Panasonic

Transceiver

Model No. KX-TR320B/320F/320S
KX-TR325B/325S

Operating Instructions

**PLEASE READ BEFORE USE
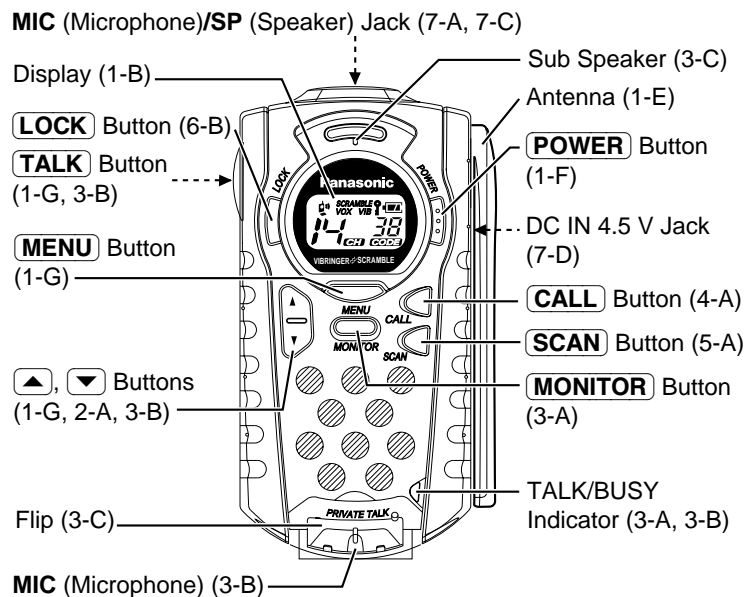AND SAVE.**

1 | *Getting Started* ➡

1-A Location of Controls

MIC (Microphone)/**SP** (Speaker) Jack (7-A, 7-C)

Display (1-B)

Sub Speaker (3-C)

Antenna (1-E)

(LOCK) Button (6-B)

(TALK) Button (1-G, 3-B)

POWER Button (1-F)

(MENU) Button (1-G)

DC IN 4.5 V Jack (7-D)

(CALL) Button (4-A)

(SCAN) Button (5-A)

(▲), (▼) Buttons (1-G, 2-A, 3-B)

(MONITOR) Button (3-A)

TALK/BUSY Indicator (3-A, 3-B)

Flip (3-C)

MIC (Microphone) (3-B)

Accessories (For extra orders, call 1-800-332-5368.)

☐ Belt Clip . . . . one

1-B Display

The flip is open (3-C).

The scrambling function is ON (KX-TR325 only) (6-A).

The unit is in the VOX mode (7-A).

The unit is in the vibratory call mode (KX-TR325 only) (4-B).

The key lock function is ON (6-B).

The display shows the battery strength (1-C).

The volume level is set to 8 (3-B).

The unit is using the group code number 38 (2-B).

The unit is using the operating channel number 14 (2-A).

The unit is sending call tones (4-A).

The unit is using the channel scan function (5-A).

1 *Getting Started* ➡

1-C Battery Installation

The unit requires 3 AA (R6, UM-3) size alkaline batteries (not supplied). The batteries will last about 30 hours with normal use.

❶ Remove the cover.

❷ Install (or replace) the batteries using the correct polarity (＋, －) and close the cover.

≥*Make sure that the unit is powered OFF before replacing the batteries.*
≥*When the batteries have been replaced, your channel and group code settings will be erased. Reprogram if necessary.*

Battery precautions:
The batteries should be used correctly, otherwise the unit may be damaged by battery leakage.
≥Do not mix different types of batteries.
≥Do not charge, short-circuit, disassemble or heat batteries, and do not dispose of batteries in fire.
≥Remove all the batteries when replacing.

Battery strength:
You can check the battery strength on the display (see below) while the unit is in use. If the unit beeps intermittently and " 🔋 " flashes on the display, replace all the batteries with new ones.

| Full	Medium	Low
🔋 ⇢	🔋 ⇢	🔋
		(flashing)
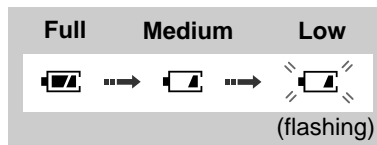
1-D Belt Clip

You can hang the unit on your belt or pocket using the belt clip.

1-E Adjusting the Antenna

The antenna rotates 360 degrees. You can adjust the antenna to three different click positions. For best performance, the antenna should be used in the vertical position.

1-F Turning the Power ON/OFF

❶ Press and hold (**POWER**).
≥The display will appear.

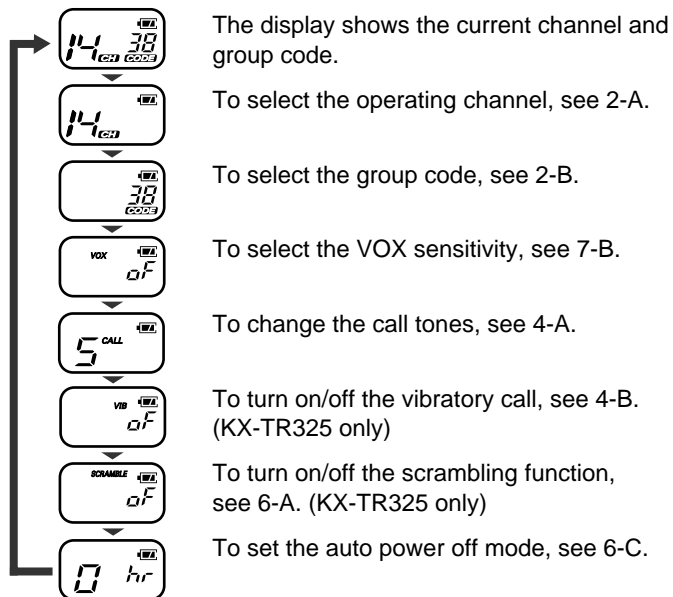❷ To turn the power off, press and hold (**POWER**) until the display disappears.
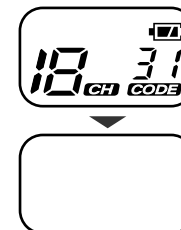
1 *Getting Started*

1-G Programming Summary

You can program the following functions. See the section number below for details.

Each time you press ⎡MENU⎤, the display changes as follows.

The display shows the current channel and group code.

To select the operating channel, see 2-A.

To select the group code, see 2-B.

To select the VOX sensitivity, see 7-B.

To change the call tones, see 4-A.

To turn on/off the vibratory call, see 4-B. (KX-TR325 only)

To turn on/off the scrambling function, see 6-A. (KX-TR325 only)

To set the auto power off mode, see 6-C.

Press ⎡▼⎤ or ⎡▲⎤ for the desired settings.

Press ⎡TALK⎤ or wait for 10 seconds.

● *You can exit the programming mode any time by pressing* ⎡TALK⎤ *or wait for 10 seconds.*

2 *Before You Talk*

The unit has 14 operating frequency channels and 38 group codes. To talk to others, all users in your group must be using the same channel and group code.

2-A Selecting the Operating Channel

❶ Press (MENU).
● " CH " and the current channel will flash on the display.

❷ Press ▼ or ▲ repeatedly until the desired operating channel (1–14) is displayed.

❸ Press (TALK) or wait for 10 seconds.
● The unit will return to the standby mode.

● *The selected channel will not be cleared even when you turn off the unit.*

2-B Selecting the Group Code (CTCSS)

The Continuous Tone Coded Squelch System (CTCSS) allows you to ignore (not hear) unwanted calls from other persons who are using the same channel. It provides communication with silent standby since you will only receive calls from group members using the same group code. The unit is equipped with 38 group codes. The factory preset is "1".

The CTCSS does not make your conversation private. It only allows you to not to listen to unwanted conversations.

❶ Press (MENU) twice.
● " CODE " and the current group code will flash on the display.

❷ Press ▼ or ▲ repeatedly until the desired group code (0–38) is displayed (see below).

❸ Press (TALK) or wait for 10 seconds.
● The unit will return to the standby mode.
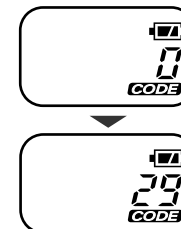
● *The selected code will not be cleared even when you turn off the unit.*
● *To communicate with others without a group code, select "0" (OFF) in step 2.*

CTCSS code   (unit: Hz)

No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
1	67.0	11	97.4	21	136.5	31	192.8
2	71.9	12	100.0	22	141.3	32	203.5
3	74.4	13	103.5	23	146.2	33	210.7
4	77.0	14	107.2	24	151.4	34	218.1
5	79.7	15	110.9	25	156.7	35	225.7
6	82.5	16	114.8	26	162.2	36	233.6
7	85.4	17	118.8	27	167.9	37	241.8
8	88.5	18	123.0	28	173.8	38	250.3
9	91.5	19	127.3	29	179.9	0	OFF
10	94.8	20	131.8	30	186.2		

3 | *To Communicate* ➡

3-A Monitor

The monitor function unmutes the speaker in any situation. Use this function when received signals are too weak to recognize.
You can use the monitor function to check activity on the current channel before transmission.

❶ Press and hold (**MONITOR**) to open the squelch.
  ●The TALK/BUSY indicator lights red.
  ●You will hear static if the channel is clear for use.

❷ Release (**MONITOR**) to close the squelch.
  ●The TALK/BUSY indicator light goes out.

●*If you want to use the monitor privately, open the flip before pressing* (**MONITOR**)*. When finished, close the flip.*

3-B Sending/Receiving Messages

❶ Check the current channel activity (3-A).
  ●**Do not talk if someone is already on the channel.**

❷ Press and hold (**TALK**) to transmit and speak into the **MIC** (microphone).
  ●The TALK/BUSY indicator lights green.

❸ To receive, release (**TALK**).
  ●The TALK/BUSY indicator lights red.
  ●Repeat steps 1 and 2 to continue communication.

●*To maximize readability of your transmitted signal, pause a few seconds after pressing* (**TALK**)*, hold the unit 2 to 4 inches (5 to 10 cm) from your mouth and speak at a normal voice level.*

To select the receiver volume

❶ Press (▼) or (▲).
  ●"*VOL*" and the current volume level will flash on the display.

❷ Press (▼) or (▲) repeatedly until the desired volume level (0–8) is displayed.
  ●Each time you press the button, the selected volume will ring.
  ●To turn the ringer off, select "0".
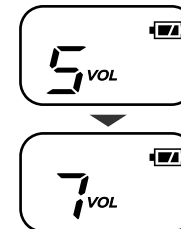
●*The key-touch tone will automatically change with the selected receiver volume.*

3 *To Communicate*

3-C Private Talk Mode

If you want to talk privately during transmission, open the flip.
You can transmit without using TALK by holding the unit near your ear.

❶ Open the flip and check the current channel activity (3-A).
  ● "♪" is displayed.
  ● **Do not talk if someone is already on the channel.**

❷ Speak into the **MIC** (microphone).
  ● The TALK/BUSY indicator lights green.

❸ To receive, stop talking while the other party is talking.
  ● You can hear the other party's voice through the sub speaker.
  ● The TALK/BUSY indicator lights red.

❹ When finished, close the flip.
  ● "♪" will disappear.

● *There will be a brief delay between starting/stopping talking and radio transmission in the private talk mode.*
● *Even if the flip is open, you can switch to the PTT (Push-To-Talk) mode by pressing TALK.*

To select the private talk mode volume

❶ Open the flip and press ▼ or ▲.
  ● "♪", "*VOL*" and the current volume level will flash on the display.

❷ Press ▼ or ▲ repeatedly until the desired volume level (1–3) is displayed.
  ● **1:** Low   **2:** Medium   **3:** High
  ● Each time you press the button, you can hear the selected volume through the sub speaker.

❸ When finished, close the flip.
  ● The unit will return to the standby mode after 10 seconds.
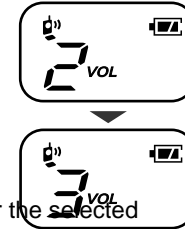
4 Call Tones

4-A Call Tones

The unit has five unique call tones to identify each user and alert others that you intend to transmit. When you press **CALL**, all users on your channel and code will be alerted with your tones.

To send the call tones

❶ Press **CALL**.
- The TALK/BUSY indicator lights green.
- "**CALL**" is displayed and the call tones sound.
- The other party will be alerted with the call tones for about 5 seconds.

- *If you want to send the call tones privately, open the flip before pressing* **CALL**. *When finished, close the flip.*

To change the call tones

❶ Press **MENU** four times.
- "**CALL**" and the current setting will flash on the display.

❷ Press ▼ or ▲ repeatedly until the desired setting (1–5) is displayed.
- Each time you press the button, the selected call tones will sound.

❸ Press **TALK** or wait for 10 seconds.
- The unit will return to the standby mode.
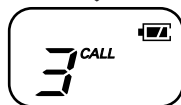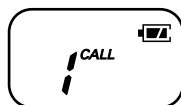
4-B Vibratory Call (KX-TR325 only)

KX-TR325 allows you to receive a vibratory call. This is useful in noisy locations, or when quiet is required.
The factory preset is OFF.

❶ Press **MENU** five times.
- "**VIB**" and the current setting will flash on the display.

❷ Press ▼ or ▲ to turn on/off the vibratory call mode.

❸ Press **TALK** or wait for 10 seconds.
- The unit will return to the standby mode.
- When set to ON, "**VIB**" will remain on the display.
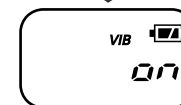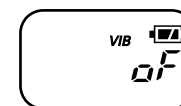
5 *Channel Scan*

Section 5

5-A Finding a Busy Channel

Channel scan allows you to monitor 14 channels and a selected group code. When the unit detects channel activity on your selected code, it stops scanning and locks in on the busy channel. You can listen and talk back (within 5 seconds of the end of a transmission) on the displayed channel without having to change your settings.

❶ Press (SCAN).
 ●*"SCAN"* will flash on the display.
 ●Channel scan starts and monitors the channels in the order as below.
   1→2→3- - - - - - →14
   ↑_____|

❷ The unit stops scanning when it finds a busy channel, and you will hear a message.
 ●The TALK/BUSY indicator lights red.

 If you want to scan other busy channels, press (▼) or (▲).
 ●Channel scan starts again.

❸ To transmit on the busy channel, press and hold (TALK) within 5 seconds after the message.
 To receive, release (TALK).
 ●If no response is received or there is no key operation for about 30 seconds, channel scan starts again.

❹ To end the channel scan, press (SCAN).
 ●The unit will return to the standby mode with the preset channel and group code.

●*If you want to scan privately, open the flip before pressing (SCAN). When finished, close the flip.*
●*In the channel scan mode, you can always transmit on the displayed channel.*
●*To communicate in channel scan mode, your unit must be set to the same group code as the other user(s) in your group. If your unit is set to a different code, the channel scan function will not detect channel activity in your group.*
●*To scan for radios without a group code, change your group code to "0" (OFF) before using the channel scan function.*
●*In the channel scan mode, you cannot change the preset channel or group code settings. To change the preset channel or group code settings, see section 2.*
●*To scan for radios without a group code, set your group code to "0" (OFF) before using the channel scan function.*

6-A Scrambling (KX-TR325 only)

While using the group code, you do not hear unwanted calls on your selected channel, but others on the same channel may hear your conversation. KX-TR325 also allows you to scramble your calls so that others will not understand your conversation. This is only possible between Panasonic transceivers. The factory preset is OFF.

❶ Press (MENU) six times.
  ●"*SCRAMBLE*" and the current setting will flash on the display.

❷ Press (▼) or (▲) to turn on/off the scrambling function.

❸ Press (TALK) or wait for 10 seconds.
  ●The unit will return to the standby mode.
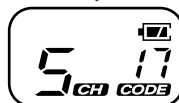 ●When set to ON, "*SCRAMBLE*" will remain on the display.

●*If the group code (2-B) is set to "0" (OFF) you cannot turn the scrambling function ON.*
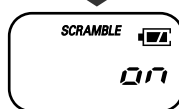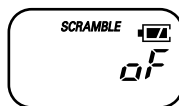
6-B Key Lock

Key lock allows you to lock some buttons ((MENU), (SCAN) and (▼), (▲)) to prevent accidentally changing any transceiver settings.

❶ Press and hold (LOCK) until " ⌐ " is displayed.

❷ To turn the key lock function OFF, press and hold (LOCK) until " ⌐ " disappears.

**While Key Lock function is ON, you can still do the following.**
●Receiving/Transmitting   ●Sending call tones
●Monitor   ●Private talk mode

6-C Auto Power OFF

The unit can be programmed to turn itself off after a certain period of inactivity. This is useful to preserve the battery life. You can select the time period for the auto power off mode. The factory preset is "0" (OFF).

❶ Press (MENU) five times (seven times If your model is a KX-TR325).
  ●The current setting will flash on the display.

❷ Press (▼) or (▲) to select the desired setting (0–3).
  ●**1:** 1 hour   **2:** 2 hours   **3:** 3 hours
   0: OFF

❸ Press (TALK) or wait for 10 seconds.
  ●The unit will return to the standby mode.
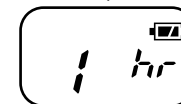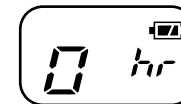
6-D Backlit LCD Display

The lighted display will remain on for about 5 seconds after pressing a button except (TALK), or opening and closing the flip.

7 | *Using the Options*

7-A To Enjoy Hands-Free Operation

The unit has built-in Voice Activated Transmission (VOX) capability. Connecting a Headset Mic (optional) or Earbud Mic (optional) to the MIC/SP jack of the unit, you can activate the transmission with your voice.
The unit enters the VOX mode when the Headset Mic or the Earbud Mic is connected to the unit.
●"*VOX*" is displayed.
●To switch to the PTT (Push-To-Talk) mode, press TALK.
For details, see the Headset Mic or Earbud Mic operating instructions of them.

7-B To Select VOX Sensitivity

The unit allows you to adjust the VOX sensitivity of the radio to compensate for varying levels of background noise.

❶ Press MENU three times.
  ●"*VOX*" and the current setting will flash on the display.
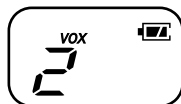
❷ Press ▼ or ▲ to select the desired setting (1–3).
  1: Low (for high levels of background noise)
  2: Medium (for use in most applications)
  3: High (for low levels of background noise)
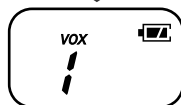
❸ Press TALK.
  ●The unit will return to the standby mode after 10 seconds.

7-C To Operate with a Speaker Mic

Connecting a Speaker Mic (optional) to the MIC/SP jack of the unit, you can operate the unit remotely. The unit enters the VOX mode when the Speaker Mic is connected to the unit.
For details, see the operating instructions for the Speaker Mic.

7-D For Use with a Car Battery

If you connect the unit to the cigar lighter socket of your car using a cigar lighter adaptor (optional), you can enjoy transmitting without thinking about the battery life.
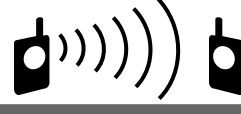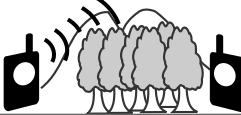For details, see the operating instructions for the cigar lighter adaptor.

●*The unit will not run on batteries as long as the DC IN 4.5 V jack is plugged in.*

8-A Talk Range

The unit is designed to maximize performance and improve transmission range in the field. However, the talk range depends on your surrounding environment. These are line of sight radios and talk range will be affected by concrete structures, heavy foliage and transmission from inside a building or vehicle.

Optimal Range	Talk range in flat, open areas is up to 2 miles.
Medium Range	Range is decreased when buildings and trees are in the way.
Minimal Range	Dense foliage and mountains can limit range.

Channel frequency chart   (unit: MHz)

Ch	Freq.	Ch	Freq.	Ch	Freq.
1	462.5625	6	462.6875	11	467.6375
2	462.5875	7	462.7125	12	467.6625
3	462.6125	8	467.5625	13	467.6875
4	462.6375	9	467.5875	14	467.7125
5	462.6625	10	467.6125		

8 | *Things You should Know* ➡

8-B Before Requesting Help

Problem	Remedy
You press (POWER) to power the unit ON, but the unit does not work.	●Reposition or replace batteries (1-C).
Your message cannot be transmitted.	●Make sure (TALK) is completely pressed as you transmit. ●Reposition or replace batteries (1-C).
The other party's message cannot be received.	●Make sure the other party's channel/code settings are the same as yours. ●Make sure (TALK) is not inadvertently being pressed. ●Reposition or replace batteries (1-C). ●Obstructions, operating indoors or in vehicles, may interfere with communication. Change your location and try again. ●Make sure the volume is not OFF (3-B). ●Hold the unit near your ear to hear the message from the sub speaker when the flip is open.
Other conversations or noise on a channel is heard when receiving.	●Confirm the group code setting (2-B). If the setting is "0" (OFF), reprogram the same group code as the other party, and try again. ●Shared channel or group code may be in use. Try another.

Problem	Remedy
Limited Talk Range	●Steel/concrete structures, heavy foliage and use in buildings or vehicles will decrease range. Check for clear line of sight to improve transmission. ●Wearing the unit on your body, such as in a pocket or on a belt, will decrease range. Change location of the unit.
Static, sound cuts in/out, fades. Interference emits when transmitting.	●You are too close to the other party. You should be at least 5 feet apart. Increase your distance. ●You are too far from the other party. Obstacles interfere with transmission. Talk range is up to 2 miles in clear, unobstructed conditions.
You cannot change channel/code settings.	●Make sure the unit is unlocked (6-B).
Previously programmed items are erased.	●When the batteries have been replaced, your programmed items will be erased. Reprogram them again if necessary.
" 🔋 " flashes on the display.	●Reposition or replace batteries (1-C).
The display is dim.	●Reposition or replace batteries (1-C).
If you cannot solve your problem	●Call our customer call center at 1-800-211-PANA(7262).

8 *Things You should Know* ➡

8-C Safety Instructions

Splash-Resistant

The unit is designed to be splash resistant. You can use the unit with wet hands.

CAUTION:
- **Do not immerse in water or leave under running water.**
- Keep the unit away from salt water.
- Avoid exposure to prolonged high humidity.
- Since water in the headset jack may cause damage, close the headset jack cover when the optional headset is not in use. When the optional headset is connected, do not use the unit with wet hands.
- If the unit is wet, wipe with a soft dry cloth.

Shock-Resistant

Although the unit is designed to be shock resistant, do not throw or step on the unit.

CAUTION:

To reduce the risk of fire or injury to persons, read and follow these instructions.
1. Use only the battery(ies) specified.
2. Do not dispose of the battery(ies) in a fire. It(they) may explode. Check with local waste management codes for special disposal instructions.
3. Do not open or mutilate the battery(ies). Released electrolyte is corrosive and may cause burns or injury to the eyes or skin. The electrolyte may be toxic if swallowed.
4. Exercise care in handling battery(ies) in order not to short the battery(ies) to conductive materials such as rings, bracelets, and keys. The battery(ies) and/or conductor may overheat and cause burns.
5. Do not recharge the battery(ies) provided with or identified for use with this product. The battery(ies) may leak corrosive electrolyte or explode.
6. Do not attempt to rejuvenate the battery(ies) provided with or identified for use with this product by heating. Sudden release of battery electrolyte may occur causing burns or irritation to the eyes or skin.
7. Replace all batteries at the same time. Mixing fresh and discharged batteries could increase internal cell pressure and rupture the discharged batteries. (Applies to products employing more than one separately replaceable primary battery.)
8. When installing batteries observe the proper polarity or direction. Incorrect installation can cause charging, and may result in leakage or explosion. (Applies to products employing more than one separately replaceable primary battery.)
9. Remove the battery(ies) from this product if the product will not be used for a long period of time (several months or more). During this time the battery(ies) could leak in the product.
10. Discard the "dead" battery(ies) as soon as possible. The "dead" battery(ies) may leak in the product.
11. Do not store this product, or the battery(ies) provided with or identified for use with this product, in high temperature areas. Batteries that are stored in a freezer or refrigerator for the purpose of extending shelf life should be protected from condensation during storage and defrosting. Batteries should be stabilized at room temperature prior to use after cold storage.

8 *Things You should Know*

8-D FCC and Other Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device may not cause harmful interference.
Privacy of communications may not be ensured when using this unit.

CAUTION:
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

Note:
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.

- **Environment**—do not place the unit in a room where the temperature is less than 5°C (41°F) or greater than 40°C (104°F). Allow 4 inches (10 cm) clearance around the unit for proper ventilation. Avoid excessive smoke, dust, mechanical vibration, shock, or direct sunlight. Keep away magnetic cards, such as bank cards, telephone cards, etc. from the unit, as the magnet in the unit may cause the data on the card's magnetic strip to be erased.
- **Routine care**—wipe the unit with a soft cloth. Do not use benzine, thinner, or any abrasive powder.
- **If there is any trouble**—consult the authorized Panasonic Factory Service Centers.

For your future reference

Serial No.   Date of purchase

(found on the bottom of the unit)

Name and address of dealer

For product service
- Panasonic Servicenters are listed in the servicenter directory.
- Call 1-800-211-PANA(7262) for the location of an authorized servicenter.

When you ship the product
- Carefully pack your unit, preferably in the original carton.
- Attach a letter, detailing the symptom, to the outside of the carton.

Symptom

- Send the unit to an authorized servicenter, prepaid and adequately insured.
- Do not send your unit to the Panasonic Consumer Electronics Company listed below or to executive or regional sales offices. These locations do not repair consumer products.

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

Panasonic Sales Company,
Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park
Carolina, Puerto Rico 00985

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