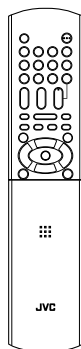
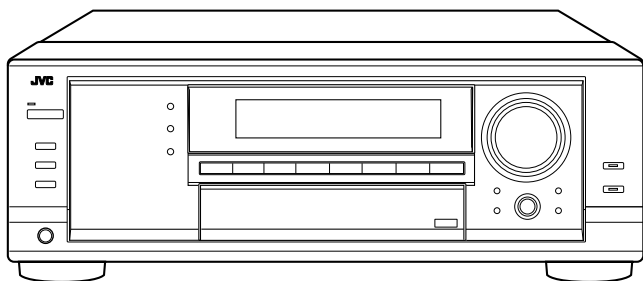


JVC



AUDIO/VIDEO CONTROL RECEIVER

RX-7040B/RX-7042S



AV COMPU LINK

INSTRUCTIONS

For Customer Use:

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

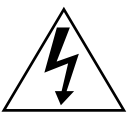
Model No. _____

Serial No. _____

LVT1170-001B

[J]

Warnings, Cautions and Others/ Mises en garde, précautions et indications diverses



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.

ATTENTION


Afin d'éviter tout risque d'électrocution, d'incendie, etc.:

1. Ne pas enlever les vis ni les panneaux et ne pas ouvrir le coffret de l'appareil.
2. Ne pas exposer l'appareil à la pluie ni à l'humidité.

Caution— STANDBY/ON button!

Disconnect the mains plug to shut the power off completely. The  STANDBY/ON button in any position does not disconnect the mains line. The power can be remote controlled.

Attention—Commutateur STANDBY/ON!

Déconnecter la fiche de secteur pour couper complètement le courant. Le commutateur  STANDBY/ON ne coupe jamais complètement la ligne de secteur, quelle que soit sa position. Le courant peut être télécommandé.

For U.S.A

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

For Canada/pour Le Canada

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS AS SET OUT IN THE INTERFERENCE-CAUSING EQUIPMENT STANDARD ENTITLED "DIGITAL APPARATUS," ICES-003 OF THE DEPARTMENT OF COMMUNICATIONS. CET APPAREIL NUMERIQUE RESPECTE LES LIMITES DE BRUITS RADIOELECTRIQUES APPLICABLES AUX APPAREILS NUMERIQUES DE CLASSE B PRESCRITES DANS LA NORME SUR LE MATERIEL BROUILLEUR; "APPAREILS NUMERIQUES", NMB-003 EDICTEE PAR LE MINISTRE DES COMMUNICATIONS.

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This mark indicates that ONLY the remote control CAN be used for the operation explained.



This mark indicates that the remote control CANNOT be used for the operation explained. Use the buttons and controls on the front panel.

Introduction

We would like to thank you for purchasing one of our JVC products. Before operating this unit, read this manual carefully and thoroughly to obtain the best possible performance from your unit, and retain this manual for future reference.

Features

CC (Compensative Compression) converter

CC Converter eliminates jitter and ripples, achieving a drastic reduction in digital distortion by processing the digital music data in 24 bit-quantization and by expanding the sampling frequency to 128 kHz (for fs 32 kHz signals)/176.4 kHz (for fs 44.1 kHz signals)/192 kHz (for fs 48 kHz signals). By using the CC Converter, you can obtain a natural sound field from any source. (See page 17 for details.)

K2 technology

K2 technology has been designed to enable natural audio reproduction, achieving a drastic reduction in digital distortion and creating original sound ambience with high precision.

Compatible with various audio formats including DTS 96/24

This unit allow you to enjoy a audio format such as Dolby Digital EX, Dolby Pro Logic II, DTS-ES, DTS Neo:6, and DTS 96/24.

- This unit is also compatible with Dual Mono signals recorded in Dolby Digital and DTS discs.

DAP (Digital Acoustic Processor)

Sound field simulation technology allows precise ambience recreation of existing theaters and halls. Thanks to the high-performance DSP (Digital Signal Processor) and high-capacity memory, you can enjoy multi-channel surround sound by playing 2-channel or multi-channel software according to the speaker setting.

Multi-channel headphone virtual surround sound—3D Headphone mode

The built-in headphone virtual surround system is compatible with Multi-channel software like Dolby Digital, DTS Surround, etc. Thanks to the signal processing algorithms used by the high-performance DSP, you can enjoy a natural surround sound through the headphones.

COMPU LINK/AV COMPU LINK remote control systems

These COMPU LINK remote control systems allow you to operate other JVC's audio/video components from this receiver.

Precautions

General

- Be sure your hands are dry.
- Turn the power off to all components.
- Read the manuals supplied with the components you are going to connect.

Power sources

- When unplugging the receiver from the wall outlet, always pull the plug, not the AC power cord.
- Do not handle the AC power cord with wet hands.
- If you are not going to operate the receiver for an extended period of time, unplug the AC power cord from the wall outlet.

Locations

- Install the receiver in a location that is level and protected from moisture and dust.
- The temperature around the receiver must be between -5°C and 35°C (23°F and 95°F).

Ventilation

High power amplifiers built in this receiver will generate heat inside the cabinet. For safety, observe the following carefully.

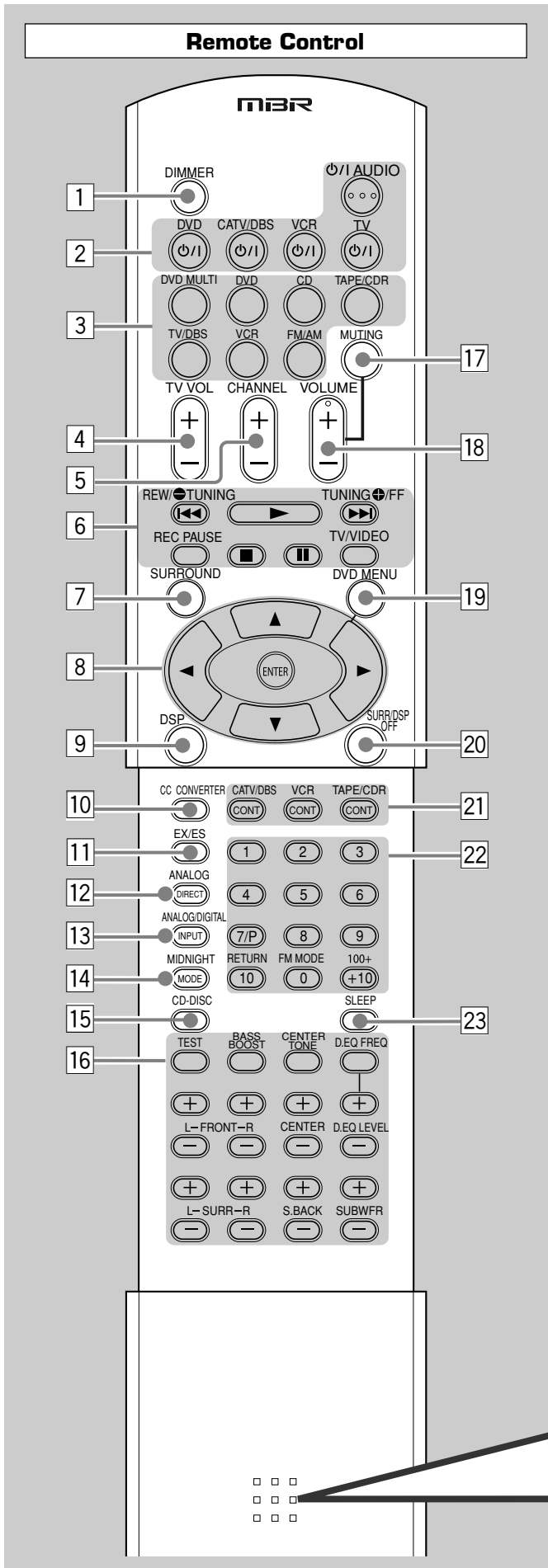
- Make sure there is good ventilation around the receiver. Poor ventilation could overheat and damage the receiver.
- Do not block the ventilation openings or holes. (If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)

Others

- Do not insert any metal object into the receiver.
- Should any metallic object or liquid fall onto the unit, unplug the unit and consult your dealer before operating any further.
- Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
- Do not disassemble the receiver or remove screws, covers, or cabinet.

If anything goes wrong, unplug the AC power cord and consult your JVC dealer.

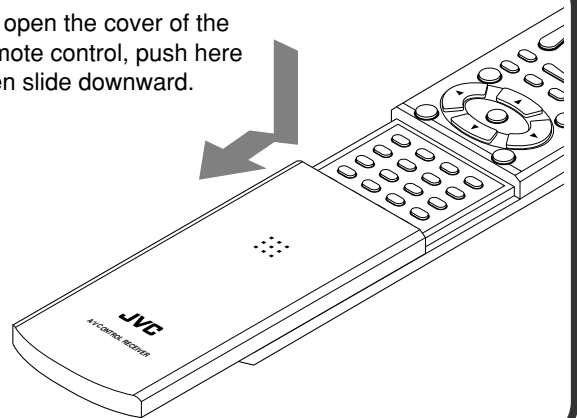
Parts Identification



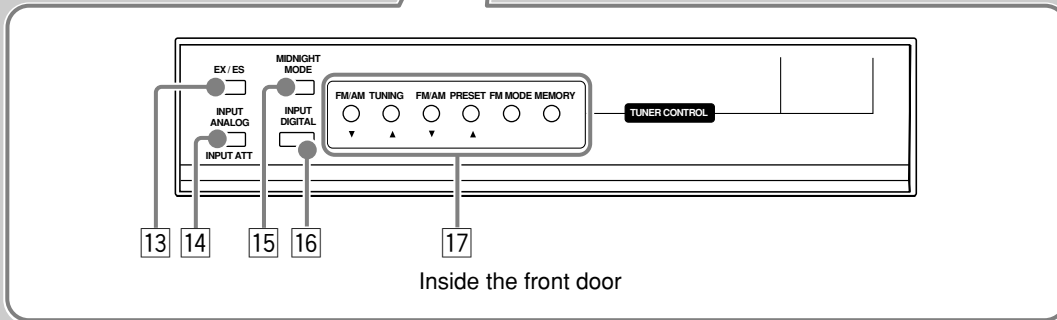
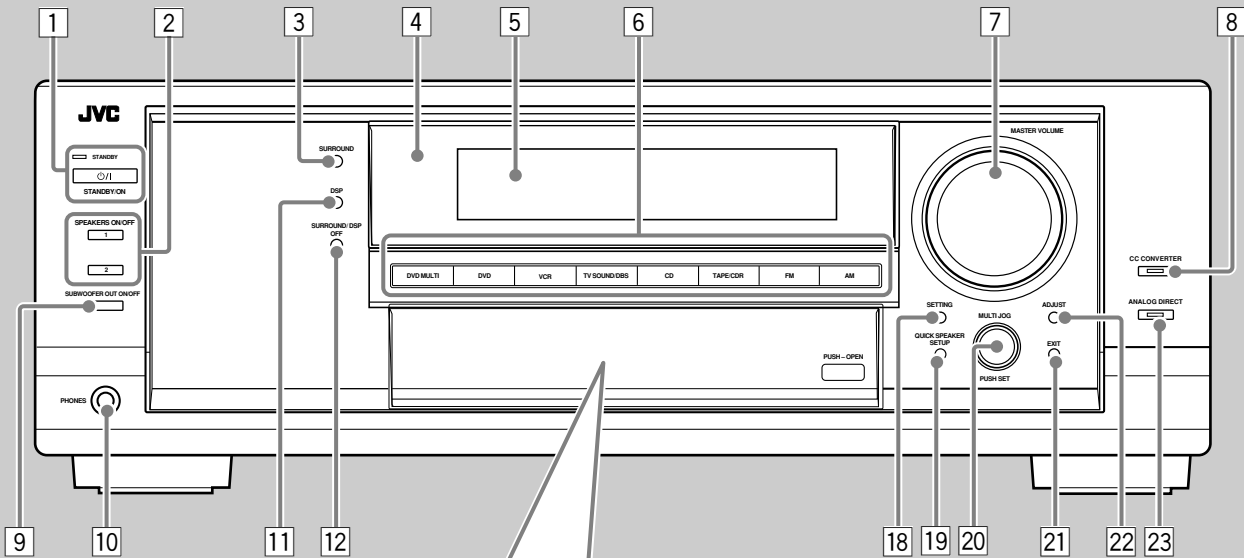
See pages in parentheses for details.

- 1 DIMMER button (18, 40)
- 2 Standby/On buttons (13, 40 – 43)
 ◻/I AUDIO, DVD ◻/I, CATV/DBS ◻/I, VCR ◻/I, TV ◻/I
- 3 Source selection buttons (13 – 15, 19, 20, 36, 40 – 43)
 DVD MULTI, DVD, CD*, TAPE/CDR*, TV/DBS, VCR, FM/AM*
 * When you press one of these source selection buttons on the remote control, the receiver automatically turns on.
- 4 TV VOL (volume) +/- button (41, 42)
- 5 CHANNEL +/- button (41 – 43)
- 6 Operating buttons for audio/video components (40, 41, 43)
 REW ◀◀, ▶▶, FF ▶▶▶, ■, ||
 Operating buttons for tuner (19, 40)
 ● TUNING, TUNING ⊕
 REC PAUSE button (41, 43)
 TV/VIDEO button (41, 42)
- 7 SURROUND button (33, 40)
- 8 Operating buttons for DVD player (40, 41, 43)
 ENTER, ▶, ◀, ▲, ▼
- 9 DSP button (34, 35, 40)
- 10 CC CONVERTER button (17, 40)
- 11 EX/ES button (33, 40)
- 12 ANALOG DIRECT button (17, 40)
- 13 ANALOG/DIGITAL INPUT button (16, 40)
- 14 MIDNIGHT MODE button (16, 40)
- 15 CD-DISC button (40)
- 16 Sound adjustment buttons (15, 18, 28, 29, 40)
- 17 MUTING button (18, 40)
- 18 VOLUME +/- button (14, 18, 40)
- 19 DVD MENU button (41, 43)
- 20 SURR (surround) /DSP OFF button (33, 35, 40)
- 21 CATV/DBS CONT (control) button (42)
 VCR CONT (control) button (41)
 TAPE/CDR CONT (control) button (41)
- 22 10 keys for operating audio/video components (40 – 43)
 10 keys for operating the tuner (20, 40)
- 23 SLEEP button (18, 40)

To open the cover of the remote control, push here then slide downward.

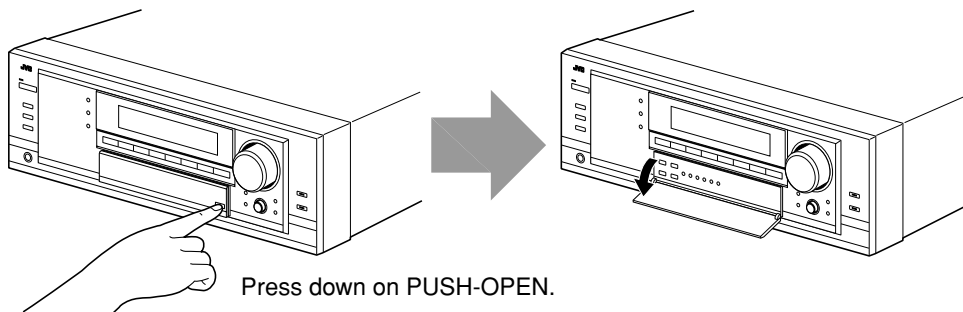


Front Panel



Inside the front door

How to open the front door

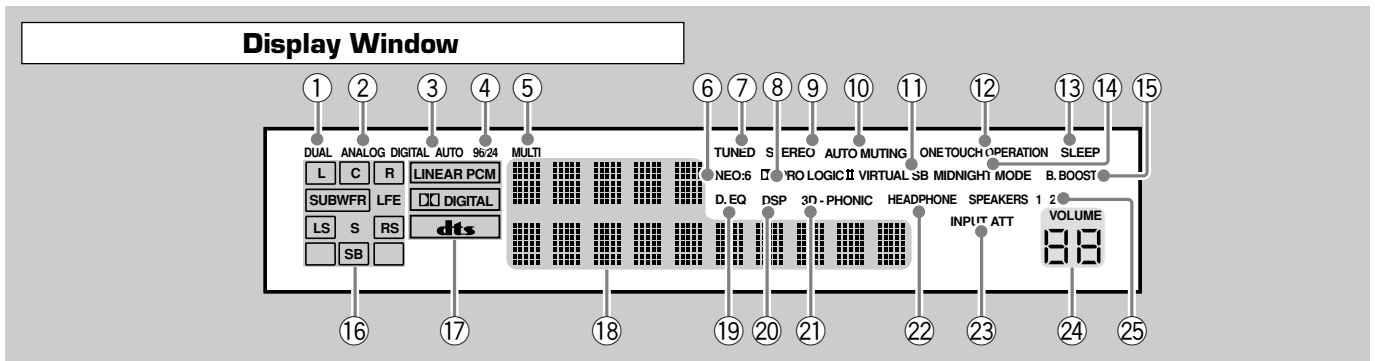


Press down on PUSH-OPEN.

See pages in parentheses for details.

- 1 Φ /I STANDBY/ON button and STANDBY lamp (13)
- 2 SPEAKERS ON/OFF 1/2 buttons (15)
- 3 SURROUND button (32, 33, 40)
- 4 Remote sensor
- 5 Display window (For details, see "Display window" on the next page.)
- 6 Source selection buttons (13 – 15, 17, 19, 20, 36)
DVD MULTI, DVD, VCR, TV SOUND/DBS, CD,
TAPE/CDR, FM, AM
- 7 MASTER VOLUME control (14)
- 8 CC CONVERTER button and lamp (17)
- 9 SUBWOOFER OUT ON/OFF button (15)
- 10 PHONES jack (15)
- 11 DSP button (34, 35)
- 12 SURROUND/DSP OFF button (33, 35)

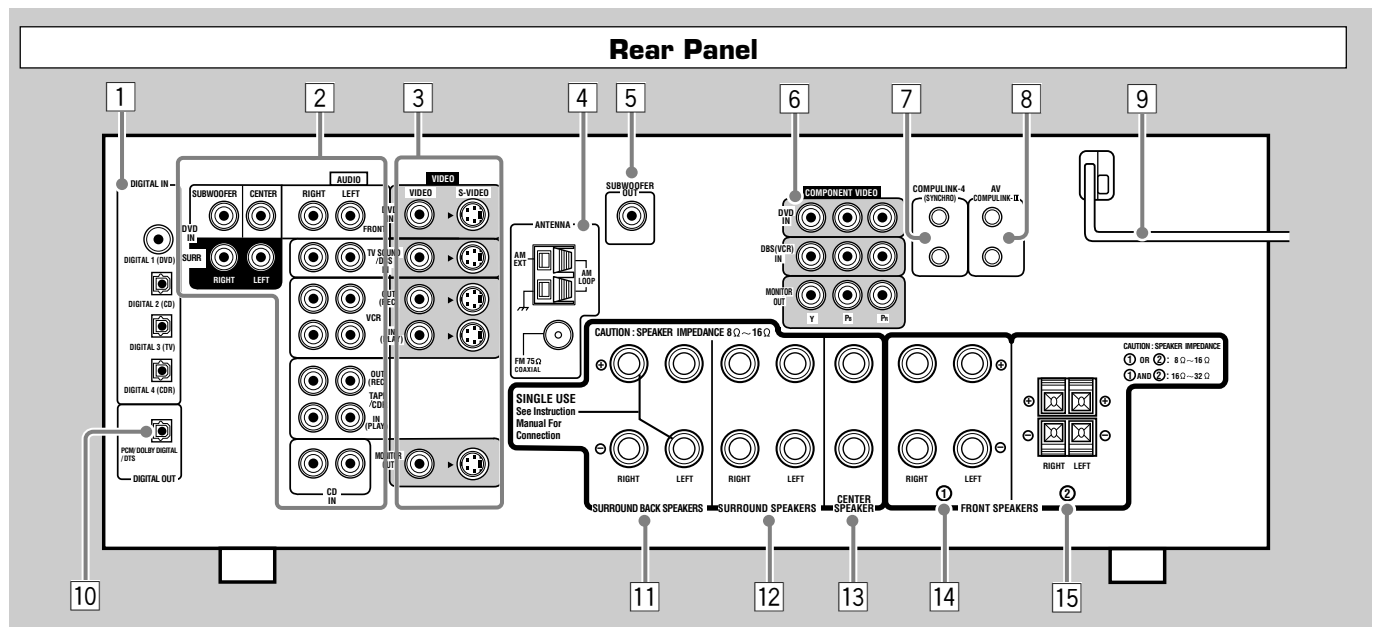
- 13 EX/ES button (33)
- 14 INPUT ANALOG button (16)
INPUT ATT button (16)
- 15 MIDNIGHT MODE button (16)
- 16 INPUT DIGITAL button (16)
- 17 TUNER CONTROL buttons
FM/AM TUNING \blacktriangle / \blacktriangledown buttons (19)
FM/AM PRESET \blacktriangle / \blacktriangledown buttons (19, 20)
FM MODE button (20)
MEMORY button (19)
- 18 SETTING button (23)
- 19 QUICK SPEAKER SETUP button (21)
- 20 MULTI JOG control (21, 23, 27)
PUSH SET button (21, 23, 27)
- 21 EXIT button (23, 27)
- 22 ADJUST button (27)
- 23 ANALOG DIRECT button and lamp (17)



See pages in parentheses for details.

- ① DUAL indicator (31)
- ② ANALOG indicator (16)
- ③ DIGITAL AUTO indicator (16)
- ④ 96/24 indicator (31)
- ⑤ MULTI indicator (36)
- ⑥ NEO:6 indicator (31)
- ⑦ TUNED indicator (19)
- ⑧ PRO LOGIC indicator (30)
- ⑧ PRO LOGIC II indicator (31)
- ⑨ STEREO indicator (19, 20)
- ⑩ AUTO MUTING indicator (20)
- ⑪ VIRTUAL SB (Surround Back) indicator (30 – 32)

- ⑫ ONE TOUCH OPERATION indicator (26)
- ⑬ SLEEP indicator (18)
- ⑭ MIDNIGHT MODE indicator (16)
- ⑮ B. BOOST (Bass Boost) indicator (18)
- ⑯ Speaker and signal indicators (14)
- ⑰ Digital signal format indicators (16)
- ⑱ Main display
- ⑲ D. EQ (digital equalization) indicator (28)
- ⑳ DSP indicator (15, 32, 34)
- ㉑ 3D-PHONIC indicator (31, 34, 35)
- ㉒ HEADPHONE indicator (15, 32, 34)
- ㉓ INPUT ATT (attenuator) indicator (16)
- ㉔ VOLUME level indicator (13, 18)
- ㉕ SPEAKERS 1/2 indicators (15)



See pages in parentheses for details.

- ① DIGITAL IN terminals (12)
 - Coaxial: DIGITAL 1 (DVD)
 - Optical: DIGITAL 2 (CD), DIGITAL 3 (TV), DIGITAL 4 (CDR)
- ② AUDIO input/output jacks (9 – 11)
 - Input: DVD IN—FRONT, CENTER, SUBWOOFER, SURR, TV SOUND/DBS IN, VCR IN (PLAY), TAPE/CDR IN (PLAY), CD IN
 - Output: VCR OUT (REC), TAPE/CDR OUT (REC)
- ③ S-VIDEO and composite VIDEO input/output jacks (10, 11)
 - Input: DVD IN, TV SOUND/DBS IN, VCR IN (PLAY)
 - Output: VCR OUT (REC), MONITOR OUT
- ④ ANTENNA terminals (6)

- ⑤ SUBWOOFER OUT jack (7)
- ⑥ COMPONENT VIDEO input/output jacks (10, 11)
 - Input: DVD IN, DBS (VCR) IN
 - Output: MONITOR OUT
- ⑦ COMPULINK-4 (SYNCHRO) jacks (37)
- ⑧ AV COMPULINK-III jacks (38)
- ⑨ AC power cord (12)
- ⑩ DIGITAL OUT terminal (12)
- ⑪ SURROUND BACK SPEAKERS terminals (7)
- ⑫ SURROUND SPEAKERS terminals (7)
- ⑬ CENTER SPEAKER terminals (7)
- ⑭ FRONT SPEAKERS ① terminals (7)
- ⑮ FRONT SPEAKERS ② terminals (7)

Getting Started

This section explains how to connect audio/video components and speakers to the receiver, and how to connect the power supply.

Checking the Supplied Accessories

Check to be sure you have all of the following items, which are supplied with the receiver.

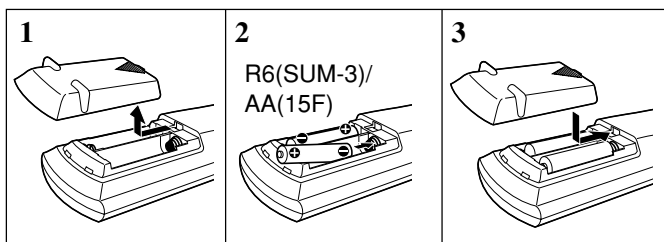
The number in the parentheses indicates quantity of the pieces supplied.

- Remote Control (1)
- Batteries (2)
- AM Loop Antenna (1)
- FM Antenna (1)

If anything is missing, contact your dealer immediately.

Putting Batteries in the Remote Control

Before using the remote control, insert the two supplied batteries first.



1. Press and slide the battery cover on the back of the remote control.
2. Insert the batteries.
 - Make sure to match the polarity: (+) to (+) and (-) to (-).
3. Replace the cover.

If the remote control cannot transmit signals or operate the receiver correctly, replace the batteries. Use two R6(SUM-3)/AA(15F) type dry-cell batteries.

Notes:

- Supplied batteries are for the initial setup. Replace for continued use.
- After replacing the batteries, set the manufacturers' codes again (see pages from 42 to 44).

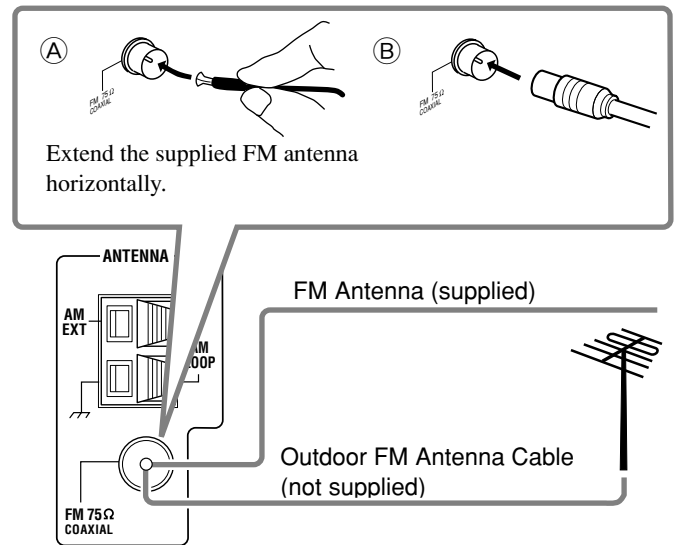
CAUTION:

Follow these precautions to avoid leaking or cracking cells:

- Place batteries in the remote control so they match the polarity: (+) 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.

Connecting the FM and AM Antennas

FM antenna connections

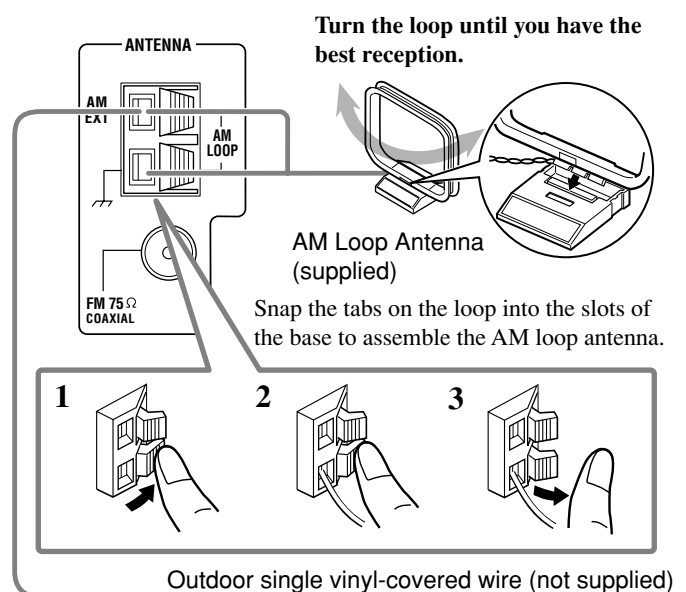


Connect the supplied FM antenna as temporary measure to the FM 75 Ω COAXIAL terminal—A

If reception is poor, connect the outdoor FM antenna (not supplied)—B

1. Disconnect the supplied FM antenna.
2. Connect a 75 Ω coaxial cable (with the standard type connector).

AM antenna connections



Notes:

- If the AM loop antenna wire is covered with vinyl, remove the vinyl by twisting it as illustrated.
- Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord. This could cause poor reception.
- If reception is poor, connect an outdoor single vinyl-covered wire (not supplied) to the AM EXT terminal. (Keep the AM loop antenna connected.)

Connecting the Speakers and Subwoofer

You can connect the following speakers:

- Two pairs of front speakers.
- One pair of surround speakers.
- One surround back speaker or one pair of surround back speakers.
- One center speaker.
- One powered subwoofer.

CAUTION:

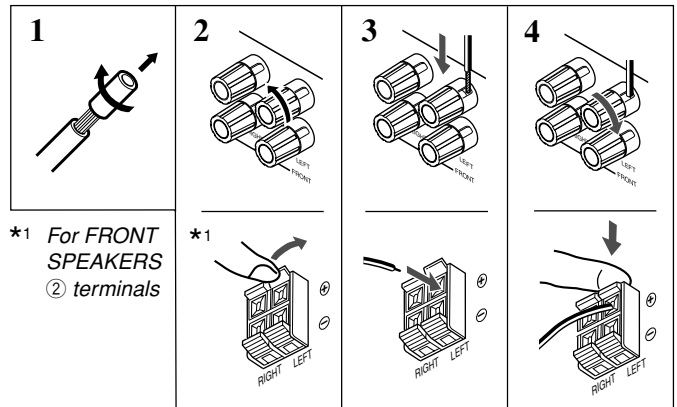
- Use only the speakers of the **SPEAKER IMPEDANCE** indicated by the speaker terminals.
 - **When connecting to either the FRONT SPEAKERS ① or ② terminals**, use speakers with an impedance of 8 Ω to 16 Ω.
 - **When connecting to both of the FRONT SPEAKERS ① and ② terminals**, use speakers with an impedance of 16 Ω to 32 Ω.
- Do not connect more than one speaker to each speaker terminal.

IMPORTANT:

After connecting the speakers, set the speaker installation information properly. You can use Quick Speaker Setup for it (see page 21).

- To obtain the best possible Surround/DSP effect, see “Setting the Speakers” on page 23.

Speaker connections

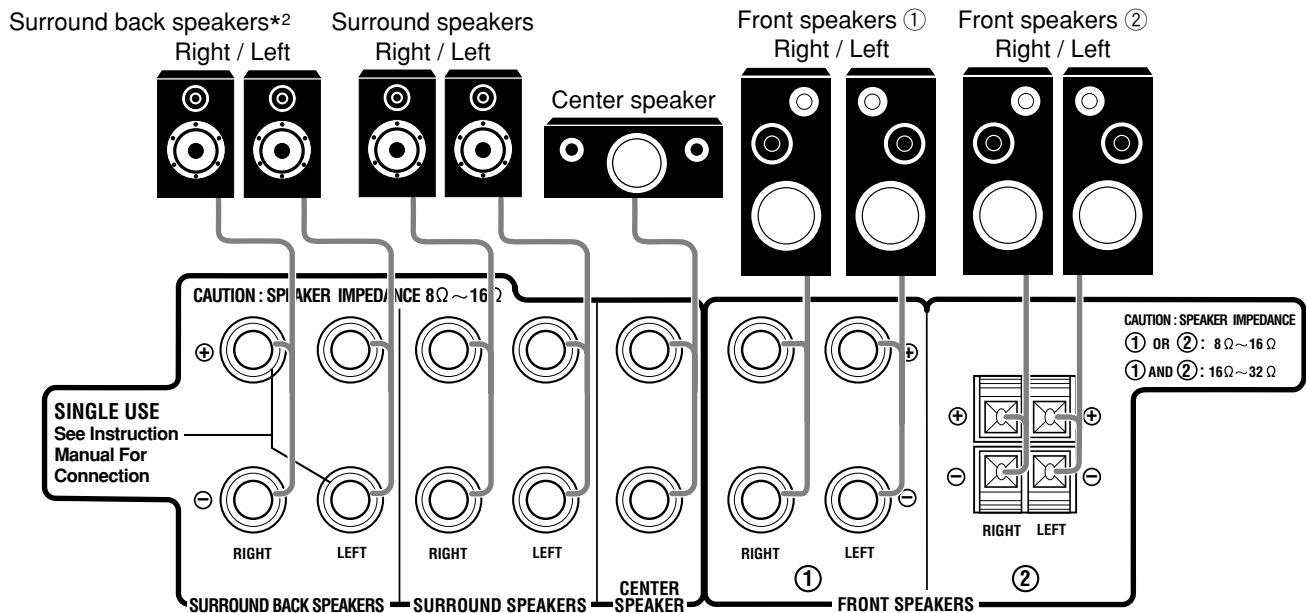


*1 For **FRONT SPEAKERS** ② terminals

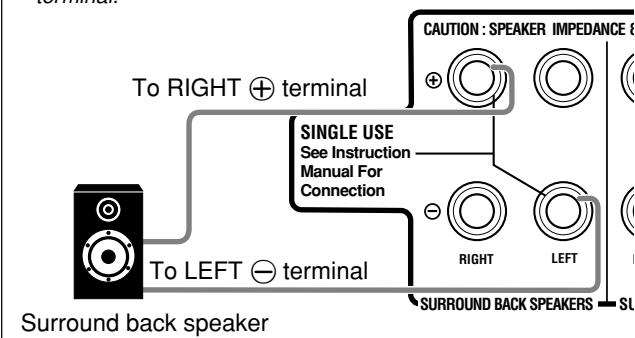
*1

1. Twist and remove the insulation at the end of each speaker signal cable (not supplied).
2. Open the speaker terminal.
3. Insert the speaker signal cable.
4. Close the speaker terminal.

For each speaker (except for a subwoofer), connect the (+) and (–) terminals on the rear panel to the (+) and (–) terminals marked on the speakers.

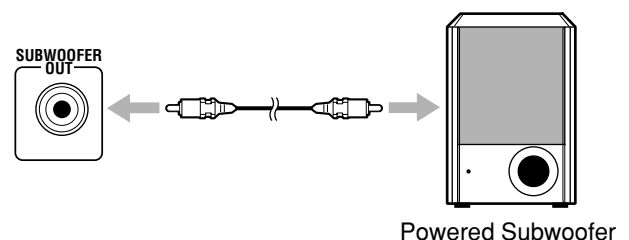


*2 When using only one surround back speaker, connect the ⊕ cord to the RIGHT ⊕ terminal and the ⊖ cord to the LEFT ⊖ terminal.



Connecting the subwoofer

You can enhance the bass by connecting a subwoofer. Connect the input jack of a powered subwoofer to the rear panel, using a cable with RCA pin plugs (not supplied).



Placing speakers

Front speakers (L/R) and center speaker (C)

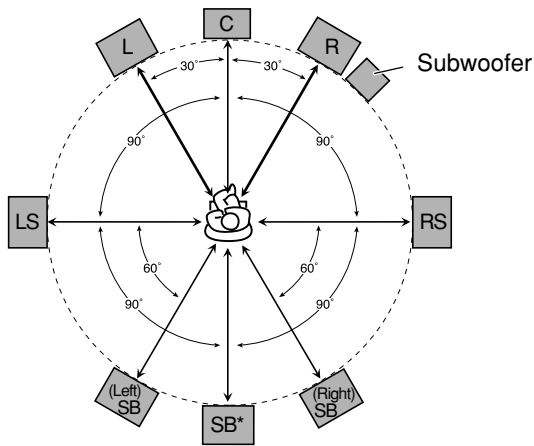
- Place these speakers at the same height from the floor, at or near ear level.
- Array across the front of the viewing area.

Surround speakers (LS/RS) and surround back speakers (SB)

- Place these speakers at a position which is 60 cm to 90 cm (2 ft to 3 ft) higher than the listener's ears.
- Point these speakers directly across the listening area, but not at the listener's ears.

Subwoofer

- You can place it wherever you like since bass sound is non-directional. Normally place it in front of you.



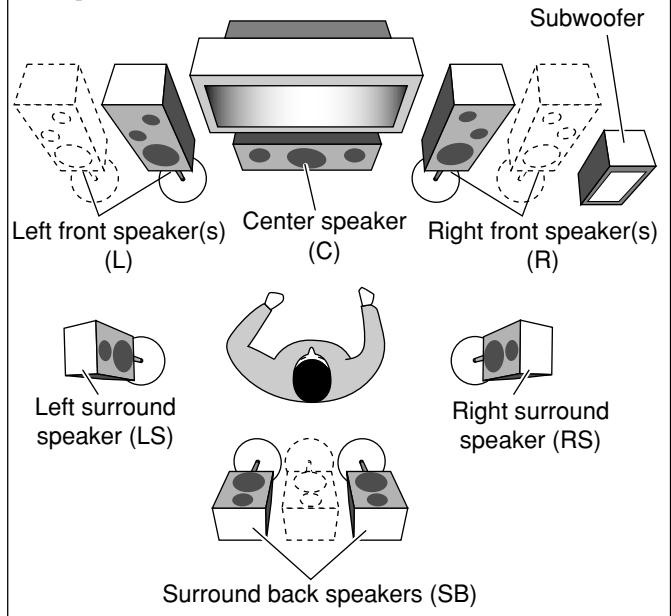
* When one surround back speaker is connected.

Note:

Ideal speaker layout requires that all speakers be placed at the same distance from the listener. However, since in some places it may be difficult to fulfil this requirement, this unit can adjust the delay time so that the sounds through all the speakers reach the listener with the same timing. (See page 24.)

Speaker layout

Ideal speaker layout varies depending on the conditions of your listening room. The diagram below is a recommended typical example.



CAUTION:

Do not place the center speaker on the TV. If you do so, the center speaker may cause various troubles to the TV (for example, color unevenness). Moreover, it may hurt you by its falling from the TV.

Connecting Audio/Video Components

When connecting individual components, refer also to the manuals supplied with them.

■ Analog connections

If your audio components have digital audio output terminal, connecting them using the digital cords explained in “Digital Connections” (see page 12). By using this terminal, you can get better sound quality.

Audio component connections

Use the cables with RCA pin plugs (not supplied).

- Connect the white plug to the audio left jack, and the red plug to the audio right jack.

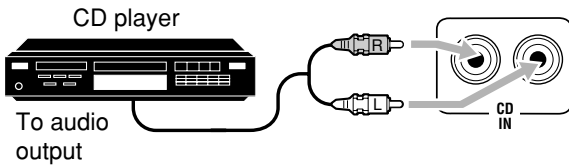
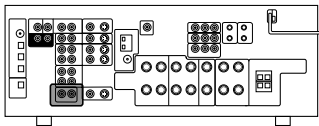
If your audio components have a COMPU LINK jack

See also page 37 for detailed information about the connection and the COMPU LINK remote control system.

CAUTION:

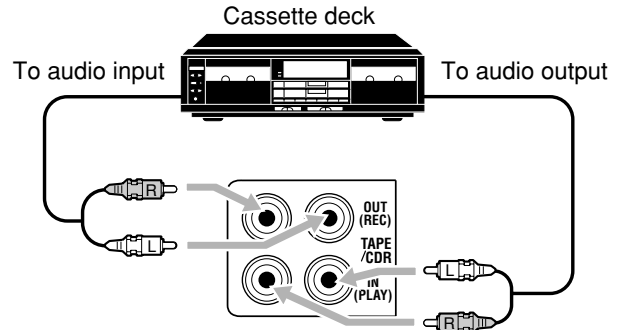
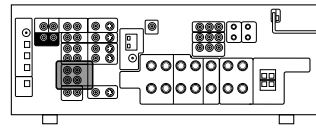
If you connect a sound-enhancing device such as a graphic equalizer between the source components and this receiver, the sound output through this receiver may be distorted.

CD player



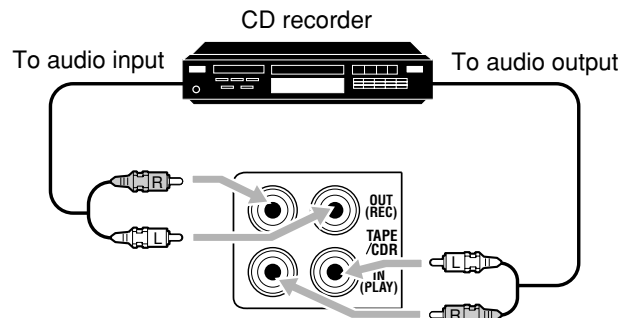
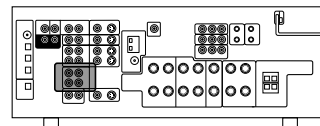
Cassette deck

You can connect either a cassette deck or a CD recorder to the TAPE/CDR jacks. When connecting a CD recorder to the TAPE/CDR jacks, see below.



CD recorder

You can connect either a CD recorder or a cassette deck to the TAPE/CDR jacks. When connecting a cassette deck to the TAPE/CDR jacks, see above.



Note:

When connecting a CD recorder to the TAPE/CDR jacks, change the source name to “CDR,” which will be shown on the display when it is selected as the source. See page 17 for details.

Video component connections

Use the cables with RCA pin plugs (not supplied).

Connect the white plug to the audio left jack, the red plug to the audio right jack, and the yellow plug to the video jack.

- If your video components have S-video (Y/C-separation) and/or component video (Y, Pb, Pr) terminals, connect them using an S-video cable (not supplied) and/or component video cable (not supplied). By using these jacks, you can get better picture quality in the order:

Component video > S-video > Composite video

- If your video components have digital audio output terminal, connect them using the digital cords explained in “Digital connections” (see page 12). By using this terminal, you can get better sound quality.

If your video components have an AV COMPULINK jack

See also page 38 for detailed information about the connection and the AV COMPU LINK remote control system.

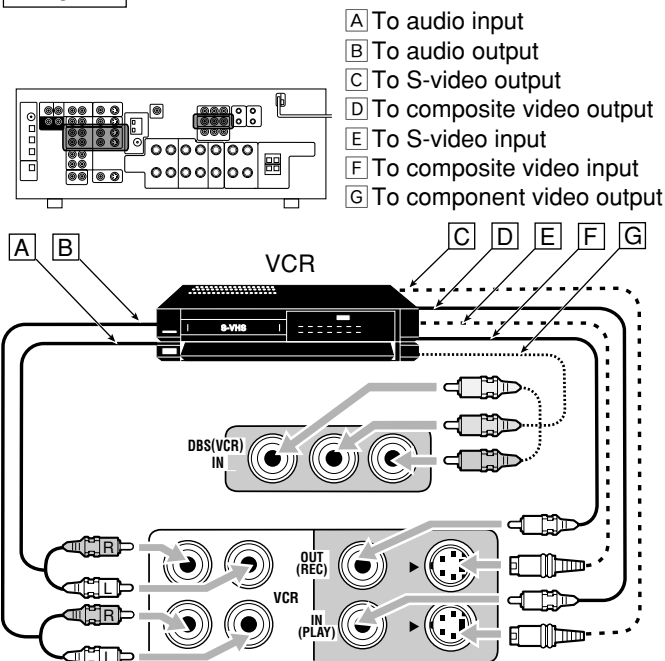
IMPORTANT:

This receiver is equipped with the following video jacks—composite video, S-video and component video jacks. You can use any of the three to connect a video component.

However, **the video signals from one type of these input jacks are transmitted only through the video output jacks of the same type.**

Therefore, if a recording video component and a playing video component are connected to the receiver through the video jacks of different type, you cannot record the picture. In addition, if the TV and a playing video component are connected to the receiver through the video jacks of different type, you cannot view the playback picture on the TV.

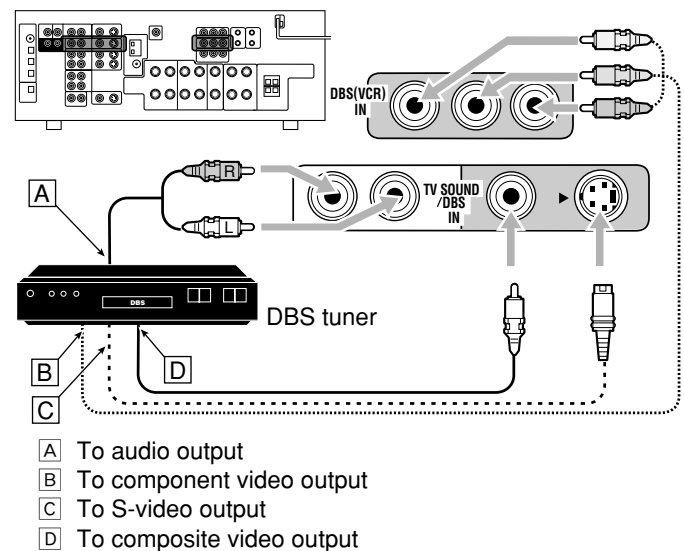
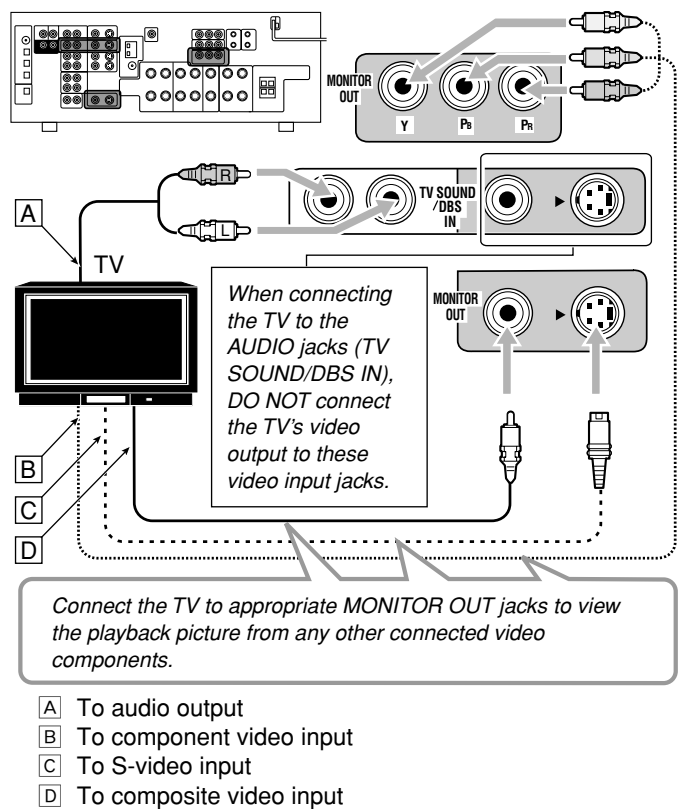
VCR



Notes:

- When connecting a VCR to component video input jacks, make the component video input setting (VIDEO IN VCR) correctly for AV COMPU LINK. See page 26 for details.
- When make the component video input setting for a VCR (VIDEO IN VCR) correctly, the component video input setting for a DBS tuner (VIDEO IN DBS) is not available.

TV and/or DBS tuner



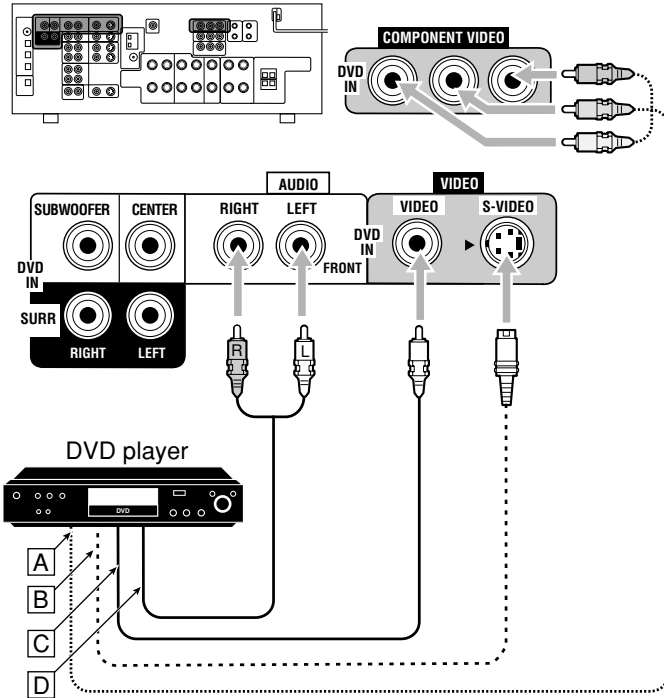
Notes:

- When connecting a DBS tuner to the TV SOUND/DBS IN jacks, change the source name to “DBS,” which will be shown on the display when it is selected as the source. Otherwise you cannot view any picture from DBS tuner. See page 17 for details.
- When connecting a DBS tuner to component video input jacks, make the component video input setting (VIDEO IN DBS) correctly for AV COMPU LINK. See page 26 for details.
- When make the component video input setting for a DBS tuner (VIDEO IN DBS) correctly, the component video input setting for a VCR (VIDEO IN VCR) is not available.

DVD player

To enjoy Dolby Digital and DTS multi-channel software (including Dual Mono software), connect the DVD player through the digital or analog discrete (DVD MULTI) terminals.

• When you connect a DVD player with stereo output jacks:



- A To component video output
- B To S-video output
- C To composite video output
- D To left/right front channel audio output (or to audio-mixed output if necessary)

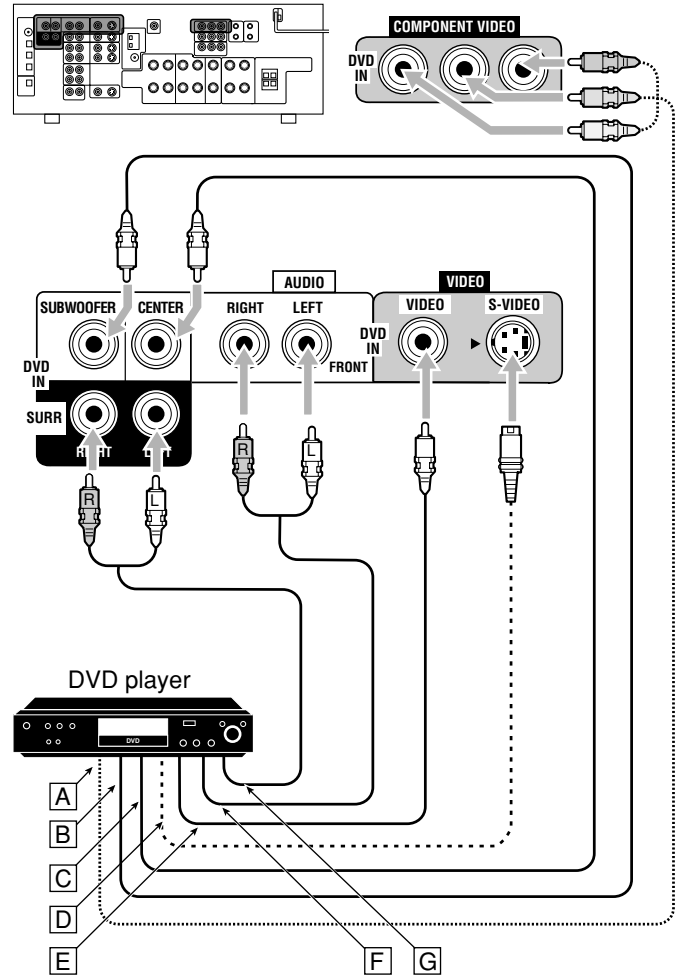
Note:

When connecting a DVD player to the component video input jacks, make the component video input setting (VIDEO IN DVD) correctly for AV COMPU LINK. See page 26 for details.

• When you connect a DVD player with its analog discrete output (5.1-channel reproduction) jacks:

This connection is the best connection method for enjoying DVD Audio sounds.

- When a DVD Audio disc is played back, the original high-quality sounds can be reproduced only using this connection.



- A To component video output
- B To subwoofer output
- C To center channel audio output
- D To S-video output
- E To composite video output
- F To left/right front channel audio output
- G To left/right surround channel audio output

Note:

When connecting a DVD player to the component video input jacks, make the component video input setting (VIDEO IN DVD) correctly for AV COMPU LINK. See page 26 for details.

Digital connections

This receiver is equipped with four DIGITAL IN terminals—one digital coaxial terminal and three digital optical terminals—and one DIGITAL OUT (optical) terminal on the rear.

IMPORTANT:

- When connecting a DVD player, VCR, digital TV broadcast tuner, or DBS tuner using the digital terminals, you also need to connect it to the video jacks on the rear. Without connecting it to the video jacks, you can view no playback picture.
- After connecting the components using the DIGITAL IN terminals, set the following correctly if necessary.
 - Set the digital input (DIGITAL IN) terminal setting correctly. For details, see “Setting the digital input terminals” on pages 25 and 26.
 - Select the digital input mode correctly. For details, see “Selecting the Analog or Digital Input Mode” on page 15.

Digital input terminals

You can connect any digital components having coaxial or optical digital output terminal.

Digital coaxial cable (not supplied)
between digital coaxial terminals



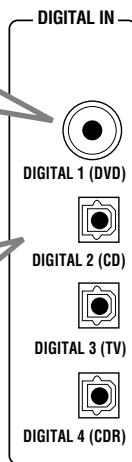
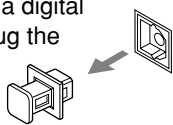
Digital optical cable (not supplied)
between digital optical terminals



When the component has a digital coaxial output terminal, connect it to the DIGITAL 1 (DVD) terminal, using a digital coaxial cable (not supplied).

When the component has a digital optical output terminal, connect it to the DIGITAL 2 (CD), DIGITAL 3 (TV) or DIGITAL 4 (CDR) terminal, using a digital optical cable (not supplied).

Before connecting a digital optical cable, unplug the protective plug.



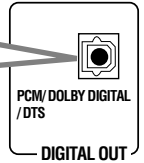
Digital output terminal

You can connect any digital components which have an optical digital input terminal.

Digital optical cable (not supplied)
between digital optical terminals



When the digital recording equipment such as a CD recorder has a digital optical input terminal, connecting it to the DIGITAL OUT terminal enables you to perform digital-to-digital recording.



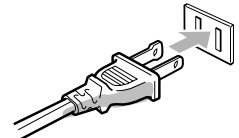
Note:

The digital signal format transmitted through the DIGITAL OUT terminal is the same as that of the input signal. This means that when the DTS signals are input, the DTS signals are transmitted.

Connecting the Power Cord

Before plugging the receiver into an AC outlet, make sure that all connections have been made.

Plug the power cord into an AC outlet.



Keep the power cord away from the connecting cables and the antenna. The power cord may cause noise or screen interference.

Note:

The preset settings such as preset channels and sound adjustment may be erased in a few days in the following cases:

- When you unplug the power cord.
- When a power failure occurs.

CAUTIONS:

- Do not touch the power cord with wet hands.
- Do not pull on the power cord to unplug the cord. When unplugging the cord, always grasp the plug so as not to damage the cord.

Notes:

- When shipped from the factory, the DIGITAL IN terminals have been set for use with the following components:
 - DIGITAL 1 (coaxial): For DVD player
 - DIGITAL 2 (optical): For CD player
 - DIGITAL 3 (optical): For digital TV broadcast tuner
 - DIGITAL 4 (optical): For CD recorder
- When you want to operate the CD player or CD recorder, using the COMPU LINK remote control system (see page 37), connect the target component also as described in “Analog connections” (see page 9).
- When you want to operate a DVD player, VCR, and/or TV using the AV COMPU LINK remote control system (see page 38), connect them also as described in “Analog connections” (see pages 10 and 11).

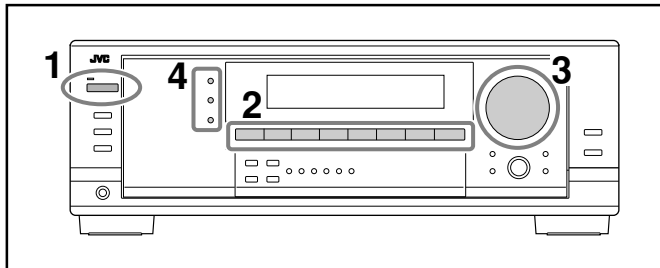
Basic Operations

The following operations are commonly used when you play any sound sources.

Operations hereafter will be explained using the buttons on the front panel.

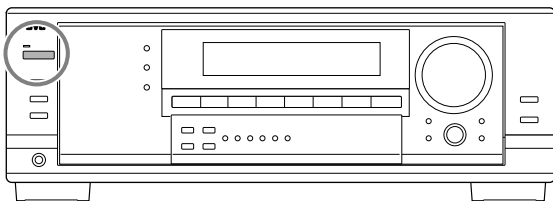
You can also use the buttons on the remote control for the same functions if they have the same and similar names/marks.

Daily Operational Procedure



1. **Turn on the power.**
 - See "Turning On the Power" below.
2. **Select the source.**
 - See "Selecting the Source to Play" to the right.
3. **Adjust the volume.**
 - See "Adjusting the Volume" on page 14.
4. **Select the Surround or DSP modes.**
 - See "Activating the Surround Modes" (page 33) and "Activating the DSP Modes" (page 35).

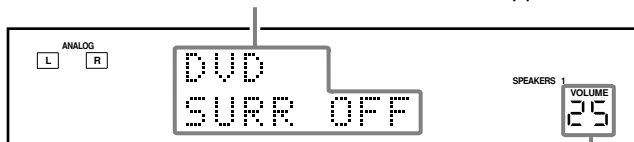
Turning On the Power



Press **STANDBY/ON** (or **AUDIO** on the remote control).

The STANDBY lamp goes off.

Current source name and Surround/DSP mode appear.



Current volume level appears.

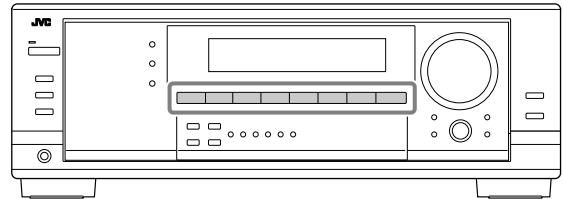
To turn off the power (into standby mode), press **STANDBY/ON** (or **AUDIO** on the remote control) again.

The STANDBY lamp lights up.

Note:

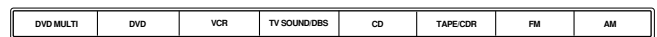
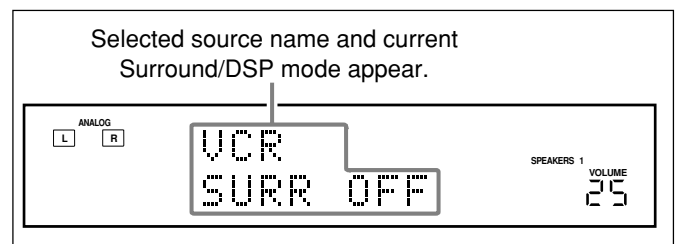
A small amount of power is consumed in standby mode. To turn off the power completely, unplug the AC power cord.

Selecting the Source to Play

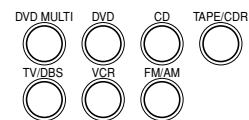


Press one of the source selection buttons.

- When you have connected digital source components using the digital terminals, change the input mode for these components to the digital input mode (see page 15).



On the front panel



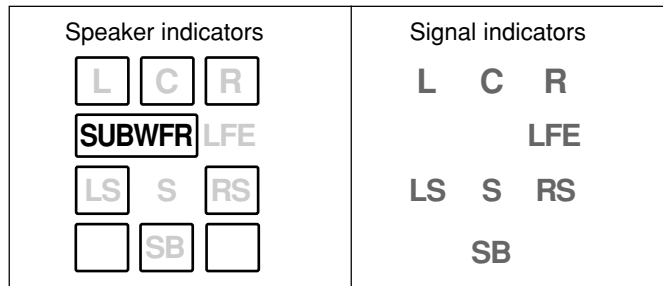
On the remote

Notes:

- When connecting a CD recorder (to the TAPE/CDR jacks) and a DBS tuner (to the TV SOUND/DBS jacks), change the source names shown on the display. For details, see page 17.
- When you press CD, TAPE/CDR, or FM/AM button on the remote control, the receiver automatically turns on.
- When you select "DVD MULTI," you can enjoy analog discrete output sound (5.1-channel surround reproduction) from the external component.
 - You may need to select analog discrete output mode on the external component.
 - When using the headphones, you can listen to the front channel sounds (left and right) only.
 - The Surround modes (see page 30) cannot be applied to DVD MULTI playback mode.

Speaker and signal indicators on the display

By checking the following indicators, you can easily confirm which speakers you are activating and which signals are coming into this receiver.



What speaker indicators light depends on the speaker setting (for details, see "Setting the speakers" on page 23).

- The frames of "L," "C," "R," "LS," "RS," and "SB" light up, when the corresponding speakers are set to "LARGE" or "SMALL" and when the speaker is required for the Surround/DSP mode currently selected.
- When "SUB WOOFER" is set to "YES," [SUBWFR] lights up (see page 23).
- All three frames on the row of "SB" are not used at the same time. When "SBACK OUT" is set to "2SPK," the left and the right ones are used. When it is set to "1SPK," the middle one is used (see page 23).

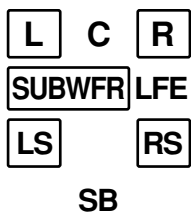
The signal indicators light up to show the incoming signals.

- L: • **When digital input is selected:** Lights up when the left channel signal comes in.
 • **When analog input is selected:** Always lights up.
- R: • **When digital input is selected:** Lights up when the right channel signal comes in.
 • **When analog input is selected:** Always lights up.
- C: Lights up when the center channel signal comes in.
- LFE: Lights up when the LFE channel signal comes in.
- LS: Lights up when the left surround channel signal comes in.
- RS: Lights up when the right surround channel signal comes in.
- S: Lights up when the monaural surround channel signal comes in.
- SB: Lights up when the surround back channel signal comes in.

Note:

When DVD MULTI is selected as the source, "L," "C," "R," "LFE," "LS," and "RS" light up.

How to understand the speaker and signal indicator illumination



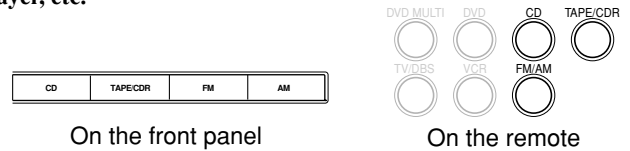
Ex. No sound comes out of the center speaker and surround back speakers though center channel and surround back channel signals are coming into this receiver.

Selecting different sources for picture and sound

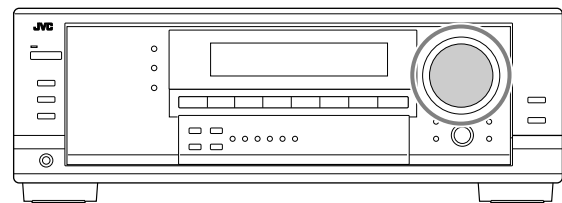
While watching pictures from a video source, you can listen to sound of an audio source.

- Once you have selected a video source, pictures of the selected source are sent to the TV until you select another video source.

Press one of the audio source selection buttons while viewing the picture from a video component such as the VCR or DVD player, etc.



Adjusting the Volume



On the front panel:

To increase the volume, turn MASTER VOLUME clockwise.
 To decrease the volume, turn it counterclockwise.

On the remote control:

To increase the volume, press VOLUME +.
 To decrease the volume, press VOLUME -.

Notes:

- The volume level can be adjusted within the range of "0" (minimum) to "70" (maximum).
- If you set "ONE TOUCH OPE" (One Touch Operation) to "ON" (see page 26), you do not have to adjust the volume level each time you change the source. It is automatically set to the stored level.

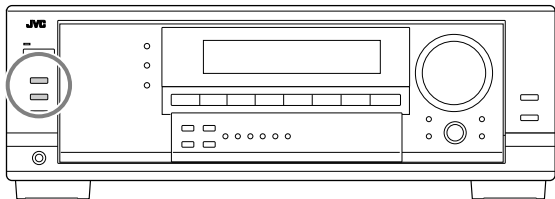
CAUTION:

Always set the volume to the minimum before starting any sources. If the volume is set at its high level, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Selecting the Front Speakers



When you have connected two pairs of the front speakers, you can select which to use.



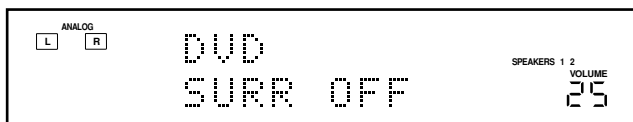
To use the speakers connected to the **FRONT SPEAKERS ① terminals**, press **SPEAKERS ON/OFF 1** so that the **SPEAKERS 1** indicator lights up on the display.

- Make sure that the **SPEAKERS 2** indicator is not lit.

To use the speakers connected to the **FRONT SPEAKERS ② terminals**, press **SPEAKERS ON/OFF 2** so that the **SPEAKERS 2** indicator lights up on the display.

- Make sure that the **SPEAKERS 1** indicator is not lit.

To use both sets of the speakers connected to the **FRONT SPEAKERS ① and ② terminals**, press **SPEAKERS ON/OFF 1** and **2** so that the **SPEAKERS 1/2** indicators light up on the display.



Ex. When both sets of the speakers selected.

Note:

When playback analog sources or digital 2-channel software and neither Surround/DSP mode is selected, you can use both sets of the front speakers.

To use neither sets of the speakers connected to the **FRONT SPEAKERS ① and ② terminals**, press **SPEAKERS ON/OFF 1** and **2** so that the **SPEAKERS 1/2** indicators go off from the display. The **HEADPHONE** indicator lights up and "**HEADPHONE**" appears on the display.

- Activating the speakers turns on the Surround and DSP modes previously selected.

Listening with headphones only:

Deactivate both sets of the front speakers, and connect headphones to the **PHONES** jack.

- Make sure that all the Speaker indicators are not lit.

You can enjoy the sound effects through the headphones when Surround or DSP mode is activated—**3D Headphone (3D H PHONE)** mode.

- "**3D H PHONE**" appears and the **DSP** and **HEADPHONE** indicators light up on the display. (For details, see page 32.)

Note:

3D Headphone (3D H PHONE) mode is not valid for **DVD MULTI** playback mode.

CAUTION:

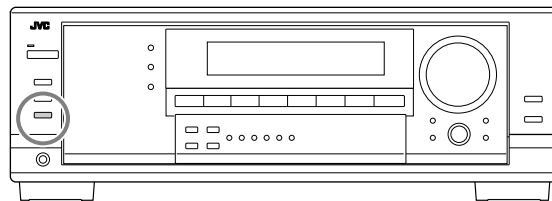
Be sure to turn down the volume:

- Before connecting or putting on headphones, as its high volume can damage both the headphones and your hearing.
- Before turning on the speakers again, as its high volume may come out of the speakers.

Turning On and Off the Subwoofer Sound



You can cancel the subwoofer sound output even though you have connected a subwoofer and have set "**SUB WOOFER**" to "**YES**" (see page 23).



Press **SUBWOOFER OUT ON/OFF** to cancel the subwoofer sound output.

Each time you press the button, subwoofer sound output is deactivated ("**SUBWFR OFF**") and activated ("**SUBWFR ON**") alternately.

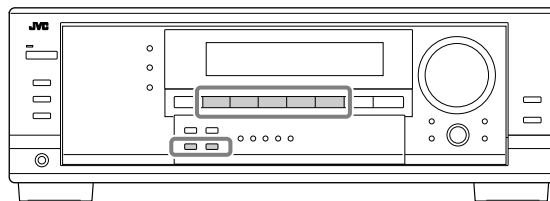
- When subwoofer output is canceled, the **SUBWFR** indicator goes off. Bass sounds (and LFE signals) will be emitted through the front speakers (except for **DVD MULTI** playback mode).
- When subwoofer sound output is activated, subwoofer output level can be adjusted (see pages 28 and 29).

Notes:

- **SUBWOOFER OUT ON/OFF** button does not work when you set "**SMALL**" for the front speakers on the **Speaker size** setting (see page 23) or using **Quick Speaker Setup** (see page 21).
- You cannot activate the subwoofer output when you have set "**SUB WOOFER**" to "**NO**" (see pages 21 and 23).
- When you change the "**SUB WOOFER**" setting from "**NO**" to "**YES**" (see page 23), subwoofer output is automatically activated.

Selecting the Analog or Digital Input Mode

When you have connected digital source components using the digital terminals (see page 12), change the input mode for these components to the digital input mode.



Before you start, remember...

The digital input terminal setting should be correctly done for the sources you want to select the digital input mode (see "**Setting the digital input terminals**" on pages 25 and 26).

1. Press one of the source selection buttons (**DVD**, **VCR**, **TV SOUND/DBS**, **CD**, or **TAPE/CDR***) for which you want to change the input mode.

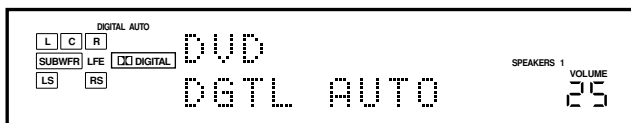
* If **TAPE** is selected as the source, digital input mode is not available. To change the source name to **CDR**, see "**Changing the Source Name**" on page 17.

Continued on the next page

2. Press INPUT DIGITAL to select “DGTL AUTO.”

- When using the remote control, press ANALOG/DIGITAL INPUT. Each time you press the button, the analog (ANALOG) and digital (DGTL AUTO) input modes alternate.

The DIGITAL AUTO indicator lights up on the display.



- When selecting “DGTL AUTO,” the following indicators indicate the digital signal format of the incoming signal.

LINEAR PCM : Lights up when Linear PCM signals come in.

DIGITAL : Lights up when Dolby Digital signals come in.

dts : Lights up when DTS signals come in.

No indicator lights up when the receiver cannot recognize the digital signal format of the incoming signals.

Note:

For the details of digital signal formats, see pages 30 and 31.

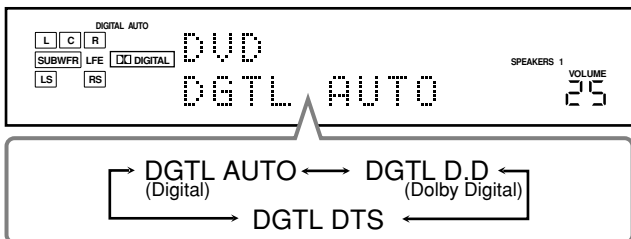
When playing software encoded with Dolby Digital or DTS, the following symptoms may occur:

- Sound does not come out at the beginning of playback.
- Noise comes out while searching for or skipping chapters or tracks.

In this case, press INPUT DIGITAL repeatedly to select “DGTL D.D” or “DGTL DTS” while “DGTL AUTO” still remains on the display.



- Each time you press INPUT DIGITAL, the input mode changes as follows:



When “DGTL D.D” or “DGTL DTS” is selected, the AUTO indicator goes off, and the corresponding digital signal format indicator lights up on the display.

- If the incoming signal does not match the selected digital signal format, the frame of the selected indicator will flash.

Note:

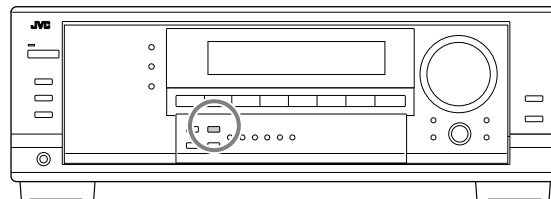
When you turn off the power or select another source, “DGTL D.D” and “DGTL DTS” settings are canceled and the digital input mode is automatically reset to “DGTL AUTO.”

To select the analog input mode again

Press INPUT ANALOG (or press ANALOG/DIGITAL INPUT on the remote control repeatedly until “ANALOG” appears on the display). The ANALOG indicator lights up.

Setting the Dynamic Range

You can enjoy a powerful sound at night using Midnight Mode.



Press **MIDNIGHT MODE** so that “MID NIGHT: 1” or “MID NIGHT: 2” appear on the display.

The MIDNIGHT MODE indicator also lights up.

MID NIGHT: 1 Select when you want to reduce the dynamic range a little.

MID NIGHT: 2 Select when you want to apply the compress effect fully (useful at midnight).

MID NIGHT: OFF Select when you want to enjoy surround with its full dynamic range (no effect applied).

Notes:

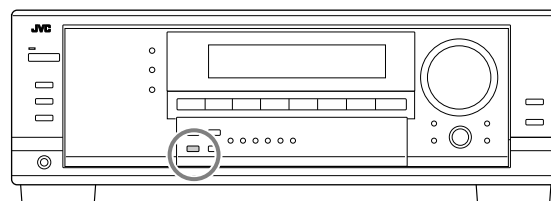
- If Analog Direct is in use (see page 17), Midnight Mode is temporarily canceled.
- Midnight Mode is not valid for DVD MULTI playback mode.

Attenuating the Input Signal



When the input level of the analog source is too high, the sounds will be distorted. If this happens, you need to attenuate the input signal level to prevent the sound distortion.

- Once you have made an adjustment, it is memorized for each analog source.



Press and hold **INPUT ATT (INPUT ANALOG)** so that the **INPUT ATT** indicator lights up on the display.

- Each time you press and hold the button, the input attenuator mode turns on (“ATT ON”) or off (“NORMAL”).

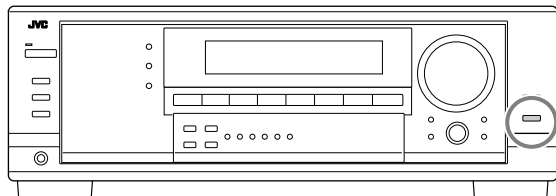
Note:

This function is not valid when DVD MULTI is selected or when Analog Direct is activated.

Turning Analog Direct On and Off

You can enjoy the sound closer to the original source by overriding the sound adjustments such as Midnight Mode (see page 16), Bass Boost (see page 18), Equalization pattern (see page 28), speaker output level adjustments (see page 28), and Surround and DSP modes (see pages 30 to 35). You can only adjust the volume level and the subwoofer output level while Analog Direct is in use.

- Once you have made an adjustment, it is memorized for each analog source.



Press ANALOG DIRECT so that “A DIRECT” appears on the display.

The lamp on the button also lights up.

- Each time you press the button, Analog Direct turns on and off (the lamp goes off) alternately.

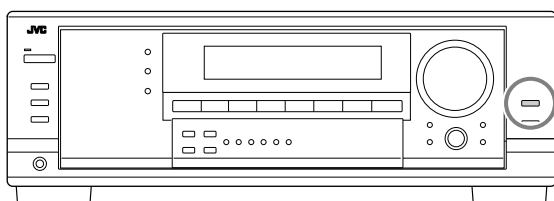
Notes:

- When digital input mode is in use, Analog Direct is not available.
- Turning on Surround or DSP mode cancels Analog Direct and previously selected sound adjustments are recalled.
- If Analog Direct is in use, Midnight Mode (see page 16) is temporarily canceled.
- Turning on Analog Direct cancels Input Attenuator (see page 16) and CC Converter (see below).

Making Sounds Natural

JVC's CC (Compensative Compression) Converter eliminates jitter and ripples, achieving a drastic reduction in digital distortion by processing the digital music data in 24 bit-quantization and by expanding the sampling frequency to 128 kHz (for fs 32 kHz signals)/176.4 kHz (for fs 44.1 kHz signals)/192 kHz (for fs 48 kHz signals) on the front speakers.

By using CC Converter, you can obtain a natural sound field from both digital and analog sources.



Press CC CONVERTER so that the lamp on the button lights up.

- Each time you press the button, CC Converter turns on and off (the lamp goes off) alternately.

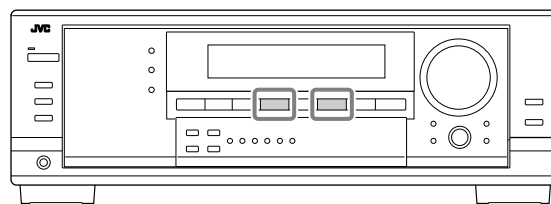
Note:

You cannot use this function while Analog Direct is in use. If you turn on Analog Direct while this function is in use, this function will be canceled.

Changing the Source Name



When you have connected a CD recorder to the TAPE/CDR IN jacks or a DBS tuner to the TV SOUND/DBS IN jacks on the rear panel, change the source name which will be shown on the display.



When changing the source name from TV to DBS:

1. Press TV SOUND/DBS.
 - Make sure “TV” appears on the display.
2. Press and hold TV SOUND/DBS until “ASSGN DBS” appears on the display.



Note:

When connecting a DBS tuner to the TV SOUND/DBS IN jacks, change the source name to DBS, which will be shown on the display when selected as the source. Otherwise, you cannot view any picture from DBS tuner.

When changing the source name from TAPE to CDR:

1. Press TAPE/CDR.
 - Make sure “TAPE” appears on the display.
2. Press and hold TAPE/CDR until “ASSGN CDR” appears on the display.

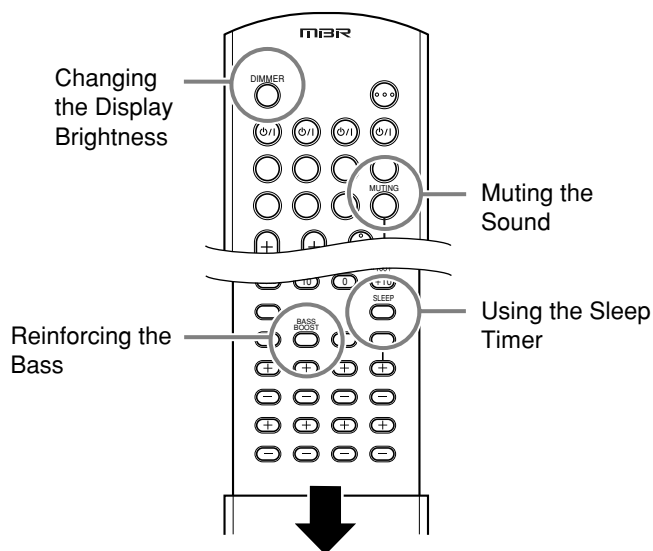
To change the source name to TV and TAPE, repeat the same procedure above.

Note:

Without changing the source name, you can still use the connected components. However, there may be some inconvenience.

- “TAPE” or “TV” will appear on the display when you select the CD recorder or DBS tuner.
- You cannot use the digital input (see pages 15 and 16) for the CD recorder.

The following basic operations are possible only using the remote control.



Reinforcing the Bass



You can boost the bass level.

- Once you have made an adjustment, it is memorized for each source.

Press BASS BOOST to boost the bass level.

The B. BOOST indicator lights up on the display.

- Each time you press the button, Bass Boost turns on (“BOOST ON”) and off (“BOOST OFF”) alternately.

Notes:

- This function affects only the sounds from the front speakers, center speaker, and subwoofer.
- When Analog Direct is in use (see page 17), the Bass Boost is canceled temporarily.

Muting the Sound



Press MUTING to mute the sound through all speakers and headphones connected.

“MUTING” appears on the display and the volume turns off (the VOLUME level indicator goes off).

To restore the sound, press MUTING again.

- Turning MASTER VOLUME on the front panel or pressing VOLUME +/- on the remote control also restores the sound.

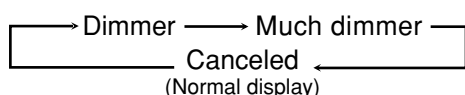
Changing the Display Brightness



You can dim the display.

Press DIMMER.

- Each time you press the button, the brightness level of the display changes as follows:



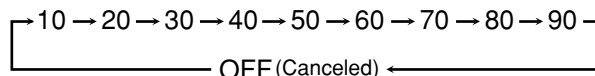
Using the Sleep Timer



Using the Sleep Timer, you can fall asleep while listening to music. When the shut-off time comes, the receiver turns off automatically.

Press SLEEP repeatedly.

The SLEEP indicator lights up on the display, and the shut-off time changes in 10-minute intervals:



To check or change the time remaining until the shut-off time:

Press SLEEP once.

The remaining time until the shut-off time appears in minutes.

- To change the shut-off time, press SLEEP repeatedly.

To cancel the Sleep Timer:

Press SLEEP repeatedly until “SLEEP OFF” appears on the display. The SLEEP indicator goes off.

- Turning off the power also cancels the Sleep Timer.

Recording a source

For analog-to-analog recording

You can record any analog playback source onto the recording components connected to the audio output jacks on the rear of this unit at the same time.

For digital-to-digital recording

You can record the currently selected digital input source through the receiver to a digital recording device connected to the DIGITAL OUT terminal.

Notes:

- Analog-to-digital and digital-to-analog recordings are not possible.
- The output volume level, Midnight Mode (see page 16), Bass Boost (see the left column), Equalization patterns (see page 28), Surround and DSP modes (see pages 30 to 35) cannot affect the recording.

Basic adjustment auto memory

This receiver memorizes sound settings for each source—

- when you turn off the power,
- when you change the source, and
- when you assign the source name (see page 17).

When you change the source, the memorized settings for the newly selected source are automatically recalled.

The following can be stored for each source:

- Analog/digital input mode (see pages 15 and 16)
- Midnight Mode (see page 16)
- Input attenuator mode (see page 16)
- Analog Direct (see page 17)
- CC Converter (see page 17)
- Equalization pattern (see page 28)
- Speaker output levels (see page 28)
- Surround and DSP mode selection (see pages 33 and 35)
- Bass Boost setting (see the left column)

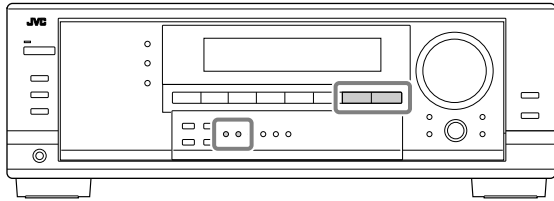
Notes:

- If the source is FM or AM, you can assign a different setting for each band.
- If you want to memorize the volume level with the above settings, set One Touch Operation to “ON” (see page 26).

Receiving Radio Broadcasts

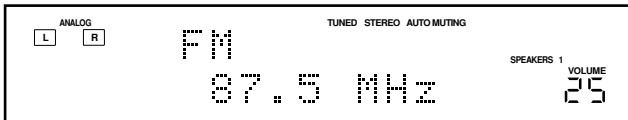
You can browse through all the stations or use the preset function to go immediately to a particular station.

Tuning in to Stations Manually



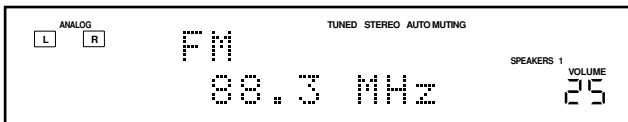
1. Press FM or AM to select the band.

The last received station of the selected band is tuned in.



2. Press FM/AM TUNING ▲ or ▼ repeatedly until you find the frequency you want.

- Pressing FM/AM TUNING ▲ increases the frequency.
- Pressing FM/AM TUNING ▼ decreases the frequency.



Notes:

- When a station of sufficient signal strength is tuned in, the TUNED indicator lights up on the display.
- When an FM stereo program is received, the STEREO indicator also lights up.
- When you hold and then release the button in step 2, the frequency keeps changing until a station is tuned in.

On the remote control:

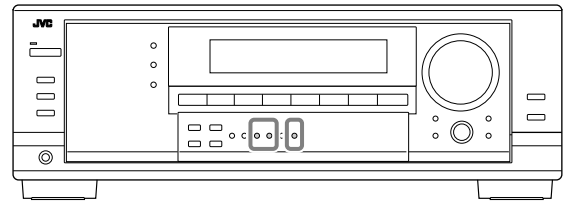
1. Press FM/AM.

- Each time you press the button, the band alternates between FM and AM.

2. Press TUNING ⊕ or ⊖ TUNING repeatedly until you find the frequency you want.

- Pressing TUNING ⊕ increases the frequency.
- Pressing TUNING ⊖ decreases the frequency.

Using Preset Tuning



Once a station is assigned to a channel number, the station can be quickly tuned in. You can preset up to 30 FM and 15 AM stations.

To store the preset stations

Before you start, remember...

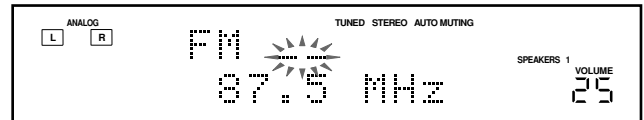
There is a time limit in doing the following steps. If the setting is cancelled before you finish, start from step 2 again.



1. Tune in to the station you want to preset (see “Tuning in to Stations Manually”).

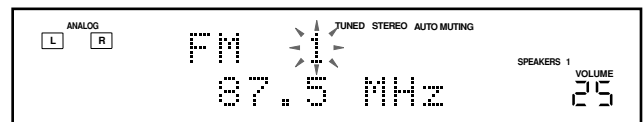
- If you want to store the FM reception mode for this station, select the FM reception mode you want. See “Selecting the FM Reception Mode” on page 20.

2. Press MEMORY.



The channel number position starts flashing on the display for about 10 seconds.

3. Press FM/AM PRESET ▲ or ▼ to select a channel number while the channel number position is flashing.



4. Press MEMORY again while the selected channel number is flashing on the display.

The selected channel number stops flashing.

The station is assigned to the selected channel number.

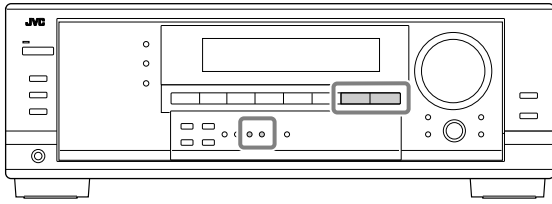
5. Repeat steps 1 to 4 until you store all the stations you want.

To erase a stored preset station

Storing a new station on a used number erases the previously stored one.

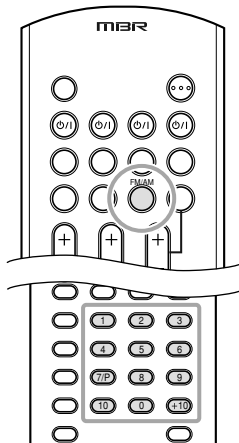
To tune in to a preset station

On the front panel:



- 1. Press FM or AM to select the band.**
The last received station of the selected band is tuned in.
- 2. Press FM/AM PRESET ▲ or ▼ until you find the channel you want.**
 - Pressing FM/AM PRESET ▲ increases the number.
 - Pressing FM/AM PRESET ▼ decreases the number.

On the remote control:

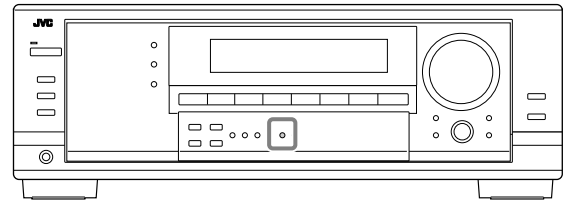


- 1. Press FM/AM to select the band.**
The last received station of the selected band is tuned in.
 - Each time you press the button, the band alternates between FM and AM.
- 2. Press the 10 keys to select a preset channel number.**
 - For channel number 5, press 5.
 - For channel number 15, press +10 then 5.
 - For channel number 20, press +10 then 10.
 - For channel number 30, press +10, +10, then 10.

Note:

When you use the 10 keys on the remote control, be sure that they are activated for the tuner, not for the DVD and others. (See page 41.)

Selecting the FM Reception Mode

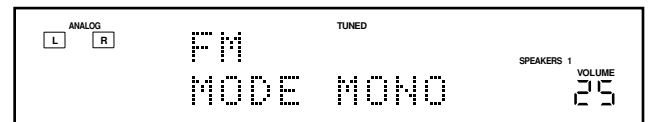


When an FM stereo broadcast is hard to receive or noisy, you can change the FM reception mode while receiving an FM broadcast.

- You can store the FM reception mode for each preset station (see page 19).

While listening to an FM station, press FM MODE.

- Each time you press the button, the FM reception mode alternates between “AUTOMUTING” and “MODE MONO.”



AUTOMUTING	Normally select this. When a program is broadcasted in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. This mode is also useful to suppress static noise between stations. The AUTO MUTING indicator lights up on the display. (Initial setting)
MODE MONO	Select this to improve the reception (but stereo effect will be lost). In this mode, you will hear noise while tuning in to the stations. The AUTO MUTING indicator (and the STEREO indicator) goes off from the display.

Note:

When you use the FM MODE on the remote control, be sure that it is activated for the tuner, not for the DVD and others. (See page 41.)

Basic Settings

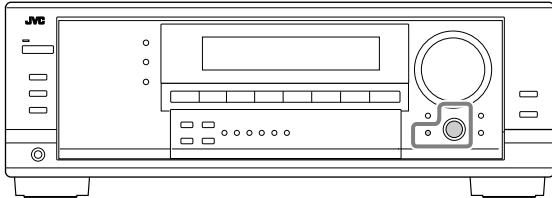
Some of the following settings are required after connecting and positioning your speakers while others will make operations easier. You can use QUICK SPEAKER SETUP to easily set up your speaker configuration.

Quick Speaker Setup



Quick Speaker Setup helps you to easily and quickly register the speaker size and speaker distance according to your listening room to create the best possible surround effect.

- You can also register each speaker's information manually. For details, see page 23.

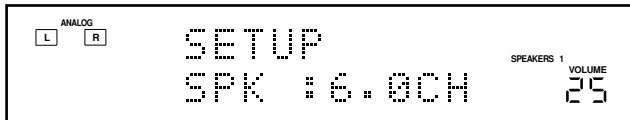
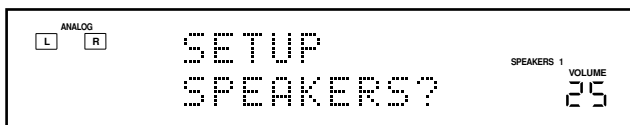


Before you start, remember...

There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

1. Press QUICK SPEAKER SETUP.

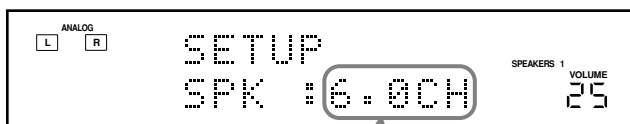
"SETUP" and "SPEAKERS?" appear on the display, then the initial setting for the total number of the connected speakers (channels) appears.



2. Turn MULTI JOG to select an appropriate number of the connected speakers (speaker channel number).

As you turn the jog, the speaker channel number changes as follows.

- For the details of speaker channel number, see "Speakers (channels) number and the size" on page 22.

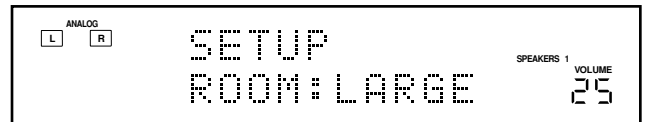


2.0CH ⇄ 2.1CH ⇄ 3.0CH ⇄ 3.1CH ⇄ 4.0CH ⇄
4.1CH ⇄ 5.0CH ⇄ 5.1CH ⇄ 6.0CH* ⇄ 6.1CH ⇄
7.0CH ⇄ 7.1CH ⇄ (Back to the beginning)

* "6.0CH" is the initial setting.

3. Press in MULTI JOG (PUSH SET).

"ROOM SIZE?" appears on the display, then the initial room size setting appears.



4. Turn MULTI JOG to select an appropriate room size to match to your listening room.

As you turn the jog, the room size changes as follows.

- To select your appropriate room size, see "Room size and the speaker distance" on page 22.



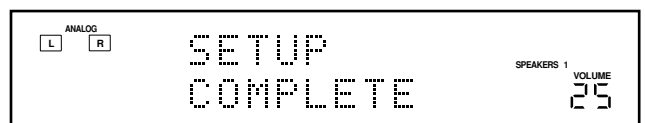
SMALL ⇄ MID ⇄ LARGE* ⇄ (Back to the beginning)

* "LARGE" is the initial setting.

5. Press in MULTI JOG (PUSH SET).

"COMPLETE" appears on the display, then goes back to the source indication.

- Speaker configuration settings now become active.



Notes:

- This procedure will not be completed if you stop in the middle of the setting process.
- Once Quick Speaker Setup is performed, the speaker output levels are also set to appropriate values automatically (common to all sources). If you want to set the speaker output levels separately for each source, see "Adjusting the speaker output levels" on page 28.

Speakers (channels) number and the size

You can find how each of the speaker size is defined according to the number of connected speakers (speaker channel "CH" number) you select.

- Subwoofer is counted as 0.1 channel.

CH	The size of connected speakers				
	L/R	C	LS/RS	SB	SUBWFR
2.0CH	LARGE	NONE	NONE	NONE	NO
2.1CH	SMALL	NONE	NONE	NONE	YES
3.0CH	LARGE	SMALL	NONE	NONE	NO
3.1CH	SMALL	SMALL	NONE	NONE	YES
4.0CH	LARGE	NONE	SMALL	NONE	NO
4.1CH	SMALL	NONE	SMALL	NONE	YES
5.0CH	LARGE	SMALL	SMALL	NONE	NO
5.1CH	SMALL	SMALL	SMALL	NONE	YES
6.0CH	LARGE	SMALL	SMALL	SMALL	NO
6.1CH	SMALL	SMALL	SMALL	SMALL	YES
7.0CH	LARGE	SMALL	SMALL	SMALL*	NO
7.1CH	SMALL	SMALL	SMALL	SMALL*	YES

* This setting is applied to the both surround back speakers.

Room size and the speaker distance

According to the selected room size, speaker distance for each activated speaker is set as follows:

Size	Speaker	Distance
LARGE	L/R	3.0 m (10 ft)
	C	3.0 m (10 ft)
	LS/RS	3.0 m (10 ft)
	SB	3.0 m (10 ft)
MID	L/R	2.7 m (9 ft)
	C	2.4 m (8 ft)
	LS/RS	2.1 m (7 ft)
	SB	1.8 m (6 ft)
SMALL	L/R	2.4 m (8 ft)
	C	2.1 m (7 ft)
	LS/RS	1.5 m (5 ft)
	SB	1.2 m (4 ft)

Note:

In the tables above, "L" stands for the left front speaker, "R" for the right front speaker, "C" for the center speaker, "LS" for the left surround speaker, "RS" for the right surround speaker, "SB" for the surround back speaker, and "SUBWFR" for the subwoofer.

Basic Setting Items



On the following pages, you can adjust the following items:

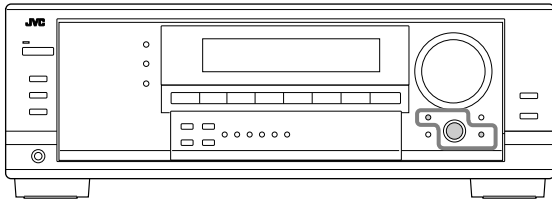
- You can only select the items currently available. For details, see the explanation of each item.

Items	To do	See page
SUB WOOFER*	Register your subwoofer.	23
FRONT SPEAKER*	Register your front speaker size.	23
CNTR SPEAKER*	Register your center speaker size.	23
SURR SPEAKER*	Register your surround speaker size.	23
SBACK SPEAKER*	Register your surround back speaker size.	23
SBACK OUT*	Register the number of the connected surround back speakers.	23
DIST UNIT	Select the measuring unit for the speaker distance.	24
FRNTL DISTANCE*	Register the distance from the left front speaker to your listening point.	24
FRNTR DISTANCE*	Register the distance from the right front speaker to your listening point.	24
CNTR DISTANCE*	Register the distance from the center speaker to your listening point.	24
SURRL DISTANCE*	Register the distance from the left surround speaker to your listening point.	24
SURRR DISTANCE*	Register the distance from the right surround speaker to your listening point.	24
SBACK DISTANCE*	Register the distance from the surround back speaker(s) to your listening point.	24
S WFR OUTPUT	Select sounds emitted from the subwoofer.	24
CROSS OVER	Select the cutoff frequency to the subwoofer.	24
LFE ATTENUATE	Attenuate the bass (LFE) sounds.	25
DUAL MONO	Select the Dual Mono sound channel.	25
AUTO SURROUND	Turn on or off Auto Surround.	25
DGTL IN COAX	Select the component connected to digital coaxial terminal.	25
DGTL IN OPTICAL	Select the components connected to digital optical terminals.	26
VIDEO IN DVD	Select the type of video terminal used for the DVD player.	26
VIDEO IN DBS	Select the type of video terminal used for the DBS tuner.	26
VIDEO IN VCR	Select the type of video terminal used for the VCR.	26
ONE TOUCH OPE	Store the volume level for each source.	26

Notes:

- * These items can be set using Quick Speaker Setup.

Basic Procedure



Before you start, remember...

There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

Ex. When setting One Touch Operation to “ON.”

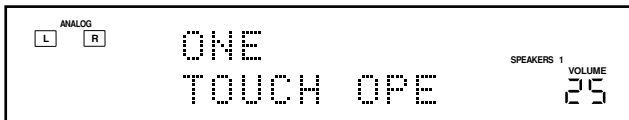
1. Press SETTING.

The last selected item appears on the display.



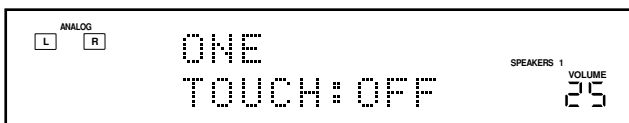
2. Turn MULTI JOG until an item you want appears on the display.

- In this example, select “ONE TOUCH OPE.” For available items, see the list “Basic Setting Items” on page 22.

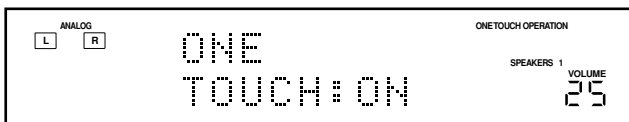


3. Push in MULTI JOG (PUSH SET).

The current setting for the selected item appears on the display.



4. Turn MULTI JOG until a setting you want appears on the display.




5. Push in MULTI JOG (PUSH SET).

6. Repeat steps 2 to 5 to set other items if necessary.

7. Press EXIT.

The source indication resumes on the display.

 : shows the initial setting in the following tables.

Setting the speakers

To obtain the best possible surround effect from the Surround and DSP modes, register the setting about the speaker arrangement after all connections are completed.

- If you have used Quick Speaker Setup on page 21, this setting is not required.

■ Subwoofer setting—SUB WOOFER

Select whether you have connected a subwoofer or not.

SUB WOOFER: YES Select when a subwoofer is connected.

SUB WOOFER: NO Select when no subwoofer is used.

Note:

If you have selected “NO” for the subwoofer, you cannot use the SUBWOOFER OUT ON/OFF button on the front panel.

■ Speaker size—FRONT SPEAKER, CNTR SPEAKER, SURR SPEAKER, SBACK SPEAKER

Select the size for each connected speaker.

LARGE*¹ Select when the speaker size is relatively large.

SMALL*² Select when the speaker size is relatively small.

NONE Select this when you have not connected a speaker. (Not selectable for the front speakers.)

*¹ Initial setting for front speakers.

*² Initial setting for center, surround, and surround back speakers.

Notes:

- Keep the following comments in mind as reference when adjusting.
 - If the size of the cone speaker unit built in your speaker is larger than 12 cm (4 3/4 inches), select “LARGE,” and if it is smaller than 12 cm (4 3/4 inches), select “SMALL.”
- If you have selected “NO” for the subwoofer setting, you can only select “LARGE” for the front speakers.
- If you have selected “SMALL” for the front speakers, you cannot select “LARGE” for the center, surround, and surround back speakers.
- If you have selected “SMALL” for the surround speakers, you cannot select “LARGE” for the surround back speakers.
- If you have selected “NONE” for the surround speakers, the surround back speakers are fixed to “NONE.”

■ Surround back speakers quantity—SBACK OUT

Select the number of the surround back speakers connected.

SBACK OUT: 1SPK Select to use 1 surround back speaker.

SBACK OUT: 2SPK Select to use 2 surround back speakers.

Note:

If you have selected “NONE” for the surround back speakers (see above), this setting is not available.

Setting the speaker distance

The distance from your listening point to the speakers is another important element to obtain the best possible sound of the Surround and DSP modes. Set the distance from your listening point to the speakers.

By referring to the speaker distance setting, this unit automatically sets the delay time of the sound through each speaker so that sounds through all the speakers can reach you at the same time.

- If you have used Quick Speaker Setup on page 21, this setting is not required.

■ Measuring unit—DIST UNIT

Select which measuring unit you use.

DIST UNIT: meter Select to set the distance in meters.

DIST UNIT: feet Select to set the distance in feet.

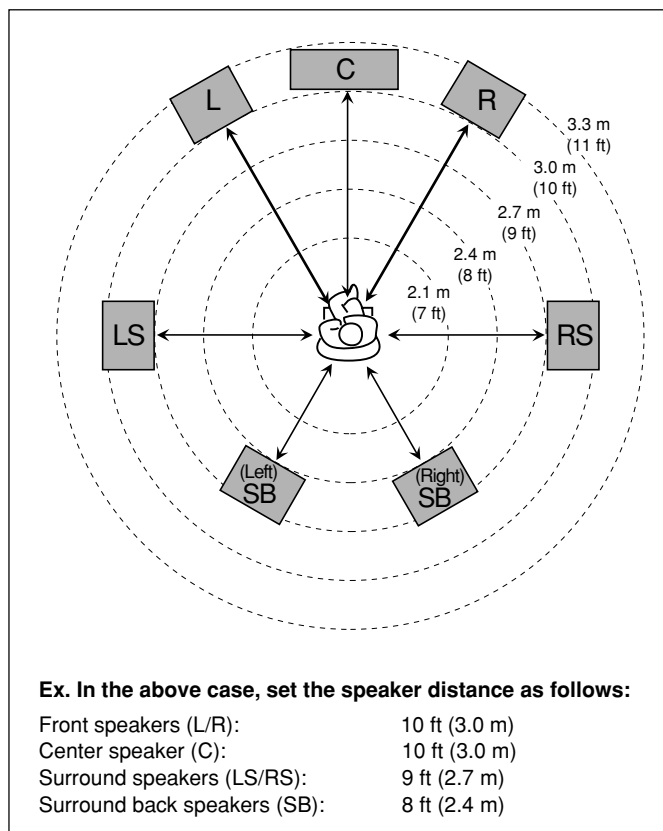
■ Speaker distance—FRNTL DISTANCE, FRNTR DISTANCE, CNTR DISTANCE, SURRL DISTANCE, SURRR DISTANCE, SBACK DISTANCE

Set the distance from the listening point within the range of 0.3 m (1 ft) to 9.0 m (30 ft), in 0.3 m (1 ft) intervals.

- When shipped from the factory, distance for each speaker is set to “3.0 m (10 ft).”

Notes:

- You cannot set the speaker distance for the speakers you have selected “NONE” (see page 23).
- This setting is not valid for the DVD MULTI playback mode.



Setting the bass sounds

You can adjust subwoofer and bass sounds precisely according to your preference.

■ Subwoofer output—S WFR OUTPUT

You can select the type of the signal which can be transmitted through the subwoofer. In other words, you can determine whether or not the bass elements of the front speaker channels are transmitted through the subwoofer regardless of the front speaker size setting (either “SMALL” or “LARGE”).

Select one of the following:

S WFR: LFE Select to emit only the LFE signals (while playing Dolby Digital or DTS software) or the bass elements of the “SMALL” front speakers (while playing any source other than the above).

S WFR: LFE+MAIN

Select to always emit the bass elements of the front speaker channels (MAIN). While playing Dolby Digital or DTS software, the bass element and the LFE signals are both emitted.

Note:

If you have selected “NO” for the subwoofer, this function is not available.

■ Crossover frequency—CROSS OVER

You can select the crossover frequency for the small speakers used. The signals below the selected frequency level will be sent to and be reproduced by the subwoofer (or by “LARGE” speakers when you have selected “NO” for the subwoofer).

Select one of the crossover frequency levels according to the size of the small speaker connected.

CROSS OVER: 80Hz

Select when the cone speaker unit built in the speaker is about 12 cm (4 ³/₄ inches).

CROSS OVER: 100Hz

Select when the cone speaker unit built in the speaker is about 10 cm (3 ¹⁵/₁₆ inches).

CROSS OVER: 120Hz

Select when the cone speaker unit built in the speaker is about 8 cm (3 ³/₁₆ inches).

CROSS OVER: 150Hz

Select when the cone speaker unit built in the speaker is about 6 cm (2 ³/₈ inches).

CROSS OVER: 200Hz

Select when the cone speaker unit built in the speaker is about 5 cm (2 inches).

Notes:

- If you have selected “LARGE” for all activated speakers (see page 23), this function is fixed to “OFF.”
- Crossover frequency is not valid for the DVD MULTI playback, Headphone, and 3D Headphone mode.

■ **Low frequency effect attenuator—LFE ATTENUATE**

If the bass sound is distorted while playing back software encoded with Dolby Digital or DTS, set the LFE level to eliminate distortion.

- This function takes effect only when the LFE signals come in.

Select one of the following:

LFE ATT: 0dB	Normally select this.
LFE ATT: -10dB	Select when the bass sound is distorted.

Selecting the main or sub channel

You can select the playback sound (channel) you want while playing digital software recorded (or broadcast) in the Dual Mono mode (see page 31), which includes two monaural channels separately.

■ **Dual Mono—DUAL MONO**

Select the playback sounds (channel).

DUAL MONO: MAIN
Select to play back the main channel (Ch 1).*
Signal indicator “L” lights up while playing back this channel.

DUAL MONO: SUB
Select to play back the sub-channel (Ch 2).*
Signal indicator “R” lights up while playing back this channel.

DUAL MONO: ALL
Select to play back both the main and sub-channels (Ch 1/Ch 2).*
Signal indicators “L” and “R” light up while playing back these channels.

Notes:

- The Dual Mono format is not identical with bilingual broadcasting or the MTS (Multichannel Television Sound) format used for TV programs. So this setting does not take effect while watching bilingual or MTS programs.
- * Dual Mono signals can be heard from the following speakers—L (left front speaker), R (right front speaker), and C (center speaker)—with respect to the current Surround setting.

Dual Mono Setting	Without Surround		With Surround Activated				
			Center speaker setting				
	L	R	SMALL/LARGE		NONE		
MAIN	Ch 1	Ch 1	—	Ch 1	—	Ch 1	Ch 1
SUB	Ch 2	Ch 2	—	Ch 2	—	Ch 2	Ch 2
ALL	Ch 1	Ch 2	—	Ch 1+Ch 2	—	Ch 1+Ch 2	Ch 1+Ch 2

Setting for easy and effective surround operations

■ **Auto Surround—AUTO SURROUND**

Auto Surround works when the unit detects the incoming digital signal. In other words, it works...

- When you select the digital source (the source with digital input selected for it), and
- When you change the input mode from analog to digital.

Select “AUTO SURR ON” when activating Auto Surround.

AUTO SURR: ON

- When multi-channel signal is detected, an appropriate Surround mode will be turned on.
- When Dolby Digital 2-channel with surround signals is detected, “PLII MOVIE” or “NEO:6CINMA” will be selected.
- When Dolby Digital 2-channel without surround signals is detected, “SURR OFF” will be selected.
- When Linear PCM signal is detected, nothing will change.

AUTO SURR: OFF	Select to deactivate Auto Surround.
-----------------------	-------------------------------------

Notes:

- This function does not take effect in the following cases:
 - While playing an analog source,
 - While selecting any of DAP modes (see page 34), or one of the fixed digital input mode—“DGTL D.D” or “DGTL DTS” (see page 16), and
 - While listening with the headphones—“HEADPHONE” (see page 15).
- If you press SURROUND or SURROUND/DSP OFF with Auto Surround activated, Auto Surround will be canceled temporarily for the currently selected source. Auto Surround setting will be restored in the following cases:
 - When you turn the receiver off and on,
 - When you change the source,
 - When you change the analog/digital input, and
 - When you select “AUTO SURR ON” again.

Setting the digital input terminals

When you use the digital input terminals, register which components you have connected to the digital input terminals.

■ **Digital coaxial terminal—DGTL IN COAX**

Set the component connected to the digital coaxial terminal (DIGITAL 1).

Following setting is available:

- DVD (initial setting)
- CD
- TV (or DBS*)
- CDR
- VCR

* If you have changed the source name from “TV” to “DBS,” “DBS” appears (see page 17).

■ **Digital optical terminals—DGTL IN OPTICAL**

Set the components connected to the digital optical terminals (DIGITAL 2 – 4).

- As you turn MULTI JOG, the digital optical input terminals are set to used for following digital components:

When “DIGITAL 1 (DGTL IN COAX)” is set to “DVD”:

2: CD	3: TV (or DBS*1)	4: CDR	⇐
2: CD	3: TV (or DBS*1)	4: VCR	⇐
2: CD	3: VCR	4: CDR	⇐
2: VCR	3: TV (or DBS*1)	4: CDR	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “CD”:

2: DVD	3: TV (or DBS*1)	4: CDR	⇐
2: DVD	3: TV (or DBS*1)	4: VCR	⇐
2: DVD	3: VCR	4: CDR	⇐
2: VCR	3: TV (or DBS*1)	4: CDR	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “TV” or “DBS”*1:

2: CD	3: DVD	4: CDR	⇐
2: CD	3: DVD	4: VCR	⇐
2: CD	3: VCR	4: CDR	⇐
2: VCR	3: DVD	4: CDR	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “CDR”:

2: CD	3: TV (or DBS*1)	4: DVD	⇐
2: CD	3: TV (or DBS*1)	4: VCR	⇐
2: CD	3: VCR	4: DVD	⇐
2: VCR	3: TV (or DBS*1)	4: DVD	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “VCR”:

2: CD	3: TV (or DBS*1)	4: CDR	⇐
2: CD	3: TV (or DBS*1)	4: DVD	⇐
2: CD	3: DVD	4: CDR	⇐
2: DVD	3: TV (or DBS*1)	4: CDR	⇐

(back to the beginning)

*1 If you have changed the source name from “TV” to “DBS,” “DBS” appears (see page 17).

Setting the component video input

When you use the component video inputs for connecting the DVD player and/or DBS tuner (or VCR), register the type of input jacks. If you have not selected appropriate video input jacks, the AV COMPU LINK remote control system cannot operate properly. (See page 38.)

■ **For the DVD player—VIDEO IN DVD**

Select one of the following:

VIDEO DVD: CMPNT Select when connecting the DVD player to the component video input jacks.

VIDEO DVD: S/C Select when connecting the DVD player to the composite video or S-video input jacks.

■ **For the DBS tuner—VIDEO IN DBS**

Select one of the following:

VIDEO DBS: CMPNT*2 Select when connecting the DBS tuner to the component video input jacks.

VIDEO DBS: S/C Select when connecting the DBS tuner to the composite video or S-video input jacks.

Notes:

- If you have selected “CMPNT” for the component video setting for the VCR (VIDEO IN VCR), this setting is not available.
- *2 When you have selected this setting, the component video setting for the VCR (VIDEO IN VCR) is not available.

■ **For the VCR—VIDEO IN VCR**

Select one of the following:

VIDEO VCR: CMPNT*3 Select when connecting the VCR to the component video input jacks.

VIDEO VCR: S/C Select when connecting the VCR to the composite video or S-video input jacks.

Notes:

- If you have selected “CMPNT” for the component video setting for the DBS tuner (VIDEO IN DBS), this setting is not available.
- *3 When you have selected this setting, the component video setting for the DBS tuner (VIDEO IN DBS) is not available.

Memorizing the volume level for each source

This unit memorizes some settings separately for each source. In addition, you can store the volume level for each source with the other memorized settings—One Touch Operation.

- This receiver memorizes the volume level—
 - when you change the source, or
 - when you change the source name.

■ **One Touch Operation—ONE TOUCH OPE**

Select one of the following:

ONE TOUCH: ON Select to store the volume level separately for each source. (The ONE TOUCH OPERATION indicator lights up on the display.)

ONE TOUCH: OFF Select this not to store the volume level.

To recall the volume level

With the ONE TOUCH OPERATION indicator lit, the volume level for the currently selected source is recalled when the source is selected.

To cancel the One Touch Operation

Set One Touch Operation to “OFF” so that the ONE TOUCH OPERATION indicator goes off from the display.

Adjusting Sound

You can make sound adjustment to your preference after completing basic setting.

Basic Adjustment Items

- On the following pages, you can adjust the items listed below:
- You can adjust only the items applicable to the current sound mode.
 - If Analog Direct is in use, you cannot make any sound adjustments.

Items	To do	See page
EQ 63Hz	Adjust equalizer pattern at 63 Hz.	28
EQ250Hz	Adjust equalizer pattern at 250 Hz.	28
EQ 1kHz	Adjust equalizer pattern at 1 kHz.	28
EQ 4kHz	Adjust equalizer pattern at 4 kHz.	28
EQ16kHz	Adjust equalizer pattern at 16 kHz.	28
SUBWFR LVL	Adjust the subwoofer output level.	28
FRNT L LVL	Adjust the left front speaker output level.	28
FRNT R LVL	Adjust the right front speaker output level.	28
CENTER LVL	Adjust the center speaker output level.	28
SURR L LVL	Adjust the left surround speaker output level.	28
SURR R LVL	Adjust the right surround speaker output level.	28
SBACK LVL	Adjust the surround back speaker(s) output level.	28
EFFECT* ¹	Adjust the effect level.	29
ROOMSIZE* ¹	Select the room size for your virtual listening room.	29
LIVENESS* ¹	Select the liveness level for your virtual listening room.	29
CTR TONE	Make the center tone soft or sharp.	29
PNRM CNTRL* ²	Add “wraparound” sound effect with side-wall image.	29
CNTR WIDTH* ²	Adjust the center channel localization between the center speaker and the left/right front speakers.	29
DIMENSION* ²	Adjust sound localization position.	29
CNTR GAIN* ³	Adjust sound localization of the center channel.	29

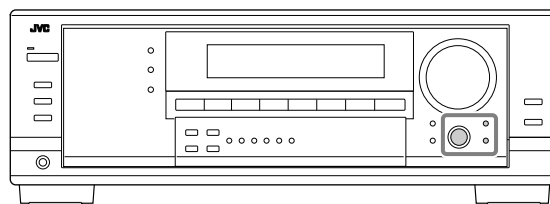
Notes:

*¹ Adjustable when one of the DAP modes or Mono Film (see pages 34 and 35) is in use.

*² Adjustable when Pro Logic II Music (see page 31) is in use.

*³ Adjustable when Neo:6 Music (see page 31) is in use.

Basic Procedure



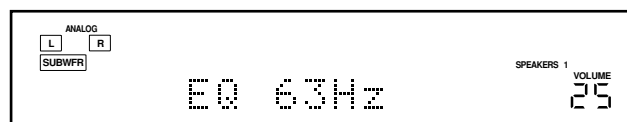
Before you start, remember...

There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

Ex. When adjusting the subwoofer level to “-3”.

1. Press ADJUST.

The last selected item appears on the display.



2. Turn MULTI JOG until an item you want appears on the display.

- In this example, select “SUBWFR LVL.” For available items, see the list “Basic Adjustment Items.”



3. Press in MULTI JOG (PUSH SET).

The current setting (or level) for the selected item appears on the display.



4. Turn MULTI JOG to select a setting you want or to make an adjustment as you like.



5. Press in MULTI JOG (PUSH SET).

6. Repeat steps 2 to 5 to set other items if necessary.

7. Press EXIT.

The source indication resumes on the display.

Adjusting the equalization patterns

You can adjust the equalization patterns to your preference.

- Once you have made an adjustment, it is memorized for each source.
- The equalization pattern affects the front speaker sounds only.

■ **Equalization adjustment**—EQ 63Hz, EQ250Hz, EQ 1kHz, EQ 4kHz, EQ16kHz

You can adjust five frequencies (**63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz**) within the range of **-8 dB to +8 dB** (“0 (dB)”) is the initial setting) in 2 dB steps.

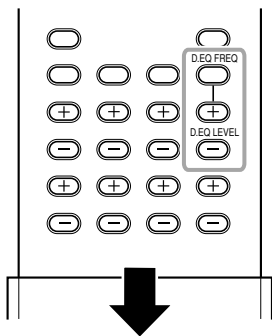
- When an adjustment is made, the D. EQ indicator lights up on the display.

To flat the equalization pattern, set all the frequencies to “0 (dB)” in step 4 of “Basic Procedure” (on page 27). The D. EQ indicator goes off from the display.

Note:

When Analog Direct is in use, Equalization patterns are not available.

You can also use the remote control for equalization adjustment.



1. Press **D.EQ FREQ** (**Digital Equalization Frequency**) repeatedly to select the frequency you want to adjust.
 - Each time you press the button, the frequency appears on the display.
2. Press **D.EQ LEVEL + or -** repeatedly to adjust the frequency level.

The current frequency level appears and the D. EQ indicator lights up on the display.

 - The frequency level changes from **-8 dB to +8 dB** in 2 dB steps.
3. Repeat steps 1 and 2 to adjust the other frequency.

Adjusting the speaker output levels

You can adjust the speaker output levels.

- Once you have made an adjustment, it is memorized for each source.

■ **Adjustable speakers**

You can adjust the following speakers' output levels within the range of **-10 dB to +10 dB** (“0 (dB)”) is the initial setting):

SUBWFR LVL	Select to adjust the subwoofer output level.
FRNT L LVL	Select to adjust the left front speaker output level.
FRNT R LVL	Select to adjust the right front speaker output level.
CENTER LVL	Select to adjust the center speaker output level.
SURR L LVL	Select to adjust the left surround speaker output level.
SURR R LVL	Select to adjust the right surround speaker output level.
SBACK LVL	Select to adjust the surround back speaker output level.

Notes:

- If you have selected “NO” or “NONE” for a speaker (see page 23), the output level for the corresponding speaker is not adjustable.
- The center speaker and left/right surround speakers' output levels are adjustable for DVD MULTI playback mode, even though “NONE” is selected for the speaker settings.
- Speaker output levels (except the subwoofer output level) are not adjustable when Analog Direct is in use. To adjust subwoofer output level, see page 15.

Adjusting the sound parameters for the surround and DSP modes

You can adjust the Surround and DSP sound parameters to your preference. (For Surround and DSP modes, see pages 30 to 35.)

- When center speaker is set to “NONE,” following items are not available:
 - “CTR TONE”
 - “CNTR WIDTH”
 - “CNTR GAIN”

■ **Adjustable parameters**

You can adjust the following parameters:

For Surround and DSP modes (when the center speaker is connected)

- This setting is common to all surround modes, and is memorized separately for DSP modes.

CTR TONE	Adjust the center tone. As the number increases, the dialogue becomes clearer so that the human voices change from soft to sharp. (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)
-----------------	--

For DAP modes and Mono Film

- Once you have made an adjustment, it is memorized for each mode.

EFFECT	Adjust the effect level. As the number increases, the effect becomes stronger. (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)
ROOMSIZE	Adjust the virtual room size. As the number increases, the interval between reflections increases so that you will feel as if you were in a larger room. (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)
LIVENESS	Adjust the liveness effect. As the number increases, the attenuation level of reflections over time decreases so that acoustics change from “Dead” to “Live.” (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)

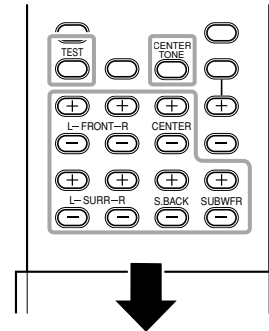
For Pro Logic II Music only

PNRM CNTRL	Select “ON” to add “wraparound” sound effect with side-wall image. (Initial setting: “OFF.”)
CNTR WIDTH	Adjust the center channel localization between the center speaker and the left/right front speakers. As the number increases, the center channel sound moves toward the left and right speakers. (Adjustable range: OFF and 1 to 7 . “3” is the initial setting, and normally select this.)
DIMENSION	Adjust the sound localization position. As the number increases, the sound localization moves towards forward from backward. (Adjustable range: 1 to 7 . “4” is the initial setting, and normally select this.)

For Neo:6 Music only

CNTR GAIN	Adjust the sound localization of the center channel. As the number increases, center channel will be localized clearly. (Adjustable range: 0 to 0.5 . “0.2” is the initial setting, and normally select this.)
------------------	--

You can also use the remote control for adjusting the speaker output level and center tone.



To adjust the speaker output level:

1. Press TEST to check if you can hear the sounds through all the speakers at equal level.

Test tone comes out of the speakers in the following order.

- No test tone comes out of the speakers for which the speaker setting is set to “NONE” (or “NO” for the subwoofer).

FRNT L (Left front speaker) → CENTER (Center speaker) →
FRNT R (Right front speaker) →
SURR R (Right surround speaker) →
SBACK (surround back speaker) →
SURR L (Left surround speaker) →
SUBWFR (Subwoofer) → (Back to the beginning)

2. Adjust the speaker output level.

Adjustable range: -10 dB to +10 dB. “0 (dB)” is the initial setting.

- To adjust the left front speaker, press FRONT L + or -.
- To adjust the center speaker, press CENTER + or -.
- To adjust the right front speaker, press FRONT R + or -.
- To adjust the right surround speaker, press SURR R + or -.
- To adjust the surround back speaker, press S.BACK + or -.
- To adjust the left surround speaker, press SURR L + or -.
- To adjust the subwoofer, press SUBWFR + or -.

Notes:

- When you press each button once, the current level for the selected speaker appears on the display, and the test tone comes out of the selected speaker.
- If no adjustment is done for about 4 seconds, the adjustment mode for the selected speaker is canceled.
- If you don't have the test tone emitted, adjustment for the speaker output level is available. In this case, wait for about 4 seconds, after the adjustment is finished. Then the adjustment mode for the selected speaker is canceled and resumes the source indication on the display.

3. Repeat step 2 to adjust other speaker's output levels.

4. Press TEST again to stop the test tone.

To adjust the center tone:

1. Press CENTER TONE repeatedly.

Adjustable range: 1 to 5. “3” is the initial setting, and normally select this.

2. Wait for about 4 seconds, after the adjustment is finished.

The adjustment mode for the center tone is canceled and automatically resumes the source indication on the display.

Using the Surround Modes

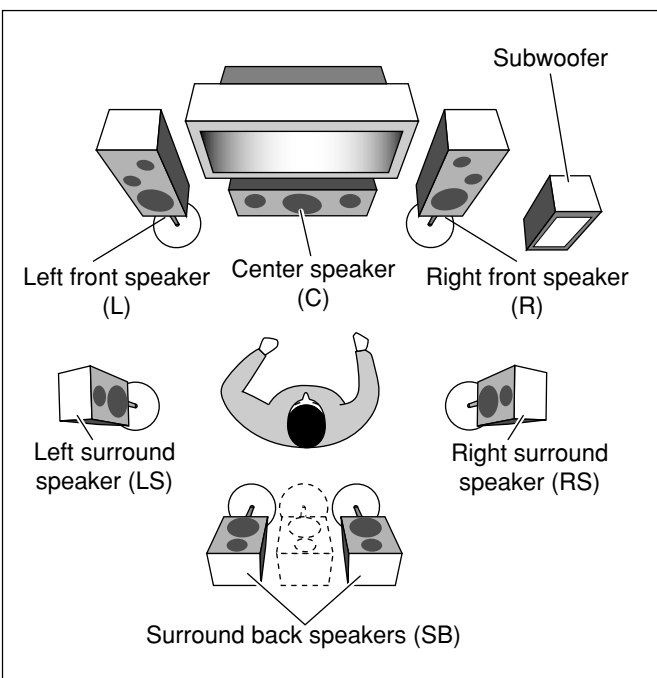
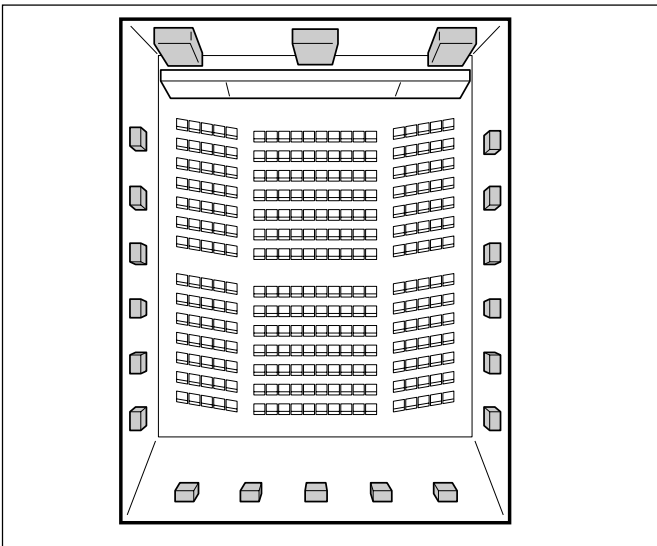
This unit activates a variety of Surround modes automatically. The basic settings and adjustments stored (see pages 21 to 29) are applied.

Reproducing Theater Ambience

In a movie theater, many speakers are located on the walls to reproduce impressive multi-surround sounds, reaching you from all directions.

With these many speakers, sound localization and sound movement can be expressed.


Surround modes built in this receiver can create almost the same surround sounds as you can feel in a real movie theater—with only five to seven speakers (plus subwoofer).



Introducing the Surround Modes

Dolby Digital*1

Dolby Digital is a digital signal compression method, developed by Dolby Laboratories, and enables multi-channel encoding and decoding (1ch up to 5.1ch).

- When Dolby Digital signal is detected through the digital input, the  DIGITAL indicator lights up on the display.

Dolby Digital 5.1CH

Dolby Digital 5.1CH (DOLBY D) encoding method records and digitally compresses the left front channel, right front channel, center channel, left surround channel, right surround channel, and LFE channel signals (total 6 channels, but the LFE channel is counted as 0.1 channel. Therefore, called 5.1 channel).

Dolby Digital enables stereo surround sounds, and sets the cutoff frequency of the surround treble at 20 kHz, compared to 7 kHz for Dolby Pro Logic. As such, the sound movement and “being-there” feeling are enhanced much more than Dolby Pro Logic.

Dolby Digital EX

Dolby Digital EX (DOLBY D EX) is a digital surround encoding format that adds the third surround channels, called “surround back.”

Compared to the conventional Dolby Digital 5.1CH, these newly added surround back channels can reproduce more detailed movements behind you while viewing the video software. In addition, surround sound localization will become more stable.


- You can use Virtual 6.1-channel surround when playing back Dolby Digital EX software without connecting the surround back speakers. This reproduce the back sound field as if the surround back speakers exist, so that you can still feel the great surround effect from behind.

The VIRTUAL SB (Surround Back) indicator lights up on the display.

Dolby Pro Logic

Dolby Surround encoding format records the left front channel, right front channel, center channel, and surround channel (monaural) signals into 2 channels.


The Dolby Pro Logic (PRO LOGIC) decoder built in this receiver decodes these 2 channel signals into 4 original channel signals (plus subwoofer)—matrix-based multi-channel reproduction.

- When Dolby Pro Logic is activated, the  PRO LOGIC indicator lights up on the display.

Dolby Pro Logic II

Dolby Pro Logic II is a multi-channel playback format to convert 2-channel software into 5-channel (plus subwoofer). The matrix-based conversion method used for Dolby Pro Logic II makes no limitation for the cutoff frequency of the surround treble and enables stereo surround sound.


- This receiver provides two types of Dolby Pro Logic II modes—**Pro Logic II Movie** (PLII MOVIE) and **Pro Logic II Music** (PLII MUSIC).

When Dolby Pro Logic II is activated, the  **PRO LOGIC II** indicator lights up on the display.

PLII MOVIE	Suitable for playing any Dolby Surround encoded software. You can enjoy a sound field very close to the one created with discrete 5.1-channel sounds.
PLII MUSIC	Suitable for playing any 2-channel stereo software. You can enjoy wide and deep sounds.

DTS*2

DTS is another digital signal compression method, developed by Digital Theater Systems, Inc., and enables multi-channel encoding and decoding (1ch up to 6.1ch).

- When DTS signal is detected through the digital input, the  indicator lights up on the display.

DTS Digital Surround

DTS Digital Surround (DTS) is another discrete 5.1-channel digital audio format available on CD, LD, and DVD software.

Compared to Dolby Digital, the DTS Digital Surround format has a lower audio compression rate which enables it to add breadth and depth to the sounds reproduced. As such, DTS Digital Surround features natural, solid, and clear sound.

- When EX/ES setting is set to “ON,” DTS Neo:6 (DTS NEO:6) is applied while playing back multi-channel DTS software. It creates the same surround ambience as 6.1-channel software does.

DTS Extended Surround (DTS-ES)

DTS-ES is another multi-channel digital encoding format.

It greatly improves the 360-degree surround impression and space expression by adding the third surround channel—surround back channel.

DTS-ES includes two signal formats with different surround signal recording methods—**DTS-ES Discrete 6.1ch** (ES DSCRT) and **DTS-ES Matrix 6.1ch** (ES MATRIX).

DTS-ES Discrete 6.1ch has been designed to encode (and decode) a 6.1-channel signal discretely to avoid interference with each channel.

DTS-ES Matrix 6.1ch has been designed to add an extra surround channel to DTS Digital Surround 5.1-channel. By using a matrix encoding/decoding method, an additional “surround back” channel signal is encoded (and decoded) in both the left and right surround channel signals.


- You can use Virtual 6.1-channel surround when playing back DTS-ES software without connecting the surround back speakers. This reproduce the back sound field as if the surround back speakers exist, so that you can still feel the great surround effect from behind.

The VIRTUAL SB (Surround Back) indicator lights up on the display.

DTS 96/24

In recent years, there has been increasing interest in higher sampling rates both for recording and for reproducing at home. Higher sampling rates allow wider frequency range and greater bit depths provide extended dynamic range.

DTS 96/24 is a multi-channel digital signal format (fs 96 kHz/24 bits) introduced by Digital Theater Systems, Inc. to deliver “better-than-CD sound quality” into the home.

- When DTS 96/24 signal is detected, the  and 96/24 indicators light up. You can enjoy its 5.1-channel sound with full-quality.

DTS Neo:6

DTS Neo:6 is another conversion method to create 6-channel (plus subwoofer) from analog/digital 2-channel software by using the high precision digital matrix decoder used for DTS-ES Matrix 6.1ch.

When one of Neo:6 modes is activated, the NEO:6 indicator lights up on the display.

- This receiver provides the following DTS NEO:6 modes—**Neo:6 Cinema** (NEO:6CINMA) and **Neo:6 Music** (NEO:6MUSIC). When DTS NEO:6 is activated, the NEO:6 indicator lights up on the display.

NEO:6CINMA Suitable for playing movies. You can get the same atmosphere with 2-channel software as with 6.1-channel software. It is also effective for playing software encoded with conventional surround formats.

NEO:6MUSIC Suitable for playing music software. The front channel signals bypass the decoder (resulting in no loss of sound quality) and the surround signals transmitted through the other speakers expand the sound field naturally.

What is Dual Mono?

Dual Mono can be easily understood when you think of the bilingual broadcast or the MTS (Multichannel Television Sound) format used for TV programs (however, the Dual Mono format is not identical with those analog formats).

This format is now adopted in Dolby Digital, DTS, and so on. It allows two independent channels (called main channel and sub-channel) to be recorded separately.

- When Dual Mono signal is detected, the DUAL indicator lights up. You can select either channel you want to listen to (see page 25).

When using the Surround mode, the sounds come out of the activated speakers which the Surround mode requires.

- **If either the surround speakers or center speaker is set to “NONE” in the speaker setting**, the corresponding channel signals are allocated to and emitted through the front speakers.
- **If both the surround speakers and center speaker are set to “NONE” in the speaker setting**, JVC’s original 3D-PHONIC processing (which has been developed to create the surround effect through the front speakers only) is used. The 3D-PHONIC indicator lights up on the display.

*1 Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic”, and the double-D symbol are trademarks of Dolby Laboratories.

*2 “DTS”, “DTS-ES”, “Neo:6” and “DTS 96/24” are trademarks of Digital Theater Systems, Inc.

Surround Modes Applicable to the Various Software

Available Surround modes vary depending on the speaker settings and the incoming signals.

The table below shows the relation of the Surround modes and the incoming signals (with the surround back speakers and EX/ES setting).

- The numbers inside the parentheses following the incoming signal type indicate the number of the front channels and that of the surround channels. For example, (3/2) indicates that the signals are encoded with three front signals (left/right/center) and two (stereo) surround signals.

Incoming Signal Type	Surround Back Channel Setting	EX/ES Setting	Available Surround Mode
Dolby Digital EX <i>*1 Depending on the software's specification. In case of some softwares, "DOLBY D" is applied.</i>	2SPK/1SPK	AUTO/ON	DOLBY D EX*1
		OFF	DOLBY D
	NONE	AUTO/ON	DOLBY D (VIRTUAL SB)*1*2
		OFF	DOLBY D
Dolby Digital (3/2, 2/2)	2SPK/1SPK	ON	DOLBY D EX
		AUTO/OFF	DOLBY D
	NONE	ON	DOLBY D (VIRTUAL SB)*2
		AUTO/OFF	DOLBY D
Dolby Digital (3/1, 2/1, 3/0, 1/0)	2SPK/1SPK/NONE	AUTO/ON/OFF	DOLBY D
Dolby Digital (Dual Mono)	2SPK/1SPK/NONE	AUTO/ON/OFF	DUAL MONO
DTS-ES Discrete 6.1ch	2SPK/1SPK	AUTO/ON	ES DSCRT
		OFF	DTS
	NONE	AUTO/ON	DTS (VIRTUAL SB)*2
		OFF	DTS
DTS-ES Matrix 6.1ch DTS-ES 96/24 Matrix	2SPK/1SPK	AUTO/ON	ES MATRIX*3
		OFF	DTS
	NONE	AUTO/ON	DTS (VIRTUAL SB)*2 *3
		OFF	DTS
DTS, DTS 96/24 (3/2, 2/2) <i>*3 DTS 96/24 processing is not applied. If you want to apply the processing, set the EX/ES setting to "OFF."</i>	2SPK/1SPK	ON	DTS NEO:6*3
		AUTO/OFF	DTS
	NONE	ON	DTS (VIRTUAL SB)*2 *3
		AUTO/OFF	DTS
DTS (3/1, 2/1, 3/0, 1/0)	2SPK/1SPK/NONE	AUTO/ON/OFF	DTS
DTS (Dual Mono)	2SPK/1SPK/NONE	AUTO/ON/OFF	DUAL MONO

Incoming Signal Type	Available Surround Mode
Analog/PCM/Dolby Surround/Dolby Digital (2/0)/DTS (2/0)	PLII MOVIE/PLII MUSIC/PRO LOGIC/NEO:6 CINMA/NEO:6 MUSIC
DVD MULTI	None

3D Headphone mode—3D H PHONE

If you press SURROUND when the front speakers 1 and 2 are both deactivated, 3D Headphone mode (3D H PHONE) is activated without respect to the type of software played back.

"3D H PHONE" appears on the display and the DSP and HEADPHONE indicators also light up.

*2 Virtual 6.1-channel surround

If you have connected (and activated) the surround speakers, you can use Virtual 6.1-channel surround when playing back Dolby Digital EX or DTS-ES software without connecting the surround back speakers. This surround reallocates the surround back channel to the surround speakers so that you can still feel the great surround effect from behind. The VIRTUAL SB (Surround Back) indicator lights up on the display.

Activating the Surround Modes

Available Surround modes vary depending on the speaker settings and the incoming signals. (See page 32.)

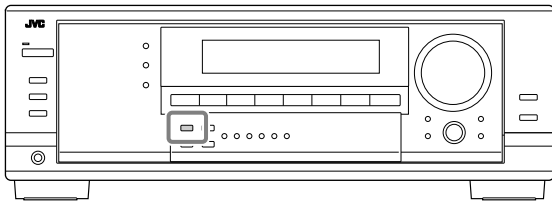
Activating one of the Surround modes for a source automatically recalls the memorized settings and adjustments (see pages 21 to 29).

You can also use the buttons on the remote control for the same functions.

Activating the EX/ES setting

For multi-channel digital software, you can activate the EX/ES (7.1-channel) reproduction mode.

- Once you have set EX/ES (7.1-channel) reproduction mode, it is stored in memory and will be called up whenever you activate the Surround mode which the memorized EX/ES (7.1-channel) reproduction mode can be applied to.



Press EX/ES to select an appropriate setting for your enjoyment.

The currently selected EX/ES (7.1-channel) reproduction mode appears on the display.

- Each time you press the button, it changes as follows:
For details of applicable Surround mode, see "Surround Modes Applicable to the Various Software" on page 32.

EX/ES AUTO	According to the incoming signal, an appropriate Surround mode is applied. <ul style="list-style-type: none"> For Dolby Digital EX and DTS-ES, EX/ES (7.1-channel) reproduction is applied. For other multi-channel (5.1-channel or less) encoded software, 5.1-channel reproduction is applied.
EX/ES ON	Select to apply EX/ES (7.1-channel) reproduction to both 5.1-channel and 6.1-channel encoded software.
EX/ES OFF	Select to cancel the EX/ES (7.1-channel) reproduction.

Notes:

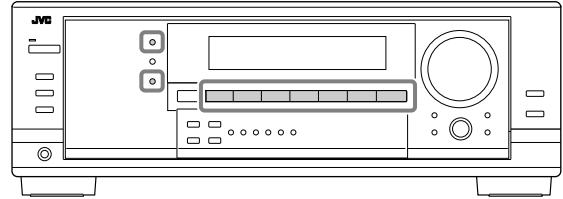
- When an analog or digital 2-channel source is playing, you can adjust the EX/ES (7.1-channel) reproduction mode and store the setting, but it will not affect the current source.
- When the source is one to which the EX/ES (7.1-channel) reproduction cannot be applied, you can adjust the setting and store in memory, but reproduction channels will remain unchanged.
- When the surround speakers are deactivated, you cannot activate this setting and "NO SURR SP" appears on the display.

Activating the surround modes automatically

You can enjoy the Surround mode simply by selecting the source (with digital input selected for that source) or select the digital input for the selected source.

To activate Auto Surround, see page 25.

Activating the surround modes manually

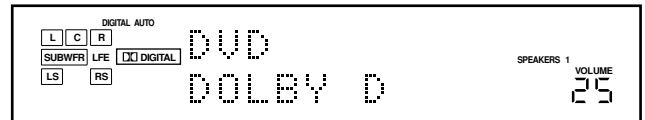


1. Select and play any source other than DVD MULTI.

- Make sure you have selected the analog or digital input mode correctly.
- Surround modes are not valid for DVD MULTI playback mode.

2. Press SURROUND to activate the Surround mode.

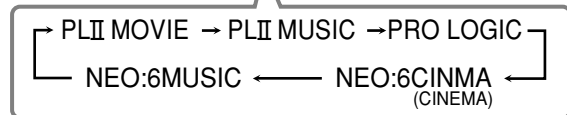
- For multi-channel digital software, incoming signals are automatically detected and the appropriate Surround mode is activated (see page 32 for details).



Ex. When "DOLBY D" is activated.

- If the EX/ES (7.1-channel) reproduction mode has been set to "AUTO" or "ON," one of the EX/ES (7.1-channel) reproduction modes will be activated (see the left column).

- For analog sources and digital 2-channel software, you can select one of the following Surround modes. Each time you press SURROUND, the Surround modes change as follows:



- For Dual Mono software, you can select the channel you listen to. (See page 25.)



To adjust the speaker output level, see pages 28 and 29.

To cancel the surround modes

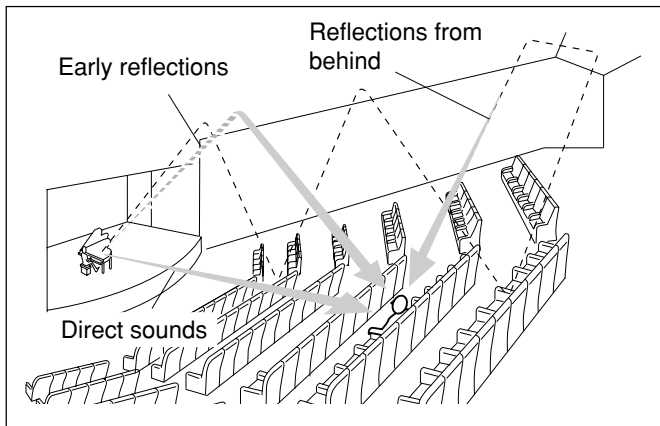
Press SURROUND/DSP OFF (or SURR/DSP OFF on the remote control) repeatedly until "SURR OFF" appears on the display.

Using the DSP Modes

This unit activates a variety of DSP modes automatically. The basic settings and adjustments stored (see pages 21 to 29) are applied automatically.

Reproducing the Sound Field

The sound heard in a concert hall, club, etc. consists of direct sound and indirect sound—early reflections and reflections from behind. Direct sounds reach the listener directly without any reflection. On the other hand, indirect sounds are delayed by the distances of the ceiling and walls. These direct sounds and indirect sounds are the most important elements of the acoustic surround effects. DSP modes can create these important elements, and give you a real “being there” feeling.



Introducing the DSP Modes

DSP modes include the following modes—

- Digital Acoustic Processor (DAP) modes (HALL 1, HALL 2, LIVE CLUB, DANCE CLUB, PAVILION, THEATER 1, THEATER 2)
- ALL STEREO
- MONO FILM—Used for all types of 2-channel signals (including Dual Mono signal)

3D Headphone mode

You can also enjoy the DSP mode (except All Channel Stereo mode) through the headphones.

If you press DSP when the front speakers 1 and 2 are both deactivated, 3D Headphone mode (3D H PHONE) is activated without respect to the type of software played back.

“3D H PHONE” appears on the display and the DSP and HEADPHONE indicators also light up.

To use DSP modes, press DSP so that the DSP modes change as follows.

The DSP indicator also lights up on the display.

→ HALL 1	→ HALL 2	→ LIVE CLUB
→ DANCE CLUB	→ PAVILION	→ ALL STEREO
→ THEATER 1	→ THEATER 2	→ MONO FILM
→ (Back to the beginning)		

■ : Suitable for audio sources
□ : Suitable for video sources

Digital Acoustic Processor (DAP) modes

You can use the following DAP modes in order to reproduce a more acoustic sound field in your listening room.

HALL 1	Reproduces the spatial feeling of a large shoebox-shaped hall designed primarily for classical concerts. (Its seating capacity is about 2000.)
HALL 2	Reproduces the spatial feeling of a large vineyard-shaped hall designed primarily for classical concerts. (Its seating capacity is about 2000.)
LIVE CLUB	Reproduces the spatial feeling of a live music club with a low ceiling.
DANCE CLUB	Reproduces the spatial feeling of a rocking dance club.
PAVILION	Reproduces the spatial feeling of an exhibition hall with a high ceiling.
THEATER 1*	Reproduces the spatial feeling of a large theater where the seating capacity is about 600.
THEATER 2*	Reproduces the spatial feeling of a small theater where the seating capacity is about 300.

* The built-in Dolby Pro Logic II decoder is activated when playing back 2-channel analog or digital source. The **PRO LOGIC II** indicator lights up.

When using the DAP mode, the sounds come out of all the connected and activated speakers.

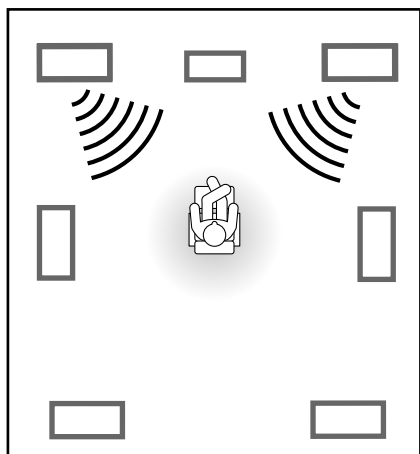
- If the surround speakers are set to “NONE” in the speaker setting, JVC’s original 3D-PHONIC processing (which has been developed to create the surround effect through the front speakers only) is used.

The 3D-PHONIC indicator lights up on the display.

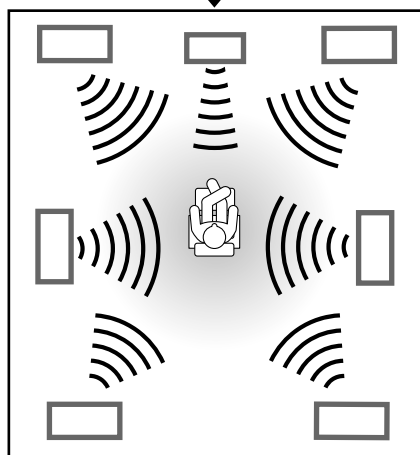
All channel stereo mode

This mode can reproduce a larger stereo sound field using all the connected (and activated) speakers.

- If the surround speakers are set to "NONE," you cannot select "ALL STEREO."



Sound reproduced from normal stereo



Sound reproduced from All Channel Stereo mode

Mono Film

In order to reproduce a more acoustic sound field in your listening room while viewing monaural sound video software (analog, 2-channel digital, and Dual Mono signals), you can use this mode. The surround effect will be added, and the sound localization of actor's words will be improved. **This mode cannot be used for multi-channel digital signals.**

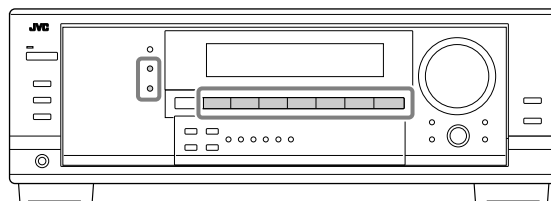
When "MONO FILM" is used, the sounds come out of all the connected and activated speakers.

- If surround speakers are set to "NONE" in the speaker setting, JVC's original 3D-PHONIC processing (which has been developed to create the surround effect through the front speakers only) is used. The 3D-PHONIC indicator lights up on the display.
- If incoming signals change from 2-channel digital signal to another digital signal type, "MONO FILM" is canceled and an appropriate Surround mode is activated.

Activating the DSP Modes

Activating one of the DSP modes for a source automatically recalls the memorized settings and adjustments (see pages 21 to 29.)

You can also use the buttons on the remote control for the same functions.



1. Select and play any source excluding DVD MULTI.
2. Press DSP repeatedly until the DSP mode you want appears on the display.
 - Each time you press the button, the DSP modes change as follows:



- | | | |
|---------------------------|-------------|----------------|
| → HALL 1 | → HALL 2 | → LIVE CLUB |
| → DANCE CLUB | → PAVILION | → ALL STEREO*1 |
| → THEATER 1 | → THEATER 2 | → MONO FILM*2 |
| → (Back to the beginning) | | |

*1 When the surround speakers are set to "NONE," you cannot select "ALL STEREO."

*2 When multi-channel signals come in, you cannot select "MONO FILM."

Note:

When the surround speakers are set to "NONE," the 3D-PHONIC processing is applied to the DSP modes (the 3D-PHONIC indicator also lights up).

To adjust the effect level (except All Channel Stereo), see page 29.

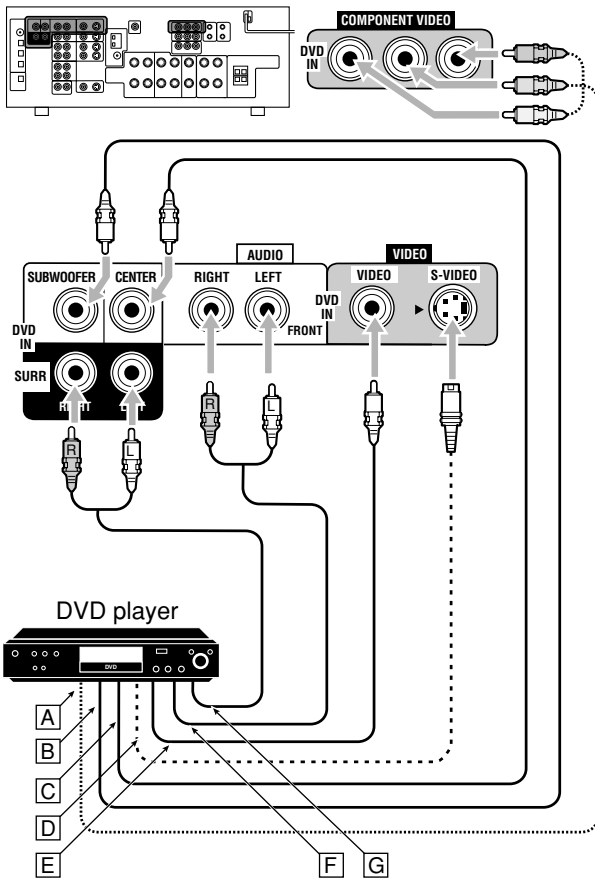
To cancel the DSP modes

Press SURROUND/DSP OFF (or SURR/DSP OFF on the remote control) repeatedly until "SURR OFF" appears on the display.

Using the DVD MULTI Playback Mode

This receiver provides the DVD MULTI playback mode for reproducing the analog discrete output mode of the DVD player.

Connection diagram



- A To component video output
- B To subwoofer output
- C To center channel audio output
- D To S-video output
- E To composite video output
- F To left/right front channel audio output
- G To left/right surround channel audio output

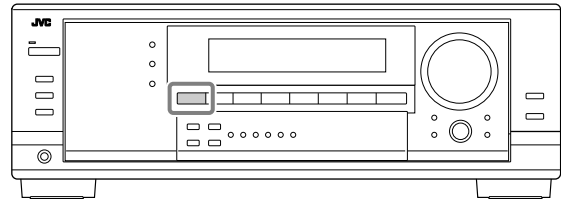
Note:

When connecting a DVD player to the component video input jacks, make the component video input setting (VIDEO IN DVD) correctly. See page 26 for details.

Activating the DVD MULTI Playback Mode

DVD MULTI playback mode is the best connection method for enjoying DVD Audio sounds.

- When a DVD Audio disc is played back, the original high-quality sounds can be reproduced only using this mode.



1. Press DVD MULTI so that "DVD" appears on the display.

The MULTI indicator also lights up.



Note:

When you select DVD MULTI as the source to play, the Surround and DSP modes are canceled, and the SURROUND and DSP buttons do not work.

2. Select the analog discrete output mode on the DVD player, and start playing a DVD.

- Refer also to the manual supplied with the DVD player.

You can adjust equalization patterns and speaker output levels. See "Adjusting the equalization patterns" on page 28 for details.

Notes:

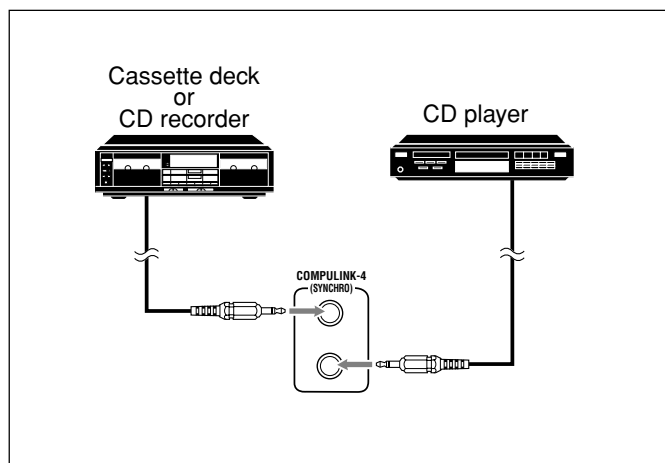
- Midnight Mode is not available for DVD MULTI playback mode (see page 16).
- When using a headphones, you can listen to the front channels (left and right) only, therefore 3D Headphone (3D H PHONE) mode is not valid for DVD MULTI playback mode.

COMPU LINK Remote Control System

The COMPU LINK remote control system allows you to operate JVC's audio components through the remote sensor on the receiver.

To use this remote control system, you need to connect JVC's audio components through the COMPU LINK (SYNCHRO) jacks (see below) in addition to the connections using cables with RCA pin plugs (see pages 9).

- Make sure that the AC power cords of these components are unplugged before connection. Plug the AC power cords only after all connections are complete.



Notes:

- There are four versions of COMPU LINK remote control system. This receiver is equipped with the fourth version—COMPU LINK-4. This version is added systematic operations with the CD recorder to the previous version—COMPU LINK-3.
- If your audio component has two COMPU LINK jacks, you can use either one. If it has only one COMPU LINK jack, connect it so that it is the last item in the series of components.
- To operate the cassette deck or CD recorder using the COMPU LINK remote control system, set the source name correctly if required. (See page 17.)
- Refer also to the manuals supplied for your audio components.

This remote control system allows you to use four functions listed below.

Remote Control through the Remote Sensor on the Receiver

You can control the connected audio components through the remote sensor on the receiver using this remote control. Aim the remote control directly at the remote sensor on the receiver. For details, see pages 40 and 41.

Automatic Source Selection

When you press the play (▶) button on a connected component or on its own remote control, the receiver automatically turns on and changes the source to the component. On the other hand, if you select a new source on the receiver or on the remote control, the selected component begins playing immediately. In both cases, the previously selected source continues playing without sound for a few seconds.

Automatic Power On/Off (Standby)—only possible with the COMPU LINK-3 and COMPU LINK-4

The connected components turn on and off (standby) along with the receiver.

When you turn on the receiver, one of the connected components will turn on automatically, depending on which component has been previously selected.

When you turn off the receiver, the connected components will turn off (Standby).

Synchronized Recording

Synchronized recording means the cassette deck starts recording as soon as a CD begins playing.

To use synchronized recording, follow these steps:

1. Put a tape in the cassette deck, and a disc in the CD player.

2. Press the record (●) button and the pause (||) button on the cassette deck at the same time.

This puts the cassette deck into recording pause.

If you do not press the record (●) button and pause (||) button at the same time, the synchronized recording feature will not operate.

3. Press the play (▶) button on the CD player.

The source changes on the receiver, and as soon as play starts, the cassette deck starts recording. When the play ends, the cassette deck enters recording pause, and stops about 4 seconds later.

Notes:

- During synchronized recording, the selected source cannot be changed.
- If the power of any component is shut off during synchronized recording, the COMPU LINK remote control system may not operate properly. In this case, you must start again from the beginning.

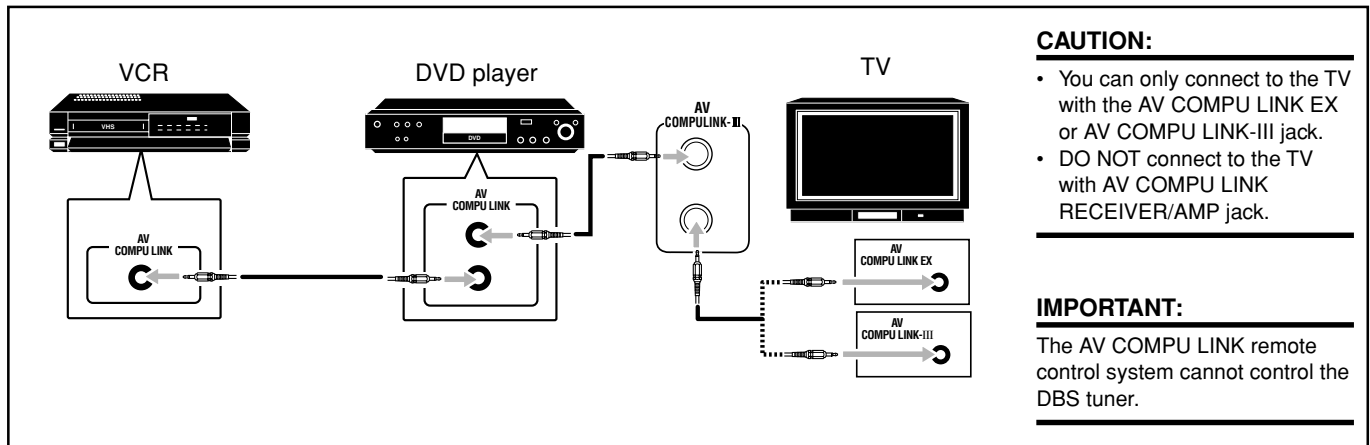
AV COMPU LINK Remote Control System

The AV COMPU LINK remote control system allows you to operate JVC's video components (TV, VCR, and DVD player) through the receiver.

This receiver is equipped with the AV COMPU LINK-III, which adds a function to operate JVC's video components through the video components terminals.

To use this remote control system, connect the video components you want to operate, following the diagrams below and the procedure on the next page.

CONNECTIONS 1: AV COMPU LINK connection



Notes:

- When connecting the receiver and a TV with the AV COMPU LINK EX jack by using a component video cable, you cannot use automatic selection of TV's input mode (see page 39).
- Make sure that the remote control code for the connected VCR is set to code "A."
- When connecting only the VCR or DVD player to the receiver, connect it directly to the receiver using cables with the monaural mini-plugs.

CONNECTIONS 2: Video cable connection

This receiver is equipped with three types of the video terminals—S-video, composite video, and component video, and the signals coming into this receiver through one type of video jacks can output only through the jack of the same type. So you need to connect the VCR and/or DVD player to the TV using one of the following three ways:

- When using the AV COMPU LINK remote control system, set the component video input for the DVD player and the VCR correctly (see "Setting the component video input" on page 26); otherwise, the correct input for this receiver will not be selected on the TV.

CASE 1	<p>When connecting the source equipment to the receiver through the S-video jacks, connect the receiver to the TV's Video Input 1 jack (S-video input) using S-video cables.</p>
CASE 2	<p>When connecting the source equipment to the receiver through the composite video jacks, connect the receiver to the TV's Video Input 2 jack (composite video input) using composite video cables.</p>
CASE 3	<p>When connecting the source equipment to the receiver through the component video jacks, connect the receiver to the TV's Video Input 2 jack (component video input) using component video cables.</p>

■ Connecting procedure

1. **If you have already plugged your VCR , DVD player, TV and this receiver into the AC outlets, unplug their AC power cords first.**
2. **Connect your VCR, DVD player, TV and this receiver, using the cables with the monaural mini-plugs (not supplied).**
 - See "CONNECTIONS 1" on the previous page.
3. **Connect the audio input/output jacks on VCR, DVD player, TV and this receiver using the cables with RCA pin plugs.**
 - See pages 10 and 11.
4. **Connect the video input/output jacks on VCR, DVD player, TV and this receiver, using the cables with RCA pin plugs, S-video plug or component video plugs.**
 - See "CONNECTIONS 2" on the previous page.
5. **Plug the AC power cords of the components and the receiver into the AC outlets.**
6. **When turning on the TV for the first time after the AV COMPU LINK connection, turn the TV volume to the minimum using the TV volume control on the TV.**
7. **Turn on the connected components first, then turn on this receiver.**
 - When turning on the VCR, use the remote control supplied with this receiver.

The AV COMPU LINK remote control system allows you to use the five basic functions listed below.

Remote Control of the TV, DVD player, and VCR Using This Remote Control

See page 41 for details.

- Aim the remote control directly at the remote sensor on each target component.

One-Touch Video Play

Simply by inserting a video cassette without its safety tab into the VCR, you can enjoy the video playback without setting other switches manually. The receiver automatically turns on and changes the source to VCR.

The TV automatically turns on and changes the input mode to the appropriate position so that you can view the playback picture.

When you insert a video cassette with its safety tab, press the play (▶) button on the VCR or on the remote control. So, you can get the same result.

One-Touch DVD Play

Simply by starting playback on the DVD player, you can enjoy the DVD playback without setting other switches manually.

- When the DVD player is connected through the analog input jacks on this receiver (and analog input is selected), the receiver automatically turns on and changes the source to DVD or DVD MULTI.
- When the DVD player is connected through the digital input terminal on this receiver (and digital input is selected), the receiver automatically turns on and changes the source to DVD. The TV automatically turns on and changes the input mode to the appropriate position so that you can view the playback picture.

Automatic Selection of TV's Input Mode

- When you select TV as the source to play on the receiver, the TV automatically changes the input mode to the TV tuner so that you can watch TV.
- When you select any other video source other than TV as the source to play on the receiver, the TV automatically changes the input mode to the appropriate position (either Video Input 1 or Video Input 2) so that you can view the playback picture.

Notes:

- When you select TV as the source on the receiver, you cannot see the menu on the TV screen since the AV COMPU LINK remote control system automatically changes the TV's input mode to the TV tuner.
- This function does not work when you connect this receiver and the TV with the AV COMPU LINK EX jack using a component video cable. In this case, reconnect the TV referring to CASE 1 or CASE 2 on page 38.

Automatic Power On/Off (Standby)

The TV, VCR, and DVD player turn on and off along with the receiver.

When you turn on the receiver;

- If the previously selected source is VCR, the TV and VCR will turn on automatically.
- If the previously selected source is DVD or DVD MULTI, the TV and DVD player will turn on automatically.
- If the previously selected source is TV, only the TV will turn on automatically.

When you turn off the receiver, the TV, VCR and the DVD player will turn off (Standby).

Note:

If you turn off the receiver while recording on the VCR, the VCR will not turn off, but continue recording.

Operating JVC's Audio/Video Components

You can operate JVC's audio and video components with this receiver's remote control, since control signals for JVC's components are preset in the remote control.

IMPORTANT:

To operate JVC's audio components using the supplied remote control:

- You need to connect JVC's audio components through the COMPU LINK (SYNCHRO) jacks (see page 37) in addition to the connections using cables with RCA pin plugs (see page 9).
- Aim the remote control directly at the remote sensor on the receiver.
- If you use the buttons on the front panel to choose a source, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using source selection buttons on the remote control.
- To operate the target component using the COMPU LINK remote control system, set the source name correctly if required. (See page 17.)
- Refer also to the manuals supplied with your components.

Sound control section (Amplifier)

You can always perform the following operations:

Ⓞ/I AUDIO:	Turn on or off the receiver.
DIMMER:	Dim or brighten the display.
VOLUME +/-:	Adjust the volume level.
MUTING:	Turn on or off sound muting.
SURROUND:	Turn on and select the Surround modes
DSP:	Turn on and select the DSP modes.
SURR/DSP OFF:	Turn off the Surround and DSP mode.
CC CONVERTER:	Turn on or off CC Converter.
EX/ES:	Select the EX/ES reproduction mode.
ANALOG DIRECT:	Turn on or off Analog Direct.
ANALOG/DIGITAL INPUT:	Switch the analog and digital input alternately.
MIDNIGHT MODE:	Select the Midnight Mode.
SLEEP:	Set the Sleep Timer.
TEST:	Turn on or off test tone output.
BASS BOOST:	Turn on or off Bass Boost.
CENTER TONE:	Adjust the center tone.
D.EQ FREQ:	Select the frequency bands.
D.EQ LEVEL +/-:	Adjust the selected frequency band's level.
FRONT L +/-:	Adjust the left front speaker output level.
FRONT R +/-:	Adjust the right front speaker output level.
CENTER +/-:	Adjust the center speaker output level.
SURR L +/-:	Adjust the left surround speaker output level.
SURR R +/-:	Adjust the right surround speaker output level.
S.BACK +/-:	Adjust the surround back speaker output level.
SUBWFR +/-:	Adjust the subwoofer output level.

Tuner

You can always perform the following operation:

FM/AM: Alternate between FM and AM.

After pressing FM/AM, you can perform the following operations on a tuner:

- 1 – 10, +10: Select a preset channel number directly.
For channel number 5, press 5.
For channel number 15, press +10, then 5.
For channel number 20, press +10, then 10.
- TUNING \oplus/\ominus : Tune into stations.
- FM MODE: Change the FM reception mode.

CD player

After pressing CD, you can perform the following operations on the CD player:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) track.
- ▶▶: Skip to the beginning of the next track.
- : Stop playing.
- ||: Pause playing. To resume, press ▶.
- 1 – 10, +10: Select a track number directly.
For track number 5, press 5.
For track number 15, press +10, then 5.
For track number 20, press +10, then 10.
For track number 30, press +10, +10, then 10.

CD changer

After pressing CD-DISC, you can perform the following operations on the CD changer:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) track.
- ▶▶: Skip to the beginning of the next track.
- : Stop playing.
- ||: Pause playing. To resume, press ▶.
- 1 – 6, 7/P: Select the number of a disc installed in a CD changer.

After pressing CD, you can perform the following operations on a CD changer:

- 1 – 10, +10: Select a track number directly.
For track number 5, press 5.
For track number 15, press +10, then 5.
For track number 20, press +10, then 10.
For track number 30, press +10, +10, then 10.

Example:

- Selecting disc number 4, track number 12, and starting playback.
 1. Press CD-DISC, then press 4.
 2. Press CD, then press +10, 2.

If your CD changer is of 200-disc loading capability (except for XL-MC100 and XL-MC301), you can do the following operations using the 10 keys after pressing CD.

1. Select a disc number.
2. Then select a track number (always enter two digits).
3. Press ▶ to start playback.

Examples:

- Selecting disc number 3, track number 2, and starting playback.
Press 3, then, 0, 2, then ▶.
- Selecting disc number 10, track number 5, and starting playback.
Press 1, 0, then, 0, 5, then ▶.
- Selecting disc number 105, track number 12, and starting playback.
Press 1, 0, 5, then 1, 2, then ▶.

Note:

It is required to press each button within 4 seconds in the above procedure.

CD recorder

After pressing TAPE/CDR (or TAPE/CDR CONT), you can perform the following operations on a CD recorder:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) track.
- ▶▶: Skip to the beginning of the next track.
- : Stop playing and recording.
- ||: Pause playing or recording. To resume, press ▶.
- REC PAUSE: Enter recording pause. To start recording, press this button then ▶.

Cassette deck

After pressing TAPE/CDR (or TAPE/CDR CONT), you can perform the following operations on a cassette deck:

- ▶: Start playing.
- REW: Fast-wind the tape from right to left.
- FF: Fast-wind the tape from left to right.
- : Stop playing and recording or fast-wind the tape.
- ||: Pause playing or recording. To resume, press ▶.
- REC PAUSE: Enter recording pause. To start recording, press this button then ▶.

Note:

You can use either source selection buttons or the control button (TAPE/CDR CONT) to activate the buttons for the target source. If you press one of the source selection buttons, the playing source also changes. On the other hand, pressing the control button does not change the playing source.

Operating Video Components

IMPORTANT:

To operate JVC's video components using the supplied remote control:

- You need to connect JVC's video components through the AV COMPU LINK jacks (see page 38) in addition to the connections using cables with RCA pin plugs (see pages 10 and 11).
- Some JVC's VCRs can accept two types of the control signals—remote code "A" and "B." Before using this remote control, make sure that the remote control code of the target VCR is set to code "A."
- When using the remote control, aim the remote control directly at the remote sensor on each component, not on the receiver.

VCR

You can always perform the following operation:

- VCR ϕ /I: Turn on or off a VCR.

After pressing VCR (or VCR CONT), you can perform the following operations on a VCR:

- ▶: Start playing.
- REW: Rewind the tape.
- FF: Fast-forward the tape.
- : Stop playing and recording or rewind or fast-forward the tape.
- ||: Pause playing or recording. To resume, press ▶.

- CHANNEL +/-: Change the TV channels on a VCR.
- 1 - 9, 10 (RETURN), 0, 100+ (+10):

Select the TV channels on a VCR.

The 10 (RETURN) button will function as the ENTER button if your VCR requires pressing ENTER after selecting a channel number.

- REC PAUSE: Enter recording pause. To start recording, press this button then ▶.

Note:

You can use either VCR or the control button (VCR CONT) to activate the buttons listed above. If you press one of the source selection buttons, the playing source also changes. On the other hand, pressing the control button does not change the playing source.

DVD player

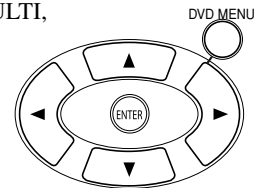
You can always perform the following operation:

- DVD ϕ /I: Turn on or off the DVD player.

After pressing DVD or DVD MULTI, you can perform the following operations on the DVD player:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) chapter.
- ▶▶: Skip to the beginning of the next chapter.
- : Stop playing.
- ||: Pause playing. To resume, press ▶.
- 1 - 10, 0, +10: Select a track number directly.
 - For track number 5, press 5.
 - For track number 15, press +10, then 5.
 - For track number 20, press +10, then 10 (or press +10, +10, then 0).
 - For track number 30, press +10, +10, then 10 (or press +10, +10, +10, then 0).

After pressing DVD or DVD MULTI, these buttons can be used for the DVD menu operations.



Note:

For detailed menu operations, refer to the instructions supplied with the discs or the DVD player.

TV

You can always perform the following operations:

- TV ϕ /I: Turn on or off the TV.
- TV VOL +/-: Adjust the volume.
- TV/VIDEO: Set the input mode (either TV or VIDEO).

After pressing TV/DBS, you can perform the following operations on a TV:

- CHANNEL +/-: Change the channels.
- 1 - 9, 0, 100+ (+10): Select the channels.
- RETURN (10): Alternate between the previously selected channel and the current channel.

Operating Other Manufacturers' Video Equipment

This remote control supplied with the receiver can transmit control signals for other manufacturers' TVs, CATV converters, DBS tuners, VCRs and DVD players.

When operating the other manufacturers' components, refer also to the manuals supplied with them.

- After replacing batteries for the remote control, you need to set the manufacturers' codes again.

To change the transmittable signals for operating another manufacturer's TV

1. Press and hold TV \odot/I .
2. Press TV/DBS.
3. Enter a manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release TV \odot/I .
5. Try to operate your TV by pressing TV \odot/I .

When your TV turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of TV, try each one until the correct one is entered.

The following buttons can be used for operating the TV:

- TV \odot/I : Turn on and off the TV.
TV VOL +/-: Adjust the volume.
TV/VIDEO: Set the input mode (either TV or VIDEO).

After pressing TV/DBS, you can perform the following operations on the TV:

- CHANNEL +/-: Change the channels.
1 – 9, 10 (RETURN), 0, 100+ (+10):
Select the channels.
The 10 (RETURN) button will function as the ENTER button if your TV requires pressing ENTER after selecting a channel number.

Notes:

- All the functions listed above may not be assigned to the buttons for some TVs.
- If you cannot change the channels of some TVs by pressing 10 keys, press CHANNEL +/- for changing the channels.

To change the transmittable signals for operating a CATV converter or DBS tuner

1. Press and hold CATV/DBS \odot/I .
2. Press CATV/DBS CONT.
3. Enter a manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release CATV/DBS \odot/I .
5. Try to operate your CATV converter or DBS tuner by pressing CATV/DBS \odot/I .

When your CATV converter or DBS tuner turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of CATV converter or DBS tuner, try each one until the correct one is entered.

The following button can be used for operating the CATV converter and DBS tuner:

- CATV/DBS \odot/I : Turn on and off the CATV converter or DBS tuner.

After pressing CATV/DBS CONT, you can perform the following operations on the CATV converter or DBS tuner:

- CHANNEL +/-: Change the channels.
1 – 9, 10 (RETURN), 0, 100+ (+10):
Select the channels.
The 10 (RETURN) button will function as the ENTER button if your equipment requires pressing ENTER after selecting a channel number.

Note:

You cannot preset the signals for both the CATV converter and DBS tuner at the same time.

To change the transmittable signals for operating another manufacturer's VCR

1. Press and hold VCR ϕ/l .
2. Press VCR.
3. Enter manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release VCR ϕ/l .
5. Try to operate your VCR by pressing VCR ϕ/l .
When your VCR turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of VCR, try each one until the correct one is entered.

The following button can be used for operating the VCR:

VCR ϕ/l : Turn on and off the VCR.

After pressing VCR, you can perform the following operations on the VCR:

CHANNEL +/-: Change the TV channels on the VCR.
1 – 9, 10 (RETURN), 0, 100+ (+10):

Select the TV channels on a VCR.

The 10 (RETURN) button will function as the ENTER button if your VCR requires pressing ENTER after selecting a channel number.

- ▶: Start playback.
- REW: Rewind the tape.
- FF: Fast-forward the tape.
- : Stop playing or recording.
- ||: Pause playing. To resume, press ▶.
- REC PAUSE: Enter recording pause.
To start recording, press this button then ▶.

To change the transmittable signals for operating another manufacturer's DVD player

1. Press and hold DVD ϕ/l .
2. Press DVD.
3. Enter a manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release DVD ϕ/l .
5. Try to operate your DVD player by pressing DVD ϕ/l .
When your DVD player turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of DVD, try each one until the correct one is entered.

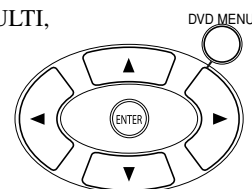
The following button can be used for operating the DVD:

DVD ϕ/l : Turn on and off the DVD.

After pressing DVD or DVD MULTI, you can perform the following operations on the DVD player:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) chapter. Some model of the DVD player, rewind the picture
- ▶▶: Skip to the beginning of the next chapter. Some model of the DVD player, fast-forward the picture.
- : Stop playing.
- ||: Pause playing. To resume, press ▶.
- 1 – 10, 0, +10: Select a track number directly.
For track number 5, press 5.
For track number 15, press +10, then 5.
For track number 20, press +10, then 10 (or press +10, +10, then 0).
For track number 30, press +10, +10, then 10 (or press +10, +10, +10, then 0).

After pressing DVD or DVD MULTI, these buttons can be used for the DVD menu operations.



Note:

For detailed menu operations, refer to the instructions supplied with the discs or the DVD player.

For TV

Manufacturer	Codes	Manufacturer	Codes
JVC	01*	Panasonic	26, 27
Akai	02	Philips	24
Bell & Howell	03	Pioneer	28
Centurion	04	Proscan	29
Coronad	05	Quasar	30
Daewoo	06, 07, 08	Radioshack	31
Emerson	09, 10, 11, 12, 13	RCA	02, 17, 32, 33, 34, 35
Fisher	14	Samsung	36, 37
GE/Pana	15, 16	Sanyo	14
GE/RCA	17	Sears	38
Gold Star	18, 19	Sharp	39
Hitachi	20, 21	Sony	40
KTV	22, 23	Symphonic	41, 42
Magnavox	24	Toshiba	38
Marantz	25	Zenith	43, 44
Mitsubishi	25		

For VCR

Manufacturer	Codes
JVC	01*, 02, 03, 04
Aiwa	05
Akai	06, 07, 08
Bell & Howell	09
Daewoo	10
Emerson	11, 12, 13, 14, 15
Fisher	16, 17, 18, 19
GE	20, 21
Go Video	22
Gold Star	23
Go-Video_A	24
Go-Video_B	25
Hitachi	20, 26
Magnavox	27, 28, 29
Mitsubishi	30, 31, 32, 33
NEC	34, 35
Panasonic	36, 37
Philips	27
RCA	38
Samsung	39, 40, 41
Sanyo	16, 17, 18, 19
Scott	42
Sharp	43, 44
Shintom	45
Sony	46, 47, 48, 49, 50, 51
Symphonic	52
Teknica	53, 54
Toshiba	55
Zenith	56

For CATV converter

Manufacturer	Codes
General Instrument	01*
Gemini	02
Hamlin	03, 04, 05, 06
Jerrold	07, 08, 09, 10, 11, 12, 13, 14, 15
Macom	16, 17, 18
Magnavox	19
Oak	20, 21, 22
Panasonic	23, 24
Philips	25, 26, 27, 28, 29, 30
Pioneer	31, 32
S. Atlanta	33, 34, 35
Samsung	36
Tocom	37
Zenith	38, 39

For DVD player

Manufacturer	Codes
JVC	01*
Hitachi	02
Kenwood	03, 04
Magnavox	05
Marantz	06
Mitsubishi	07
Onkyo	08, 09
Panasonic	10
Philips	06
Pioneer	11
Proscan	12
RCA	12
Samsung	13
Sony	14
Toshiba	05
Yamaha	15
Zenith	05, 16

For DBS tuner

Manufacturer	Codes
Echostar	40
General Instrument	41
Hitachi	42
Hughes	43
Panasonic	44
Primestar	45
RCA	46
Sony	47
Toshiba	48

*Initial setting

Manufacturers' codes are subject to change without notice. If they are changed, this remote control cannot operate the equipment.

Troubleshooting

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

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display does not light up.	The power cord is not plugged in.	Plug the power cord into an AC outlet.
No sound from speakers.	Speaker signal cables are not connected.	Check speaker wiring and reconnect if necessary. (See page 7.)
	The SPEAKERS ON/OFF 1 and SPEAKERS ON/OFF 2 buttons are not set correctly.	Press SPEAKERS ON/OFF 1 and SPEAKERS ON/OFF 2 correctly. (See page 15.)
	An incorrect source is selected.	Select the correct source.
	Muting is activated.	Press MUTING to cancel the mute. (See page 18.)
	An incorrect input mode (analog or digital) is selected.	Select the correct input mode (analog or digital). (See pages 15 and 16.)
Sound from one speaker only.	Speaker signal cables are not connected properly.	Check speaker wiring and reconnect if necessary. (See page 7.)
"NO SUBWFR" appears on the display.	SUBWOOFER OUT ON/OFF is pressed while "SUB WOOFER" is set to "NO."	If subwoofer is connected, set "SUB WOOFER" to "YES" so that SUBWOOFER OUT ON/OFF works.
Continuous hiss or buzzing during FM reception.	Incoming signal is too weak.	Connect an outdoor FM antenna or contact your dealer. (See page 6.)
	The station is too far away.	Select a new station.
Noise is heard during FM/AM reception.	An incorrect antenna is used.	Check with your dealer to be sure you have the correct antenna.
	Antennas are not connected properly.	Check connections. (See pages 6 and 7.)
	Ignition noise from automobiles.	Move the antenna farther from automobile traffic.
No sound effect such as the Surround mode, DSP mode and equalization pattern.	Analog Direct is turned on.	Turn off Analog Direct. (See page 17.)
	DVD MULTI is selected as the source (except digital equalization).	Select the source other than DVD MULTI. (See page 13.)
EX/ES (7.1-channel) reproduction cannot be done for Dolby Digital EX or DTS-ES software.	Software or setting is not for Dolby Digital-EX or DTS-ES software.	Play back software bearing the mark Dolby Digital EX or DTS-ES. Set "EX/ES" setting to "AUTO" or "ON." (See page 33.)
"OVERLOAD" starts flashing on the display.	Speakers are overloaded because of high volume.	<ol style="list-style-type: none"> 1. Press ϕ/I STANDBY/ON on the front panel to turn off the receiver. 2. Stop the playback source. 3. Turn on the receiver again, and adjust the volume.
	Speakers are overloaded because of short circuit of speaker terminals.	Press ϕ /I STANDBY/ON on the front panel to turn off the receiver, then check the speaker wiring. If "OVERLOAD" does not disappear, unplug the AC power cord, then plug it back again. If speaker wiring is not short-circuited, contact your dealer.
"DSP NG" starts flashing on the display.	The built-in microcomputer is not functioning correctly.	Press ϕ /I STANDBY/ON on the front panel to turn off the receiver. After unplugging the AC power cord, contact your dealer.
The STANDBY lamp lights up after turning on the power, and soon the receiver turns off again (into standby mode).	Very high voltage or very low voltage is applied to the receiver, or built-in power amplifier becomes out of order.	Press ϕ /I STANDBY/ON on the front panel to turn off the receiver. After unplugging the AC power cord, consult your dealer.
Remote control does not work.	There is an obstruction between the remote sensor on the receiver and the remote control.	Remove the obstruction.
	Batteries are weak.	Replace batteries. (See page 6.)
Remote control does not work as you intend.	An incorrect remote control operation mode is selected.	Select the correct remote control operation mode. (See pages 40 and 41.)

Specifications

Amplifier

Output Power

At Stereo Operation

Front Channel: **130 W per channel, min. RMS, driven into 8 Ω , 20 Hz to 20 kHz, with no more than 0.08% total harmonic distortion.**

At Surround Operation

Front Channel: 130 W per channel, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Center Channel: 130 W, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Surround Channel: 130 W per channel, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Surround Back Channel:
130 W, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Audio

Audio Input Sensitivity/Impedance (1 kHz)

DVD IN, VCR IN, TV SOUND/DBS IN: 200 mV/47 k Ω

CD IN, TAPE/CDR IN: 200 mV/47 k Ω

Audio Input (DIGITAL IN)*

Coaxial DIGITAL 1 (DVD): 0.5 V(p-p)/75 Ω

Optical DIGITAL 2 (CD), DIGITAL 3 (TV), DIGITAL 4 (CDR):
-21 dBm to -15 dBm (660 nm \pm 30 nm)

* Corresponding to Linear PCM, Dolby Digital, and DTS (with sampling frequency—32 kHz, 44.1 kHz, 48 kHz).

Audio Output Level SUBWOOFER OUT: 1 V

Recording Output Level VCR OUT, TAPE/CDR OUT: 200 mV

Digital Output Optical DIGITAL OUT
Signal wave length: 660 nm
Output level: -21 dBm to -15 dBm

Signal-to-Noise Ratio ('66 IHF/'78 IHF)

DVD IN, VCR IN, TV SOUND/DBS IN: 87 dB/80 dB

CD IN, TAPE/CDR IN: 87 dB/80 dB

Frequency Response (8 Ω)

DVD IN, VCR IN, TV SOUND/DBS IN:
20 Hz to 100 kHz (+1 dB, -3 dB)

CD IN, TAPE/CDR IN: 20 Hz to 100 kHz (+1 dB, -3 dB)

Bass Boost: +6 dB \pm 1.0 dB at 100 Hz

Equalization

63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz: \pm 8 dB (in 2 dB steps)

Video

Video Input Sensitivity/Impedance

Composite Video DVD IN, VCR IN, TV SOUND/DBS IN: 1 V(p-p)/75 Ω

S-video DVD IN, VCR IN, TV SOUND/DBS IN
(Y: luminance): 1 V(p-p)/75 Ω
(C: chrominance, burst): 0.286 V(p-p)/75 Ω

Component Video DVD IN, DBS (VCR) IN
(Y: luminance): 1 V(p-p)/75 Ω
(PB/PR): 0.7 V(p-p)/75 Ω

Video Output Level

Composite Video VCR OUT, MONITOR OUT: 1 V(p-p)/75 Ω

S-video VCR OUT, MONITOR OUT
(Y: luminance): 1 V(p-p)/75 Ω
(C: chrominance, burst): 0.286 V(p-p)/75 Ω

Component Video MONITOR OUT
(Y: luminance): 1 V(p-p)/75 Ω
(PB/PR): 0.7 V(p-p)/75 Ω

Synchronization: Negative

Signal-to-Noise Ratio: 45 dB

FM tuner (IHF)

Tuning Range: 87.5 MHz to 108.0 MHz

Usable Sensitivity Monaural: 12.8 dBf (1.2 μ V/75 Ω)

50 dB Quieting Sensitivity Monaural: 16.0 dBf (1.7 μ V/75 Ω)

Stereo: 37.5 dBf (20.5 μ V/75 Ω)

Stereo Separation at OUT (REC): 35 dB at 1 kHz

AM tuner

Tuning Range: 530 kHz to 1 710 kHz

General

Power Requirements: AC 120V \sim , 60 Hz

Power Consumption: 320 W/440 VA (at operation)

2 W (in standby mode)

Dimensions (W x H x D): 435 mm x 157 mm x 425 mm
(17 ³/₁₆ in. x 6 ³/₁₆ in. x 16 ³/₄ in.)

Mass: 12.1 kg (26.7 lbs)

Designs & specifications are subject to change without notice.



LIMITED WARRANTY

AUDIO-2

JVC COMPANY OF AMERICA warrants this product and all parts thereof, except as set forth below ONLY TO THE ORIGINAL PURCHASER AT RETAIL to be FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP from the date of original retail purchase for the period as shown below. ("The Warranty Period")

PARTS	2 YRS	LABOR	2 YRS
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THIS LIMITED WARRANTY IS VALID ONLY IN THE FIFTY (50) UNITED STATES, THE DISTRICT OF COLUMBIA AND IN COMMONWEALTH OF PUERTO RICO.

WHAT WE WILL DO:

If this product is found to be defective, JVC will repair or replace defective parts at no charge to the original owner. Such repair and replacement services shall be rendered by JVC during normal business hours at JVC authorized service centers. Parts used for replacement are warranted only for the remainder of the Warranty Period. All products and parts thereof may be brought to a JVC authorized service center on a carry-in basis except for Television sets having a screen size 25 inches and above which are covered on an in-home basis.

WHAT YOU MUST DO FOR WARRANTY SERVICE:

Return your product to a JVC authorized service center with a copy of your bill of sale. For your nearest JVC authorized service center, please call toll free: (800) 537-5722.

If service is not available locally, box the product carefully, preferably in the original carton, and ship, insured, with a copy of your bill of sale plus a letter of explanation of the problem to the nearest JVC Factory Service Center, the name and location of which will be given to you by the toll-free number.

If you have any questions concerning your JVC Product, please contact our Customer Relations Department.

WHAT IS NOT COVERED:

This limited warranty provided by JVC does not cover:

1. Products which have been subject to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, or if repaired or serviced by anyone other than a service facility authorized by JVC to render such service, or if affixed to any attachment not provided with the products, or if the model number or serial number has been altered, tampered with, defaced or removed;
2. Initial installation and installation and removal for repair;
3. Operational adjustments covered in the Owner's Manual, normal maintenance, video and audio head cleaning;
4. Damage that occurs in shipment, due to act of God, and cosmetic damage;
5. Signal reception problems and failures due to line power surge;
6. Video Pick-up Tubes/CCD Image Sensor, Cartridge, Stylus (Needle) are covered for 90 days from the date of purchase;
7. Batteries (except that Rechargeable Batteries are covered for 90 days from the date of purchase);

There are no express warranties except as listed above.

THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

JVC SHALL NOT BE LIABLE FOR THE LOSS OF USE OF THE PRODUCT, INCONVENIENCE, LOSS OR ANY OTHER DAMAGES, WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS) RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion of incidental or consequential damages or limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

JVC COMPANY OF AMERICA
DIVISION OF JVC AMERICAS CORP.

1700 Valley Road
Wayne, NJ 07470

REFURBISHED PRODUCTS CARRY A SEPARATE WARRANTY, THIS WARRANTY DOES NOT APPLY. FOR DETAILS OF REFURBISHED PRODUCT WARRANTY, PLEASE REFER TO THE REFURBISHED PRODUCT WARRANTY INFORMATION PACKAGED WITH EACH REFURBISHED PRODUCT.

For customer use:

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

Model No. : _____

Serial No. : _____

Purchase data : _____

Name of dealer : _____

Authorized Service Centers

QUALITY **JVC**[®] SERVICE
HOW TO LOCATE YOUR JVC SERVICE CENTER
TOLL FREE: 1 (800) 537-5722
<http://www.jvc.com>

Dear Customer,

In order to receive the most satisfaction from your purchase, please read the instruction booklet before operating the unit. In the event that repairs are necessary, please call 1 (800)537-5722 for your nearest authorized servicer or visit our website at **www.JVC.com**. Remember to retain your Bill of Sale for Warranty Service.

Do not service the television yourself

Caution

To prevent electrical shock, do not open the cabinet. There are no user serviceable parts inside. Please refer to qualified service personnel for repairs.

Accessories

To purchase accessories for your JVC product, please call toll free: 1 (800)882-2345 or on the web at **www.JVC.com**

RX-7040B/RX-7042S

AUDIO/VIDEO CONTROL RECEIVER

JVC
VICTOR COMPANY OF JAPAN, LIMITED



EN

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0104MWMMDWJEIN

JVC



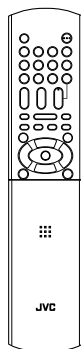
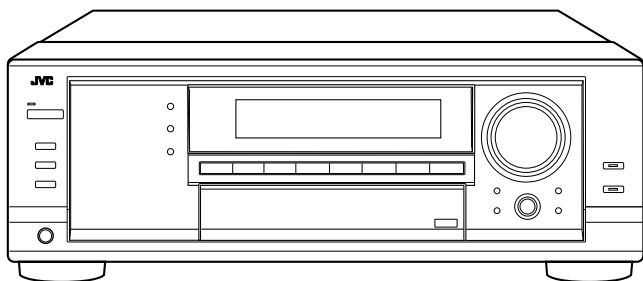
English

Français

AUDIO/VIDEO CONTROL RECEIVER

RECEPTEUR DE COMMANDE AUDIO/VIDEO

RX-7040B/RX-7042S

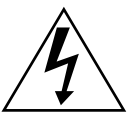


AV COMPU LINK

INSTRUCTIONS

MANUEL D'INSTRUCTIONS

Warnings, Cautions and Others/ Mises en garde, précautions et indications diverses



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.

ATTENTION


Afin d'éviter tout risque d'électrocution, d'incendie, etc.:

1. Ne pas enlever les vis ni les panneaux et ne pas ouvrir le coffret de l'appareil.
2. Ne pas exposer l'appareil à la pluie ni à l'humidité.

Caution— STANDBY/ON button!

Disconnect the mains plug to shut the power off completely. The  STANDBY/ON button in any position does not disconnect the mains line. The power can be remote controlled.

Attention—Commutateur STANDBY/ON!

Déconnecter la fiche de secteur pour couper complètement le courant. Le commutateur  STANDBY/ON ne coupe jamais complètement la ligne de secteur, quelle que soit sa position. Le courant peut être télécommandé.

For U.S.A

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

For Canada/pour Le Canada

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS AS SET OUT IN THE INTERFERENCE-CAUSING EQUIPMENT STANDARD ENTITLED "DIGITAL APPARATUS," ICES-003 OF THE DEPARTMENT OF COMMUNICATIONS. CET APPAREIL NUMERIQUE RESPECTE LES LIMITES DE BRUITS RADIOELECTRIQUES APPLICABLES AUX APPAREILS NUMERIQUES DE CLASSE B PRESCRITES DANS LA NORME SUR LE MATERIEL BROUILLEUR; "APPAREILS NUMERIQUES", NMB-003 EDICTEE PAR LE MINISTRE DES COMMUNICATIONS.

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This mark indicates that ONLY the remote control CAN be used for the operation explained.



This mark indicates that the remote control CANNOT be used for the operation explained. Use the buttons and controls on the front panel.

Introduction

*We would like to thank you for purchasing one of our JVC products.
Before operating this unit, read this manual carefully and thoroughly to obtain the best possible performance from your unit, and retain this manual for future reference.*

Features

CC (Compression Compensative) converter

CC Converter eliminates jitter and ripples, achieving a drastic reduction in digital distortion by processing the digital music data in 24 bit-quantization and by expanding the sampling frequency to 128 kHz (for fs 32 kHz signals)/176.4 kHz (for fs 44.1 kHz signals)/192 kHz (for fs 48 kHz signals). By using the CC Converter, you can obtain a natural sound field from any source. (See page 17 for details.)

K2 technology

K2 technology has been designed to enable natural audio reproduction, achieving a drastic reduction in digital distortion and creating original sound ambience with high precision.

Compatible with various audio formats including DTS 96/24

This unit allows you to enjoy an audio format such as Dolby Digital EX, Dolby Pro Logic II, DTS-ES, DTS Neo:6, and DTS 96/24.

- This unit is also compatible with Dual Mono signals recorded in Dolby Digital and DTS discs.

DAP (Digital Acoustic Processor)

Sound field simulation technology allows precise ambience recreation of existing theaters and halls. Thanks to the high-performance DSP (Digital Signal Processor) and high-capacity memory, you can enjoy multi-channel surround sound by playing 2-channel or multi-channel software according to the speaker setting.

Multi-channel headphone virtual surround sound—3D Headphone mode

The built-in headphone virtual surround system is compatible with Multi-channel software like Dolby Digital, DTS Surround, etc. Thanks to the signal processing algorithms used by the high-performance DSP, you can enjoy a natural surround sound through the headphones.

COMPU LINK/AV COMPU LINK remote control systems

These COMPU LINK remote control systems allow you to operate other JVC's audio/video components from this receiver.

Precautions

General

- Be sure your hands are dry.
- Turn the power off to all components.
- Read the manuals supplied with the components you are going to connect.

Power sources

- When unplugging the receiver from the wall outlet, always pull the plug, not the AC power cord.
- Do not handle the AC power cord with wet hands.
- If you are not going to operate the receiver for an extended period of time, unplug the AC power cord from the wall outlet.

Locations

- Install the receiver in a location that is level and protected from moisture and dust.
- The temperature around the receiver must be between -5°C and 35°C .

Ventilation

High power amplifiers built in this receiver will generate heat inside the cabinet. For safety, observe the following carefully.

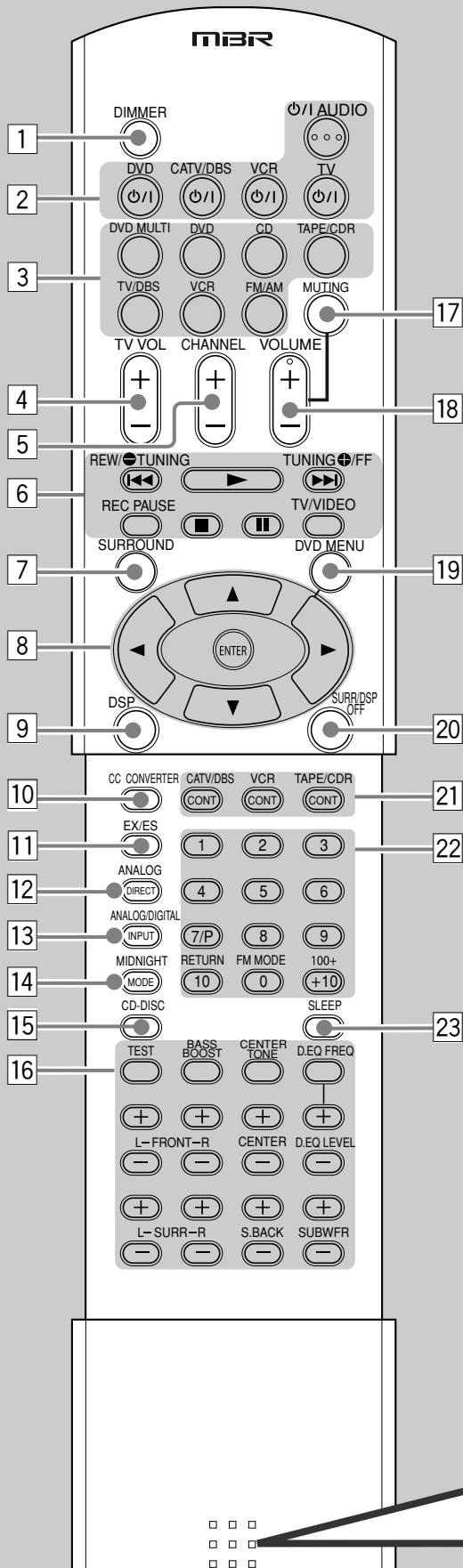
- Make sure there is good ventilation around the receiver. Poor ventilation could overheat and damage the receiver.
- Do not block the ventilation openings or holes. (If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)

Others

- Do not insert any metal object into the receiver.
- Should any metallic object or liquid fall onto the unit, unplug the unit and consult your dealer before operating any further.
- Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
- Do not disassemble the receiver or remove screws, covers, or cabinet.

If anything goes wrong, unplug the AC power cord and consult your JVC dealer.

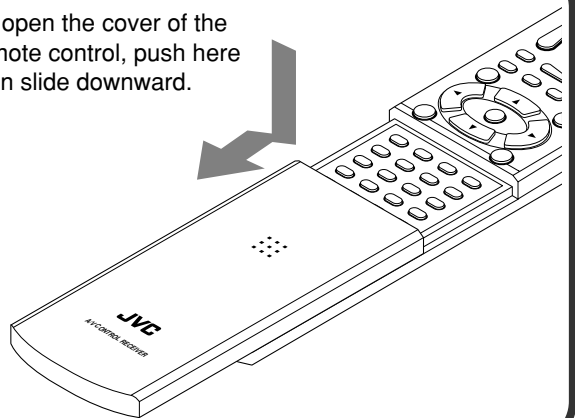
Remote Control



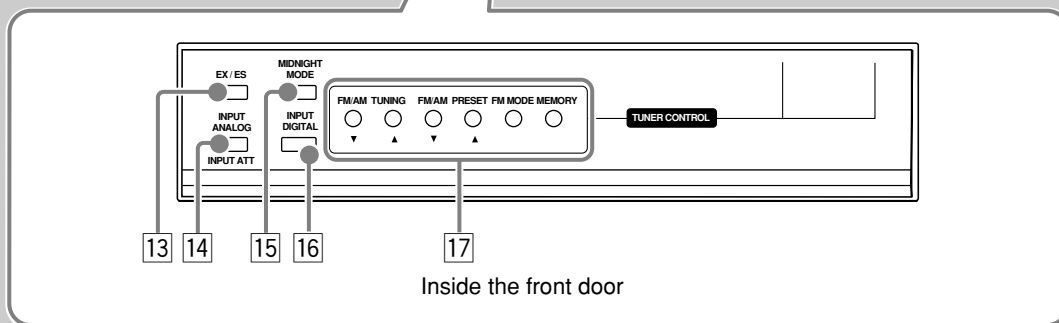
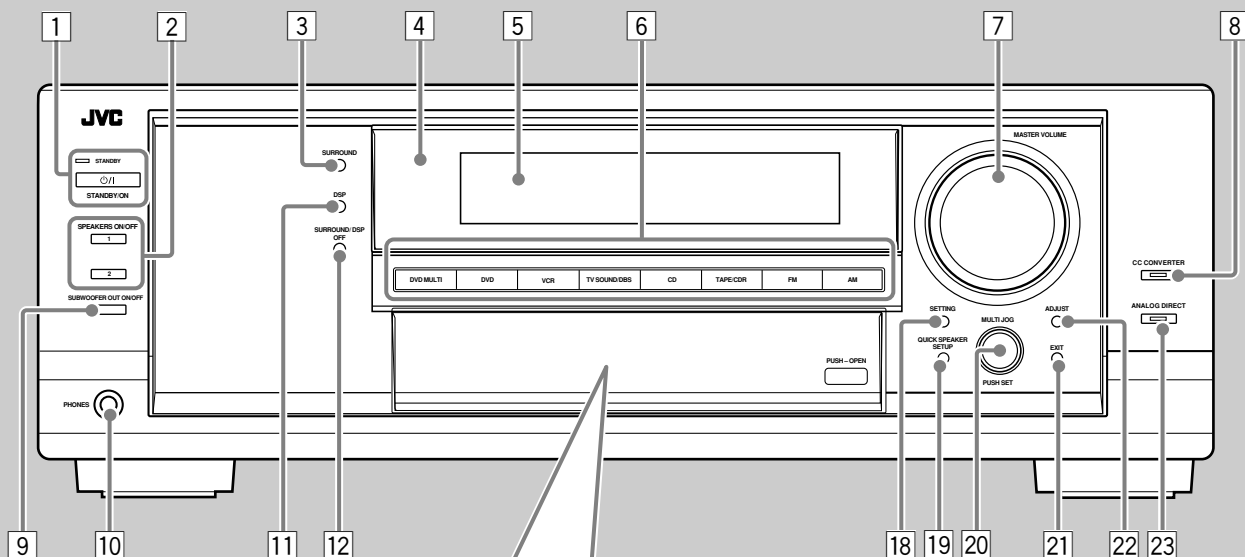
See pages in parentheses for details.

- 1 DIMMER button (18, 40)
- 2 Standby/On buttons (13, 40 – 43)
 ◻/I AUDIO, DVD ◻/I, CATV/DBS ◻/I, VCR ◻/I, TV ◻/I
- 3 Source selection buttons (13 – 15, 19, 20, 36, 40 – 43)
 DVD MULTI, DVD, CD*, TAPE/CDR*, TV/DBS, VCR, FM/AM*
 * When you press one of these source selection buttons on the remote control, the receiver automatically turns on.
- 4 TV VOL (volume) +/- button (41, 42)
- 5 CHANNEL +/- button (41 – 43)
- 6 Operating buttons for audio/video components (40, 41, 43)
 REW ◀◀, ▶▶, FF ▶▶▶, ■, ||
 Operating buttons for tuner (19, 40)
 ● TUNING, TUNING ⊕
 REC PAUSE button (41, 43)
 TV/VIDEO button (41, 42)
- 7 SURROUND button (33, 40)
- 8 Operating buttons for DVD player (41, 43)
 ENTER, ▶, ◀, ▲, ▼
- 9 DSP button (34, 35, 40)
- 10 CC CONVERTER button (17, 40)
- 11 EX/ES button (33, 40)
- 12 ANALOG DIRECT button (17, 40)
- 13 ANALOG/DIGITAL INPUT button (16, 40)
- 14 MIDNIGHT MODE button (16, 40)
- 15 CD-DISC button (40)
- 16 Sound adjustment buttons (18, 28, 29, 40)
- 17 MUTING button (18, 40)
- 18 VOLUME +/- button (14, 18, 40)
- 19 DVD MENU button (41, 43)
- 20 SURR (surround)/DSP OFF button (33, 35, 40)
- 21 CATV/DBS CONT (control) button (42)
 VCR CONT (control) button (41)
 TAPE/CDR CONT (control) button (41)
- 22 10 keys for operating audio/video components (40 – 43)
 10 keys for operating the tuner (20, 40)
- 23 SLEEP button (18, 40)

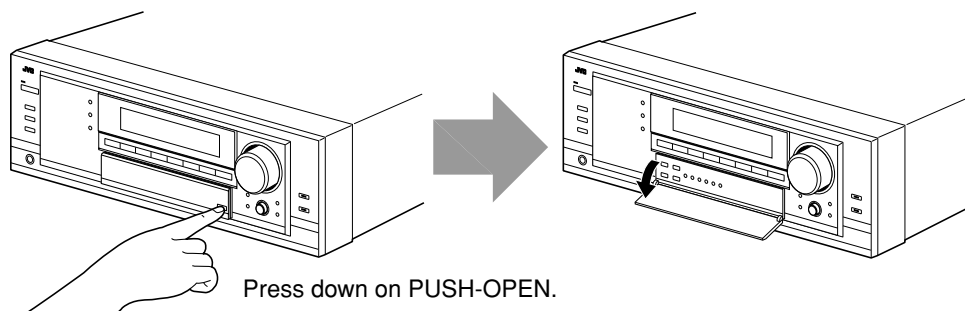
To open the cover of the remote control, push here then slide downward.



Front Panel



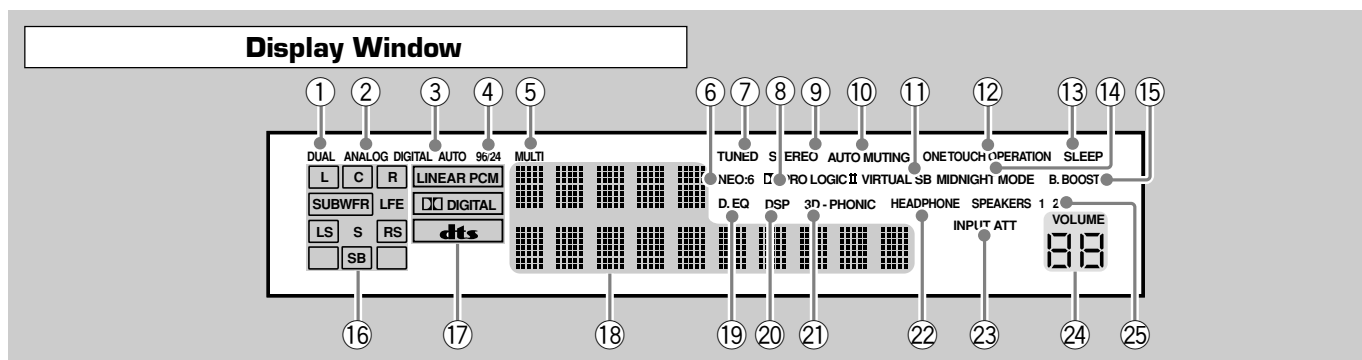
How to open the front door



See pages in parentheses for details.

- 1 Φ /I STANDBY/ON button and STANDBY lamp (13)
- 2 SPEAKERS ON/OFF 1/2 buttons (15)
- 3 SURROUND button (32, 33)
- 4 Remote sensor
- 5 Display window (For details, see "Display window" on the next page.)
- 6 Source selection buttons (13 – 15, 17, 19, 20, 36)
DVD MULTI, DVD, VCR, TV SOUND/DBS, CD,
TAPE/CDR, FM, AM
- 7 MASTER VOLUME control (14)
- 8 CC CONVERTER button and lamp (17)
- 9 SUBWOOFER OUT ON/OFF button (15)
- 10 PHONES jack (15)
- 11 DSP button (34, 35)
- 12 SURROUND/DSP OFF button (33, 35)

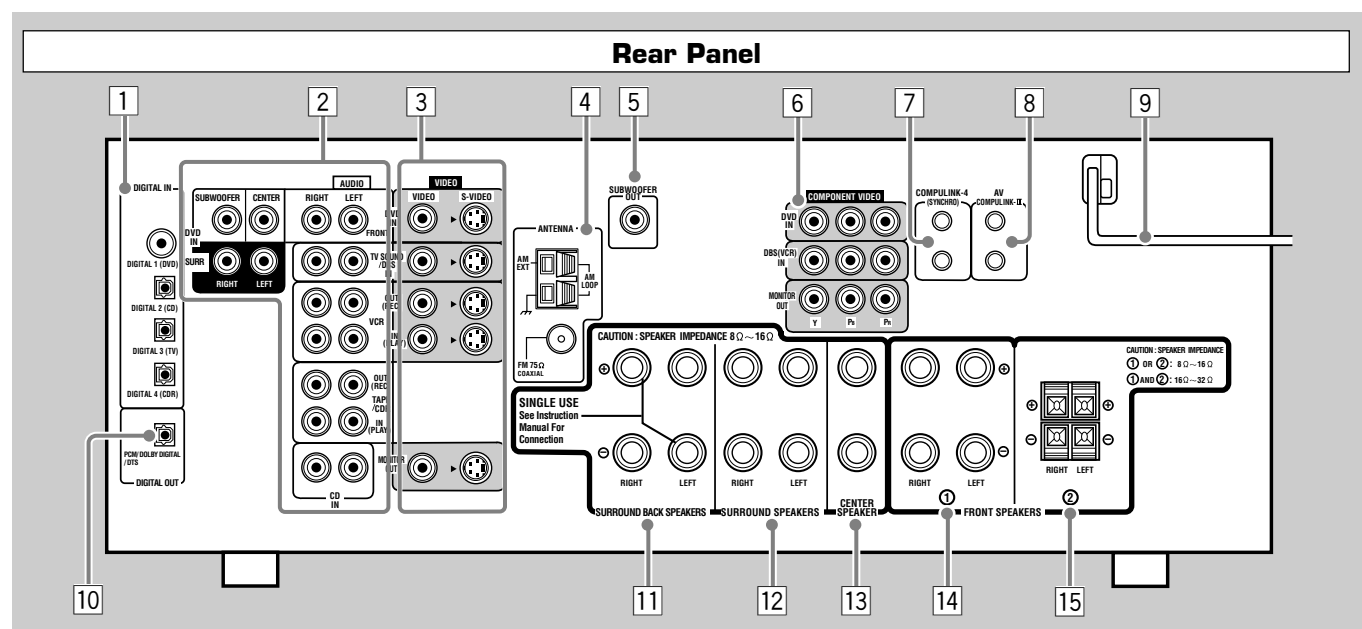
- 13 EX/ES button (33)
- 14 INPUT ANALOG button (16)
INPUT ATT button (16)
- 15 MIDNIGHT MODE button (16)
- 16 INPUT DIGITAL button (16)
- 17 TUNER CONTROL buttons
FM/AM TUNING \blacktriangle / \blacktriangledown buttons (19)
FM/AM PRESET \blacktriangle / \blacktriangledown buttons (19, 20)
FM MODE button (20)
MEMORY button (19)
- 18 SETTING button (23)
- 19 QUICK SPEAKER SETUP button (21)
- 20 MULTI JOG control (21, 23, 27)
PUSH SET button (21, 23, 27)
- 21 EXIT button (23, 27)
- 22 ADJUST button (27)
- 23 ANALOG DIRECT button and lamp (17)



See pages in parentheses for details.

- ① DUAL indicator (31)
- ② ANALOG indicator (16)
- ③ DIGITAL AUTO indicator (16)
- ④ 96/24 indicator (31)
- ⑤ MULTI indicator (36)
- ⑥ NEO:6 indicator (31)
- ⑦ TUNED indicator (19)
- ⑧ PRO LOGIC indicator (30)
- ⑧ PRO LOGIC II indicator (31)
- ⑨ STEREO indicator (19, 20)
- ⑩ AUTO MUTING indicator (20)
- ⑪ VIRTUAL SB (Surround Back) indicator (30 – 32)

- ⑫ ONE TOUCH OPERATION indicator (26)
- ⑬ SLEEP indicator (18)
- ⑭ MIDNIGHT MODE indicator (16)
- ⑮ B. BOOST (Bass Boost) indicator (18)
- ⑯ Speaker and signal indicators (14)
- ⑰ Digital signal format indicators (16)
- ⑱ Main display
- ⑲ D. EQ (digital equalization) indicator (28)
- ⑳ DSP indicator (15, 32, 34)
- ㉑ 3D-PHONIC indicator (31, 34, 35)
- ㉒ HEADPHONE indicator (15, 32, 34)
- ㉓ INPUT ATT (attenuator) indicator (16)
- ㉔ VOLUME level indicator (13, 18)
- ㉕ SPEAKERS 1/2 indicators (15)



See pages in parentheses for details.

- ① DIGITAL IN terminals (12)
 - Coaxial: DIGITAL 1 (DVD)
 - Optical: DIGITAL 2 (CD), DIGITAL 3 (TV), DIGITAL 4 (CDR)
- ② AUDIO input/output jacks (9 – 11)
 - Input: DVD IN—FRONT, CENTER, SUBWOOFER, SURR, TV SOUND/DBS IN, VCR IN (PLAY), TAPE/CDR IN (PLAY), CD IN
 - Output: VCR OUT (REC), TAPE/CDR OUT (REC)
- ③ S-VIDEO and composite VIDEO input/output jacks (10, 11)
 - Input: DVD IN, TV SOUND/DBS IN, VCR IN (PLAY)
 - Output: VCR OUT (REC), MONITOR OUT
- ④ ANTENNA terminals (6)

- ⑤ SUBWOOFER OUT jack (7)
- ⑥ COMPONENT VIDEO input/output jacks (10, 11)
 - Input: DVD IN, DBS (VCR) IN
 - Output: MONITOR OUT
- ⑦ COMPULINK-4 (SYNCHRO) jacks (37)
- ⑧ AV COMPULINK-III jacks (38)
- ⑨ AC power cord (12)
- ⑩ DIGITAL OUT terminal (12)
- ⑪ SURROUND BACK SPEAKERS terminals (7)
- ⑫ SURROUND SPEAKERS terminals (7)
- ⑬ CENTER SPEAKER terminals (7)
- ⑭ FRONT SPEAKERS ① terminals (7)
- ⑮ FRONT SPEAKERS ② terminals (7)

Getting Started

This section explains how to connect audio/video components and speakers to the receiver, and how to connect the power supply.

Checking the Supplied Accessories

Check to be sure you have all of the following items, which are supplied with the receiver.

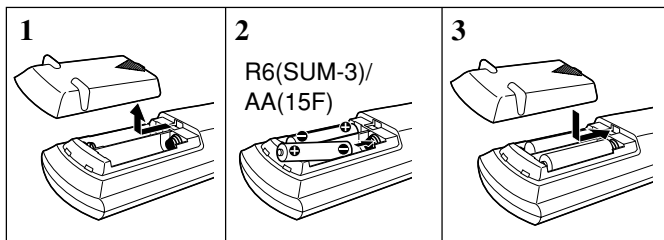
The number in the parentheses indicates quantity of the pieces supplied.

- Remote Control (1)
- Batteries (2)
- AM Loop Antenna (1)
- FM Antenna (1)

If anything is missing, contact your dealer immediately.

Putting Batteries in the Remote Control

Before using the remote control, insert the two supplied batteries first.



1. Press and slide the battery cover on the back of the remote control.
2. Insert the batteries.
 - Make sure to match the polarity: (+) to (+) and (-) to (-).
3. Replace the cover.

If the remote control cannot transmit signals or operate the receiver correctly, replace the batteries. Use two R6(SUM-3)/AA(15F) type dry-cell batteries.

Notes:

- Supplied batteries are for the initial setup. Replace for continued use.
- After replacing the batteries, set the manufacturers' codes again (see pages from 42 to 44).

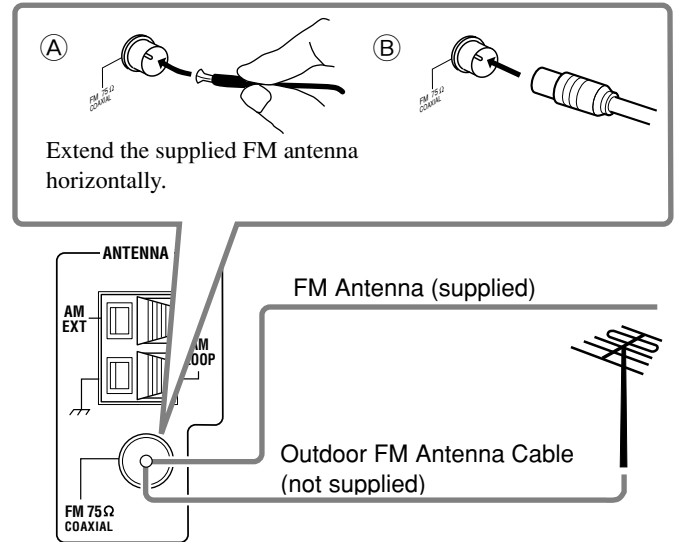
CAUTION:

Follow these precautions to avoid leaking or cracking cells:

- Place batteries in the remote control so they match the polarity: (+) 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.

Connecting the FM and AM Antennas

FM antenna connections

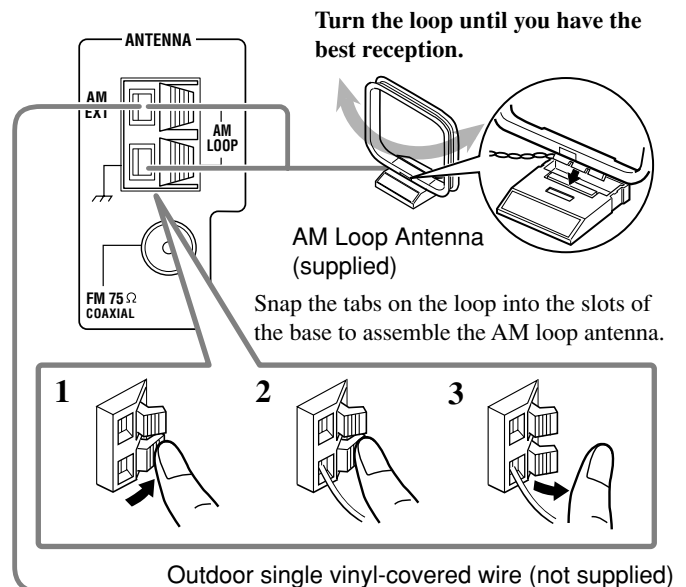


Connect the supplied FM antenna as temporary measure to the FM 75 Ω COAXIAL terminal—A

If reception is poor, connect the outdoor FM antenna (not supplied)—B

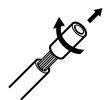
1. Disconnect the supplied FM antenna.
2. Connect a 75 Ω coaxial cable (with the standard type connector).

AM antenna connections



Notes:

- If the AM loop antenna wire is covered with vinyl, remove the vinyl by twisting it as illustrated.
- Make sure the antenna conductors do not touch any other terminals, connecting cords and power cord. This could cause poor reception.
- If reception is poor, connect an outdoor single vinyl-covered wire (not supplied) to the AM EXT terminal. (Keep the AM loop antenna connected.)



Connecting the Speakers and Subwoofer

You can connect the following speakers:

- Two pairs of front speakers.
- One pair of surround speakers.
- One surround back speaker or one pair of surround back speakers.
- One center speaker.
- One powered subwoofer.

CAUTION:

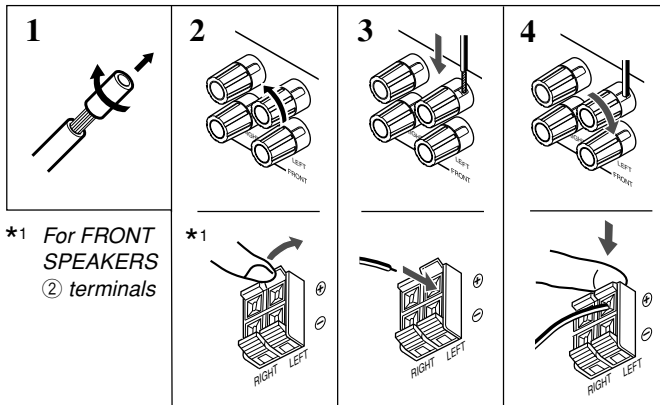
- Use only the speakers of the **SPEAKER IMPEDANCE** indicated by the speaker terminals.
 - **When connecting to either the FRONT SPEAKERS ① or ② terminals**, use speakers with an impedance of 8 Ω to 16 Ω.
 - **When connecting to both of the FRONT SPEAKERS ① and ② terminals**, use speakers with an impedance of 16 Ω to 32 Ω.
- Do not connect more than one speaker to each speaker terminal.

IMPORTANT:

After connecting the speakers, set the speaker installation information properly. You can use Quick Speaker Setup for it (see page 21).

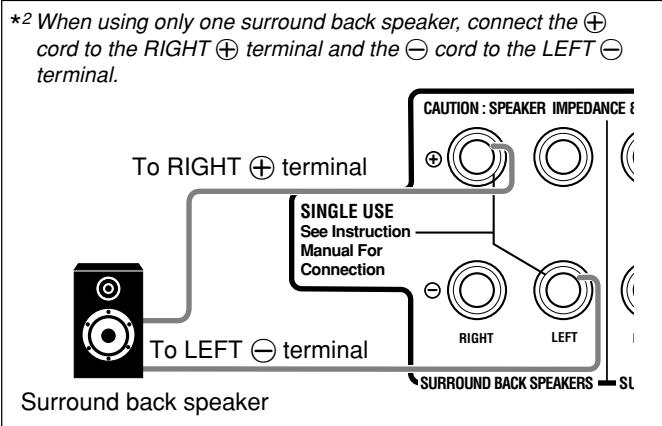
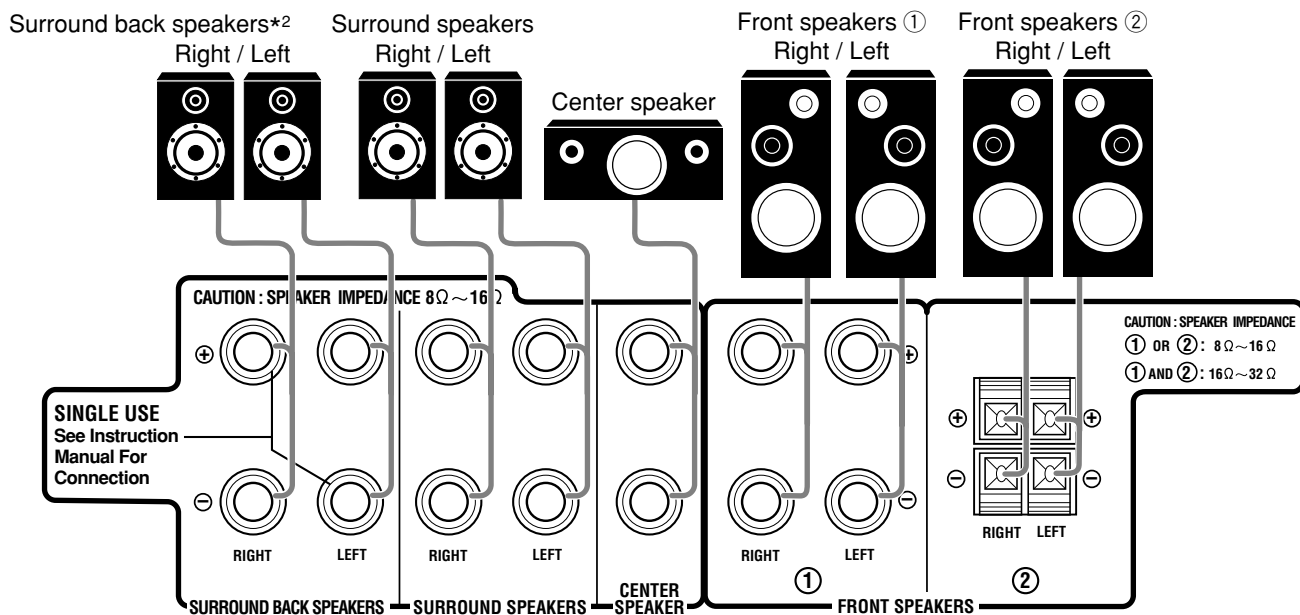
- To obtain the best possible Surround/DSP effect, see “Setting the Speakers” on page 23.

Speaker connections



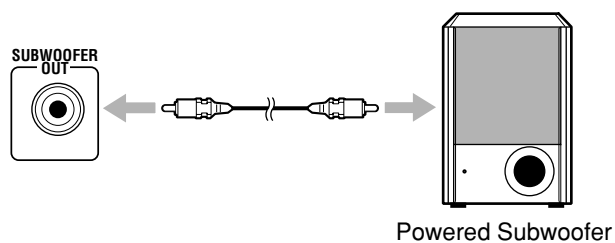
1. Twist and remove the insulation at the end of each speaker signal cable (not supplied).
2. Open the speaker terminal.
3. Insert the speaker signal cable.
4. Close the speaker terminal.

For each speaker (except for a subwoofer), connect the (+) and (–) terminals on the rear panel to the (+) and (–) terminals marked on the speakers.



Connecting the subwoofer

You can enhance the bass by connecting a subwoofer. Connect the input jack of a powered subwoofer to the rear panel, using a cable with RCA pin plugs (not supplied).



Placing speakers

Front speakers (L/R) and center speaker (C)

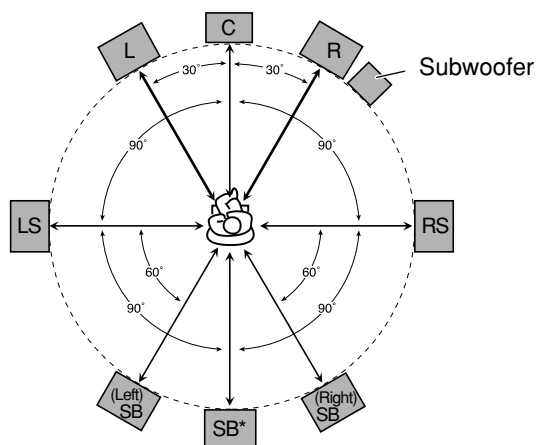
- Place these speakers at the same height from the floor, at or near ear level.
- Array across the front of the viewing area.

Surround speakers (LS/RS) and surround back speakers (SB)

- Place these speakers at a position which is 60 cm to 90 cm higher than the listener's ears.
- Point these speakers directly across the listening area, but not at the listener's ears.

Subwoofer

- You can place it wherever you like since bass sound is non-directional. Normally place it in front of you.



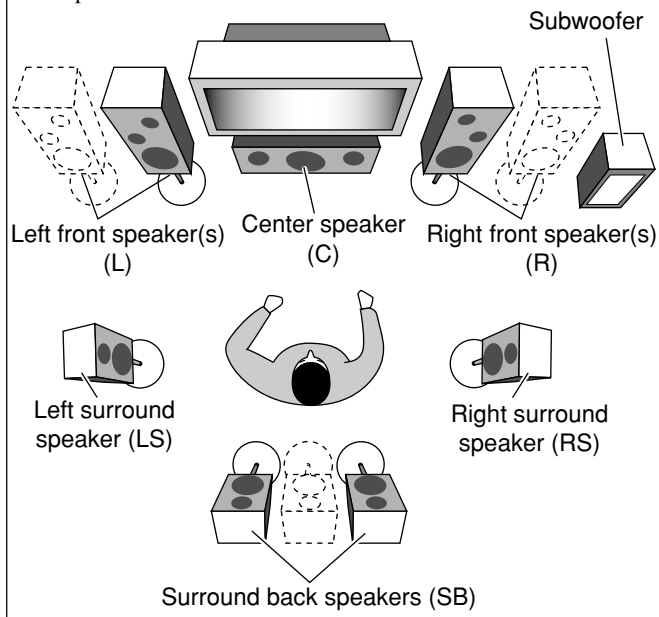
* When one surround back speaker is connected.

Note:

Ideal speaker layout requires that all speakers be placed at the same distance from the listener. However, since in some places it may be difficult to fulfil this requirement, this unit can adjust the delay time so that the sounds through all the speakers reach the listener with the same timing. (See page 24.)

Speaker layout

Ideal speaker layout varies depending on the conditions of your listening room. The diagram below is a recommended typical example.



CAUTION:

Do not place the center speaker on the TV. If you do so, the center speaker may cause various troubles to the TV (for example, color unevenness). Moreover, it may hurt you by its falling from the TV.

Connecting Audio/Video Components

When connecting individual components, refer also to the manuals supplied with them.

■ Analog connections

If your audio components have digital audio output terminal, connecting them using the digital cords explained in “Digital Connections” (see page 12). By using this terminal, you can get better sound quality.

Audio component connections

Use the cables with RCA pin plugs (not supplied).

- Connect the white plug to the audio left jack, and the red plug to the audio right jack.

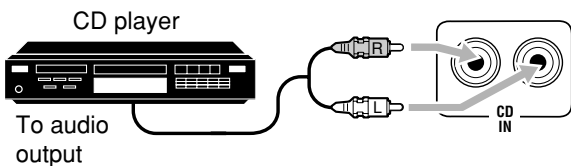
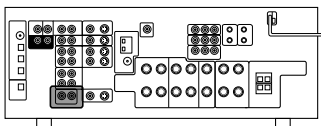
If your audio components have a COMPU LINK jack

See also page 37 for detailed information about the connection and the COMPU LINK remote control system.

CAUTION:

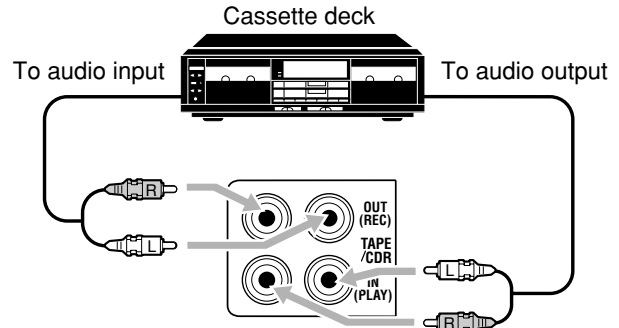
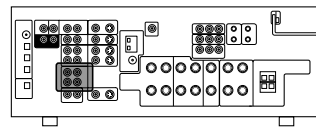
If you connect a sound-enhancing device such as a graphic equalizer between the source components and this receiver, the sound output through this receiver may be distorted.

CD player



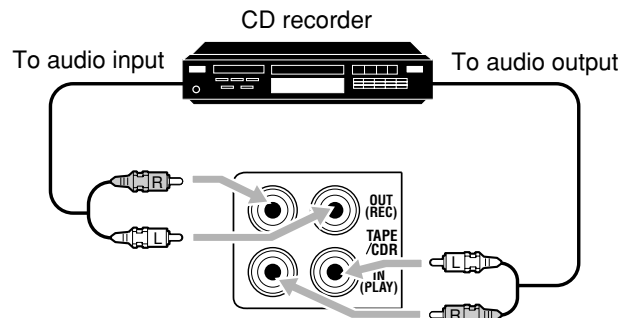
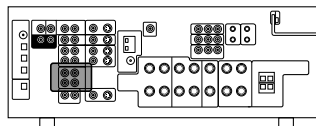
Cassette deck

You can connect either a cassette deck or a CD recorder to the TAPE/CDR jacks. When connecting a CD recorder to the TAPE/CDR jacks, see below.



CD recorder

You can connect either a CD recorder or a cassette deck to the TAPE/CDR jacks. When connecting a cassette deck to the TAPE/CDR jacks, see above.



Note:

When connecting a CD recorder to the TAPE/CDR jacks, change the source name to “CDR,” which will be shown on the display when it is selected as the source. See page 17 for details.

Video component connections

Use the cables with RCA pin plugs (not supplied). Connect the white plug to the audio left jack, the red plug to the audio right jack, and the yellow plug to the video jack.

- If your video components have S-video (Y/C-separation) and/or component video (Y, Pb, Pr) terminals, connect them using an S-video cable (not supplied) and/or component video cable (not supplied). By using these jacks, you can get better picture quality in the order:

Component video > S-video > Composite video

- If your video components have digital audio output terminal, connect them using the digital cords explained in “Digital connections” (see page 12). By using this terminal, you can get better sound quality.

If your video components have an AV COMPULINK jack

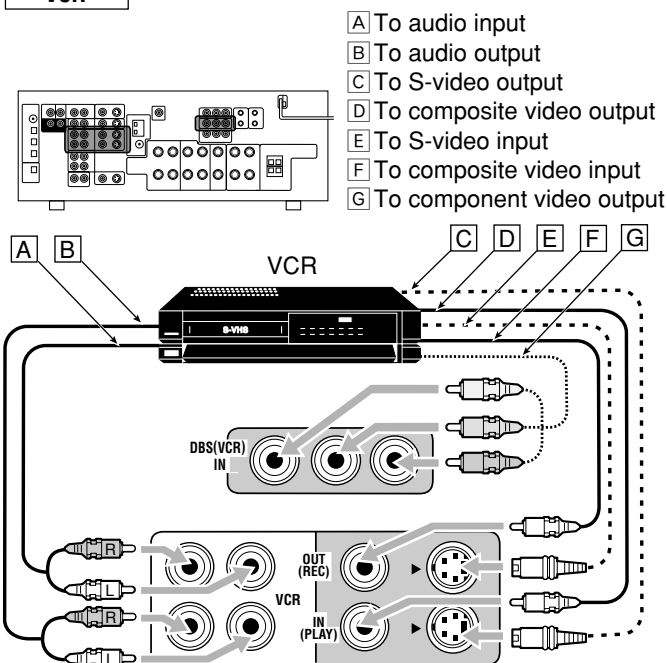
See also page 38 for detailed information about the connection and the AV COMPU LINK remote control system.

IMPORTANT:

This receiver is equipped with the following video jacks—composite video, S-video and component video jacks. You can use any of the three to connect a video component. However, **the video signals from one type of these input jacks are transmitted only through the video output jacks of the same type.**

Therefore, if a recording video component and a playing video component are connected to the receiver through the video jacks of different type, you cannot record the picture. In addition, if the TV and a playing video component are connected to the receiver through the video jacks of different type, you cannot view the playback picture on the TV.

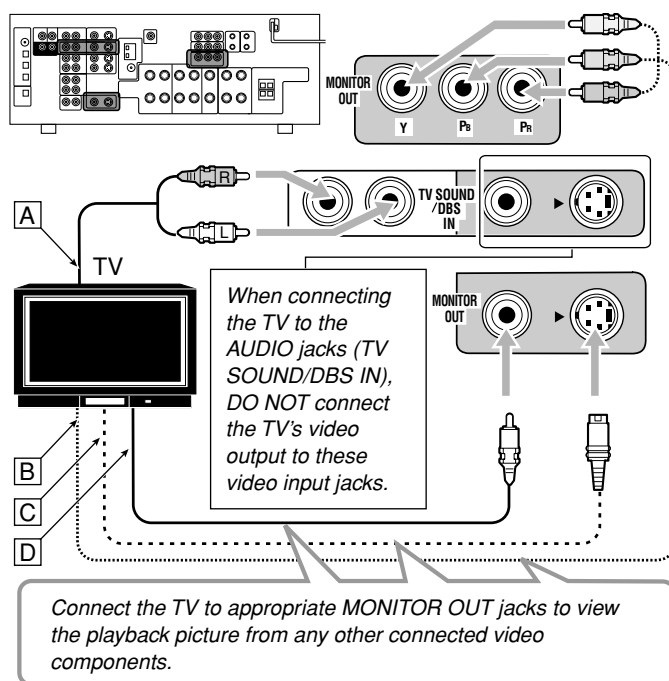
VCR



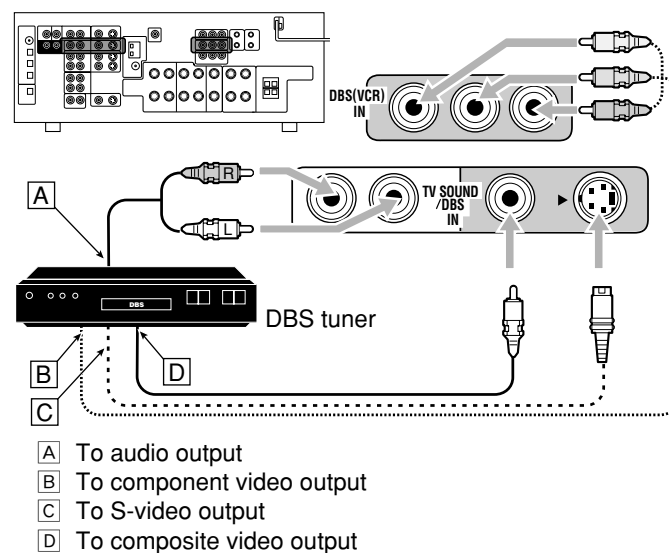
Notes:

- When connecting a VCR to component video input jacks, make the component video input setting (VIDEO IN VCR) correctly for AV COMPU LINK. See page 26 for details.
- When make the component video input setting for a VCR (VIDEO IN VCR) correctly, the component video input setting for a DBS tuner (VIDEO IN DBS) is not available.

TV and/or DBS tuner



- A To audio output
- B To component video input
- C To S-video input
- D To composite video input



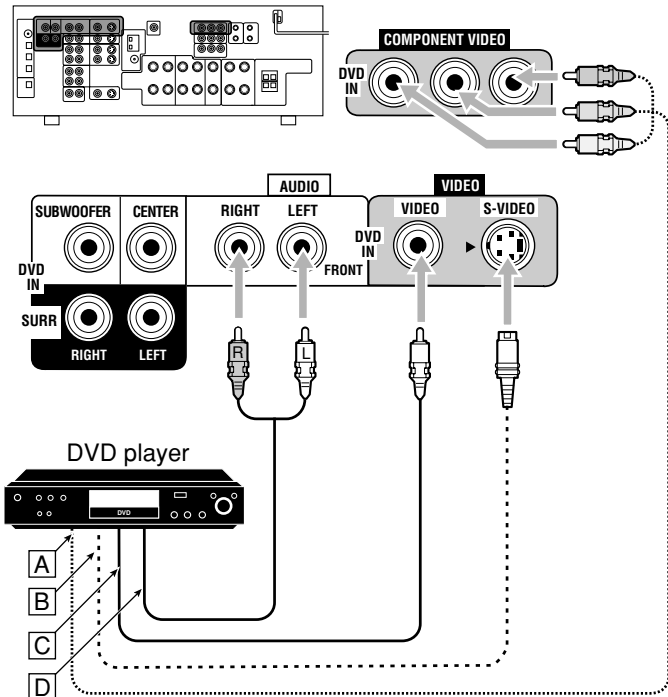
Notes:

- When connecting a DBS tuner to the TV SOUND/DBS IN jacks, change the source name to “DBS,” which will be shown on the display when it is selected as the source. Otherwise you cannot view any picture from DBS tuner. See page 17 for details.
- When connecting a DBS tuner to component video input jacks, make the component video input setting (VIDEO IN DBS) correctly for AV COMPU LINK. See page 26 for details.
- When make the component video input setting for a DBS tuner (VIDEO IN DBS) correctly, the component video input setting for a VCR (VIDEO IN VCR) is not available.

DVD player

To enjoy Dolby Digital and DTS multi-channel software (including Dual Mono software), connect the DVD player through the digital or analog discrete (DVD MULTI) terminals.

- When you connect a DVD player with stereo output jacks:



- A To component video output
- B To S-video output
- C To composite video output
- D To left/right front channel audio output (or to audio-mixed output if necessary)

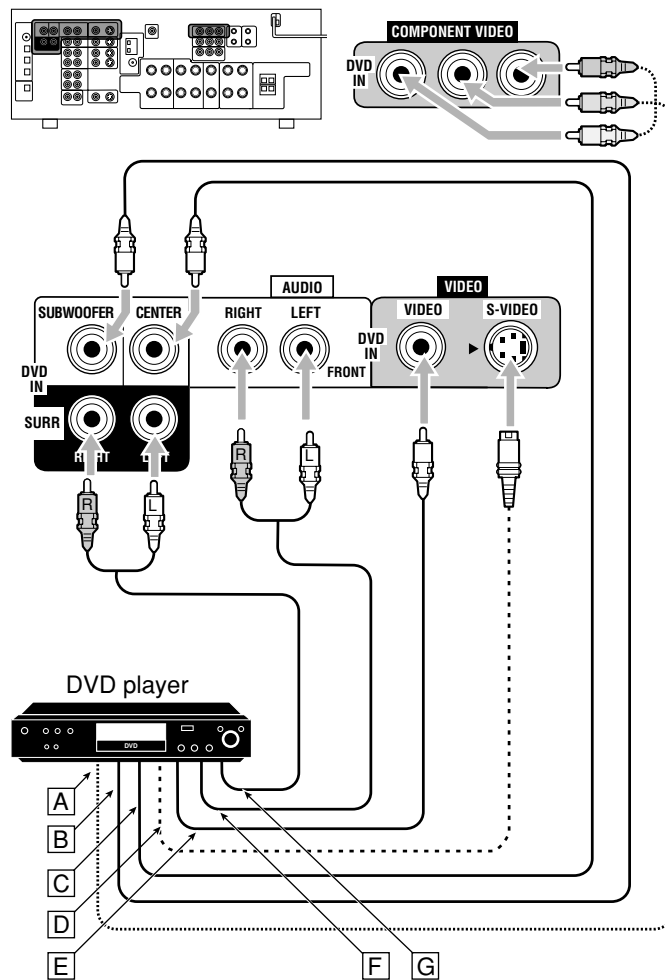
Note:

When connecting a DVD player to the component video input jacks, make the component video input setting (VIDEO IN DVD) correctly for AV COMPU LINK. See page 26 for details.

- When you connect a DVD player with its analog discrete output (5.1-channel reproduction) jacks:

This connection is the best connection method for enjoying DVD Audio sounds.

- When a DVD Audio disc is played back, the original high-quality sounds can be reproduced only using this connection.



- A To component video output
- B To subwoofer output
- C To center channel audio output
- D To S-video output
- E To composite video output
- F To left/right front channel audio output
- G To left/right surround channel audio output

Note:

When connecting a DVD player to the component video input jacks, make the component video input setting (VIDEO IN DVD) correctly for AV COMPU LINK. See page 26 for details.

Digital connections

This receiver is equipped with four DIGITAL IN terminals—one digital coaxial terminal and three digital optical terminals—and one DIGITAL OUT (optical) terminal on the rear.

IMPORTANT:

- When connecting a DVD player, VCR, digital TV broadcast tuner, or DBS tuner using the digital terminals, you also need to connect it to the video jacks on the rear. Without connecting it to the video jacks, you can view no playback picture.
- After connecting the components using the DIGITAL IN terminals, set the following correctly if necessary.
 - Set the digital input (DIGITAL IN) terminal setting correctly. For details, see “Setting the digital input terminals” on pages 25 and 26.
 - Select the digital input mode correctly. For details, see “Selecting the Analog or Digital Input Mode” on page 15.

Digital input terminals

You can connect any digital components having coaxial or optical digital output terminal.

Digital coaxial cable (not supplied)
between digital coaxial terminals



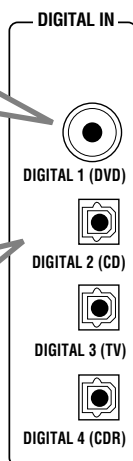
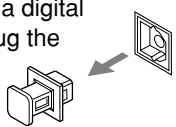
Digital optical cable (not supplied)
between digital optical terminals



When the component has a digital coaxial output terminal, connect it to the DIGITAL 1 (DVD) terminal, using a digital coaxial cable (not supplied).

When the component has a digital optical output terminal, connect it to the DIGITAL 2 (CD), DIGITAL 3 (TV) or DIGITAL 4 (CDR) terminal, using a digital optical cable (not supplied).

Before connecting a digital optical cable, unplug the protective plug.



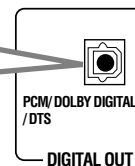
Digital output terminal

You can connect any digital components which have an optical digital input terminal.

Digital optical cable (not supplied)
between digital optical terminals



When the digital recording equipment such as a CD recorder has a digital optical input terminal, connecting it to the DIGITAL OUT terminal enables you to perform digital-to-digital recording.



Note:

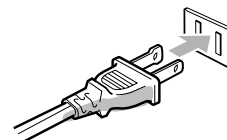
The digital signal format transmitted through the DIGITAL OUT terminal is the same as that of the input signal. This means that when the DTS signals are input, the DTS signals are transmitted.

Connecting the Power Cord

Before plugging the receiver into an AC outlet, make sure that all connections have been made.

Plug the power cord into an AC outlet.

Keep the power cord away from the connecting cables and the antenna. The power cord may cause noise or screen interference.



Note:

The preset settings such as preset channels and sound adjustment may be erased in a few days in the following cases:

- When you unplug the power cord.
- When a power failure occurs.

CAUTIONS:

- Do not touch the power cord with wet hands.
- Do not pull on the power cord to unplug the cord. When unplugging the cord, always grasp the plug so as not to damage the cord.

Notes:

- When shipped from the factory, the DIGITAL IN terminals have been set for use with the following components:
 - DIGITAL 1 (coaxial): For DVD player
 - DIGITAL 2 (optical): For CD player
 - DIGITAL 3 (optical): For digital TV broadcast tuner
 - DIGITAL 4 (optical): For CD recorder
- When you want to operate the CD player or CD recorder, using the COMPU LINK remote control system (see page 37), connect the target component also as described in “Analog connections” (see page 9).
- When you want to operate a DVD player, VCR, and/or TV using the AV COMPU LINK remote control system (see page 38), connect them also as described in “Analog connections” (see pages 10 and 11).

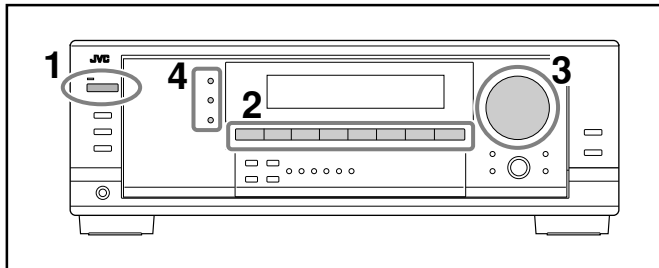
Basic Operations

The following operations are commonly used when you play any sound sources.

Operations hereafter will be explained using the buttons on the front panel.

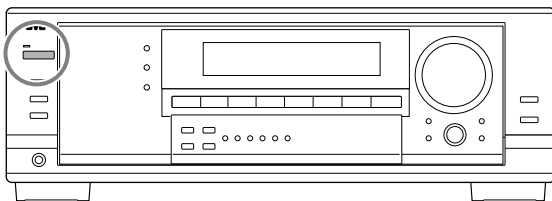
You can also use the buttons on the remote control for the same functions if they have the same and similar names/marks.

Daily Operational Procedure



1. **Turn on the power.**
 - See “Turning On the Power” below.
2. **Select the source.**
 - See “Selecting the Source to Play” to the right.
3. **Adjust the volume.**
 - See “Adjusting the Volume” on page 14.
4. **Select the Surround or DSP modes.**
 - See “Activating the Surround Modes” (page 33) and “Activating the DSP Modes” (page 35).

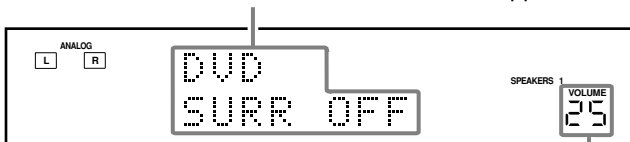
Turning On the Power



Press **STANDBY/ON** (or **AUDIO** on the remote control).

The STANDBY lamp goes off.

Current source name and Surround/DSP mode appear.



Current volume level appears.

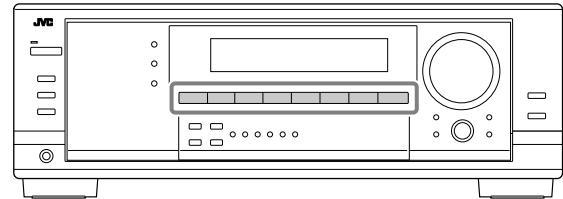
To turn off the power (into standby mode), press **STANDBY/ON** (or **AUDIO** on the remote control) again.

The STANDBY lamp lights up.

Note:

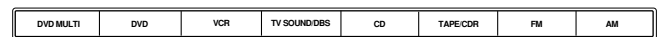
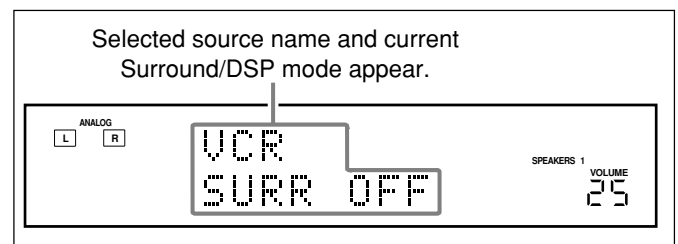
A small amount of power is consumed in standby mode. To turn off the power completely, unplug the AC power cord.

Selecting the Source to Play

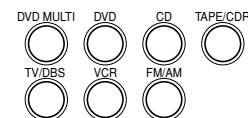


Press one of the source selection buttons.

- When you have connected digital source components using the digital terminals, change the input mode for these components to the digital input mode (see page 15).



On the front panel



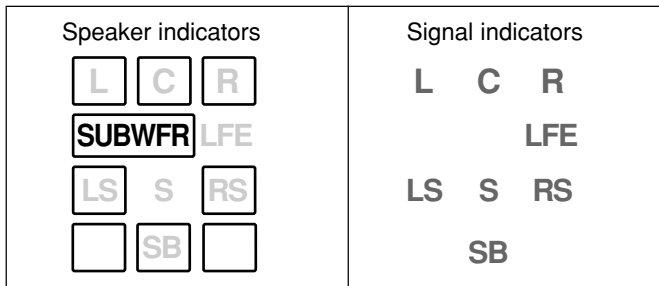
On the remote

Notes:

- When connecting a CD recorder (to the TAPE/CDR jacks) and a DBS tuner (to the TV SOUND/DBS jacks), change the source names shown on the display. For details, see page 17.
- When you press CD, TAPE/CDR, or FM/AM button on the remote control, the receiver automatically turns on.
- When you select “DVD MULTI,” you can enjoy analog discrete output sound (5.1-channel surround reproduction) from the external component.
 - You may need to select analog discrete output mode on the external component.
 - When using the headphones, you can listen to the front channel sounds (left and right) only.
 - The Surround modes (see page 30) cannot be applied to DVD MULTI playback mode.

Speaker and signal indicators on the display

By checking the following indicators, you can easily confirm which speakers you are activating and which signals are coming into this receiver.



What speaker indicators light depends on the speaker setting (for details, see "Setting the speakers" on page 23).

- The frames of "L," "C," "R," "LS," "RS," and "SB" light up, when the corresponding speakers are set to "LARGE" or "SMALL" and when the speaker is required for the Surround/DSP mode currently selected.
- When "SUB WOOFER" is set to "YES," [SUBWFR] lights up (see page 23).
- All three frames on the row of "SB" are not used at the same time. When "SBACK OUT" is set to "2SPK," the left and the right ones are used. When it is set to "1SPK," the middle one is used (see page 23).

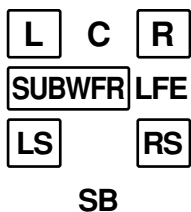
The signal indicators light up to show the incoming signals.

- L: • **When digital input is selected:** Lights up when the left channel signal comes in.
 • **When analog input is selected:** Always lights up.
- R: • **When digital input is selected:** Lights up when the right channel signal comes in.
 • **When analog input is selected:** Always lights up.
- C: Lights up when the center channel signal comes in.
- LFE: Lights up when the LFE channel signal comes in.
- LS: Lights up when the left surround channel signal comes in.
- RS: Lights up when the right surround channel signal comes in.
- S: Lights up when the monaural surround channel signal comes in.
- SB: Lights up when the surround back channel signal comes in.

Note:

When DVD MULTI is selected as the source, "L," "C," "R," "LFE," "LS," and "RS" light up.

How to understand the speaker and signal indicator illumination



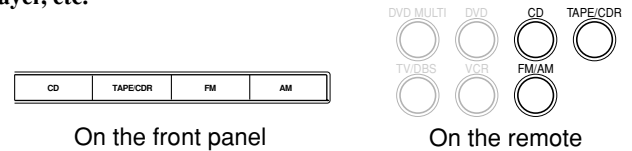
Ex. No sound comes out of the center speaker and surround back speakers though center channel and surround back channel signals are coming into this receiver.

Selecting different sources for picture and sound

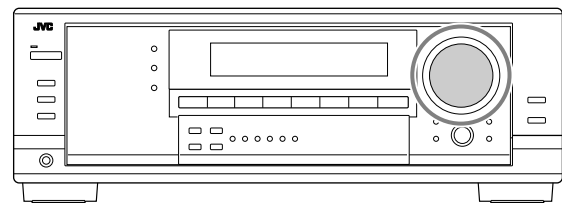
While watching pictures from a video source, you can listen to sound of an audio source.

- Once you have selected a video source, pictures of the selected source are sent to the TV until you select another video source.

Press one of the audio source selection buttons while viewing the picture from a video component such as the VCR or DVD player, etc.



Adjusting the Volume



On the front panel:

To increase the volume, turn MASTER VOLUME clockwise.
To decrease the volume, turn it counterclockwise.

On the remote control:

To increase the volume, press VOLUME +.
To decrease the volume, press VOLUME -.

Notes:

- The volume level can be adjusted within the range of "0" (minimum) to "70" (maximum).
- If you set "ONE TOUCH OPE" (One Touch Operation) to "ON" (see page 26), you do not have to adjust the volume level each time you change the source. It is automatically set to the stored level.

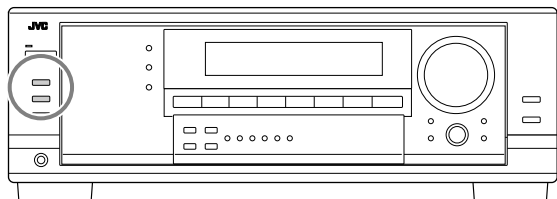
CAUTION:

Always set the volume to the minimum before starting any sources. If the volume is set at its high level, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Selecting the Front Speakers



When you have connected two pairs of the front speakers, you can select which to use.



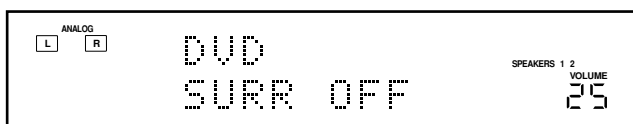
To use the speakers connected to the **FRONT SPEAKERS ① terminals**, press **SPEAKERS ON/OFF 1** so that the **SPEAKERS 1** indicator lights up on the display.

- Make sure that the **SPEAKERS 2** indicator is not lit.

To use the speakers connected to the **FRONT SPEAKERS ② terminals**, press **SPEAKERS ON/OFF 2** so that the **SPEAKERS 2** indicator lights up on the display.

- Make sure that the **SPEAKERS 1** indicator is not lit.

To use both sets of the speakers connected to the **FRONT SPEAKERS ① and ② terminals**, press **SPEAKERS ON/OFF 1 and 2** so that the **SPEAKERS 1/2** indicators light up on the display.



Ex. When both sets of the speakers selected.

Note:

When playback analog sources or digital 2-channel software and neither Surround/DSP mode is selected, you can use both sets of the front speakers.

To use neither sets of the speakers connected to the **FRONT SPEAKERS ① and ② terminals**, press **SPEAKERS ON/OFF 1 and 2** so that the **SPEAKERS 1/2** indicators go off from the display. The **HEADPHONE** indicator lights up and “**HEADPHONE**” appears on the display.

- Activating the speakers turns on the Surround and DSP modes previously selected.

Listening with headphones only:

Deactivate both sets of the front speakers, and connect headphones to the **PHONES** jack.

- Make sure that all the Speaker indicators are not lit.

You can enjoy the sound effects through the headphones when Surround or DSP mode is activated—**3D Headphone (3D H PHONE)** mode.

- “**3D H PHONE**” appears and the **DSP** and **HEADPHONE** indicators light up on the display. (For details, see page 32.)

Note:

3D Headphone (3D H PHONE) mode is not valid for **DVD MULTI** playback mode.

CAUTION:

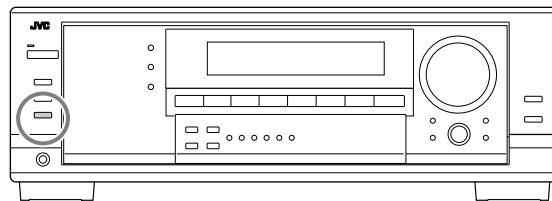
Be sure to turn down the volume:

- Before connecting or putting on headphones, as its high volume can damage both the headphones and your hearing.
- Before turning on the speakers again, as its high volume may come out of the speakers.

Turning On and Off the Subwoofer Sound



You can cancel the subwoofer sound output even though you have connected a subwoofer and have set “**SUB WOOFER**” to “**YES**” (see page 23).



Press **SUBWOOFER OUT ON/OFF** to cancel the subwoofer sound output.

Each time you press the button, subwoofer sound output is deactivated (“**SUBWFR OFF**”) and activated (“**SUBWFR ON**”) alternately.

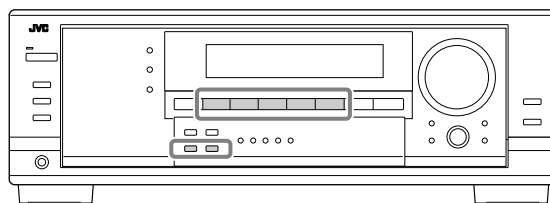
- When subwoofer output is canceled, the **SUBWFR** indicator goes off. Bass sounds (and LFE signals) will be emitted through the front speakers (except for **DVD MULTI** playback mode).
- When subwoofer sound output is activated, subwoofer output level can be adjusted (see pages 28 and 29).

Notes:

- **SUBWOOFER OUT ON/OFF** button does not work when you set “**SMALL**” for the front speakers on the **Speaker size** setting (see page 23) or using **Quick Speaker Setup** (see page 21).
- You cannot activate the subwoofer output when you have set “**SUB WOOFER**” to “**NO**” (see pages 21 and 23).
- When you change the “**SUB WOOFER**” setting from “**NO**” to “**YES**” (see page 23), subwoofer output is automatically activated.

Selecting the Analog or Digital Input Mode

When you have connected digital source components using the digital terminals (see page 12), change the input mode for these components to the digital input mode.



Before you start, remember...

The digital input terminal setting should be correctly done for the sources you want to select the digital input mode (see “**Setting the digital input terminals**” on pages 25 and 26).

1. Press one of the source selection buttons (**DVD**, **VCR**, **TV SOUND/DBS**, **CD**, or **TAPE/CDR***) for which you want to change the input mode.

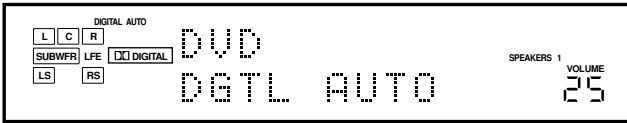
- * If **TAPE** is selected as the source, digital input mode is not available. To change the source name to **CDR**, see “**Changing the Source Name**” on page 17.

Continued on the next page

2. Press INPUT DIGITAL to select “DGTL AUTO.”

- When using the remote control, press ANALOG/DIGITAL INPUT. Each time you press the button, the analog (ANALOG) and digital (DGTL AUTO) input modes alternate.

The DIGITAL AUTO indicator lights up on the display.



- When selecting “DGTL AUTO,” the following indicators indicate the digital signal format of the incoming signal.

LINEAR PCM : Lights up when Linear PCM signals come in.

DIGITAL : Lights up when Dolby Digital signals come in.

dts : Lights up when DTS signals come in.

No indicator lights up when the receiver cannot recognize the digital signal format of the incoming signals.

Note:

For the details of digital signal formats, see pages 30 and 31.

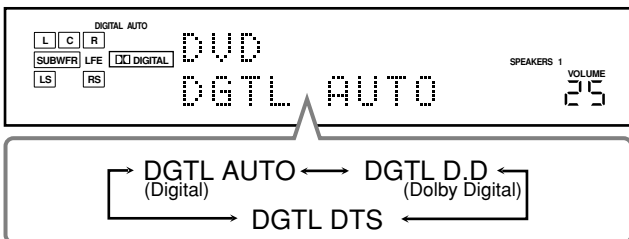
When playing software encoded with Dolby Digital or DTS, the following symptoms may occur:

- Sound does not come out at the beginning of playback.
- Noise comes out while searching for or skipping chapters or tracks.

In this case, press INPUT DIGITAL repeatedly to select “DGTL D.D.” or “DGTL DTS” while “DGTL AUTO” still remains on the display.



- Each time you press INPUT DIGITAL, the input mode changes as follows:



When “DGTL D.D” or “DGTL DTS” is selected, the AUTO indicator goes off, and the corresponding digital signal format indicator lights up on the display.

- If the incoming signal does not match the selected digital signal format, the frame of the selected indicator will flash.

Note:

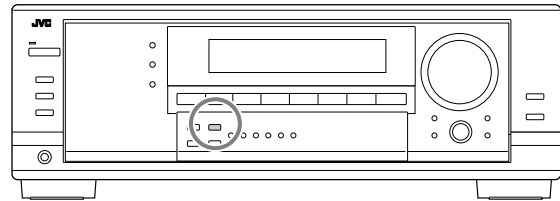
When you turn off the power or select another source, “DGTL D.D” and “DGTL DTS” settings are canceled and the digital input mode is automatically reset to “DGTL AUTO.”

To select the analog input mode again

Press INPUT ANALOG (or press ANALOG/DIGITAL INPUT on the remote control repeatedly until “ANALOG” appears on the display). The ANALOG indicator lights up.

Setting the Dynamic Range

You can enjoy a powerful sound at night using Midnight Mode.



Press **MIDNIGHT MODE** so that “MID NIGHT: 1” or “MID NIGHT: 2” appear on the display.

The MIDNIGHT MODE indicator also lights up.

MID NIGHT: 1 Select when you want to reduce the dynamic range a little.

MID NIGHT: 2 Select when you want to apply the compress effect fully (useful at midnight).

MID NIGHT: OFF Select when you want to enjoy surround with its full dynamic range (no effect applied).

Notes:

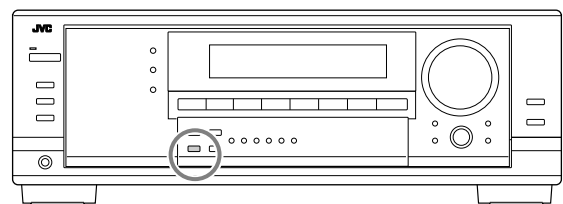
- If Analog Direct is in use (see page 17), Midnight Mode is temporarily canceled.
- Midnight Mode is not valid for DVD MULTI playback mode.

Attenuating the Input Signal



When the input level of the analog source is too high, the sounds will be distorted. If this happens, you need to attenuate the input signal level to prevent the sound distortion.

- Once you have made an adjustment, it is memorized for each analog source.



Press and hold **INPUT ATT (INPUT ANALOG)** so that the **INPUT ATT** indicator lights up on the display.

- Each time you press and hold the button, the input attenuator mode turns on (“ATT ON”) or off (“NORMAL”).

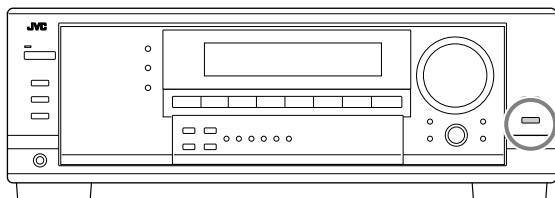
Note:

This function is not valid when DVD MULTI is selected or when Analog Direct is activated.

Turning Analog Direct On and Off

You can enjoy the sound closer to the original source by overriding the sound adjustments such as Midnight Mode (see page 16), Bass Boost (see page 18), Equalization pattern (see page 28), speaker output level adjustments (see page 28), and Surround and DSP modes (see pages 30 to 35). You can only adjust the volume level and the subwoofer output level while Analog Direct is in use.

- Once you have made an adjustment, it is memorized for each analog source.



Press ANALOG DIRECT so that “A DIRECT” appears on the display.

The lamp on the button also lights up.

- Each time you press the button, Analog Direct turns on and off (the lamp goes off) alternately.

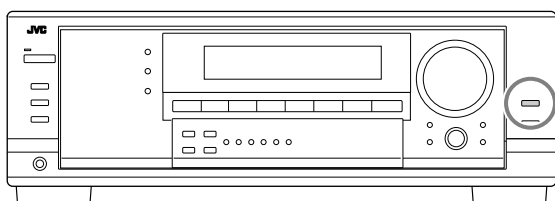
Notes:

- When digital input mode is in use, Analog Direct is not available.
- Turning on Surround or DSP mode cancels Analog Direct and previously selected sound adjustments are recalled.
- If Analog Direct is in use, Midnight Mode (see page 16) is temporarily canceled.
- Turning on Analog Direct cancels Input Attenuator (see page 16) and CC Converter (see below).

Making Sounds Natural

JVC's CC (Compression Compensative) Converter eliminates jitter and ripples, achieving a drastic reduction in digital distortion by processing the digital music data in 24 bit-quantization and by expanding the sampling frequency to 128 kHz (for fs 32 kHz signals)/176.4 kHz (for fs 44.1 kHz signals)/192 kHz (for fs 48 kHz signals) on the front speakers.

By using CC Converter, you can obtain a natural sound field from both digital and analog sources.



Press CC CONVERTER so that the lamp on the button lights up.

- Each time you press the button, CC Converter turns on and off (the lamp goes off) alternately.

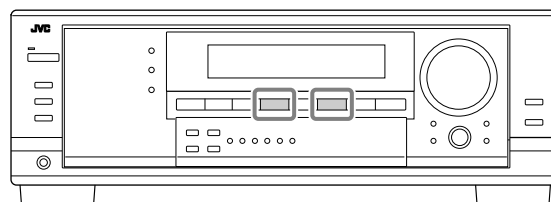
Note:

You cannot use this function while Analog Direct is in use. If you turn on Analog Direct while this function is in use, this function will be canceled.

Changing the Source Name



When you have connected a CD recorder to the TAPE/CDR IN jacks or a DBS tuner to the TV SOUND/DBS IN jacks on the rear panel, change the source name which will be shown on the display.



When changing the source name from TV to DBS:

1. Press TV SOUND/DBS.
 - Make sure “TV” appears on the display.
2. Press and hold TV SOUND/DBS until “ASSGN DBS” appears on the display.



Note:

When connecting a DBS tuner to the TV SOUND/DBS IN jacks, change the source name to DBS, which will be shown on the display when selected as the source. Otherwise, you cannot view any picture from DBS tuner.

When changing the source name from TAPE to CDR:

1. Press TAPE/CDR.
 - Make sure “TAPE” appears on the display.
2. Press and hold TAPE/CDR until “ASSGN CDR” appears on the display.

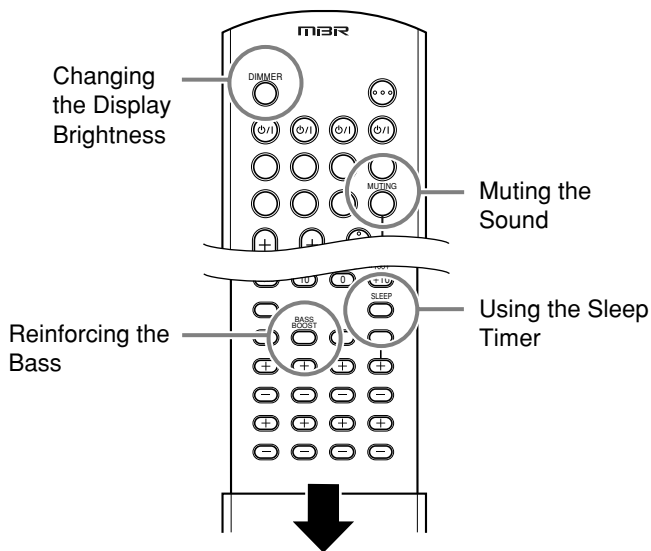
To change the source name to TV and TAPE, repeat the same procedure above.

Note:

Without changing the source name, you can still use the connected components. However, there may be some inconvenience.

- “TAPE” or “TV” will appear on the display when you select the CD recorder or DBS tuner.
- You cannot use the digital input (see pages 15 and 16) for the CD recorder.

The following basic operations are possible only using the remote control.



Reinforcing the Bass



You can boost the bass level.

- Once you have made an adjustment, it is memorized for each source.

Press BASS BOOST to boost the bass level.

The B. BOOST indicator lights up on the display.

- Each time you press the button, Bass Boost turns on (“BOOST ON”) and off (“BOOST OFF”) alternately.

Notes:

- This function affects only the sounds from the front speakers, center speaker, and subwoofer.
- When Analog Direct is in use (see page 17), the Bass Boost is canceled temporarily.

Muting the Sound



Press MUTING to mute the sound through all speakers and headphones connected.

“MUTING” appears on the display and the volume turns off (the VOLUME level indicator goes off).

To restore the sound, press MUTING again.

- Turning MASTER VOLUME on the front panel or pressing VOLUME +/- on the remote control also restores the sound.

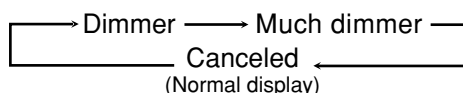
Changing the Display Brightness



You can dim the display.

Press DIMMER.

- Each time you press the button, the brightness level of the display changes as follows:



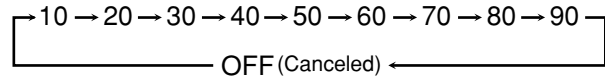
Using the Sleep Timer



Using the Sleep Timer, you can fall asleep while listening to music. When the shut-off time comes, the receiver turns off automatically.

Press SLEEP repeatedly.

The SLEEP indicator lights up on the display, and the shut-off time changes in 10-minute intervals:



To check or change the time remaining until the shut-off time:

Press SLEEP once.

The remaining time until the shut-off time appears in minutes.

- To change the shut-off time, press SLEEP repeatedly.

To cancel the Sleep Timer:

Press SLEEP repeatedly until “SLEEP OFF” appears on the display. The SLEEP indicator goes off.

- Turning off the power also cancels the Sleep Timer.

Recording a source

For analog-to-analog recording

You can record any analog playback source onto the recording components connected to the audio output jacks on the rear of this unit at the same time.

For digital-to-digital recording

You can record the currently selected digital input source through the receiver to a digital recording device connected to the DIGITAL OUT terminal.

Notes:

- Analog-to-digital and digital-to-analog recordings are not possible.
- The output volume level, Midnight Mode (see page 16), Bass Boost (see the left column), Equalization patterns (see page 28), Surround and DSP modes (see pages 30 to 35) cannot affect the recording.

Basic adjustment auto memory

This receiver memorizes sound settings for each source—

- when you turn off the power,
- when you change the source, and
- when you assign the source name (see page 17).

When you change the source, the memorized settings for the newly selected source are automatically recalled.

The following can be stored for each source:

- Analog/digital input mode (see pages 15 and 16)
- Midnight Mode (see page 16)
- Input attenuator mode (see page 16)
- Analog Direct (see page 17)
- CC Converter (see page 17)
- Equalization pattern (see page 28)
- Speaker output levels (see page 28)
- Surround and DSP mode selection (see pages 33 and 35)
- Bass Boost setting (see the left column)

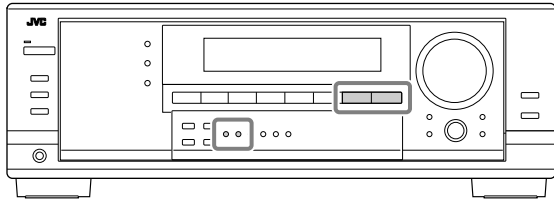
Notes:

- If the source is FM or AM, you can assign a different setting for each band.
- If you want to memorize the volume level with the above settings, set One Touch Operation to “ON” (see page 26).

Receiving Radio Broadcasts

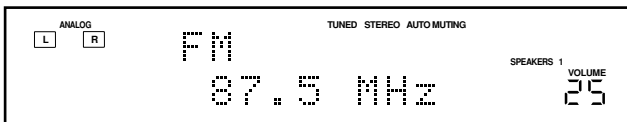
You can browse through all the stations or use the preset function to go immediately to a particular station.

Tuning in to Stations Manually



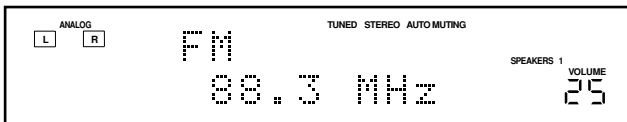
1. Press FM or AM to select the band.

The last received station of the selected band is tuned in.



2. Press FM/AM TUNING ▲ or ▼ repeatedly until you find the frequency you want.

- Pressing FM/AM TUNING ▲ increases the frequency.
- Pressing FM/AM TUNING ▼ decreases the frequency.



Notes:

- When a station of sufficient signal strength is tuned in, the TUNED indicator lights up on the display.
- When an FM stereo program is received, the STEREO indicator also lights up.
- When you hold and then release the button in step 2, the frequency keeps changing until a station is tuned in.

On the remote control:

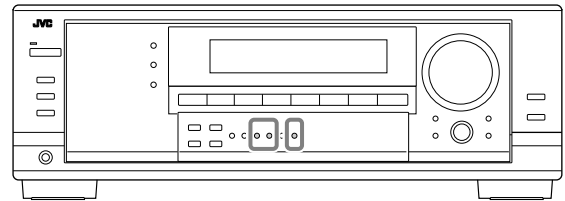
1. Press FM/AM.

- Each time you press the button, the band alternates between FM and AM.

2. Press TUNING ⊕ or ⊖ TUNING repeatedly until you find the frequency you want.

- Pressing TUNING ⊕ increases the frequency.
- Pressing TUNING ⊖ decreases the frequency.

Using Preset Tuning



Once a station is assigned to a channel number, the station can be quickly tuned in. You can preset up to 30 FM and 15 AM stations.

To store the preset stations

Before you start, remember...

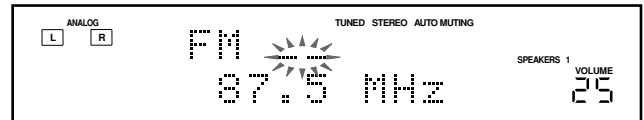


There is a time limit in doing the following steps. If the setting is cancelled before you finish, start from step 2 again.

1. Tune in to the station you want to preset (see “Tuning in to Stations Manually”).

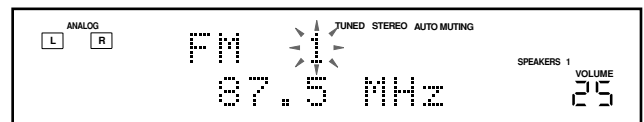
- If you want to store the FM reception mode for this station, select the FM reception mode you want. See “Selecting the FM Reception Mode” on page 20.

2. Press MEMORY.



The channel number position starts flashing on the display for about 10 seconds.

3. Press FM/AM PRESET ▲ or ▼ to select a channel number while the channel number position is flashing.



4. Press MEMORY again while the selected channel number is flashing on the display.

The selected channel number stops flashing.

The station is assigned to the selected channel number.

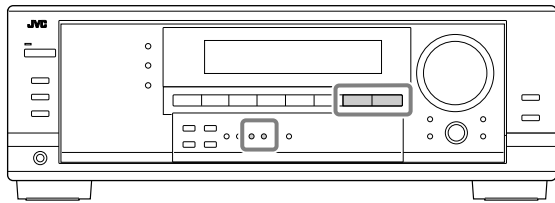
5. Repeat steps 1 to 4 until you store all the stations you want.

To erase a stored preset station

Storing a new station on a used number erases the previously stored one.

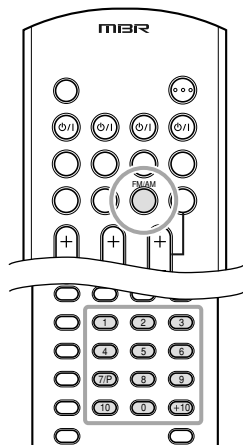
To tune in to a preset station

On the front panel:



1. **Press FM or AM to select the band.**
The last received station of the selected band is tuned in.
2. **Press FM/AM PRESET ▲ or ▼ until you find the channel you want.**
 - Pressing FM/AM PRESET ▲ increases the number.
 - Pressing FM/AM PRESET ▼ decreases the number.

On the remote control:

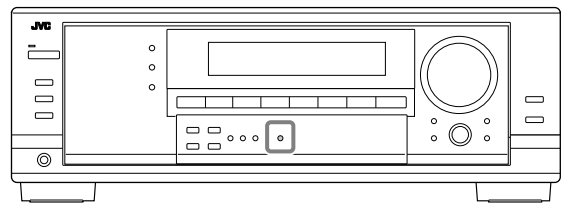


1. **Press FM/AM to select the band.**
The last received station of the selected band is tuned in.
 - Each time you press the button, the band alternates between FM and AM.
2. **Press the 10 keys to select a preset channel number.**
 - For channel number 5, press 5.
 - For channel number 15, press +10 then 5.
 - For channel number 20, press +10 then 10.
 - For channel number 30, press +10, +10, then 10.

Note:

When you use the 10 keys on the remote control, be sure that they are activated for the tuner, not for the DVD and others. (See page 41.)

Selecting the FM Reception Mode

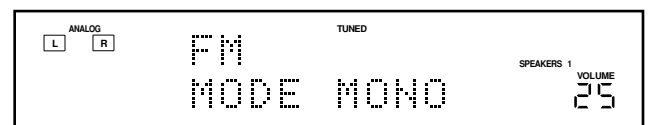
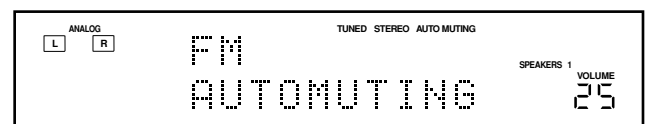


When an FM stereo broadcast is hard to receive or noisy, you can change the FM reception mode while receiving an FM broadcast.

- You can store the FM reception mode for each preset station (see page 19).

While listening to an FM station, press FM MODE.

- Each time you press the button, the FM reception mode alternates between “AUTOMUTING” and “MODE MONO.”



AUTOMUTING	Normally select this. When a program is broadcasted in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. This mode is also useful to suppress static noise between stations. The AUTO MUTING indicator lights up on the display. (Initial setting)
MODE MONO	Select this to improve the reception (but stereo effect will be lost). In this mode, you will hear noise while tuning in to the stations. The AUTO MUTING indicator (and the STEREO indicator) goes off from the display.

Note:

When you use the FM MODE on the remote control, be sure that it is activated for the tuner, not for the DVD and others. (See page 41.)

Basic Settings

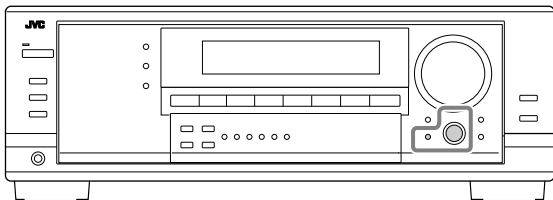
Some of the following settings are required after connecting and positioning your speakers while others will make operations easier. You can use QUICK SPEAKER SETUP to easily set up your speaker configuration.

Quick Speaker Setup



Quick Speaker Setup helps you to easily and quickly register the speaker size and speaker distance according to your listening room to create the best possible surround effect.

- You can also register each speaker's information manually. For details, see page 23.

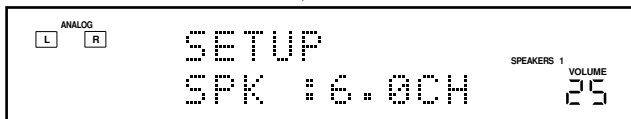
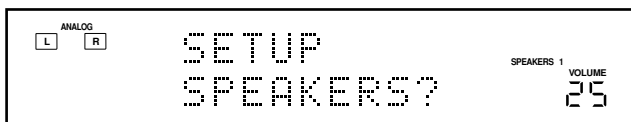


Before you start, remember...

There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

1. Press QUICK SPEAKER SETUP.

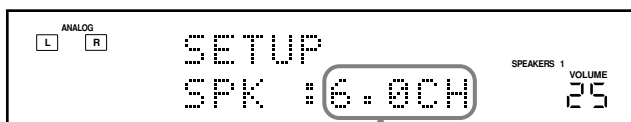
"SETUP" and "SPEAKERS?" appear on the display, then the initial setting for the total number of the connected speakers (channels) appears.



2. Turn MULTI JOG to select an appropriate number of the connected speakers (speaker channel number).

As you turn the jog, the speaker channel number changes as follows.

- For the details of speaker channel number, see "Speakers (channels) number and the size" on page 22.

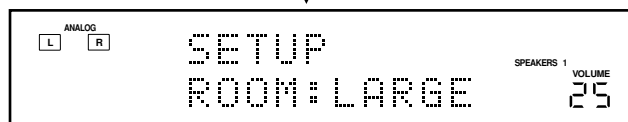
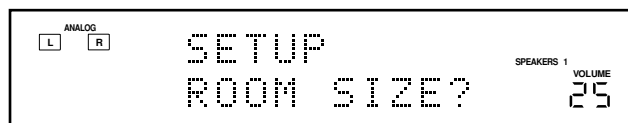


2.0CH ⇄ 2.1CH ⇄ 3.0CH ⇄ 3.1CH ⇄ 4.0CH ⇄ 4.1CH ⇄ 5.0CH ⇄ 5.1CH ⇄ 6.0CH* ⇄ 6.1CH ⇄ 7.0CH ⇄ 7.1CH ⇄ (Back to the beginning)

* "6.0CH" is the initial setting.

3. Press in MULTI JOG (PUSH SET).

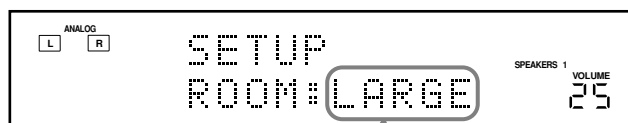
"ROOM SIZE?" appears on the display, then the initial room size setting appears.



4. Turn MULTI JOG to select an appropriate room size to match to your listening room.

As you turn the jog, the room size changes as follows.

- To select your appropriate room size, see "Room size and the speaker distance" on page 22.



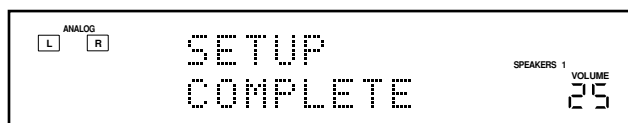
SMALL ⇄ MID ⇄ LARGE* ⇄ (Back to the beginning)

* "LARGE" is the initial setting.

5. Press in MULTI JOG (PUSH SET).

"COMPLETE" appears on the display, then goes back to the source indication.

- Speaker configuration settings now become active.



Notes:

- This procedure will not be completed if you stop in the middle of the setting process.
- Once Quick Speaker Setup is performed, the speaker output levels are also set to appropriate values automatically (common to all sources). If you want to set the speaker output levels separately for each source, see "Adjusting the speaker output levels" on page 28.

Speakers (channels) number and the size

You can find how each of the speaker size is defined according to the number of connected speakers (speaker channel "CH" number) you select.

- Subwoofer is counted as 0.1 channel.

CH	The size of connected speakers				
	L/R	C	LS/RS	SB	SUBWFR
2.0CH	LARGE	NONE	NONE	NONE	NO
2.1CH	SMALL	NONE	NONE	NONE	YES
3.0CH	LARGE	SMALL	NONE	NONE	NO
3.1CH	SMALL	SMALL	NONE	NONE	YES
4.0CH	LARGE	NONE	SMALL	NONE	NO
4.1CH	SMALL	NONE	SMALL	NONE	YES
5.0CH	LARGE	SMALL	SMALL	NONE	NO
5.1CH	SMALL	SMALL	SMALL	NONE	YES
6.0CH	LARGE	SMALL	SMALL	SMALL	NO
6.1CH	SMALL	SMALL	SMALL	SMALL	YES
7.0CH	LARGE	SMALL	SMALL	SMALL*	NO
7.1CH	SMALL	SMALL	SMALL	SMALL*	YES

* This setting is applied to the both surround back speakers.

Room size and the speaker distance

According to the selected room size, speaker distance for each activated speaker is set as follows:

Size	Speaker	Distance
LARGE	L/R	3.0 m (10 ft)
	C	3.0 m (10 ft)
	LS/RS	3.0 m (10 ft)
	SB	3.0 m (10 ft)
MID	L/R	2.7 m (9 ft)
	C	2.4 m (8 ft)
	LS/RS	2.1 m (7 ft)
	SB	1.8 m (6 ft)
SMALL	L/R	2.4 m (8 ft)
	C	2.1 m (7 ft)
	LS/RS	1.5 m (5 ft)
	SB	1.2 m (4 ft)

Note:

In the tables above, "L" stands for the left front speaker, "R" for the right front speaker, "C" for the center speaker, "LS" for the left surround speaker, "RS" for the right surround speaker, "SB" for the surround back speaker, and "SUBWFR" for the subwoofer.

Basic Setting Items



On the following pages, you can adjust the following items:

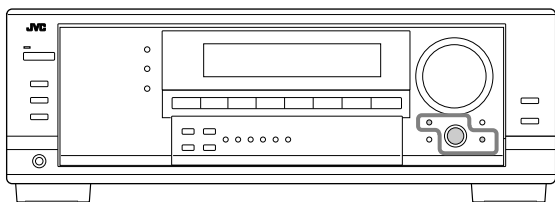
- You can only select the items currently available. For details, see the explanation of each item.

Items	To do	See page
SUB WOOFER*	Register your subwoofer.	23
FRONT SPEAKER*	Register your front speaker size.	23
CNTR SPEAKER*	Register your center speaker size.	23
SURR SPEAKER*	Register your surround speaker size.	23
SBACK SPEAKER*	Register your surround back speaker size.	23
SBACK OUT*	Register the number of the connected surround back speakers.	23
DIST UNIT	Select the measuring unit for the speaker distance.	24
FRNTL DISTANCE*	Register the distance from the left front speaker to your listening point.	24
FRNTR DISTANCE*	Register the distance from the right front speaker to your listening point.	24
CNTR DISTANCE*	Register the distance from the center speaker to your listening point.	24
SURRL DISTANCE*	Register the distance from the left surround speaker to your listening point.	24
SURRR DISTANCE*	Register the distance from the right surround speaker to your listening point.	24
SBACK DISTANCE*	Register the distance from the surround back speaker(s) to your listening point.	24
S WFR OUTPUT	Select sounds emitted from the subwoofer.	24
CROSS OVER	Select the cutoff frequency to the subwoofer.	24
LFE ATTENUATE	Attenuate the bass (LFE) sounds.	25
DUAL MONO	Select the Dual Mono sound channel.	25
AUTO SURROUND	Turn on or off Auto Surround.	25
DGTL IN COAX	Select the component connected to digital coaxial terminal.	25
DGTL IN OPTICAL	Select the components connected to digital optical terminals.	26
VIDEO IN DVD	Select the type of video terminal used for the DVD player.	26
VIDEO IN DBS	Select the type of video terminal used for the DBS tuner.	26
VIDEO IN VCR	Select the type of video terminal used for the VCR.	26
ONE TOUCH OPE	Store the volume level for each source.	26

Note:

* These items can be set using Quick Speaker Setup.

Basic Procedure



Before you start, remember...

There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

Ex. When setting One Touch Operation to “ON.”

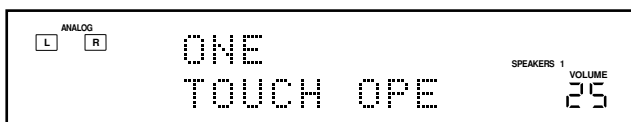
1. Press SETTING.

The last selected item appears on the display.



2. Turn MULTI JOG until an item you want appears on the display.

- In this example, select “ONE TOUCH OPE.” For available items, see the list “Basic Setting Items” on page 22.

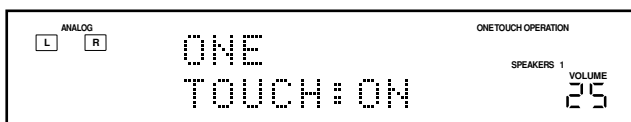


3. Push in MULTI JOG (PUSH SET).

The current setting for the selected item appears on the display.



4. Turn MULTI JOG until a setting you want appears on the display.




5. Push in MULTI JOG (PUSH SET).

6. Repeat steps 2 to 5 to set other items if necessary.

7. Press EXIT.

The source indication resumes on the display.

 : shows the initial setting in the following tables.

Setting the speakers

To obtain the best possible surround effect from the Surround and DSP modes, register the setting about the speaker arrangement after all connections are completed.

- If you have used Quick Speaker Setup on page 21, this setting is not required.

■ Subwoofer setting—SUB WOOFER

Select whether you have connected a subwoofer or not.

SUB WOOFER: YES Select when a subwoofer is connected.

SUB WOOFER: NO Select when no subwoofer is used.

Note:

If you have selected “NO” for the subwoofer, you cannot use the SUBWOOFER OUT ON/OFF button on the front panel.

■ Speaker size—FRONT SPEAKER, CNTR SPEAKER, SURR SPEAKER, SBACK SPEAKER

Select the size for each connected speaker.

LARGE*1 Select when the speaker size is relatively large.

SMALL*2 Select when the speaker size is relatively small.

NONE Select this when you have not connected a speaker. (Not selectable for the front speakers.)

*1 Initial setting for front speakers.

*2 Initial setting for center, surround, and surround back speakers.

Notes:

- Keep the following comments in mind as reference when adjusting.
 - If the size of the cone speaker unit built in your speaker is larger than 12 cm, select “LARGE,” and if it is smaller than 12 cm, select “SMALL.”
- If you have selected “NO” for the subwoofer setting, you can only select “LARGE” for the front speakers.
- If you have selected “SMALL” for the front speakers, you cannot select “LARGE” for the center, surround, and surround back speakers.
- If you have selected “SMALL” for the surround speakers, you cannot select “LARGE” for the surround back speakers.
- If you have selected “NONE” for the surround speakers, the surround back speakers are fixed to “NONE.”

■ Surround back speakers quantity—SBACK OUT

Select the number of the surround back speakers connected.

SBACK OUT: 1SPK Select to use 1 surround back speaker.

SBACK OUT: 2SPK Select to use 2 surround back speakers.

Note:

If you have selected “NONE” for the surround back speakers (see above), this setting is not available.

Setting the speaker distance

The distance from your listening point to the speakers is another important element to obtain the best possible sound of the Surround and DSP modes. Set the distance from your listening point to the speakers.

By referring to the speaker distance setting, this unit automatically sets the delay time of the sound through each speaker so that sounds through all the speakers can reach you at the same time.

- If you have used Quick Speaker Setup on page 21, this setting is not required.

■ Measuring unit—DIST UNIT

Select which measuring unit you use.

DIST UNIT: meter Select to set the distance in meters.

DIST UNIT: feet Select to set the distance in feet.

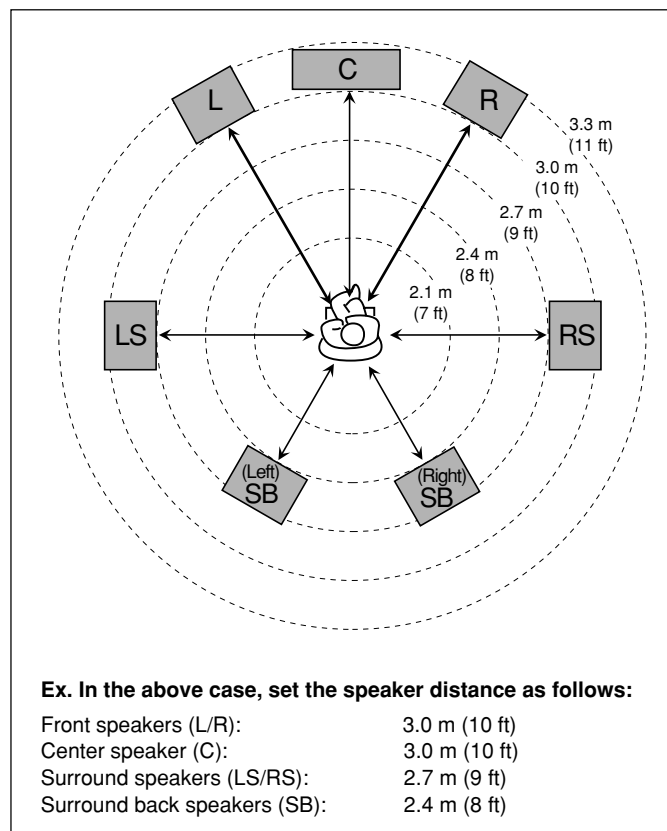
■ Speaker distance—FRNTL DISTANCE, FRNTR DISTANCE, CNTR DISTANCE, SURRL DISTANCE, SURRR DISTANCE, SBACK DISTANCE

Set the distance from the listening point within the range of 0.3 m (1 ft) to 9.0 m (30 ft), in 0.3 m (1 ft) intervals.

- When shipped from the factory, distance for each speaker is set to “3.0 m (10 ft).”

Notes:

- You cannot set the speaker distance for the speakers you have selected “NONE” (see page 23).
- This setting is not valid for the DVD MULTI playback mode.



Setting the bass sounds

You can adjust subwoofer and bass sounds precisely according to your preference.

■ Subwoofer output—S WFR OUTPUT

You can select the type of the signal which can be transmitted through the subwoofer. In other words, you can determine whether or not the bass elements of the front speaker channels are transmitted through the subwoofer regardless of the front speaker size setting (either “SMALL” or “LARGE”).

Select one of the following:

S WFR: LFE Select to emit only the LFE signals (while playing Dolby Digital or DTS software) or the bass elements of the “SMALL” front speakers (while playing any source other than the above).

S WFR: LFE+MAIN

Select to always emit the bass elements of the front speaker channels (MAIN). While playing Dolby Digital or DTS software, the bass element and the LFE signals are both emitted.

Note:

If you have selected “NO” for the subwoofer, this function is not available.

■ Crossover frequency—CROSS OVER

You can select the crossover frequency for the small speakers used. The signals below the selected frequency level will be sent to and be reproduced by the subwoofer (or by “LARGE” speakers when you have selected “NO” for the subwoofer).

Select one of the crossover frequency levels according to the size of the small speaker connected.

CROSS OVER: 80Hz Select when the cone speaker unit built in the speaker is about 12 cm.

CROSS OVER: 100Hz Select when the cone speaker unit built in the speaker is about 10 cm.

CROSS OVER: 120Hz Select when the cone speaker unit built in the speaker is about 8 cm.

CROSS OVER: 150Hz Select when the cone speaker unit built in the speaker is about 6 cm.

CROSS OVER: 200Hz Select when the cone speaker unit built in the speaker is about 5 cm.

Notes:

- If you have selected “LARGE” for all activated speakers (see page 23), this function is fixed to “OFF.”
- Crossover frequency is not valid for the DVD MULTI playback, Headphone, and 3D Headphone mode.

■ Low frequency effect attenuator—LFE ATTENUATE

If the bass sound is distorted while playing back software encoded with Dolby Digital or DTS, set the LFE level to eliminate distortion.

- This function takes effect only when the LFE signals come in.

Select one of the following:

LFE ATT: 0dB Normally select this.

LFE ATT: -10dB Select when the bass sound is distorted.

Selecting the main or sub channel

You can select the playback sound (channel) you want while playing digital software recorded (or broadcast) in the Dual Mono mode (see page 31), which includes two monaural channels separately.

■ Dual Mono—DUAL MONO

Select the playback sounds (channel).

DUAL MONO: MAIN

Select to play back the main channel (Ch 1).*
Signal indicator “L” lights up while playing back this channel.

DUAL MONO: SUB

Select to play back the sub-channel (Ch 2).*
Signal indicator “R” lights up while playing back this channel.

DUAL MONO: ALL

Select to play back both the main and sub-channels (Ch 1/Ch 2).*
Signal indicators “L” and “R” light up while playing back these channels.

Notes:

- The Dual Mono format is not identical with bilingual broadcasting or the MTS (Multichannel Television Sound) format used for TV programs. So this setting does not take effect while watching bilingual or MTS programs.
- * Dual Mono signals can be heard from the following speakers—L (left front speaker), R (right front speaker), and C (center speaker)—with respect to the current Surround setting.

Dual Mono Setting	Without Surround		With Surround Activated				
			Center speaker setting				
	L	R	SMALL/LARGE		NONE		
MAIN	Ch 1	Ch 1	—	Ch 1	—	Ch 1	Ch 1
SUB	Ch 2	Ch 2	—	Ch 2	—	Ch 2	Ch 2
ALL	Ch 1	Ch 2	—	Ch 1+Ch 2	—	Ch 1+Ch 2	Ch 1+Ch 2

Setting for easy and effective surround operations

■ Auto Surround—AUTO SURROUND

Auto Surround works when the unit detects the incoming digital signal. In other words, it works...

- When you select the digital source (the source with digital input selected for it), and
- When you change the input mode from analog to digital.

Select “AUTO SURR ON” when activating Auto Surround.

AUTO SURR: ON

- When multi-channel signal is detected, an appropriate Surround mode will be turned on.
- When Dolby Digital 2-channel with surround signals is detected, “PLII MOVIE” or “NEO:6CINMA” will be selected.
- When Dolby Digital 2-channel without surround signals is detected, “SURR OFF” will be selected.
- When Linear PCM signal is detected, nothing will change.

AUTO SURR: OFF Select to deactivate Auto Surround.

Notes:

- This function does not take effect in the following cases:
 - While playing an analog source,
 - While selecting any of DAP modes (see page 34), or one of the fixed digital input mode—“DGTL D.D” or “DGTL DTS” (see page 16), and
 - While listening with the headphones—“HEADPHONE” (see page 15).
- If you press **SURROUND** or **SURROUND/DSP OFF** with Auto Surround activated, Auto Surround will be canceled temporarily for the currently selected source. Auto Surround setting will be restored in the following cases:
 - When you turn the receiver off and on,
 - When you change the source,
 - When you change the analog/digital input, and
 - When you select “AUTO SURR OFF” and then select “AUTO SURR ON” again.

Setting the digital input terminals

When you use the digital input terminals, register which components you have connected to the digital input terminals.

■ Digital coaxial terminal—DGTL IN COAX

Set the component connected to the digital coaxial terminal (**DIGITAL 1**).

Following setting is available:

- DVD (initial setting)
- CD
- TV (or DBS*)
- CDR
- VCR

* If you have changed the source name from “TV” to “DBS,” “DBS” appears (see page 17).

■ Digital optical terminals—DGTL IN OPTICAL

Set the components connected to the digital optical terminals (DIGITAL 2 – 4).

- As you turn MULTI JOG, the digital optical input terminals are set to used for following digital components:

When “DIGITAL 1 (DGTL IN COAX)” is set to “DVD”:

2: CD	3: TV (or DBS*1)	4: CDR	⇐
2: CD	3: TV (or DBS*1)	4: VCR	⇐
2: CD	3: VCR	4: CDR	⇐
2: VCR	3: TV (or DBS*1)	4: CDR	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “CD”:

2: DVD	3: TV (or DBS*1)	4: CDR	⇐
2: DVD	3: TV (or DBS*1)	4: VCR	⇐
2: DVD	3: VCR	4: CDR	⇐
2: VCR	3: TV (or DBS*1)	4: CDR	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “TV” or “DBS”*1:

2: CD	3: DVD	4: CDR	⇐
2: CD	3: DVD	4: VCR	⇐
2: CD	3: VCR	4: CDR	⇐
2: VCR	3: DVD	4: CDR	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “CDR”:

2: CD	3: TV (or DBS*1)	4: DVD	⇐
2: CD	3: TV (or DBS*1)	4: VCR	⇐
2: CD	3: VCR	4: DVD	⇐
2: VCR	3: TV (or DBS*1)	4: DVD	⇐

(back to the beginning)

When “DIGITAL 1 (DGTL IN COAX)” is set to “VCR”:

2: CD	3: TV (or DBS*1)	4: CDR	⇐
2: CD	3: TV (or DBS*1)	4: DVD	⇐
2: CD	3: DVD	4: CDR	⇐
2: DVD	3: TV (or DBS*1)	4: CDR	⇐

(back to the beginning)

*1 If you have changed the source name from “TV” to “DBS,” “DBS” appears (see page 17).

Setting the component video input

When you use the component video inputs for connecting the DVD player and/or DBS tuner (or VCR), register the type of input jacks. If you have not selected appropriate video input jacks, the AV COMPU LINK remote control system cannot operate properly. (See page 38.)

■ For the DVD player—VIDEO IN DVD

Select one of the following:

VIDEO DVD: CMPNT Select when connecting the DVD player to the component video input jacks.

VIDEO DVD: S/C Select when connecting the DVD player to the composite video or S-video input jacks.

■ For the DBS tuner—VIDEO IN DBS

Select one of the following:

VIDEO DBS: CMPNT*2 Select when connecting the DBS tuner to the component video input jacks.

VIDEO DBS: S/C Select when connecting the DBS tuner to the composite video or S-video input jacks.

Notes:

- If you have selected “CMPNT” for the component video setting for the VCR (VIDEO IN VCR), this setting is not available.
- *2 When you have selected this setting, the component video setting for the VCR (VIDEO IN VCR) is not available.

■ For the VCR—VIDEO IN VCR

Select one of the following:

VIDEO VCR: CMPNT*3 Select when connecting the VCR to the component video input jacks.

VIDEO VCR: S/C Select when connecting the VCR to the composite video or S-video input jacks.

Notes:

- If you have selected “CMPNT” for the component video setting for the DBS tuner (VIDEO IN DBS), this setting is not available.
- *3 When you have selected this setting, the component video setting for the DBS tuner (VIDEO IN DBS) is not available.

Memorizing the volume level for each source

This unit memorizes some settings separately for each source. In addition, you can store the volume level for each source with the other memorized settings—One Touch Operation.

- This receiver memorizes the volume level—
 - when you change the source, or
 - when you change the source name.

■ One Touch Operation—ONE TOUCH OPE

Select one of the following:

ONE TOUCH: ON Select to store the volume level separately for each source. (The ONE TOUCH OPERATION indicator lights up on the display.)

ONE TOUCH: OFF Select this not to store the volume level.

To recall the volume level

With the ONE TOUCH OPERATION indicator lit, the volume level for the currently selected source is recalled when the source is selected.

To cancel the One Touch Operation

Set One Touch Operation to “OFF” so that the ONE TOUCH OPERATION indicator goes off from the display.

Adjusting Sound

You can make sound adjustment to your preference after completing basic setting.

Basic Adjustment Items

On the following pages, you can adjust the items listed below:

- You can adjust only the items applicable to the current sound mode.
- If Analog Direct is in use, you cannot make any sound adjustments.

Items	To do	See page
EQ 63Hz	Adjust equalizer pattern at 63 Hz.	28
EQ250Hz	Adjust equalizer pattern at 250 Hz.	28
EQ 1kHz	Adjust equalizer pattern at 1 kHz.	28
EQ 4kHz	Adjust equalizer pattern at 4 kHz.	28
EQ16kHz	Adjust equalizer pattern at 16 kHz.	28
SUBWFR LVL	Adjust the subwoofer output level.	28
FRNT L LVL	Adjust the left front speaker output level.	28
FRNT R LVL	Adjust the right front speaker output level.	28
CENTER LVL	Adjust the center speaker output level.	28
SURR L LVL	Adjust the left surround speaker output level.	28
SURR R LVL	Adjust the right surround speaker output level.	28
SBACK LVL	Adjust the surround back speaker(s) output level.	28
EFFECT* ¹	Adjust the effect level.	29
ROOMSIZE* ¹	Select the room size for your virtual listening room.	29
LIVENESS* ¹	Select the liveness level for your virtual listening room.	29
CTR TONE	Make the center tone soft or sharp.	29
PNRM CNTRL* ²	Add “wraparound” sound effect with side-wall image.	29
CNTR WIDTH* ²	Adjust the center channel localization between the center speaker and the left/right front speakers.	29
DIMENSION* ²	Adjust sound localization position.	29
CNTR GAIN* ³	Adjust sound localization of the center channel.	29

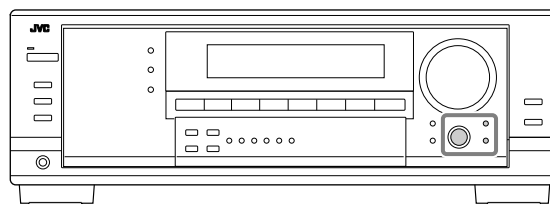
Notes:

*¹ Adjustable when one of the DAP modes or Mono Film (see pages 34 and 35) is in use.

*² Adjustable when Pro Logic II Music (see page 31) is in use.

*³ Adjustable when Neo:6 Music (see page 31) is in use.

Basic Procedure



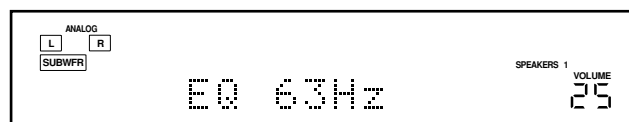
Before you start, remember...

There is a time limit in doing the following steps. If the setting is canceled before you finish, start from step 1 again.

Ex. When adjusting the subwoofer level to “-3.”

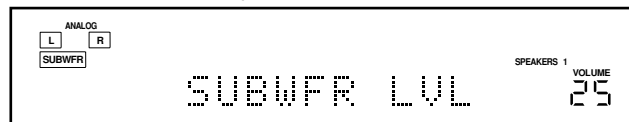
1. Press ADJUST.

The last selected item appears on the display.



2. Turn MULTI JOG until an item you want appears on the display.

- In this example, select “SUBWFR LVL.” For available items, see the list “Basic Adjustment Items.”



3. Press in MULTI JOG (PUSH SET).

The current setting (or level) for the selected item appears on the display.



4. Turn MULTI JOG to select a setting you want or to make an adjustment as you like.



5. Press in MULTI JOG (PUSH SET).

6. Repeat steps 2 to 5 to set other items if necessary.

7. Press EXIT.

The source indication resumes on the display.

Adjusting the equalization patterns

You can adjust the equalization patterns to your preference.

- Once you have made an adjustment, it is memorized for each source.
- The equalization pattern affects the front speaker sounds only.

■ **Equalization adjustment**—EQ 63Hz, EQ250Hz, EQ 1kHz, EQ 4kHz, EQ16kHz

You can adjust five frequencies (63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz) within the range of **-8 dB** to **+8 dB** (“0 (dB)” is the initial setting) in 2 dB steps.

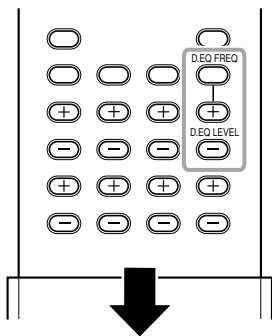
- When an adjustment is made, the D. EQ indicator lights up on the display.

To flat the equalization pattern, set all the frequencies to “0 (dB)” in step 4 of “Basic Procedure” (on page 27). The D. EQ indicator goes off from the display.

Note:

When Analog Direct is in use, Equalization patterns are not available.

You can also use the remote control for equalization adjustment.



1. Press **D.EQ FREQ (Digital Equalization Frequency)** repeatedly to select the frequency you want to adjust.
 - Each time you press the button, the frequency appears on the display.
2. Press **D.EQ LEVEL + or -** repeatedly to adjust the frequency level.

The current frequency level appears and the D. EQ indicator lights up on the display.

 - The frequency level changes from **-8 dB** to **+8 dB** in 2 dB steps.
3. Repeat steps 1 and 2 to adjust the other frequency.

Adjusting the speaker output levels

You can adjust the speaker output levels.

- Once you have made an adjustment, it is memorized for each source.

■ **Adjustable speakers**

You can adjust the following speakers' output levels within the range of **-10 dB** to **+10 dB** (“0 (dB)” is the initial setting):

SUBWFR LVL	Select to adjust the subwoofer output level.
FRNT L LVL	Select to adjust the left front speaker output level.
FRNT R LVL	Select to adjust the right front speaker output level.
CENTER LVL	Select to adjust the center speaker output level.
SURR L LVL	Select to adjust the left surround speaker output level.
SURR R LVL	Select to adjust the right surround speaker output level.
SBACK LVL	Select to adjust the surround back speaker output level.

Notes:

- If you have selected “NO” or “NONE” for a speaker (see page 23), the output level for the corresponding speaker is not adjustable.
- The center speaker and left/right surround speakers' output levels are adjustable for DVD MULTI playback mode, even though “NONE” is selected for the speaker settings.
- Speaker output levels (except the subwoofer output level) are not adjustable when Analog Direct is in use. But when you set the subwoofer to “OFF,” you also cannot adjust the subwoofer output level.

Adjusting the sound parameters for the surround and DSP modes

You can adjust the Surround and DSP sound parameters to your preference. (For Surround and DSP modes, see pages 30 to 35.)

- When center speaker is set to “NONE,” following items are not available:
 - “CTR TONE”
 - “CNTR WIDTH”
 - “CNTR GAIN”

■ **Adjustable parameters**

You can adjust the following parameters:

For Surround and DSP modes (when the center speaker is connected)

- This setting is common to all surround modes, and is memorized separately for DSP modes.

CTR TONE	Adjust the center tone. As the number increases, the dialogue becomes clearer so that the human voices change from soft to sharp. (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)
-----------------	---

For DAP modes and Mono Film

- Once you have made an adjustment, it is memorized for each mode.

EFFECT	Adjust the effect level. As the number increases, the effect becomes stronger. (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)
ROOMSIZE	Adjust the virtual room size. As the number increases, the interval between reflections increases so that you will feel as if you were in a larger room. (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)
LIVENESS	Adjust the liveness effect. As the number increases, the attenuation level of reflections over time decreases so that acoustics change from “Dead” to “Live.” (Adjustable range: 1 to 5 . “3” is the initial setting, and normally select this.)

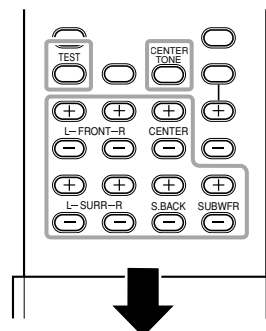
For Pro Logic II Music only

PNRM CNTRL	Select “ON” to add “wraparound” sound effect with side-wall image. (Initial setting: “OFF.”)
CNTR WIDTH	Adjust the center channel localization between the center speaker and the left/right front speakers. As the number increases, the center channel sound moves toward the left and right speakers. (Adjustable range: OFF and 1 to 7 . “3” is the initial setting, and normally select this.)
DIMENSION	Adjust the sound localization position. As the number increases, the sound localization moves towards forward from backward. (Adjustable range: 1 to 7 . “4” is the initial setting, and normally select this.)

For Neo:6 Music only

CNTR GAIN	Adjust the sound localization of the center channel. As the number increases, center channel will be localized clearly. (Adjustable range: 0 to 0.5 . “0.2” is the initial setting, and normally select this.)
------------------	---

You can also use the remote control for adjusting the speaker output level and center tone.



To adjust the speaker output level:

1. Press TEST to check if you can hear the sounds through all the speakers at equal level.

Test tone comes out of the speakers in the following order.

- No test tone comes out of the speakers for which the speaker setting is set to “NONE” (or “NO” for the subwoofer).

FRNT L (Left front speaker) → CENTER (Center speaker) →
 FRNT R (Right front speaker) →
 SURR R (Right surround speaker) →
 SBACK (surround back speaker) →
 SURR L (Left surround speaker) →
 SUBWFR (Subwoofer) → (Back to the beginning)

2. Adjust the speaker output level.

Adjustable range: -10 dB to +10 dB. “0 (dB)” is the initial setting.

- To adjust the left front speaker, press FRONT L + or -.
- To adjust the center speaker, press CENTER + or -.
- To adjust the right front speaker, press FRONT R + or -.
- To adjust the right surround speaker, press SURR R + or -.
- To adjust the surround back speaker, press S.BACK + or -.
- To adjust the left surround speaker, press SURR L + or -.
- To adjust the subwoofer, press SUBWFR + or -.

Notes:

- When you press each button once, the current level for the selected speaker appears on the display, and the test tone comes out of the selected speaker.
- If no adjustment is done for about 4 seconds, the adjustment mode for the selected speaker is canceled.
- If you don't have the test tone emitted, adjustment for the speaker output level is available. In this case, wait for about 4 seconds, after the adjustment is finished. Then the adjustment mode for the selected speaker is canceled and resumes the source indication on the display.

3. Repeat step 2 to adjust other speaker's output levels.

4. Press TEST again to stop the test tone.

To adjust the center tone:

1. Press CENTER TONE repeatedly.

Adjustable range: 1 to 5. “3” is the initial setting, and normally select this.

2. Wait for about 4 seconds, after the adjustment is finished.

The adjustment mode for the center tone is canceled and automatically resumes the source indication on the display.

Using the Surround Modes

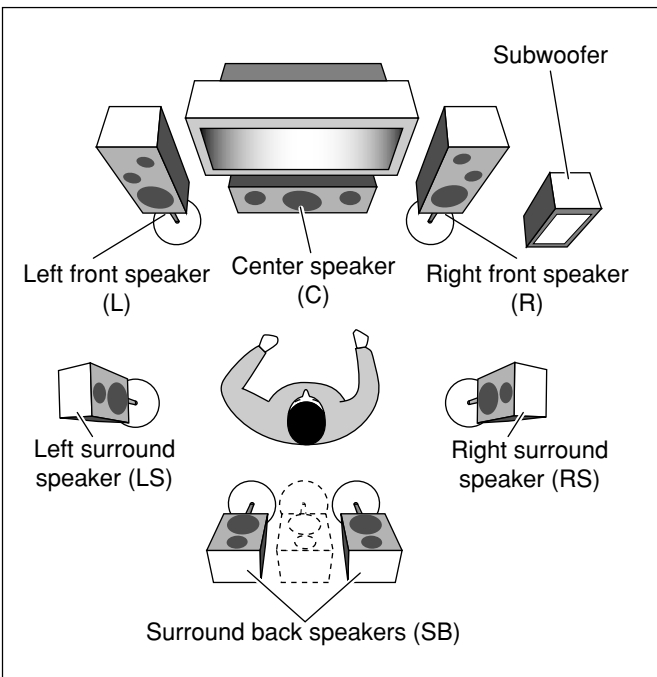
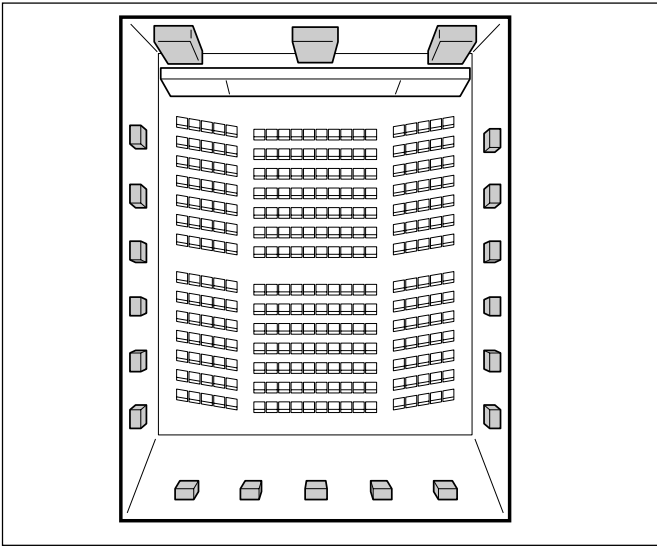
This unit activates a variety of Surround modes automatically. The basic settings and adjustments stored (see pages 21 to 29) are applied.

Reproducing Theater Ambience

In a movie theater, many speakers are located on the walls to reproduce impressive multi-surround sounds, reaching you from all directions.

With these many speakers, sound localization and sound movement can be expressed.

Surround modes built in this receiver can create almost the same surround sounds as you can feel in a real movie theater—with only five to seven speakers (plus subwoofer).



Introducing the Surround Modes

Dolby Digital*¹

Dolby Digital is a digital signal compression method, developed by Dolby Laboratories, and enables multi-channel encoding and decoding (1ch up to 5.1ch).

- When Dolby Digital signal is detected through the digital input, the **DIGITAL** indicator lights up on the display.

Dolby Digital 5.1CH

Dolby Digital 5.1CH (DOLBY D) encoding method records and digitally compresses the left front channel, right front channel, center channel, left surround channel, right surround channel, and LFE channel signals (total 6 channels, but the LFE channel is counted as 0.1 channel. Therefore, called 5.1 channel).

Dolby Digital enables stereo surround sounds, and sets the cutoff frequency of the surround treble at 20 kHz, compared to 7 kHz for Dolby Pro Logic. As such, the sound movement and “being-there” feeling are enhanced much more than Dolby Pro Logic.

Dolby Digital EX

Dolby Digital EX (DOLBY D EX) is a digital surround encoding format that adds the third surround channels, called “surround back.”

Compared to the conventional Dolby Digital 5.1CH, these newly added surround back channels can reproduce more detailed movements behind you while viewing the video software. In addition, surround sound localization will become more stable.

- You can use Virtual 6.1-channel surround when playing back Dolby Digital EX software without connecting the surround back speakers. This reproduce the back sound field as if the surround back speakers exist, so that you can still feel the great surround effect from behind.

The VIRTUAL SB (Surround Back) indicator lights up on the display.

Dolby Pro Logic

Dolby Surround encoding format records the left front channel, right front channel, center channel, and surround channel (monaural) signals into 2 channels.


The Dolby Pro Logic (PRO LOGIC) decoder built in this receiver decodes these 2 channel signals into 4 original channel signals (plus subwoofer)—matrix-based multi-channel reproduction.

- When Dolby Pro Logic is activated, the **PRO LOGIC** indicator lights up on the display.

Dolby Pro Logic II

Dolby Pro Logic II is a multi-channel playback format to convert 2-channel software into 5-channel (plus subwoofer). The matrix-based conversion method used for Dolby Pro Logic II makes no limitation for the cutoff frequency of the surround treble and enables stereo surround sound.


- This receiver provides two types of Dolby Pro Logic II modes—**Pro Logic II Movie** (PLII MOVIE) and **Pro Logic II Music** (PLII MUSIC).

When Dolby Pro Logic II is activated, the  **PRO LOGIC II** indicator lights up on the display.

PLII MOVIE	Suitable for playing any Dolby Surround encoded software. You can enjoy a sound field very close to the one created with discrete 5.1-channel sounds.
PLII MUSIC	Suitable for playing any 2-channel stereo software. You can enjoy wide and deep sounds.

DTS*2

DTS is another digital signal compression method, developed by Digital Theater Systems, Inc., and enables multi-channel encoding and decoding (1ch up to 6.1ch).

- When DTS signal is detected through the digital input, the  indicator lights up on the display.

DTS Digital Surround

DTS Digital Surround (DTS) is another discrete 5.1-channel digital audio format available on CD, LD, and DVD software.

Compared to Dolby Digital, the DTS Digital Surround format has a lower audio compression rate which enables it to add breadth and depth to the sounds reproduced. As such, DTS Digital Surround features natural, solid, and clear sound.

- When EX/ES setting is set to “ON,” DTS Neo:6 (DTS NEO:6) is applied while playing back multi-channel DTS software. It creates the same surround ambience as 6.1-channel software does.

DTS Extended Surround (DTS-ES)

DTS-ES is another multi-channel digital encoding format.

It greatly improves the 360-degree surround impression and space expression by adding the third surround channel—surround back channel.

DTS-ES includes two signal formats with different surround signal recording methods—**DTS-ES Discrete 6.1ch** (ES DSCRT) and **DTS-ES Matrix 6.1ch** (ES MATRIX).

DTS-ES Discrete 6.1ch has been designed to encode (and decode) a 6.1-channel signal discretely to avoid interference with each channel.

DTS-ES Matrix 6.1ch has been designed to add an extra surround channel to DTS Digital Surround 5.1-channel. By using a matrix encoding/decoding method, an additional “surround back” channel signal is encoded (and decoded) in both the left and right surround channel signals.


- You can use Virtual 6.1-channel surround when playing back DTS-ES software without connecting the surround back speakers. This reproduce the back sound field as if the surround back speakers exist, so that you can still feel the great surround effect from behind.

The VIRTUAL SB (Surround Back) indicator lights up on the display.

DTS 96/24

In recent years, there has been increasing interest in higher sampling rates both for recording and for reproducing at home. Higher sampling rates allow wider frequency range and greater bit depths provide extended dynamic range.

DTS 96/24 is a multi-channel digital signal format (fs 96 kHz/24 bits) introduced by Digital Theater Systems, Inc. to deliver “better-than-CD sound quality” into the home.

- When DTS 96/24 signal is detected, the  and 96/24 indicators light up. You can enjoy its 5.1-channel sound with full-quality.

DTS Neo:6

DTS Neo:6 is another conversion method to create 6-channel (plus subwoofer) from analog/digital 2-channel software by using the high precision digital matrix decoder used for DTS-ES Matrix 6.1ch.

When one of Neo:6 modes is activated, the NEO:6 indicator lights up on the display.

- This receiver provides the following DTS NEO:6 modes—**Neo:6 Cinema** (NEO:6CINMA) and **Neo:6 Music** (NEO:6MUSIC). When DTS NEO:6 is activated, the NEO:6 indicator lights up on the display.

NEO:6CINMA Suitable for playing movies. You can get the same atmosphere with 2-channel software as with 6.1-channel software. It is also effective for playing software encoded with conventional surround formats.

NEO:6MUSIC Suitable for playing music software. The front channel signals bypass the decoder (resulting in no loss of sound quality) and the surround signals transmitted through the other speakers expand the sound field naturally.

What is Dual Mono?

Dual Mono can be easily understood when you think of the bilingual broadcast or the MTS (Multichannel Television Sound) format used for TV programs (however, the Dual Mono format is not identical with those analog formats).

This format is now adopted in Dolby Digital, DTS, and so on. It allows two independent channels (called main channel and sub-channel) to be recorded separately.

- When Dual Mono signal is detected, the DUAL indicator lights up. You can select either channel you want to listen to (see page 25).

When using the Surround mode, the sounds come out of the activated speakers which the Surround mode requires.

- **If either the surround speakers or center speaker is set to “NONE” in the speaker setting**, the corresponding channel signals are allocated to and emitted through the front speakers.
- **If both the surround speakers and center speaker are set to “NONE” in the speaker setting**, JVC’s original 3D-PHONIC processing (which has been developed to create the surround effect through the front speakers only) is used. The 3D-PHONIC indicator lights up on the display.

*1 Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic”, and the double-D symbol are trademarks of Dolby Laboratories.

*2 “DTS”, “DTS-ES”, “Neo:6” and “DTS 96/24” are trademarks of Digital Theater Systems, Inc.

Surround Modes Applicable to the Various Software

Available Surround modes vary depending on the speaker settings and the incoming signals.

The table below shows the relation of the Surround modes and the incoming signals (with the surround back speakers and EX/ES setting).

- The numbers inside the parentheses following the incoming signal type indicate the number of the front channels and that of the surround channels. For example, (3/2) indicates that the signals are encoded with three front signals (left/right/center) and two (stereo) surround signals.

Incoming Signal Type	Surround Back Channel Setting	EX/ES Setting	Available Surround Mode
Dolby Digital EX <small>*1 Depending on the software's specification. In case of some softwares, "DOLBY D" is applied.</small>	2SPK/1SPK	AUTO/ON	DOLBY D EX*1
		OFF	DOLBY D
	NONE	AUTO/ON	DOLBY D (VIRTUAL SB)*1*2
		OFF	DOLBY D
Dolby Digital (3/2, 2/2)	2SPK/1SPK	ON	DOLBY D EX
		AUTO/OFF	DOLBY D
	NONE	ON	DOLBY D (VIRTUAL SB)*2
		AUTO/OFF	DOLBY D
Dolby Digital (3/1, 2/1, 3/0, 1/0)	2SPK/1SPK/NONE	AUTO/ON/OFF	DOLBY D
Dolby Digital (Dual Mono)	2SPK/1SPK/NONE	AUTO/ON/OFF	DUAL MONO
DTS-ES Discrete 6.1ch	2SPK/1SPK	AUTO/ON	ES DSCRT
		OFF	DTS
	NONE	AUTO/ON	DTS (VIRTUAL SB)*2
		OFF	DTS
DTS-ES Matrix 6.1ch DTS-ES 96/24 Matrix	2SPK/1SPK	AUTO/ON	ES MATRIX*3
		OFF	DTS
	NONE	AUTO/ON	DTS (VIRTUAL SB)*2 *3
		OFF	DTS
DTS, DTS 96/24 (3/2, 2/2) <small>*3 DTS 96/24 processing is not applied. If you want to apply the processing, set the EX/ES setting to "OFF."</small>	2SPK/1SPK	ON	DTS NEO:6*3
		AUTO/OFF	DTS
	NONE	ON	DTS (VIRTUAL SB)*2 *3
		AUTO/OFF	DTS
DTS (3/1, 2/1, 3/0, 1/0)	2SPK/1SPK/NONE	AUTO/ON/OFF	DTS
DTS (Dual Mono)	2SPK/1SPK/NONE	AUTO/ON/OFF	DUAL MONO

Incoming Signal Type	Available Surround Mode
Analog/PCM/Dolby Surround/Dolby Digital (2/0)/DTS (2/0)	PLII MOVIE/PLII MUSIC/PRO LOGIC/NEO:6 CINMA/NEO:6 MUSIC
DVD MULTI	None

3D Headphone mode—3D H PHONE

If you press SURROUND when the front speakers 1 and 2 are both deactivated, 3D Headphone mode (3D H PHONE) is activated without respect to the type of software played back.

"3D H PHONE" appears on the display and the DSP and HEADPHONE indicators also light up.

*2 Virtual 6.1-channel surround

If you have connected (and activated) the surround speakers, you can use Virtual 6.1-channel surround when playing back Dolby Digital EX or DTS-ES software without connecting the surround back speakers. This surround reallocates the surround back channel to the surround speakers so that you can still feel the great surround effect from behind. The VIRTUAL SB (Surround Back) indicator lights up on the display.

Activating the Surround Modes

Available Surround modes vary depending on the speaker settings and the incoming signals. (See page 32.)

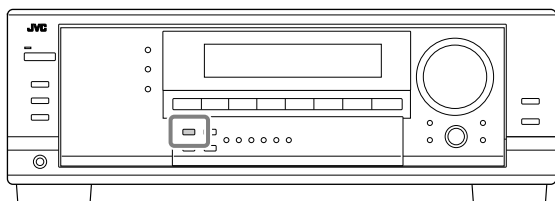
Activating one of the Surround modes for a source automatically recalls the memorized settings and adjustments (see pages 21 to 29).

You can also use the buttons on the remote control for the same functions.

Activating the EX/ES setting

For multi-channel digital software, you can activate the EX/ES (7.1-channel) reproduction mode.

- Once you have set EX/ES (7.1-channel) reproduction mode, it is stored in memory and will be called up whenever you activate the Surround mode which the memorized EX/ES (7.1-channel) reproduction mode can be applied to.



Press EX/ES to select an appropriate setting for your enjoyment.

The currently selected EX/ES (7.1-channel) reproduction mode appears on the display.

- Each time you press the button, it changes as follows:
For details of applicable Surround mode, see “Surround Modes Applicable to the Various Software” on page 32.

EX/ES AUTO	According to the incoming signal, an appropriate Surround mode is applied. <ul style="list-style-type: none"> For Dolby Digital EX and DTS-ES, EX/ES (7.1-channel) reproduction is applied. For other multi-channel (5.1-channel or less) encoded software, 5.1-channel reproduction is applied.
EX/ES ON	Select to apply EX/ES (7.1-channel) reproduction to both 5.1-channel and 6.1-channel encoded software.
EX/ES OFF	Select to cancel the EX/ES (7.1-channel) reproduction.

Notes:

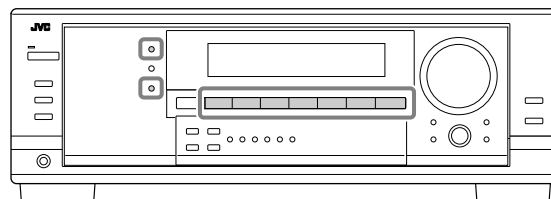
- When an analog or digital 2-channel source is playing, you can adjust the EX/ES (7.1-channel) reproduction mode and store the setting, but it will not affect the current source.
- When the source is one to which the EX/ES (7.1-channel) reproduction cannot be applied, you can adjust the setting and store in memory, but reproduction channels will remain unchanged.
- When the surround speakers are deactivated, you cannot activate this setting and “NO SURR SP” appears on the display.

Activating the surround modes automatically

You can enjoy the Surround mode simply by selecting the source (with digital input selected for that source) or select the digital input for the selected source.

To activate Auto Surround, see page 25.

Activating the surround modes manually

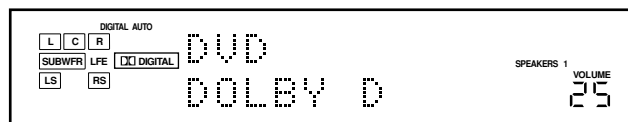


1. Select and play any source other than DVD MULTI.

- Make sure you have selected the analog or digital input mode correctly.
- Surround modes are not valid for DVD MULTI playback mode.

2. Press SURROUND to activate the Surround mode.

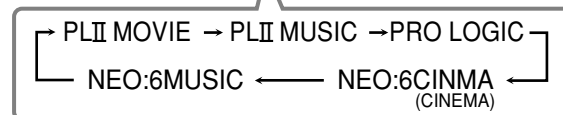
- For multi-channel digital software, incoming signals are automatically detected and the appropriate Surround mode is activated (see page 32 for details).



Ex. When “DOLBY D” is activated.

- If the EX/ES (7.1-channel) reproduction mode has been set to “AUTO” or “ON,” one of the EX/ES (7.1-channel) reproduction modes will be activated (see the left column).

- For analog sources and digital 2-channel software, you can select one of the following Surround modes. Each time you press SURROUND, the Surround modes change as follows:



- For Dual Mono software, you can select the channel you listen to. (See page 25.)



To adjust the speaker output level, see pages 28 and 29.

To cancel the surround modes

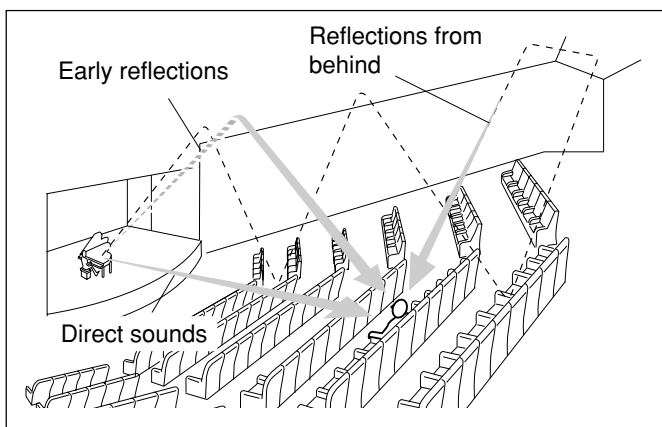
Press SURROUND/DSP OFF (or SURR/DSP OFF on the remote control) repeatedly until “SURR OFF” appears on the display.

Using the DSP Modes

This unit activates a variety of DSP modes automatically. The basic settings and adjustments stored (see pages 21 to 29) are applied automatically.

Reproducing the Sound Field

The sound heard in a concert hall, club, etc. consists of direct sound and indirect sound—early reflections and reflections from behind. Direct sounds reach the listener directly without any reflection. On the other hand, indirect sounds are delayed by the distances of the ceiling and walls. These direct sounds and indirect sounds are the most important elements of the acoustic surround effects. DSP modes can create these important elements, and give you a real “being there” feeling.



Introducing the DSP Modes

DSP modes include the following modes—

- Digital Acoustic Processor (DAP) modes (HALL 1, HALL 2, LIVE CLUB, DANCE CLUB, PAVILION, THEATER 1, THEATER 2)
- ALL STEREO
- MONO FILM—Used for all types of 2-channel signals (including Dual Mono signal)

3D Headphone mode

You can also enjoy the DSP mode (except All Channel Stereo mode) through the headphones.

If you press DSP when the front speakers 1 and 2 are both deactivated, 3D Headphone mode (3D H PHONE) is activated without respect to the type of software played back.

“3D H PHONE” appears on the display and the DSP and HEADPHONE indicators also light up.

To use DSP modes, press DSP so that the DSP modes change as follows.

The DSP indicator also lights up on the display.

→ HALL 1	→ HALL 2	→ LIVE CLUB
→ DANCE CLUB	→ PAVILION	→ ALL STEREO
→ THEATER 1	→ THEATER 2	→ MONO FILM
→ (Back to the beginning)		
<input checked="" type="checkbox"/> : Suitable for audio sources <input type="checkbox"/> : Suitable for video sources		

Digital Acoustic Processor (DAP) modes

You can use the following DAP modes in order to reproduce a more acoustic sound field in your listening room.

HALL 1	Reproduces the spatial feeling of a large shoebox-shaped hall designed primarily for classical concerts. (Its seating capacity is about 2000.)
HALL 2	Reproduces the spatial feeling of a large vineyard-shaped hall designed primarily for classical concerts. (Its seating capacity is about 2000.)
LIVE CLUB	Reproduces the spatial feeling of a live music club with a low ceiling.
DANCE CLUB	Reproduces the spatial feeling of a rocking dance club.
PAVILION	Reproduces the spatial feeling of an exhibition hall with a high ceiling.
THEATER 1*	Reproduces the spatial feeling of a large theater where the seating capacity is about 600.
THEATER 2*	Reproduces the spatial feeling of a small theater where the seating capacity is about 300.

* The built-in Dolby Pro Logic II decoder is activated when playing back 2-channel analog or digital source. The **PRO LOGIC II** indicator lights up.

When using the DAP mode, the sounds come out of all the connected and activated speakers.

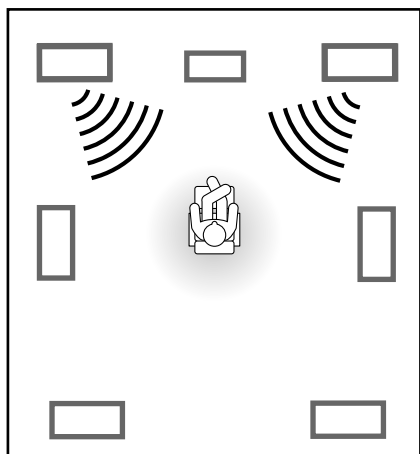
- If the surround speakers are set to “NONE” in the speaker setting, JVC’s original 3D-PHONIC processing (which has been developed to create the surround effect through the front speakers only) is used.

The 3D-PHONIC indicator lights up on the display.

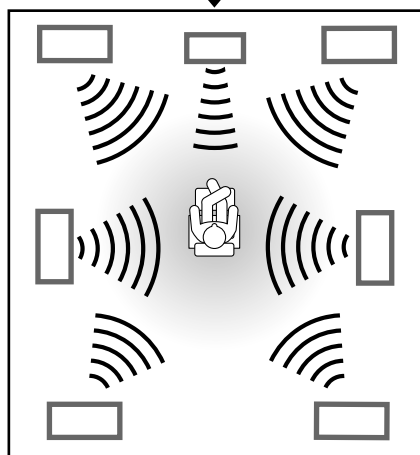
All channel stereo mode

This mode can reproduce a larger stereo sound field using all the connected (and activated) speakers.

- If the surround speakers are set to “NONE,” you cannot select “ALL STEREO.”



Sound reproduced from normal stereo



Sound reproduced from All Channel Stereo mode

Mono Film

In order to reproduce a more acoustic sound field in your listening room while viewing monaural sound video software (analog, 2-channel digital, and Dual Mono signals), you can use this mode. The surround effect will be added, and the sound localization of actor’s words will be improved. **This mode cannot be used for multi-channel digital signals.**

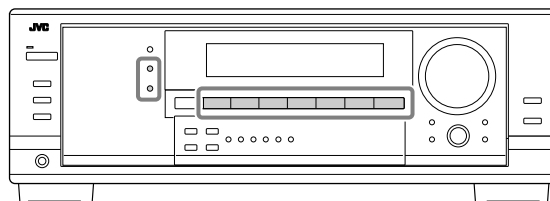
When “MONO FILM” is used, the sounds come out of all the connected and activated speakers.

- If surround speakers are set to “NONE” in the speaker setting, JVC’s original 3D-PHONIC processing (which has been developed to create the surround effect through the front speakers only) is used. The 3D-PHONIC indicator lights up on the display.
- If incoming signals change from 2-channel digital signal to another digital signal type, “MONO FILM” is canceled and an appropriate Surround mode is activated.

Activating the DSP Modes

Activating one of the DSP modes for a source automatically recalls the memorized settings and adjustments (see pages 21 to 29).

You can also use the buttons on the remote control for the same functions.



1. Select and play any source excluding DVD MULTI.
2. Press DSP repeatedly until the DSP mode you want appears on the display.
 - Each time you press the button, the DSP modes change as follows:

DIGITAL AUTO		DVD		DSP	SPEAKERS 1	VOLUME
L	C	R	DIGITAL			25
SUBWFR						
LS		RS	HALL 1			
			→ HALL 1 → HALL 2 → LIVE CLUB → DANCE CLUB → PAVILION → ALL STEREO*1 → THEATER 1 → THEATER 2 → MONO FILM*2 → (Back to the beginning)			

*1 When the surround speakers are set to “NONE,” you cannot select “ALL STEREO.”

*2 When multi-channel signals come in, you cannot select “MONO FILM.”

Note:

When the surround speakers are set to “NONE,” the 3D-PHONIC processing is applied to the DSP modes (the 3D-PHONIC indicator also lights up).

To adjust the effect level (except All Channel Stereo), see page 29.

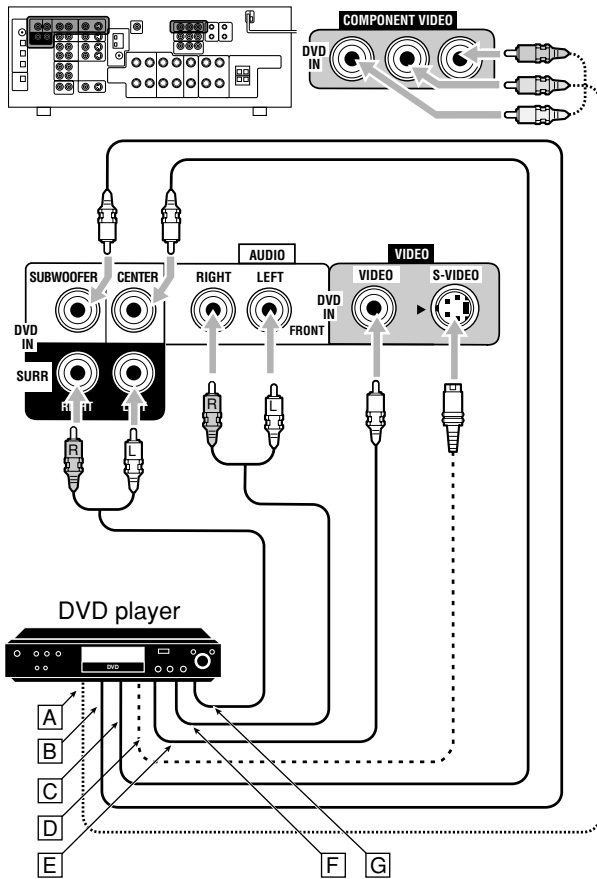
To cancel the DSP modes

Press SURROUND/DSP OFF (or SURR/DSP OFF on the remote control) repeatedly until “SURR OFF” appears on the display.

Using the DVD MULTI Playback Mode

This receiver provides the DVD MULTI playback mode for reproducing the analog discrete output mode of the DVD player.

Connection diagram



- A To component video output
- B To subwoofer output
- C To center channel audio output
- D To S-video output
- E To composite video output
- F To left/right front channel audio output
- G To left/right surround channel audio output

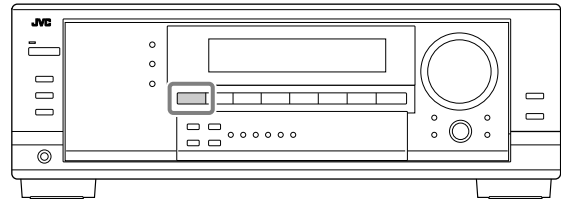
Note:

When connecting a DVD player to the component video input jacks, make the component video input setting (VIDEO IN DVD) correctly. See page 26 for details.

Activating the DVD MULTI Playback Mode

DVD MULTI playback mode is the best connection method for enjoying DVD Audio sounds.

- When a DVD Audio disc is played back, the original high-quality sounds can be reproduced only using this mode.



- Press DVD MULTI so that "DVD" appears on the display.

The MULTI indicator also lights up.



Note:

When you select DVD MULTI as the source to play, the Surround and DSP modes are canceled, and the SURROUND and DSP buttons do not work.

- Select the analog discrete output mode on the DVD player, and start playing a DVD.

- Refer also to the manual supplied with the DVD player.

You can adjust equalization patterns and speaker output levels. See "Adjusting the equalization patterns" on page 28 for details.

Notes:

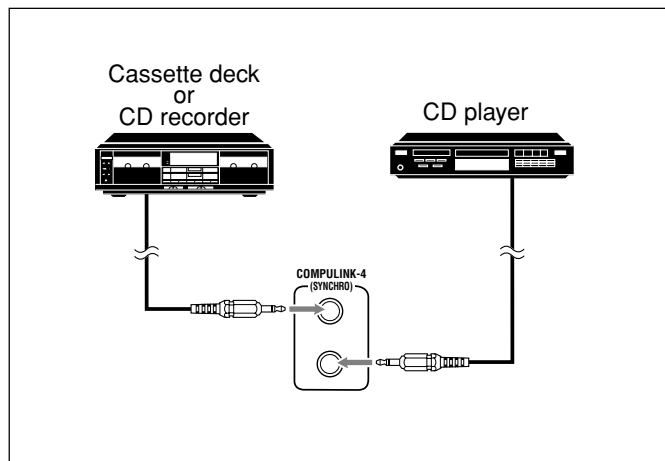
- Midnight Mode is not available for DVD MULTI playback mode (see page 16).
- When using a headphones, you can listen to the front channels (left and right) only, therefore 3D Headphone (3D H PHONE) mode is not valid for DVD MULTI playback mode.

COMPU LINK Remote Control System

The COMPU LINK remote control system allows you to operate JVC's audio components through the remote sensor on the receiver.

To use this remote control system, you need to connect JVC's audio components through the COMPU LINK (SYNCHRO) jacks (see below) in addition to the connections using cables with RCA pin plugs (see pages 9).

- Make sure that the AC power cords of these components are unplugged before connection. Plug the AC power cords only after all connections are complete.



Notes:

- There are four versions of COMPU LINK remote control system. This receiver is equipped with the fourth version—COMPU LINK-4. This version is added systematic operations with the CD recorder to the previous version—COMPU LINK-3.
- If your audio component has two COMPU LINK jacks, you can use either one. If it has only one COMPU LINK jack, connect it so that it is the last item in the series of components.
- To operate the cassette deck or CD recorder using the COMPU LINK remote control system, set the source name correctly if required. (See page 17.)
- Refer also to the manuals supplied for your audio components.

This remote control system allows you to use four functions listed below.

Remote Control through the Remote Sensor on the Receiver

You can control the connected audio components through the remote sensor on the receiver using this remote control. Aim the remote control directly at the remote sensor on the receiver. For details, see pages 40 and 41.

Automatic Source Selection

When you press the play (▶) button on a connected component or on its own remote control, the receiver automatically turns on and changes the source to the component. On the other hand, if you select a new source on the receiver or on the remote control, the selected component begins playing immediately. In both cases, the previously selected source continues playing without sound for a few seconds.

Automatic Power On/Off (Standby)—only possible with the COMPU LINK-3 and COMPU LINK-4

The connected components turn on and off (standby) along with the receiver.

When you turn on the receiver, one of the connected components will turn on automatically, depending on which component has been previously selected.

When you turn off the receiver, the connected components will turn off (Standby).

Synchronized Recording

Synchronized recording means the cassette deck starts recording as soon as a CD begins playing.

To use synchronized recording, follow these steps:

1. Put a tape in the cassette deck, and a disc in the CD player.

2. Press the record (●) button and the pause (||) button on the cassette deck at the same time.

This puts the cassette deck into recording pause.

If you do not press the record (●) button and pause (||) button at the same time, the synchronized recording feature will not operate.

3. Press the play (▶) button on the CD player.

The source changes on the receiver, and as soon as play starts, the cassette deck starts recording. When the play ends, the cassette deck enters recording pause, and stops about 4 seconds later.

Notes:

- During synchronized recording, the selected source cannot be changed.
- If the power of any component is shut off during synchronized recording, the COMPU LINK remote control system may not operate properly. In this case, you must start again from the beginning.

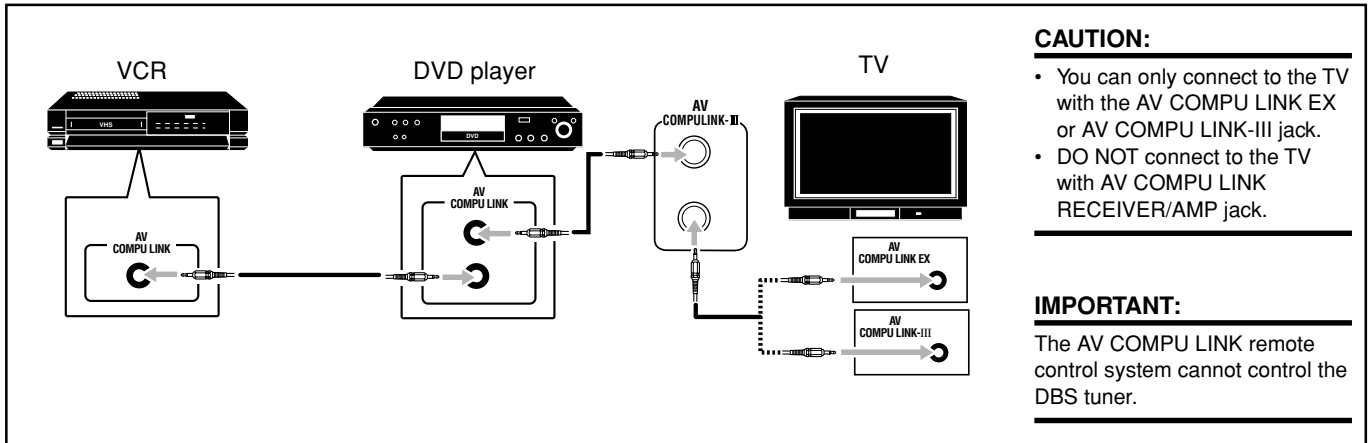
AV COMPU LINK Remote Control System

The AV COMPU LINK remote control system allows you to operate JVC's video components (TV, VCR, and DVD player) through the receiver.

This receiver is equipped with the AV COMPU LINK-III, which adds a function to operate JVC's video components through the video components terminals.

To use this remote control system, connect the video components you want to operate, following the diagrams below and the procedure on the next page.

CONNECTIONS 1: AV COMPU LINK connection



Notes:

- When connecting the receiver and a TV with the AV COMPU LINK EX jack by using a component video cable, you cannot use automatic selection of TV's input mode (see page 39).
- Make sure that the remote control code for the connected VCR is set to code "A."
- When connecting only the VCR or DVD player to the receiver, connect it directly to the receiver using cables with the monaural mini-plugs.

CONNECTIONS 2: Video cable connection

This receiver is equipped with three types of the video terminals—S-video, composite video, and component video, and the signals coming into this receiver through one type of video jacks can output only through the jack of the same type. So you need to connect the VCR and/or DVD player to the TV using one of the following three ways:

- When using the AV COMPU LINK remote control system, set the component video input for the DVD player and the VCR correctly (see "Setting the component video input" on page 26); otherwise, the correct input for this receiver will not be selected on the TV.

CASE 1	When connecting the source equipment to the receiver through the S-video jacks , connect the receiver to the TV's Video Input 1 jack (S-video input) using S-video cables.
CASE 2	When connecting the source equipment to the receiver through the composite video jacks , connect the receiver to the TV's Video Input 2 jack (composite video input) using composite video cables.
CASE 3	When connecting the source equipment to the receiver through the component video jacks , connect the receiver to the TV's Video Input 2 jack (component video input) using component video cables.

■ Connecting procedure

1. **If you have already plugged your VCR , DVD player, TV and this receiver into the AC outlets, unplug their AC power cords first.**
2. **Connect your VCR, DVD player, TV and this receiver, using the cables with the monaural mini-plugs (not supplied).**
 - See “CONNECTIONS 1” on the previous page.
3. **Connect the audio input/output jacks on VCR, DVD player, TV and this receiver using the cables with RCA pin plugs.**
 - See pages 10 and 11.
4. **Connect the video input/output jacks on VCR, DVD player, TV and this receiver, using the cables with RCA pin plugs, S-video plug or component video plugs.**
 - See “CONNECTIONS 2” on the previous page.
5. **Plug the AC power cords of the components and the receiver into the AC outlets.**
6. **When turning on the TV for the first time after the AV COMPU LINK connection, turn the TV volume to the minimum using the TV volume control on the TV.**
7. **Turn on the connected components first, then turn on this receiver.**
 - When turning on the VCR, use the remote control supplied with this receiver.

The AV COMPU LINK remote control system allows you to use the five basic functions listed below.

Remote Control of the TV, DVD player, and VCR Using This Remote Control

See page 41 for details.

- Aim the remote control directly at the remote sensor on each target component.

One-Touch Video Play

Simply by inserting a video cassette without its safety tab into the VCR, you can enjoy the video playback without setting other switches manually. The receiver automatically turns on and changes the source to VCR.

The TV automatically turns on and changes the input mode to the appropriate position so that you can view the playback picture. When you insert a video cassette with its safety tab, press the play (▶) button on the VCR or on the remote control. So, you can get the same result.

One-Touch DVD Play

Simply by starting playback on the DVD player, you can enjoy the DVD playback without setting other switches manually.

- When the DVD player is connected through the analog input jacks on this receiver (and analog input is selected), the receiver automatically turns on and changes the source to DVD or DVD MULTI.
- When the DVD player is connected through the digital input terminal on this receiver (and digital input is selected), the receiver automatically turns on and changes the source to DVD. The TV automatically turns on and changes the input mode to the appropriate position so that you can view the playback picture.

Automatic Selection of TV's Input Mode

- When you select TV as the source to play on the receiver, the TV automatically changes the input mode to the TV tuner so that you can watch TV.
- When you select any other video source other than TV as the source to play on the receiver, the TV automatically changes the input mode to the appropriate position (either Video Input 1 or Video Input 2) so that you can view the playback picture.

Note:

This function does not work when you connect this receiver and the TV with the AV COMPU LINK EX jack using a component video cable. In this case, reconnect the TV referring to CASE 1 or CASE 2 on page 38.

Automatic Power On/Off (Standby)

The TV, VCR, and DVD player turn on and off along with the receiver.

When you turn on the receiver;

- If the previously selected source is VCR, the TV and VCR will turn on automatically.
- If the previously selected source is DVD or DVD MULTI, the TV and DVD player will turn on automatically.
- If the previously selected source is TV, only the TV will turn on automatically.

When you turn off the receiver, the TV, VCR and the DVD player will turn off (Standby).

Note:

If you turn off the receiver while recording on the VCR, the VCR will not turn off, but continue recording.

Operating JVC's Audio/Video Components

You can operate JVC's audio and video components with this receiver's remote control, since control signals for JVC's components are preset in the remote control.

Operating Audio Components

IMPORTANT:

To operate JVC's audio components using the supplied remote control:

- You need to connect JVC's audio components through the COMPU LINK (SYNCHRO) jacks (see page 37) in addition to the connections using cables with RCA pin plugs (see page 9).
- Aim the remote control directly at the remote sensor on the receiver.
- If you use the buttons on the front panel to choose a source, the remote control will not operate that source. To operate a source with the remote control, the source must be selected using source selection buttons on the remote control.
- To operate the target component using the COMPU LINK remote control system, set the source name correctly if required. (See page 17.)
- Refer also to the manuals supplied with your components.

Sound control section (Amplifier)

You can always perform the following operations:

⓪/1 AUDIO:	Turn on or off the receiver.
DIMMER:	Dim or brighten the display.
VOLUME +/-:	Adjust the volume level.
MUTING:	Turn on or off sound muting.
SURROUND:	Turn on and select the Surround modes
DSP:	Turn on and select the DSP modes.
SURR/DSP OFF:	Turn off the Surround and DSP mode.
CC CONVERTER:	Turn on or off CC Converter.
EX/ES:	Select the EX/ES reproduction mode.
ANALOG DIRECT:	Turn on or off Analog Direct.
ANALOG/DIGITAL INPUT:	Switch the analog and digital input alternately.
MIDNIGHT MODE:	Select the Midnight Mode.
SLEEP:	Set the Sleep Timer.
TEST:	Turn on or off test tone output.
BASS BOOST:	Turn on or off Bass Boost.
CENTER TONE:	Adjust the center tone.
D.EQ FREQ:	Select the frequency bands.
D.EQ LEVEL +/-:	Adjust the selected frequency band's level.
FRONT L +/-:	Adjust the left front speaker output level.
FRONT R +/-:	Adjust the right front speaker output level.
CENTER +/-:	Adjust the center speaker output level.
SURR L +/-:	Adjust the left surround speaker output level.
SURR R +/-:	Adjust the right surround speaker output level.
S.BACK +/-:	Adjust the surround back speaker output level.
SUBWFR +/-:	Adjust the subwoofer output level.

Tuner

You can always perform the following operation:

FM/AM: Alternate between FM and AM.

After pressing FM/AM, you can perform the following operations on a tuner:

- 1 – 10, +10: Select a preset channel number directly.
 For channel number 5, press 5.
 For channel number 15, press +10, then 5.
 For channel number 20, press +10, then 10.

TUNING \oplus/\ominus : Tune into stations.

FM MODE: Change the FM reception mode.

CD player

After pressing CD, you can perform the following operations on the CD player:

- ▶: Start playing.
 ◀◀: Return to the beginning of the current (or previous) track.
 ▶▶: Skip to the beginning of the next track.
 ■: Stop playing.
 ||: Pause playing. To resume, press ▶.
 1 – 10, +10: Select a track number directly.
 For track number 5, press 5.
 For track number 15, press +10, then 5.
 For track number 20, press +10, then 10.
 For track number 30, press +10, +10, then 10.

CD changer

After pressing CD-DISC, you can perform the following operations on the CD changer:

- ▶: Start playing.
 ◀◀: Return to the beginning of the current (or previous) track.
 ▶▶: Skip to the beginning of the next track.
 ■: Stop playing.
 ||: Pause playing. To resume, press ▶.
 1 – 6, 7/P: Select the number of a disc installed in a CD changer.

After pressing CD, you can perform the following operations on a CD changer:

- 1 – 10, +10: Select a track number directly.
 For track number 5, press 5.
 For track number 15, press +10, then 5.
 For track number 20, press +10, then 10.
 For track number 30, press +10, +10, then 10.

Example:

- Selecting disc number 4, track number 12, and starting playback.
 1. Press CD-DISC, then press 4.
 2. Press CD, then press +10, 2.

If your CD changer is of 200-disc loading capability (except for XL-MC100 and XL-MC301), you can do the following operations using the 10 keys after pressing CD.

1. Select a disc number.
2. Then select a track number (always enter two digits).
3. Press ▶ to start playback.

Examples:

- Selecting disc number 3, track number 2, and starting playback.
 Press 3, then, 0, 2, then ▶.
- Selecting disc number 10, track number 5, and starting playback.
 Press 1, 0, then, 0, 5, then ▶.
- Selecting disc number 105, track number 12, and starting playback.
 Press 1, 0, 5, then 1, 2, then ▶.

Note:

It is required to press each button within 4 seconds in the above procedure.

CD recorder

After pressing TAPE/CDR (or TAPE/CDR CONT), you can perform the following operations on a CD recorder:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) track.
- ▶▶: Skip to the beginning of the next track.
- : Stop playing and recording.
- ||: Pause playing or recording. To resume, press ▶.
- REC PAUSE: Enter recording pause.
To start recording, press this button then ▶.

Cassette deck

After pressing TAPE/CDR (or TAPE/CDR CONT), you can perform the following operations on a cassette deck:

- ▶: Start playing.
- REW: Fast-wind the tape from right to left.
- FF: Fast-wind the tape from left to right.
- : Stop playing and recording or fast-wind the tape.
- ||: Pause playing or recording. To resume, press ▶.
- REC PAUSE: Enter recording pause.
To start recording, press this button then ▶.

Note:

You can use either source selection buttons or the control button (TAPE/CDR CONT) to activate the buttons for the target source. If you press one of the source selection buttons, the playing source also changes. On the other hand, pressing the control button does not change the playing source.

Operating Video Components

IMPORTANT:

To operate JVC's video components using the supplied remote control:

- You need to connect JVC's video components through the AV COMPU LINK jacks (see page 38) in addition to the connections using cables with RCA pin plugs (see pages 10 and 11).
- Some JVC's VCRs can accept two types of the control signals—remote code "A" and "B." Before using this remote control, make sure that the remote control code of the target VCR is set to code "A."
- When using the remote control, aim the remote control directly at the remote sensor on each component, not on the receiver.

VCR

You can always perform the following operation:

- VCR ϕ /I: Turn on or off a VCR.

After pressing VCR (or VCR CONT), you can perform the following operations on a VCR:

- ▶: Start playing.
- REW: Rewind the tape.
- FF: Fast-forward the tape.
- : Stop playing and recording or rewind or fast-forward the tape.
- ||: Pause playing or recording. To resume, press ▶.

CHANNEL +/-: Change the TV channels on a VCR.

1 - 9, 10 (RETURN), 0, 100+ (+10):

Select the TV channels on a VCR.

The 10 (RETURN) button will function as the ENTER button if your VCR requires pressing ENTER after selecting a channel number.

REC PAUSE: Enter recording pause.

To start recording, press this button then ▶.

Note:

You can use either VCR or the control button (VCR CONT) to activate the buttons listed above. If you press one of the source selection buttons, the playing source also changes. On the other hand, pressing the control button does not change the playing source.

DVD player

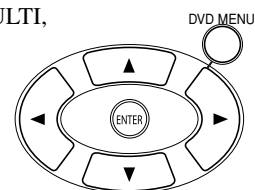
You can always perform the following operation:

- DVD ϕ /I: Turn on or off the DVD player.

After pressing DVD or DVD MULTI, you can perform the following operations on the DVD player:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) chapter.
- ▶▶: Skip to the beginning of the next chapter.
- : Stop playing.
- ||: Pause playing. To resume, press ▶.
- 1 - 10, 0, +10: Select a track number directly.
For track number 5, press 5.
For track number 15, press +10, then 5.
For track number 20, press +10, then 10 (or press +10, +10, then 0).
For track number 30, press +10, +10, then 10 (or press +10, +10, +10, then 0).

After pressing DVD or DVD MULTI, these buttons can be used for the DVD menu operations.



Note:

For detailed menu operations, refer to the instructions supplied with the discs or the DVD player.

TV

You can always perform the following operations:

- TV ϕ /I: Turn on or off the TV.
- TV VOL +/-: Adjust the volume.
- TV/VIDEO: Set the input mode (either TV or VIDEO).

After pressing TV/DBS, you can perform the following operations on a TV:

CHANNEL +/-: Change the channels.

1 - 9, 0, 100+ (+10): Select the channels.

RETURN (10): Alternate between the previously selected channel and the current channel.

Operating Other Manufacturers' Video Equipment

This remote control supplied with the receiver can transmit control signals for other manufacturers' TVs, CATV converters, DBS tuners, VCRs and DVD players.

When operating the other manufacturers' components, refer also to the manuals supplied with them.

- After replacing batteries for the remote control, you need to set the manufacturers' codes again.

To change the transmittable signals for operating another manufacturer's TV

1. Press and hold TV ϕ/I .
2. Press TV/DBS.
3. Enter a manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release TV ϕ/I .
5. Try to operate your TV by pressing TV ϕ/I .

When your TV turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of TV, try each one until the correct one is entered.

The following buttons can be used for operating the TV:

TV ϕ/I :	Turn on and off the TV.
TV VOL +/-:	Adjust the volume.
TV/VIDEO:	Set the input mode (either TV or VIDEO).

After pressing TV/DBS, you can perform the following operations on the TV:

CHANNEL +/-:	Change the channels.
1 – 9, 10 (RETURN), 0, 100+ (+10):	Select the channels.
	The 10 (RETURN) button will function as the ENTER button if your TV requires pressing ENTER after selecting a channel number.

Notes:

- All the functions listed above may not be assigned to the buttons for some TVs.
- If you cannot change the channels of some TVs by pressing 10 keys, press CHANNEL +/- for changing the channels.

To change the transmittable signals for operating a CATV converter or DBS tuner

1. Press and hold CATV/DBS ϕ/I .
2. Press CATV/DBS CONT.
3. Enter a manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release CATV/DBS ϕ/I .
5. Try to operate your CATV converter or DBS tuner by pressing CATV/DBS ϕ/I .

When your CATV converter or DBS tuner turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of CATV converter or DBS tuner, try each one until the correct one is entered.

The following button can be used for operating the CATV converter and DBS tuner:

CATV/DBS ϕ/I :	Turn on and off the CATV converter or DBS tuner.
----------------------------	--

After pressing CATV/DBS CONT, you can perform the following operations on the CATV converter or DBS tuner:

CHANNEL +/-:	Change the channels.
1 – 9, 10 (RETURN), 0, 100+ (+10):	Select the channels.
	The 10 (RETURN) button will function as the ENTER button if your equipment requires pressing ENTER after selecting a channel number.

Note:

You cannot preset the signals for both the CATV converter and DBS tuner at the same time.

To change the transmittable signals for operating another manufacturer's VCR

1. Press and hold VCR ϕ/I .
2. Press VCR.
3. Enter manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release VCR ϕ/I .
5. Try to operate your VCR by pressing VCR ϕ/I .
When your VCR turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of VCR, try each one until the correct one is entered.

The following button can be used for operating the VCR:

VCR ϕ/I : Turn on and off the VCR.

After pressing VCR, you can perform the following operations on the VCR:

CHANNEL +/-: Change the TV channels on the VCR.
1 – 9, 10 (RETURN), 0, 100+ (+10):

Select the TV channels on a VCR.

The 10 (RETURN) button will function as the ENTER button if your VCR requires pressing ENTER after selecting a channel number.

- ▶: Start playback.
- REW: Rewind the tape.
- FF: Fast-forward the tape.
- : Stop playing or recording.
- ||: Pause playing. To resume, press ▶.
- REC PAUSE: Enter recording pause.
To start recording, press this button then ▶.

To change the transmittable signals for operating another manufacturer's DVD player

1. Press and hold DVD ϕ/I .
2. Press DVD.
3. Enter a manufacturer's code using buttons 1 – 9, and 0.
See the list on page 44 to find the code.
4. Release DVD ϕ/I .
5. Try to operate your DVD player by pressing DVD ϕ/I .
When your DVD player turns on or off, you have entered the correct code.

If there are more than one code listed for your brand of DVD, try each one until the correct one is entered.

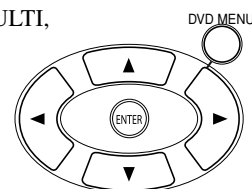
The following button can be used for operating the DVD:

DVD ϕ/I : Turn on and off the DVD.

After pressing DVD or DVD MULTI, you can perform the following operations on the DVD player:

- ▶: Start playing.
- ◀◀: Return to the beginning of the current (or previous) chapter. Some model of the DVD player, rewind the picture
- ▶▶: Skip to the beginning of the next chapter. Some model of the DVD player, fast-forward the picture.
- : Stop playing.
- ||: Pause playing. To resume, press ▶.
- 1 – 10, 0, +10: Select a track number directly.
For track number 5, press 5.
For track number 15, press +10, then 5.
For track number 20, press +10, then 10 (or press +10, +10, then 0).
For track number 30, press +10, +10, then 10 (or press +10, +10, +10, then 0).

After pressing DVD or DVD MULTI, these buttons can be used for the DVD menu operations.



Note:

For detailed menu operations, refer to the instructions supplied with the discs or the DVD player.

For TV

Manufacturer	Codes	Manufacturer	Codes
JVC	01*	Panasonic	26, 27
Akai	02	Philips	24
Bell & Howell	03	Pioneer	28
Centurion	04	Proscan	29
Coronad	05	Quasar	30
Daewoo	06, 07, 08	Radioshack	31
Emerson	09, 10, 11, 12, 13	RCA	02, 17, 32, 33, 34, 35
Fisher	14	Samsung	36, 37
GE/Pana	15, 16	Sanyo	14
GE/RCA	17	Sears	38
Gold Star	18, 19	Sharp	39
Hitachi	20, 21	Sony	40
KTV	22, 23	Symphonic	41, 42
Magnavox	24	Toshiba	38
Marantz	25	Zenith	43, 44
Mitsubishi	25		

For VCR

Manufacturer	Codes
JVC	01*, 02, 03, 04
Aiwa	05
Akai	06, 07, 08
Bell & Howell	09
Daewoo	10
Emerson	11, 12, 13, 14, 15
Fisher	16, 17, 18, 19
GE	20, 21
Go Video	22
Gold Star	23
Go-Video_A	24
Go-Video_B	25
Hitachi	20, 26
Magnavox	27, 28, 29
Mitsubishi	30, 31, 32, 33
NEC	34, 35
Panasonic	36, 37
Philips	27
RCA	38
Samsung	39, 40, 41
Sanyo	16, 17, 18, 19
Scott	42
Sharp	43, 44
Shintom	45
Sony	46, 47, 48, 49, 50, 51
Symphonic	52
Teknica	53, 54
Toshiba	55
Zenith	56

For CATV converter

Manufacturer	Codes
General Instrument	01*
Gemini	02
Hamlin	03, 04, 05, 06
Jerrold	07, 08, 09, 10, 11, 12, 13, 14, 15
Macom	16, 17, 18
Magnavox	19
Oak	20, 21, 22
Panasonic	23, 24
Philips	25, 26, 27, 28, 29, 30
Pioneer	31, 32
S. Atlanta	33, 34, 35
Samsung	36
Tocom	37
Zenith	38, 39

For DVD player

Manufacturer	Codes
JVC	01*
Hitachi	02
Kenwood	03, 04
Magnavox	05
Marantz	06
Mitsubishi	07
Onkyo	08, 09
Panasonic	10
Philips	06
Pioneer	11
Proscan	12
RCA	12
Samsung	13
Sony	14
Toshiba	05
Yamaha	15
Zenith	05, 16

*Initial setting

Manufacturers' codes are subject to change without notice. If they are changed, this remote control cannot operate the equipment.

Troubleshooting

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

PROBLEM	POSSIBLE CAUSE	SOLUTION
The display does not light up.	The power cord is not plugged in.	Plug the power cord into an AC outlet.
No sound from speakers.	Speaker signal cables are not connected.	Check speaker wiring and reconnect if necessary. (See page 7.)
	The SPEAKERS ON/OFF 1 and SPEAKERS ON/OFF 2 buttons are not set correctly.	Press SPEAKERS ON/OFF 1 and SPEAKERS ON/OFF 2 correctly. (See page 15.)
	An incorrect source is selected.	Select the correct source.
	Muting is activated.	Press MUTING to cancel the mute. (See page 18.)
	An incorrect input mode (analog or digital) is selected.	Select the correct input mode (analog or digital). (See pages 15 and 16.)
Sound from one speaker only.	Speaker signal cables are not connected properly.	Check speaker wiring and reconnect if necessary. (See page 7.)
"NO SUBWFR" appears on the display.	SUBWOOFER OUT ON/OFF is pressed while "SUB WOOFER" is set to "NO."	If subwoofer is connected, set "SUB WOOFER" to "YES" so that SUBWOOFER OUT ON/OFF works.
Continuous hiss or buzzing during FM reception.	Incoming signal is too weak.	Connect an outdoor FM antenna or contact your dealer. (See page 6.)
	The station is too far away.	Select a new station.
Noise is heard during FM/AM reception.	An incorrect antenna is used.	Check with your dealer to be sure you have the correct antenna.
	Antennas are not connected properly.	Check connections. (See pages 6 and 7.)
	Ignition noise from automobiles.	Move the antenna farther from automobile traffic.
No sound effect such as the Surround mode, DSP mode and equalization pattern.	Analog Direct is turned on.	Turn off Analog Direct. (See page 17.)
	DVD MULTI is selected as the source (except digital equalization).	Select the source other than DVD MULTI. (See page 13.)
EX/ES (7.1-channel) reproduction cannot be done for Dolby Digital EX or DTS-ES software.	Software or setting is not for Dolby Digital EX or DTS-ES software.	Play back software bearing the mark Dolby Digital EX or DTS-ES. Set "EX/ES" setting to "AUTO" or "ON." (See page 33.)
"OVERLOAD" starts flashing on the display.	Speakers are overloaded because of high volume.	<ol style="list-style-type: none"> 1. Press ϕ/I STANDBY/ON on the front panel to turn off the receiver. 2. Stop the playback source. 3. Turn on the receiver again, and adjust the volume.
	Speakers are overloaded because of short circuit of speaker terminals.	Press ϕ /I STANDBY/ON on the front panel to turn off the receiver, then check the speaker wiring. If "OVERLOAD" does not disappear, unplug the AC power cord, then plug it back again. If speaker wiring is not short-circuited, contact your dealer.
"DSP NG" starts flashing on the display.	The built-in microcomputer is not functioning correctly.	Press ϕ /I STANDBY/ON on the front panel to turn off the receiver. After unplugging the AC power cord, contact your dealer.
The STANDBY lamp lights up after turning on the power, and soon the receiver turns off again (into standby mode).	Very high voltage or very low voltage is applied to the receiver, or built-in power amplifier becomes out of order.	Press ϕ /I STANDBY/ON on the front panel to turn off the receiver. After unplugging the AC power cord, consult your dealer.
Remote control does not work.	There is an obstruction between the remote sensor on the receiver and the remote control.	Remove the obstruction.
	Batteries are weak.	Replace batteries. (See page 6.)
Remote control does not work as you intend.	An incorrect remote control operation mode is selected.	Select the correct remote control operation mode. (See pages 40 and 41.)

Specifications

Amplifier

Output Power

At Stereo Operation

Front Channel: 130 W per channel, min. RMS, driven into 8 Ω , 20 Hz to 20 kHz, with no more than 0.08% total harmonic distortion.

At Surround Operation

Front Channel: 130 W per channel, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Center Channel: 130 W, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Surround Channel: 130 W per channel, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Surround Back Channel:
130 W, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.

Audio

Audio Input Sensitivity/Impedance (1 kHz)

DVD IN, VCR IN, TV SOUND/DBS IN: 200 mV/47 k Ω
CD IN, TAPE/CDR IN: 200 mV/47 k Ω

Audio Input (DIGITAL IN)*

Coaxial DIGITAL 1 (DVD): 0.5 V(p-p)/75 Ω
Optical DIGITAL 2 (CD), DIGITAL 3 (TV), DIGITAL 4 (CDR):
-21 dBm to -15 dBm (660 nm \pm 30 nm)

* Corresponding to Linear PCM, Dolby Digital, and DTS (with sampling frequency—32 kHz, 44.1 kHz, 48 kHz).

Audio Output Level SUBWOOFER OUT: 1 V
Recording Output Level VCR OUT, TAPE/CDR OUT: 200 mV
Digital Output Optical DIGITAL OUT
Signal wave length: 660 nm
Output level: -21 dBm to -15 dBm

Signal-to-Noise Ratio (*66 IHF/'78 IHF)

DVD IN, VCR IN, TV SOUND/DBS IN: 87 dB/80 dB
CD IN, TAPE/CDR IN: 87 dB/80 dB

Frequency Response (8 Ω)

DVD IN, VCR IN, TV SOUND/DBS IN:
20 Hz to 100 kHz (+1 dB, -3 dB)

CD IN, TAPE/CDR IN: 20 Hz to 100 kHz (+1 dB, -3 dB)

Bass Boost: +6 dB \pm 1.0 dB at 100 Hz

Equalization

63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz: \pm 8 dB (in 2 dB steps)

Video

Video Input Sensitivity/Impedance

Composite Video DVD IN, VCR IN, TV SOUND/DBS IN:
1 V(p-p)/75 Ω

S-video DVD IN, VCR IN, TV SOUND/DBS IN
(Y: luminance): 1 V(p-p)/75 Ω
(C: chrominance, burst): 0.286 V(p-p)/75 Ω

Component Video DVD IN, DBS (VCR) IN
(Y: luminance): 1 V(p-p)/75 Ω
(PB/PR): 0.7 V(p-p)/75 Ω

Video Output Level

Composite Video VCR OUT, MONITOR OUT: 1 V(p-p)/75 Ω

S-video VCR OUT, MONITOR OUT
(Y: luminance): 1 V(p-p)/75 Ω
(C: chrominance, burst): 0.286 V(p-p)/75 Ω

Component Video MONITOR OUT
(Y: luminance): 1 V(p-p)/75 Ω
(PB/PR): 0.7 V(p-p)/75 Ω

Synchronization: Negative
Signal-to-Noise Ratio: 45 dB

FM tuner (IHF)

Tuning Range: 87.5 MHz to 108.0 MHz
Usable Sensitivity Monaural: 12.8 dBf (1.2 μ V/75 Ω)
50 dB Quieting Sensitivity Monaural: 16.0 dBf (1.7 μ V/75 Ω)
Stereo: 37.5 dBf (20.5 μ V/75 Ω)
Stereo Separation at OUT (REC): 35 dB at 1 kHz

AM tuner

Tuning Range: 530 kHz to 1 710 kHz

General

Power Requirements: AC 120 V \sim , 60 Hz
Power Consumption: 320 W/440 VA (at operation)
2 W (in standby mode)
Dimensions (W x H x D): 435 mm x 157 mm x 425 mm
Mass: 12.1 kg

Designs & specifications are subject to change without notice.

RX-7040B/RX-7042S

AUDIO/VIDEO CONTROL RECEIVER

