Panasonic

Operating Instructions
IC Recorder

Model No. **RR-US050**

PRINTED WITH SOYINK™ This manual was printed with soy based ink.

P PC

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.

Panasonic Consumer Electronics Company, Division of Panasonic Corporation of North America
One Panasonic Way Secaucus, New Jersey 07094
http://www.panasonic.com
Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5 San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario L4W 2T3
www.panasonic.ca

(En)

© 2005 Matsushita Electric Industrial Co., Ltd.

Printed in Japan

RQT7878-P
H1204TA0

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

CAUTION:

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

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

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:
Panasonic Corporation of North America
One Panasonic Way
Secaucus, NJ, 07094 USA
Telephone No.: 1-800-211-7262

This statement is applied to only Canada

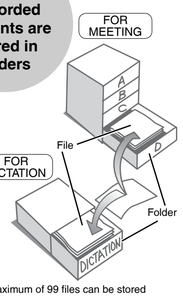
This Class B digital apparatus complies with Canadian ICES-003.

Before use

Hint 1 Release hold before use

- There is no power button.
- After use, switching to hold is recommended to save the batteries and prevent accidental operations. (The display will turn off.)
- **Press [■ STOP] to stop the operation midway/ cancel the setting.**
- **The unit returns to standby if there is no operation during each setting after 10 seconds have elapsed.**

Hint 2 Recorded contents are stored in folders



- A maximum of 99 files can be stored in each folder.

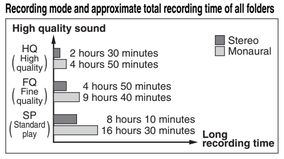
Hint 3 Important business → Meeting recording / Urgent business → Dictation recording

- By combining settings, you can record the sound that best suits your needs.
- Because the settings are automatically set, you can record easily to take notes.

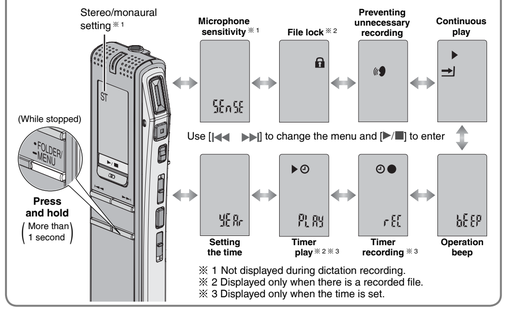
Combining stereo/monaural, microphone directional and microphone sensitivity

Recording settings \ Microphone sensitivity	HI (Distance)	LO (Close)
Stereo	Large-scale meeting etc.	A language lesson etc.
Monaural Microphone directional [OFF] (multiple sound sources)	A normal meeting etc.	A symposium etc.
Monaural Microphone directional [ON] (one-way sound source)	A lesson, lecture etc.	An interview during a meeting etc.

Recording mode and approximate total recording time of all folders

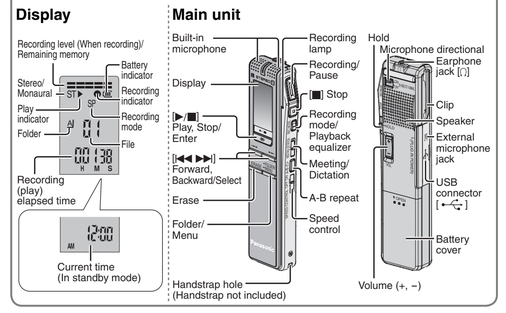


Menu display



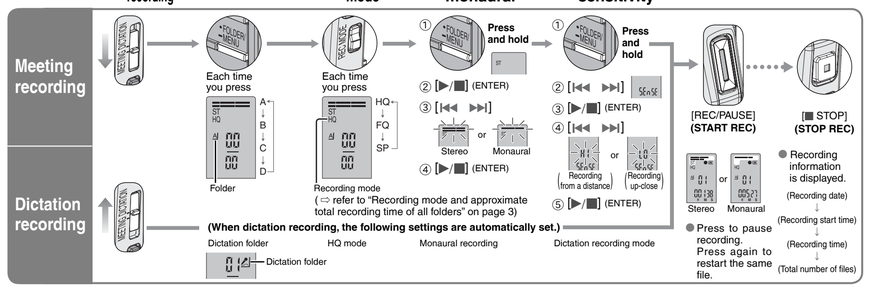
※ 1 Not displayed during dictation recording.
※ 2 Displayed only when there is a recorded file.
※ 3 Displayed only when the time is set.

Part names



Recording

1 Select meeting or dictation recording → 2 Select the folder → 3 Select the recording mode → 4 Select stereo or monaural → 5 Select the microphone sensitivity → 6 Recording



- Recording information is displayed.
  (Recording date) ↓ (Recording start time) ↓ (Recording time) ↓ (Total number of files)
- Press to pause recording. Press again to restart the same file.

■ **To record a one-way sound source more clearly** (microphone directional)

- Is effective with dictation recording or monaural sound.

■ **To listen to the recorded audio**

➡ Use the included stereo earphones.
(⇨ refer to "Other play methods" on page 4)

Other recording methods

Preventing unnecessary recording (VAS: voice activated system)

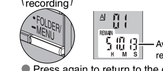
Recording automatically pauses when there is no sound.

1 **Enter the menu mode** → 2 **Select "◑"** → 3 **Select "On"**

■ **To turn the function off** ➡ Select "OFF" in step 3.

! Turn the function off when recording important files.
! The first three seconds are always recorded.

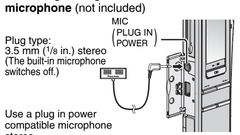
■ **Checking the remaining available recording time**



- Press again to return to the elapsed recording time display.

! Available recording time also appears when the remaining time becomes very short.

■ **Recording through an external microphone** (not included)



Plug type: 3.5 mm (1/8 in.) stereo (The built-in microphone switches off.)

Use a plug in power compatible microphone stereo.

Using the timer

Timer recording

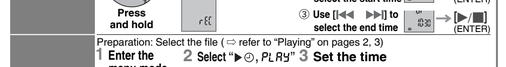
Preparation: Select the folder and recording mode (⇨ refer to "Recording" on pages 2, 3)

1 **Enter the menu mode** → 2 **Select "⊙●, rEC"** → 3 **Set the time**

Timer play

Preparation: Select the file (⇨ refer to "Playing" on pages 2, 3)

1 **Enter the menu mode** → 2 **Select "▶⊙, PLAY"** → 3 **Set the time**



■ **To cancel the timer** ➡ Select "OFF" in step 3- ①.
■ **To confirm the set time** ➡ From the menu (⇨ refer to "Menu display" on page 4), select "⊙●, rEC" or "▶⊙ PLAY" and press [▶/■].

! Even when "⟲" or "▶, ⇄" are displayed during timer play, the continuous play and file repeat play functions cannot be used.

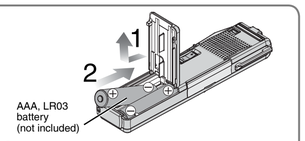
Preparation 1 Inserting batteries

Supplied accessories

Stereo earphones (L0BAB0000172)
CD-ROM (Voice Editing Ver.1.0 Professional Edition)
USB cable (K2KZ4CB00008)
Dictation cord (K2KC2CA00003)
- Use numbers indicated when asking for replacement parts. (Product numbers correct as of December 2004. These may be subject to change.)

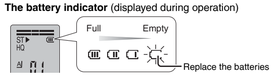
For the U.S.A.
To order accessories, refer to the "Limited Warranty" on page 10.

For Canada
To order accessories, call the dealer from whom you have made your purchase.



- If rechargeable batteries are to be used, rechargeable batteries manufactured by Panasonic are recommended. (Rechargeable batteries may not last as long as regular batteries.)

The battery indicator (displayed during operation)



- Replace the batteries within 30 seconds to preserve the settings. The clock however will stop until the batteries have been inserted. Recordings remain intact.

Preparation 2 Setting the time

- When the year is flashing (e.g. 2005 on the display), begin from step 3 below.
- **While setting the time, the clock will return to standby if there is no operation after 10 seconds have elapsed.** If this happens set again from the start.

Flashes until the time is set.

- The clock has a monthly accuracy of +/– 60 seconds at room temperature.

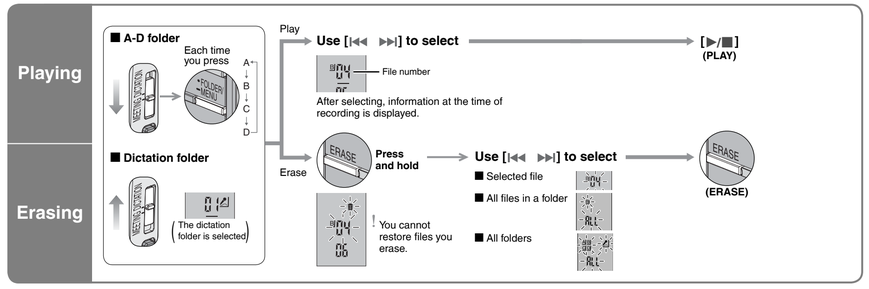
1 **Enter the menu mode** — Press and hold. Stereo/monaural setting. ● A menu is displayed. (⇨ refer to "Menu display" on page 4)

2 **Select "SEAr"** — Use [|◀◀ ▶▶|] to select → [▶/■] (ENTER)

3 **Set the time**
- ■ **Year** — Use [|◀◀ ▶▶|] to select → [▶/■] (ENTER)
- ■ **Month** — Use [|◀◀ ▶▶|] to select → [▶/■] (ENTER)
- ■ **Day** — Use [|◀◀ ▶▶|] to select → [▶/■] (ENTER)
- ■ **Time display (12/24H)** — Use [|◀◀ ▶▶|] to select → [▶/■] (ENTER)
- ■ **Time** — Use [|◀◀ ▶▶|] to select → [▶/■] (ENTER)

Playing/Erasing

1 Select the folder → 2 Select file or folder → 3 Play/Erase



■ **Basic operations during play**

Play/Stop
- While stopped, press again to begin play from where last stopped.

Stop

Forward
- Press to go to the beginning of the next file.
- Press and hold to search.

Backward
- Press to return to the beginning of the file. (Press twice to return to the previous file)
- Press and hold to search.

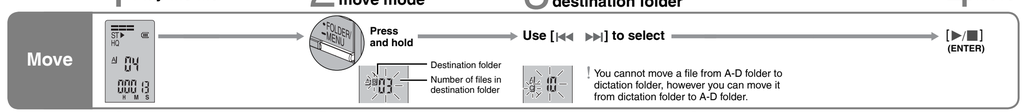
■ **To adjust the volume**

Increase 20 / Decrease 0

Organizing

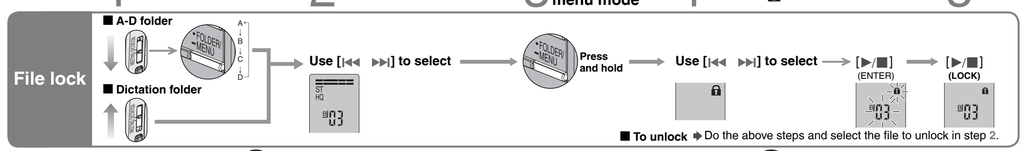
Move

1 Play the file → 2 Enter the move mode → 3 Select the destination folder → 4 Move



File lock

1 Select the folder → 2 Select the file → 3 Enter the menu mode → 4 Select "🔒" → 5 Lock



■ **To unlock** ➡ Do the above steps and select the file to unlock in step 2.

Other play methods

Plays the files in the folder continuously (Continuous play)

1 **Enter the menu mode** → 2 **Select "▶, ⇄"** → 3 **Select "On"**

■ **To turn the function off** ➡ Select "OFF" in step 3.

To play a file repeatedly (File repeat play)

1 **Select the file** → 2 **Set repeat** (Press and hold [▶/■]) → 3 **Play** ([▶/■] (PLAY))

■ **To turn the function off**
➡ Press [▶/■] once to stop. Then press and hold [▶/■] until "⟲" disappears on the display.

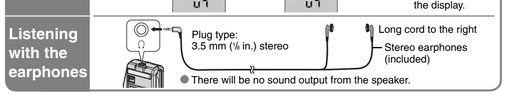
To play one segment of a file repeatedly (A-B repeat play)

1 **Play the file** → 2 **Set the start point (A)** (Press) → 3 **Set the end point (B)** (Press)

■ **To turn the function off** ➡ Press

● "A-B⟲" disappears on the display.

Listening with the earphones



- There will be no sound output from the speaker.

■ **Changing the playback speed**

(During playing) [▶/■] Press and hold → Select the speed [|◀◀ ▶▶|] (×0.5/×0.75/×1.0/×1.5/×2.0) Slow – Fast

- **To return to normal playback speed** ➡ Move [SPEED CONTROL] to [OFF].

■ **Cutting excessive noise** (Playback equalizer)

(During playing) Press and hold

On / Off

- **To check the current mode** ➡ Press [REC MODE] briefly.

■ **Checking the remaining play time**

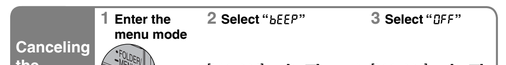
(During playing) Remaining play time

- Press again to return to the elapsed play time display.

Various functions

Canceling the operation beep

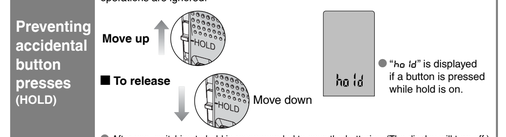
1 **Enter the menu mode** → 2 **Select "bEEP"** → 3 **Set the time**



■ **To turn operation beep on** ➡ Select "On" in step 3.

Preventing accidental button presses (HOLD)

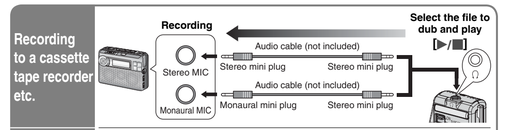
In order to prevent accidental operations while recording or while stopped, button operations are ignored.



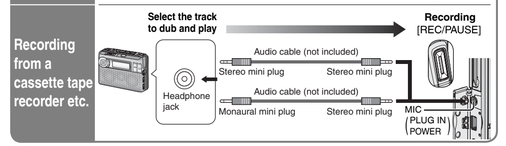
- "ho Id" is displayed if a button is pressed while hold is on.
- After use, switching to hold is recommended to save the batteries. (The display will turn off.)

Connecting to other equipment

Recording to a cassette tape recorder etc.



Recording from a cassette tape recorder etc.



- Read the operating instructions of the connected equipment.
- The recorded sound quality may differ from the original recording.
- Adjust the recording volume on the source to the desired level.

Using the unit with a computer

(You can save and edit sound files, convert sound to text and have text read aloud using the included software.)

1 Install Voice Editing.

① **Start Windows.**

② **Insert the included CD-ROM into your computer's CD-ROM drive.**
The program installer starts automatically.
- When the installer does not automatically start
From the "Start" menu click on "Run...".
Type " ※ :\Launcher\VEdV1Launcher.exe" and click on "OK".
※ is the CD-ROM drive ID.

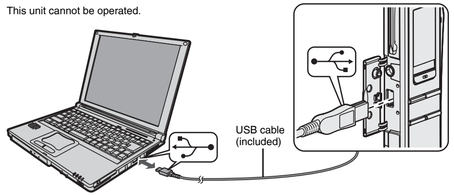
③ **Follow the on-screen instructions.**
- The voice recognition engine and text to speech engine should start installing while Voice Editing is being installed.
If they do not start installing, open the CD-ROM drive. Double click on
" ※ :\SAPI5\SAPI5_Common.msi" and
" ※ :\SAPI5\SAPI5_English.msi" to install the voice recognition engine.
After it is installed, double click on
" ※ :\Speech\RealSpeak_Solo_Common_for_Panasonic.msi" and
" ※ :\Speech\RealSpeak_Solo_English_for_Panasonic.msi [*1] " to install the text to speech engine.
(The order can be reversed.)
※ is the CD-ROM drive ID.
*1 Double-click your preferred language icon.

Note
- If DirectX 8.1 or later is not installed on your computer, follow the instructions that appear on-screen.
- Adobe Acrobat Reader is necessary to view the operating instructions (PDF file).
If Adobe Acrobat Reader is not installed on your computer, it is automatically installed at the same time as Voice Editing.
Depending on the computer, an Adobe Acrobat Reader restart message may appear. Ignore this and continue installing Voice Editing.

④ **Click "Finish" from the Installshield Wizard Complete screen.**
Selecting "Yes, I want to restart my computer now" automatically re-starts the computer and completes installation.

2 Connect this unit to a computer with the USB cable.

This unit cannot be operated.



! Connect one IC Recorder only while using Voice Editing.
This software does not support simultaneous use of multiple IC recorders.

When connected to a computer "PC" appears, and when transferring data "PC" flashes.
! Do not disconnect the USB cable while this is flashing.

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

3 Starting Voice Editing.

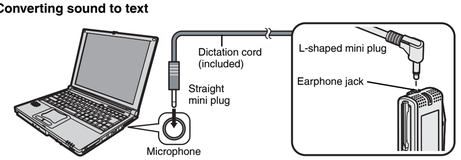
Double click on the "Voice Editing" icon (Voice Editing) on the desktop.

After double clicking, follow the on-screen instructions.

Using the operating instructions (PDF file)

From the Windows "Start" menu, click on "All programs" ➔ "Voice Editing" ➔ "Voice Editing Operating Instructions" or from the "Help (H)" menu in the Voice Editing main screen, click on "Operating Instructions (H)".

■ Converting sound to text



Connect this unit to a computer with the supplied Dictation cord to convert audio spoken into the microphone to text.

Note
- Uninstall the following before installing Voice Editing Ver.1.0 (included).
You cannot install two versions of Voice software on the same computer.
  - Voice Editor 3
  - Voice Editor 2
  - SD Voice Editor Ver.1.x
  - Previous versions of Voice Editing software
  (for Panasonic IC Recorder RR-US360/RR-US361)
  - Other editions of Voice Editing Ver.1.0
- Sound files made with previous versions will remain intact, but you should back them up to be sure.

System Requirements

You will need an IBM PC/AT compatible personal computer with the following attributes or equivalent, and the following software and hardware in order to use this application.

OS : Microsoft® Windows® 98 Second Edition
Microsoft® Windows® Millennium Edition
Microsoft® Windows® 2000 Professional ※
Microsoft® Windows® XP Home Edition/Professional ※
※ Only available when the user is logged in as the system administrator (Windows® 2000 / Windows® XP only)
- This software is not compatible with Microsoft Windows® 3.1, Windows® 95, Windows® 98 (except for Windows® 98SE) and Windows NT®.
- Operation is not guaranteed on an upgraded OS.
- This software is not Macintosh compatible.

Hardware :
CPU : Windows® 98 SE / Windows® Me : Intel® Pentium® II 333 MHz or higher
Windows® 2000 / Windows® XP : Intel® Pentium® III 500 MHz or higher
RAM : Windows® 98 SE / Windows® Me : 128 MB or more
Windows® 2000 / Windows® XP : 256 MB or more
Free hard disk space :
100 MB or more
- Approximately 25 MB of additional free hard disk space when installing Acrobat® Reader® (included).
- Approximately 50 MB of additional free hard disk space when installing DirectX® 9.0c (included).
- Approximately 60 MB of additional free hard disk space when installing the voice recognition engine (included).
- Approximately 40 to 100 MB of additional free hard disk space per language when installing the text to speech engine (included).
- Additional free hard disk space may be necessary depending on the Windows® version and voice file being used.
- Temporary additional free hard disk space may be necessary when using the Waveform feature function, voice recognition function, text to speech function, CD-R writing function (Windows® XP only) and sound recorder function.

Drive : CD-ROM drive (for installation)
CD-R/RW drive (required to use the CD-R writing function in Windows® XP)
Sound : Windows compatible sound device
Display : High Color (16 bit) or more. Desktop resolution of 800 × 600 pixels or more.
(1024 × 768 pixels or more recommended)
Interface : USB port (Operation cannot be guaranteed if you use a USB hub or extension cable.)
Other requirements :
Mouse or equivalent pointing device

Note
- This software is not compatible with a multi-CPU environment.
- This software is not compatible with a multi-boot environment.
- This software may not run properly on 64-bit computers.
- Even if the system requirements mentioned in these operating instructions are fulfilled, some personal computers can not be used.
- This software may not run properly on home-made computers.
- The voice recognition engine and text to speech engine are installed on the same drive (usually the C:drive) as the OS.
- The operating system must support the language used by the voice recognition engine and text to speech engine in order to run them.

Necessary software :
DirectX® 8.1 or later / Internet Explorer 5.5 or later

- Microsoft and its logo as well as Windows, Windows NT and DirectX are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- IBM and PC/AT are registered trademarks of International Business Machines Corporation of the U.S.
- Intel, Pentium and Celeron are registered trademarks or trademarks of Intel Corporation in the United States and other countries.
- ScanSoft, ScanSoft logo, and RealSpeak Solo are tradmarks or registered tradmarks of ScanSoft, Inc. or its affiliates in the United States and/or other countries.
- Adobe and its logo, Acrobat, and Acrobat Reader are trademarks of Adobe Systems Incorporated.
- 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 "TM" mark and "®" mark do not appear in this document.

Care and Use

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

■ Unit
- Avoid using or placing this unit near sources of heat. Do not leave it in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.
- 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 magnetism.

■ Batteries
- Do not peel off the covering on batteries and do not use if the covering has been peeled off.
- Align the poles ⊕ and ⊖ correctly when inserting the batteries.
- Do not mix different types of batteries or old and new batteries.
- Remove the batteries if the unit is not to be used for a long time.
- Do not throw into fire, short-circuit, disassemble or subject to excessive heat.
- Do not 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 out of the reach of small children. Accidental swallowing of batteries can result in stomach and intestinal damage.

■ 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.

■ Listening caution

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.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:
- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:
- Leave it there.

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

Product Service

1. **Damage requiring service** – The unit should be serviced by qualified service personnel if:
(a) Objects or liquids have gotten into the unit; or
(b) The unit has been exposed to rain; or
(c) The unit does not operate normally or exhibits a marked change in performance; or
(d) The unit has been dropped or the cabinet damaged.
2. **Servicing** – Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
3. **Replacement parts** – When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
4. **Safety check** – After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

Product information

For product information or assistance with product operation:
In the U.S.A., refer to the "Limited Warranty" on page 10.

For assistance in the continental U.S.A. in obtaining repairs please ship the product to:
Panasonic Services Company- Customer Servicenter
Suite B 4900 George McVay Drive
McAllen, TX 78503

In Puerto Rico contact Panasonic Puerto Rico, Inc.
Tel. (787) 750-4300 Fax. (787) 768-2910

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number where you can be reached.
IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE. AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.
Also, the purchaser will be responsible for shipping the unit to the above address.
In Canada, refer to the "LIMITED WARRANTY" on page 10.

The serial number of this product can be found on the back of the cassette compartment cover or inside the battery compartment.
Please note it in the space provided below and keep as a permanent record of your purchase to aid identification in the event of theft.
MODEL NUMBER **RR-US050**
SERIAL NUMBER _____

User memo:
DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
_____
TELEPHONE NUMBER _____

Maintenance

If the surfaces are dirty, wipe this unit with a soft, dry cloth.
- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, read the instructions that came with the cloth carefully.

Troubleshooting Guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the solutions indicated in the chart do not solve the problem, refer to the limited warranty for each are on page 10.

Symptom	Checkpoints
No operation.	● Make sure the batteries are correctly inserted. ● You cannot operate when the unit is connected to a computer. (⇨ page 6)
Operation is not possible when "hold" appears on the display.	● The hold function is on. (⇨ page 5)
"U01" appears on the display.	● The battery has run down.
"2005" flashes.	● Set the time. (⇨ page 1)
"EE:EE" is displayed.	● This can occur after repeatedly recording and erasing files. Unlock all your files, then erase all folders to remedy this. (⇨ pages 2, 3)
Available recording time does not increase correspondingly after erasing files.	
There is no sound from the earphone or it is difficult to hear or noisy.	● Ensure the plug is inserted firmly. ● Wipe the plug clean.
Recording stops.	● VAS (⇨ page 4) may have functioned.
"– – – –" appears instead of the recording date.	● Set the time. (⇨ page 1)
Playback speed is too fast or slow.	● Set play speed to normal. (⇨ page 4)
"FULL" appears.	● There are 99 files in the folder. ● There is no remaining recording time. -Erase unneeded files.
No sound from the speaker.	● There is no sound when you have connected earphones.
Cannot erase a file or folder.	● The file is locked. (⇨ pages 2, 3) ● The folder is already empty.
Cannot move a file.	● You cannot move files to folders that already contain 99 files. ● You cannot move files from A-D folder to Dictation folder. (⇨ pages 2, 3)
A recording disappeared.	● Recordings can disappear if the unit receives a shock (e.g. it is dropped), or the batteries come out during recording.
Cannot set timer recording/playback.	● You can set the timers within 24 hours of the current time. ● Set the time. (⇨ page 1)
Timer recording/playback does not work.	● The settings are canceled if the batteries are removed and the clock settings clear.
Cannot set timer recording/playback at the same time.	● When you set both, only the one you set last works.
Timer recording does not work.	● You cannot set the timer if there is less than one minute of available recording time.
Cannot use a battery that can be used on other equipment.	● This unit determines the battery empty even if there is actually life left in it. This is to preserve the clock and other memory items.
Cannot select a folder.	● Press [▪FOLDER/▬MENU] briefly. You will enter the menu mode if you hold the button down for 1 or more second.
Sound is distorted.	● When sound other than voice is recorded, this may occur during playback.
Sound is distorted when listening to the recorded audio with the stereo earphones.	● Reduce the volume. ● Separate the stereo earphones and the microphone you are using.
Voice Editing does not start or does not work correctly.	● Make sure that "PC" is on this unit's display, and that this unit is recognized as a drive in Voice Editing. If it is not, disconnect the USB cable from this unit, then reconnect it. ● The connection may not work if you connect via a USB hub or USB extension cable.
Cannot confirm sound on the computer because of poor microphone sensitivity despite using the included Dictation cord.	● Adjust the volume on the IC Recorder. Depending on your computer, you may also be able to improve the sensitivity by reversing the "Straight mini plug" and the "L-shaped mini plug" connections.
Cannot successfully convert audio to text on the computer.	● Refer to "Frequently Asked Questions" in the Voice Editing operating instructions (PDF file).

Specifications

Power output:	350 mW (max.)
Frequency response:	280 Hz – 5,200 Hz (HQ mode) 270 Hz – 3,400 Hz (FQ/SP mode)
S/N:	35 dB (Stereo/HQ mode)
Jack:	
Output jack;	Earphone, 3.5 mm (1/8 in.); 0.5 mW + 0.5 mW 16 Ω
Input jack;	Mic, 3.5 mm (1/8 in.); 0.56 mV plug in power
Speaker:	20 mm (1 3/32 in.) 8 Ω
Power requirement:	DC 3 V (2 AAA/LR03 size batteries)
Dimensions (W×H×D):	
Max dimensions;	32.5 mm × 118.8 mm × 15.9 mm (1 9/32 in. × 4 11/16 in. × 5/8 in.)
Cabinet dimensions;	29.8 mm × 118.5 mm × 14.2 mm (1 3/16 in. × 4 21/32 in. × 9/16 in.)
Mass:	
with batteries;	61 g (2.15 oz.)
without batteries;	38 g (1.34 oz.)
Operational temperature range:	0 °C – 40 °C (32 °F – 104 °F)
Battery life:	[When used at 25 °C (77 °F) on a flat, stable surface]

Batteries	mode	Stereo/Monaural	Playback	Recording
Panasonic alkaline batteries	HQ	Stereo	10 hours 30 minutes	13 hours 30 minutes
		Monaural	12 hours	16 hours 30 minutes
	FQ/SP	Stereo	13 hours	17 hours
		Monaural	13 hours 30 minutes	22 hours

The battery life may be less depending on the operating conditions.

Note:
- Specifications are subject to change without notice.
- Mass and dimensions are approximate.

ONLY FOR U.S.A.

Panasonic Consumer Electronics Company, Division of Panasonic Corporation of North America
One Panasonic Way Secaucus, New Jersey 07094

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Panasonic Portable Audio Products Limited Warranty

Limited Warranty Coverage
If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Puerto Rico, Inc. (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
All Portable Audio Products except item listed below	One (1) Year	One (1) Year
Rechargeable batteries (in exchange for defective item)	Ten (10) Days	Not applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty excludes both parts and labor for batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is".

Mail-In Service
For assistance in the continental U.S.A. in obtaining repairs please ship the product to:
Panasonic Service Company
Customer Servicenter
Suite B
4900 George McVay Drive
McAllen, TX 78503
For assistance in Puerto Rico call Panasonic Puerto Rico, Inc. (787)-750-4300 or fax (787)-768-2910.
When shipping the unit carefully pack and send it prepaid. adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number where you can be reached.
IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE. AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Limited Warranty Limits And Exclusions
This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.
THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE".
THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, travel to and from the servicer, loss of or damage to media or images, data or other memory or recorded content. The items listed are not exclusive, but are for illustration only.)
ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.
Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.
PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.

Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:
http://www.panasonic.com/consumersupport
or, contact us via the web at: *http://www.panasonic.com/contactinfo*
You may also contact us directly at: 1-800-211-PANA (7262), Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:
http://www.pnsc.panasonic.com
or, send your request by E-mail to: *npcparts@ms.panasonic.com*
You may also contact us directly at: 1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 8 pm, EST.)
Panasonic Services Company
20421 84th Avenue South, Kent, WA 98032 (We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

Service in Puerto Rico

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787)750-4300, Fax (787)768-2910

ONLY FOR CANADA

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario L4W 2T3

PANASONIC/TECHNICS PRODUCT—LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship and agrees to remedy any such defect, or at its option, replace the product for a period as stated below from the date of original purchase.

Technics Audio Product	**One (1) year, parts and labour**
Panasonic Audio & DVD Product	**One (1) year, parts and labour**
Accessories including rechargeable batteries	**Ninety (90) days**

LIMITATIONS AND EXCLUSIONS
This warranty does not apply to products purchased outside Canada or to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, or which has been altered or repaired in any way that affects the reliability or detracts from the performance, nor does it cover any product which is used commercially. Dry cell batteries are also excluded from coverage under this warranty.
This warranty is extended to the original end user purchaser only. A purchase receipt or other proof of date of original purchase is required before warranty service is performed.
THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES.
In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable.

WARRANTY SERVICE
For product operation and information assistance, please contact your Dealer or our Customer Care Centre at: Telephone #: (905) 624-5505 Fax #: (905) 238-2360 Web: www.panasonic.ca

For product repairs, please contact one of the following:
- Your Dealer who will inform you of an authorized Servicentre nearest you.
- Our Customer Care Centre at (905) 624-5505 or www.panasonic.ca
- A Panasonic Factory Servicentre listed below:

Richmond, British Columbia	Calgary, Alberta	Mississauga, Ontario	Lachine, Québec
Panasonic Canada Inc.	Panasonic Canada Inc.	Panasonic Canada Inc.	Panasonic Canada Inc.
12111 Riverside Way	6835-8th St. N. E.	5770 Ambler Dr.	3075, rue Louis A. Amos
Richmond, BC	Calgary, AB	Mississauga, ON	Lachine, QC
V6W 1K8	T2E 7H7	L4W 2T3	H8T 1C4
Tel: (604) 278-4211	Tel: (403) 295-3955	Tel: (905) 624-8447	Tel: (514) 633-8684
Fax: (604) 278-5627	Fax: (403) 274-5493	Fax: (905) 238-2418	Fax: (514) 633-8020

IF YOU SHIP THE PRODUCT TO A SERVICENTRE
Carefully pack and send prepaid, adequately insured and preferably in the original carton.
Include details of the defect claimed, and proof of date of original purchase.

RQT7878