ROTEL®

FM STEREO TUNER

RHT10

OWNER'S MANUAL

WARNING
TO PREVENT FIRE OR SHOCK HAZARD,
DO NOT EXPOSE THIS APPLIANCE
TO RAIN OR MOISTURE

Write your SERIAL NUMBER here.
The number is located near the name plate on the rear panel.

SAFETY INSTRUCTIONS

1. **Read Instructions** — All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** — All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** — All operating and use instructions should be followed.
5. **Water and Moisture** — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** — The appliance should be used only with a cart or stand that is recommended by the manufacturer.

PORTABLE CART WARNING

S3125A

6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. **Wall or Ceiling Mounting** — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. **Heat** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Grounding or Polarization** — The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. **Power-Cord Protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** — The appliance should be cleaned only as recommended by the manufacturer.
14. **Nonuse Periods** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. **Object and Liquid Entry** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. **Damage Requiring Service** — The appliance should be serviced by qualified factory authorized service personnel when: A. The power-supply cord or the plug has been damaged; or
B. Objects have fallen, or liquid has been spilled into the appliance; or
C. The appliance has been exposed to rain; or
D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
E. The appliance has been dropped, or the enclosure damaged.
17. **Servicing** — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified factory authorized service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

• Explanation of Graphical Symbols

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

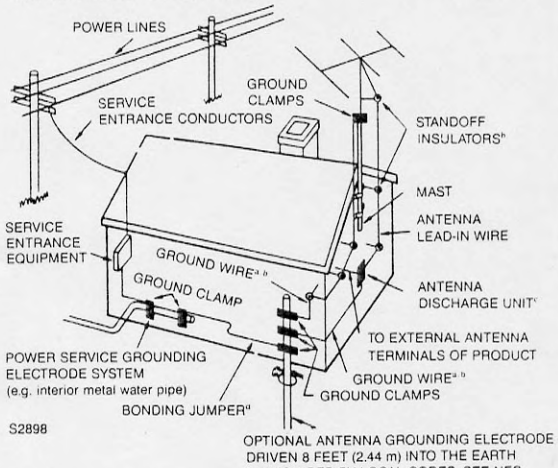
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Power Lines — An outdoor antenna should be located away from power lines.

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—1984, 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 from the grounding electrode. See Figure.

a - Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copper-clad steel or bronze wire, of larger, as a ground wire.
b - Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4—6 feet (1.22 — 1.83 m) apart.
c - Mount antenna discharge unit as close as possible to where lead-in enters house.
d - Use jumper wire not smaller than No. 6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS



FOR U.S.A. ONLY

INTRODUCTION

A WORD FROM ROTEL

We at Rotel take this opportunity to thank you for choosing our product. Our commitment and dedication to the design and manufacturing of high fidelity products for more than thirty years have guided the creation of equipment with the highest level in sound reproduction. We are confident that you will enjoy your Rotel equipment, now and for many years to come.

Please read this instruction manual carefully before you start using your tuner and keep it in a safe place for future reference. Thank you.

INTRODUCING THE RHT-10 TUNER

The Rotel RHT-10 is a hand-crafted tuner designed for audiophiles who require few functions, but insist on the purest sound. Lavishly fabricated from anti-magnetic industrial grade stainless steel, the RHT-10 sports hairbrush polished front and top panels made of extruded aluminum. The bottom plate is also made of aluminum, preventing any magnetic interference, and our unique buttons are machined from solid aluminum before being subjected to various grades of mechanical polishing.

The output connectors are custom-made RCA jacks constructed from machined brass which is gold-plated throughout. A multiple-finger gripping mechanism is used to safeguard contact resistance, even after many years of usage. The connectors are soldered directly to the printed circuit board that is made of glass-fiber epoxy resin with double thickness copper tracks.

The circuitry employs a highly sophisticated grounding technique to achieve a very low noise floor and improved selectivity. The entire tuner circuitry is built on a main board to ensure common grounding between all sections, except the power supply and front panel control sections, which are placed on separate boards to prevent hum and noise interference.

All components are specially selected for their sound performance, longevity and close tolerances, and are dimensioned to withstand wide temperature variations without deviation. Custom-made components, such as the transformer and stereo decoder, provide optimum performance.

The entire high frequency tuner section is shielded in a copper enclosure to eliminate any possible interference with other circuits. The audio outputs are buffered by high speed operational amplifiers, providing a low-impedance high-current output, capable of driving any possible combination of interconnects and amplifiers.

The power switch incorporates a standby function, similar to the "off" state of conventional equipment, but it ensures that the tuner's internal circuitry remains at a constant operating temperature. This provides the best possible sound at any time without the need to wait until the unit is warmed up after turning the power on.

A high blend feature is included to give the best possible performance in situations where background noise occurs during reception. Automatic tuning is incorporated to ease searching of broadcast stations, and sixteen presets are provided to store your preferred stations for effortless recall. Other features include: automatic muting of weak stations, a mono/stereo selector, a RF attenuator, a wide bandwidth selector, and a comprehensive display showing the preset number, receiving frequency and signal strength. Display and control functions are minimized to prevent any adverse effects on the received signal.

A remote control unit is included, providing control of all basic functions as well as controlling the basic functions of our RHA-10 control amplifier.

UNPACKING AND INSTALLING

CONTENTS OF PACKAGING BOX

- RHT-10 tuner
- RHR-10AT remote control unit and batteries
- Stereo interconnecting cable and indoor-antenna wire
- 300 ohm to 75 ohm adapter (North America only)
- Instruction manual

If any of these items is missing, please contact your dealer immediately.

UNPACKING & LOCATION

Carefully unpack your tuner. We advise you to keep the packaging material for future use in case you move or need to return the unit for servicing. Please ensure that you place the unit on a flat surface where it will be free from excessive humidity, vibration, high temperatures and direct sunlight.

INTERFERENCE

Certain equipment, such as computers, may cause reception interference to your tuner. One or a combination of the following measures may be required to eliminate this interference:

- Reorient or relocate the indoor-antenna, or use an outdoor-antenna instead.
- Increase the distance between the tuner and the interfering apparatus.
- Connect the tuner into a mains outlet on a circuit different to that which the interfering apparatus is connected. Contact your dealer for further advice.

ELECTRICAL REQUIREMENTS

Your equipment has been designed to be powered by your local mains voltage. Before connecting it to the mains outlet, check the rating of your unit at the identification plate located at the back of the unit. Never plug the unit into an outlet of voltage different to that specified. The wrong voltage can cause a serious fire hazard. Consult your dealer if in doubt.

THE CABINET

There are no user-serviceable parts inside the unit. Do not attempt to open the cabinet, as this could damage your unit and void your warranty. If the tuner is dropped, damaged or does not seem to function properly, disconnect the power cord immediately and consult your dealer. If your unit becomes dirty, wipe it gently with a soft, dry cloth. Never use solvents of any kind.

REMOTE CONTROL UNIT

Slide the battery cover out - on the back of the remote control unit - and insert the two batteries in the correct direction, as indicated. Slide the cover back in to secure the batteries. To ensure the proper functioning and safe-keeping of the remote control unit:

- Keep remote control unit away from extremely hot or humid places;
- Avoid dropping and spilling liquids on or into the remote control unit;
- Avoid exposing the remote sensor to direct sunlight or lighting apparatus.
- Remove the batteries when the remote control unit will not be used for a long time, to avoid leakage of the batteries that could damage your remote control unit.

NOTE: The average lifetime of the batteries is approximately one year, but may vary depending on the intensity of usage. When the tuner no longer responds to remote commands, the batteries should be replaced.

MAKING THE CONNECTIONS

1. CONNECTING TO AN INTEGRATED AMPLIFIER OR PREAMPLIFIER

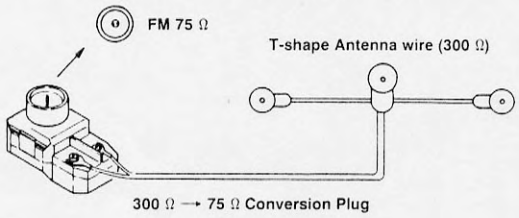
Ensure that your tuner and amplifier are switched off before you connect them. Connect the OUTPUT jacks (1) on the back of the tuner, to the tuner INPUT jacks of your amplifier, using the interconnect cord supplied with your tuner. Make sure the right (RED) and the left (WHITE) jacks are correctly connected to the corresponding inputs on your amplifier. You may also connect the tuner to the AUX input jacks on your amplifier if the tuner input is already being used by another tuner, or if there is no tuner input available.

NOTE: While the included interconnect is a good quality cable, to obtain the best sound quality we recommend the use of our optional RHCC-10 interconnect which is specially designed to provide the ultimate performance for your tuner.

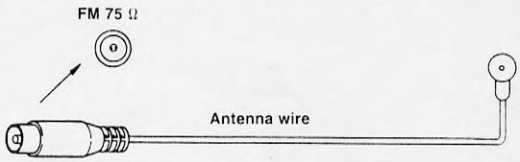
2. CONNECTING THE ANTENNA

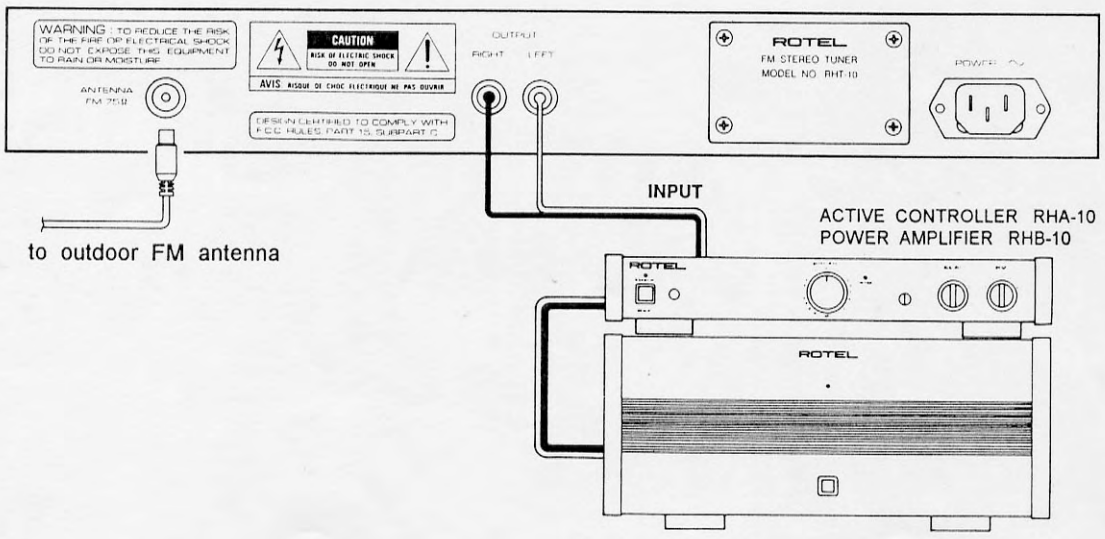
Indoor FM Antenna - the supplied indoor antenna is sufficient for the reception of broadcast stations in good reception areas. To install it, connect the antenna wire to (the adapter that converts 300 ohm to 75 ohm, and push this on - N. America only) the antenna INPUT terminal (2) on the back of the tuner. Then stretch the wire out and secure it along the wall. Repositioning the antenna may improve reception quality.

- **Applicable for U.S.A.,Canada version**



- **Applicable for European version**





Outdoor FM antenna - In areas of average to weak reception conditions, an outdoor-antenna, mounted on the rooftop, may be required for best results. To install it, connect the antenna plug to the antenna INPUT terminal (2) on the back of the tuner. While we feel that an indoor antenna will give adequate reception, only an outdoor antenna will truly let the tuner perform to its potential.

3. CONNECTING THE POWER CORD

Always handle the power cord with care and never pull the plug out by tugging the cord. Connect the power cord from the mains input socket of your tuner (3) to the mains outlet. The tuner will automatically go into STANDBY mode when connected to a mains outlet.

NOTE: Verify that all connections are properly made and that the tuner and amplifier have been plugged in. Hum and noise may be caused either by improper connection between turntable, tuner, amplifier and/or speakers, or as a result of different grounding or location of the components. Check that the audio interconnect cables are completely inserted into their sockets on both tuner and amplifier.

LOCATION AND OPERATION OF CONTROLS - Front Panel

1. STANDBY BUTTON/ INDICATOR

Turns the tuner into on and standby modes. The STANDBY indicator is green during standby and red when the tuner is on. Standby is similar to an "off" function and disables all tuner functions. The STANDBY button is also available from the remote control unit.

NOTE: When the tuner is switched from standby to on, all the buttons and functions which had been activated when the tuner was switched to standby, will remain activated. However, when the "*power*" is switched off and then turned back on again, all buttons and functions which had been activated, will now be deactivated.

2. REMOTE CONTROL SENSOR

Receives the control commands from the remote control unit. The remote control unit should be aimed toward the sensor - in as straight a line as possible -, in order for the remote functions to be acknowledged.

3. PRESET DISPLAY

Indicates the selected preset. Until the presets are programmed however, the preset numbers do not appear on the display. The programming of the presets will therefore enable you to store the desired frequencies and to visualize the presets on the display. There are 16 different presets available on the remote control unit.

4. FREQUENCY DISPLAY

Indicates the received frequency; shows the word STEREO when a stereo broadcast station is received; and shows the word MEMO during programming of presets.

5. SIGNAL DISPLAY

Indicates the signal strength of the received broadcast station by displaying the numbers 0 to 5, where 0 is the weakest reception and 5 the strongest.

6. HIGH BLEND BUTTON/ INDICATOR

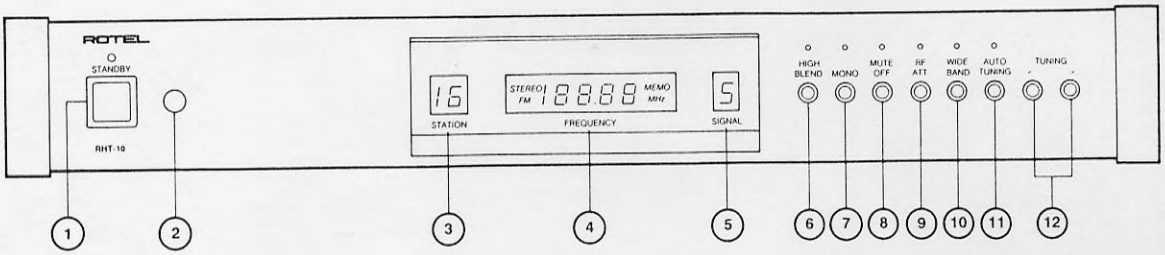
Cancels out background noise during reception of weak stations, by reducing the channel separation at the high frequencies of the audio signal. This function should only be used during the reception of weak stereo broadcast stations as it reduces the stereo separation of the signal. The indicator above the button lights up when the function is activated.

7. MONO BUTTON/ INDICATOR

Switches from stereo to mono reception. This function is useful for reducing background noise of very weak stereo broadcast stations. The indicator above the button lights up when the function is activated.

8. MUTE OFF BUTTON/ INDICATOR

Switches the automatic mute function off, enabling the reception of weak stations. The indicator above the button lights up when the function is activated. When the muting is on, weak stations cannot be heard. When you deactivate the muting (i.e. MUTE OFF indicator lights up), weak stations may be received in mono.



9. RF ATTENUATE BUTTON/ INDICATOR

Reduces sound distortion when receiving very strong broadcast stations, by attenuating the incoming antenna signal. This function is also useful for eliminating interference that may occur when a broadcast station has a moderate signal level and is adjacent to a station that has a very strong signal level. The indicator above the button lights up when the function is activated.

10. WIDE BAND BUTTON/INDICATOR:

Enables reception of broadcast stations at their full audio bandwidth. By deactivating the wide function, interference is eliminated from broadcast stations that are too close to each other, by switching to a narrower audio bandwidth. The indicator above the button lights up when the function is activated.

11. AUTO TUNING BUTTON/INDICATOR:

Enables automatic tuning-in of broadcast stations, in conjunction with the TUNING buttons. Broadcast stations with weak to moderate signal levels are automatically skipped during automatic tuning. However, when the MUTE OFF function is activated (indicator is lit up), broadcast stations with a moderate signal level will also be automatically tuned in. The indicator above the button lights up when the function is activated. This function is also available from the remote control unit.

12. ◁ TUNING ▷ BUTTONS:

Press the ◁ TUNING button to decrease the frequency. Press the TUNING ▷ button to increase the frequency. The TUNING buttons also operate from the remote control unit.

When auto tuning is not activated, manual tuning is enabled. Pressing the TUNING buttons briefly will increase or decrease the frequency in single steps. Pressing the TUNING buttons continuously, will increase or decrease the frequency until the button is released, or until the band limit is reached.

When auto tuning is activated, tuning into a broadcast station is done automatically. The tuner searches continuously until a broadcast station is received. When one of the band limits is reached, tuning automatically continues in the opposite direction. To search for the next station, press one of the TUNING buttons again.

LOCATION AND OPERATION OF CONTROLS - Remote Control Unit

The remote control unit duplicates the standby, auto tuning and tuning buttons, from the front panel section. Please refer to the corresponding front panel for information on their use.

This remote control unit operates the RHT-10 tuner, as well as the power, volume and mute functions of the RHA-10 control amplifier, when installed.

13. PRESET BUTTONS

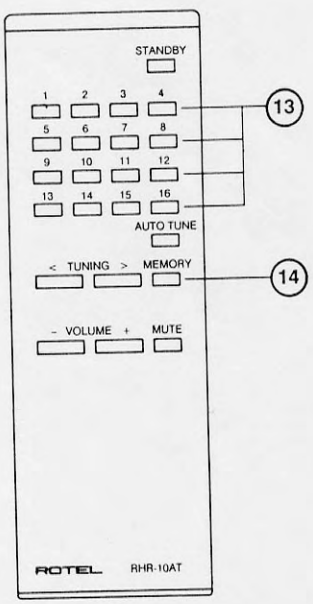
There are 16 preset buttons that can be programmed to memorize broadcast stations. Press one of the preset buttons for immediate recall of a stored broadcast station.

14. MEMORY BUTTON

Allows storage of a broadcast station frequency under one of the 16 preset buttons. To program one of the preset numbers, first tune into the desired frequency, and then press the MEMORY button. The MEMO indicator in the tuner display lights up. Press the chosen PRESET button. The MEMO indicator disappears and the selected preset number is shown in the PRESET display.

If a PRESET button is not pressed within twelve seconds of pressing the MEMORY button, the programming function is canceled and the MEMO indicator goes off. If a broadcast station is stored under a preset button that already has a station stored in its memory, the previous content is replaced by the new data.

The stored presets are retained as long as the tuner is connected to mains power, regardless of whether the tuner is switched on or is in standby mode. If the power cord is disconnected or if a power interruption occurs, the stored presets are retained for at least one week.



SPECIFICATIONS

Frequency Range.....87.5 to 108 MHz
Antenna Input Impedance .....75 ohms unbalanced
Usable Sensitivity:
- Mono (Wide) .....10.8 dBf (0.95 µV) at 75 ohms
- Mono (Narrow) .....17.2dBf (2uV) at 75 ohms

50 dB Quieting Sensitivity:
- Mono.....14.8 dBf (1.5 µV) at 75 ohms
- Stereo .....37.2 dBf (20 µV) at 75 ohms

Capture Ratio.....1.0 dB
Alternate Channel Selectivity:
- Wide .....50 dB
- Narrow .....80 dB

Adjacent Channel Selectivity.....25 dB (Narrow)
Spurious Response Ratio .....100 dB
Image Response Ratio.....80 dB
IF Response Ratio.....100 dB
AM Suppression Ratio.....60 dB
Sub carrier Product Ratio .....60 dB
SCA Rejection Ratio .....70 dB
Muting Threshold 18uV
Output Level .....1.5 Vrms
Frequency Response .....30 to 15,000 Hz ±0.5 dB
Signal to Noise Ratio (at 65 dBf):
- Mono.....87 dB
- Stereo .....82 dB

Harmonic Distortion (at 65 dBf, Wide):
- Mono.....0.05 % at 1 kHz
- Stereo .....0.1 % at 1 kHz

Stereo Separation:
- 100 Hz .....45 dB
- 1 kHz .....50 dB
- 10 kHz .....40 dB

De-emphasis.....50µS (Europe), 75µS (Americas)

Power Requirement.....120V, 230V or 240V, 50/60Hz
Power Consumption .....12 W
Overall Dimensions.....470(w) x 76 (h) x 332 (d) mm
18 1/2"(w) x 3"(h) x 13 1/16"(d)
Net Weight.....5.5 kg/ 12.1 lbs

NOTE: Specifications and design are subject to possible modification without notice.

EXCLUSIVE NOTE FOR U.K.

If your unit comes with a 2-core mains lead without a plug, neither core is to be connected to the earth terminal of a three pin plug, make certain that they are connected, according to the following instruction, to the proper terminals. Check that the terminals are screwed down firmly and no loose strands of wire are present.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following code:

BLUE: NEUTRAL

BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows: The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLUE or BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured BROWN or RED.