

ROTEL *hiFi*

RC-970BX

STEREO CONTROL AMPLIFIER

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
identification plate on the rear panel.

SAFETY INSTRUCTIONS

Please read this section carefully before you begin, in order to ensure the best safe-guarding both of yourself and that of your equipment at all times:

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, etc.
6. **Carts and Stands** - The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 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 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 and 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. **Power Lines** - An outdoor antenna should be located away from the power lines.
15. **Nonuse Periods** - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
16. **Object and Liquid Entry** - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
17. **Damage Requiring Service** - The appliance should be serviced by qualified factory-authorized service personnel when:
 - The power-supply cord or the plug has been damaged; or
 - Objects have fallen, or liquid has been spilled into the appliance; or
 - The appliance has been exposed to rain; or
 - The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - The appliance has been dropped, or the enclosure damaged.
18. **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.

PORTABLE CART WARNING



WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture. Do not remove the panels. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



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 instructions in the literature accompanying the appliance.



INTRODUCTION

A WORD FROM ROTEL

Rotel wishes to 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 preamplifier and keep it in a safe place for future reference. Thank you.

UNPACKING AND INSTALLING

CONTENTS OF THE PACKAGING BOX

- RC-970BX control amplifier
- Interconnect cable
- Instruction manual

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

UNPACKING & LOCATION

- Carefully unpack your control amplifier and place it gently at its intended location. Please keep the packaging material for future use in case you move or need to return the unit for servicing.
- Keep the owner's manual near the unit and write down the serial number of your preamplifier (found on the identification plate on the rear panel) on the front cover of this manual.
- Place the preamplifier on a flat, firm surface where it will be free from direct sunlight, excessive humidity, vibrations, dust, heat or cold.
- Do not place the unit in a highly enclosed area or block the ventilation openings at the top and bottom of the unit, as poor ventilation can result in damage due to excessive heat build-up.

ELECTRICAL REQUIREMENTS

Your preamplifier has been designed to be powered by your local AC (mains) supply. Before connecting it to the AC outlet, check the voltage rating at the identification plate found on the rear panel. 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.

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 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 the 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.

AC OUTLET RECEPTACLES (NORTH AMERICA ONLY)

For the North American markets, there are an additional two convenient switched AC outlets on the rear panel, giving the possibility of attaching two components, such as a tuner and CD player. This is for low power consumption items only and should not exceed 200 watts. Never plug a power amp into these outlets for power.

CONNECTING THE POWER CORD

Always handle the POWER CORD with care. When plugging in or unplugging the power cord hold the plug itself. Do not unplug the power cord by pulling on the wire only.

DO NOT OPEN 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 preamplifier is dropped, damaged or does not seem to function properly, disconnect the power cord immediately and consult your dealer.

CLEANING YOUR UNIT

If your unit becomes dirty, wipe it gently with a soft, clean, dry cloth. Never use solvents of any kind.

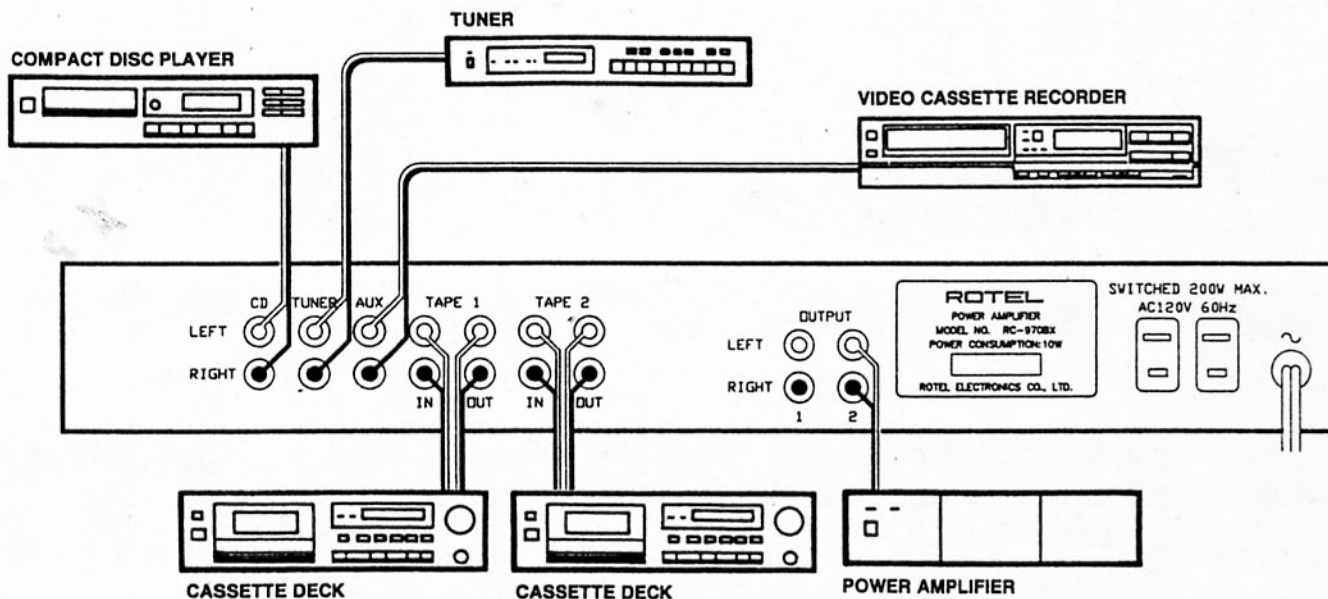
HUM AND NOISE

In any high fidelity installation, hum may be caused by the interconnection of a CD player, tapedeck, tuner, amplifier and speakers, as a result of wiring, different grounding or locations of the components. If hum or noise is experienced with your unit try one or a combination of the following measures:

- Check that all cable connections have been well and securely made, and that they do not run too close to a strong AC field.
- Use an improved outdoor antenna on your tuner, or move the equipment away from objects such as fluorescent lamps, rheostats and house appliances that use motors or thermostats, when receiving broadcasts.
- Connect a wire from the ground terminal on the rear panel of this unit, to the ground terminal on the applicable source unit (or any other point on the cabinet where noise can be brought down to a minimum). However, absolutely ensure the wire does not touch any areas related to the power source such as auxiliary AC outlets, and do not insert the wire inside the cabinet.
- Contact your dealer for further advice.

MAKING THE CONNECTIONS

NOTE: Please be sure the power is turned off and that the power cords from the equipment have been unplugged from the mains outlet before making any connections.



1. CONNECTING A COMPACT DISC (CD) PLAYER

- Connect the output jacks of your CD player to the CD input jacks at the rear of the preamplifier, using the correct interconnect cords supplied with your player.
- Make sure the right (RED) and the left (WHITE) channels are correctly connected.

2. CONNECTING A TUNER

- Connect the output jacks of your tuner to the TUNER input jacks at the rear of the preamplifier, using the correct interconnect cords supplied with your tuner.

- Make sure the right (RED) and the left (WHITE) channels are correctly connected.
- If possible, turn your tuner's power off when not operating it, as this will eliminate any interference from bleeding through into any other source being used.

3. CONNECTING TO THE AUX INPUT

- Connect the output jacks of your component, such as video recorder, to the AUX input jacks at the rear of the preamplifier, using the correct interconnect cords supplied with your component.
- Make sure the right (RED) and the left (WHITE) channels are correctly connected.

5. CONNECTING A TAPE RECORDER

- Connect the output jacks of your tape recorder (cassette deck, DAT, etc.) to either the TAPE1 or TAPE2 input jacks, using the correct interconnect cords supplied with your recorder.
- Make sure the right (RED) and the left (WHITE) channels are correctly connected. The TAPE OUT on the preamplifier goes to the 'tape in' or 'record in' jacks on your tape recorder. The TAPE IN on the preamplifier goes to the 'tape out' or 'playback' jacks on the tape recorder.
- When connecting only one tape recorder (cassette deck, DAT, etc.), use the TAPE1 input jacks.
- When connecting two tape recorders for dubbing (tape-to-tape recording) purposes, use the TAPE2 input jacks for the unit you wish to record from, and the TAPE1 input jacks for the unit you wish to record to. For example, to record DAT tapes onto cassette tapes, use the TAPE1 input jacks from the DAT unit and TAPE2 input jacks to the cassette unit.

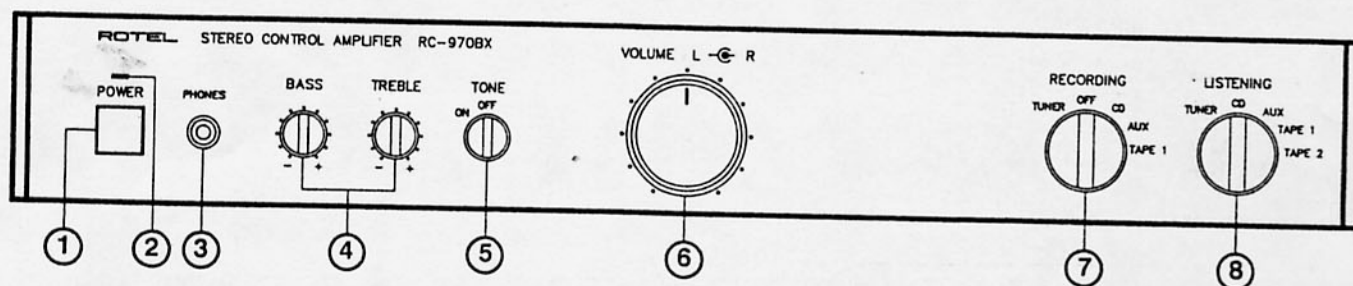
6. CONNECTING THE PREAMPLIFIER OUTPUT JACKS

- The RC-970BX is equipped with two sets of output jacks in parallel.
- Connect a power amplifier to either OUTPUT 1 or 2.
- When using a bi-amp speaker system, a bass power amplifier is connected to one of the output jacks and a treble power amplifier is connected to the other output jack.
- Left channel jacks are aligned along the upper row, and right-channel jacks are on the lower row. Please be sure that the LEFT and RIGHT OUTPUT jacks are correctly connected.

NOTES: Verify that all connections are properly and securely made and that the preamplifier and components have been plugged in to the mains outlet(s).

We also recognize that the highest quality cables improve sound quality and recommend their use.

LOCATION AND OPERATION OF CONTROLS



1. POWER BUTTON

Switches the power on and off.

2. POWER INDICATOR:

Glows when the power is turned on.

3. PHONES JACK

Plug your headphones to this jack, making sure it has the correct type connector. The sound of the headphones is regulated by the volume control.

4. TONE CONTROLS

The BASS control regulates the low frequencies and the TREBLE control regulates the high frequencies. The center points are for the flat frequency response. Turn clockwise to boost the response and counterclockwise to reduce it.

5. TONE SELECTOR

If you wish to bypass the TONE CONTROLS for the purest possible signal, then set this switch to the OFF position, the tone controls will be defeated and will have no effect. To use the tone controls turn this switch to the ON position and adjust the tone controls for the desired sound.

6. VOLUME CONTROL

Controls the volume level. Turn the VOLUME control clockwise to increase the volume, and counterclockwise to reduce it. It is possible to control one or both channels at the same time. If you wish to control only one channel for volume you are able to do so. Hold the front (or rear) half of the knob still and rotate the other half to the desired volume. This will allow you to adjust the balance between channels or to play only one channel at a time. We use a high quality volume control that allows a wide range of adjustment for the quiet settings as well as offering ample voltage output to achieve high volume levels, if you wish. The actual volume settings you use will depend on other associated equipment and the sensitivity of your speakers.

7. RECORDING SELECTOR

This switch permits the choice of recording any input into the preamplifier when set to the appropriate position. The connections are labeled Tape 1 and Tape 2. Please note that the Tape 1 input may be recorded by Tape 2 but that the Tape 2 input is not able to be recorded by Tape 1. This is why Tape 2 is not labeled on the RECORDING selector switch. It is possible to listen to any other input (or the input being recorded) while recording. If you do not intend to record, we suggest setting the RECORDING selector switch to the OFF position to ensure the best possible sound. This removes the switch from the signal path entirely. This selector is independent from the Listening selector switch.

8. LISTENING SELECTOR

Allows the choice of any input you wish to hear. The LISTENING selector switch is independent of the recording selector and you are able to listen to any input (either the same as you are recording or different) while recording at the same time.

WORDS ON OPERATION

PRECAUTIONS

- Before commencing operation, check to see if all connections are properly made.
- Always turn down the volume to the minimum position before turning on the Power switch.
- Make sure the Recording selector is at the Off position when not recording, for best possible sound.

PLAYING THE TUNER

- Set the Listening selector switch to the Tuner position.
- We suggest turning the tuner Off when not actually listening to it (except if you are recording from it) to eliminate any possible bleed through from the tuner into other sources. The circuit is also designed to minimize this possibility.

PLAYING A CD

- Turn the Listening selector to CD position. Set the volume to your preferred listening level and enjoy the music.
- Sound quality may be improved with high performance patch cables. Consult your dealer if you have any questions.

RECORDER PLAYBACK

- Set the Listening selector to Tape 1 or Tape 2 for playback from the recorder of your choice.

RECORDING

- Set the Recording selector switch to the source that you want to record.
- Adjusting the Volume and Tone controls will not affect the recording process.
- If you have a three head cassette deck that permits this function, you may monitor your recording by setting the Listening selector to the same setting as the Recording selector.

DUBBING

- When two tape decks are connected to RC-970BX it is possible to copy recordings from one recorder to the other. (Note that dubbing is From Tape 1 To Tape 2.)
- When dubbing recordings the operation of the tone and volume controls will not affect the recording process.

SPECIFICATIONS

Total Harmonic Distortion (CD/TUNER, 20 Hz to 20 kHz)	No more than 0.004% (Rated output)
Intermodulation Distortion (CD/TUNER, 60 Hz : 7 kHz = 4:1)	No more than 0.004% (Rated output)
Output (Headphones)	8 to 2,000 ohms
Input Sensitivity/Impedance.....	CD, TUNER: 150 mV / 24 kohms AUX, TAPE1,2: 150 mV / 24 kohms
Output Sensitivity/Impedance	1.0 V / 100 ohms
Overload Level (THD 0.5 %, 1 kHz).....	CD, TUNER: 5 V AUX, TAPE1,2: 5 V
Frequency Response	CD, TUNER: 4 to 100 kHz, + 0 dB - 3 dB AUX, TAPE1,2: 4 to 100 kHz, + 0 dB - 3 dB
Tone Control.....	BASS: 100 Hz, \pm 6 dB TREBLE: 10 kHz, \pm 6 dB
Signal to Noise Ratio (IHF, A network).....	CD, TUNER: 95 dB AUX, TAPE1,2: 95 dB

GENERAL

Power Requirement	120 V/60 Hz, 220-240 V/50 Hz (depending on destination)
Power Consumption.....	10 watts
Dimension (overall)	440 (W) x 70 (H) x 325 (D) mm 17-1/3" (W) x 2-3/4" (H) x 12-4/5" (D)
Weight (net).....	4.0 kg / 8.8 lbs

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