

# owner's manual

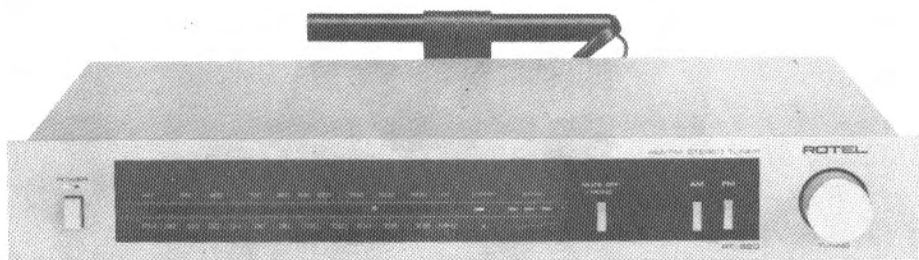


PHOTO: RT-820

Quality. Uncompromised.

# ROTEL®

# RT-820

AM/FM STEREO TUNER RT-820

# RT-820L

MW/LW/FM STEREO TUNER RT-820L

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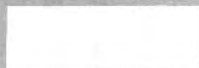
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## WARNING

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.



# ENGLISH

## AM/FM STEREO TUNER RT-820 MW/LW/FM STEREO TUNER RT-820L

### INTRODUCTION

We at Rotel want to thank you for purchasing our audio product.

Rotel audio products are designed to use the latest electronic technology, and they incorporate our long experience as a specialist manufacturer of audio equipment. We are confident that you will find satisfaction in the high quality sound and top performance, and that you will find pleasure in the functional beauty achieved through human-engineering concept. Before starting operation, please read this instruction manual thoroughly and acquaint yourself with the proper mode of using the unit and all its connections.

We hope you will enjoy top-notch performance for many years to come.

### INSTALLATION

Be sure to place the unit in a level and flat place where it is free from humidity, vibration, high temperature and not exposed to direct sunlight. Be careful not to place the unit in a highly enclosed place such as near a wall or on a bookshelf. A poor ventilation will cause undesirable effects to the unit.

### POWER SUPPLY CONNECTION

For power the unit requires the normal house electrical current (AC). You may simply plug the unit into a wall outlet, or into your amplifier's convenience AC outlet.

**CAUTION:** Do not apply power without first making sure the proper connections are completed. If you live in U.K. and your unit comes with 2-core cord without a plug, be sure to read the exclusive caution for U.K.

#### EXCLUSIVE NOTE FOR U.K.

If your unit comes with a 2-core cable without a plug, make certain live and neutral leads are connected to the proper terminals. Check that the terminals are screwed down firmly and no loose strands of wire are present.

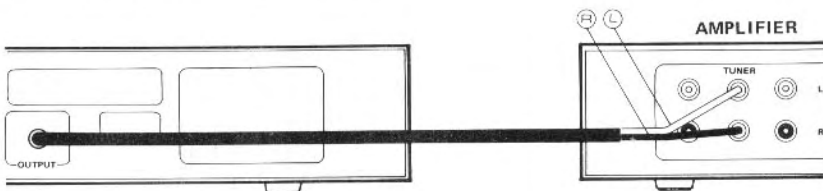
**IMPORTANT:** The wires in this mains lead are coloured in accordance with the following code:

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.

### CONNECTION TO INTEGRATED AMPLIFIER

A pair of RCA cords marked OUTPUT extends out from the rear panel of the unit. These cords should be plugged into the TUNER or AUX terminals of the amplifier. Be sure to connect the cord with white plug to the left channel (L) terminal, and cord with red plug to the right (R) channel terminal.



### ANTENNA INSTALLATION AND CONNECTION

#### ■ FM Antenna

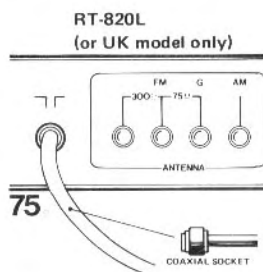
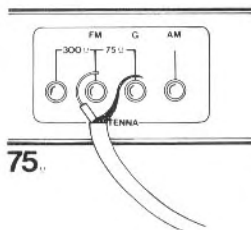
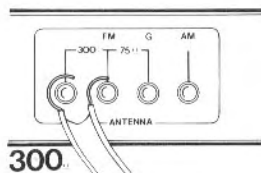
Proper installation of antenna is the key to smooth signal reception. To install the attached T-shape indoor antenna, stretch it taut and secure horizontally along a wall or the like in a location where signal reception is optimal. Securely connect the antenna to FM antenna terminals marked "300Ω" on the rear panel. If outdoor type FM antenna is installed, the T-shape antenna is not necessary. For proper use of your outdoor FM antenna, follow the instructions below.

1. Be sure to select the most appropriate type of antenna for the signal reception conditions in your area.

2. A 75-ohm coaxial cable is recommended in connecting the antenna to the unit.

3. Set the antenna in a position as high as possible if buildings, mountains or other obstructions nearby affect reception.

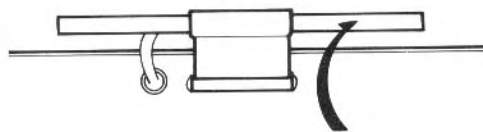
4. The 75-ohm coaxial antenna cable should be properly hooked up to the designated antenna terminals on the rear panel: Locate the terminals labeled "75Ω". Connect the center conductor of the cable to the left-hand terminal, and connect the outer braided conductor of the cable to the right-hand terminal (marked "G").



#### ■ AM Antenna

Erect the AM ferrite bar antenna provided on the rear panel. If you install outdoor AM antenna, connect the antenna lead wire to the antenna terminal marked "AM."

#### BUILT-IN AM ANTENNA



#### OUTDOOR AM ANTENNA

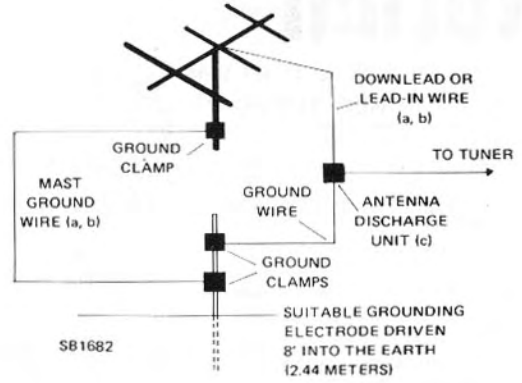


## EXCLUSIVE NOTES FOR THE U.S.A.

### Outdoor Antenna Grounding

If an outside antenna is connected to the receiver/tuner, 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. See figure.

- 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 lead-in.
- 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.
- Mount antenna discharge unit as closely as possible to where lead-in enters house.



## SWITCHES AND CONTROLS

### (1) Power Button

This button turns on the unit. The LED indicator above it will glow when the power is on. Press the button a second time to turn off the power.

### (2) Dial Scale

The dial pointer LED indicates tuning frequency.

### (3) Stereo Indicator

Glowes when stereo broadcasting signal is tuned in. Note that when stereo signal is very weak,

the unit will not give stereo reproduction, and the indicator will not light up.

### (4) Signal Strength Indicator

The three LEDs show incoming signal strength; the receiving condition is optimal when all three LEDs are illuminated.

### (5) FM Mode/Muting Button

When this button is pressed to ON, any FM broadcast is received monaurally. Be sure to leave the button in the released (OFF) position during normal stereo FM reception. In the OFF position, interstation noise generated when tuning in an FM station will be reduced.

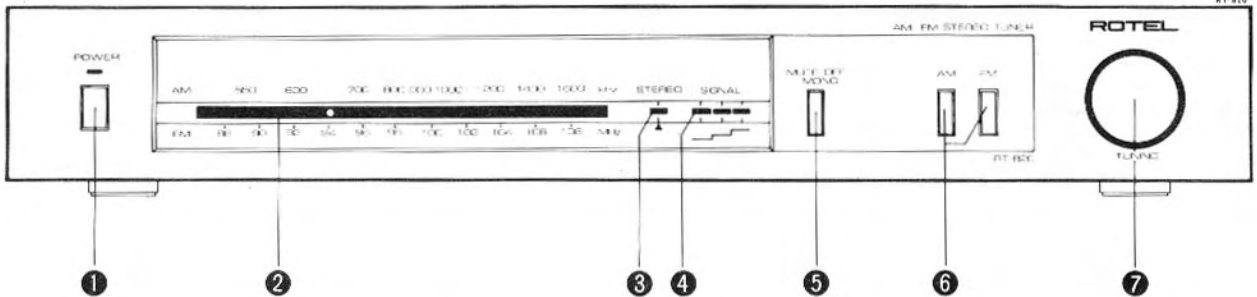
### (6) AM/FM Selector

Press AM button for AM signal reception, and FM button for FM signal reception.

RT-820L gives AM reception in either MW or LW mode. Depress MW button for middle wave reception, and LW button for long wave reception.

### (7) Tuning Knob

Used to tune in to a desired station. Rotate the knob to the right to tune for higher frequencies, and to the left for lower frequencies.



## OPERATION

• Before commencing operation, check to make sure all antenna, amplifier and power connections are properly made.

1. Set the volume control on the amplifier to minimum position, and amplifier function switch to TUNER position (or to AUX position if the tuner is connected to AUX terminal).

2. Turn on the amplifier and press the Power button on the tuner.

3. Depress FM or AM button of the tuner function selector.

On RT-820L, select among FM, MW, and LW buttons.

4. Tune in to the desired station by means of tuning knob.

5. Raise the volume to the desired level, and enjoy listening.

## HUM AND NOISE

Hum often accompanies activation of power supply. If hum is generated, try unplugging the power cord into the wall outlet, reversing the plug this time. Other possible causes of hum include improper routing of connecting cords (try changing cord position), or incorrect pin-plug insertion. Check all connections if hum persists.

If noise is introduced, it is usually caused by improper positioning of antenna cable or improper antenna installation. Use a 75-ohm cable for outdoor FM antenna and minimize multipath to obtain optimal signal reception. Note that during signal reception the unit may pick up noise from other household electric appliances (as when switching power on or off). In that case, check the relative location of the appliances and keep them away from the unit, or vice versa, as necessary.

**Note 1:** In a location near a broadcasting station, very strong signals may cause noise or distortion, depending on the type of antenna used. In that case, install an attenuator between the antenna and the tuner.

**Note 2:** Inside a concrete building, FM signals are weakened and satisfactory reception may be difficult. An outdoor FM antenna will best remedy such a situation.

## VOLTAGE SELECTION

**Not available for U.K., Canada and Scandinavia**  
The unit is a variable voltage equipment that can run on 120V, 220V or 240V power supply. Your unit should already be preset at the proper voltage for use in your area. However, if you move to an area where the power supply voltage is different, consult your dealer.

## SPECIFICATIONS

### FM TUNER SECTION

Usable Sensitivity (mono)	. . . . .	11.2 dBf/2.0 $\mu$ V
50 dB Quieting Sensitivity:		
Mono	. . . . .	16 dBf/3.5 $\mu$ V
Stereo	. . . . .	39.4 dBf/50 $\mu$ V
Signal-to-Noise Ratio (at 65 dBf):		
Mono	. . . . .	70 dB
Stereo	. . . . .	65 dB
Harmonic Distortion (at 65 dBf):		
1 kHz	. . . . .	0.3% (mono), 0.6% (stereo)
Frequency Response	. . . . .	.35 to 13,500 Hz, +1.5 dB, -1.5 dB
Capture Ratio	. . . . .	2.0 dB
Alternate Channel Selectivity		
( $\pm$ 400 kHz)	. . . . .	60 dB
Spurious Response Ratio	. . . . .	68 dB
Image Response Ratio	. . . . .	45 dB
IF Response Ratio	. . . . .	75 dB
AM Suppression Ratio	. . . . .	62 dB
Stereo Separation	. . . . .	100 Hz/1 kHz/10 kHz, 33 dB/38 dB/33 dB
Subcarrier Product Ratio	. . . . .	60 dB
SCA Rejection Ratio	. . . . .	60 dB
Antenna Input	. . . . .	300 ohms balanced, 75 ohms unbalanced

### AM TUNER SECTION

	MW	LW (RT-820L)
Sensitivity	.300 $\mu$ V/m	1000 $\mu$ V/m
Selectivity	.30 dB	30 dB
Signal-to-Noise Ratio	.45 dB	45 dB
Image Response Ratio	.35 dB	45 dB
IF Response Ratio	.35 dB	35 dB
Antenna	.Built-in ferrite loopstick antenna	

### MISCELLANEOUS

Power Requirement	. . . . .	120V/60 Hz, 220V/50 Hz, 240V/50 Hz or 120, 220, 240V/50-60 Hz (depending on destinations)
Power Consumption	. . . . .	8.0 watts
Dimensions (overall)	. . . . .	.430 (W) x .66 (H) x .319 (D) mm 16-15/16" x 2-19/32" x 12-9/16"
Weight (net)	. . . . .	.31 kg/6.82 lbs.

- Specifications and design subject to possible modification without notice.