



Panasonic[®]

Operating Instructions IC Recorder

Model No. **RR-XR800**

Dear customer

Thank you for purchasing this product.

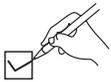
For optimum performance and safety, please read these instructions carefully.

Before connecting, operating or adjusting this product, please read the instructions completely. Please keep this manual for future reference.

E

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Supplied accessories



Please check and identify the supplied accessories.

Use numbers indicated in parentheses when asking for replacement parts. (Product numbers correct as of October 2010. These may be subject to change.)

- 1 USB cable [K2KZ4CB00012]

■ For the United Kingdom and Republic of Ireland customers

(Sales and Support Information)

Customer Care Centre

- For customers within the UK: 0844 844 3852
- For customers within the Republic of Ireland: 01 289 8333
- Visit our website for product information www.panasonic.co.uk
- E-mail: customer.care@panasonic.co.uk

Direct Sales at Panasonic UK

- For customers: 0844 844 3856
- Order accessory and consumable items for your product with ease and confidence by phoning our Customer Care Centre
Monday-Thursday 9:00 a.m.-5:30 p.m., Friday 9:30 a.m.-5:30 p.m. (Excluding public holidays)
- Or go on line through our Internet Accessory ordering application at www.pas-europe.com.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products, take a browse on our website for further details.

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Features

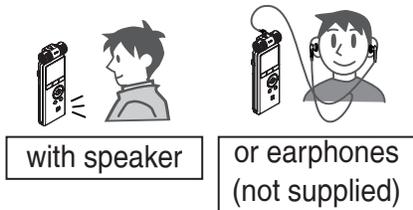
Recording

Musical instrument play | Nature observation | Lesson, lecture, etc.

This unit supports the Linear PCM (hereinafter referred to as “PCM”) recording. Data is not compressed in PCM recording. Therefore, high-quality recording is enabled, comparable to the sound quality of CD. Using the built-in high-sensitivity stereo microphone enables natural and realistic recording. You can enjoy recordings of a band practice, instrument lesson, birds singing, etc.

Playing back to listen

- Recorded file
- MP3 music file



Connecting this unit to a computer

Using a computer

- Copy/Organise (Delete) recorded files/ Play back to listen

From a computer

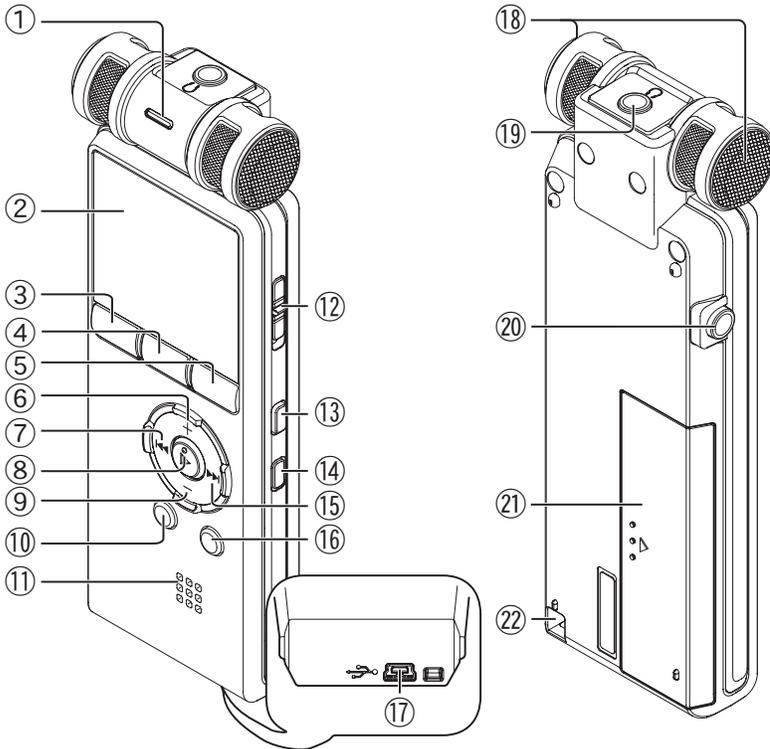
- Transfer recorded files and data files

This unit offers various types of recording settings. You can switch to your preferred setting according to the recording environment. The chart below shows the guideline of recording settings for each recording scene.

Detailed setting methods, etc. are described in each page following this page.

Recording setting / Recording scene	Recording mode (→ page 16)	Microphone sensitivity (→ page 17)	Microphone ALC setting (→ page 18)
Recording for meeting, lecture, etc.	[MP3]: [128 kbps]	[HIGH]	[ON]
Dictation recording	[MP3]: [128 kbps]	[LOW]	[ON]
Recording for instrument play or nature sound (bird tweet, etc.).	[PCM]	Switch according to the recording environment.	[OFF]
Factory setting	[MP3]: [128 kbps]	[HIGH]	[ON]

Part names



- ① Recording indicator (red)
- ② LCD display
- ③ INDEX/DIVIDE
- ④ STOP ■
- ⑤ REC ●/|| (PAUSE)
- ⑥ + (Volume up)
- ⑦ ◀◀ (Fast backward)
- ⑧ ▶ (Play/Enter)
- ⑨ - (Volume down)
- ⑩ FOLDER/SLOW
- ⑪ Built-in speaker
- ⑫ OPR/HOLD
- ⑬ MENU
- ⑭ ERASE
- ⑮ ▶▶ (Fast forward)
- ⑯ LIST/FAST
- ⑰ USB jack
- ⑱ Built-in microphone
- ⑲ Headphone/earphone jack (⌀)
- ⑳ External microphone jack (MIC)
- ㉑ Battery cover
- ㉒ Hand strap hole

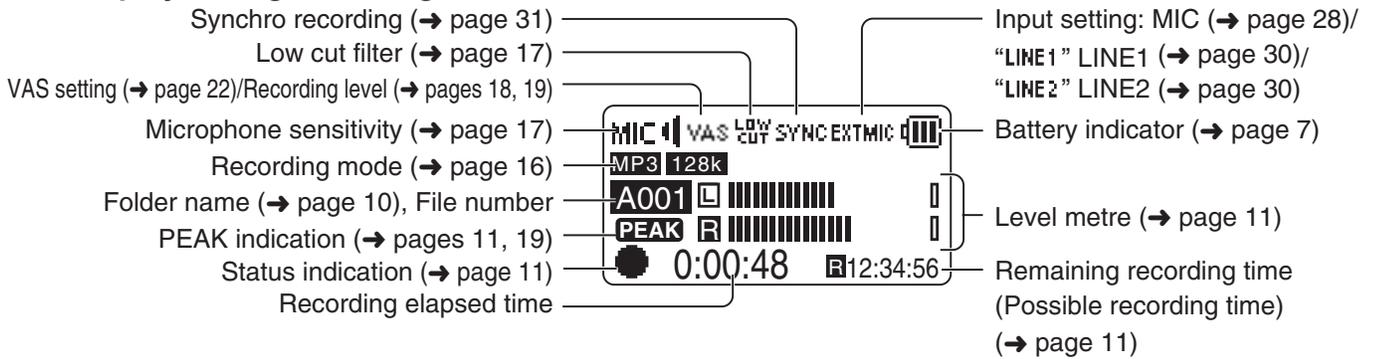
The button notations differ from those of the actual product.

Actual product	INDEX /DIVIDE	FOLDER SLOW	LIST FAST
In this manual	INDEX or /DIVIDE	FOLDER or SLOW	LIST or FAST

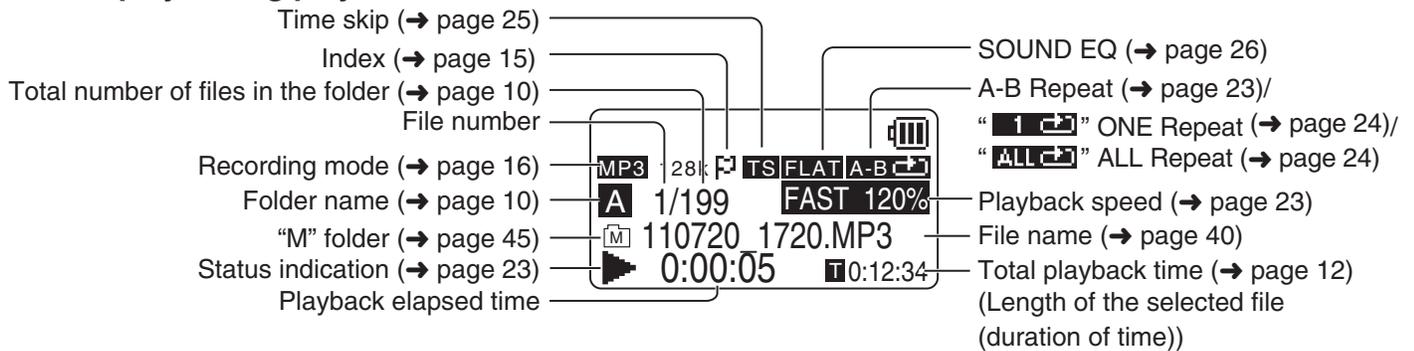
Screen display

* The following screen examples explain each item. Some items may not be displayed simultaneously.

Screen display during recording:



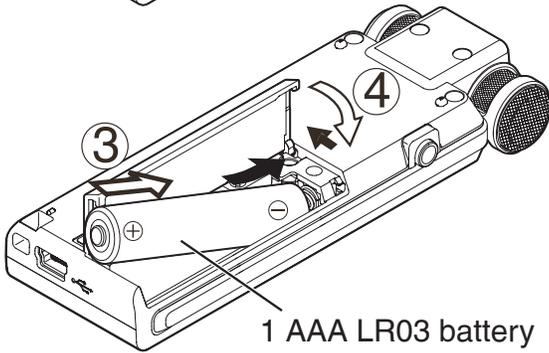
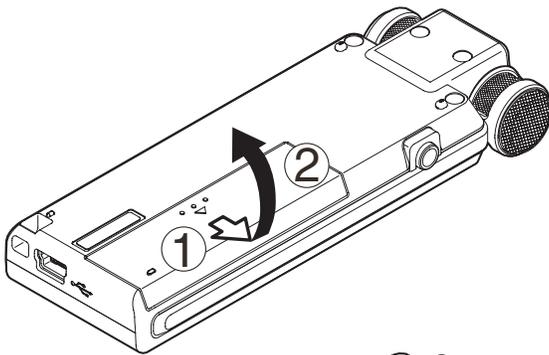
Screen display during playback:



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6 ● The contrast of the LCD display can be adjusted. (→ page 33)

Inserting the battery



1 AAA LR03 battery
(not supplied)

Make sure the battery face the right direction.

- Use an alkaline battery.
- Remove the battery from the unit if you will not use it for a long period of time.

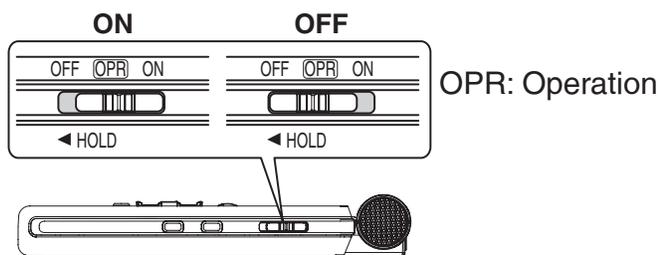
The remaining battery level is displayed as below while this unit is operating.



- If the battery runs out, “” blinks. Replace the battery as soon as possible.
- Please replace battery within approx. 3 minutes for preservation of the clock data.
- Depending on the battery status or the operation content to use, even if the power turns off due to the battery exhaustion, this unit may be used for a while if turned on again. However, the unit may suddenly turns off during operation due to the low level of battery.
- Some level of battery is required when recording, or performing Deleting files (→ page 14), Dividing files (→ page 27), Deleting index (→ page 15), FORMAT (→ page 34). If the battery indicator shows “” (blinking) and these operations are performed, the power turns OFF due to the battery exhaustion.
- **Make sure to turn the power off before removing the battery.**
 - If the battery is removed while the unit is on, data may be lost or this unit may be damaged.

Turning the Power ON/OFF

OPERATION/HOLD Switch:



Set the current date and time when turning this unit on for the first time. (→ page 9)

Hold function

Button operations are ignored when you set Hold on.

Turning the power ON:

Slide the OPERATION/HOLD switch to ON side to turn the power on. Then, the display lights on.

Turning the power OFF:

Slide the OPERATION/HOLD switch to OFF side while stopped.

When sliding the OPERATION/HOLD switch to OFF side during recording or playback, the unit enters the Hold state. The power cannot be turned off. (→ right)

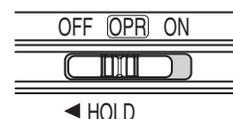
Auto power off:

The power automatically turns off after a preset time (the factory setting is 15 minutes) elapses while recording is paused or stopped. (→ page 33)

If the unit is turned off by the auto power off function, slide the OPERATION/HOLD switch to OFF side and turn the power on.

Using the Hold function:

Slide the OPERATION/HOLD switch to ◀ side during recording or playback.

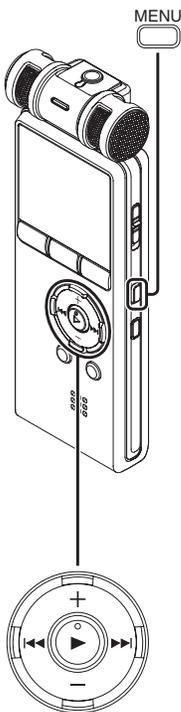


- When the Hold function is on, button operation is ignored even if the unit is on ("HOLD ON" is displayed). Accordingly, operation mistakes (i.e. Recording or playback stopping midway) can be prevented.
- When recording or playback finishes while the Hold function is on, the power automatically turns off.

Setting the clock

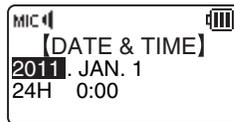
The clock operation starts on this unit when the battery is inserted and the power is turned on for the first time.

The date and time indication is not correct in this state because the clock has not been set yet. The clock is used as a file name (→ page 40) or to preserve recording date and time information. Set the correct date and time.



• Turn the power on. (→ page 8)

- 1 Press **MENU**.
- 2 Press **+, -** to select “COMMON MENU” and press **▶** to enter.
- 3 Press **+, -** to select “DATE & TIME” and press **▶** to enter.
- 4 Press **+, -** to set the year and press **▶▶**.
- 5 Press **+, -** to set the month and press **▶▶**.



The above illustration is a display example.

- 6 Press **+, -** to set the date and press **▶▶**.
- 7 Press **+, -** to set the clock indication method and press **▶▶**.
“24H” and “AM/PM” are displayed for the 24-hour display and the 12-hour display respectively.
- 8 Press **+, -** to set the hour and press **▶▶**.
- 9 Press **+, -** to set the minute.
To change the setting, press **◀◀, ▶▶** to move between the items, and then press **+, -** again to make the setting.
- 10 Press **▶** to enter.
The date and time are set and the clock starts to operate.

To exit the setting screen, press **MENU**.

- The clock operates with the monthly loss/gain of approx. 60 seconds at normal temperature.
- The clock setting will be lost if the battery is removed or completely exhausted.

Recording

- Turn the power on. (→ page 8)
- Press  to stop the unit.

1 Press .

2 Press ,  to select the recording destination folder and press  to enter.



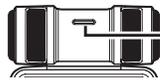
For microphone recording, select a folder among folders “A”, “B”, “C” and “D”.

(The factory setting is “A”)

When you select “L” or “M”, recording is automatically saved in “A”.

3 Press  (Recording starts).

Each time you press  Pause ⇄ Recording resumes



The indicator lights on.
(Blinks while paused.)

To stop: Press .

File

Recorded audio data from the starting point to the ending point is saved as a file.

The saved data is called a file.

Folder

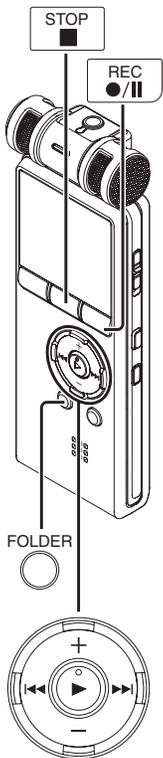
This is where files are stored. This unit has folders “A”, “B”, “C” and “D” for microphone recording, folder “L” for recording with other devices connected, and folder “M” for music.

Using each folder according to the purposes of recording enables you to search files easily later. Up to 199 files can be recorded in each folder.

Recording with other devices connected
(→ page 30)

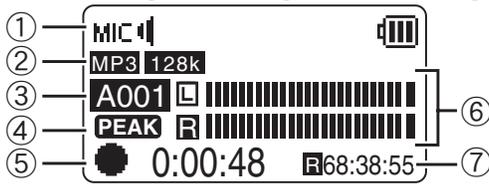
Transfer/playback of music files
(→ pages 44, 45)

- Change the recording mode or microphone sensitivity as necessary. (→ pages 16, 17)
- Note if your finger or an object touches this unit during recording, the noise will be recorded through the microphone.



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Screen display during recording:



- ① Microphone sensitivity (→ page 17)
- ② Recording mode (→ page 16)
- ③ Folder name (→ page 10), File number
- ④ PEAK indication
If the input volume is excessive and the level metre swings, “PEAK” is displayed.
- ⑤ Status indication
“●” and “▮” are displayed while recording and paused respectively.
- ⑥ Level metre
Displays the volume input into this unit. (Stereo (L/R)) L and R volumes are displayed respectively during monaural recording (→ page 16) as well. Note that the monaural recording data are synthesized from L and R.

- ⑦ Possible remaining recording time
Displays the remaining recording time (possible recording time) in the selected recording mode. See page 6 for other screen displays.

Note when recording

This unit is equipped with a large-diameter and high-sensitivity microphone. Accordingly, if a breath or wind directly hits the microphone during recording, the wind-cutting sound may be recorded or voice may be difficult to hear.

1. This can be prevented by blocking the wind with your body so that the wind does not directly hit the unit.
2. During dictation recording, slightly move this unit from front of your mouth or keep distance.



* Turning the “LOW CUT FILTER” (→ page 17) to “ON” reduces the sound of low frequency range. This may help the reduction of the wind-cutting sound.

- If the file size exceeds 2 GB during recording, the recording stops tentatively at the point when the data reaches 2 GB. Then, the recording resumes with a new file. Recording is not available during the interval (approx. 2 seconds) from when the recording stops to when the recording resumes.

Playing

- Press **STOP** to stop the unit.
- Select a folder. (→ right)
- Select a file. (→ right)

1 Press ► (Playback starts).

Adjusting the volume

Turn up the volume: Press +.

Turn down the volume: Press –.

Volume range is 0 to 20.

(The factory setting is “10”.)

If you turn the unit off with the volume set to 17 or more, the volume will be set to 16 next time the unit is turned on.

Operations during playback

Jump (Skip):

Press **◀▶**.

Press **◀◀** midway while playing a file and the playback jumps to the beginning of the file.

To return to the previous file, press **◀◀** within approx. 1 second from the beginning of the file.

Fast backward/Fast forward (Search):

Press and hold **◀◀**, **▶▶**.

To stop: Press **STOP**.

Select a folder

Press **FOLDER** to display “[SELECT FOLDER]”.

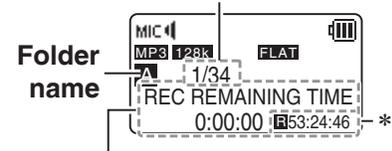
Press **◀◀**, **▶▶** to select the folder that contains a file to play and press **►** to enter. Selecting “M” displays the list screen. (→ pages 13, 43)

Select a file

Press **◀◀**, **▶▶** to select.

Each time you press, the file number changes.

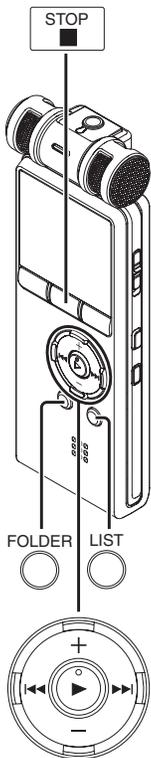
File number/Total number of files in the folder



Each time **STOP** is pressed, the display content (Possible remaining recording time/ Current time/Total playback time/File name/ Recording date and time) is switched.

The time display for the possible remaining recording time and total playback time is displayed at the position indicated with *.

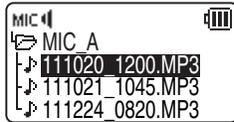
For files in folder “M”, possible remaining recording time and recording date and time are not displayed.



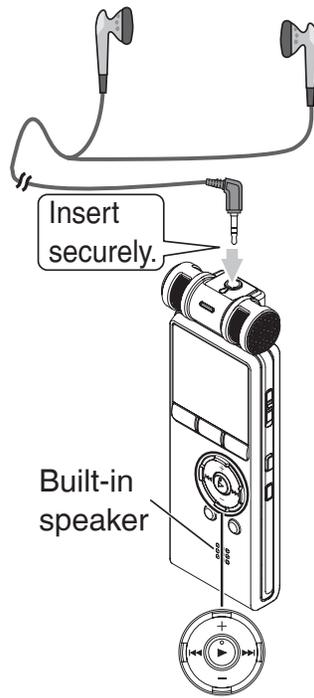
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When selecting a file from list

- ① Press **LIST** while the unit is stopped.
Files in the selected folder are displayed as a list. (The list screen)
 - ② Press **+**, **-** to select the file and press **▶** to enter.
Playback starts.
- Pressing **FOLDER** after step ① can switch the folder. (The folder is switched each time the button is pressed.)
 - When there is no file in the selected folder, "NO FILE" is displayed.
 - To exit the list screen, press **LIST**.
 - The folder hierarchy is displayed with the tree structure on the list screen. For details of folder hierarchy and the operating method, see pages 42, 43.



Listening to the audio using earphones



Connect stereo earphones (not supplied).
Plug type: \varnothing 3.5 mm stereo mini plug
Recommended additional earphones:
Panasonic RP-HV154, RP-HJE120
(the product number is correct as of October 2010.)

Monitoring the recording in progress

Adjusting the volume:

You can adjust the volume by pressing **+**, **-**, but the recording level is not affected.

Listening to the audio during playback

The audio during playback comes from the speaker. Listening may be difficult in noisy places due to the speaker output. In that case, connect stereo earphones (not supplied).

- The built-in speaker is turned off when earphones are connected.

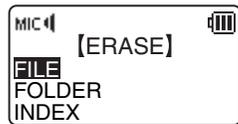
- On the list screen, folders "A", "B", "C", "D", "L" and "M" are displayed as "MIC_A", "MIC_B", "MIC_C", "MIC_D", "LINE" and "MUSIC" respectively.

Deleting files

- Select a file to delete beforehand. (→ page 12)
- Press  to stop the unit.

1 Press .

2 Press +, - to select "FILE" and press  to enter.



3 Press ,  to select "YES" and press  to enter.

While deleting, the recording indicator blinks and "ERASING" is displayed. It may take several minutes until the deletion is complete.

Selecting "FOLDER" in step 2 will move to the screen to delete all files in the selected folder.

To exit the deletion screen, press .

- Deleted files cannot be recovered.
- The file numbers displayed on this unit are moved forward after deleting files. (→ page 40)
- Read-only MP3 music files transferred from the computer or subfolders (→ pages 42, 44) in the MUSIC folder created on the computer cannot be deleted using this unit. Delete them on the computer. (→ page 39)
- For operations on the list screen, see page 13 or page 43 as well.

When deleting by selecting a file from the list

- Press  to stop the unit.

1 Press . Files in the selected folder are displayed as a list.

2 Press +, - to select the file and press .

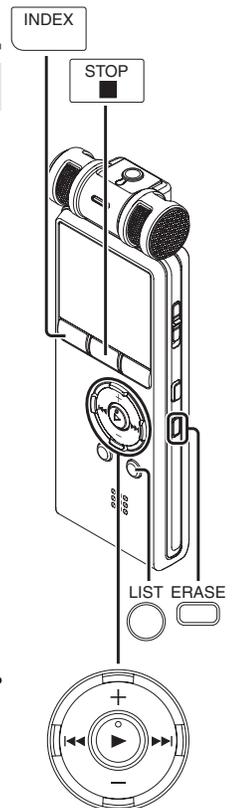
3 Press ,  to select "YES" and press  to enter.



To delete all files in the folder:

Press  after step 1 to display the folder list.

Press +, - to select the folder and press . Then, the screen for deleting all files in the selected folder will appear.



Index function

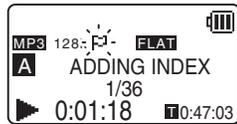
By adding Index (position information on the file) to the file, playback position jumps to the specified position by skip operation (→ page 12) during playback.

You cannot set index marks in files stored in “M” folder and “L” folder.

Adding Index

- 1 During recording or playback or while recording is paused, press **INDEX** at the position where you want to add an index.

“**INDEX**” (blinking) and “**ADDING INDEX**” are displayed.



“**INDEX**” (lighting) is displayed for the file to which indexes are added.

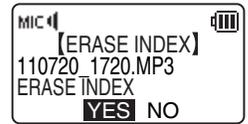


- Up to 36 of indexes per 1 file can be added.
- Indexes are deleted when the file is deleted or divided.
- When the battery indicator shows “**INDEX**” (blinking), indexes cannot be added. Also, adding the index may be impossible on the border of “**INDEX**” and “**INDEX**” (blinking).
- During playback, even if you press **SKIP** at the position within approx. 2 seconds after the index point, playback does not stop at the point.

Deleting Index

- Select a file which has Index to be deleted. (→ page 12)
- Press **STOP** to stop the unit.

- 1 Press **ERASE**.
- 2 Press **+**, **-** to select “**INDEX**” and press **▶** to enter.
- 3 Press **◀◀**, **▶▶** to select “**YES**” and press **▶** to enter.



Indexes are deleted.

To exit the deletion screen, press **ERASE**.

- Deleting index marks from a file does not delete the audio part of the file.
- When more than 1 index are added in 1 file, they cannot be deleted one by one.

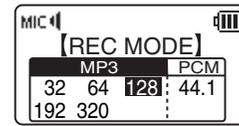
Selecting recording mode

You can change the sound quality for microphone recording or line-in recording. This allows you to provide the best sound quality for the particular purpose.

• Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+, -** to select "REC MENU" and press **▶** to enter.
- 3 Press **+, -** to select "REC MODE" and press **▶** to enter.

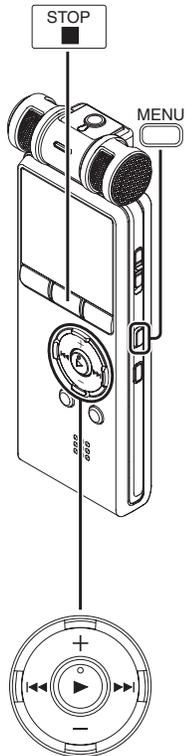
- 4 Press **+, -, ◀, ▶** to select the setting (PCM, MP3, bit rate, etc.) and press **▶** to enter.



(The factory setting is "MP3, 128 kbps".)

To exit the setting screen, press **MENU**.

The selected recording mode is displayed.



- Depending on the recording mode setting, the sound quality and remaining recording time (→ page 55) will differ.

	High quality recording					
	Long recording					
Recording format	MP3	MP3	MP3	MP3	MP3	PCM
Bit rate	32 kbps	64 kbps	128 kbps	192 kbps	320 kbps	44.1 kHz*

* Sampling frequency

- When the recording mode is set to "MP3, 32 kbps", the recording becomes monaural.

Switching microphone sensitivity

Switch the microphone sensitivity according to the volume of the sound source. When the sound source volume is loud, set the sensitivity to “LOW”. When it is low, set the sensitivity to “HIGH”.

- Press  to stop the unit.

- 1 Press .
- 2 Press +, – to select “REC MENU” and press  to enter.
- 3 Press +, – to select “MIC SENSITIVITY” and press  to enter.
- 4 Press +, – to select “HIGH” or “LOW” and press  to enter.

(The factory setting is “HIGH”.)

When the microphone sensitivity is High or Low, “MIC ” or “MIC ” is displayed respectively.



To exit the setting screen, press .

Reducing noise (LOW CUT FILTER)

Sound of low frequency range is reduced during microphone recording. This is effective when reducing noise of air conditioning equipment, etc. while recording at a meeting, etc.

- Press  to stop the unit.

- 1 Press .
- 2 Press +, – to select “REC MENU” and press  to enter.
- 3 Press +, – to select “LOW CUT FILTER” and press  to enter.
- 4 Press ,  to select “ON” and press  to enter.

(The factory setting is “OFF”.)

“LOW CUT” is displayed.



To exit the setting screen, press .

Setting the recording level manually

The recording level can be adjusted automatically or manually on this unit. When the microphone ALC (Auto Level Control) setting is ON (factory setting), the sound distortion is reduced by adjusting the recording level automatically. Setting the microphone ALC setting to OFF enables manual adjustment of the recording level. To record the original sound volume level faithfully such as an instrument playing and nature sound, set the microphone ALC setting to OFF. (The factory setting is "ON".)

Setting the microphone ALC setting to OFF

- Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+, -** to select "REC MENU" and press **▶** to enter.
- 3 Press **+, -** to select "MIC ALC" and press **▶** to enter.
- 4 Press **◀◀, ▶▶** to select "OFF" and press **▶** to enter.

The recording level is displayed.



To exit the setting screen, press **MENU**.

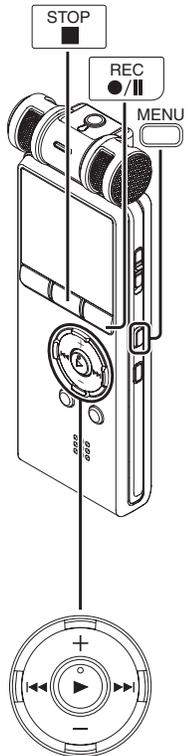
- The microphone ALC setting is only effective during microphone input.

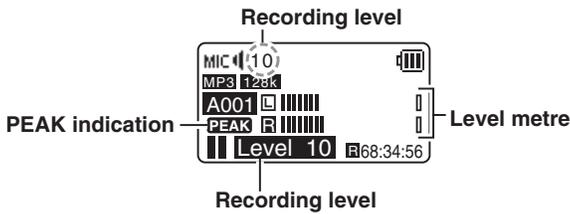
Adjusting the recording level manually

- Set the microphone ALC setting to OFF beforehand. (When the microphone ALC setting is ON, the unit does not enter the recording standby.)

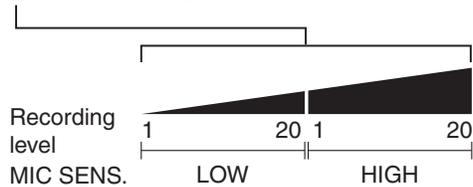
- 1 Press and hold **REC** for 1 second or more.
The unit enters the recording standby.
- 2 Aim the microphone at the sound source to record.
- 3 Press **◀◀, ▶▶** to adjust the recording level.
Adjustment range is 0 to 20.
(The factory setting is "10".)
Adjusting the recording level. (→ page 19)

Pressing **REC** starts recording.





- If the level metre swings and “PEAK” is displayed, this means the recording level is too high. Adjust the level within the range in which “PEAK” is not displayed even if the recording sound reaches the highest level.
- The input level (volume input to this unit) for recording is combination of the recording level and microphone sensitivity. The input level image is as below.



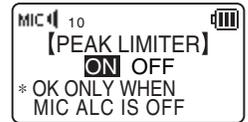
- No sound is recorded at the recording level 0.
- The recording level can also be adjusted during recording or while recording is paused.
- When **MENU** is pressed during recording standby, the microphone sensitivity (→ page 17), “LOW CUT FILTER” (→ page 17) and recording EQ (→ page 20) can be set.

Setting the recording peak limiter to ON

Even if the microphone ALC setting is OFF, when the excessive volume is input, the recording level is automatically adjusted and the sound distortion is reduced.

- Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+, -** to select “REC MENU” and press **▶** to enter.
- 3 Press **+, -** to select “PEAK LIMITER” and press **▶** to enter.
- 4 Press **◀◀, ▶▶** to select “ON” and press **▶** to enter.
(The factory setting is “OFF”.)



To exit the setting screen, press **MENU**.

- When the microphone ALC setting is ON, the recording peak limiter function will be activated regardless of the above setting.
- If the level metre swings, “PEAK” is displayed regardless of the recording peak limiter setting.

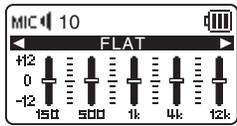
Setting the recording EQ

Using the recording EQ enables you to set bass, middle and treble range of recording level according to your preferred settings for recording.

The recording EQ includes 7 types of fixed mode and the “USER” mode with which you can set the recording level according to each frequency band.

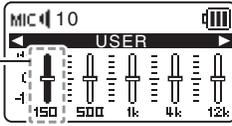
- Set the microphone ALC setting to OFF beforehand. (→ page 18)
(When the microphone ALC setting is ON, the unit does not enter the recording standby.)

- 1 Press and hold  for 1 second or more.**
The unit enters the recording standby.
- 2 Press .**
- 3 Press +, - to select “REC EQ” and press  to enter.**
- 4 Press ,  to select the recording EQ mode.**



When you select modes other than “USER”, go to step 5.

Setting when selecting “USER”:

- ① After step 4, press -.  150 Hz band is selected.
- ② Press ,  to select the frequency band to change, and press +, - to adjust the recording level.

- ③ When the settings for the frequency band to change are all complete, go to step 5.

- 5 Press  to enter.**

To exit the setting screen, press .

The EQ mode name is not displayed after exiting the setting screen.

Pressing  starts recording.

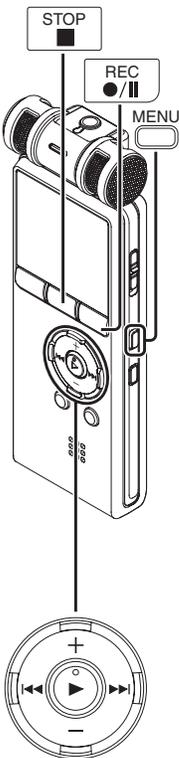
EQ mode	Effect and application
FLAT	This (basic) mode does not emphasise a specific sound range.
SUPER BASS	Emphasise the bass range strongly.
BASS	Emphasise the bass range slightly.
MIDDLE	Emphasise the middle range.
BASS & TREBLE	Emphasise the bass and treble ranges slightly.
TREBLE	Emphasise the treble range slightly.
SUPER TREBLE	Emphasise the treble range strongly.
USER	This mode enables adjustment of frequency bands of 150 Hz, 500 Hz, 1 kHz, 4 kHz and 12 kHz.

(The factory setting is “FLAT”.)

- When the microphone ALC setting is ON or recordings other than the microphone recording are performed, the recording EQ does not function.

Self timer

You can select your preferred time period from when  is pressed until when the recording starts. This function is very useful where you need time for preparation before recording should start – for example in musical instrument practice.



- Press  to stop the unit.

- 1 Press .
- 2 Press +, – to select “REC MENU” and press  to enter.
- 3 Press +, – to select “SELF TIMER” and press  to enter.
- 4 Press +, –, ,  to select the time and press  to enter.



(The factory setting is “OFF”.)

To exit the setting screen, press .

- When  is pressed, countdown starts. Then, recording starts after the set time. The recording indicator blinks during countdown. (→ page 33)
- Once the self timer is set, the setting is preserved until the self timer setting is set to OFF or the settings of this unit are initialised. (→ page 34)
- Pressing  during countdown starts recording immediately.
- If you press  during countdown, the self timer recording can be stopped.

Preventing unnecessary recording (VAS)

When VAS (Voice Activated System) is set, if silence continues for approx. 2 seconds during microphone recording, the recording is paused automatically. If the unit detects sound, the recording resumes.

- Set the microphone ALC setting to ON beforehand. (→ page 18)
- Press  to stop the unit.

- 1 Press .
- 2 Press +, - to select "REC MENU" and press  to enter.
- 3 Press +, - to select "VAS" and press  to enter.
- 4 Press ,  to select "ON" and press  to enter.
(The factory setting is "OFF".)

"VAS" is displayed.

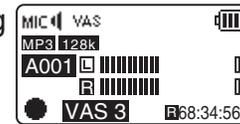


To exit the setting screen, press .
To start VAS recording, press .

Adjusting the VAS operation level:

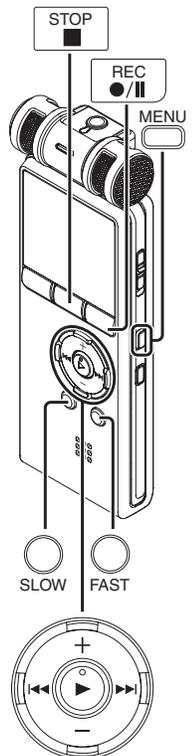
Press ,  during VAS recording.

(The factory setting is "3".)



- You can adjust the sound detection level from 1 to 5.
- If the audio to record is low, increase the VAS value (sensitivity level). If the sound is loud, decrease the VAS value.

- When the microphone ALC setting is OFF (→ page 18), even if the VAS setting is set to ON, the setting does not change to the VAS recording.
- For important recording, set the VAS setting to OFF.
- If the "LOW CUT FILTER" setting is "ON", low frequency sound may be cut out and VAS recording may not activate. In this case, change the "LOW CUT FILTER" setting to "OFF". (→ page 17)
- If the recording is paused with no sound state, "VAS" blinks. When  is pressed from this recording pause state, the status is changed to normal recording pause state and "VAS" lights up. While "VAS" is blinking, the "AUTO POWER OFF" (→ page 33) function does not operate.



Changing the playback speed

Playback speed can be adjusted at 21 different steps (50 % to 200 %).

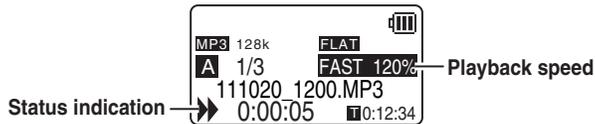
The playback speed for PCM files cannot be adjusted. (100 % speed playback only.)

Press  during playback.

Each time you press the button, the playback speed becomes faster.

Press  during playback.

Each time you press the button, the playback speed becomes slower.



Playback speed:

Playback speed can be adjusted by 10 %-step for speed faster than 100 % and by 5 %-step for speed slower than 100 %.

Status indication:

100 % playback, playback faster than 100 % and playback slower than 100 % are displayed as "▶", "▶▶" and "▶▶▶" respectively.

- Pressing and holding ,  can also adjust the playback speed.

A-B Repeat play

Playback repeats between the start point (A) and finish point (B) if those points are set.

1 Press ▶ while playing.

The start point (A) is set and "A" (blinking) and "▶▶▶" are displayed.



2 Press ▶ at the finish point (B).

The display changes to "▶▶▶▶" (lighting) and repeat play starts.



Cancelling A-B Repeat:

Press ▶, ◀◀, ▶▶ or .

- You cannot set A-B Repeat when the time between the start point (A) and finish point (B) is approx. 2 seconds or less.
- When only the start point (A) is set and playback continues until the end of the file, the end becomes the finish point (B) and A-B Repeat begins.
- A-B Repeat by setting the range using 2 files is not possible.

Playback from a specified position (TIME SEARCH)

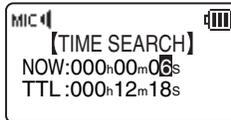
Playback is possible from the time-specified position.

- Press  to stop the unit.

- 1 Press .
- 2 Press +, – to select “PLAY MENU” and press  to enter.
- 3 Press +, – to select “TIME SEARCH” and press  to enter.
- 4 Set the playback start position.

(Change the value for “NOW” to set the start position.)

Press ,  to select “h, m, s” (hour, minute, second) and press +, – to change the values.



- 5 Press .
- Playback starts from the specified position.

Press  to stop the setting process midway.

- Time search playback applies only to the currently selected file.

Repeat play (REPEAT)

- Press  to stop the unit.

- 1 Press .
- 2 Press +, – to select “PLAY MENU” and press  to enter.
- 3 Press +, – to select “REPEAT” and press  to enter.
- 4 Press +, – to select “ONE” or “ALL” and press  to enter.



(The factory setting is “OFF”.)

OFF: Playback is performed in succession from the selected file to the last file in one folder. The unit is stopped when the playback finishes.

ONE: Plays one file repeatedly.

ALL: Plays all files in the folder repeatedly.

To exit the setting screen, press .

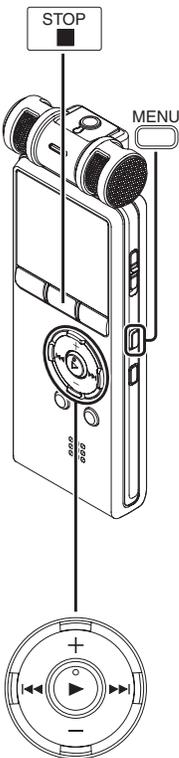
“ C” and “ C” are displayed for ONE and ALL respectively. No display for OFF.



Setting the skip interval (TIME SKIP)

Setting the skip time jumps with the interval set during skip operation.

This allows you to quickly move to a position for playback, or repeat playback of the same portion in a file.



- Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+, -** to select “PLAY MENU” and press **▶** to enter.
- 3 Press **+, -** to select “TIME SKIP” and press **▶** to enter.
- 4 Press **+, -, ◀◀, ▶▶** to select the time and press **▶** to enter.

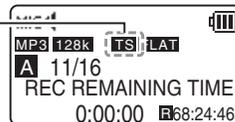


You can set the skip interval to OFF, 3 sec, 5 sec, 10 sec, 30 sec, 1 min, 5 min, 10 min, or 15 min.

(The factory setting is “OFF”.)

To exit the setting screen, press **MENU**.

“TS” is displayed.



- If the beginning of a file or the index point is present at the position closer than the set skip interval, the playback skips to such a position.
- When jumping (skipping) (→ page 12) to another file while using the time skip function, stop the file playback once and press **◀◀, ▶▶**.

Setting the playback EQ (SOUND EQ)

Using the sound EQ enables you to set bass, middle and treble range of volume level according to your preferred settings for playback.

The sound EQ includes 6 types of fixed mode and the “USER” mode with which you can set the volume level according to each frequency band.

The sound EQ is effective only when listening with the earphones.

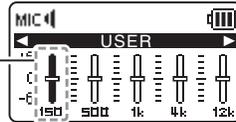
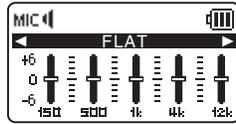
• Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+**, **-** to select “PLAY MENU” and press **▶** to enter.
- 3 Press **+**, **-** to select “SOUND EQ” and press **▶** to enter.
- 4 Press **◀◀**, **▶▶** to select the sound EQ mode.

When you select modes other than “USER”, go to step 5.

Setting when selecting “USER”:

- 1 After step 4, press **-**.
150 Hz band is selected.
- 2 Press **◀◀**, **▶▶** to select the frequency band to change, and press **+**, **-** to adjust the volume level.



- 3 When the settings for the frequency band to change are all complete, go to step 5.

- 5 Press **▶** to enter.

To exit the setting screen, press **MENU**.

The selected sound EQ mode is displayed.

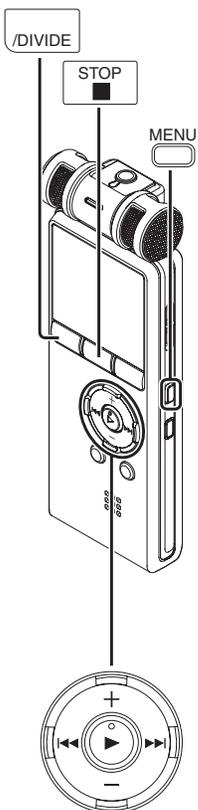


EQ mode	Effect and application
FLAT	The sound equalizer function is not used. You hear the original sound without any change.
BASS	Emphasise the bass range strongly.
CLEAR	Emphasise the treble range strongly.
HEAVY	Emphasise the bass and treble ranges slightly.
SOFT	Emphasise the middle range.
VOICE	Reduce noise to make human voice easily heard.
USER	This mode enables adjustment of frequency bands of 150 Hz, 500 Hz, 1 kHz, 4 kHz and 12 kHz.

(The factory setting is “FLAT”.)

Dividing files

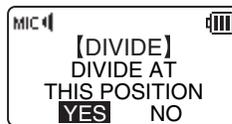
You can divide 1 file into 2 files at a specified position. A necessary part can be extracted or an unnecessary part of a file can be cut.



1 While playing, press **STOP** at the point where you wish to divide the file.

2 Press **/DIVIDE**.

3 Press **◀◀, ▶▶** to select “YES” and press **▶** to enter.



While the file is being divided, the recording indication flashes.

Then, the file is divided into 2 files and the playback stops at the beginning of the second file.

To exit the division screen, press **/DIVIDE**.

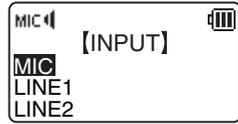
- Files in the “M” folder cannot be divided.
- A file length of approx. 2 seconds or more is necessary for dividing a file.
- You cannot divide a file at the beginning of the file.
- Divided files cannot be recovered.
- After the file is divided, the number of files in the folder increases by one. (→ page 40)
- If a file containing index marks is divided, the index marks will disappear after the file is divided. (→ page 15)
- If there is no empty space in the Built-in Memory, or if there is already a total of 199 files in the folder, you cannot use this function to divide a file.

Recording by connecting an external microphone

Use this setting when recording by connecting an external microphone to the external microphone jack of this unit.

• Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+, -** to select "REC MENU" and press **▶** to enter.
- 3 Press **+, -** to select "INPUT" and press **▶** to enter.
- 4 Press **+, -** to select "MIC" and press **▶** to enter.



To exit the setting screen, press **MENU**.

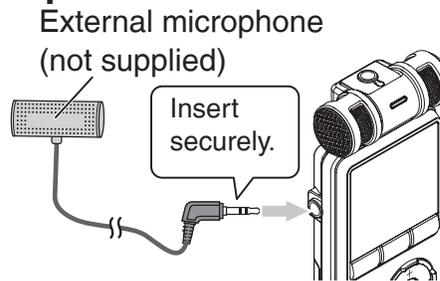
- 5 Connect the external microphone. (→ right)

"EXTMIC" is displayed.

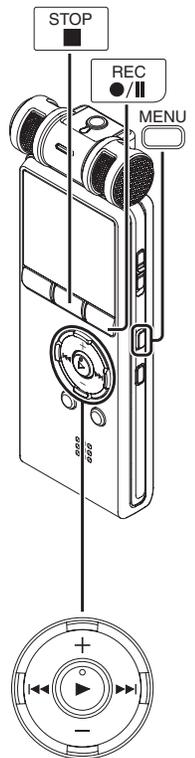


- 6 Press **REC** to start recording. See page 10 for recording operations.

Connecting the external microphone:



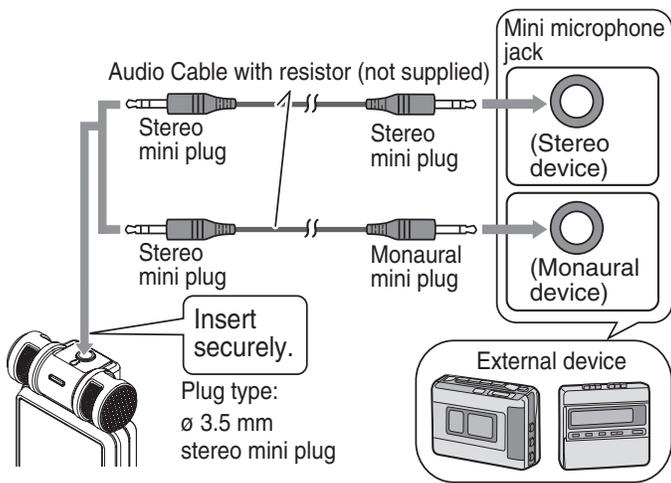
Plug type:
ø 3.5 mm stereo mini plug



- Read the operating instructions for the connected device.
- If the recording level is too low or high, adjust the microphone sensitivity. (→ page 17)
- The built-in microphone of this unit does not work if another device is connected to the external microphone jack.

Copying to other devices

1 Connect as below.



2 Copy the audio.

- ① Start recording to copy the audio on the external device.
- ② On this unit, play the file you want to copy.
(→ page 12)

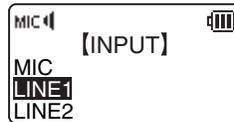
- Read the operating instructions for the connected device.
- Use the connection cable that matches monaural/stereo of the connected device. Wrong connection may cause recording trouble (i.e. Only 1 channel is copied.).
- The copied sound quality may differ from the sound quality of this unit.
- Adjust the volume on this unit to copy with a proper volume.

Recording from other devices

This is the method to record to the “L” folder by connecting an external device to the external microphone jack of this unit.

- Press **STOP** to stop the unit.

- 1 Press **MENU**.
- 2 Press **+, -** to select “REC MENU” and press **▶** to enter.
- 3 Press **+, -** to select “INPUT” and press **▶** to enter.
- 4 Press **+, -** to select “LINE1” or “LINE2” and press **▶** to enter.

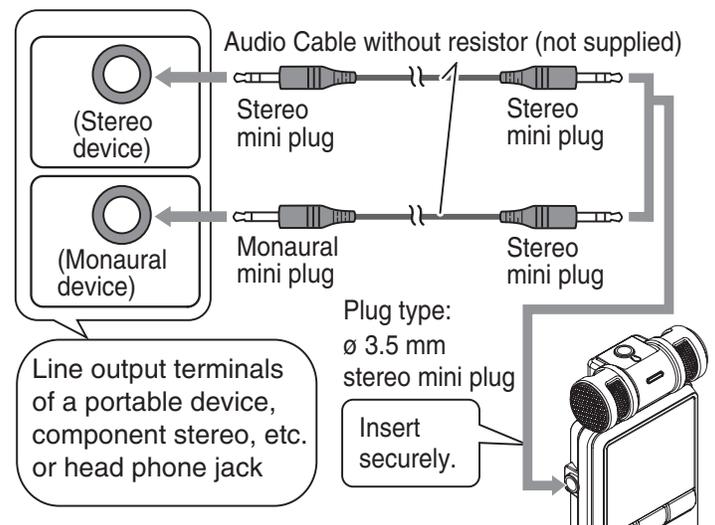
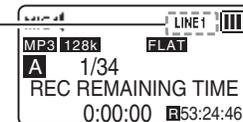


If the output level of the external device is low (such as a portable device), select “LINE1”. If it is high (such as a component stereo), select “LINE2”.

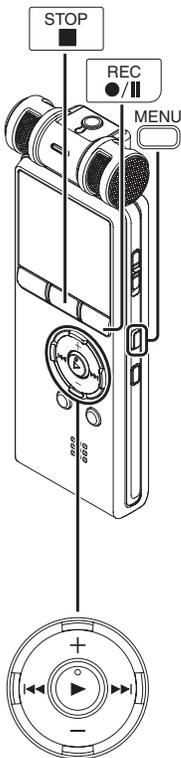
To exit the setting screen, press **MENU**.

- 5 Connect the external device.

“LINE1” or “LINE2” is displayed.



- 6 Press and hold **REC** for 1 second or more.
 - The unit enters the recording standby.
 - ① Play the external device to check the output level (high/low). Redo the setting in step 4 as necessary. If this unit is connected to the headphone output terminal of the external device, adjust the volume of the external device.
 - ② Stop the external device by cue operation for the sound source.



7 Press **REC** to start recording.

8 Play the external device.

-
- Disconnecting the audio cord (not supplied) during recording will stop recording.

This unit has the following synchro recording function.

This function detects the silence between tracks, etc. and then records each track into different files, such as a first track, second track, etc. If detecting sound from the external device, recording starts automatically. If detecting silence for approx. 2 seconds or more, recording is paused. Detecting sound again will resume recording.

Synchro recording setting

- Press **STOP** to stop the unit.

- 1** Press **MENU**.
- 2** Press **+, -** to select “REC MENU” and press **▶** to enter.

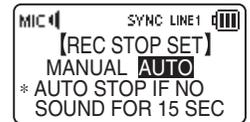
3 Press **+, -** to select “SYNCHRO REC” and press **▶** to enter.

4 Press **◀, ▶** to select “ON” and press **▶** to enter.

When the device is connected, either “SYNC” and “LINE1” or “SYNC” and “LINE2” are displayed.



5 Press **◀, ▶** to select “AUTO” or “MANUAL” and press **▶** to enter.



AUTO: If silence continues for 15 seconds, the recording stops.
MANUAL: Even if silence continues, the recording continues to be paused (standby) until **STOP** is pressed.

To exit the setting screen, press **MENU**.

-
- When **MENU** is pressed during recording standby in step **6** on page 30, the synchro recording setting can be made.

Recording from other devices

Synchro recording:

- Set the recording mode to MP3 beforehand. (→ page 16)
- Make the synchro recording setting beforehand.

1 Perform steps **1** to **8** on pages **30** and **31**.

-
- If the recording mode is set to PCM, the synchro recording is not possible even if the synchro recording setting is ON.
 - When connecting to the headphone output terminal of the external device, the synchro recording may not function properly.

Common menu

The following are the settings used for both recording and playback.

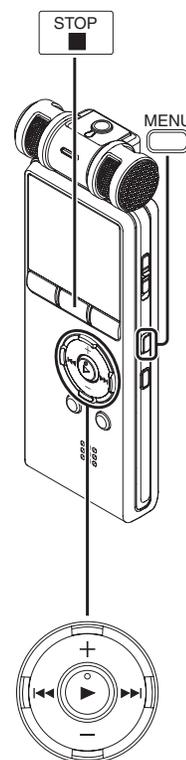
Common settings operation

- Press  to stop the unit.

- 1** Press .
- 2** Press +, – to select “COMMON MENU” and press  to enter.
- 3** Press +, – to select the setting item and press  to enter.
- 4** Press ,  to change the setting and press  to enter.

To exit the setting screen, press .

For “DATE & TIME”, see page 9.



BEEP SOUND

The button operation sound can be set.



ON: Sound OFF: No sound

(The factory setting is "ON".)

- When selecting "ON", press +, - to select your preferred volume and press ► to enter. (The factory setting is "MIDDLE".)
- Even if the beep sound is set to ON, the operation beep does not sound during recording or while recording is paused.

REC LED (Recording indicator)

You can make the setting whether to light the recording indication ON or OFF.

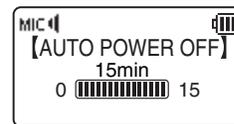


ON: Lighting OFF: Not lighting

(The factory setting is "ON".)

AUTO POWER OFF

This function automatically turns the power off if there is no operation for a certain period of time such as when recording is paused or stopped. This function helps you save battery when you forget to turn off the power.



AUTO POWER OFF: 0 min (OFF) to 15 min

(The factory setting is "15min".)

- You can set the time in 1-minute increments.
- When "OFF" is set, the "AUTO POWER OFF" function does not operate.

CONTRAST

Use this function to adjust the contrast of the screen. You can choose from 10 levels for the adjustment.



Contrast adjustment: 1 (L) to 10 (H)

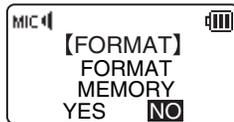
(The factory setting is "5".)

Common menu

FORMAT

All files are deleted completely. Deleted files cannot be recovered.

Select "YES", press ► to enter and the internal memory is formatted.



- Save necessary files to the computer or external devices before formatting.
- The recording indicator blinks while formatting.
- Cancelling is not possible while formatting.
- Do not remove the battery while formatting.

INIT MENU

If the settings of this unit are initialised, settings except for the "DATE & TIME" setting are restored to the default state.

Select "YES", press ► to enter and the settings are initialised.



- Data including recorded files in the internal memory are not deleted even if the settings are initialised.

System requirements

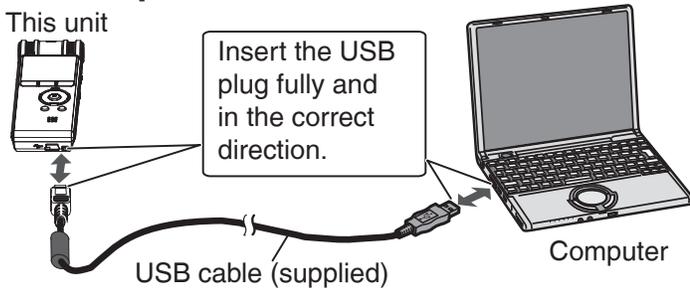
Computer	IBM PC/AT compatible machines, Macintosh	
OS	<ul style="list-style-type: none"> • Windows® 2000 Professional SP4 • Windows® XP Home Edition/Professional and SP2, SP3 • Windows Vista® Home Basic/Home Premium/Business/Ultimate and SP1, SP2 • Windows® 7 Starter/Home Basic/Home Premium/Professional/Ultimate 	Pre-installed version
	Mac OS X 10.2.8 - 10.6	
Interface	USB port (Operation cannot be guaranteed if you use a USB hub or extension cable.)	
<ul style="list-style-type: none"> * Even if the system requirements mentioned in this document are fulfilled, some personal computers cannot be used. * (Macintosh) This software operates on the standard driver of OS. * Operation is guaranteed only on compliant OSes. * Operation is not guaranteed on an upgraded OS. * Operation is not guaranteed on home-made computers. * When using Windows Media® Player, your computer must fulfill the system requirements of Windows Media® Player. Please consult Microsoft Corporation for details of Windows Media® Player. * Microsoft, Windows, Windows Media and Windows Vista are registered trademarks or trademarks of Microsoft Corporation of the U.S. and other countries. * MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson. * IBM and PC/AT are registered trademarks of International Business Machines Corporation of the U.S. * Macintosh and Mac OS are trademarks of Apple Inc. * Other system names and product names appearing in this document are in general the registered trademarks or trademarks of the respective developer companies. Note that the ™ mark and ® mark do not appear in this document. * Depending on the computer environment, malfunctions may occur (e.g. Audio data recorded on this unit cannot be used. etc.). Panasonic and Panasonic dealers cannot be held liable for any lost audio data or other direct or indirect damage except in cases of intentional or gross negligence. * This model is not compatible with TRC/ADPCM format IC recorders made by Panasonic. Also, files recorded on this unit cannot be played on those IC recorders and/or MP3 files recorded on this unit cannot be read using Voice Editing software supplied with those IC recorders. * You can transfer contents recorded on this unit to your PC without using the dedicated software. The computer software (Voice Editing) is not supplied with this unit. 		

Connecting this unit to a computer

You can copy files recorded on this unit to the computer.

- Start the computer beforehand.
- Turn the unit off beforehand.

- 1 **Insert the USB cable into this unit.**
- 2 **Insert the USB cable into the computer.**



- Do not use any other USB cables except the supplied one.

Do not use the supplied cable with other devices.

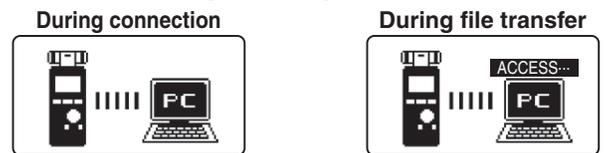
Caution: Use only the supplied USB cable with a ferrite core when connecting to computer.

- When the unit is connected to your PC, it can operate without the battery, because power is supplied by the computer.

■ The first time you connect the unit to your PC

Because multiple "Found New Hardware" messages will appear, do not disconnect the unit from your PC until all messages disappear.

■ Screen display during connection with PC



Never disconnect the USB cable during file transfer, otherwise the file or this unit may be damaged. This unit cannot be operated while connected to the computer.

- When the unit is connected to the computer, the computer may not start (restart). It is recommended that the USB cable is removed from this unit when starting (restarting) the computer.
- Operation is not guaranteed when 2 or more USB devices are connected to 1 computer, or a USB hub or extension cable are used.
- When the unit is connected to the computer, if you start (restart) the computer or the computer enters standby mode, the computer may not recognise the unit. Disconnect the unit and reconnect to the computer or reconnect the unit after the computer is restarted.
- Please see the Operating Instructions for the computer.

■ Removing the USB cable

Double-click the icon (Windows 2000/Windows XP: [🗂️], Windows Vista/Windows 7: [🗂️]) on the task tray at the bottom of the computer screen and follow the on-screen instructions to remove the USB cable. (The icon may not be displayed depending on the OS settings.)

After the cable is removed, this unit turns off.

When this unit is turned on after deleting, etc. files on this unit using the computer, "UPDATING FILE NAME" is displayed. It may take several minutes until updating is complete.

■ USB mass storage function

This unit functions as a USB memory and is recognised as a computer's external storage device.

Data files in the computer can be transferred and saved on this unit.

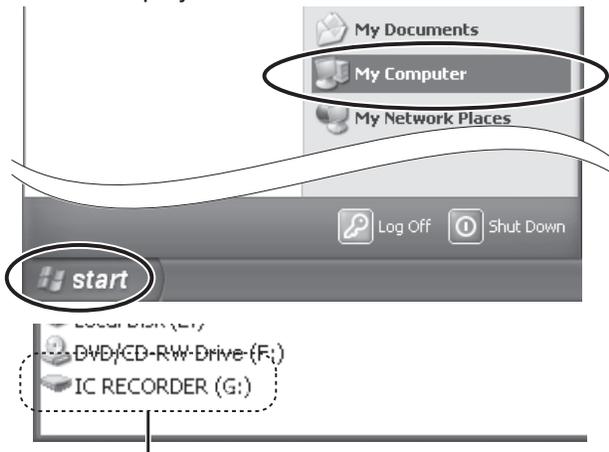
Opening folders of this unit

When opening folders “A”, “B”, “C”, “D”, “L” and “M” of this unit, they are displayed as “MIC_A”, “MIC_B”, “MIC_C”, “MIC_D”, “LINE” and “MUSIC” respectively. The illustrations show Windows XP (OS). The display may differ depending on the OS.

- Connect this unit to a Computer beforehand. (→ page 36)

1. Click [start] → [My Computer].

This unit is displayed as the “IC RECORDER”.



The components of the computer and the external storage device illustrated here is an example.

The display may differ depending on the computer you are using.

“G” indicated in “IC RECORDER (G:)” is not a fixed character.

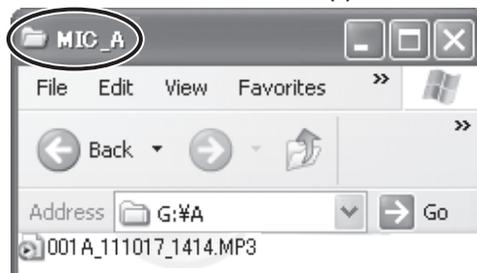
Depending on the computer you use, this unit may be displayed as a “Removable Disk”.

2. Right-click to open the “IC RECORDER (G:)” (this unit).



3. Right-click to open the folder.

Recorded files in this unit appear.



- Depending on the computer settings, a file with the extension “.INX” may be displayed. This file contains index information. If this file is deleted from your computer, the index information will be deleted.

Importing files to a computer/Organising files

- Open the “IC RECORDER” (this unit) displayed on the computer screen and open the folders (“MIC_A” to “MIC_D” and “LINE”) beforehand. (→ page 38)

Importing recorded files to a computer

1. Select the recorded file in this unit, right-click and select [Copy].
2. Select a folder in the computer, right-click and select [Paste] to import to the computer.

Folder in this unit

Folder in the computer



Playing recorded files on the computer:

Select the recorded file in this unit, right-click and select [Play].

Delete unnecessary files using the computer:

Select the recorded file in this unit, right-click, select [Delete] and [Yes] to enter.

Do not change the folder names

If you change the names of folders (“MIC_A”, “MIC_B”, “MIC_C”, “MIC_D”, “LINE” and “MUSIC”) of this unit, new “MIC_A”, “MIC_B”, “MIC_C”, “MIC_D”, “LINE” and “MUSIC” folders are generated when this unit is disconnected from the computer. The files in the folders with changed names cannot be played on this unit.

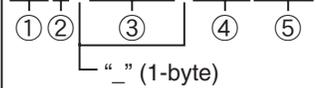
- Using [drag and drop], you can import the files to the computer as well.
- **Never remove the USB cable** while transmitting data. File data or this unit may be destroyed, or all the data in this unit may be lost.
- **Do not format this unit using a computer.**
- File extensions displayed on the computer are “MP3” for MP3 recording files and “WAV” for PCM recording files.
- The “DATA” folder is used to store data files. You can see this folder on the computer, but this is not displayed on the screen of this unit.

File name

File naming rules when recording on this unit:

example: Recording information: July 20, 2011, 17:20/folder A/MP3

001A_110720_1720.MP3

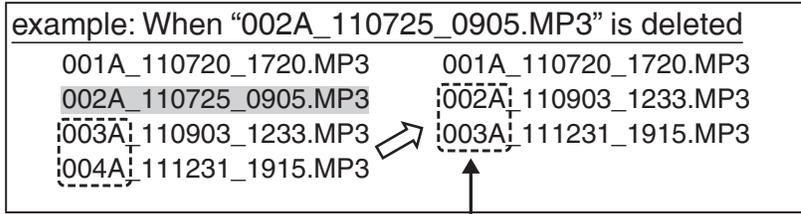


- ① File number (001 to 199)
- ② Folder name (A to D and L)
- ③ Recording information (1-byte number, 6 characters)
- ④ Recording time (1-byte number, 4 characters)
- ⑤ File extension (.MP3/.WAV)

The above file name is displayed on the computer, however, "001A_" is not displayed on this unit's screen. "110720_1720.MP3" is displayed instead.

Automatic change of file name by file deletion/division:

Deleting a recorded file on this unit will move subsequent files forward and file numbers are automatically reassigned.



File number parts of all file names following the deleted file are changed.

1 file is newly added by dividing a file. The file numbers of the files followed by the added file are automatically moved backward and file number parts of those file names are changed.

Returning the files imported to the computer to this unit:

By returning the files imported to the computer to this unit, such files can be played back on this unit. (If file names are changed, those files cannot be played.)

However, if file names of files on this unit have been changed by deleting files, etc., the files to be returned may duplicate the file numbers of files on this unit. In this case, the returned files may not be played back on this unit. When playing back after returning files that were once imported to the computer to this unit, playback by transferring those files to the MUSIC folder is recommended. (→ pages 44, 45)

File name in the MUSIC folder and order of playback:

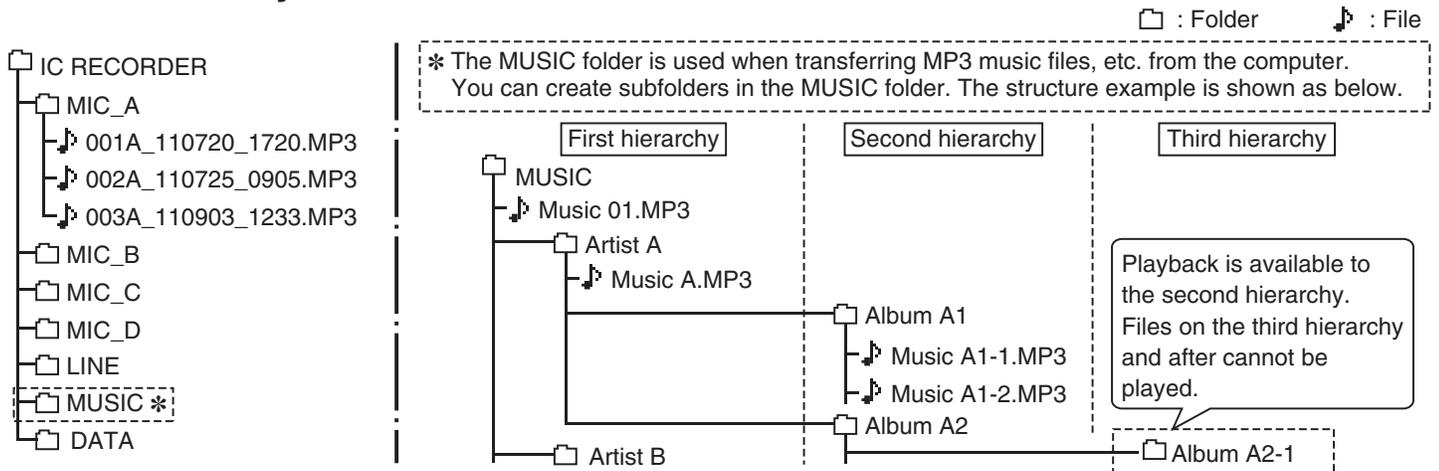
If numbers are added at the beginning of file names in the MUSIC folder, playback is performed from the file with the smallest number in priority. Up to 3 digits of number can be identified. If additional methods differ such as 1, 01, 001, then “001 to 999” takes the first priority, “01 to 99” takes the second and “1 to 9” takes the third priority. You can change the order of playback according to your preference by adding numbers at the beginning of file names, such as 001musicA.MP3, 002musicB.MP3. The displayed order will also be the same as the playback order.

For transferring files to the MUSIC folder, see page 44. For playback of such files, see page 45.

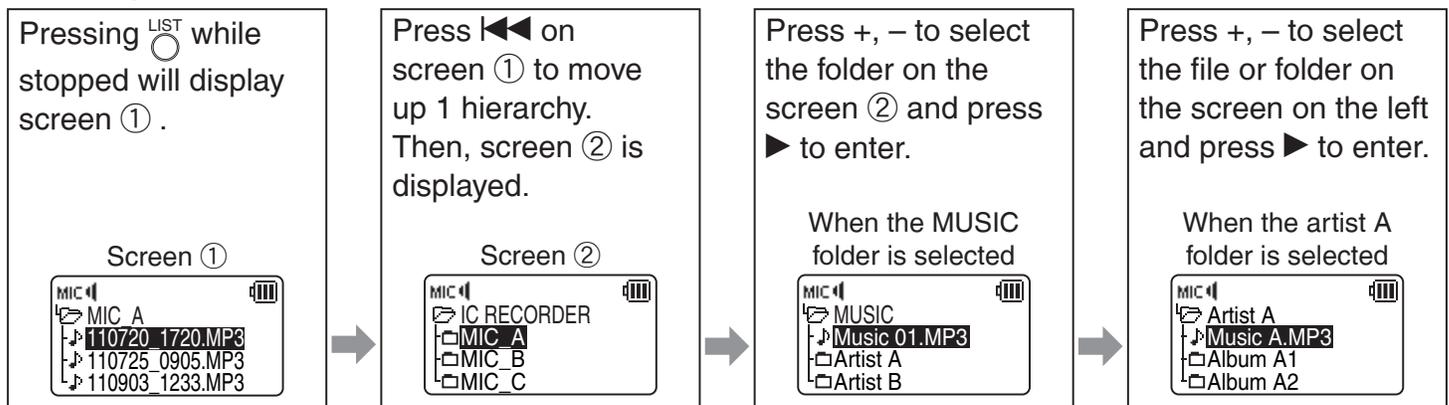
Folder structure on this unit

Folders “A”, “B”, “C”, “D”, “L” and “M” are displayed as “MIC_A”, “MIC_B”, “MIC_C”, “MIC_D”, “LINE” and “MUSIC” respectively on the computer or the list screen of this unit. The “DATA” folder is used to store data files. You can see this folder on the computer, but this is not displayed on the screen of this unit.

Folder hierarchy of this unit:



Folder and file selection method on the list screen (the folder hierarchy screen) of this unit: (The following is an example. The displayed content changes.)



Select folder “□” according to the above method and press **+**, **-** to select file “♪”. Press **▶** to start playback.

Transferring music files to this unit

You can enjoy music by transferring MP3 music files stored in the computer to this unit.

Transferring MP3 music files to this unit from the computer

- Open MUSIC folder of this unit beforehand. (→ page 38)

1. Select an MP3 music file or folder which has MP3 music files in the computer, right-click and select [Copy].
2. Select MUSIC folder of this unit, right-click and select [Paste] to transfer to this unit.



Up to 199 of transferred files can be played on this unit. If subfolders are created, number of files playable is reduced by the equivalent number of subfolders created.

- **Never remove the USB cable** while transmitting data. File data or this unit may be destroyed.
- You can create subfolders in the MUSIC folder to transfer and play back files. For folder structure, see page 42.
- You can also transfer MP3 or PCM (WAV) files recorded on this unit other than MP3 music files to the MUSIC folder and play back.
- Putting MP3 music files in folder MIC_A to MIC_D or LINE cannot play those files. (File names are not displayed on this unit.)
- When playing back files in the MUSIC folder, the order of playback will be the same as the order of transfer to this unit. (When transferring multiple files at a time, the computer determines the order of transfer.) However, if numbers are added at the beginning of file names, the order of playback is determined based on the numbers. (→ page 41)

Listening to music on this unit (MP3 music files)

Selecting a file from folder "M":

See page 12 for selecting a folder and pages 13, 43 for selecting a file.

1 Select the file and press ►.



- ① If the selected file exists immediately under the MUSIC folder on the folder hierarchy (→ page 42), "M" is displayed. If it exist on the first hierarchy or second hierarchy, "□" or "■" is displayed respectively.
- ② Displaying file names. If the ID3 tag of the file contains track information, then the track name, artist name and album name are displayed. If they are not fitted in the screen, the scroll display will appear.

See page 12 for playback operations.

About the selected file:

If this unit is connected to the computer, the selected file on this unit is changed. The selected file is changed to the file immediately under the MUSIC folder.

- In MUSIC folder, you can play a maximum of 199 files. Files over 199 cannot be played on this unit.
- MP3 files, and PCM (WAV) files recorded on this unit can be played. Other file formats such as WMA and AAC cannot be played.
- Copyright-protected MP3 music files cannot be played.
- MP3 music files with variable bit rate may be played, but the playback elapsed time display or bit rate display may differ from the actuality, or the repeat positions during A-B repeat may differ from the set positions.
- If the ID3 tag* of the file contains data that this unit cannot read, the track name, artist name, etc. may not be displayed properly.
- A file of 2 GB or more in size cannot be played back.
- If the playback elapsed time is 100 hours or more, "99:99:99" is displayed.

* ID3 tag: track name and other information stored in MP3 files.



Creating MP3 music files

This unit is not equipped with the function or computer software to create MP3 file from music CD. You can create MP3 music files using separately sold computer software, etc.

Windows XP or Windows Vista users can create MP3 music files using Windows Media Player 11 (using Windows Media Player 12 for Windows 7 users).

Following is the example of operating instructions when using Windows XP and Windows Media Player 11. See [Help] section of Windows Media Player for more details. (The display and operations may differ depending on the OS.)

- Start the computer beforehand.
- 1. Select [start] - [All Programs] and start [Windows Media Player] on the computer.
- 2. Select [Rip] → [Format] → [mp3].
- 3. Select [Rip] → [Bit Rate] and select among [128 Kbps (Smallest Size)] , [192 Kbps], [256 Kbps] and [320 Kbps (Best Quality)].
If you select low Bit Rate for ripping, more songs will be ripped.
- 4. Select [Rip] → [Rip CD Automatically When Inserted] and select [Never].
- 5. Set music CD into the computer.
- 6. In “” for the album, add the check mark as “”.
If there are songs you do not want to rip, remove the check mark “”.
- 7. Click [Start Rip] to begin ripping.

Music files ripped (encoded) into the computer using Windows Media Player are saved in [My Music] folder of [My Documents] if the destination to save has not been changed.

- ● Windows Media Player 9 and older versions cannot create MP3 music file.
- ● Please see the homepage of the Microsoft company for details of download/update of Windows Media Player etc.
<http://www.microsoft.com/windows/windowsmedia/player/11/default.aspx>
- ● If you cannot create MP3 music files successfully or do not know how to operate the computer, please consult the computer manufacturer.
- ● See page 44 for transferring MP3 music files to this unit and page 45 for playback.

Q & A (Frequently Asked Questions)

Question	Answer
Can I play files recorded on other Panasonic IC recorders?	<ul style="list-style-type: none"> You can play files recorded on IC recorders using MP3 or PCM format by transferring them to MUSIC folder. (→ page 44) But cannot play files with other formats (i.e. ADPCM and TRC formats) because the recording format is different.
Can I use audio editing software (Voice Editing) supplied in other Panasonic IC recorders?	<ul style="list-style-type: none"> Can be used with WAV files recorded in PCM mode. Cannot be used with MP3 files recorded in MP3 mode.
What kind of files can be played?	<ul style="list-style-type: none"> MP3 files, and PCM (WAV) files recorded on this unit can be played. WMA, AAC and other files cannot be played.

Error messages

Error message	Checkpoints
FILE FULL	<ul style="list-style-type: none"> This is displayed when you attempt to record exceeding maximum number (199) of files that can be recorded in 1 folder. (→ page 10)
CAPACITY FULL	<ul style="list-style-type: none"> This is displayed when you attempt to record to the internal memory with no space. (→ page 55)
NO PLAYABLE FILES	<ul style="list-style-type: none"> This is displayed when there are no files in the folder and you attempt to play back, perform Time Search (→ page 24) or to delete a file. (→ page 14)
NO FILE	
CAN'T PLAY THIS FILE WITH VARIABLE SPEED	<ul style="list-style-type: none"> This is displayed when you attempt to change the playback speed while a PCM file is being played back. The playback speed for PCM files cannot be changed. (→ page 23)

Error messages

Error message	Checkpoints
LIMIT TO TOTAL PLAYBACK TIME	<ul style="list-style-type: none"> This is displayed when you set the time for Time Search exceeding the total playback time of the file. Make the setting within the total playback time. (→ page 24)
INDEX FULL	<ul style="list-style-type: none"> This is displayed when you attempt to add indexes exceeding the maximum number (36) of indexes that can be added in 1 file. (→ page 15)
INDEX ERROR	<ul style="list-style-type: none"> This is displayed when you attempt to add the index at the same position. Keep distance between index positions. This is displayed when you attempt to add the index while the battery level "t□" (blinking) is indicated. (→ page 15)
NO INDEX	<ul style="list-style-type: none"> This is displayed when you attempt to delete indexes in the MUSIC folder, or the LINE folder. You cannot delete indexes in the MUSIC folder, or the LINE folder. (→ page 15)
CAN'T CREATE ANY MORE FILES IN THIS FOLDER	<ul style="list-style-type: none"> This is displayed when you attempt to divide a file when 199 recorded files (maximum recordable number) are present in the selected folder. (→ page 27)
NOT ENOUGH SPACE FOR FILE DIVIDE	<ul style="list-style-type: none"> This is displayed when you attempt to divide a file when there is not enough space in the internal memory required to divide a file. (→ page 27)
REC TIME TOO SHORT TO DIVIDE	<ul style="list-style-type: none"> This is displayed when you attempt to divide a file of a short recording time (approx. less than 2 seconds). A file length of approx. 2 seconds or more is necessary for dividing a file. (→ page 27)
CAN'T DIVIDE FILE AT THIS POSITION	<ul style="list-style-type: none"> This is displayed when you attempt to divide a file at the start position of the file. (→ page 27)
CAN'T DIVIDE IN MUSIC FOLDER	<ul style="list-style-type: none"> This is displayed when you attempt to divide a file in the MUSIC folder. (→ page 27)
CAN'T IDENTIFY MEMORY	<ul style="list-style-type: none"> Format the internal memory of this unit. (→ page 34) If this does not remedy the problem, the internal memory may be damaged. Consult your dealer.

Error message	Checkpoints
CAN'T FORMAT THE MEMORY	<ul style="list-style-type: none"> The internal memory may be damaged. Consult your dealer.
MEMORY WRITE SPEED IS SLOW	<ul style="list-style-type: none"> This is displayed when writing speed is slow due to memory fragmentation*. Changing the recording mode to MP3 may remedy the problem. To solve the fragmentation problem, save necessary files to the computer or external devices and format the internal memory. (→ page 34)

* If you repeat writing or deleting files, the file alignment becomes discontinuous in the internal memory, and continuous space area may be reduced (called fragmentation). If the fragmentation advances, file-writing speed becomes slow and writing may not be performed properly.

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, consult your dealer for instructions.

Symptom	Checkpoints
Battery	
Cannot use a battery that can still be used on other equipment.	<ul style="list-style-type: none"> This unit considers the battery as empty even if there is actually power left in it. This is to preserve the clock setting.
Operations	
The unit does not start.	<ul style="list-style-type: none"> Make sure the battery is correctly inserted. Remove the battery completely and then insert it back into the unit again, or replace with a new alkaline battery.
No operation.	<ul style="list-style-type: none"> The Hold function is on. Switch Hold off. (→ page 8) You cannot operate on this unit when the unit is connected to a computer.

Troubleshooting guide

Symptom	Checkpoints
Recording	
The memory is used completely earlier than expected.	<ul style="list-style-type: none"> • Remaining recording time largely differs depending on the recording mode. (→ page 55) Select a suitable recording mode according to the purpose for use. (→ page 16) • If you lower the Bit Rate for ripping music CDs, more songs will be saved. (→ page 46) • Is much data stored? Delete unnecessary files. (→ page 39)
Recording is suspended by itself.	<ul style="list-style-type: none"> • VAS is functioning. (→ page 22)
Howling occurs when listening to the recording in progress with earphones.	<ul style="list-style-type: none"> • Turn down the volume. (→ page 13) • Keep earphones and this unit separate. • When you are using an external microphone, keep earphones and external microphone separate.
Recording ended halfway.	<ul style="list-style-type: none"> • If the unit receives a shock (e.g. it is dropped), if the battery comes off or the battery runs out during recording, recording data may not be updated. • There may be no space left in the internal memory.
Sound skipping on the recorded file.	<ul style="list-style-type: none"> • You formatted this unit using the computer. If the internal memory is formatted using the computer, the optimum performance of this unit may not be achieved. Format it on this unit. (→ page 34) • VAS is functioning. (→ page 22)
Noise is heard from the recorded voice.	<ul style="list-style-type: none"> • If you rub this unit with hand and an object touches this unit during recording, noise will be recorded through the microphone. Avoid contact of object during recording.
Recorded sound is distorted. There is a noise at the beginning of sound.	<ul style="list-style-type: none"> • Please lower the microphone sensitivity (→ page 17) or keep more distance from the recording sound source.

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Symptom	Checkpoints
Recording	
Recorded sounds contain noise that makes it difficult to hear sounds.	<ul style="list-style-type: none"> • Move a mobile telephone away from this unit when you use the two in the same area. • Set the "LOW CUT FILTER" to "ON". Noise is reduced and listening may become easier. (→ page 17)
Recorded sound differs from the actual sound.	<ul style="list-style-type: none"> • Is Recording EQ (→ page 20) or "LOW CUT FILTER" (→ page 17) set?
Recorded sound is too loud or too low.	<ul style="list-style-type: none"> • Is the recording level adjustment set to manual? (→ page 18) If so, set the proper recording level (→ page 19) or set the ALC setting to ON. • Switch the microphone sensitivity. (→ page 17)
Playing	
No sound from the speaker.	<ul style="list-style-type: none"> • There is no sound when you have connected earphones. (→ page 13)
Cannot hear any sound.	<ul style="list-style-type: none"> • Adjust the sound volume. (→ page 12)
Cannot play the recorded file though it was recorded on this unit.	<ul style="list-style-type: none"> • The file name was changed. Only files named according to the file naming rules can be played in folder MIC_A through MIC_D. Even if file names are not changed, if some file numbers overlaps in the folder, those files cannot be played. (→ page 41)
A file in the MIC_A to MIC_D or LINE folder cannot be played.	
Cannot play a file in the MUSIC (M) folder, or the playback is not correct.	<ul style="list-style-type: none"> • PCM (WAV) files recorded on this unit and MP3 files can be played on this unit. Other file formats such as WMA and AAC cannot be played. Up to 199 of files in the MUSIC folder can be played. Transferred files exceeding the maximum number cannot be played. If subfolders are created, number of files playable is reduced by the equivalent number of subfolders created.
Playback speed is too fast or slow.	<ul style="list-style-type: none"> • You changed the playback speed. (→ page 23)
I set the playback speed, however, the file is played with 100 % speed.	<ul style="list-style-type: none"> • When the PCM playback starts after the playback of the speed-adjusted MP3 file finishes, the speed returns to 100 % speed. (→ page 23)
There is no sound from the earphones or it is difficult to hear or noisy.	<ul style="list-style-type: none"> • Ensure the plug is inserted firmly. • Wipe the plug clean.

Troubleshooting guide

Symptom	Checkpoints
Playing	
The selected file changes on its own. “NO PLAYABLE FILES” is displayed.	<ul style="list-style-type: none"> If this unit is connected to the computer, the selected file on this unit is changed. For the MUSIC folder, the file immediately under the MUSIC folder is selected. If there are no files, “NO PLAYABLE FILES” is displayed. Reselect the file.
Others	
The power cannot be turned on.	<ul style="list-style-type: none"> The battery may have run out. Replace the battery with the new one. (→ page 7)
The power automatically turns off.	<ul style="list-style-type: none"> Did you set the “AUTO POWER OFF” function? (This function turns the power off if there is no operation for a certain period of time* such as when the unit is stopped or recording is paused.) (→ page 33) * The factory setting is 15 minutes.
Cannot delete a file or folder.	<ul style="list-style-type: none"> If MP3 music files transferred from the computer are Read-only or subfolders are created in the MUSIC folder, they cannot be deleted on this unit. Delete them on the computer. (→ page 39)
Cannot divide a file.	<ul style="list-style-type: none"> Is there sufficient space in the internal memory? 199 recorded files (maximum recordable number) may be present in the folder. If the folder contains 199 recorded files, dividing a file is not possible. Is the recording time for the file too short? Use a file with longer recording length. A file length of approx. 2 seconds or more is necessary for dividing a file.
This unit is not recognised by a computer.	<ul style="list-style-type: none"> The OS on the computer may not be compliant with this unit. (→ page 35) Connect this unit with the computer properly. (→ page 36) Disconnect this unit from the computer and connect it again.
The file name of the recorded file or recording date and time information differ from the real date and time.	<ul style="list-style-type: none"> Set the clock. (→ page 9)

-If you see this symbol-

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis.

Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Specifications

Power

Battery	DC 1.5 V (1 AAA LR03 battery)
----------------	-------------------------------

Audio

Sampling Frequency (The bracket [] shows the recording mode.)	44.1 kHz [PCM, 44.1]
	44.1 kHz [MP3, 320]
	44.1 kHz [MP3, 192]
	44.1 kHz [MP3, 128]
	22.05 kHz [MP3, 64]
	16 kHz [MP3, 32]
Recording Format	Linear PCM (16 bit)/MP3
Playable Bit Rate (MUSIC folder)	8 kbps to 320 kbps (MP3)
Playable Sampling Frequency (MUSIC folder)	8 kHz to 48 kHz (MP3)
Frequency Response (-10 dB, Rec-Play) (The bracket [] shows the recording mode.)	30 Hz to 22,000 Hz [PCM, 44.1]
	30 Hz to 22,000 Hz [MP3, 320]
	30 Hz to 20,000 Hz [MP3, 192]
	30 Hz to 17,200 Hz [MP3, 128]
	30 Hz to 7,500 Hz [MP3, 64]
	30 Hz to 6,700 Hz [MP3, 32]
Built-in Microphone S/N Ratio	45.5 dB (PCM) Filter (JIS A)

USB	USB2.0 (Hi-Speed) DC 5 V / 150 mA	
Audio Output	Earphone	ø 3.5 mm, 16 Ω, Max. 10 mW
	Speaker Output	ø 15 mm, 8 Ω, 80 mW (RMS)
Audio Input	External Microphone	ø 3.5 mm, 0.80 mV plug in power

Max. Dimensions (W × H × D)	
38.3 mm × 106.5 mm × 17.6 mm	
Cabinet Dimensions (W × H × D)	
37.3 mm × 106.5 mm × 13.5 mm	
Mass	Approx. 48 g with battery
	Approx. 37 g without battery

Internal Memory	4 GB*1
Operating Temperature	0 °C to 40 °C
Operating Humidity	20 % to 80 % RH (No condensation)

*1 Usable capacity will be less.

Battery life (may be less depending on the operating conditions.)

Recording mode	Rec ^{*2}	Play ^{*3}
PCM, 44.1 (Stereo)	approx. 10 h.	approx. 9 h.
MP3, 320 (Stereo)	approx. 14 h.	approx. 12 h.
MP3, 192 (Stereo)	approx. 14 h.	approx. 12 h.
MP3, 128 (Stereo)	approx. 14 h.	approx. 12 h.
MP3, 64 (Stereo)	approx. 21 h.	approx. 16 h.
MP3, 32 (Monaural)	approx. 24 h.	approx. 17 h.

Using Panasonic Alkaline (AAA LR3) battery.

*2 Without recording monitor, Recording indicator: OFF, Microphone ALC setting: ON

*3 When audio is output from speaker (Volume: 13, SOUND EQ: FLAT, Playback speed control: 100 %)

Standard recordable time (may be less depending on the operating conditions.)

Recording mode	Recording time	Bit rate
PCM, 44.1 (Stereo)	approx. 6 h.	1411 kbps
MP3, 320 (Stereo)	approx. 27 h.	320 kbps
MP3, 192 (Stereo)	approx. 45 h.	192 kbps
MP3, 128 (Stereo)	approx. 68 h.	128 kbps
MP3, 64 (Stereo)	approx. 136 h. 30 min.	64 kbps
MP3, 32 (Monaural)	approx. 273 h.	32 kbps

● Specifications are subject to change without notice.

Other

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Care and use

To reduce risk of radio interference caused by headphone-, earphone- or microphone cables, only use adequate accessories with a cable length of less than 3 m.

■ Unit

- Avoid using or placing this unit near sources of heat.
- To avoid product damage, do not expose this product to rain, water or other liquids.
- The unit's speaker does not have magnetic shielding. Do not place the unit near televisions, personal computers, magnetized cards (bank cards, commuter passes) or other devices easily influenced by a magnet.

■ Batteries

- Do not peel off the covering on batteries and do not use the batteries if the covering has been peeled off.
- Align the poles ⊕ and ⊖ correctly when inserting the battery.
- Remove the battery if you do not intend to use the unit for a long time.
- Do not heat or expose to flame.
- Do not leave the batteries in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.
- Do not attempt to recharge dry cell batteries.
- Battery mishandling can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire. If electrolyte leaks from the batteries, consult your dealer. Wash thoroughly with water if electrolyte comes in contact with any part of your body.
- Keep the AAA, LR03 batteries out of reach of children to prevent swallowing. Accidental swallowing of batteries can result in stomach and intestinal damage.
- When carrying batteries in a pocket or bag, ensure no metal objects such as necklaces are placed together with them. Contact with metal may cause short-circuiting which can cause a fire. For safety, carry the batteries in the battery carrying case.

■ Allergies

- Discontinue use if you experience discomfort with the earphones or any other parts that directly contact your skin.
- Continued use may cause rashes or other allergic reactions.

■ Precautions for listening with the Headphones or Earphones

- Do not play your headphones or earphones at a high volume. Hearing experts advise against continuous extended play.
- If you experience a ringing in your ears, reduce volume or discontinue use.
- Do not use while operating a motorized vehicle. It may create a traffic hazard and is illegal in many areas.
- You should use extreme caution or temporarily discontinue use in potentially hazardous situations.
- Even if your headphones or earphones are the open-air type designed to let you hear outside sounds, don't turn up the volume so high that you can't hear what's around you.

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Listening at full volume for long periods may damage the user's ears.
Be sure to use the supplied or recommended headphones or earphones.

Other

Maintenance

Clean this unit with a dry and soft cloth.

- If the unit becomes too dirty, wring a cloth moistened in water, wipe the dirt with it and clean with a dry cloth.
- Do not use solvents including benzene, thinner, alcohol, kitchen detergent, a chemical wiper, etc. This might cause the exterior case to be deformed or the coating to come off.

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Panasonic Warranty

1. The product is warranted for 12 months from the date of purchase. Subject to the conditions of this warranty Panasonic or its Authorised Service Centre will perform necessary service on the product without charge for parts or labour if, in the opinion of Panasonic, the product is found to be faulty within the warranty period.
2. This warranty only applies to Panasonic products purchased in Australia and sold by Panasonic Australia or its Authorised Distributors or Dealers and only where the products are used and serviced within Australia or its territories. Warranty cover only applies to service carried out by a Panasonic Authorised Service Centre and only if valid proof of purchase is presented when warranty service is requested.
3. This warranty only applies if the product has been installed and used in accordance with the manufacturer's recommendations (as noted in the operating instructions) under normal use and reasonable care (in the opinion of Panasonic). The warranty covers normal domestic use only and does not cover damage, malfunction or failure resulting from use of incorrect voltages, incorrect installation, accident, misuse, neglect, build-up of dirt or dust, abuse, maladjustment of customer controls, mains supply problems, thunderstorm activity, infestation by insects or vermin, tampering or repair by unauthorised persons (including unauthorised alterations), exposure to abnormally corrosive conditions or any foreign object or matter having entered the product.
4. This warranty does not cover the following items unless the fault or defect existed at the time of purchase:
 - (a) Video or Audio Tapes
 - (b) DVD Video, Blu Ray, or Recordable Discs
 - (c) SD cards or USB devices
 - (d) Video or audio Heads from wear and tear in normal use
 - (e) Cabinet Part
 - (f) Information stored on the Hard Disk Drive
 - (g) User replaceable Batteries
5. Some products may be supplied with ethernet connection hardware. The warranty is limited on such products and will not cover
 - (a) internet connection related problems
 - (b) Access fees or charges incurred for the internet
 - (c) the use of incompatible software or software not specifically stipulated in the product operations manual; and
 - (d) any indirect or consequential costs associated with the incorrect use or misuse of the hardware, its connection to the internet or any other device.
6. If warranty service is required you should:
 - Telephone Panasonic's Customer Care Centre on 132600 or visit our website and use the Service Centre Locator for the name/address of the nearest Authorised Service Centre.
 - Send or bring the product to a Panasonic Authorised Service Centre together with your proof of purchase receipt as a proof of purchase date. Please note that freight and insurance to and / or from your nearest Authorised Service Centre must be arranged by you.
7. The warranties hereby conferred do not extend to, and exclude, any costs associated with the installation, de-installation or re-installation of a product, including costs related to the mounting, de-mounting or re-mounting of any screen, (and any other ancillary activities), delivery, handling, freighting, transportation or insurance of the product or any part thereof or replacement of and do not extend to, and exclude, any damage or loss occurring by reason of, during, associated with, or related to such installation, de-installation, re-installation or transit.

Panasonic Authorised Service Centres are located in major metropolitan areas and most regional centres of Australia, however, coverage will vary dependant on product. For advice on exact Authorised Service Centre locations for your product, please telephone our Customer Care Centre on 132600 or visit our website and use the Service Centre Locator.

Unless otherwise specified to the consumer the benefits conferred by this express warranty are additional to all other conditions, warranties, guarantees, rights and remedies expressed or implied by the *Trade Practices Act 1974* and similar consumer protection provisions contained in legislation of the States and Territories and all other obligations and liabilities on the part of the manufacturer or supplier and nothing contained herein shall restrict or modify such rights, remedies, obligations or liabilities.

**THIS WARRANTY CARD AND THE PURCHASE DOCKET (OR SIMILAR PROOF OF PURCHASE)
SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES**

**If you require assistance regarding warranty conditions or any other enquiries,
please contact our Customer Care Centre via the Panasonic website www.panasonic.com.au or
by phone on 132 600. If phoning in, please ensure you have your operating instructions available.**

Panasonic Australia Pty. Limited

ACN 001 592 187 ABN 83 001 592 187

Locked Bag 505, Frenchs Forest, NSW 2086

For Latin American Countries Only

Useful Information

Customer Service

Customer Service Directory

Obtain products information and operative assistant; localize the closer distributor or Service Center; buy spare parts and accessories by our web site to Latin American:

<http://www.lar.panasonic.com>

Also you may contact us directly by our Contact Center:

Panama	800-PANA (800-7262)
Colombia	01-8000-94PANA (01-8000-947262)
Ecuador	1800-PANASONIC (1800-726276)
Costa Rica	800-PANA737 (800-7262737)
El Salvador	800-PANA (800-7262)
Guatemala	1-801-811-PANA (1-801-811-7262)
Chile	800-390-602
	From a cell phone: 797-5000
Venezuela	800-PANA-800 (800-7262-800)
Uruguay	0-800-PANA (0-800-7262)
Peru	0800-00726
Argentina	0800-333-PANA (0800-333-7262)
	0810-321-PANA (0810-321-7262)

Mexico Service

To obtain information in the Republic of Mexico contact us at:

[email: atencion.clientes@mx.panasonic.com](mailto:atencion.clientes@mx.panasonic.com)

Or you may contact us in the next following phones numbers:

01800-VIP-PANA (01800-847-7262) - Interior
(55) 5000-1200 - Mexico D.F. and Metropolitan Area

EU



Panasonic Corporation

Web Site: <http://panasonic.net>



EU

Pursuant to at the directive 2004/108/EC, article 9(2)

Panasonic Testing Centre

Panasonic Marketing Europe GmbH

Winsbergring 15, 22525 Hamburg, Germany

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