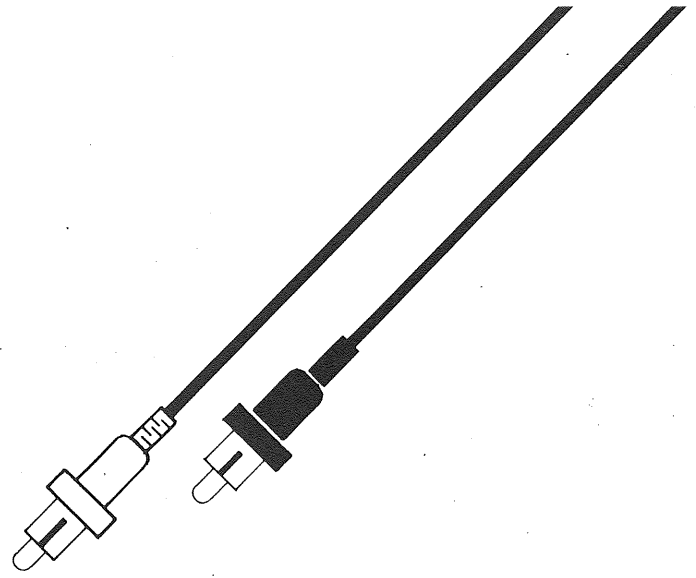


# AM/FM Stereo Receiver RX-203A



## 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 unit's rear panel.

**SERIAL NUMBER**

Quality. Uncompromised.

# ROTEL®

## INTRODUCTION

We would like to take this opportunity to thank you for purchasing our audio component. Please read the following pages of this manual carefully in order to maximize the full potential of your equipment. The operations are really simple once you learned the essentials properly.

We sincerely hope you will enjoy musical entertainment approaching that of live performances for many years to come.

## BEFORE ENJOYMENT

For safety sake keep in mind the following cautions:

1. Do not connect the unit to the AC line without speakers, turntable and other auxiliary components connected beforehand.
2. Make sure also that the power switch is OFF and the volume control is set at minimum before plugging in the power cord to a wall outlet.
3. Furnished Convenience AC Outlet
  - a) Do not insert or remove plug from any convenience AC outlet supplied on the appliance while the appliance is connected to power. Also do not insert foreign object, other than a proper plug, into the convenience AC outlet.
  - b) Do not connect other appliance to convenience AC outlet if its power consumption exceeds maximum rated watts labeled next to the outlet.

## EXCLUSIVE NOTE FOR U.K.

As your unit comes with a 3-core cable without a plug, make certain live, neutral and (where appropriate) earth leads are connected to the proper terminals. Check that the terminals are screwed down firmly and no loose strands of wire are present.

**WARNING: THIS APPARATUS MUST BE EARTHED.**

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

GREEN/YELLOW: EARTH  
 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 GREEN/YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol  $\perp$ , or coloured GREEN/YELLOW.

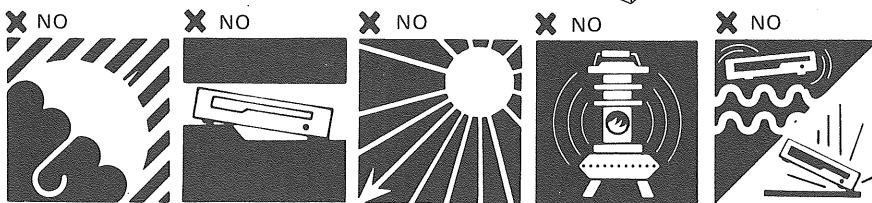
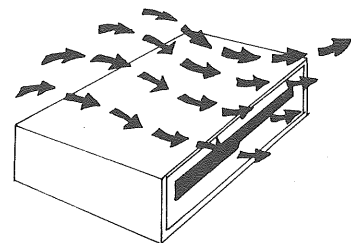
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLUE or BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured BROWN or RED.

The apparatus must be protected by a 3 Amp fuse if a 13 Amp (BS 1363) plug is used. If another type of plug is used a 5 Amp fuse or lower must be used, either in the plug or adapter or at the distribution board.

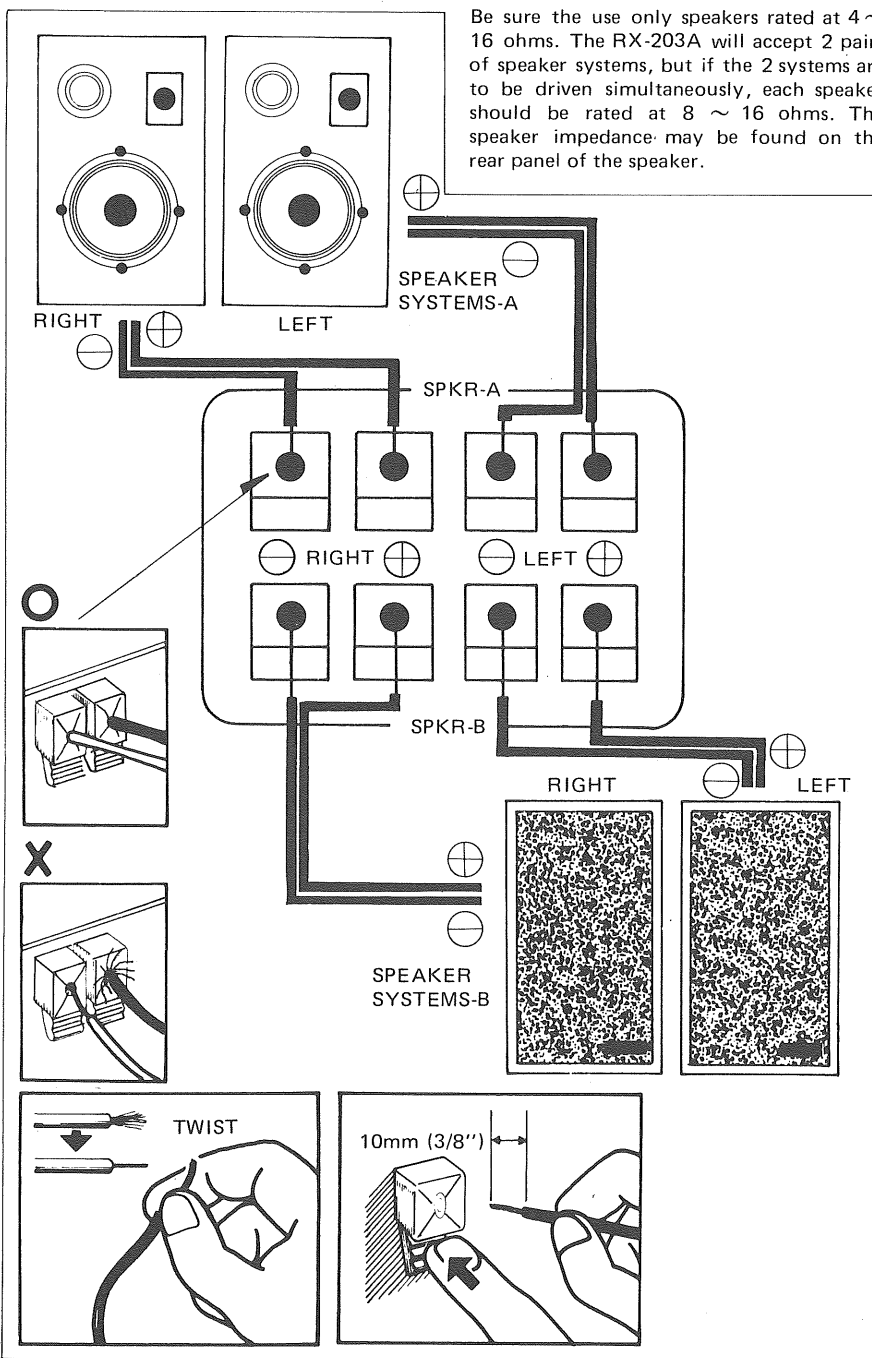
## INSTALLATION

Be sure to place the unit in a level and flat place while it is free from humidity, vibration, high temperature and not exposed to direct sunlight.

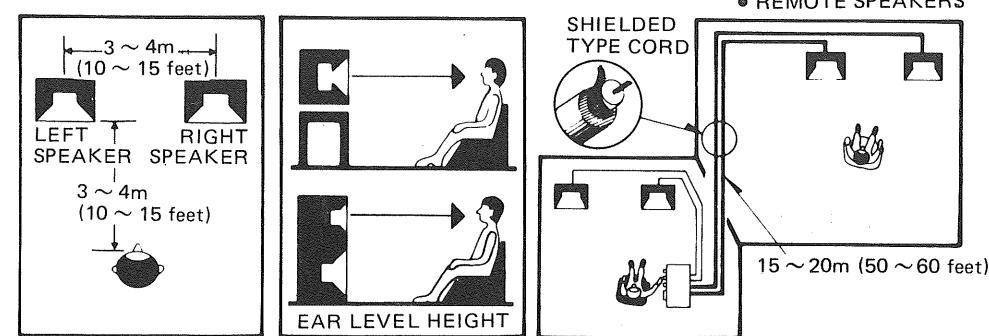
Be careful not to place the unit in a highly enclosed place such as near a wall or on a bookshelf. A poor ventilation will cause undesirable effects to the unit.



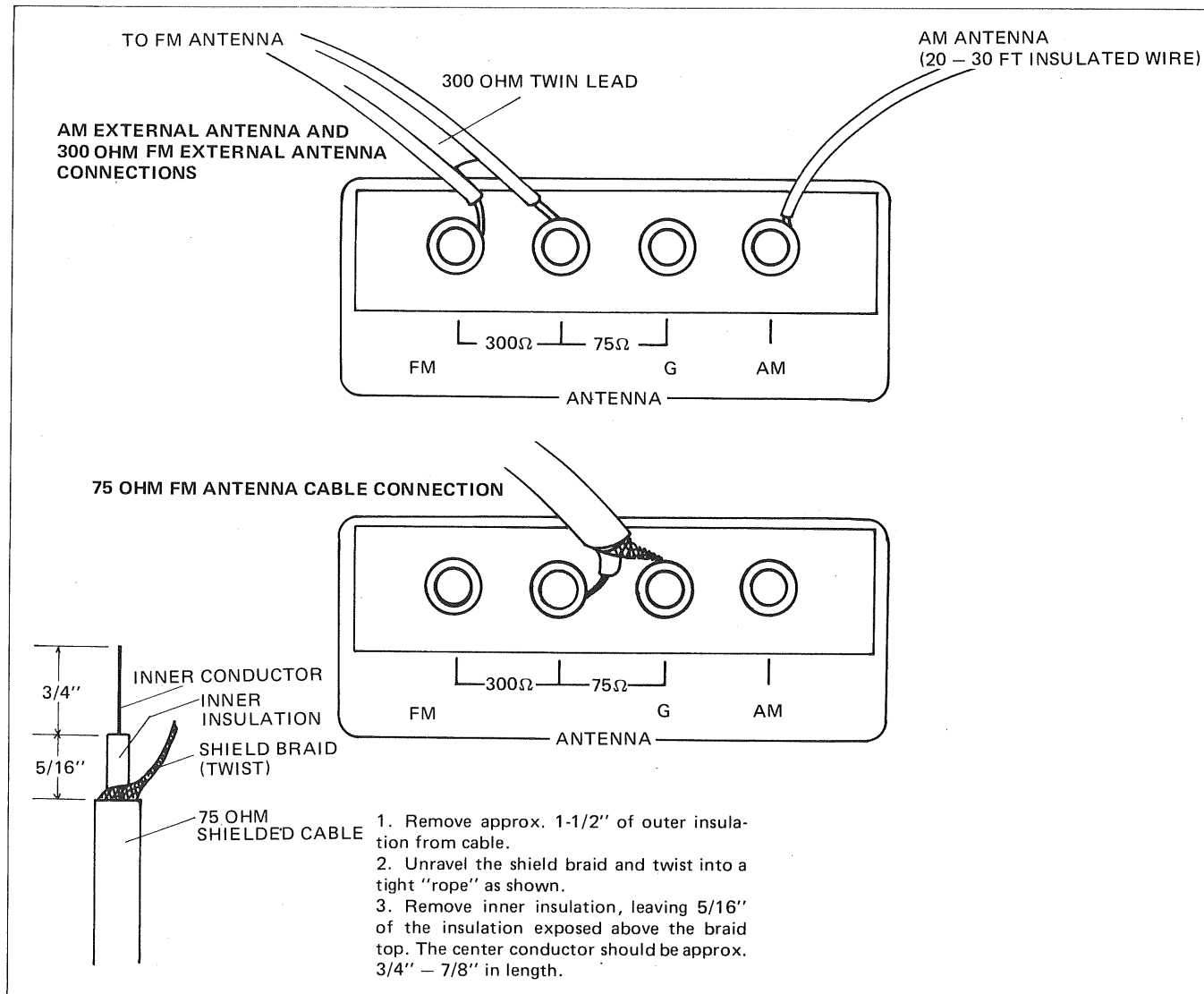
## SPEAKERS CONNECTION



## SPEAKERS PLACEMENT



## ANTENNA CONNECTION



## AC OUTLET

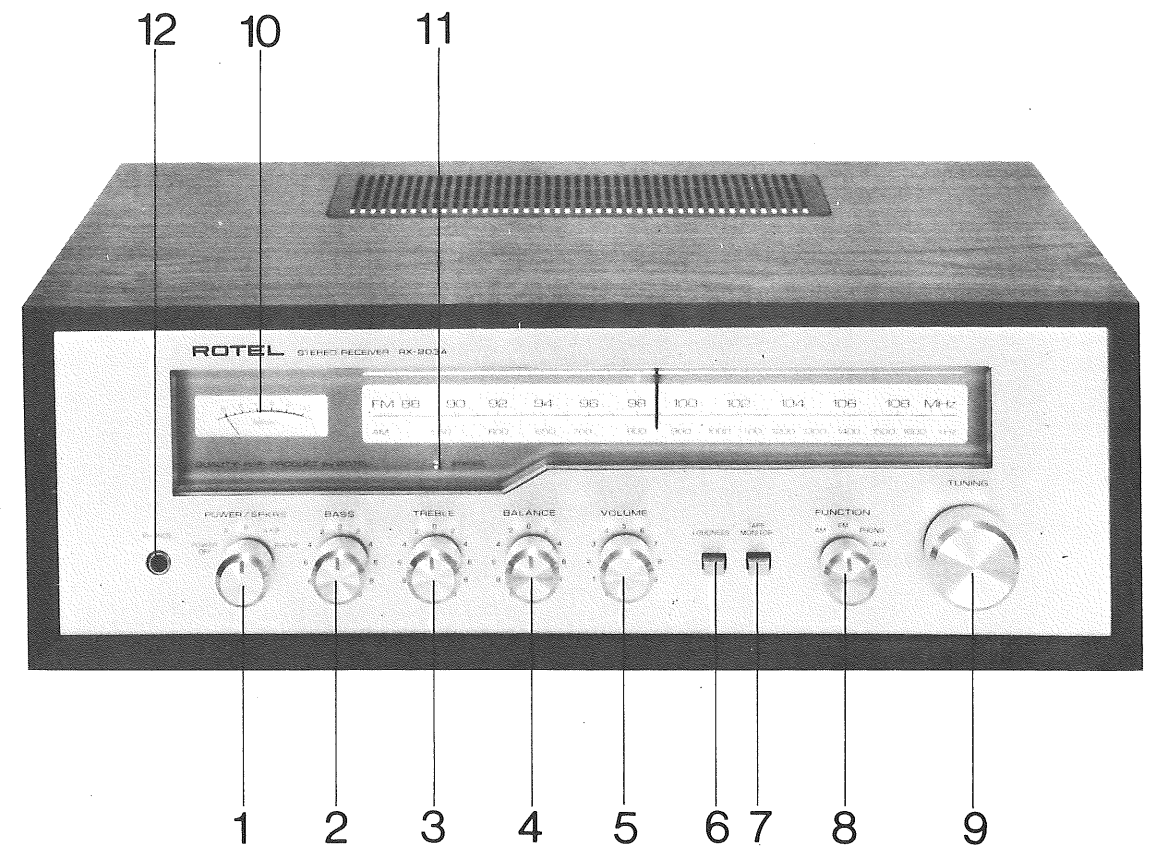
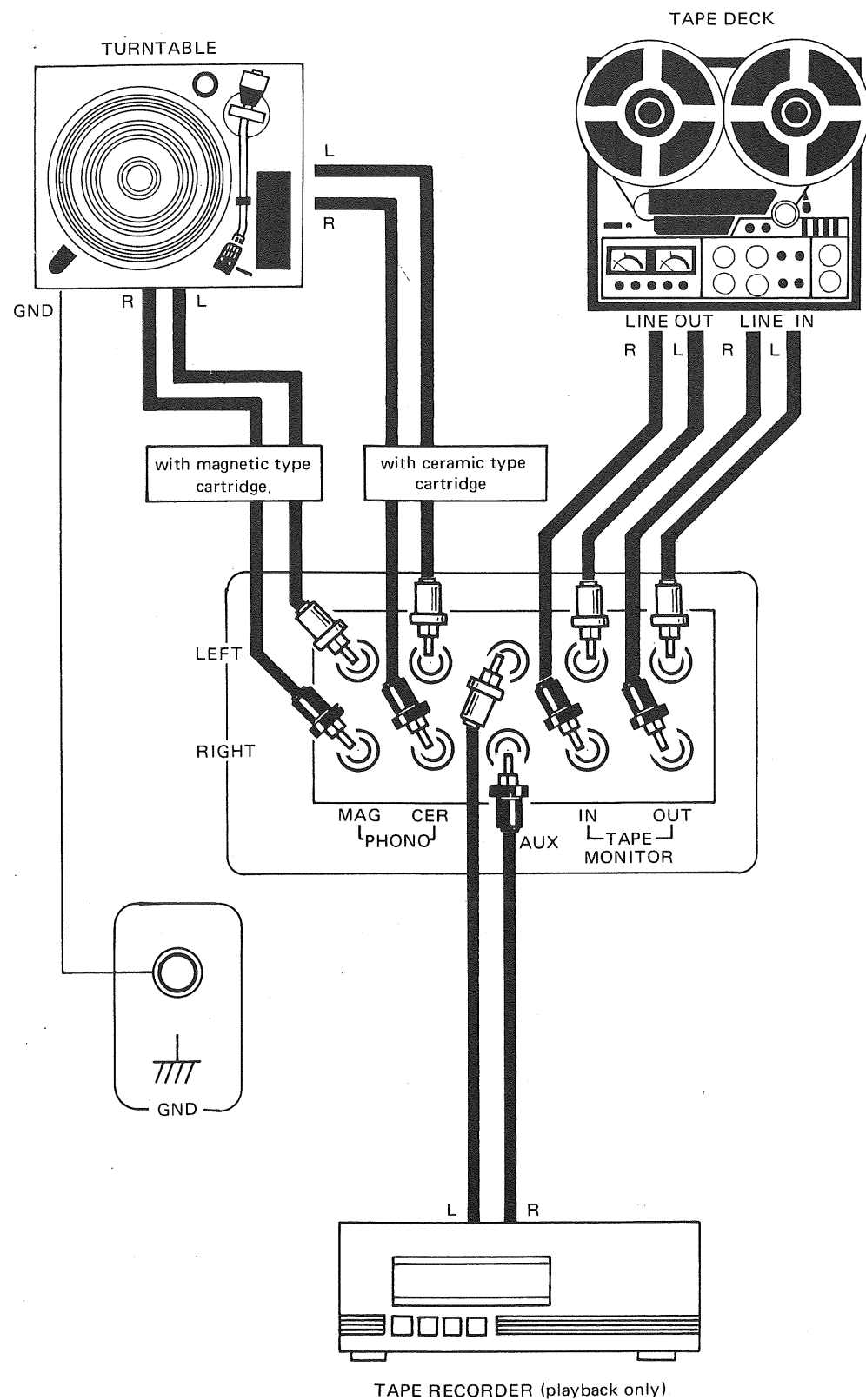
**NOT AVAILABLE FOR U.K., SCANDINAVIA AND SOME OTHER COUNTRIES**

The convenient AC outlet on the rear panel provide power to component you may wish to connect to the unit. The outlet is switchable which means that the power is controlled by the power switch of the unit. Caution: Do not connect component whose power consumption exceed rated maximum wattage marked beside the AC outlet.

## POWER SUPPLY

For power the unit requires the normal house AC electrical current (wall outlet). Before connecting up ensure that the unit has a suitable plug fitted. If in any doubt about connecting to the power source, consult a qualified electrician.

**COMPONENTS CONNECTION**



**SWITCHES AND CONTROLS**

**1. POWER/SPEAKER MODE SWITCH**

This switch turns the receiver on and allows you to select one of the four listening modes.

**POWER OFF** . . . . .In this position AC power is disconnected from the receiver and no sound will be heard. AC power is ON in all other positions.

**A** . . . . .This connects the sound output to the "A" set of stereo speakers.

**B** . . . . .This connects stereo sound output only to the set of speakers attached to the "B" speaker terminals.

**A + B** . . . . .This connects the stereo sound output simultaneously to speakers attached to the "A" speaker terminals and the "B" speaker terminals.

**PHONES** . . . . .In this position, all speakers are silenced and the sound output is connected only to any headphones that are plugged into the "Phones" jacks on the front panel. Note, however, that the sound output is connected to the headphone jack in all other positions of this switch. When listening through speakers, any headphones plugged into the jack should therefore be removed to avoid possible overload of the phones.

**2. BASS CONTROL**

This control will allow you to increase or decrease the bass [low tones] in the sound output. When the indicator line on the control is in the center [0] position, the bass response of the receiver is normal. Clockwise rotation will increase the bass tones and counter-clockwise rotation will decrease them.

**3. TREBLE CONTROL**

This control operates in the same way as the Bass control, except that it provides adjustment of the treble [high] tones.

**4. BALANCE CONTROL**

This provides left to right balance of the volume. Initially, this should be set to its normal center [0] position. Turn the control to the left of the center position to increase the volume of the left channel and turn it to the right to increase the volume of the right channel.

**5. VOLUME CONTROL**

This permits adjustment of the volume for both left and right channels simultaneously. When using two sets of speakers, this control will provide adjustment of the volume of all four speakers simultaneously.

**6. LOUDNESS SWITCH**

This button, when depressed, will compensate for an apparent loss of bass and high treble tones at low volume settings. Such compensation is necessary because a natural peculiarity of the ear causes it to have a reduced sensitivity to low and high tones when music is played at low volume. The Loudness circuit will emphasize these tones and thus restore full body and brilliance to the music. At high volume settings, this action is automatically reduced, and the receiver will assume a normal tonal response.

**7. TAPE MONITOR SWITCH**

Allows you to play back and monitor tape recorder. "ON" to play back the tape recorder. Set to OFF position whenever tape recorder is not being played but other material is being played.

If your tape recorder has separate playback heads, "ON" position can be used as monitor when recording, allowing you to listen to program as actually being recorded.

**8. FUNCTION SELECTOR SWITCH**

This switch selects the program source. In detail, each position does the following:

- AM . . . . .Selects AM reception.
- FM . . . . .Selects Automatic FM Stereo reception.
- PHONO . . . . .Selects the outputs of a stereo record player connected to the "PHONO" inputs on the receiver.
- AUX . . . . .Selects sources connected to the "AUX" input jacks.

**9. TUNING CONTROL KNOB**

This control is used to tune in AM or FM stations. Use the 88 to 108 MHz scale on the tuning dial for FM stations, and the 55 [550 kHz] to 160 [1600 kHz] scale for AM stations.

**10. SIGNAL STRENGTH TUNING METER**

This meter is used for tuning on AM and FM. Always tune for a maximum reading on the meter. The meter also indicates the relative strength with which various stations are received on AM or FM.

**11. STEREO INDICATOR LIGHT**

When you tune in an FM stereo station, the FM STEREO Indicator will light up on the tuning dial, indicating that FM reception is stereophonic. When you are tuned to a monophonic FM station, the stereo Indicator will not light.

**12. PHONE JACK**

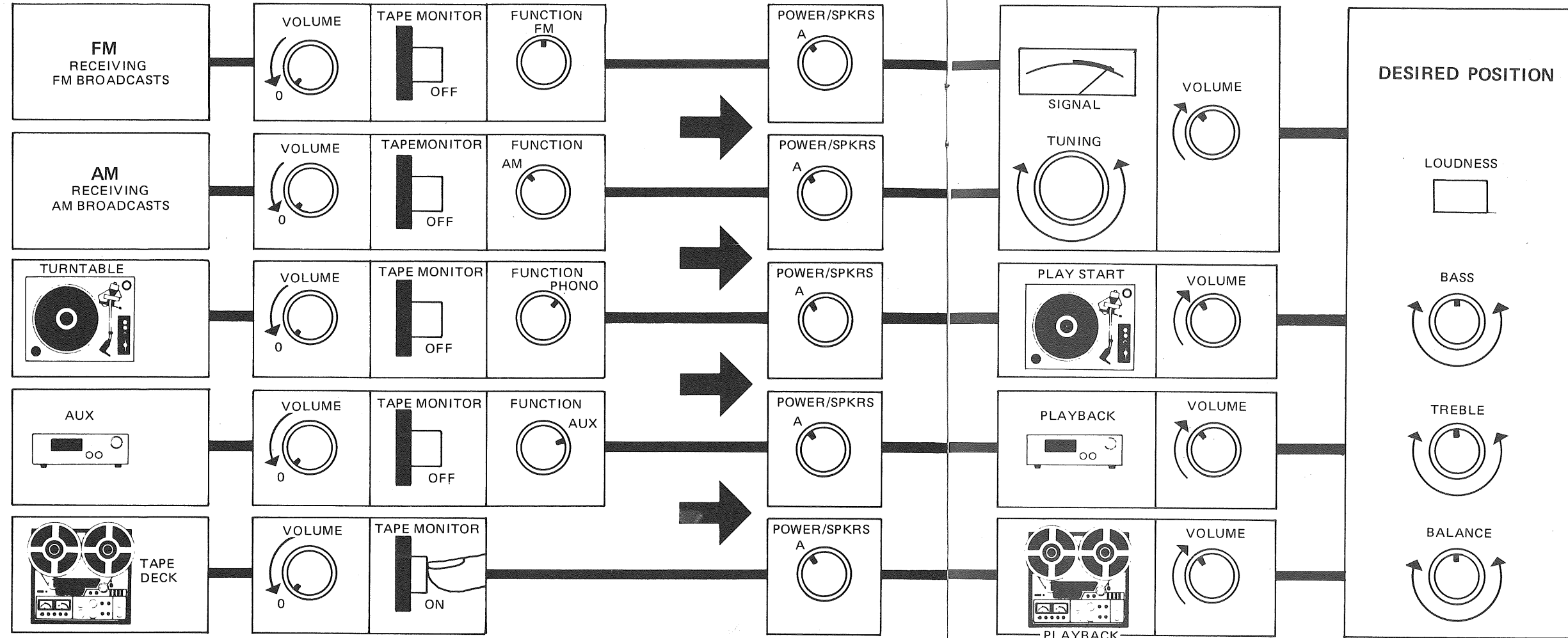
A stereo phone jack on the front panel is provided for private stereo headphone listening, when desired.

If you wish to listen privately without any speakers being on, place the SPEAKER MODE switch in the "PHONES" position.

## OPERATION

Having made all connections according to the preceding instructions and become familiar with the functions of the unit, you are ready to operate the equipment. Apply power by plugging into the power source.

## PLAYBACK AND AM/FM BROADCASTING



## TAPE RECORDING

You may record with your tape recorder any program materials that can be played through this unit. Turn the function selector depending on which program you wish to record, and operate the tape recorder while listening to the program. Always leave the TAPE MONITOR switch OFF if your tape recorder has no separate playback head (look up in its instruction

manual to see if the tape recorder is equipped with separate playback and recording heads). If your tape recorder has the separate playback head, pushing ON the switch will let you monitor the recording program (listening to the program as it is actually being recorded). Hence, you may compare the program as played by this unit to the same program as being recorded by pushing ON and OFF the TAPE MONITOR switch.

Note: You will not obtain any sound if the TAPE MONITOR switch is ON unless the tape recorder has a separate playback head. Also, volume, bass, treble and balance controls of this unit will have no effect upon the recording, so you should use the controls on the tape recorder.

## POWER OVERLOAD PROTECTION

The receiver uses two power IC modules in the left and right channels which have their own built-in protection circuit. Each IC will protect its respective channel against damage due to an overload or short-circuit in the speaker lines.

If one of the speakers stops functioning, check for a possible short-circuit in the speaker wiring for that channel or for any condition that may have caused an overload. If you have connected more than one set of stereo speakers to the receiver, be sure that all speakers have a rated impedance of at least 8 ohms.

NOTE: When the protection circuit is activated for the left or right channel, that channel will remain inoperative until the short is located and removed (Switch unit off until problem is located).

Caution: If the unit does not operate, or if it becomes inoperative within a short time, consult your dealer or a ROTEL service center.

## HUM AND NOISE

In any high fidelity installation, hum may be caused by the interconnection of a record player, tuner and amplifier, and speakers as result of the cables, different grounds or locations of components. If hum is experienced with your unit, disconnect everything but the speakers from the unit. If the hum persists, reverse the power plug at the power source. [Do not attempt this in the U.K.]

Plug in the record player and if hum or howling appears, move the record player away from the speakers as far as possible.

Note hum may also be induced by defective connection cables or by running these cables too close to a strong AC field.

When your unit picks up noise during the reception of broadcasts, causes are mostly due to external objects such as fluorescent lamps and house appliances using motor or thermostat, or others that may induce the noises.

Either relocating the unit away from the noise sources or using an improved outdoor antenna may readily solve the problem.

In the event you cannot find the causes, consult your dealer or a qualified electrician.

## SPECIFICATIONS

### POWER AMPLIFIER SECTION:

#### Continuous Power Output:

20 watts per channel, min. RMS both channels driven at 8 ohms or 24 \*watts per channel at 4 ohms from 20 to 20,000 Hz with no more than 0.5% total harmonic distortion.

Total Harmonic Distortion . . . . .	No more than 0.5%
(20 to 20,000Hz, from AUX)	(continuous rated power output)
	No more than 0.1%
	(1 watt per channel power output, 8 ohms)
Intermodulation Distortion . . . . .	No more than 0.15%
(50Hz: 7,000Hz = 4 : 1, from AUX)	(continuous rated power output)
	No more than 0.1%
	(1 watt per channel power output, 8 ohms)
Output: Speaker . . . . .	4 ~16 ohms (A, B)
	8 ~ 16 ohms (A+B)
Headphone . . . . .	4 ~16 ohms
Damping Factor . . . . .	40 (20 to 20,000Hz, 8 ohms) ±10%

### PREAMPLIFIER SECTION:

#### Input Sensitivity/Impedance:

PHONO (MAG) . . . . .	.25mV/45 kohms, 200PF
PHONO (CERAMIC) . . . . .	.120mV/240 kohms
AUX . . . . .	.150mV/35 kohms
TAPE IN . . . . .	.150mV/35 kohms
TAPE IN (DIN connector) . . . . .	.150mV/35 kohms
Overload Level [Maximum Input Level] (T.H.D. 0.5%, 1kHz)	
PHONO . . . . .	.120mV

AUX . . . . .	Not less than 5V
Output Level/Impedance (5mV PHONO input):	
TAPE OUT . . . . .	.300mV/260 ohms
TAPE OUT . . . . .	.100mV/90 kohms (DIN connector)

#### Frequency Response:

PHONO . . . . .	.30Hz to 15,000Hz ±1dB
	(RIAA Equalization)
AUX, TAPE IN . . . . .	.5Hz to 70,000Hz +0dB, -3dB

#### Tone Control:

BASS . . . . .	±10dB (100Hz)
TREBLE . . . . .	±10dB (10kHz)
Loudness Contour . . . . .	+7dB (100Hz), +4dB (10kHz)
(volume control set at -40dB position)	

#### Hum & Noise (IHF, short circuited A network, rated power):

PHONO (MAG) . . . . .	.75dB
AUX, TAPE IN . . . . .	.85dB

### FM TUNER SECTION:

#### Usable Sensitivity:

Mono . . . . .	.11.2dBf (2.0μV/300 ohms)
Stereo . . . . .	.20dBf (5.5μV/300 ohms)

#### Usable Sensitivity (IHF '58) . . . . .

#### 50dB Quieting Sensitivity:

Mono . . . . .	.16dBf (3.5μV/300 ohms)
Stereo . . . . .	.39dBf (48μV/300 ohms)

#### Signal-to-Noise Ratio (at 65 dBf):

Mono . . . . .	.75dB
Stereo . . . . .	.65dB

#### Distortion (at 65dBf):

100Hz . . . . .	.0.2% (mono), 0.3% (stereo)
1kHz . . . . .	.0.2% (mono), 0.3% (stereo)
6kHz . . . . .	.0.3% (mono), 0.4% (stereo)

#### Frequency Response . . . . .

#### Capture Ratio . . . . .

#### Alternate Channel Selectivity . . . . .

#### Spurious Response Ratio . . . . .

#### Image Response Ratio . . . . .

#### IF Response Ratio . . . . .

#### AM Suppression Ratio . . . . .

#### Stereo Separation . . . . .

#### Subcarrier Product Ratio . . . . .

#### SCA Rejection Ratio . . . . .

#### Antenna Input . . . . .

### AM TUNER SECTION:

Sensitivity . . . . .	.250μV/m (IHF, ferrite antenna), 12.5μV (IHF, ext. antenna)
Selectivity . . . . .	.25dB
Signal-to-Noise Ratio . . . . .	.50dB
Image Response Ratio . . . . .	.45dB
IF Response Ratio . . . . .	.50dB
Antenna . . . . .	.Built-in ferrite loopstick antenna (inside the chassis)

### MISCELLANEOUS:

Power Requirements . . . . .	.120V/60Hz or 220V/50Hz or 240V/50Hz or 100, 120, 220, 240V/50 - 60Hz (switchable)
Power Consumption . . . . .	.16watts (UL, IEC)
Dimensions (Overall) . . . . .	.400(W) x 125(H) x 252(D)mm
Weight (Net) . . . . .	.7.0kg (15.4 lbs)

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

\*Measured pursuant to the Federal Trade Commission's Trade Regulation Rule on Power Claims for Amplifiers. (Applicable to the U.S.A. only)