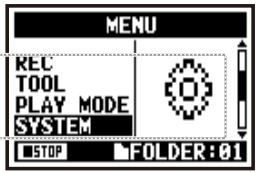
After it starts, the version of H4n can be confirmed.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

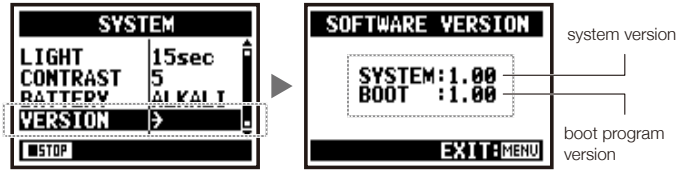


1 **Press.**

2 **Select <SYSTEM> and press.**



3 **Select <VERSION> and press.**



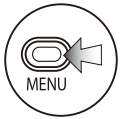
NOTE:

You cannot use this setting during recording and playback.

6-05 Utility : <FACTORY RESET>

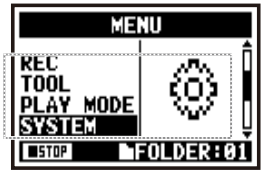
Return all the setting back to the original shipment condition.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.



1 **Press.**

2 **Select <SYSTEM> and press.**



3 **Select <FACTORY RESET> and press.**

4 **Select <YES> and press.**

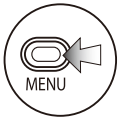
NOTE:

- You cannot use this setting during recording and playback.
- Caution: if you operate the <FACTORY RESET>, all the settings restored in this unit will be canceled and the setting returns to the original shipment condition.

6-06 Utility : <REMAIN>

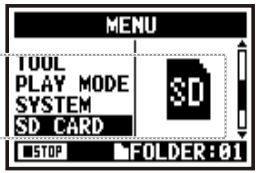
You can confirm the remaining capacity of the SD CARD.

Press the [MENU] button for more than 2 seconds, and start operation from the top screen.

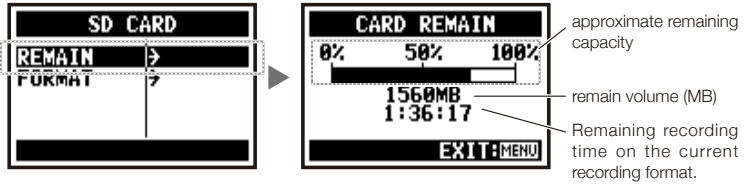


1 Press.

2 Select <SD CARD> and press.



3 Select <REMAIN> and press.



NOTE:

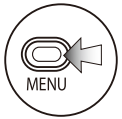
You cannot use this setting during recording and playback.

6-07 Utility : <FORMAT>

STEREO 4CH MTR STAMINA

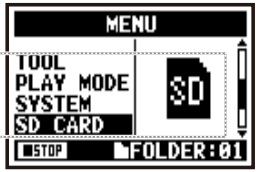
Formatting the SD card suitable the H4n.

STEREO 4CH MTR STAMINA **Press the [MENU] button for more than 2 seconds, and start operation from the top screen.**

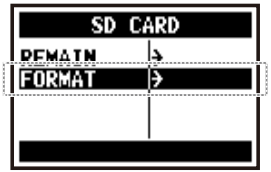


1 Press.

2 Select <SD CARD> and press.



3 Select <FORMAT> and press.



4 Select <YES> and press.

HINT:

"Format Card"

If you insert the SD card not for the H4n, the unit says at booting up time,"Format Card?"

NOTE:

- You cannot use this setting during recording and playback.
- Caution: When you format the SD card, all data will be deleted.
- The SD cards used in the computer or the digital camera, sow be formatted in H4n before using.

Ref. ☞ SD card of H4 and H2 P.134

6-08 Utility : <VERSION UP>

If H4n (and SD card) is connected to the computer (PC) that has access to the internet, you can download H4n software upgrades.

You can verify H4n version at <SYSTEM (VERSION)>.

The version of the main body system

1 PC

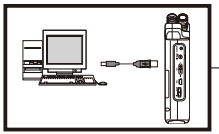
* PC = computer (Windows and Macintosh)

Open Web site of ZOOM on PC and download the most recent system software. [http://www.zoom.co.jp]

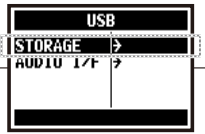
2 PC — H4n

Connect H4n to PC with USB cable.

To set-up connection of H4n and PC, connect with USB cable.



Connect H4n to PC with USB cable.



Select <STORAGE> and press.

You can operate SD card data in H4n through PC.

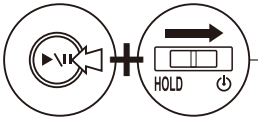
3

The downloaded system software is copied onto the root directory of the SD card of H4n.

4 PC — H4n

Cancel the connection of PC and H4n.

5



Switch on keep pressing [PLAY/PAUSE] button.

Select <OK> and press.

HINT:

Connect to a PC and select <STORAGE>. The H4n will be recognized as a SD card reader and you can make use of it.

NOTE:

Please disconnect through PC.

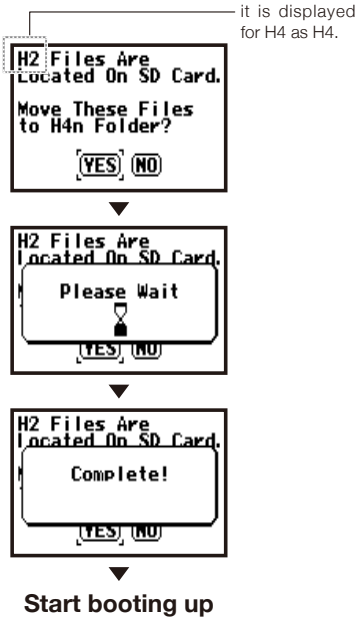
Ref. ☞
<SYSTEM(VERSION)> P.129

6-09 Utility: How to use H2 and H4 SD cards

When you use the SD cards for H2 and H4 in the H4n, you can move their files and projects to the H4n.

1 Insert SD card for H2/H4 unit into H4n and boot up the unit.

2 Select MOVE FILES and <YES>, and press.



Start booting up

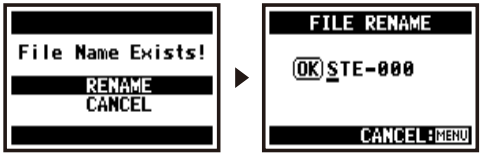
NOTE:

- The stereo files of H2/H4 and the projects of H4 will be moved to the H4n stereo folders and MTR projects.
- After moving to H4n, those SD cards are not recognized in H2/H4 unit.
- The projects move in turn from the youngest number 1 to the new project in H4n.
- When the H4n has more than 1000 projects in the unit after transfer, the unit says, "Project Full ! " and stop moving.
- You must reduce the project number in H4n and continue the transfer.

HINT:

"File Name Exists!"

If there is the same file name in the moving folder, operate <RENAME> work.



Ref. ☞ < FILE RENAME> P.109

Reference

Main spec list by mode

	STEREO MODE	4CH	MTR	STAMINA
Recording Format	STEREO WAV: 44.1/48/96kHz 16/24bit STEREO MP3: 48, 56, 64,80,96,112,128,160,192, 224,256, 320kbps, VBR44.1kHz	STEREO WAV × 2 : 44.1/48kHz 16/24bit	44.1kHz 16it STEREO WAV, MONAURAL WAV, those total 4 tracks can be combined	44.1 kHz/16bit WAV type only (fixed)
Maximum Track Numbers on Simultaneous Recording	2 tracks (STEREO 1 track)	4 Tracks (STEREO 2 Tracks)	2 tracks (STEREO 1 track, Monaural 2 tracks)	2 tracks (STEREO 1 track)
Limitation on File Capacity	2 GB * during STEREO and 4CH mode you should make a separate file when the recording capacity is over 2GB.			
File Making During Recording	Always save the initial one (impossible to overwrite)	Always save the initial one (impossible to overwrite)	Select either overwrite recording (save) or new recording (save)	Always save as the initial one (impossible to overwrite)
File Saving Place	Save in STEREO mode's very own 10 folders	Save in 4CH mode's very own 10 folders	Collect multiple numbers of files and control them as [PROJECT]	Save in STEREO mode's very own 10 folders
File Name Change	OK	Impossible	Impossible	OK
Folder Name Change	Impossible	Impossible	Impossible	Impossible
Marking Function	OK (WAV file only)	OK (WAV file only)	Impossible	OK (WAV file only)

Available setting menu list by each mode

SYSTEM	STEREO	4CH	MTR	STAMINA
DATE/TIME	△	△	△	△
BACK LIGHT	○	○	○	○
LCD CONTRAST	○	○	○	○
BATTERY TYPE	○	○	○	○
FACTORY RESET	△	△	△	△

SD CARD	STEREO	4CH	MTR	STAMINA
FORMAT	△	△	△	△
REMAIN	△	△	△	△

USB	STEREO	4CH	MTR	STAMINA
AUDIO IF	△	△	△	–
STORAGE	△	△	△	–

MODE	STEREO	4CH	MTR	STAMINA
MODE	△	△	△	–

FOLDER SELECT	STEREO	4CH	MTR	STAMINA
FOLDER SELECT	△	△	–	△

FILE	STEREO	4CH	MTR	STAMINA
FILE INFORMATION	△	△	△	△
FILE RENAME	△	△	△	△
FILE MP3 ENCODE	△	–	–	–
NORMALIZE	△	△	–	–
DIVIDE	△	–	–	–
MOVE	△	△	△	–
MARK LIST	△	△	–	△
FILE DELETE	△	△	△	△
FILE DELETE ALL	△	△	△	△
FILE STEREO ENCODE	–	△	–	–
FILE COPY	–	–	△	–

INPUT SETTING	STEREO	4CH	MTR	STAMINA
LO CUT	○	○	–	○
COMP/LIMIT	○	○	–	–
MONITOR	○	○	○	○
REC LEVEL AUTO	△	△	–	△
MONO MIX	△	–	–	△
MS STEREO MATRIX	○	○	–	–
PHANTOM	○	○	○	○
PLUG–IN POWER	○	○	○	○

REC SETTING	STEREO	4CH	MTR	STAMINA
REC FORMAT	△	△	–	–
AUTO REC	△	△	–	△
PRE REC	△	△	–	–
FILE NAME	△	–	–	△

TOOL	STEREO	4CH	MTR	STAMINA
TUNER	△	△	△	–
METRONOME*	○	○	○	–
A–B REPEAT	△	△	–	–
SPEED	△	–	–	–

PLAY MODE	STEREO	4CH	MTR	STAMINA
PLAY MODE	△	△	–	△

REC MODE	STEREO	4CH	MTR	STAMINA
REC MODE	–	–	△	–

EFFECT	STEREO	4CH	MTR	STAMINA
EDIT	–	–	○	–
IMPORT	–	–	△	–

PROJECT	STEREO	4CH	MTR	STAMINA
NEW PROJECT	–	–	△	–
SELECT	–	–	△	–
RENAME	–	–	△	–
COPY	–	–	△	–
DELETE	–	–	△	–

PUNCH IN/OUT	STEREO	4CH	MTR	STAMINA
PUNCH IN/OUT	–	–	○*	–

BOUNCE	STEREO	4CH	MTR	STAMINA
BOUNCE	–	–	△	–

○ …You can use this setting during recording and playback. "*" has the exception.
△ …You cannot use this setting during recording and playback.

Effect types on MTR mode and the parameter

■ PREAMP module

● Guitar preamp effect types

FD CLEAN	Clean sound of Fender TwinReverb ('65)
VX CLEAN	Clean sound of Vox AC30
HW CLEAN	Clean sound of Hiwatt Custom 100
UK BLUES	Crunch sound of Marshall 1962 Bluesbreaker
BGcrunch	Crunch sound of Mesa Boogie MK
MS #1959	Crunch sound of Marshall 1959
PV DRIVE	High-gain sound of Peavey 5150
RECT VNT	High-gain sound using the red channel of Mesa Boogie Dual Rectifier (Vintage mode)
DZ DRIVE	High-gain sound of Diezel Herbert channel 3
TS+FDcmb	Combination of Fender Combo amp and Ibanez TS-9
SD+MSstk	Combination of Marshall stack amp and Boss SD-1
FZ+MSstk	Combination of FuzzFace and Marshall stack amp

The above 12 effect types have the same parameters.

(1) CABINET	0 – 2	Adjusts the intensity of the speaker cabinet sound.
(2) GAIN	0 – 100	Adjusts the preamp gain (distortion depth).
(3) BASS	-12 – 12	Adjusts boost/cut in the low range.
(4) MIDDLE	-12 – 12	Adjusts boost/cut in the middle range.
(5) TREBLE	-12 – 12	Adjusts boost/cut in the high range.
(6) LEVEL	1 – 100	Adjusts the level of the signal after passing the PRE-AMP module.
(7) ZNR (ZOOM Noise Reduction)	OFF, 1 – 16	Adjusts the sensitivity of the noise reduction circuit developed by ZOOM.

ACO SIM	This effect makes an electric guitar sound like an acoustic guitar.	
(1) TOP	0 – 10	Adjusts the characteristic string tone of the acoustic guitar.
(2) BODY	0 – 10	Adjusts the characteristic body tone of the acoustic guitar.
(3) BASS	-12 – 12	Adjusts boost/cut in the low range.
(4) MIDDLE	-12 – 12	Adjusts boost/cut in the middle range.
(5) TREBLE	-12 – 12	Adjusts boost/cut in the high range.
(6) LEVEL	1 – 100	Adjusts the level of the signal after passing the PRE-AMP module.
(7) ZNR (ZOOM Noise Reduction)	OFF, 1 – 16	Adjusts the sensitivity of the noise reduction circuit developed by ZOOM.

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● Bass preamp effect types

SVT	Simulation of Ampeg SVT sound.
BASSMAN	Simulation of Fender Bassman 100 sound.
HARTKE	Simulation of Hartke HA3500 sound.
SUP-Bass	Simulation of Marshall Super Bass sound.
SANSAMP	Simulation of Sansamp Bass Driver DI sound.
TUBE PRE	ZOOM original tube preamplifier sound.

The above 6 effect types have the same parameters.

(1) CABINET	0 – 2	Adjusts the intensity of the speaker cabinet sound.
(2) GAIN	0 – 100	Adjusts the preamp gain (distortion depth).
(3) BASS	-12 _ 12	Adjusts boost/cut in the low range.
(4) MIDDLE	–12 _ 12	Adjusts boost/cut in the middle range.
(5) TREBLE	–12 _ 12	Adjusts boost/cut in the high range.
(6) BALANCE	0 – 100	Sets the mixing balance between the signal before input and after passing the module. Higher values result in a higher ratio of post-module signal.
(7) LEVEL	1 – 100	Adjusts the level of the signal after passing the PREAMP module.
(8) ZNR (ZOOM Noise Reduction)	OFF, 1 – 16	Adjusts the sensitivity of the noise reduction circuit developed by ZOOM.

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● Mic preamp effect types

VO MPRE	Preamp with characteristics optimized for vocals.
AG MPRE	Preamp with characteristics optimized for recording an acoustic guitar.
FlatMPRE	Preamp with flat characteristics.

The above 3 effect types have the same parameters.

(1) COMP	OFF, 1 – 10	Adjusts the parameter which keeps the level within a certain range by attenuating high-level signals and boosting low-level signals.
(2) DE-ESSER	OFF, 1 – 10	Adjusts the degree by which sibilants are attenuated.
(3) LOW CUT	OFF, 1 – 10	Adjusts the frequency of a filter designed to attenuate low-frequency noise that is easily picked up my a mic.
(4) BASS	-12 – 12	Adjusts boost/cut in the low range.
(5) MIDDLE	-12 – 12	Adjusts boost/cut in the middle range.
(6) TREBLE	-12 – 12	Adjusts boost/cut in the high range.
(7) LEVEL	1 – 100	Adjusts the level of the signal after passing the PREAMP module.
(8) ZNR (ZOOM Noise Reduction)	OFF, 1 – 16	Adjusts the sensitivity of the noise reduction circuit developed by ZOOM.

Effect types on MTR mode and the parameter

■ EFX module

● Compressor/limiter effect types

RackComp	This is a compressor which attenuates high-level signals and boosts lowlevel signals.	
(1) THRSHOLD	0 – 50	Adjusts the threshold level of the compressor.
(2) RATIO	1 – 10	Adjusts the compression ratio of the compressor.
(3) ATTACK	1 – 10	Adjusts the attack speed of the compressor.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

LIMITER	This is a limiter which attenuates high-level signals that exceed a certain threshold.	
(1) THRESHOLD	0 – 50	Adjusts the threshold level of the limiter.
(2) RATIO	1 – 10	Adjusts the compression ratio of the limiter.
(3) RELEASE	1 – 10	Adjusts the speed of the limiter release after the signal falls below the threshold level.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

● Modulation effect types

AUTO WAH	This is an auto wah effect that tracks the input signal intensity.	
(1) POSITION	Before, After	Selects the insertion position of the EFX module: "Before" the PREAMP module or "After" the PREAMP module.
(2) SENSE	-10 – -1, 1 – 10	Adjusts the effect sensitivity.
(3) RESONANC	0 – 10	Adjusts the resonance characteristic of the effect.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

PHASER	This effect produces sound with a pulsating character.	
(1) POSITION	Before, After	Selects the insertion position of the EFX module: "Before" the PREAMP module or "After" the PREAMP module.
(2) RATE	0 – 50, ♪ Ref. P144	Adjusts the modulation rate.
(3) COLOR	4STAGE, 8STAGE, INVERT 4, INVERT 8	Selects the sound type of the effect.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

TREMOLO	This effect periodically varies the volume.	
(1) DEPTH	0 – 100	Adjusts the modulation depth.
(2) RATE	0 – 50, ♪ Ref. P144	Adjusts the modulation rate.
(3) WAVE	UP 0 – 9, DOWN 0 – 9, TRI 0 – 9	Allows selection of the modulation waveform. Available settings are UP (rising sawtooth), DOWN (falling sawtooth), and TRI (triangle). Higher setting values result in more clipping of wave peaks, which reinforces the effect.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

RING MOD	This effect produces a metallic ringing sound. Adjusting the FREQUENCY drastic change of sound character.	
(1) POSITION	Before, After	Selects the insertion position of the EFX module: "Before" the PREAMP module or "After" the PREAMP module.
(2) FREQ	1 – 50	Adjusts the modulation frequency.
(3) BALANCE	0 – 100	Adjusts the balance between original sound and effect sound.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

SLOW ATK	This effect softens the attack rate of each note, resulting in a violin playing style sound.	
(1) POSITION	Before, After	Selects the insertion position of the EFX module: "Before" the PREAMP module or "After" the PREAMP module.
(2) TIME	1 – 50	Adjusts the rise time.
(3) CURVE	0 – 10	Adjusts the attack volume change curve.
(4) LEVEL	2 – 100	Adjusts the level of the signal after passing the EFX module.

CHORUS	This effect mixes a variable pitch-shifted component to the original signal, resulting in full-bodied resonating sound.	
ENSEMBLE	This is a chorus ensemble with three-dimensional movement.	

The above 2 effect types have the same parameters.

(1) DEPTH	0 – 100	Adjusts the modulation depth.
(2) RATE	1 – 50	Adjusts the modulation rate.
(3) TONE	0 – 10	Adjusts the tone.
(4) MIX	0– 100	Adjusts the level of effect sound mixed to the original sound.

FLANGER	This effect produces a resonating and strongly undulating sound.	
(1) DEPTH	0 – 100	Adjusts the modulation depth.
(2) RATE	0 – 50,♪ Ref. P144	Adjusts the modulation rate.
(3) RESONANC	-10 – 10	Adjusts the resonance characteristic of the effect.
(4) MANUAL	0 – 100	Adjusts the frequency range in which the effect operates.

STEP	Special effect that changes the sound in a staircase pattern.	
(1) DEPTH	0 – 100	Adjusts the modulation depth.
(2) RATE	0 – 50,♪ Ref. P144	Adjusts the modulation rate.
(3) RESONANC	0 – 10	Adjusts the resonance characteristic of the effect. Adjusts the effect sound envelope.
(2) SHAPE	0 – 10	Adjusts the effect sound envelope.

VIBE	This is an automatic vibrato effect.	
(1) DEPTH	0 – 100	Adjusts the modulation depth.
(2) RATE	0 – 50,♪ Ref. P144	Adjusts the modulation rate.
(3) TONE	0 – 10	Adjusts the balance between original sound and effect sound.
(4) BALANCE	0 – 100	This effect varies the sound like a talking modulator.

CRY	This effect varies the sound like a talking modulator.	
(1) RANGE	1 – 10	Adjusts the frequency range in which the effect operates.
(2) RESONANC	0 – 10	Adjusts the resonance characteristic of the effect.
(3) SENSE	-10 – -1, 1 – 10	Adjusts the effect sensitivity.
(4) BALANCE	0 – 100	Adjusts the balance between original sound and effect sound.

PITCH	This effect shifts the pitch up or down.	
(1) SHIFT	-12 – 12, 24	Adjusts the pitch shift amount in semitones.
(2) TONE	0 – 10	Adjusts the tone.
(3) FINE	-25 – 25	Fine-adjusts the pitch shift amount in cent (1/100 semitone units).
(4) BALANCE	0 – 100	Adjusts the balance between original sound and effect sound.

● **Delay/reverb effect types**

AIR	This effect lends spatial depth to the sound by reproducing the ambient atmosphere of a room.	
(1) SIZE	1 – 100	Adjusts the size of the simulated space.
(2) REFLEX	0 – 10	Adjusts the amount of wall reflections.
(3) TONE	0 – 10	Adjusts the tone.
(4) MIX	0 – 100	Adjusts the level of effect sound mixed to the original sound.

DELAY	This a long delay of up to 5000 milliseconds.
ECHO	This simulates a tape echo with a long delay time of up to 5000 milliseconds.
ANALOG	This simulates a warm-sounding analog delay with a long delay time of up to 5000 milliseconds.

The above 3 effect types have the same parameters.

(1) TIME	1 – 5000ms,* ♪ Ref. P144	Adjusts the delay time.
(2) FEEDBACK	0 – 100	Adjusts the feedback amount.
(3) HIDAMP	0 – 10	Adjusts the delay sound damping characteristics in the high frequency range.
(4) MIX	0 – 100	Adjusts the level of effect sound mixed to the original sound.

* ms = milliseconds.

RvsDelay	This is a reverse delay with a long delay time of up to 2500 milliseconds.	
(1) TIME	1 – 2500ms,* ♪Ref. P144	Adjusts the delay time.
(2) FEEDBACK	0 – 100	Adjusts the feedback amount.
(3)HIDAMP	0 – 10	Adjusts the delay sound damping characteristics in the high frequency range.
(4) BALANCE	0 –100	Adjusts the balance between original sound and effect sound.

* ms = milliseconds.

HALL	This reverb effect simulates the acoustics of a concert hall.
ROOM	This reverb effect simulates the acoustics of a room.
SPRING	This effect simulates a spring reverb.
ARENA	This effect simulates a large venue such as an arena.
T ROOM	This effect simulates the acoustics of a tiled room.
M SPRING	This effect simulates a bright and clear sounding spring reverb.

The above 6 effect types have the same parameters.

(1) DECAY	1 – 30	Adjusts the reverb duration.
(2) PRE DLY	1 – 100	Adjusts the delay between the original sound and the start of the reverb sound.
(3)TONE	0 – 10	Adjusts the tone.
(4) MIX	0 – 100	Adjusts the level of effect sound mixed to the original sound.

[Table]

Parameters with a <♪> symbol can be selected in note units, using the metronome tempo as reference. Note durations

	Thirty-second note	3	Half triplet note	× 3	Quarter note x 3
	Sixteenth note		Dotted eighth note		
3	Quarter triplet note		Quarter note		
	Dotted six-teenth note		Dotted quarter note		
	Eighth note	× 2	Quarter note x 2	× 20	Quarter note x 20

NOTE:

- The actual note range that can be selected depends on the parameter.
- Some tempo and note symbol combinations may result in values that exceed the parameter range. In such a case, the value will automatically be set to 1/2. If this would still exceed the range, the value is set to 1/4.

H4n patch list

Effect patches in this page" Patch List" can be used in 4track mode and audio interface function. (with sampling rate in 44.1kHz)

Category	No.	Patch Name	Description	PREAMP module	EFX module
Guitar	00	Fender Clean	Basic clean sound optimized for recording.	FD CLEAN	OFF
	01	Natural Cho	Versatile clean chorus sound for applications ranging from arpeggio to melody playing.	OFF	ENSEMBLE
	02	FunkyCutting	Great sound for seventies style funky cutting.	FD CLEAN	AUTO WAH
	03	Clean Lead	Sound suitable for solo play, characterized by clean delay with a tempo setting of about 120 BPM.	HW CLEAN	DELAY
	04	Vox Clean	Mersey beat sound as exemplified by the Beatles using the Vox AC30TBX.	VX CLEAN	LIMITER
	05	Light AcoSim	Acoustic guitar simulation ideal for stroke playing.	ACO SIM	HALL
	06	Clean Comp	Natural compressor sound that differs from a conventional stomp box compressor.	FD CLEAN	RackComp
	07	CuttingPhase	Phaser with a wide range of applications for various cutting styles.	OFF	PHASER
	08	Smooth Trem	Tremolo sound that smoothly enhances everything from full notes to delicate arpeggios.	FD CLEAN	TREMOLO
	09	Deep Vibe	Vibrato sound provides body to sound effects and band sound.	OFF	VIBE
	10	Octave Down	Distorted unison sound adds a one octave lower component.	TS+FDcmb	PITCH
	11	MS Crunch	Marshall Bluesbreaker crunch sound that closely tracks your picking.	UK BLUES	RackComp
	12	Full Crunch	Simulation of the versatile Mesa Boogie Mk III for backing or lead.	BGcrunch	RackComp
	13	Air Crunch	Crunch sound with a light and airy feel.	UK BLUES	AIR
	14	Blues Tone	Solid backbone for lead parts in Blues and Rock'n Roll.	TS+FDcmb	ROOM
	15	Crossover	Overdrive tone with just the right chorus for Fusion and Crossover.	BGcrunch	ENSEMBLE
	16	Peavey Lead	High gain sound of Peavey 5150 fits power chords, speedy riffs, or technical solos.	PV DRIVE	OFF
	17	Diezel Riff	Heavy riff sound using a DIEZEL Herbert simulation.	DZ DRIVE	OFF
	18	Rectify Lead	Simulation of the Mesa Boogie Rectifier high-gain sound.	RECT VNT	RackComp
	19	Melody Line	Delay sound for playing everything from melody to improvised solos.	PV DRIVE	DELAY
	20	Classic MS	Sound modeled on the Marshall 1959 SuperLead 100.	MS #1959	ROOM
	21	Fuzz Box	Distinct fuzz tone using a combination of FUZZ FACE + Marshall sound.	FZ+MSstk	SPRING
	22	Air Lead	Mesa Boogie Mk III drive sound combines airiness with a gutsy touch.	BGcrunch	AIR
	23	Jet Flanger	Well-known jet sound makes chords more expressive.	SD+MSstk	FLANGER
	24	Wah Lead	Heavy wah sound combining distortion and auto wah, suitable for lead play.	SD+MSstk	AUTO WAH

Category	No.	Patch Name	Description	PREAMP module	EFX module
Bass	25	Hartke	Tight sound modeled on the HARTKE HA3500.	HARTKE	OFF
	26	Bassman	Standard bass sound inspired by the FENDER BASSMAN 100.	BASSMAN	OFF
	27	SVT	Rock bass sound modeled on the AMPEG SVT.	SVT	OFF
	28	SuperBass	Drive sound modeled on the MARSHALL 1992 SuperBass.	SUP-Bass	OFF
	29	SANSAMP	Simulates the sound of the SANSAMP BASS DRIVER DI.	SANSAMP	OFF
	30	Studio Pre	Straightforward tube preamp sound is highly versatile.	TUBE PRE	OFF
	31	Pick Bass	HARTKE HA3500 sound optimized for picking.	HARTKE	OFF
	32	Chorus Bass	Sound with chorus blend, suitable for melody playing.	BASSMAN	ENSEMBLE
	33	Slap Comp	Compressor sound that allows free selection of styles, such as slap (chopper), picking and finger playing.	SVT	RackComp
	34	Flange Bass	Flanging bass sound such as used in Fusion music.	TUBE PRE	FLANGER
Mic	35	StandardComp	Standard compressor optimized for recording.	FlatMPRE	RackComp
	36	Studio Comp	Compressor sound suitable for vocal recording.	VO MICPRE	RackComp
	37	Chorus Vocal	Deep chorus sound for solo vocals.	VO MICPRE	CHORUS
	38	Flange Vocal	Flanger sound for soothing pop music vocals.	VO MICPRE	FLANGER
	39	Light Vocal	Effect sound for bright and articulate vocals.	FlatMPRE	ROOM
	40	Spring	Effect sound with effective use of spring reverb.	VO MPRE	SPRING
	41	Arena	Deep reverb sound as if singing in an arena.	VO MPRE	ARENA
	42	Doubling	Conventional doubling effect.	VO MPRE	DELAY
	43	Lead Vocal	Delay effect suitable for main vocal parts.	VO MPRE	DELAY
	44	Analog Echo	Vocal echo sound using an analog delay effect.	VO MPRE	ANALOG
	45	Reverse Trip	Trippy sound using a reverse delay.	VO MPRE	RvsDelay
	46	AG Reverb	Preamp + reverb combination optimized for mic recording of acoustic guitar.	AG MPRE	ARENA
	47	AG Arpeggio	Preamp + chorus combination optimized for mic recording of acoustic guitar (arpeggio play).	AG MPRE	CHORUS
	48	AG Ensemble	Preamp + ensemble combination optimized for mic recording of acoustic guitar (arpeggio play).	AG MPRE	ENSEMBLE
	49	AG Lead	Preamp + delay combination optimized for mic recording of acoustic guitar (lead play).	AG MPRE	DELAY
50 - 59		EMPTY			

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H4n products spec

Recorder		STEREO MODE	4CH MODE	MTR MODE
	Number of simultaneous recording tracks	2	4	2
	Number of simultaneous playback tracks	2	4	4
	Recording time	4GB (SDHC) Approx. 380 minutes (converted to WAV 44.1 kHz/16 bit stereo track) Approx. 68 hours (converted to MP3 44.1 kHz/128 kbps stereo track) * Recording times are approximations. Actual times may differ according to recording conditions.		
	Maximum number of simultaneous recording file size	2GB		
	Projects	1000/card		
	Locate function	Hours/Minutes/Seconds/Milliseconds		
	Other functions	Punch-in/out, Bounce, A-B repeat		
Effects	Modules	2		
	STEREO MODE / 4CH MODE : LO CUT, COMP/LIMITER MTR MODE : PRE AMP module , EFX module			
	Types	50		
	Patches	60		
	Tuners	Chromatic, Guitar, Bass, Open A/D/E/G, DADGAD		
Metronome	Metronome sound sources	5		
	Variable beat	1/4 - 8/4, 6/8, unaccentuated		
	Tempo	40.0 - 250.0 BPM		
A/D conversion	24 bit	24 bit × 128 oversampling		
D/A conversion	24 bit	24 bit × 128 oversampling		
Recording media	SD card (16MB – 2GB) , SDHC card (4GB – 32GB)			
Data type	WAV Format			
	<Record/Play>	Quantization 16/24 bit		
		Sampling frequency 44.1/48/96 kHz		

Data type	MP3 Format		
	<Recording>		Bit rate 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 kbps, VBR
			Sampling frequency 44.1 kHz
	<Playback>		Bit rate 32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 kbps, VBR
			Sampling frequency 44.1/48 kHz
Display	128 x 64 dots		Full-dot LCD (with backlight)
Inputs	INPUT [1] [2]		XLR (balanced input) / standard phone (unbalanced input) combo jack Input impedance (using balanced input) 1 kΩ balanced, pin 2 hot (using unbalanced input) 480 kΩ unbalanced Input level (using balanced input) –10 dBm _ –42 dBm (using unbalanced input) +2 dBm _ –32 dBm
	Built-in stereo mic		Unidirectional condenser microphone Gain +7 dB _ +47 dB
	EXT MIC		Mini stereo phone jack Input impedance 2 kΩ Input level –7 dBm _ –47 dBm
Outputs	LINE / PHONE	LINE	Output load impedance 10 kΩ or more Rated output level –10 dBm
		PHONE	20 mW+20 mW (into 32-Ω load)
	Monaural speaker		400 mW 8 Ω
Phantom power supply	48 V, 24 V, OFF		
USB	USB2.0High Speed Mass Storage Class operation, Audio Interface operation USB functions can be operated by USB bus power		
Power requirements	DC 5 V 1A AC from AC adapter (ZOOM AD-14), Batteries IEC R6 (size AA) x 2		
Continuous recording time	6 hours (Usually)		11 hours (STAMINA MODE)
Dimensions	73 (W) × 156.3 (D) × 35 (H) mm		
Weight	280 g		

* 0 dBm = 0.755 Vrms * Design and specifications subject to change without notice.

When you think something may be wrong with your machine

If there are problems during operation of the H4n, check the following points first.

Problems during recording/playback

◆ No sound, or sound is very weak

- Check the connections to your monitor system, and the volume setting of the system.
- Check whether the volume level setting of tracks 1 – 4 is appropriate.

◆ Recorder stops during playback

- When playback is carried out with a track in recording standby condition, a temporary file is created in the H4n. If the remaining capacity of the SD card is low, the temporary file may use up all the remaining space, causing playback to stop. In such a case, cancel the recording standby condition of the track.

◆ No sound from connected instrument,or sound is very weak

- Check input source settings (→P.047).
- Check setting of INPUT [1], INPUT [2], and [MIC] buttons. (→P.047).
- Check whether recording level setting is appropriate. (→P.047).
- If INPUT [1]/INPUT [2] jacks are used, try raising output level of connected instrument.
- When the monitor function (→P.071) is off, the input signal can only be monitored if a track is set to recording standby or if the recorder is in the recording standby condition.

◆ Cannot record on a track

- Verify that [REC] button and button for recording target track are lit in red.
- If a project is protected, recording is not possible. Use another project or turn protection off (→P.125).
- Verify that an SD card is inserted in the slot.
- Check whether the hold function is enabled (→P.020).
- If the indication "Card Protected" is shown on the display, the SD card is write-protected. Slide the write-protect switch to the non-protected position.

◆ Cannot perform bounce

- Verify that the level of tracks 1 – 4 is not fully lowered.
- Verify that there is sufficient free space on the SD card.

Other problems

◆ Cannot use effects

- Check whether effect section is on. The effect section is off by default in stereo mode and in 4-track mode.

◆ Cannot use tuner

- Check whether the jack to which the instrument is connected is selected as input source.

◆ Unit is not recognized when connected to a computer via USB

- Check whether the operating system of the computer meets the requirements listed on page 035.
- To have the H4n recognized by the computer, USB mode must first be selected at the H4n (→P.033).

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[4CH MODE]

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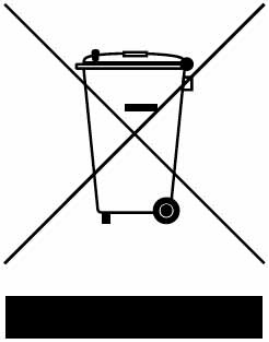
The FCC regulation warning (for U.S.A.)

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

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



Disposal of Old Electrical & Electronic Equipment

(Applicable in European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

H4next
Handy Recorder

ZOOM CORPORATION

ITOHPIA Iwamotocho 2chome Bldg. 2F, 2-11-2, Iwamoto-cho,
Chiyoda-ku, Tokyo 101-0032, Japan
Web Site: http://www.zoom.co.jp

H4n-5000-1

USB/Cubase LE 4 Startup Guide

This USB/Cubase LE 4 Startup Guide explains how to install Cubase LE 4 on a computer, make connections and settings for the H4n, and perform recording.

To connect the H4n to a computer running Windows Vista (or Windows XP) and to enable audio input/output, proceed as follows. The installation description uses Windows Vista as an example.

1 Download the latest ZOOM H4 ASIO driver from the web site of ZOOM Corporation (http://www.zoom.co.jp) and install the driver.

The ZOOM H4 ASIO driver software is required to enable use of Cubase LE 4 for audio input and output with a computer. Refer to the read_me file included in the download package for instructions on how to install the driver correctly.

NOTE

If the system software of the H4n is not up to date, the H4n may not be recognized correctly by the computer. You should always upgrade the system software to the latest version. The latest version can also be downloaded from the web site of ZOOM Corporation.

2 Insert the supplied "Cubase LE 4" DVD-ROM into the DVD drive of the computer, and perform the installation steps.

When you insert the DVD-ROM, a screen asking what you want to do appears. Select "Open folder to view files".
When the contents of the DVD-ROM are shown, open the "Cubase LE 4 for Windows" folder by double-clicking on it, and then double-click the executable "Setup" ("Setup.exe") file to start the installation process.

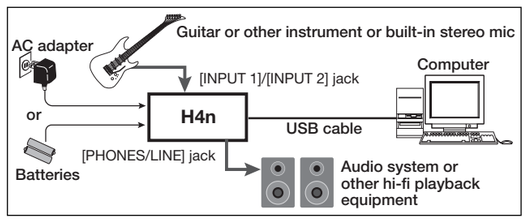
HINT

If nothing happens when you insert the DVD-ROM, open the Start menu and select "Computer" ("My Computer" in Windows XP). Then double-click the "Cubase LE 4" DVD-ROM icon to display the contents of the DVD-ROM.

NOTE

When the installation of Cubase LE 4 is complete, a screen asking about installation of activation (software license authentication) management software appears. Install this software, because it is required for registering Cubase LE 4.

3 Connect the H4n to the computer using a USB cable.



Take the required steps at the H4n to enable USB connection. The H4n will be recognized by the computer. If this is the first time to connect the H4n, wait until the message "Your devices are ready to use" appears.

HINT

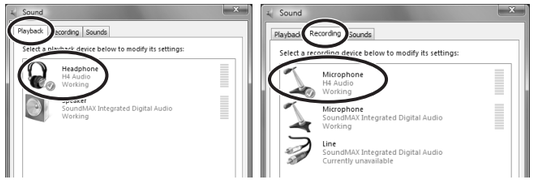
For information on steps to take at the H4n, see the section "Setting up: USB connection, H4n used as an Audio Interface" (p.033) of the H4n operation manual.

NOTE

- If you monitor the audio signal during recording via the audio output of the computer, there will be an audible delay. Be sure to use the [PHONES/LINE] jack of the H4n to monitor the signal.
- Use a high-quality USB cable and keep the connection as short as possible. If USB bus power is supplied to the H4n via a USB cable that is more than 3 meters in length, the low voltage warning indication may appear.

4 Bring up the "Sound" window from the Control Panel and make the input device setting for the computer.

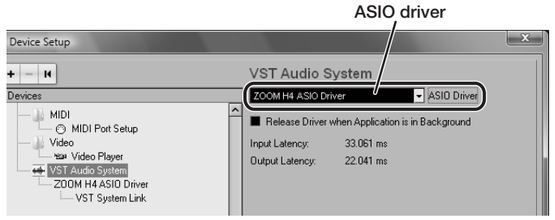
To bring up the "Sound" window, select "Control Panel" from the Start menu and click "Hardware and Sound", then click "Sound".



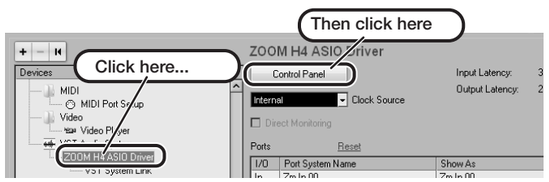
In the "Sound" window, verify that "H4 Audio" is listed under the Play and Record devices and that the device is checked. (To switch between Play and Record, click the tabs at the top of the window.)
If the device is not checked, right-click on the icon for the device and click "Set as Default Device" so that a check mark appears.

5 Start Cubase LE 4. Then access the "Devices" menu, select "Device Setup..." and click "VST Audio System".

To start Cubase LE 4, double-click the Cubase LE 4 shortcut icon that was created on the desktop. After startup, select "ZOOM H4 ASIO Driver" as the ASIO driver in the right section of the Device Setup window. When you change the ASIO driver selection, a confirmation message appears. Click the "Switch" button.



The device indication in the left section of the window now shows "ZOOM H4 ASIO Driver" as the ASIO driver.
Click on this indication to select it, and then click the "Control Panel" button in the right section of the Device Setup window.



The window that appears lets you set the latency and sampling frequency for the ASIO driver. The latency should be set to a value that is as low as possible without causing sound dropouts during recording and playback. The sampling frequency setting should match the setting of the H4n.

When the setting is complete, click the OK buttons in the respective windows to return to the startup condition of Cubase LE 4.

Continued overleaf

To connect the H4n to a computer running MacOS X and enable audio input/output, proceed as follows.

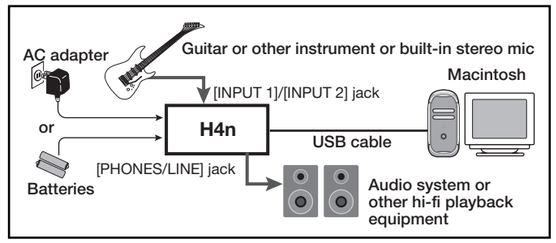
1 Insert the supplied "Cubase LE 4" DVD-ROM into the DVD drive of the Macintosh.

The contents of the DVD-ROM appear automatically. If nothing happens when you insert the DVD-ROM, double-click the "Cubase LE 4" icon shown on the desktop.

2 Install Cubase LE 4 on the Macintosh.

When the contents of the DVD-ROM appear, open the "Cubase LE 4 for MacOS X" folder by double-clicking it, and then double-click the "Cubase LE 4.mpkg" file to start the installation process.

3 Connect the H4n to the computer using a USB cable.



Take the required steps at the H4n to enable USB connection. The H4n will be recognized by the computer.

HINT

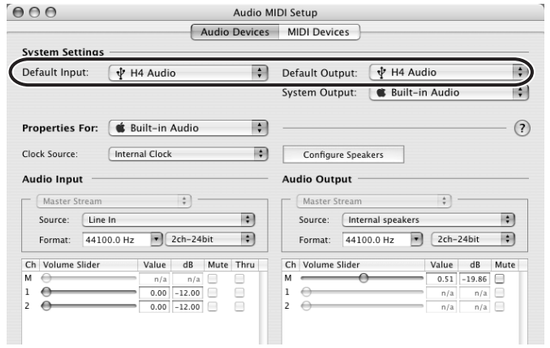
For information on steps to take at the H4n, see the section "Setting up: USB connection, H4n used as an Audio Interface" (p.033) of the H4n operation manual.

NOTE

- If you monitor the audio signal during recording via the audio output of the computer, there will be an audible delay. Be sure to use the [PHONES/LINE] jack of the H4n to monitor the signal.
- Use a high-quality USB cable and keep the connection as short as possible. If USB bus power is supplied to the H4n via a USB cable that is more than 3 meters in length, the low voltage warning indication may appear.

4 Open the "Applications" folder and then the "Utilities" folder, and double-click "Audio MIDI Setup".

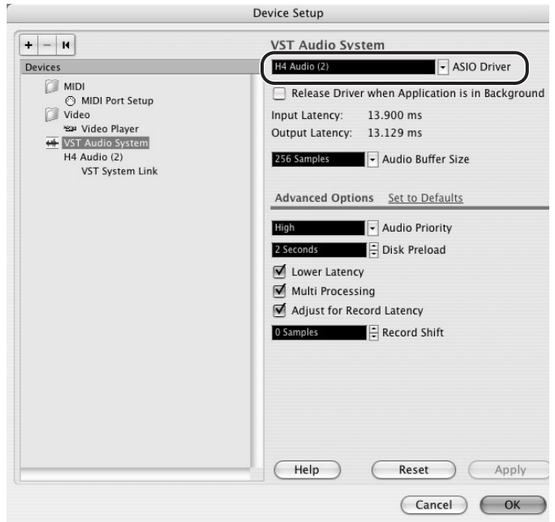
The Audio MIDI Setup screen appears. Click "Audio Devices" and check whether "H4 Audio" is selected as default input/default output.



If another device is selected, use the pull-down menu to change the selection to "H4 Audio".
When the setting has been made, close Audio MIDI Setup.

5 Start Cubase LE 4. Then access the "Devices" menu, select "Device Setup..." and click "VST Audio System".

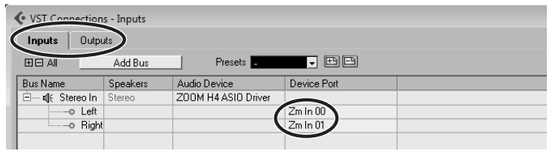
To start Cubase LE 4, double-click on the Cubase LE 4 icon that was placed in the "Applications" folder during installation.
After startup, be sure to verify that "H4 Audio (2)" is selected as ASIO driver in the right section of the Device Setup window.



If another item is selected, use the pull-down menu to change the selection to "H4 Audio (2)".
When the setting has been made, click the OK button to close the window.

Continued overleaf

6 From the "Devices" menu of Cubase LE 4, select "VST Connections" and select the device containing the string "Zm In (Out)" ("H4 Audio" for MacOS X) as input port and output port.



Use the tabs at top (top center for Mac OS X) left to switch between input and output, and verify that "Zm In (Out)" is selected as device port. If another device is selected, click the device port field and change the selection.

7 Access the "File" menu and select "New Project".

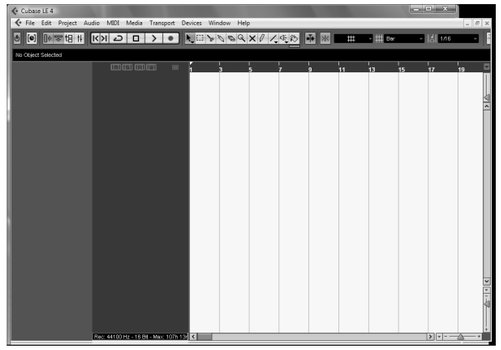
The new project window appears. Here you can select a project template.

8 Make sure that the "Empty" template is selected, and click the OK button.

A window for selecting the project file save location appears.

9 After specifying a suitable project file save location (such as the desktop), click the OK button (Choose button in MacOS X).

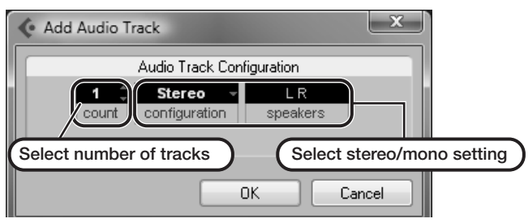
A new project is created, and the project window for controlling most of the Cubase LE 4 operations appears.



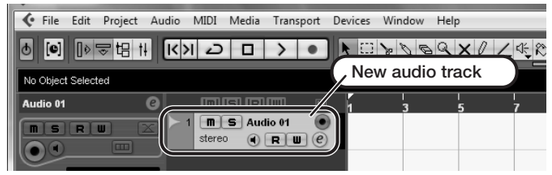
Project window

10 To create a new audio track, access the "Project" menu and select "Add track". In the submenu that appears, select "Audio".

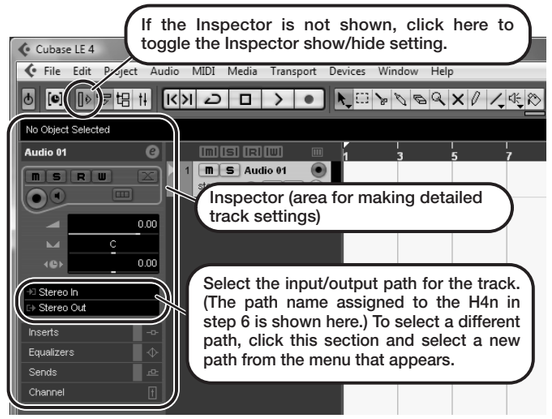
he Add Track window for specifying the number of audio tracks and the stereo/mono setting appears.



In this example, set the number of tracks to "1" and select stereo, then click the OK button.
A new stereo audio track is added to the project window.



11 Make the following settings for the newly created audio track.



HINT

The Inspector shows information about the currently selected track. If nothing is shown, click on the track to select it.

12 Connect the guitar or other instrument to the [INPUT] jack of the H4n and select the desired patch.

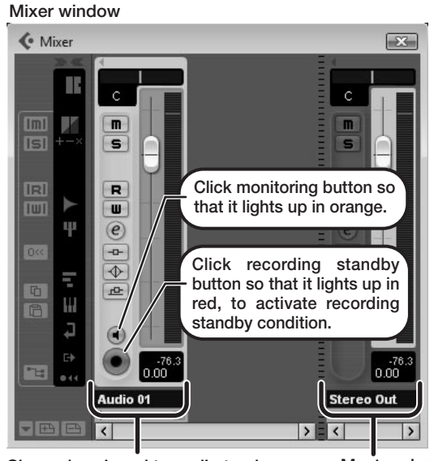
The sound selected here will be recorded on the computer via the [USB] port. For information on how to select the input signal and effect patch for the H4n, see page 034 (Selecting the input source) and page 083 (Selecting a patch) of the H4n operation manual.

13 Access the "Devices" menu of Cubase LE 4 and select "Mixer".

The mixer window appears.
This window shows the channel assigned to the created track, and the master channel.

Perform the following steps here.

Mixer window

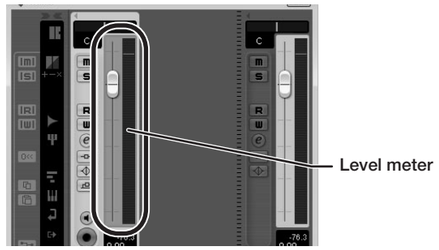


Channel assigned to audio track — Master channel

HINT

When the monitoring button is enabled, the level meter next to the fader shows the input level to the audio track. When the monitoring button is disabled, the meter fader shows the audio track output level.

14 While playing your instrument, adjust the output level of the H4n to achieve a suitable recording level for Cubase LE 4.



The recording level for Cubase LE 4 can be checked with the level meter for the channel that is assigned to the recording standby track. Set the level as high as possible without causing the meter to reach the end of the scale.
To adjust the level, do not use the fader of Cubase LE 4. Instead change the recording level and gain settings at the H4n.

NOTE

- While the monitoring button is enabled, the direct signal input to the H4n and the signal routed to the computer and then returned to the H4n will be output simultaneously from the H4n, causing a flanger-like effect in the sound. To accurately monitor the sound also while adjusting the recording level, temporarily set the output device port for the VST connection (step 6) to "Not Connected".
- The level meter as in the above illustration shows the signal level after processing in the H4n. When you pluck a guitar string the meter may register with a slight delay, but this is not a defect.

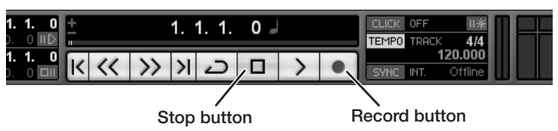
15 When the recording level has been adjusted, click the monitoring button to disable it.

The input level is no longer shown on the meter, and the signal returned to the H4n via the computer is muted.
In this condition, only the signal before sending to the computer can be monitored via the [PHONES/LINE] jack of the H4n.

16 Verify that the transport panel is being shown.

If the transport panel is not shown, access the "Transport" menu and select "Transport Panel".

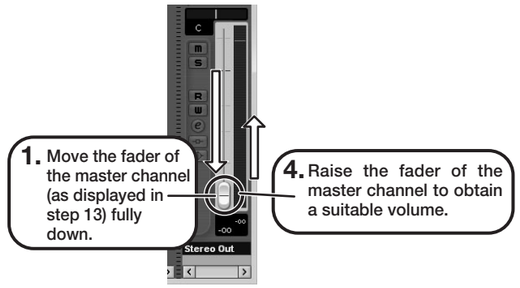
17 To start recording, click the Record button in the transport panel.



Recording starts.
As you play your instrument, the waveform appears in real time in the project window.
To stop recording, click the Stop button in the transport panel.

18 Check the recorded content.

To play the recording, perform the following steps.



2. Use the button in the transport panel to move to the beginning of the project.

3. Click the Play button in the transport panel to start playback.

HINT

If no sound is heard when you click the Play button after recording, check the VST connection settings (step 6) once more.

NOTE

To continue using Cubase LE 4, a process called activation (license authentication and product registration) is necessary. When you start Cubase LE 4, a screen offering to register the product will appear. Select "Register Now". A web site for registration will open in your Internet browser. Follow the instructions on that page to register and activate the product.

For optimum enjoyment

While using Cubase LE 4, other applications may slow down drastically or a message such as "Cannot synchronize with USB audio interface" may appear. If this happens frequently, consider taking the following steps to optimize the operation conditions for Cubase LE 4.

(1) Shut down other applications besides Cubase LE 4.
In particular, check for resident software and other utilities.

(2) Reduce plug-ins (effects, instruments) used by Cubase LE 4.
When there is a high number of plug-ins, the computer's processing power may not be able to keep up. Reducing the number of tracks for simultaneous playback can also be helpful.

(3) Power the unit from an AC adapter.
When a device designed to use USB power is powered via the USB port, the current supply may sometimes fluctuate, leading to problems. See if using an AC adapter improves operation.

If applications still run very slowly or the computer itself does not function properly, disconnect the H4n from the computer and shut down Cubase LE 4. Then reconnect the USB cable and start Cubase LE 4 again.