

Operating Instructions

MODEL NO. **RF-3100**



Panasonic®

Read these instructions completely before operating this set.

Your new Panasonic radio receiver was manufactured and assembled under exacting quality control standards. The incorporation of the latest advances in radio design and the use of the most modern components ensure outstanding performance with superb sensitivity, selectivity and tone quality. Just a few minutes of your time spent reading carefully through these instructions will assure your obtaining optimum performance that will bring you continued enjoyment for many years.

The serial number of this product may be found on the label affixed to the inside of the battery compartment. You should note the serial number of this unit in the space provided below and retain this book as a permanent record of your purchase to aid in identification in the event of theft or fire.

MODEL NUMBER: RF-3100

SERIAL NUMBER: _____

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

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PRECAUTIONS

For your safety and to prevent damage to the set:

- Do not connect the set to any AC outlet other than the type supplying the specified voltage.
- Avoid cuts, scratches, or poor connections in the AC power cord, as they may result in possible fire or electric shock hazard. Also, excessive bending, pulling or slicing of the cord should be avoided.
- Do not unplug the AC power cord by pulling on the cord. To do so may cause premature failure or shock hazard. Unplug the set by pulling on the plug itself.
- Do not operate the set on AC power in a bathroom, as a potential shock hazard may result. Use battery power when near water.
- When not in use, disconnect the AC power cord from the AC power outlet. This precaution applies to all electronic equipment.

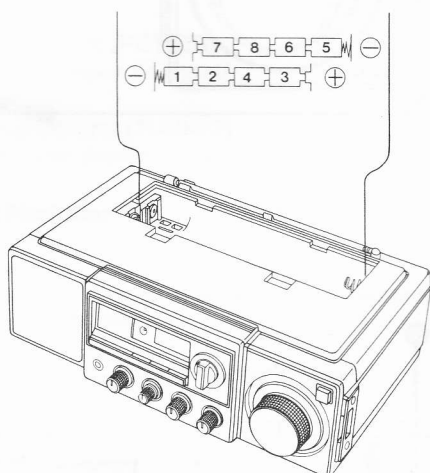
HELPFUL HINTS

- If the set is not used for a long time or is used only from an AC power source, remove all the batteries to prevent potential damage due to possible battery leakage.
- When the sound becomes low or distorted, replace all the batteries with new ones before they are completely discharged.
- Do not subject the set to a temperature higher than 140°F (60°C), because characteristics of the internal parts may be adversely affected by extreme heat. Specifically, never leave the set in a car exposed to direct sunlight for a long time with all the doors and windows closed. The cabinet may become deformed, and deterioration of the performance may result.
- Do not use benzine, thinner or the like, or any abrasive powder to clean the cabinet. Wipe it with a soft cloth moistened with a mild soap and water solution.

POWER SUPPLY

■ Battery Operation:

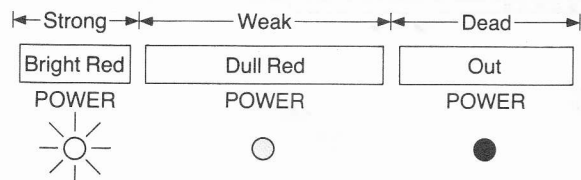
- 1) Open the Battery Compartment Cover, as shown in the figure.
- 2) Insert 8 "D" size (Panasonic UM-1 or equivalent) batteries into the Battery Compartment, making sure that the batteries are installed in the specified numerical order, and that the proper polarities (\oplus and \ominus) are maintained.
- 3) Replace the Battery Compartment Cover.



● When removing the batteries, start by first lifting up the \oplus side of the "No. 7" battery.

● Battery Condition:

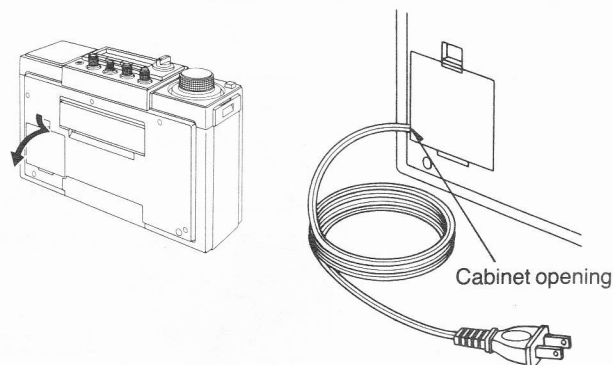
- 1) Set the Power Switch to "ON".
- 2) The Power Indicator will then show the battery condition.



With weak batteries, the sound will become distorted, especially at high volume levels.

■ AC Power Operation

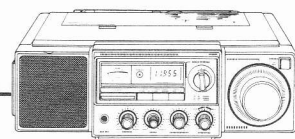
- 1) Open the AC Power Cord Compartment, as shown in the figure.
- 2) Extend the AC power cord and position the cord in the cabinet opening provided.
- 3) Plug the AC Power Cord into an AC power outlet.
The unit will automatically switch from battery to AC operation.



AC power outlet
AC 120 V



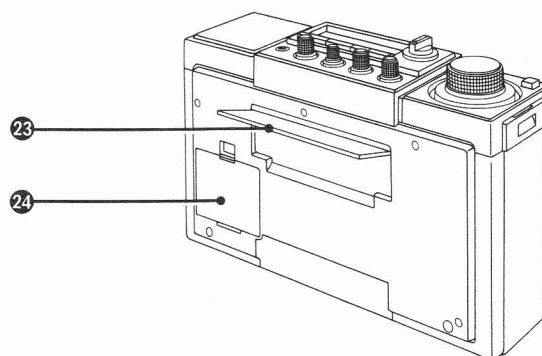
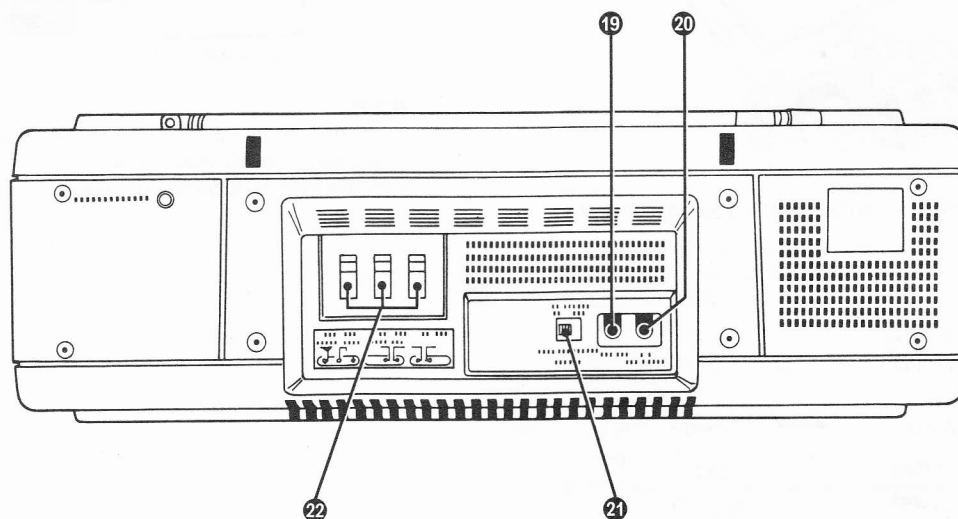
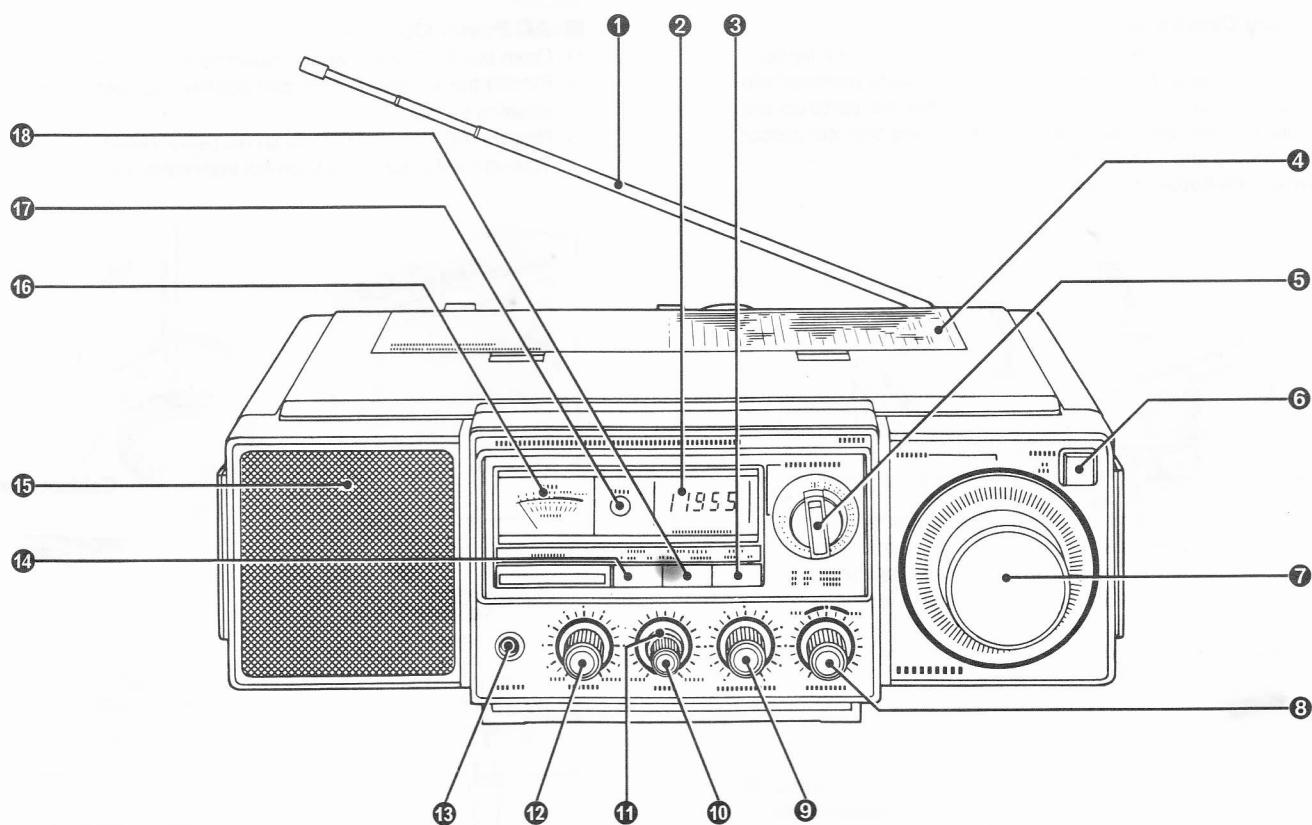
AC power cord



Note:

Be sure to set the Power Switch to "OFF", when turning the set off. Unplugging the AC Power Cord from the AC outlet automatically switches from AC to battery operation, but does not turn the unit off.

LOCATION OF CONTROLS



CONTROLS AND THEIR FUNCTIONS

1 Telescopic Antenna

Effective on FM and SW, not MW.
For best reception, extend the Telescopic Antenna completely and position it in the direction which provides the optimum reception.

2 Digital frequency Display (FREQUENCY DISPLAY)

Indicates the tuned frequency as follows:
FM . . . a decimal figure in MHz (105.9)
MW . . . a three or four digit figure in kHz (1200)
SW . . . a decimal figure in MHz (15.0)

3 BFO On/Off Switch (BFO)

It turns the BFO (Beat Frequency Oscillator) on and off. For SSB or CW reception on SW, set the switch to "ON". When receiving neither SSB nor CW, be sure to set the switch to "OFF".

4 Battery Compartment Cover

5 Band Selector (BAND SELECTOR)

It selects the desired band (MW, SW, FM).

6 Power Switch (POWER)

It turns the receiver on and off.

7 Tuning Control (TUNING)

It tunes in the desired station.

8 BFO Pitch Control (BFO PITCH)

Used to obtain clear SSB and CW reception.
Properly turn to SSB or CW signals, set the BFO On/Off Switch to "ON", and then carefully rotate this control until the signals are the most suitable.

9 RF Gain Control (MW SW RF GAIN)

Effective on MW and SW, not FM.
It adjusts the receiver sensitivity for MW or SW (including SSB and CW) reception. Normally, keep it turned fully clockwise (MAX). If the received station is sufficiently strong to cause overloading or distortion in the receiver, slowly rotate this control counterclockwise until clear sound is obtained.

10 Treble Control (TREBLE)

It adjusts the high or treble tones.

11 Bass Control (BASS)

It adjusts the low or bass tones.

12 Volume Control (VOLUME)

Used to adjust the volume.

13 Headphone Jack (PHONES)

It is used for the connection of headphones. When the head-phone plug is inserted, the built-in speaker is automatically disconnected. The sound through the headphones is heard in monaural, not stereo.

14 Light Switch (LIGHT)

When this switch is pressed and the set is turned on, the Signal/Tuning Indicator is illuminated.

15 Speaker

16 Signal/Tuning Indicator (INDICATOR)

When receiving an MW or SW station, the upper scale operates as a Signal Strength Meter.
When receiving an FM station, the lower scale operates as a Tuning Meter.

17 Power Indicator (POWER)

This indicator lights when the set is turned on.

18 Bandwidth Selector (BANDWIDTH)

Effective on MW and SW, not FM.
Normally, set it to "WIDE". Set it to "NARROW" when experiencing excessive noise, or interference from an adjacent station.

19 Recording Output Jack (REC OUT)

When used with the appropriate connection cord, broadcasts can be recorded onto a tape recorder.

20 Earphone/External Speaker Jack (IMP 8Ω ONLY)

Used for the connection of an earphone or an 8Ω external speaker.

21 Antenna Selector

Effective on MW and SW, not FM. Use the selector to switch from the built-in to an external antenna on MW, or from a low to a high impedance antenna on SW.
In the "LOW IMP" position, the Telescopic Antenna is disconnected.

22 External Antenna Terminals

Effective on MW, SW and FM. If the desired station is too weak or too distant for the receiver to provide satisfactory reception, connect an appropriate external antenna (and a ground wire) to these terminals.

23 Stand

24 AC Power Cord Compartment

ANTENNAS

■ Antennas:

FM:

- Extend the Telescopic Antenna completely and adjust its length and angle for optimum reception.
- To improve reception or receive very distant stations, connect an FM antenna (FM dipole antenna, TV antenna) to the External Antenna Terminals, as shown in the figure.

MW:

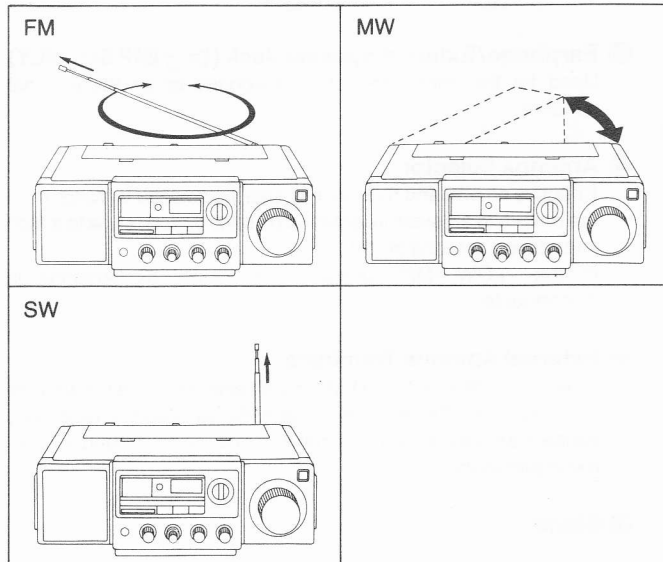
- The sensitive ferrite core antenna inside the set will provide excellent MW reception in most areas. For optimum reception, turn the set in the direction which gives the best results, since the ferrite core antenna is directional.

SW:

- Extend the Telescopic Antenna completely, keeping it vertical.
- To improve reception, connect a length of wire, to serve as an antenna, to the External Antenna Terminals, as shown in the figure.

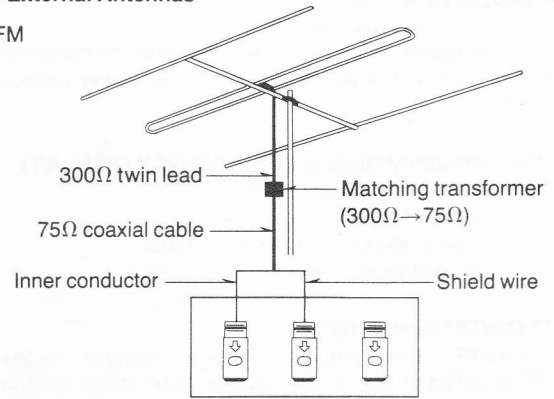
Note:

An antenna for the SW bands can be constructed from a length of wire. A long length of wire will provide better results; however, a short length of wire is also suitable.



● External Antennas

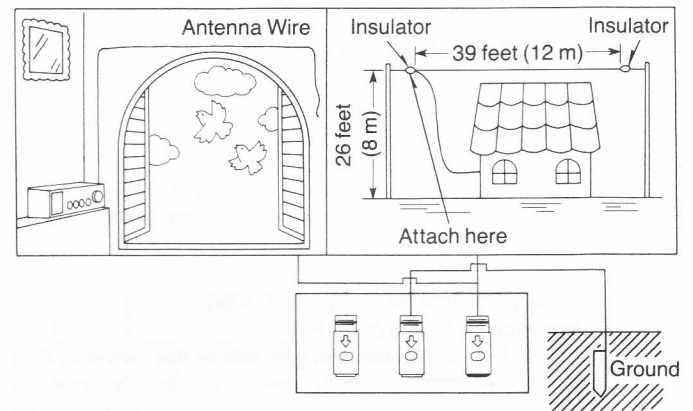
FM



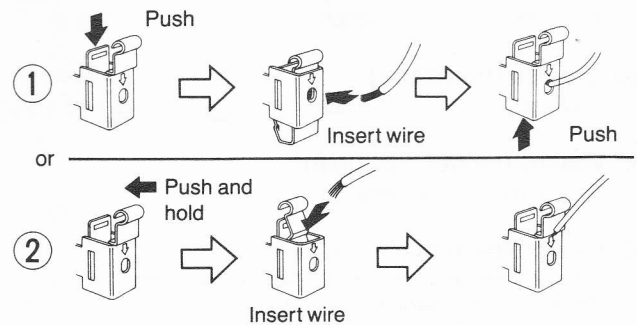
Note:

If the antenna is connected with 75Ω coaxial cable instead of 300Ω twin lead, the matching transformer is not required.

SW



● How to Connect Antenna Wire to Terminal



Notes:

- When using external antenna for FM and SW reception, shorten the Telescopic Antenna.
- When using the external antennas for SW reception, set the Antenna Selector to match the particular antenna used.

RECEIVER OPERATION

Preparation

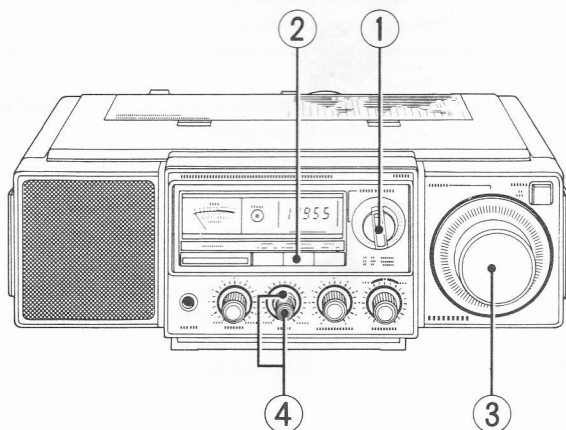
Be sure to set the following controls as described below:

- Set the RF Gain Control to "0" (clockwise).
(This control has no effect on FM.)
- Rotate the Volume Control clockwise for the desired sound level.
- Set the Antenna Selector to the proper position ("HIGH" or "LOW"). Insure that proper connection is made when using an external antenna.

After confirmation regarding these points, set the Power Switch to "ON", then proceed with the instructions which follow.

■ SW

- ① Band Selector Desired SW band
- ② Bandwidth Selector "WIDE"
- ③ Tuning Control Desired station
- ④ Bass and Treble Controls Pleasant level



To reduce interference:

- Set the Bandwidth Selector to "NARROW", then retune.
- Turn the RF Gain Control counterclockwise until the interference fades away, and then readjust the Volume Control.

●SSB and CW Reception

Set the receiver as shown above for SW reception, then:

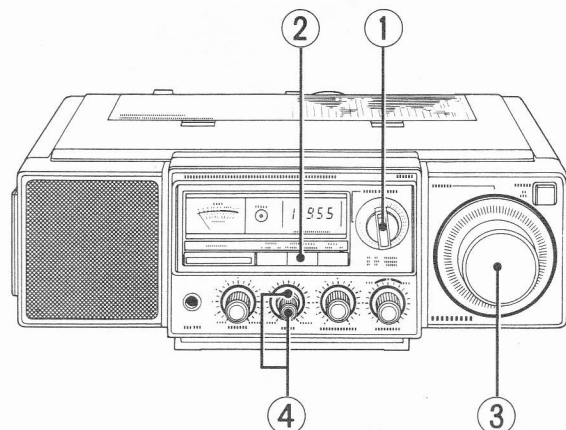
- 1) BFO Switch "ON"
- 2) BFO Pitch Control
SSB ... Rotate this control (toward "LSB" or "USB") until the received signal becomes clear.
Usually for amateur communication, LSB is used under 10 MHz and USB used over 10 MHz.
CW ... Adjust for the desired tone.

Notes:

- If the received signal is excessively strong resulting in distorted sound, rotate the RF Gain Control counterclockwise until a distinct, undistorted sound is obtained.
- In receiving two-way communication signals, a possible difference between the two frequencies may demand further adjustment of the Tuning Control.
- When setting the BFO Pitch Control to "ON" the bandwidth automatically changes to narrow.
- When receiving at 5.12 MHz, 10.24 MHz, 15.36 MHz and 20.48 MHz, the signal strength meter may shown full deflection to the right. This is a normal condition and does not indicate that anything is wrong with this set.

■ MW

- ① Band Selector "MW"
- ② Bandwidth Selector "WIDE"
- ③ Tuning Control Desired station
- ④ Bass and Treble Controls Pleasant level



Note:

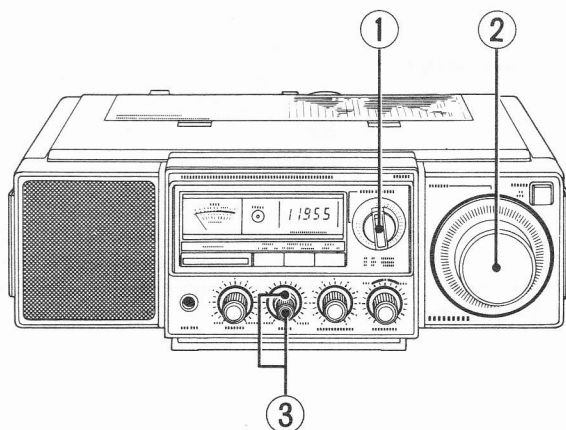
When receiving MW, avoid using the set on or near a steel desk. If you use the set on a steel surface, install rubber feet, as described in "Installing Rubber Feet", on page 7.

To reduce interference:

- Set the Bandwidth Selector to "NARROW", then retune.
- Turn the RF Gain Control counterclockwise until the interference fades away, then readjust the Volume Control.
- Turn the receiver in the direction which offers minimum interference.

■ FM

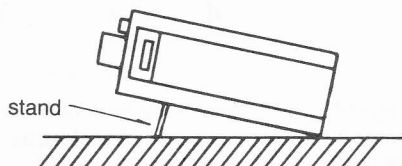
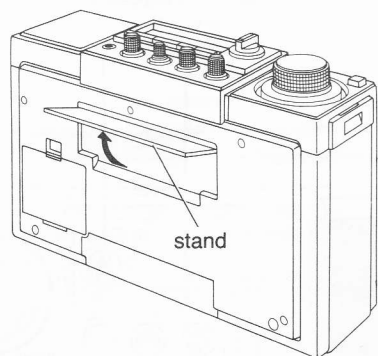
- ① Band Selector "FM"
- ② Tuning Control Desired station
- ③ Bass and Treble Controls Pleasant level



STAND

● Tilting the front

To tilt the front of the set up, extend the stand and place the set down on the stand.

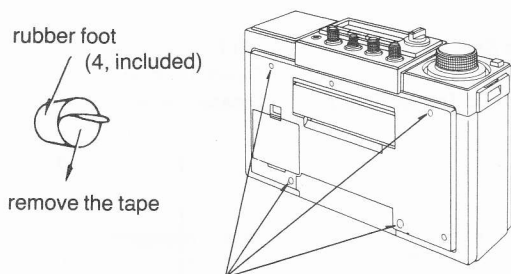


■ Installing Rubber Feet

rubber foot
(4, included)

remove the tape

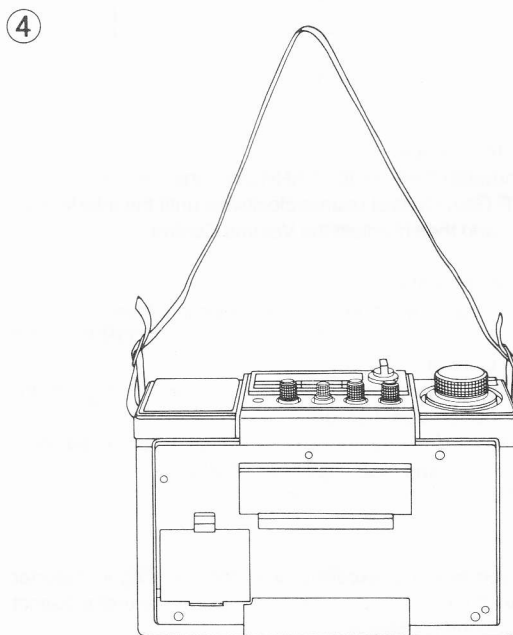
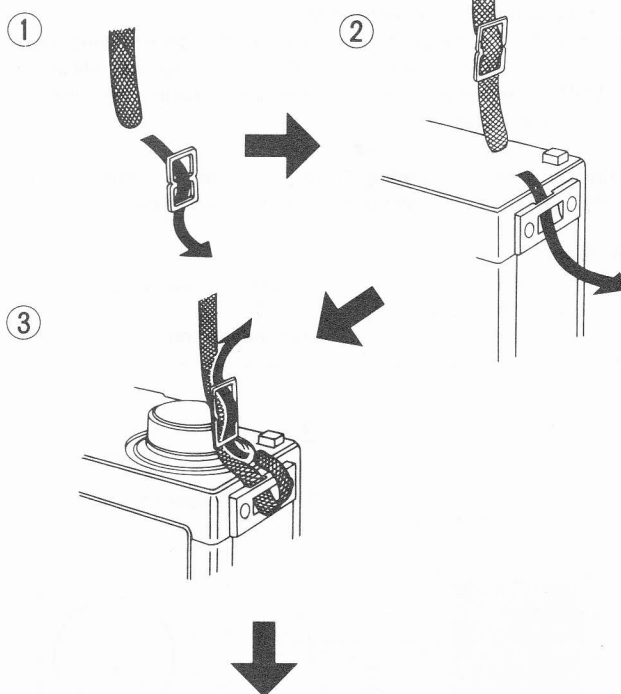
installation location



To use the set on a steel surface or to prevent it from slipping, install the 4 rubber feet provided. To install, first remove the tape from each foot, to expose the adhesive. Then, secure each foot to the bottom of the cabinet, as shown in the figure.

SHOULDER STRAP

Attach the Shoulder Strap by following the illustration, below:



Note:

While carrying the set with the Shoulder Strap, be careful not to accidentally knock off the rubber feet (if installed).

SUGGESTIONS FOR SAFETY

Before using this unit, be sure to read applicable items of the operating instructions and these safety suggestions carefully; and afterwards keep them handy for future reference. Take special care to follow the warnings indicated on the unit itself as well as in the operating instructions.

1. Avoid places where there is water or humidity.

Do not use this unit near a bathtub, washbasin, swimming pool, or the like. Damp basements should also be avoided.

2. Don't allow water or any foreign object to get inside this unit.

Don't place small metal objects or anything containing liquid on or near the unit.

3. Avoid placement of the unit where it will be exposed to the direct rays of the sun, or where ventilation is inadequate.

Don't place this unit in a bookcase or between cabinets, or where curtains or furniture may obstruct the ventilation holes.

4. Place this unit away from heat-emitting appliances.

Never place this unit near a radiator, heat register, stove, or any other heat-emitting equipment. (Including Amplifiers).

5. Placement

Place the unit on a stable, vibration-free, level shelf or stand.

6. Check the voltage rating of this unit before connecting the unit to a power supply.

Be sure to connect the unit only to the type of power supply indicated in the operating instructions, or as indicated on the unit itself.

7. Concerning the power outlet(s) of this unit

If this unit has a built-in electric power receptacle, be sure to connect only equipment with a power rating not exceeding that indicated by the receptacle of this unit. (Only connect audio equipment to this outlet.)

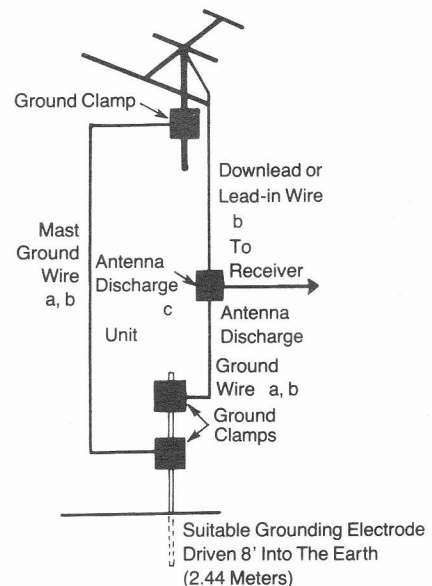
8. Care of the power cord and plug.

Take care that the cord is not bent sharply (especially near its connection to the unit or near the plug), that nothing is placed on it, and that it is not pinched or crushed. Never take hold of the plug or cord if your hand is wet, and always be sure to grasp the plug body when connecting or disconnecting it.

9. Outdoor Antenna grounding.

If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA. No. 70—1978, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. Refer to the figure to the right.

**EXAMPLE OF ANTENNA
GROUNDING AS PER
NATIONAL ELECTRICAL CODE
INSTRUCTIONS**



- a) Use No. 10 AWG copper or No. 8 AWG aluminum or No. 17 AWG copper-clad steel or bronze wire, or larger as ground wires for both mast and antenna discharge ground wire.
- b) Secure lead-in wire from antenna to antenna discharge unit and mast ground wire to house with stand-off insulators, spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
- c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

10. Power lines

When installing an outdoor antenna, install it as far as possible from power lines.

11. If the unit will not be used for a long period of time:

Be sure to disconnect the power cord.

12. Maintenance

Refer to the operating instructions for details.

13. Never attempt repairs yourself:

- (a) If the power cord or plug is damaged.
- (b) If a foreign object or liquid falls into the unit.
- (c) If the unit is exposed to rain.
- (d) If the unit does not function normally, or if operation shows an unusual change.
- (e) If the unit has been dropped and the cabinet or chassis are damaged . . . etc.

Unplug the power cord and consult with a qualified technician (or the dealer from whom the unit was purchased or the nearest service center).

14. Repairs

Except for adjustments explained in the operating instructions, do not attempt any repairs yourself. Be sure to request service from a qualified technician (or your dealer or nearest service center).

PRODUCT SERVICE

Should your Panasonic product ever require service, refer to enclosed Directory for an Authorized Panasonic Servicenter or consult your authorized Panasonic dealer for detailed instructions.

SERIAL NUMBER: Located on the label affixed to the inside of the battery compartment.