Before using this unit, carefully read these operating instructions and the enclosed suggestion for safety.
Dear Stereo Fan

Technics. The science of sound. Our name represents over 100 high quality audio products, in every price range.
From our revolutionary direct-drive turntables to our highly acclaimed linear-phase speakers, Technics quality and value have become almost legendary among audio enthusiasts.
Our truly complete selection of turntables (including belt-drive, direct-drive, and quartz-locked models with varying degrees of automation) now includes an exciting line of linear tracking turntables with zero tracking error. Another innovation, direct-drive cassette decks, is available in both slim and micro formats. In fact, with Technics micro series, you can assemble an entire system of the highest quality with truly compact dimensions.
And our receivers, which combine new class-A amplification with quartz-synthesizer tuning, have created tremendous excitement among reviewers and customers alike.
Amplifiers, tuners, headphones, microphones, cartridges, open reel decks, sound processors—we are proud of all our high quality equipment, and we are constantly seeking to improve our products in terms of performance and handling ease. In addition, our confidence in the reliability of our merchandise (demonstrated by our warranties) and the reasons for our enormous and rapid growth become obvious.

CONTENTS

• ACCESSORIES ............................................. 2
• MAINTENANCE OF EXTERNAL SURFACES ... 2
• PRODUCT SERVICE ..................................... 2
• BATTERIES (option): THEIR USE AND INSERTION/REMOVAL .... 3
• IF THE BATTERIES BECOME WEAK ... 3
• FM ANTENNA ............................................ 4
• AM ANTENNA ........................................... 4
• STEREO SYSTEM COMPONENTS AND THEIR CONNECTIONS .... 5
• FRONT PANEL CONTROLS AND THEIR FUNCTIONS ... 7
• PROTECTION CIRCUITRY ............................... 8
• HOW TO PRESET RADIO BROADCAST FREQUENCIES .......... 9
• OPERATION ................................................. 10
• RECORDING .............................................. 12
• TECHNICAL SPECIFICATIONS ....................... 12
• TROUBLESHOOTING GUIDE ....................... 13

ACCESSORIES

• FM indoor antenna ....................................... 1
• AM loop antenna ........................................ 1
• AM antenna holder ..................................... 2
• Screws .................................................. 2

The model number of this product may be found on the back of the unit; and the serial number on the label affixed to the back of the unit.
You should note the model and serial numbers of this unit in the space provided, and retain this booklet as a permanent record of your purchase to aid in identification in the event of theft.
MODEL NUMBER ......................................
SERIAL NUMBER ....................................

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD,
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

MAINTENANCE OF EXTERNAL SURFACES

To clean, use a soft dry cloth.
If the surfaces are extremely dirty, use a soft cloth, dipped into a soap and water solution or a weak detergent solution.
Wring the cloth well before wiping the unit.
Wipe once again with a soft dry cloth.
Never use alcohol, paint thinner, benzine, nor any chemically treated cloth to clean this unit.
Such chemicals may damage the finish of your unit.

PRODUCT SERVICE

■ Warning concerning removal of covers
This unit should be serviced by qualified technicians only. No service information is provided for customers.
Should your "Technics" product ever require servicing, refer to the Directory of Authorized Service Centers or your franchised "Technics" dealer for detailed instructions.

■ Location of serial number
You will find the serial number located on the back of the unit.
BATTERIES (option): THEIR USE AND INSERTION/REMOVAL

Batteries [size AA (SUM-3) 1.5V] are required in order to assure continued operation of the memory systems. When AC power to the unit is turned off or is interrupted, the preset tuning*1 and “most-recent” memory*2 will be erased and must be reset again. Be sure to install the required batteries before operating this unit.

*1. Preset tuning
The preset tuning is a system by which any desired broadcast station which has been preset by using one of the preset-tuning buttons @ can be tuned by simply touching one button.

*2. Most-recent memory
The most-recent memory is a system by which the unit “remembers” the FM or AM broadcast station last heard when any of the functions of this unit are turned off, and automatically tunes to that station the next time the power is turned on.

Type of batteries
Use three AA-size (SUM-3: 1.5V) batteries for this unit.

Insertion of batteries
1. Open the cover.

   ![Cover and Tab]
   - Press the tab and pull to open.

2. Insert the batteries.

   ![Insert in the front. Insert in the rear.]

Removal of batteries
1. To remove the front batteries
   ① Push upward.
   ② Pull out to remove.

2. To remove the rear battery
   Press the bottom of the battery to remove.

Battery life
About 1 year.

Notes concerning the batteries
1. Be sure the batteries are inserted so that the positive (+) and negative (−) polarities are correct.
2. Never subject the batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
3. If the unit is not to be used for a long time, remove the batteries and store them in a cool dark place.
4. Always remove old, weak or worn-out batteries promptly and dispose of them.
5. Never mix old and new batteries, nor batteries of different types.

IF THE BATTERIES BECOME WEAK

If the batteries are consumed, the “preset tuning” and the “most-recent” memory are erased, making it necessary to reprogram the memory.
If the batteries are consumed, the display will show 87.9 MHz and 530 kHz no matter which of the preset-tuning buttons @ is pressed.
**FM ANTENNA**

For best reception of FM broadcasts, select an FM antenna with the best characteristics for the area in which the unit is to be used.

**Location of antenna**

Install the antenna:
1. Where it will receive FM broadcast signals directly; not in the "shadow" of a building.

![Correct location avoids multi-path reception](image)

**Note:**
Multi-path distortion is the distortion which results from the reception of two types of signals: those reflected from nearby buildings, mountains, etc., and those received directly from the broadcasting station.

2. Away from busy roads, and away from neon signs.

![Away from noise sources!](image)

3. At least 4 meters (13 feet) above the ground (except in mountainous regions, etc.).

![Signals not received if too low](image)

As high as possible

4. At least 3 meters (10 feet) away from a metal roof or other antennas.

![Metal roof At least 3 m away](image)

5. To avoid danger, away from electric power lines.

![Danger close to power lines](image)

**Note:**
An outdoor antenna should be installed by a competent technician only.

---

**AM ANTENNA**

This unit includes an AM loop antenna. No outdoor antenna is necessary unless the broadcast signals in your area are especially weak. (Connect the loop antenna even if an outdoor antenna is used; if it is not connected, AM reception will not be possible.)

**How to use the AM loop antenna**

Pay attention to the following points when attaching the antenna.

1) Do not attach it horizontally (to do so would impair reception).

2) Do not attach it close to metal surfaces (to do so would result in noise).

3) Do not attach it close to power cords, speaker wires, etc. (to do so would result in noise).

4) Do not attach it close to a tape deck (when the tape deck is being used, chirping or beeping sounds may be received).

1. Connect the AM loop antenna to the AM antenna terminals located on the rear panel of the unit. (Refer to page 6)

2. Find the height and direction of the antenna where reception is best and then fix it vertically to the wall, rack, etc.

![AM loop antenna](image)

1) When attaching the antenna to a wall, column or rack.

2) When attaching the antenna to the unit.

This type of installation may cause impaired reception or result in signal noise. If possible, attach the antenna to the rack, a wall, or a column.

![AM loop antenna](image)

3. Move the antenna toward the right or left to find the point of best reception.

---

**Connection of an outdoor antenna**

If an outside AM antenna is installed (in mountainous regions or between reinforced-concrete buildings), install it in a location away from utility poles, high-voltage power lines, high buildings and busy roads.

**Note:**
An outdoor antenna should be installed by a competent technician only.
STEREO SYSTEM COMPONENTS AND THEIR CONNECTIONS

FM outdoor antenna (option)
(Necessary in mountainous regions, inside reinforced-concrete buildings, etc.)
Note: 75-ohm coaxial cable or 300-ohm feeder wire are used for connection from the antenna, but coaxial cable is suggested for best resistance to external interference noise.

Connection:
Be sure the shield braid contacts the clamp.
20 mm (3/52")
10 mm (3/8")
Shield braid
Clamp
Center conductor

FM indoor antenna (option)
(Technics FM wing antenna: SH-701)
Note: This indoor antenna reduces the effects of multipath distortion and external noise sources (car engines, etc.).
Use in areas where the transmission signal is strong (transmission site is in direct view).
When using this unit, set the antenna mode selector to "manual" in order to do the tuning.

FM indoor antenna (included)
Tacks or tape
- Unfold to T-shape, and attach to a wall (using tacks or tape) facing in direction of best reception.
- Tacks should not contact internal antenna wire.
- For best reception sound quality, an FM outdoor antenna is recommended.
- Disconnect this antenna if an FM outdoor antenna is installed.

AM outdoor antenna (option)
(Necessary in mountainous regions, inside reinforced-concrete buildings, etc.)
Use 5 - 12 m (16 - 40 ft.) of vinyl-covered wire horizontally at the window.

1 AM loop antenna terminal
Insert the antenna plug into the terminal.
Insert the antenna into place in the holder. (Refer to page 4 for detailed information.)

2 "PLAYBACK/AUX" terminals:
8-track stereo tape deck (playback only), second tuner, or audio output of a video unit.
If the video unit has only one audio output terminal, use a Y-type cord (monaural to stereo) to make the connection.

3 Connection of speaker wires:
Strip off the outer covering, and twist the center conductor.

4 "UNSWITCHED" outlet:
Power is always available, regardless of power switch setting.
Equipment rated up to 150 W can be connected.
FRONT PANEL CONTROLS AND THEIR FUNCTIONS

1. Power switch (power)
   Note:
   Be sure to set the volume control @ to its minimum ("0") position before turning on the power.

2. Band selector (band selector)
   FM (\( \lambda \rightarrow \lambda \)):
   Set to this position for reception of FM broadcasts.
   AM (\( \lambda \rightarrow \lambda \)):
   Set to this position for reception of AM broadcasts.

3. FM stereo indicator (stereo)
   This indicator automatically illuminates when an FM stereo broadcast is being received.
   Note:
   It will not illuminate if the automatic-scan/FM mode selector @ is set to the "off (manual)/mono" position.

4. Digital frequency display
   The reception frequency of the FM or AM broadcast selected by using the tuning buttons @ or the preset tuning buttons @ is indicated by a digital-type display.

5. Tuning buttons (tuning)
   These buttons are used for tuning to a desired broadcast station.
   Press the left button to change the frequency downward, and press the right button to change the frequency upward.
   There are two types of tuning: automatic and manual. Tune a station by using the following procedure.
   Automatic tuning:
   Set the automatic-scan/FM mode selector @ to the "on/auto" position, and then press one of the buttons. (The next station will automatically be tuned in.)
   Note that a station will not automatically be tuned in if the broadcast signal is weak. If this occurs, make the tuning manually.
   Note:
   In order to stop automatic tuning, set the automatic-scan/FM mode selector @ to the "off (manual)/mono" position.
   Manual tuning:
   Set the automatic-scan/FM mode selector @ to the "off (manual)/mono" position, and then press one of the buttons.
   The frequency is changed by 0.2 MHz for FM and 10 kHz for AM. If the button is pressed continuously, the frequency will continue to change.
6 Memory indicator (memory)
This indicator illuminates when the memory button is pressed.
When presetting the frequency of an FM or AM broadcast station, press one of the preset-tuning buttons during the time (about 5 seconds) that this indicator is illuminated.

7 Quartz-lock indicator (quartz lock)
This indicator illuminates when a broadcast is received. It will not illuminate if the signal from the broadcast station is weak.

8 Signal-strength indicators (signal strength)
These indicators show the relative strength of broadcast signals being received by the antenna. The best condition for reception, for FM and AM, is when the indicators illuminate completely to the top.

9 Tape monitor/aux selector (tape monitor/aux)
source ( ).
Set this position to listen to a phono disc or radio broadcasts.
tape/aux ( ).
Set this position to listen to the playback sound from the tape deck connected to the "REC OUT" and "PLAYBACK/AUX" terminals on the rear panel. Also set to this position to listen to the sound from a video cassette recorder etc. connected to the "PLAYBACK/AUX" terminals.

10 Input selectors
tuner:
Press this selector to listen to radio broadcasts.
phono:
Press this button to listen to phono discs.

11 Volume-level indicator
This indicator indicates the volume level.

12 Volume control (volume)
This control is used to adjust the volume level.
Note:
Be absolutely sure to set this control to its minimum ("0") position when turning the power on. After the power switch is turned on, please wait several seconds before increasing the volume level.

13 Automatic-scan/FM mode selector
(auto scan/FM mode)
This selector can be used to select either automatic scan tuning or manual step tuning for both AM and FM broadcast. Use in conjunction with the tuning buttons to change stations. This selector is also used to select either stereo or monaural reception of FM broadcasts. (The FM mode selector does not operate for AM broadcasts.)
on/auto ( ).
Set to this position for ordinary use. FM stereo and monaural broadcasts can be received.
When one of the tuning buttons is pressed once, the next strong station will automatically be tuned in.
off (manual)/mono ( ).
All broadcasts, stereo and monaural, will always be received monaurally.
The frequency will change by one "step" when one of the tuning buttons is pressed once, or will change continuously while a tuning button is pressed continuously.

14 Preset-tuning buttons (FM/AM preset tuning)
These buttons (1 ~ 7) are used to preset FM and AM broadcast frequencies into the memory of this unit, and are also pressed to select the desired preset frequencies. A total of 14 frequencies (7 FM and 7 AM) can be preset into the memory of this unit. After a frequency has been correctly preset, it is only necessary to press the corresponding button to tune to that frequency.

15 Balance control (balance)
While listening to an AM broadcast or a monaural FM broadcast, balance the sound so that it seems to be heard from the center, between the speakers.

16 Memory button (memory)
This button is used when one of the preset-tuning buttons is used to program an FM or AM broadcast frequency into the memory of this unit. When this button is pressed, the memory indicator will illuminate, and the broadcast frequency should be programmed into the memory during the time that it is illuminated.

17 Treble tone control (treble)
To increase the high-range sound slide this control to the right.

18 Bass tone control (bass)
To increase the low-range sound slide this control to the right.

19 Headphones jack (phones)
Note:
Be sure to set the volume control to its minimum ("0") position before connecting headphones.

Note:
A delay of several seconds from the time the power is turned on to the time sound will be heard is normal and is part of the design of this unit.

PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:
• No sound is heard when the power is turned on.
• Sound stops during a performance.
The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.
If this occurs, follow the procedure outlined below:
1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again.
Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.
HOW TO PRESET RADIO BROADCAST FREQUENCIES

This unit can be used to preset as many as 14 radio broadcast frequencies: 7 FM and 7 AM. After broadcast frequencies have been preset as described below, any desired station can be quickly and easily selected by simply touching one button.

1 “tuner” ( )

2 “source” ( )

3 “FM” ( ) for FM broadcasting stations
   “AM” ( ) for AM broadcasting stations

4 “on” ( )

5 “on/auto” ( )

6 Press one of the tuning buttons.
   (The broadcast station will automatically be selected.)
   **Note:**
   If automatic selection can not be made, set the automatic-scan/FM mode selector to the “off (manual)/mono” position and then tune manually.

7 Press the memory button.
   (The memory indicator will illuminate for about 5 seconds.)

8 While the memory indicator is illuminated, press the preset-tuning button (1~7) which you want to use for that station.
   When the button is pressed, the memory indicator illumination will stop, and the presetting is complete.
   **Note:**
   If the memory indication illumination stops before you press the button, once again repeat step (7) and then step (8).

9 It is suggested that you make a record, such as illustrated below, in order to keep a record of which station was preset for each button.

This completes the procedures for presetting radio broadcast frequencies. The other preset-tuning buttons can be preset in the same way by following steps (8) through (8).

<table>
<thead>
<tr>
<th>Button</th>
<th>Station</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>FM</td>
<td>broadcast</td>
<td>MHz</td>
<td>MHz</td>
<td>MHz</td>
<td>MHz</td>
<td>MHz</td>
<td>MHz</td>
<td>MHz</td>
</tr>
<tr>
<td>AM</td>
<td>broadcast</td>
<td>kHz</td>
<td>kHz</td>
<td>kHz</td>
<td>kHz</td>
<td>kHz</td>
<td>kHz</td>
<td>kHz</td>
</tr>
</tbody>
</table>

**Note:**
If a new frequency is preset for a button which had already been preset, the previous setting will be cancelled.
OPERATION

(Follow all steps in numbered order.)

■ To listen to radio broadcasts

1 "0 → 1"
Set volume control to low position for easier tuning.

2 “tuner” ( )

3 “source” ( )

4 ( ) "on/auto"

5 "FM" ( ): for FM broadcasts
"AM" ( ): for AM broadcasts

6 Power: “on” ( )

7-1 If the station has not been preset:
Press the corresponding preset-tuning button.
Press one of the tuning buttons.
(The broadcast station will automatically be selected.)
Note:
If automatic selection cannot be made, set the
automatic-scan/FM mode selector to the "off"
(manual)/mono" position and then tune manually.

7-2 If the station has been preset:
Broadcast will be heard monaurally.
Set to "off (manual)/mono" position if
noise is excessive.

8 Set to "off (manual)/mono" position if
noise is excessive.
(Broadcast will be heard monaurally.)

9 Adjust volume level.

■ To listen to phono discs

1 "0"

2 “phono” ( )

3 “source” ( )

4 Power: “on” ( )

5 Follow the instructions accompanying your
turntable for set-up and operation.

6 Adjust volume level.
To listen to tape

1. "0"
2. "tape/aux" (接入)
3. Power: "on" (开)
4. Follow your tape deck's operating instructions.
5. Adjust volume level.

When listening through headphones

Sound from the speakers will not be heard when headphones are connected to this jack.

Note: Set volume control to minimum ("0") position before connecting headphones.

Steps required for all operations

(Follow these steps, as necessary, for all operations after adjustment of volume level.)

- Adjust left/right volume balance.
- Adjust tone quality as desired. Low-range sound is adjusted with bass control ("bass"), and high-range sound with treble control ("treble").

Note: After listening is finished, power switches of all equipment should be turned "off".

This model is equipped with a built-in loudness circuit which automatically compensates the bass range (which is difficult for the human ear to pick up when the volume level is low) to give the music more "presence".
The level of the disc or radio broadcast signal emitted from the recording output terminals ("REC OUT") on the rear panel is always at a constant level, unaffected by the settings of other controls.

3. Begin the disc play or tune to the radio broadcast.
(Refer to page 10.)

4. Operation of tape deck
By using the controls on the tape deck, make the adjustment of the recording level. Then begin recording.

---

**TECHNICAL SPECIFICATIONS**

(IHF '78)

- **AMPLIFIER SECTION**
  
  Rated minimum sine wave RMS power output
  40 Hz~20 kHz both channels driven
  0.5% total harmonic distortion
  25W per channel (8 ohms)

  1 kHz continuous power output
  both channels driven
  0.5% total harmonic distortion
  27W per channel (8 ohms)

  Dynamic headroom
  1.2 dB (8 ohms)

  Total harmonic distortion
  rated power at 40 Hz~20 kHz
  0.5% (8 ohms)

  half power at 1 kHz
  0.05% (8 ohms)

  SMPTE intermodulation distortion
  0.5% (8 ohms)

  Frequency response
  PHONO
  RIAA standard curve ±0.8 dB
  TAPE/AUX
  5 Hz~70 kHz, −3 dB

  Input sensitivity
  PHONO
  0.5 mV (2.5 mV, IHF '66)
  TAPE/AUX
  30 mV (150 mV, IHF '66)

  S/N (IHF, A)
  PHONO
  75 dB (73 dB, IHF '66)
  TAPE/AUX
  82 dB (95 dB, IHF '66)

  Maximum input voltage
  PHONO
  140 mV (150 mV, 1 kHz)

  Input impedance
  PHONO
  47 kilohms
  TAPE/AUX
  18 kilohms

  Tone controls
  BASS
  50 Hz, +10 dB~−10 dB
  TREBLE
  20 kHz, +10 dB~−10 dB

  Loudness control (volume at −30 dB) (built in)
  50 Hz, +5 dB

  Low frequency damping factor
  30 (8 ohms)

  Load impedance
  4~16 ohms

---

**FM TUNER SECTION**

- **Frequency range**: 87.9~107.9 MHz
- **Sensitivity**: 10.8 dB (1.9 μV, IHF '58)
- **50 dB quieting sensitivity**: MONO 16.1 dB (3.5 μV, IHF '58)
  STEREO 38.3 dB (45 μV IHF '58)
- **Total harmonic distortion**
  100 Hz 0.15% (MONO), 0.3% (STEREO)
  1 kHz 0.15% (MONO), 0.3% (STEREO)
  6 kHz 0.3% (MONO), 0.3% (STEREO)
- **S/N**
  MONO 77 dB
  STEREO 71 dB
- **Frequency response**: 20 Hz~15 kHz, +1 dB, −2 dB
- **Alternate channel selectivity**: 70 dB
- **Capture ratio**: 1 dB
- **Image rejection at 98 MHz**: 55 dB
- **IF rejection at 98 MHz**: 75 dB
- **Spurious response rejection at 98 MHz**: 82 dB
- **AM suppression**: 50 dB
- **Stereo separation**
  1 kHz 40 dB
  10 kHz 30 dB
  Carrier leak
  19 kHz 38 kHz
  −35 dB
  −50 dB
- **Antenna terminals**: 300 ohms (balanced)
  75 ohms (unbalanced)

---

**AM TUNER SECTION**

- **Frequency range**: 530~1620 kHz
- **Sensitivity**: 20 μV, 300 μV/m
- **Selectivity**: 55 dB
- **Image rejection at 100 kHz**: 40 dB
- **IF rejection at 1000 kHz**: 60 dB

---

**GENERAL**

- **Power consumption**: 160W
- **Power supply**: AC 120V, 60 Hz
- **Dimensions (W×H×D)**: 430 × 97 × 243 mm
  (16-1/16" × 3-13/16" × 9-9/16")
- **Weight (for USA)**: 4.5 kg (9.9 lb.)
- **Weight (for Canada)**: 5 kg (11 lb.)
# Troubleshooting Guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Servicenters, located with this unit, to locate a convenient servicenter, or consult your Technics dealer for instructions.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Probable cause(s)</th>
<th>Suggested remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A loud and unusual sound (&quot;howling&quot;) is heard when the volume level is increased.</td>
<td>The location of the turntable and speaker systems is unstable.</td>
<td>• If the equipment is unstable because it is located upon a soft surface, such as a carpet, place a solid material (such as concrete blocks, bricks, or a hard board, etc.) beneath the speaker systems. • Close the cover of the turntable. • Try moving the turntable farther away from the speaker systems. • Try placing a cushioning material (such as felt or commercially available audio insulators) beneath the turntable.</td>
</tr>
<tr>
<td>During disc play</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unusual scratching noises are heard.</td>
<td>Disc is old or scratched.</td>
<td>• Turn the treble tone control @ to reduce the treble sound.</td>
</tr>
<tr>
<td></td>
<td>Dust in disc grooves.</td>
<td>• Use a disc cleaner to remove the dust from the disc grooves.</td>
</tr>
<tr>
<td></td>
<td>Stylus needle is worn.</td>
<td>• If the noise is heard even when a new disc is played, probably the stylus is worn. Replace it with a new stylus.</td>
</tr>
<tr>
<td></td>
<td>Dust is attached to stylus tip.</td>
<td>• Remove the dust by using a soft brush.</td>
</tr>
<tr>
<td>An unusual hissing noise is heard when listening to the broadcast in stereo, but not heard when listening monaurally.</td>
<td>A slight noise may be heard because the method used for modulation of FM stereo broadcasts is different than that used for monaural broadcasts.</td>
<td>• Try reducing the treble sound by using the treble tone control @. • Set the automatic-scan/FM mode selector @ to the &quot;off (manual)/mono&quot; position. (Note that the broadcast will then be heard as monaural sound.) • Try changing the location, height and/or direction of the antenna. • If an interior antenna is being used, change to an exterior antenna. • Try using an antenna with more elements.</td>
</tr>
<tr>
<td>Noise is excessive in both stereo and monaural broadcasts.</td>
<td>Poor location and/or direction of the antenna. Transmitting station is too far away.</td>
<td>• Try changing the location, height and/or direction of the antenna. • If an interior antenna is being used, change to an exterior antenna. • Try using an antenna with more elements.</td>
</tr>
<tr>
<td>The FM stereo indicator or quartz lock indicator flickers, without completely illuminating.</td>
<td>Poor location and/or direction of the antenna. Transmitting station is too far away.</td>
<td>• Try changing the location, height and/or direction of the antenna. • If an interior antenna is being used, change to an exterior antenna. • Try using an antenna with more elements.</td>
</tr>
<tr>
<td>Sound is distorted and/or the volume level becomes low.</td>
<td>Broadcast signals are being disturbed. Nearby automobile traffic or airplanes.</td>
<td>• Try changing the location, height and/or direction of the antenna. • If an interior antenna is being used, change to an exterior antenna. • Try using an antenna with more elements.</td>
</tr>
<tr>
<td>Excessive noise in stereo broadcasts; sometimes no sound is emitted.</td>
<td>Poor location and/or direction of the antenna. Transmitting station is too far away.</td>
<td>• Try changing the location, height and/or direction of the antenna. • If an interior antenna is being used, change to an exterior antenna. • Try using an antenna with more elements.</td>
</tr>
<tr>
<td>Excessive distortion in the sound of stereo broadcasts.</td>
<td>Nearby building or mountain. (Multi-path distortion is being caused by the mutual interference of broadcast signals received directly from the transmitting station (direct waves) and signals being reflected from nearby buildings or mountains (reflected waves).)</td>
<td>• Relocate the antenna and the connection wires leading to it to a place farther away from where automobiles pass. • Try placing this unit farther away from such equipment. • Install noise-prevention equipment on this unit or on the electric appliance.</td>
</tr>
<tr>
<td>While listening to FM broadcasts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>An unusual &quot;popping&quot; noise is heard when automobiles pass.</td>
<td>Such noise is called ignition noise, and occurs while the automobile engine is running.</td>
<td>• Relocate the antenna and the connection wires leading to it to a place farther away from where automobiles pass.</td>
</tr>
<tr>
<td>A strange hissing noise is produced continuously or intermittently.</td>
<td>Caused by the &quot;discharge phenomenon&quot; and the &quot;oscillation phenomenon&quot; of electric appliances (such as fluorescent lights, TV, small series-type motors, rectification equipment, etc.).</td>
<td>• Try placing this unit farther away from such equipment. • Install noise-prevention equipment on this unit or on the electric appliance.</td>
</tr>
<tr>
<td>Station selection cannot be made by using the preset-tuning buttons @.</td>
<td>The preset-tuning buttons @ have not been preset. The batteries have become extremely weak, and the memory has been erased.</td>
<td>• Make the presettings. • Replace the batteries with new ones, and preset the frequencies once again.</td>
</tr>
</tbody>
</table>
### Troubleshooting Guide (Continued)

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>An unusual “beat” sound is heard.</td>
</tr>
<tr>
<td>Unit is being used at the same time as the television set.</td>
</tr>
<tr>
<td>Interference from adjacent broadcast signal.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Turn off the television set, or use this unit farther away from it.</td>
</tr>
<tr>
<td>• By using the treble tone control @, try reducing the treble sound.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>A low-pitched “hum” sound is heard when the broadcast is tuned.</td>
</tr>
<tr>
<td>The antenna connection wires are too close to the power cord.</td>
</tr>
<tr>
<td>The power supply frequency from the power cord is modulated and heard from the speakers.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Place the antenna connection wires and the power cord farther apart.</td>
</tr>
<tr>
<td>• Try reversing the connection of the power cord plug.</td>
</tr>
<tr>
<td>• Install a special exterior antenna.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>A strange hissing noise is produced continuously or intermittently.</td>
</tr>
<tr>
<td>Caused by the “discharge phenomenon” and the “oscillation phenomenon” of electric appliances (such as fluorescent lights, TV, small series-type motors, rectification equipment, etc.).</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Try placing this unit farther away from such equipment.</td>
</tr>
<tr>
<td>• Install noise-prevention equipment on this unit or on the electric appliance.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>While listening to AM broadcasts</td>
</tr>
<tr>
<td>Station selection cannot be made by using the preset-tuning buttons @.</td>
</tr>
<tr>
<td>The preset-tuning buttons @ have not been preset.</td>
</tr>
<tr>
<td>The batteries have become extremely weak, and the memory has been erased.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Make the presets.</td>
</tr>
<tr>
<td>• Replace the batteries with new ones, and preset the frequencies once again.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>No sound is heard when the power is turned on.</td>
</tr>
<tr>
<td>The power cord plug is not completely inserted.</td>
</tr>
<tr>
<td>Connections are incomplete or incorrect to the speaker systems, etc.</td>
</tr>
<tr>
<td>The setting of the input selectors @ has not been completely or correctly made.</td>
</tr>
<tr>
<td>The tape-monitor/aux selector @ is incorrectly set to the “tape/aux” position when a tape deck is connected.</td>
</tr>
<tr>
<td>Headphones are connected.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Confirm that the power cord plug is connected completely.</td>
</tr>
<tr>
<td>• Check to be sure that all connection wires are correctly connected.</td>
</tr>
<tr>
<td>• Check to be sure that the selectors are set to the correct position.</td>
</tr>
<tr>
<td>• Except for tape playback, set the tape-monitor/aux selector @ to the “source” position.</td>
</tr>
<tr>
<td>• Disconnect the headphones from this unit.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>When listening to stereo sound, the sound of the various musical instruments is not heard from its correct position.</td>
</tr>
<tr>
<td>The positive (+) and negative (−) connections of the speaker connection wires are reversed.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Reconnect the speaker connection wires so that the positive and negative connections are correct.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>When listening to stereo sound, the left and right sounds are reversed.</td>
</tr>
<tr>
<td>The left and right connections of the speaker connection wires are reversed.</td>
</tr>
<tr>
<td>The left and right connections of the connection wires connected to other equipment are reversed.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Check the speaker connection wires and connect them correctly if necessary.</td>
</tr>
<tr>
<td>• Check the connection wires to other equipment and connect them correctly if necessary.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>A low-pitched noise (“hum” or “buzz”) is heard.</td>
</tr>
<tr>
<td>The power cord or a fluorescent light, etc., is near the connection wires.</td>
</tr>
<tr>
<td>The connection of the ground wire is incorrect or incomplete.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Try separating this unit from the electric appliance as far as possible.</td>
</tr>
<tr>
<td>• Reverse the connection of the power cord plug.</td>
</tr>
<tr>
<td>• Check to be sure that the grounding connection is correct.</td>
</tr>
<tr>
<td>• If the unit is not grounded, try doing so.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound is not heard from the speaker system on one side.</td>
</tr>
<tr>
<td>The speaker connection wires are disconnected.</td>
</tr>
<tr>
<td>The balance control @ is not set to the center position.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Check and correct the connections of the speaker connection wires.</td>
</tr>
<tr>
<td>• Set the mark on the balance control to the center position.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>The volume level for a radio broadcast is different from that for disc play.</td>
</tr>
<tr>
<td>The strength of the broadcast signal is not the same as the output from the turntable.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Adjust the volume level by using the volume control @.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound stops during a performance, or no sound is heard when the power is turned on.</td>
</tr>
<tr>
<td>The protection circuitry has functioned because the positive and negative speaker connection wires are “shorted” or speaker systems with an impedance less than the indicated rated impedance of this unit are used.</td>
</tr>
<tr>
<td><strong>Suggested remedy</strong></td>
</tr>
<tr>
<td>• Turn off the power, and, after determining and correcting the cause, turn on the power once again.</td>
</tr>
</tbody>
</table>

---

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

Matsushita Electric of Canada Limited  
5770 Ambler Drive, Mississauga, Ontario L4W 2T3

Panasonic Hawaii, Inc.  
91-238 Kualo St., Ewa Beach  
P.O. Box 774  
Honolulu Hawaii 96608-0774

Panasonic Sales Company,  
Division of Matsushita Electric of Puerto Rico, Inc.  
Ave. 65 De Infantería, KM 9.7 Victoria Industrial Park Carolina, Puerto Rico 00630

SQX52367-2  
S1082N2033

Printed in Japan