

# JVC

## INSTRUCTIONS

# RX-709VTN

## DIGITAL SURROUND SYSTEM RECEIVER

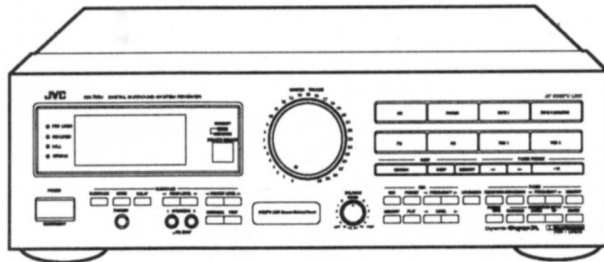
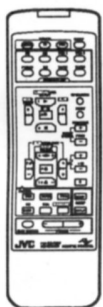
MANUEL D'INSTRUCTIONS: AMPLI-SYNTONISEUR AVEC SYSTEM SURROUND NUMERIC

FRANCOISIS  
FRANCOISIS



**AV COMPU LINK**

**COMPU LINK**  
Remote Control Component



**For Customer Use:**

Enter below the Model No. and Serial No. which is located either on the rear, bottom or side of the cabinet. Retain this information for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>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.</p>		



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.

**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 electrical shocks, fire, etc.:

1. Do not remove screws, covers or cabinet.
2. Do not expose this appliance to rain or moisture.

**IMPORTANT (CANADA ONLY/CANADA SEULEMENT)**

**CAUTION:** TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE

**ATTENTION:** POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT



# Introduction

ENGLISH

FRANÇAIS

Thank you for purchasing the JVC RX-709VTN receiver. We hope it will be a valued addition to your audio system. Be sure to read these instructions carefully before installing and operating the receiver.

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## Features

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- Dolby Pro Logic Surround
- 7-band S.E.A. Graphic Equalizer
- CSRP (COMPU LINK Source-Related Preset) System
- Sleep Timer
- Remote Control

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## About This Manual

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This manual gives you the basic information you need to install and use your receiver. It explains everything you need to know from turning the power switch on to basic troubleshooting. Please consult your JVC dealer if you have further questions about the receiver.

The following conventions are used in this manual:

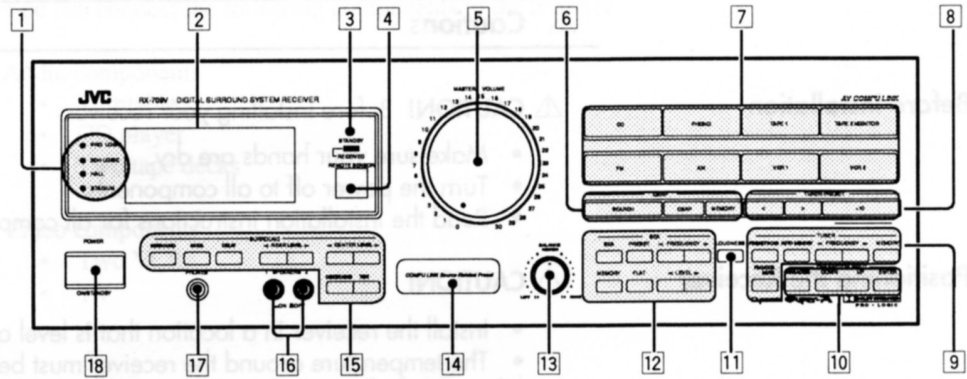
- Controls, buttons, and connection points on the back of the receiver are indicated with capital letters, like this: POWER button, AUDIO jacks
- Messages that appear in the display window are indicated with capital letters and in quotes, like this: "TUNED"
- Instructions that you need to follow to get the correct results are labeled **IMPORTANT!**
- Helpful information is labeled **NOTE:**
- To avoid electric shock to yourself or damage to the receiver, read the information labeled **⚠ CAUTION!**

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# Switches and Controls

Familiarize yourself with the main switches and controls on your JVC RX-709VTN receiver.

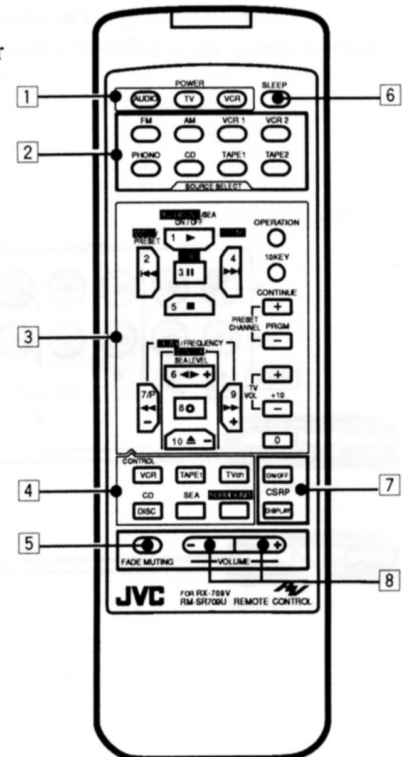


## Receiver

- 1 SURROUND indicators (Page 25)
- 2 Display window (Page 14)
- 3 RECEIVED/POWER STANDBY indicator (Page 14)
- 4 REMOTE SENSOR window (Page 14)
- 5 MASTER VOLUME control (Page 21)
- 6 Buttons for CSRP (Page 30)
- 7 SOURCE SELECT buttons (Page 15)
- 8 TUNER PRESET buttons (Page 18)
- 9 Buttons for built-in tuner (Page 17)
- 10 CHARACTER INPUT buttons (Page 29)
- 11 LOUDNESS button (Page 21)
- 12 Buttons for built-in S.E.A. graphic equalizer (Page 22)
- 13 BALANCE control (Page 21)
- 14 CRSP indicator (Page 30)
- 15 Buttons for surround sound effect (Page 25)
- 16 SPEAKERS buttons (Page 21)
- 17 PHONES jack (Page 9)
- 18 POWER switch (Page 14)

## Remote Control

- 1 POWER switch
- 2 SOURCE SELECT buttons
- 3 Buttons for operating components
- 4 CONTROL buttons
- 5 FADE MUTING button
- 6 SLEEP button
- 7 Buttons for CSRP
- 8 VOLUME adjuster



# Installation

This section explains how to connect the receiver to other stereo equipment and speakers, and how to connect the power supply.

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## ⚠ Cautions

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### Before Installation

⚠ **CAUTION!** Before installing your receiver:

- Make sure your hands are dry.
- Turn the power off to all components.
- Read the installation instructions for all components you are going to connect.

### Positioning the Receiver

⚠ **CAUTION!**

- Install the receiver in a location that is level and protected from moisture.
- The temperature around the receiver must be between 23° and 104° F (-5° and 40° C).
- Make sure there is good ventilation around the receiver. Poor ventilation could cause overheating and damage the receiver.
- Place the receiver in a horizontal position only. Placing in a vertical position could damage the internal mechanism.

### Making Power Connections

⚠ **CAUTION!**

- Do not handle the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. Always grab the plug directly so as not to damage the cord.

### Handling the Receiver

⚠ **CAUTION!**

- Do not insert any metal object into the receiver.
- Do not disassemble the receiver or remove screws, covers, or cabinet.
- Do not expose the receiver to rain or moisture.



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## Connecting Stereo Components

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### Before Starting

You can connect the following components to the receiver:

#### Audio components

- Turntable
- CD player
- Two tape decks

#### Video components

- Two VCRs
- TV

**IMPORTANT!** The left channel of any audio component must be connected to the left-channel jack of the receiver, and the right channel to the right-channel jack. If they are reversed, the stereophonic image will not be correct.

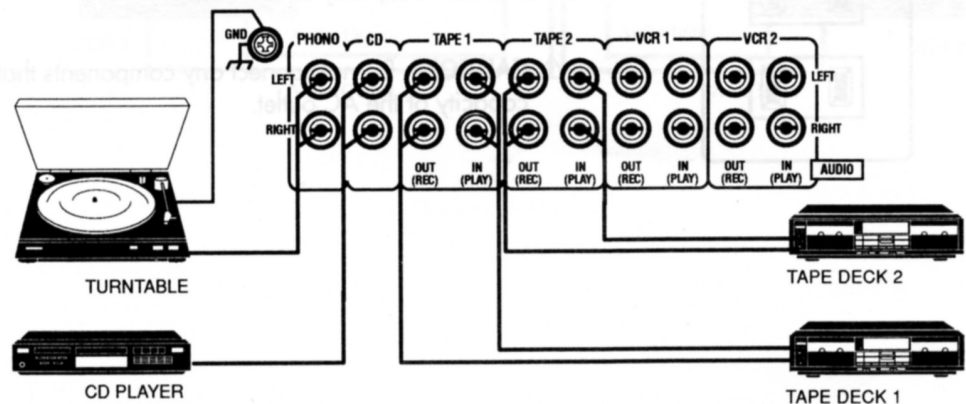
**NOTE:** To ensure correct connections, insert the red plug into the right channel.

### Basic Connections for Audio Components

Connect stereo components to the amplifier using cables with RCA PIN plugs. If you are connecting a tape deck, connect the output jacks on the tape deck to the jacks marked IN (PLAY) on the receiver, and the input jacks to those marked OUT (REC).

#### NOTES:

- Any turntables incorporating a small-output cartridge such as an MC (moving-coil type) must be connected to this amplifier through a commercial head amplifier or step-up transformer. Direct connection may result in insufficient volume.
- If a ground cable is fitted to your turntable, connect the cable to the screw marked GND on the rear panel.



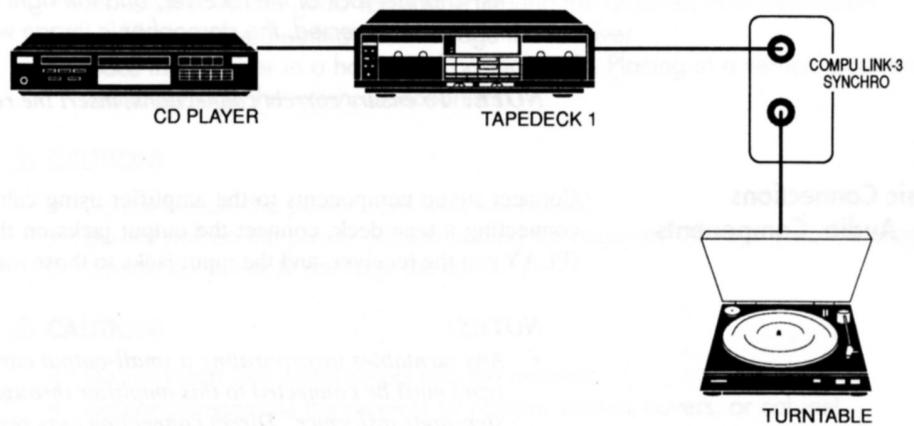
## COMPU LINK-3 Connections

COMPU LINK-3 SYNCHRO jacks on the back of the receiver connect the COMPU LINK remote control system. This system connects other JVC audio components with the receiver to make listening and recording more convenient. To use this system, attach the cables provided with your JVC components to the COMPU LINK-3 SYNCHRO jacks on the rear panel of each component. Then connect the cables to the receiver.

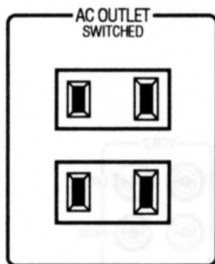
### NOTES:

- *COMPU LINK-3 is an upgraded version of COMPU LINK-1. If your equipment provides COMPU LINK-1 jacks, you can still connect your equipment, but slight imperfections may result. Automatic Power ON/OFF, for example, may not always function properly.*
- *Refer to page 31 for details about the COMPU LINK remote control system.*

**⚠ CAUTION!** Do not connect Tape Deck 2 to the COMPU LINK jacks. It may cause the COMPU LINK system to malfunction.



## Other Audio Connections



Use the socket on the back of the receiver to connect the power supply of any audio components. By pressing the POWER switch on the remote control, you can turn the receiver, and all connected components, on or off at the same time.

AC outlets have a capacity of 180 watts.

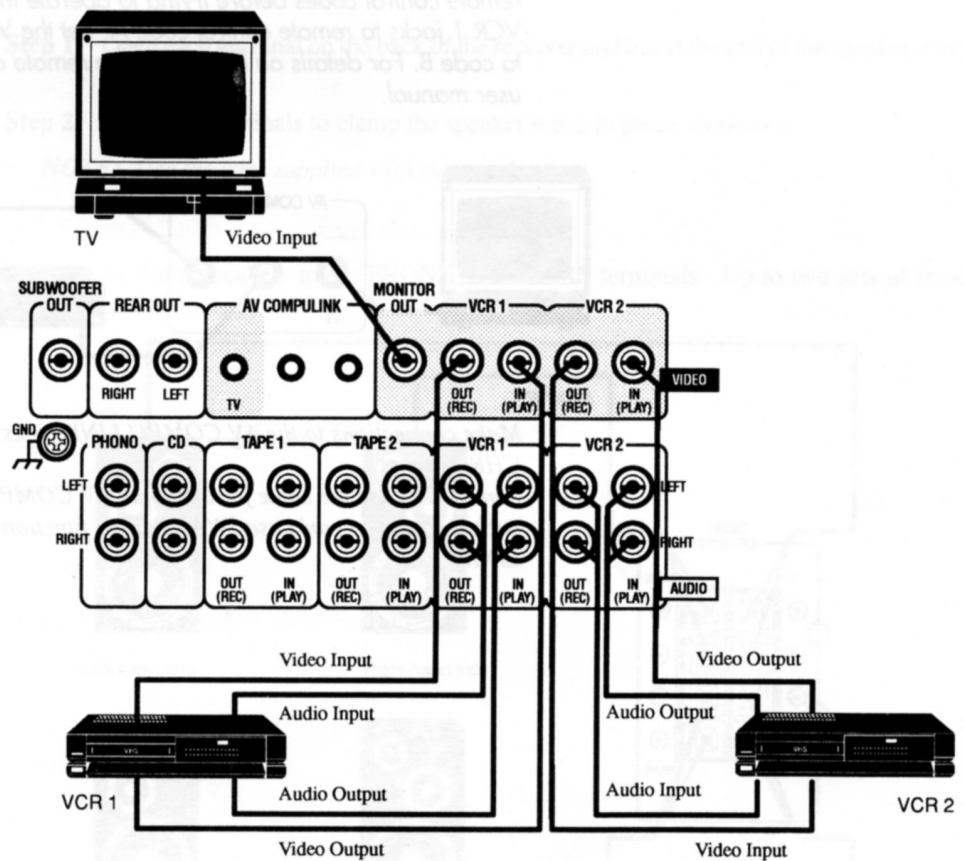
**⚠ CAUTION!** Do not connect any components that consume more power than the capacity of the AC outlet.



## Basic Connections for Video Components

Connect the audio signal jacks of your video components to the AUDIO jacks on the receiver. Connect the video signal (composite) jacks to the VIDEO jacks. If you are connecting a VCR, connect the output jacks on the VCR to the jacks marked IN (PLAY) on the receiver, and the input jacks to those marked OUT (REC).

**NOTE:** Keep the connecting cables for your TV, VCR, and antenna away from the power cord leading from the back of the receiver. The power cord may cause noise or screen interference. We recommend that you use coaxial cable to connect the antenna, since it is well-shielded against interference.

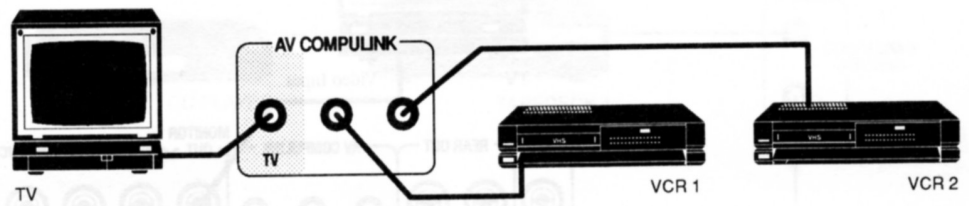


## AV COMPU LINK Connection

The AV COMPU LINK jacks on the back of the receiver connect the AV COMPU LINK system. This system connects other JVC video components with the receiver to make viewing and recording more convenient. To use this system, attach the shielded audio cable with the monaural mini plug (3.5 mm diameter) to the AV COMPU LINK jacks on the back of each component. Then connect the cable to the receiver.

**IMPORTANT!** There are three AV COMPU LINK jacks on the back of the receiver. Connect your TV to the jack marked TV. Connect your VCR to either of the remaining two jacks.

**IMPORTANT!** After connecting your VCRs to the AV COMPU LINK jacks, set the remote control codes before trying to operate them. Set the VCR connected to the VCR 1 jacks to remote control code A. Set the VCR connected to the VCR 2 jacks to code B. For details on how to set the remote control code, refer to your VCR user manual.



### NOTES:

- Make connections to the AV COMPU LINK jacks, not the COMPU LINK-3 SYNCHRO jacks.
- Some VCRs use the same jack for both AV COMPU LINK and SWAP editing. In such a case, you can't use SWAP editing function after connecting the AV COMPU LINK.

## Connecting Speakers

### Before Starting

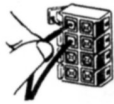
You can connect the following combinations of speakers:

- two pairs of front speakers to produce normal stereo sound
- one pair of rear speakers to produce the surround sound effect
- one center speaker for more effective surround sound

**⚠ CAUTION!** Use speakers with the impedance marked near the terminals.

### Connecting Speakers

To connect each speaker, follow these steps:



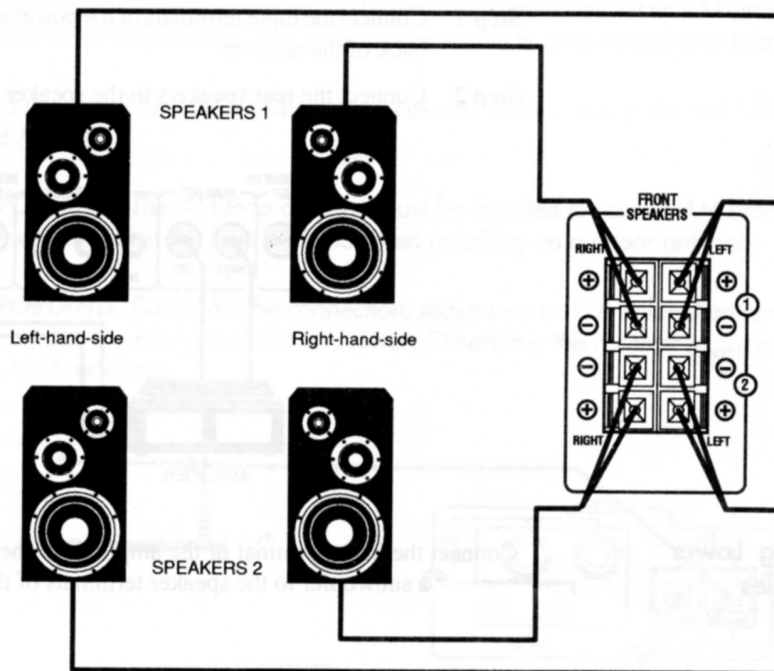
**Step 1** Open each terminal on the back of the receiver and insert the end of the speaker wire, as shown.

**Step 2** Close the terminals to clamp the speaker wires in place, as shown.

**NOTE:** Use the wire supplied with the speakers.

### Connecting the Front Speakers

Connect the front speakers to the FRONT SPEAKERS terminals. Up to two sets of front speakers can be connected.



### Listening to Headphones

Insert the headphone plug into the PHONES jack. To limit sound to the headphones (no sound from the speakers), press SPEAKER buttons 1 and 2 to deactivate all speakers.

PHONES

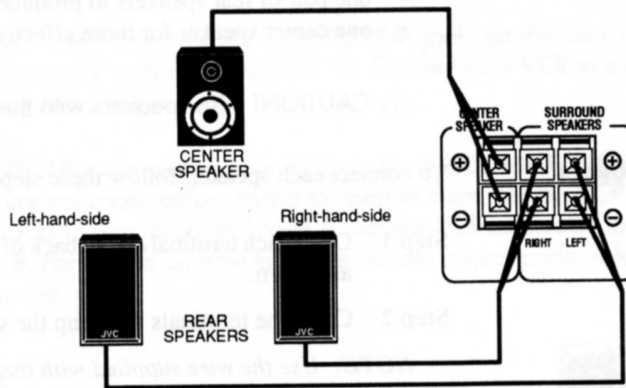


**⚠ CAUTION!** To avoid hearing damage, turn the volume down before plugging in the headphones, then gradually increase the volume.

## Connecting the Rear Speakers and Center Speaker

Connect the rear speakers to the SURROUND SPEAKERS terminals. Connect the center speaker to the CENTER SPEAKER terminals.

**NOTE:** It is recommended that you use an antimagnetic speaker for the center speaker. Position the center speaker near the TV monitor.

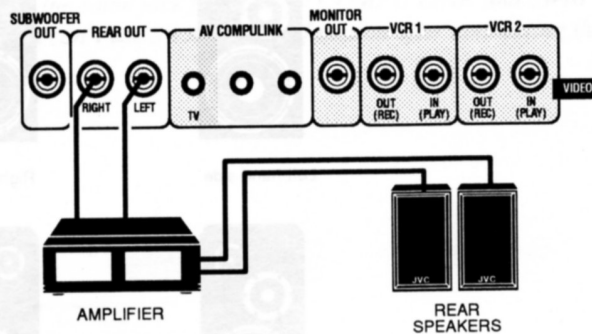


## Increasing Power for the Rear Speakers

To increase power for the rear speakers, you can use a separate amplifier.

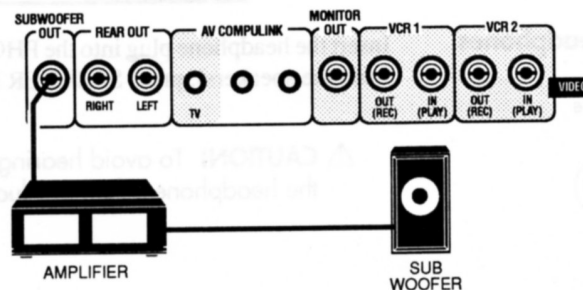
**Step 1** Connect the input terminals of the power amplifier to the REAR OUT terminal on the back of the receiver.

**Step 2** Connect the rear speakers to the speaker terminals of the connected amplifier.



## Enhancing Lower Frequencies

Connect the input terminal of the amplifier to the SUBWOOFER jack of the receiver. Then connect a subwoofer to the speaker terminals of the connected power amplifier.



## Connecting an AM Antenna

### Before Starting

One AM loop antenna is supplied with your receiver.

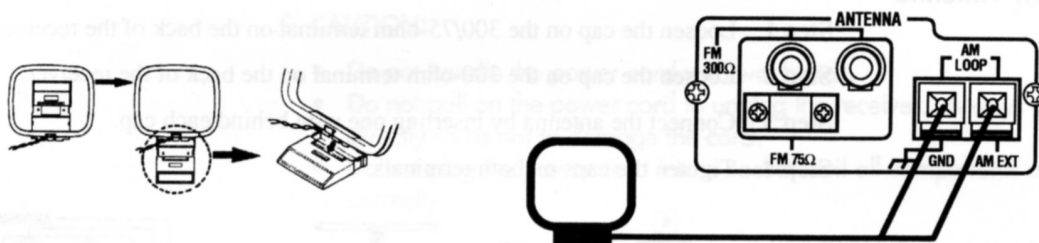
### Basic Connections

To connect the AM loop antenna to the AM LOOP terminals, follow these steps:

**Step 1** Open each terminal and insert one of the two ends of the AM antenna wire.

**Step 2** Close the terminals to clamp the antenna wires in place.

**Step 3** Stand the AM loop antenna on its own base, as shown. Set it on any flat surface.



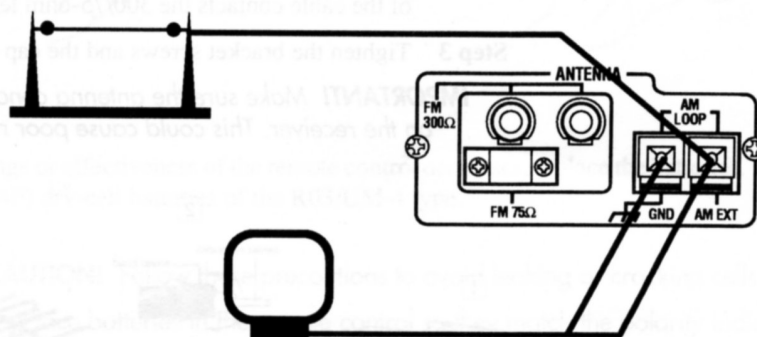
### AM Outdoor Antenna

If your AM broadcast reception is unsatisfactory, you should connect an AM outdoor antenna in addition to the loop antenna. The antenna wire should be 16 to 40 feet (5 to 13 meters) long.

Connect one end of the outdoor single vinyl-covered antenna wire to the AM LOOP terminal marked AM EXT.

**IMPORTANT!** The AM loop antenna must be installed to receive AM broadcasts. Do not disconnect the loop antenna when installing an outdoor antenna.

**IMPORTANT!** Except for the connection, make sure no uninsulated antenna wire touches the rear panel of the receiver. Otherwise, the receiver might not pick up AM broadcasts.



## Connecting an FM Antenna

### Before Starting

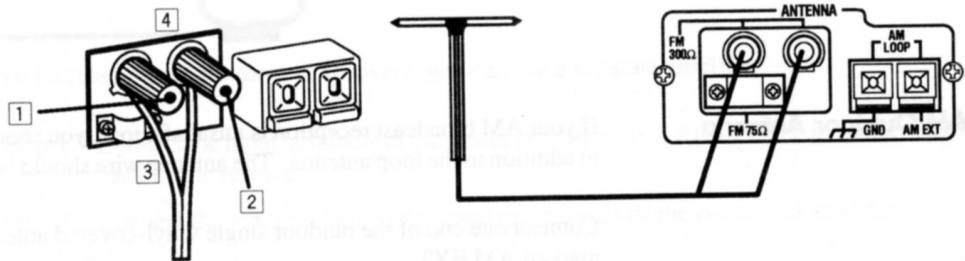
A temporary FM antenna and cable is supplied with your receiver. If reception with this antenna is not satisfactory, you may consider purchasing a 300-ohm feeder-cable antenna or a 75-ohm coaxial-cable antenna.

**⚠ CAUTION!** Before connecting the new FM antenna, disconnect any other FM antenna.

### Connecting the Temporary FM Antenna

To connect the supplied antenna, follow these steps:

- Step 1** Loosen the cap on the 300/75-ohm terminal on the back of the receiver.
- Step 2** Loosen the cap on the 300-ohm terminal on the back of the receiver.
- Step 3** Connect the antenna by inserting one wire behind each cap.
- Step 4** Tighten the caps on both terminals.



### Connecting a 300-Ohm FM Antenna

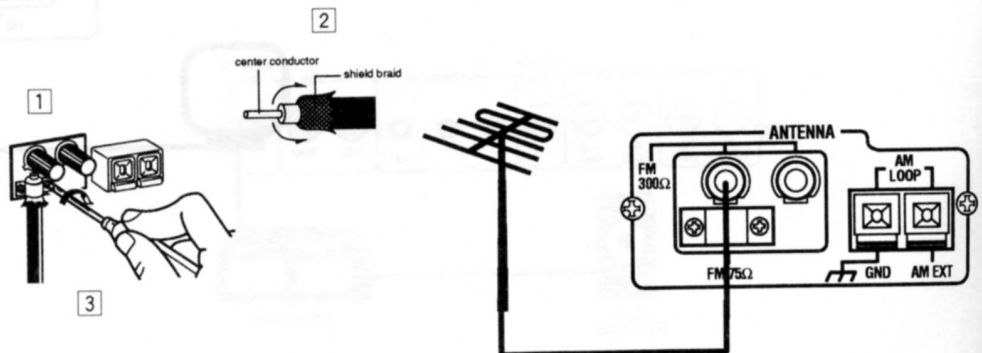
To connect a 300-ohm feeder-cable antenna, use the same steps as for the temporary FM antenna.

### Connecting a 75-Ohm Antenna

To connect a 75-ohm coaxial-cable antenna, follow these steps:

- Step 1** Unscrew the cap and bracket screw on the 300/75-ohm terminal. Insert the round antenna cable from below.
- Step 2** Make sure the shield braid on the cable contacts the bracket, and the center conductor of the cable contacts the 300/75-ohm terminal.
- Step 3** Tighten the bracket screws and the cap on the 300/75-ohm terminal.

**IMPORTANT!** Make sure the antenna conductors do not touch any other terminals on the receiver. This could cause poor reception.



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## Connecting the Power

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### Connecting the Power Supply

After checking all connections, insert the power cord plug into an outlet. When the power supply is connected correctly, the POWER STANDBY indicator lights on the front of the receiver.

⚠ **CAUTION!** A small amount of power (5 watts) is consumed under these conditions, even if the receiver is turned off. To shut off the power completely, unplug the power cord from the outlet.

⚠ **CAUTION!**

- Do not handle the power cord with wet hands.
- Do not pull on the power cord to unplug the receiver. Always grasp the plug directly so as not to damage the cord.
- Do not plug the power cord into a socket until all components are connected correctly.

**IMPORTANT!** If the power cord is disconnected or a power failure occurs, the receiver settings in memory are retained for 2 or 3 days.

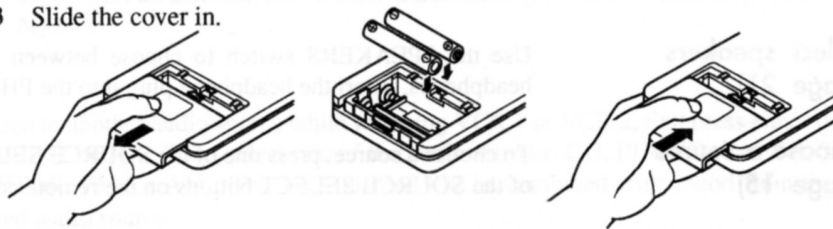
### Inserting Batteries into the Remote Control

The remote control requires two batteries (supplied). To insert batteries, follow these steps:

**Step 1** On the back side of the remote control, press down on the battery cover and slide it out.

**Step 2** Insert batteries. Make sure to observe the proper polarity: (+) to (+) and (-) to (-).

**Step 3** Slide the cover in.



### Replacing Batteries

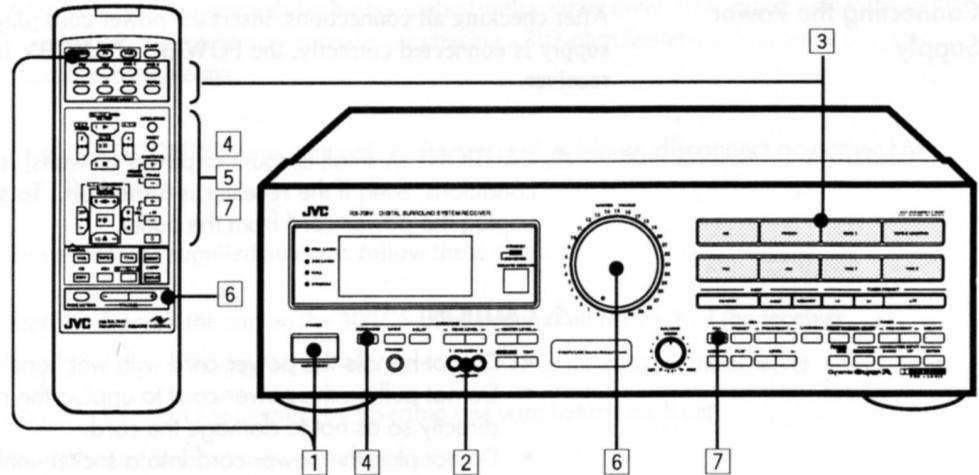
If the range or effectiveness of the remote control decreases, replace the batteries. Use two (2) AAA (24F) dry-cell batteries of the R03/UM-4 type.

⚠ **CAUTION!** Follow these precautions to avoid leaking or cracking cells:

- Place batteries in the remote control so they match the polarity indicated: (+) to (+) and (-) to (-).
- Use the correct type of batteries. Batteries that look similar may differ in voltage.
- Always replace both batteries at the same time.
- Do not expose batteries to heat or flame.

# Operation Outline

## Basic Operation Reference



**IMPORTANT!** Aim the remote control at the REMOTE SENSOR window on the front panel of the receiver.

### 1 Turn on the power

Push the POWER switch to turn on the receiver. The display lights:



**NOTE:** Pushing the POWER switch again turns off the power and lights the STANDBY light.

### 2 Select speakers (page 21)

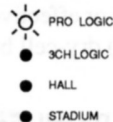
Use the SPEAKERS switch to choose between the two sets of speakers. To use your headphones, insert the headphone plug into the PHONES jack on the receiver.

### 3 Choose a source (page 15)

To choose a source, press one of the SOURCE SELECT buttons on the receiver, or press one of the SOURCE SELECT buttons on the remote control.

### 4 Turn the surround sound effect on or off (page 25)

To turn the surround sound effect on or off, press the SURROUND button. When the surround processor is activated, one of the effect program indicators (PRO LOGIC, 3CH LOGIC, HALL, or STADIUM) lights up.



### 5 Operate the source (pages 31-34)

Refer to the manual provided with each component. If your JVC components are connected to the COMPU LINK jack of the receiver, you can operate them using the remote control.

### 6 Adjust volume (page 21)

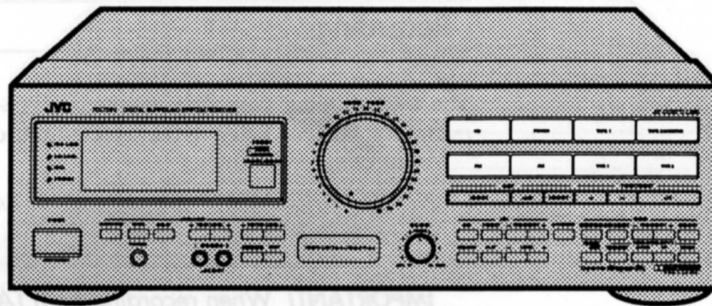
Rotate the MASTER VOLUME control on the receiver or press the VOLUME button on the remote control to adjust volume. See pages 21-24 for other ways to change the volume or tone.

### 7 Adjust tone (pages 22-24)

Use the S.E.A. graphic equalizer to adjust tone.



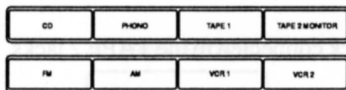
# Selecting the Source Broadcast



## Listening or Viewing

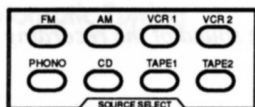
### Selecting the Source

Press one of the SOURCE SELECT buttons on the receiver or the remote control.



CD*	Listen to the CD player.
PHONO*	Listen to a record.
TAPE 1*	Listen to the tape deck connected to the TAPE 1 jacks.
TAPE 2 MONITOR	Listen to the tape deck connected to the TAPE 2 jacks.
FM*	Listen to an FM broadcast.
AM*	Listen to an AM broadcast.
VCR1	View the VCR connected to the VCR 1 jacks.
VCR2	View the VCR connected to the VCR 2 jacks.

**IMPORTANT!** The TAPE 2 MONITOR button has a different function from other source selector buttons, because it allows you to monitor the quality of the recording. For more details, see Monitoring below.



\* **NOTE:** On the remote, when you press one of the SOURCE SELECT buttons marked above with an asterisk, the receiver automatically turns ON (even if it was OFF before).

### Selecting Different Sources for Picture and Sound

To listen to another audio source while watching VCR 1 or VCR 2, first press either the VCR 1 or VCR 2 button. Then select one of the audio sources: CD, PHONO, TAPE 1, TAPE 2 MONITOR, FM, or AM. The VCR picture will be combined with sound from the newly selected audio source.

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## Recording

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The source being played is automatically selected as the source to be recorded. While recording, you can listen to the selected source at any desired volume and tone settings.

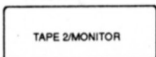
**NOTE:** Volume and Tone adjustments and the surround sound effect do not affect recording.

**IMPORTANT!** When recording from TAPE 2 to TAPE 1, press the TAPE 2 MONITOR button and another button other than TAPE 1.

## Monitoring

Using the Monitor feature, you can compare the sound quality of the source to the sound quality of the recording being made.

To use the Monitor feature while recording onto a cassette deck connected to the TAPE 2 jacks, follow these steps:



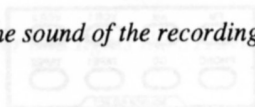
**Step 1** Press the TAPE 2 MONITOR button.

The "TAPE 2 MONITOR" light appears and you can listen to the sound of the cassette deck connected to the TAPE 2 jacks. You are now hearing the quality of the recording, not the quality of the source.

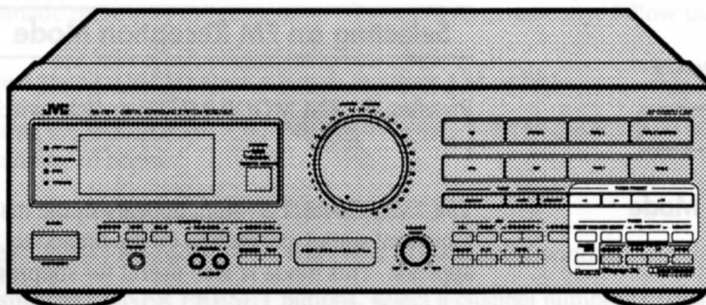
**Step 2** Press the TAPE 2 MONITOR button again.

This turns off the "TAPE 2 MONITOR" light, and the speakers play the previously selected source.

**NOTE:** If the cassette deck has three heads, you can hear the sound of the recording at the same time as it records on the tape.



## Receiving an AM/FM Broadcast

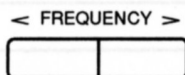


To receive an AM/FM broadcast, select either AM or FM using the AM button or FM button. Then tune to the precise frequency using the FREQUENCY buttons.

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### Tuning

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Tune to the frequency of a desired station using the FREQUENCY buttons. Pressing the right button increases the frequency, and pressing the left button decreases the frequency. Tapping the FREQUENCY button once changes the frequency in steps of 10 kHz for AM and 0.1 MHz for FM.

There are two tuning modes: Manual and Automatic.

#### Manual Tuning

If you know the frequency of a desired station, hold down the FREQUENCY button to start the frequency changing quickly. Release the FREQUENCY button near the desired station and tap it repeatedly until you arrive at the correct frequency.

#### Automatic Tuning

If you want to scan frequencies for a desired station, hold down the FREQUENCY button to start the frequency changing quickly. When you release the FREQUENCY button, the frequency continues to change until it reaches a station.

When a station is correctly tuned, the "TUNED" light appears on the display window.

Once a tuned frequency is preset, you can recall it directly by entering the channel number (1 through 10). For details, see pages 18-19.

**NOTE:** When you use automatic tuning, weak stations are ignored. To pick up weak stations, use manual tuning.

**IMPORTANT!** If the receiver is tuned to a station but the "TUNED" light does not appear, try rotating the antenna for better reception.



## Selecting an FM Reception Mode

FM MODE  
MUTE



Pressing the FM MODE/MUTE switch switches between these modes.

### Automatic Mode

The "MUTE-AUTO" light appears in the display window. You hear either stereo sound or monaural sound, depending on the broadcast. If it is a stereo broadcast, the "STEREO" light appears. This mode is also useful for suppressing static "noise" between stations.

### Monaural Mode

The "MUTE-AUTO" light disappears. You hear monaural sound even if a broadcast is in stereo. This mode is also useful when a stereo broadcast is noisy because of a weak signal.

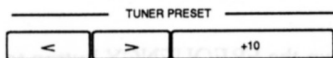
*NOTE: Using the Automatic Tuning mode, the sound of a broadcast with a weak signal may be muted. In this case, select the monaural mode.*

## Presetting Tuned Frequencies

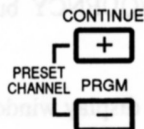
You can preset up to 40 radio stations by assigning channel numbers (1 through 40) to them. Once a station is preset, you can listen to it by entering the preset number. There are two ways to preset: manual or automatic.

### Entering Channel Numbers

To select numbers, use the TUNER PRESET buttons on the receiver, or the PRESET CHANNEL buttons on the remote control.



Press > (+ on the remote) to increase the selected number, and press < (- on the remote) to lower the selected number.



To select numbers from 11 through 40, using the +10 button is more convenient. Each time you press the +10 button, the number will increase by a multiple of 10. Then press a number less than 10 to complete the desired number.

**IMPORTANT!** Before you use the PRESET CHANNEL buttons on the remote, press the AM or FM button on the remote.

### Manual Presetting

To use manual presetting to assign channel numbers to your favorite stations, follow these steps:

MEMORY



**Step 1** Tune to a station. If necessary, follow the procedure on page 17.

**Step 2** Press the MEMORY button.

The "MEMORY" light appears in the display window.

**Step 3** Using the TUNER PRESET buttons, select a number (1 through 40), then press the MEMORY button to enter the selected number. This channel number is automatically assigned to the station.

**IMPORTANT!** You must enter the channel number while the "MEMORY" light is on. You have about 5 seconds to do this. If the light disappears before you enter the channel number, press the MEMORY button again.

**Step 4** When the MEMORY light disappears and the channel number is displayed, presetting is completed.

## Adjusting the Volume

### Automatic Presetting

To use automatic presetting to preset up to 40 stations automatically, follow these steps:

**Step 1** Press the SOURCE selector button to select AM or FM.

**Step 2** Using the FREQUENCY buttons, move to the lowest frequency from which you want scanning to begin.

**Step 3** Press the AUTO MEMORY button.

The "AUTO MEMORY" light appears in the display window.

**Step 4** Using the TUNER PRESET buttons, select a channel number (1 through 40) to the first tuned station, then press the MEMORY button to enter the selected number. From that point, scanning starts and stations are assigned channel numbers in ascending order.

**IMPORTANT!** You must enter the channel number while the "AUTO MEMORY" light appears. If this light disappears before you enter the channel number, press the AUTO MEMORY button again.

Frequencies are scanned in ascending order. When a station is tuned in, scanning stops and the "TUNED" light and preset number appear. The station is preset about 4 seconds later and the "MEMORY" light appears. If you do not want to preset this station, press the AUTO MEMORY button within 4 seconds. Scanning restarts without presetting that station.

When the MEMORY light disappears, scanning continues until one of the following occurs:

- Another station is tuned in
- The upper limit of the tuning range is reached
- All 40 channel numbers have been assigned

When Auto Presetting is completed, the last preset station is received.

**NOTE:** To stop scanning at any time, press any TUNER button once.

You can recall a preset channel using the TUNER PRESET buttons on the receiver or the PRESET CHANNEL buttons on the remote control (see page 18).

### Recalling a Preset Channel

You can also recall a preset channel by specifying the number directly, using the remote control. First press the AM or FM button on the remote, then enter the channel number using 1-10, and the +10 button. To choose numbers from 1 through 10, press the appropriate buttons. To choose number from 11 through 40, press the +10 button and one other button. For example:

To choose 17 Press +10, then 7.

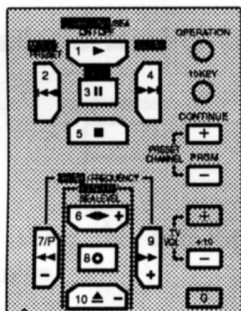
To choose 20 Press +10, then 10.

To choose 25 Press +10 twice, then 5.

To choose 40 Press +10 three times, then 10.

Your channel number will appear.

AUTO MEMORY



## Searching for a Preset Station

PRESET SCAN



When you lose the preset number of a desired station, use the Preset Scan function to find the station. Follow these steps:

### Step 1 Press the PRESET SCAN button.

The receiver runs upward in sequence through the preset channels. You will hear the sound of each channel for 4 seconds while the corresponding channel number blinks.

### Step 2 When you find the desired station, press the PRESET SCAN button again.

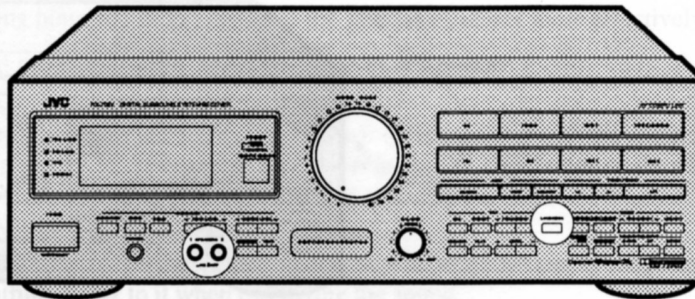
Scanning stops.

**NOTE:** Scanning ends when one cycle of 40 channels is completed. The receiver returns to the previous station.

## Assigning Names to Preset Channels

You can assign a title of up to five characters (for example, a station name) to each preset station (1-10). See page 29 for further details.

# Adjusting the Volume



## Adjusting the Volume

### Using the MASTER VOLUME Control



Use the MASTER VOLUME control to adjust the volume from the left and right speakers. Rotating the dial to the right increases the volume. The volume from the speakers and the headphones increases simultaneously.

**NOTE:** Volume can also be adjusted using the remote control. Press the VOLUME button marked + to increase the volume, or the VOLUME button marked - to decrease the volume.

**⚠ CAUTION!** Listening to extremely loud sound may damage your hearing. Be especially careful when using headphones.

### Muting the Sound



Press the FADE MUTING button on the remote control to decrease the volume easily when you receive a phone call or a visitor.

**NOTE:** When you press the FADE MUTING button again, the previous volume setting will return.

### Selecting the Speakers



Pushing in SPEAKER button 1 or 2 activates that pair of speakers. Pressing either button again deactivates that pair of speakers. When the button is in, that pair is activated. You can listen to both pairs, pair 1, pair 2, or neither pair.

**IMPORTANT!** If only one set of speakers is connected, pressing "in" both speaker buttons will produce no sound.

### Listening at Low Volume



Human ears are not sensitive to low-frequency sounds at low volume. To compensate for this, the loudness function automatically boosts the bass level as you lower the volume.

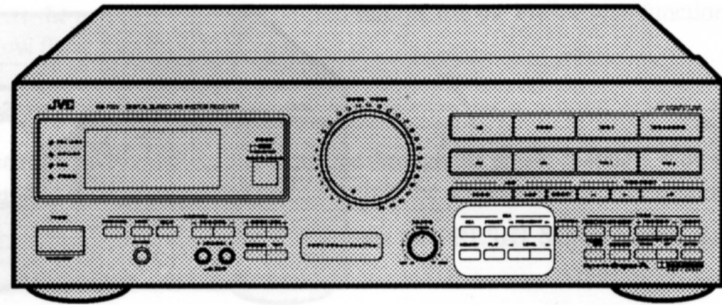
To use the loudness function, press the LOUDNESS switch. The "LOUDNESS" indicator lights in the display window. Press the switch again to turn the feature off.

### Adjusting the Left-Right Balance



Use the BALANCE control to adjust the balance between the left and right channels. Rotating the dial to the right increases the right-channel volume, and rotating it to the left increases the left-channel volume. The BALANCE control affects both sets of speakers and the headphones.

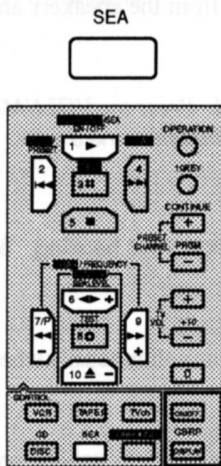
# Adjusting the Tone



Using the S.E.A. Graphic Equalizer, you can change the tone as you desire.

## What is the S.E.A. Graphic Equalizer?

Pressing the SEA button on the receiver activates the S.E.A. Graphic Equalizer. The Graphic Equalizer divides the audible frequency range into seven bands. You can adjust the boost/cut level of each band to get the desired sound.



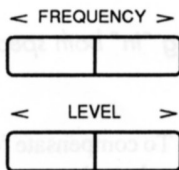
**IMPORTANT!** The S.E.A. Graphic Equalizer has no effect on rear and center channel sound.

**NOTE:** You can also operate the S.E.A. Graphic Equalizer with the remote control. Press the SEA button in the CONTROL section of the remote, then the ON/OFF button on the remote. Then press the desired button. The orange lettering on the remote control shows how to operate the S.E.A. graphic equalizer.

## Equalizing the Sound

### Equalizing

To equalize the sound, follow these steps:



**Step 1** Select a frequency range to be adjusted using the FREQUENCY buttons.

Center frequencies of available frequency ranges are: 63 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz, 6.3 kHz, and 16 kHz. Pressing the right button switches to a higher frequency range, and pressing the left button switches to a lower frequency range.



**Step 2** Set the boosting or cutting level for the selected frequency range using the LEVEL buttons.

Pressing the right button boosts the range and pressing the left button cuts the range. You can boost or cut the range in 2 dB units within the range of 10dB.





## Hints for Equalizing

FLAT



SEA

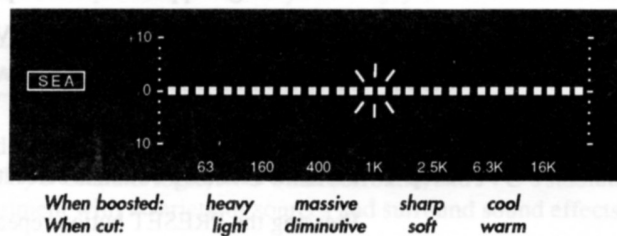


The following hints will help you to use the graphic equalizer more effectively.

To reset and begin equalizing again, press the FLAT button

To compare the sound processed by the S.E.A. graphic equalizer with the original sound during equalizing, press the SEA button on the receiver or the ON/OFF button on the remote. Pressing either button allows you to hear the equalized sound again.

The following illustration shows the relationships between frequency range and the effect of boosting/cutting. Refer to it when equalizing the sound.



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## Using Preset Equalizing Settings

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### Selecting a Preset Equalizing Pattern

PRESET



You can select any one of ten preset equalizing settings.

Press the PRESET button to select one of the preset equalizing settings.

Letters A to J are assigned to preset equalizing settings. Letters A to E are assigned to user-preset settings, which you can preset to your desired equalizing settings. Letters F to J are factory-preset settings. Typical equalizing settings are preset in the factory as follows, with titles that describe their characteristics. You cannot modify these settings.

- |             |  |
|-------------|--|
| A-E         | User-preset equalizing.  |
| F - "HEAVY" | Select this setting when you want heavy sound. Both high and low frequencies are boosted.  |
| G - "CLEAR" | Select this setting when you want clear sound. Frequencies which make the sound unclear are cut.   |
| H - "SOFT"  | Select this setting when you listen to background music at a low sound level. Raising sound is suppressed and low frequencies are boosted. |
| I - "MOVIE" | Select this setting when you listen to the sound track of an old movie. The sound in the narrow frequency range can be equalized.          |
| J - "VOCAL" | Select this setting to bring the singer's voice forward. The presence of the human voice increases.  |

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## Preset Your Equalizing Settings

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You can preset up to five equalizing settings of the S.E.A. graphic equalizer. Each equalizing setting is assigned a letter (A to E). Once an equalizing setting has been preset, you can call it directly using the PRESET button.

To preset your own equalizing settings, follow these steps:

**Step 1** Press the SEA button to operate the S.E.A. graphic equalizer.

The SEA light appears on the display.

**Step 2** Using the FREQUENCY and LEVEL buttons, adjust the tone as desired.

**Step 3** Press the MEMORY button.

The MEMORY light blinks.

**Step 4** Press the PRESET button to select the letter to be assigned to your equalizing setting.

Pressing the PRESET button repeatedly selects letters in the following order:

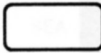
A > B > C > D > E > back to the beginning

**Step 5** Press the MEMORY button again.

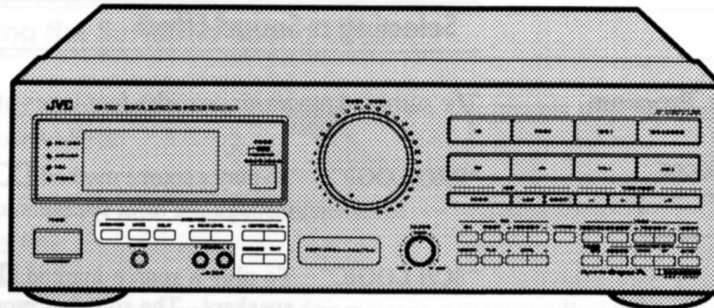
The MEMORY light goes off to indicate that presetting for your equalizing setting has been completed.

**NOTE:** You can assign a title with five or fewer characters to each preset equalizing setting. When a preset equalizing setting is called, its title appears in the display window along with its assigned letter. See page 29.

MEMORY



# Using the Surround Processor



The built-in surround processor enables you to enjoy a 3-dimensional sound effect.

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## Overview


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### Types of Sound Effects

The surround sound processor provides four types of sound effects — Dolby Pro Logic Surround, Dolby 3-Channel logic, JVC's hall surround, and JVC's stadium surround — so that you can experiment with a variety of sources and surround sound effects.

**IMPORTANT!** *The surround processor has no effect on monaural (non-stereo) sources.*

### What is Dolby Pro Logic Surround?

The soundtracks of video software bearing the  **DOLBY SURROUND** mark\* include the same encoded surround information as found in Dolby Stereo films. The Dolby Pro Logic Surround decoder is a consumer version of the decoding process used in professional Dolby Stereo equipment, and it lets you recreate the theater ambience and effects of Dolby Stereo at home.

Dolby Pro Logic Surround decoder provides these features:

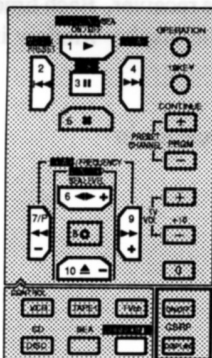
- four primary sound channels — Left, Right, Surround, and additional Center channel
- adaptive matrix to actively derive each channel

The result is that Dolby Pro Logic Surround has the effect of widening the useful listening area and enhancing directional effects, while at the same time locking center channel information onscreen for the home audience.

\*Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. number 3,959,590; Canadian numbers 1,004,603 and 1,037,877. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

### Turning On or Off the Surround Processor

To operate the surround processor, press the SURROUND button on the receiver. One of the surround program indicators lights. Then press the desired operation buttons.




**NOTE:** *You can also operate the surround processor with the remote control. Press the SURROUND button in the CONTROL section of the remote, then the surround ON/OFF button on the remote. Then press the desired operation buttons. Lettering enclosed in a box on the remote control shows how to operate the S.E.A. graphic equalizer.*


## Selecting a Sound Effect

### Selecting a Program

The surround processor provides four types of sound effects.



**"PRO LOGIC"** To play a source marked  **DOLBY SURROUND**. The sound will be reproduced through the front speakers, center speaker and rear speakers.

**"3CH LOGIC"** To play a source marked  **DOLBY SURROUND** when you are not using rear speakers. The sound is reproduced through the front speakers and center speaker.

**"HALL"** To play an ordinary stereo source with one of JVC's surround sound effects, resembling acoustics such as those in a music hall, for example. The sound is reproduced through the front speakers and rear speakers.

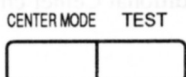
**"STADIUM"** To play an ordinary stereo source with one of JVC's surround sound effects, resembling acoustics such as those in a stadium, for example. The sound is reproduced through the front speakers and rear speakers.

To select one of these programs, use the MODE button. Each time you press the button, one of the surround program indicators will light up in the following cycle:

"PRO LOGIC" > "3CH LOGIC" > "HALL" > "STADIUM" > begins the cycle again

### Selecting a Center Channel Mode

When you select PRO LOGIC or 3CH LOGIC program, you must also select a center channel mode. The following modes are available:



**"PHANTOM"** Use this mode when no center speaker is used. The entire center channel is reproduced through the front speakers. 3CH LOGIC doesn't have this mode.

**"NORMAL"** Use this mode when the center speaker is smaller than the front speaker. The bass frequencies in the center channel are reproduced through the front speakers.

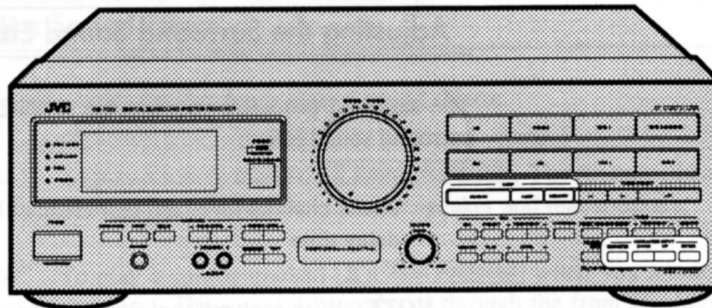
**"WIDE"** Use this mode when the center speaker is as large as the front speaker. The entire center channel is reproduced through the center speaker.

**"OFF"** The center channel is muted.

To select one of these modes, use the CENTER MODE button on the receiver. Each time you press the button, one of the center channel modes will appear in the display window in the following cycle:

"PHANTOM" > "NORMAL" > "WIDE" > "OFF" > begins the cycle again

## Using Special Features



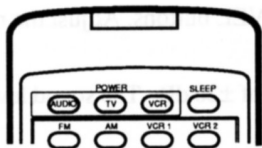
The RX-709VTN receiver has special functions offering you more convenience.

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### Using the Sleep Timer

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The sleep timer lets you listen to any program for up to 80 minutes before it automatically shuts off. The receiver goes back to standby mode (off) after the time period that you specify. To use the sleep timer:



**Step 1** Press the SLEEP button on the remote control.

“SLEEP” appears in the display window.

**IMPORTANT!** You have 5 seconds to proceed to the next step. If you wait more than 5 seconds, return to step 1.

**Step 2** Press the SLEEP button again to set the timer.

Each time you press the SLEEP button, the time limit is extended 10 more minutes. You can set up to 80 minutes.

**Step 3** Stop when you reach the desired time period.

The set time indicator disappears after a few seconds. The receiver will automatically return to standby mode (off) after the time period you specified.

#### NOTES:

- After setting the sleep timer, you can change sources as often as you wish within the specified time period.
- After setting the sleep timer, you can check the remaining time in minutes by pressing the SLEEP button. You can extend the time period further, in 10-minute increments, by pressing the SLEEP button again.

## Assigning Names

### Entering Title Characters

You can assign a title of up to five characters (for example, a station name) to each preset station (1-10) and each preset equalizing setting (A-E). When a preset station is called, its title is displayed in the display window along with its channel number. When a preset equalizing setting is called, its title is displayed in the display window along with its equalizing setting.

After selecting the preset channel (1-10) or selecting the preset equalizing setting (A-E), enter title characters as follows:

CHARACTER



**Step 1** Press the CHARACTER button.

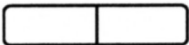
The cursor appears at the first character position.

**IMPORTANT!** You must press the CHARACTER button while a preset number appears. You have about 2 seconds to do this. If the cursor disappears before you press the CHARACTER button, select the preset channel or preset equalizing setting again.



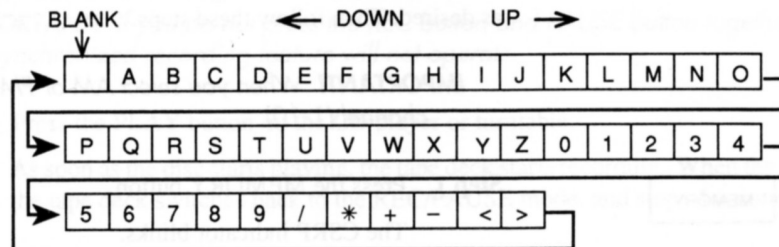
If a title has already been assigned, the first character blinks. If you are not changing this character, press the CHARACTER button.

DOWN UP



**Step 2** Using the DOWN and UP buttons, select the character to be entered.

You can choose from the characters shown below. Pressing the DOWN or UP button selects the next character in the sequence.



**Step 3** When the desired character appears, press the CHARACTER button.

The cursor moves to the next character position. You can enter up to four characters by repeating Steps 2 and 3.



ENTER



**Step 4** Press the ENTER button to save the selected characters.



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## Using the CSRP function

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### What is the CSRP Function?

The optimum settings of a sound level and tone depend on the source component conditions (for example, the cassette deck may not reproduce high frequencies as compared with the CD player) and the source contents (for example, a movie sound track or on-the-spot broadcasting of football). Accordingly, you must change settings each time you select a different source.

The JVC CSRP (COMPU LINK Source-Related Preset) function is used to assign and preset different settings for different SOURCE SELECT buttons. Since the preset settings are called automatically each time you press a different SOURCE SELECT button, you need not make the settings again.

A rectangular button with the text "CSRP" inside.

To use the CSRP function, press the CSRP button. CSRP indicator will turn on and stored settings on the SOURCE SELECT button currently selected are called.

**IMPORTANT!** For the TAPE 2 MONITOR button, the CSRP function does not work.

**NOTE:** You can assign a different setting for each preset channel (1-10).

### How to Preset

The following settings can be preset for each SOURCE SELECT button.

- MASTER VOLUME control setting
- LOUDNESS function on/off
- Selected Preset equalizing settings
- Surround processor settings

First, select the source using the SOURCE SELECT buttons and set the functions listed above as desired. Then follow these steps.

**IMPORTANT!** When you select AM or FM as a source, you must also select a preset channel (1-10).

A rectangular button with the text "MEMORY" inside.

**Step 1** Press the MEMORY button.

The CSRP indicator blinks.

**Step 2** Press the SOURCE SELECT button which is currently selected.

**IMPORTANT!** You must press the SOURCE SELECT button while the CSRP indicator blinks. You have about 5 seconds to do this. If the lights turn off before you press the SOURCE SELECT button, press the MEMORY button again.

Current receiver settings are preset and you can confirm each setting in the display window.

### Searching for Your Favorite Settings

A rectangular button with the text "SEARCH" inside.

Pressing the SEARCH button calls the settings previously assigned to each SOURCE SELECT button sequentially. The CSRP indicator will blink. This sequence continues repeatedly. When you find your favorite setting, press the SEARCH button again to stop the sequence.

### Confirming the Preset Settings

A vertical stack of three rectangular buttons. The top button has "ON/OFF", the middle button has "CSRP", and the bottom button has "DISPLAY".

To confirm the preset settings, press the DISPLAY button on the remote control. Preset settings will be displayed one by one in the display window.

# Operating Source Components

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## COMPU LINK Remote Control System

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The COMPU LINK remote control system interlocks the receiver with your audio components for simple operation. Connecting the COMPU LINK-3 SYNCHRO jacks on the back of the receiver will allow you to use the four functions listed in the left column.

### Remote Control

You can control all components via the REMOTE SENSOR on the receiver using the receiver's remote control. For details, see page 33.

**IMPORTANT!** Point the remote control directly at the REMOTE SENSOR on the receiver.

### Automatic Source Selection

When you *press play* on a component or the remote, the component begins playing immediately. On the other hand, if you select a *new source* on the receiver or the remote, the component begins playing immediately, but the previously selected source continues playing without sound for a few seconds.

### Synchronized Recording

Synchronized recording means the tape deck starts recording as soon as a CD or record begins playing. To use synchronized recording, follow these steps:

**Step 1** Put a tape in the deck, and a disc in the CD player or on the turntable.

**Step 2** Press the REC and PAUSE button on the tape deck at the same time. This puts the tape deck in the REC/PAUSE state.

**IMPORTANT!** If you do not press the REC button and PAUSE button together, the synchronized recording feature will not operate.

**Step 3** Press the PLAY button on the CD player or turntable.

As soon as the disc starts playing, the tape deck starts recording. When the disc ends, the tape deck switches back to the REC/PAUSE mode, and stops 4 seconds later.

#### NOTES:

- During synchronized recording, the CD or PHONO button is activated. Other SOURCE buttons are disabled to prevent recording failure.
- If your CD player is operated in the PROGRAM mode, a 4-second mute is recorded between tracks to enable the music scan feature of your tape deck to work.
- If the power of any component is shut off during synchronized recording, the system will not operate properly. In this case, you must start again with step 1.

### Automatic Power ON/OFF

The CD player and cassette deck turn on and off along with the receiver. When you turn on the receiver (using either the remote or the receiver's POWER switch), the CD player or cassette deck will turn on automatically, depending which component was previously selected.

**NOTE:** This function has been added to COMPU LINK-3 (Enhanced COMPU LINK), an upgraded version of COMPU LINK-1. Refer to your JVC component manual for details.



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## AV COMPU LINK System

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### AV COMPU LINK

The AV COMPU LINK system interlocks the receiver with your JVC video components for simple operation. Connecting the AV COMPU LINK jacks on the back of the receiver will allow you to use the four functions listed in the left column.

#### Remote Control

You can control your TV via the REMOTE SENSOR on the receiver using the receiver's remote control. For details, see page 34.

**IMPORTANT!** Point the remote control at the REMOTE SENSOR on the receiver.

**IMPORTANT!** You can operate the VCR with this receiver's remote. When operating the VCR by remote control, point at the VCR directly, not at the receiver.

#### One-Touch Video Play

When a video cassette with its safety tab removed is loaded into the VCR, you can enjoy the video playback without setting the various switches manually.

**NOTE:** Even if your video cassette still has its safety tab, you can use this function by pressing the PLAY button on the VCR.

#### Automatic Power ON/ OFF

The VCR and TV are automatically turned on or off along with the receiver. When you turn on the receiver with previously selected source VCR 1 or VCR 2, the VCR and TV will turn on automatically. When you turn off the receiver, the VCR and TV will turn off automatically.

#### Selecting the TV Input

When you turn on the receiver, the TV input (TV/VIDEO) is automatically changed to VIDEO to allow you to see the VCR's picture.

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## Using the Remote Control

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Before using the remote control, read pages 31 and 32 carefully.

### Operating the Component Already Selected

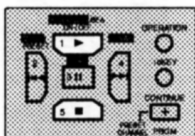
Select a source with the SOURCE SELECT buttons on the remote control. Operate that source using the buttons just below the SOURCE SELECT buttons.

**IMPORTANT!** If you choose a source on the receiver directly, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using the remote control.

**IMPORTANT!** When you select CD or TAPE 1 on the remote control, the component will turn on and start playing automatically.

**IMPORTANT!** When you select TAPE 2 or VCR 2 on the remote control, the remote control will not operate that source. Operate the source directly without using the remote control.

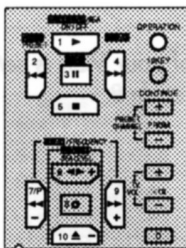
### Turntable



After pressing the PHONO button, you can perform the following operations on the remote:

- ▶ Starts playing
- Stops playing

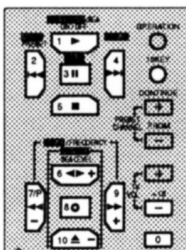
### CD Player



After pressing the CD button, you can perform the following two operations on the remote:

After pressing the OPERATION button:

- ▶ Starts playing
- ◀▶ Skips to the beginning of the previous track
- ▶▶ Skips to the beginning of the next track
- Stops playing
- ⏸ Stops playing temporarily. To release it, press ▶
- ◀◀ Moves backward quickly during play
- ▶▶ Moves forward quickly during play
- ▲ Moves the disc tray in and out

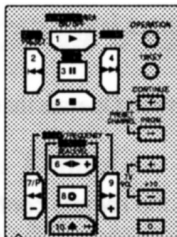


After pressing the 10 KEY button:

1-10, + 10, and 0      Select the track number.

## Cassette Deck

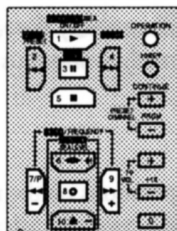
After pressing the TAPE 1 button, you can perform the following operations on the remote:



- ▶ Starts playing
- ◀▶ Skips to the beginning of the previous tune
- ▶◀ Skips to the beginning of the next tune
- Stops action
- ▬ Stops playing or recording temporarily. To release it, press ▶
- ◀▶ Fast wind the tape from right to left
- ▶◀ Fast wind the tape from left to right
- Press together with ▶ to start recording  
Press together with ▬ to enter record-standby mode

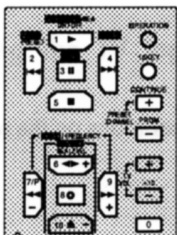
## VCR

After pressing the VCR 1 button, you can perform the following two operations on the remote:



After pressing the OPERATION button:

- ▶ Starts playback
- Stops action
- ▬ Stops playing temporarily or freezes the picture. To release it, press ▶
- ◀▶ Rewinds video tape
- ▶◀ Fast winds video tape
- Press together with ▶ to start recording  
Press together with ▬ to enter record-standby mode



After pressing the 10 KEY button:

- 1-9, and 0 Selects the TV channel.
- PRESET CHANNEL, + and - Scans to higher or lower TV channels

**NOTE:** You can also turn the VCR on and off by pressing the VCR button in the POWER section of the remote control.

**IMPORTANT!** Check to be sure that the remote control code of your VCR is set to code A. You cannot operate the VCR with remote control code B.

## Operating the Component Not Currently Selected

When you want to operate one component while listening to another component (e.g., recording from a CD), use the buttons in the CONTROL section of the remote control. The CONTROL buttons allow you to use the operation buttons for the new component without affecting the component already playing.

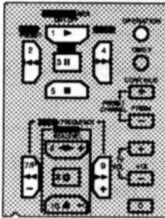
### VCR

Pressing the VCR button in the control section of the remote allows you to perform the same functions as pressing VCR 1 in the SOURCE SELECT section of the remote.

### Cassette Deck

Pressing TAPE 1 in the CONTROL section of the remote allows you to perform the same functions as pressing TAPE 1 in the SOURCE SELECT section of the remote.

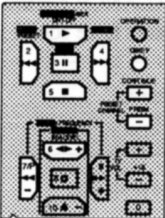
### CD Player-Changer



After pressing the CD DISC button in the CONTROL section of the remote, you can perform the following two operations on the remote:

After pressing the OPERATION button:

Pressing the OPERATION button in the control section of the remote allows you to perform the same functions as pressing CD in the SOURCE SELECT section of the remote.

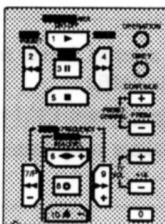


After pressing the 10 KEY button:

- |                   |   |
|-------------------|---|
| <b>1-6, and P</b> | Selects the number of the disc installed in the CD player-changer   |
| <b>CONTINUE</b>   | Sets the playing mode of the CD player-changer to the CONTINUE mode |
| <b>PRGM</b>       | Sets the playing mode of the CD player-changer to the PROGRAM mode  |

### TV

After pressing the TV ch button in the CONTROL section of the remote control, you can perform the following operations on the remote:



- |                               |                                      |
|-------------------------------|--------------------------------------|
| <b>1-9, and 0</b>             | Selects the TV channel               |
| <b>PRESET CHANNEL + and -</b> | Scans to higher or lower TV channels |
| <b>TV VOL + and -</b>         | Adjust the sound volume of the TV    |

# Troubleshooting

Use this chart to help you solve everyday operational problems. If there is any problem you cannot solve, contact your JVC service center.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Display window does not light up	Power cord not plugged in	Plug power cord into AC socket
No sound from speakers	Speaker wires not connected	Check speaker wiring and reconnect if necessary
	SPEAKERS buttons not set correctly	Push the SPEAKERS buttons in or out as desired
	Incorrect SOURCE button was pressed	Select the correct audio source
Sound from one speaker only	Speaker wires not connected properly	Check speaker wiring and reconnect if necessary
	Balance control is set to one extreme	Adjust BALANCE control so that both speakers have sound
Continuous hiss or buzzing during FM reception	Incoming signal is too weak	Adjust antenna
	Station is too far away	Select a new station
	Incorrect antenna used	Check with your dealer to be sure you have the correct antenna
	Antenna not connected properly	Check connections
Occasional cracking noise during FM reception	Ignition noise from automobiles	Move the antenna farther from automobile traffic
Howling during record playing	Turntable too close to speaker	Move speakers away from turntable
Remote control does not work	There is an obstruction in front of the REMOTE SENSOR on the receiver	Remove the obstruction
	Batteries are weak	Replace batteries

# Specifications

<b>Amplifier</b>	<b>Output Power</b>	<b>100 watts per channel, min. RMS, both channels driven into 8 ohms from 20 Hz to 20 kHz with no more than 0.007% total harmonic distortion.</b>
	Front Channel	
	Center channel	65 watts, min. RMS, into 8 ohms at 1 KHz, with no more than 0.7% total harmonic distortion
	Rear channel	20 watts per channel, min. RMS, both channels driven into 8 ohms at 1KHz, with no more than 0.7% total harmonic distortion
	<b>Total Harmonic Distortion (8 ohms, 1 kHz)</b>	0.007 %* at 100 watts output
	<b>Frequency Response (8 ohms)</b>	
	PHONO	20 Hz to 20 kHz ( $\pm 0.5$ dB)
	CD / TAPE 1 / TAPE 2	5 Hz to 50 kHz (+0, -1 dB)
	<b>Signal-to-Noise Ratio ('66 IHF / '78 IHF)</b>	
	PHONO	71 dB / 78 dB (REC OUT)
CD / TAPE 1 / TAPE 2 / VCR 1 / VCR 2	100 dB / 80 dB	
	<b>RIAA Phono Equalization</b>	$\pm 0.5$ dB (20 Hz to 20 kHz)
<b>Audio I/O terminals</b>	<b>Input Sensitivity / Impedance (1 kHz)</b>	
	PHONO	2.5 mV / 47 k ohms
	CD / TAPE 1 / TAPE 2 / VCR 1 / VCR 2	230 mV / 47 k ohms
	<b>Output Level</b>	
	TAPE 1 / TAPE 2	230 mV
<b>Video I/O terminals</b>	<b>Input Sensitivity/Impedance</b>	
	VCR 1, VCR 2	1 Vp-p / 75 ohms
	<b>Output level</b>	
	VCR 1, VCR 2, MONITOR OUT	1 Vp-p (at 1 Vp-p input)
	<b>Synchronization</b>	negative
	<b>Signal to noise ratio</b>	45 dB
	<b>Crosstalk</b>	45 dB (3.58 MHz)
<b>S.E.A. Graphic Equalizer</b>	<b>Center frequencies</b>	63, 160, 400, 1k, 2.5k, 6.3k, 16k (Hz)
	<b>Control range</b>	$\pm 10$ dB

**FM Tuner (IHF)****Tuning Range**

87.5 MHz to 108.0 MHz

**Usable Sensitivity**10.8 dBf (0.95  $\mu$ V / 75 ohms)**50 dB Quieting Sensitivity**

## Monaural

16.3 dBf (1.8  $\mu$ V / 75 ohms)

## Stereo

38.3 dBf (22.5  $\mu$ V / 75 ohms)**Signal-to-Noise Ratio (IHF-A weighted)**

## Monaural

80 dB at 85 dBf

## Stereo

73 dB at 85 dBf

**Total Harmonic Distortion**

## Monaural

0.15 % at 1 kHz

## Stereo

0.2 % at 1 kHz

**Stereo Separation at REC OUT**

40 dB at 1 kHz

**Capture Ratio**

1.5 dB (10 mV / 300 ohms)

**Alternate Channel Selectivity**60 dB: ( $\pm$ 400 kHz)**Frequency Response**

30 Hz to 15 kHz: (+0.5 dB, -3 dB)

**AM Tuner****Tuning Range**

530 kHz to 1,710 kHz

**Usable Sensitivity**

## Loop antenna

300  $\mu$ V/m at 1,000 kHz

## External antenna

30  $\mu$ V at 1,000 kHz**Signal-to-Noise Ratio**

50 dB (100mV / m, at 1,000 kHz)

**General****Power Requirements**AC 120V  $\sim$  , 60 Hz**Power Consumption**

295 watts, 405 VA

**Dimensions (W x H x D)**17-3/16 x 6-3/16 x 15-5/8 inches  
435 x 156 x 396 mm**Weight**

23 lbs (10.4 kg)

\* Measured by JVC Audio Analysis System  
 Designs & specifications subject to change without notice