

KENWOOD

AV SURROUND STEREO AMPLIFIER

KA-V7700

INSTRUCTION MANUAL

KENWOOD CORPORATION

Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction.

We appreciate your patronage and take pride in the long tradition of quality components that our company represents.

So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features and system-connection considerations so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability we have sought to anticipate your needs and desires.

Keep this manual handy for future reference.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model _____ Serial Number _____

Unpacking

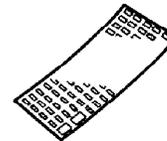
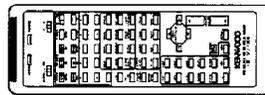
Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

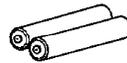
We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Accessories

- Remote control unit ... 1
- Remote control unit entry sheet ... 1



- Batteries (R03/UM-4/"AAA") ... 2



- AC plug adaptor ... 1
(Except for some areas.)
For the unit with a European AC plug in areas other than Europe.



Contents

Caution: Read the pages marked  carefully to ensure safe operation.

Introduction	2	Dolby Surround	20
 Before applying power	3	Dolby 3 Stereo	22
 Safety precautions	3	Presence	23
 IMPORTANT SAFEGUARDS	4	Play with Presence effect	25
Controls and indicators	6	Surround Information Memory	28
System connections	7	Title Edit function	29
Playing back an audio source	12	Operation of remote control unit	31
On-screen character display	14	In case of difficulty	36
Playing back a video source	15	 Specifications	38
Recording a video source	16		
Presence feature	18		

Before applying power

 **Caution: Read this page carefully to ensure safe operation.**

For the U.S.A. and Canada

Important!

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only.

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

For the United Kingdom

Important!

Units shipped to the U.K. are designed for operation on 240 volts AC only.

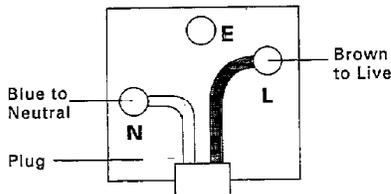
The mains plug must be removed from the wall socket prior to any internal examination.

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

Blue Neutral
Brown Live

The wires in this mains lead must be connected to the terminals in the plug as follows:

Wire colour	Plug terminal marking
Blue	N or Black
Brown	L or Red



Notes:

1. If a 13-amp plug is used, this must be fitted with a 5-amp fuse.
2. If a 3-pin plug with earthing contact is used, no wire must be connected to the E terminal.

For Australia and Europe

Important!

Units shipped to Australia are designed for operation on 240 V AC only.

Units shipped to Europe are designed for operation on 230 V AC only.

For other countries

Important!

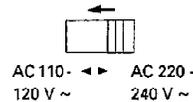
Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

AC voltage selection

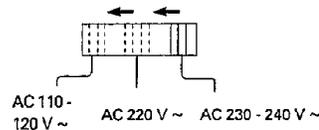
This unit operates on 110 - 120 or 220 - 240 volts AC. The AC voltage selector switch Type A or Type B on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

AC voltage selector switch

Type A



Type B



Move switch lever to match your line voltage with a small screwdriver or other pointed tool.

This unit has two AC voltage selector switches. Be sure to set both of them together whenever the AC voltage switching is required.

Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

Safety precautions

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

 <div style="border: 1px solid black; padding: 2px; text-align: center;"> CAUTION <small>RISK OF ELECTRIC SHOCK DO NOT OPEN</small> </div> 	<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>
	<p>THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.</p>
	<p>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.</p>

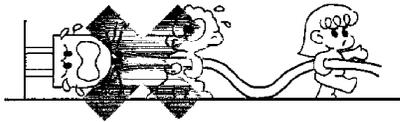
IMPORTANT SAFEGUARDS

 **Caution: Read this page carefully to ensure safe operation.**

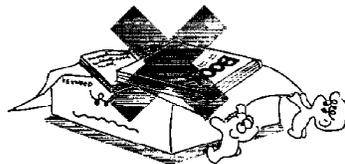
Please read all of the safety and operating instructions before operating this unit. For best results, follow all warnings placed on the unit and adhere to the operating and use instructions. These safety and operating instructions should be retained for future reference.

- 1. Power sources** – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
- 2. Power-cord protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

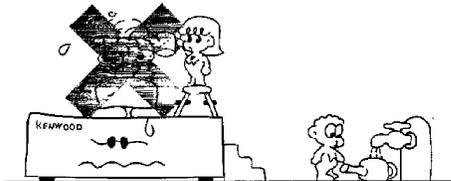
Never pull or stretch the cord.



- 3. Grounding or polarization** – The precautions should be taken so that the grounding or polarization means of this unit is not defeated.
- 4. Ventilation** – The unit should be situated so that its location or position does not interfere with its proper ventilation. To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls. Do not use the unit on a bed, sofa, rug or similar surface that may block the ventilation openings.

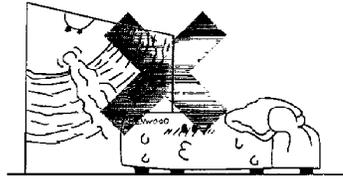


- 5. Water and moisture** – The unit should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

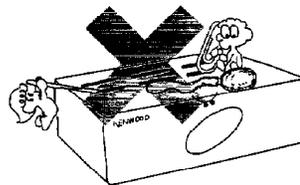


- 6. Temperature** – The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

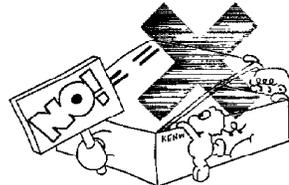
- 7. Heat** – The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.



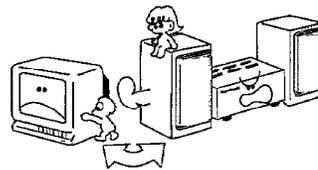
- 8. Electric shock** – Care should be taken so that objects do not fall and liquid is not spilled into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



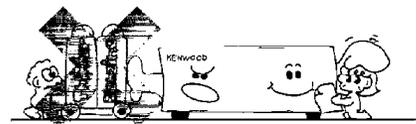
- 9. Enclosure removal** – Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.



- 10. Magnetic fields** – Keep the unit away from sources of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.



- 11. Cleaning** – Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzene, etc. to clean the cabinet. Use a clean dry cloth.



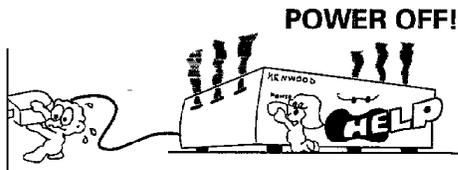
⚠ Caution : Read this page carefully to ensure safe operation.

12. Carts and stands – An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

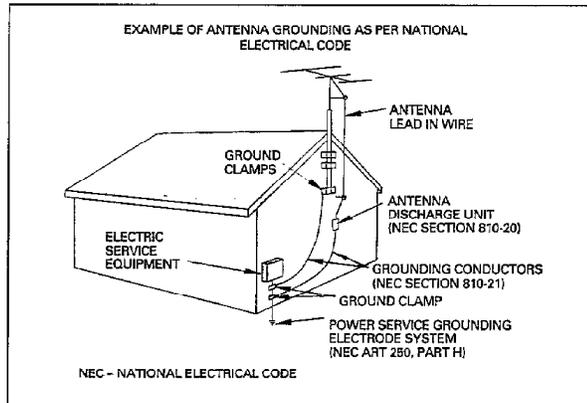


13. Nonuse periods – The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

14. Abnormal smell – If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service center.



17. Outdoor antenna grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.



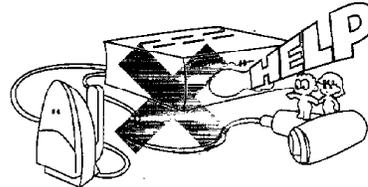
15. Damage requiring service – The unit should be serviced by qualified service personnel when:

- A.** The power-supply cord or the plug has been damaged; or
- B.** Objects have fallen, or liquid has been spilled into the unit; or
- C.** The unit has been exposed to rain; or
- D.** The unit does not appear to operate normally or exhibits a marked change in performance; or
- E.** The unit has been dropped, or the enclosure damaged.

16. Servicing – The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

18. Power lines – An outdoor antenna should be located away from power lines.

19. AC outlets – Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical units, such as an iron or toaster, to it to prevent fire or electric shock.



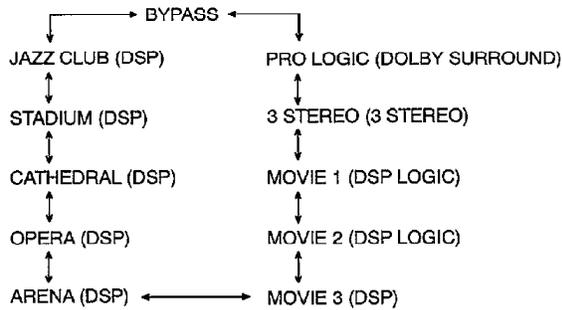
Notes:

1. Item 3 is not required except for grounded or polarized equipment.
2. Item 17 and 18 are not required except for units provided with antenna terminals.
3. Item 17 complies with UL in the U.S.A.

Controls and indicators

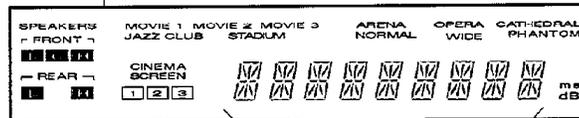
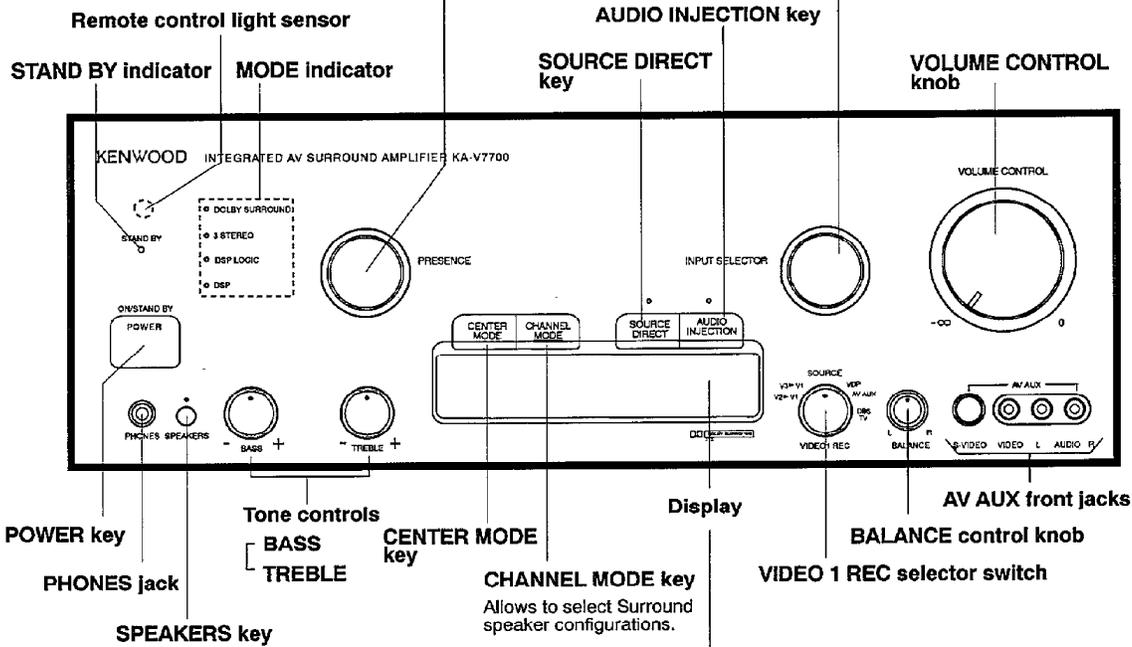
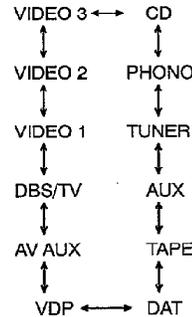
PRESENCE switch

Rotating this switch changes over the presence effects, which are shown on the display. The indicators shown in side () light up.



INPUT SELECTOR switch

Rotating this switch changes over the input sources, which are shown on the display.



STAND BY mode of POWER key

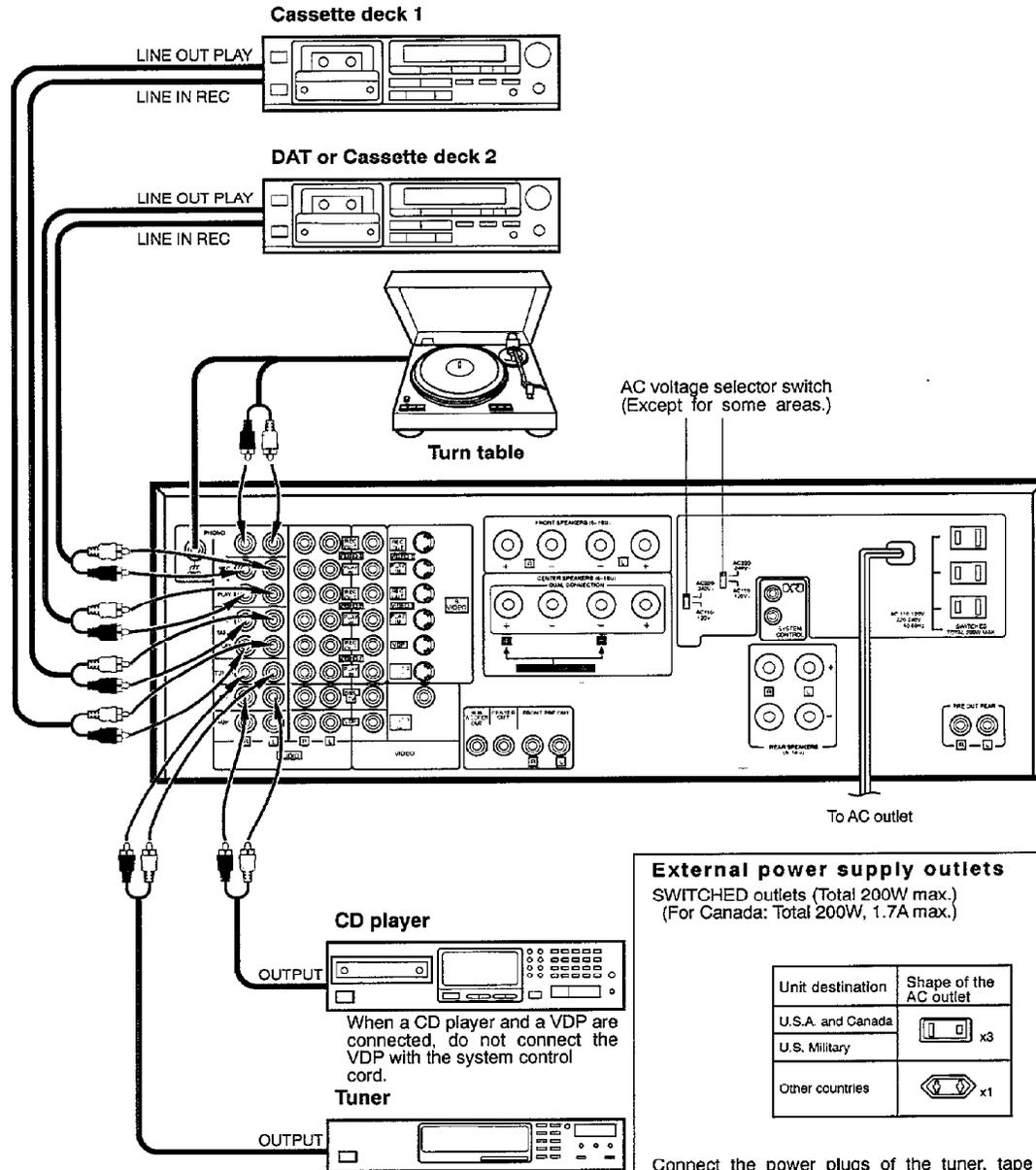
When the power cord of this system is plugged into an AC outlet, the STAND BY indicator lights up regardless of the ON/OFF setting of the POWER key. This indicates that a small amount of current is being supplied to the unit to back up the memory contents. This mode is referred to as the Stand By mode. While the STAND BY indicator is lit, the power of the system can be switched ON/OFF from the remote control unit.

When the position of the PRESENCE, CENTER MODE or INPUT SELECTOR switch is changed, the newly selected item is displayed here. The values of the sound field condition setting parameters are also displayed here.

System connections

Make connections as shown in the diagram. When connecting the related system components, refer also to the instruction manuals of the related components.
Do not plug in the power lead until all connections are completed.

■ Connection of audio components



External power supply outlets
SWITCHED outlets (Total 200W max.)
(For Canada: Total 200W, 1.7A max.)

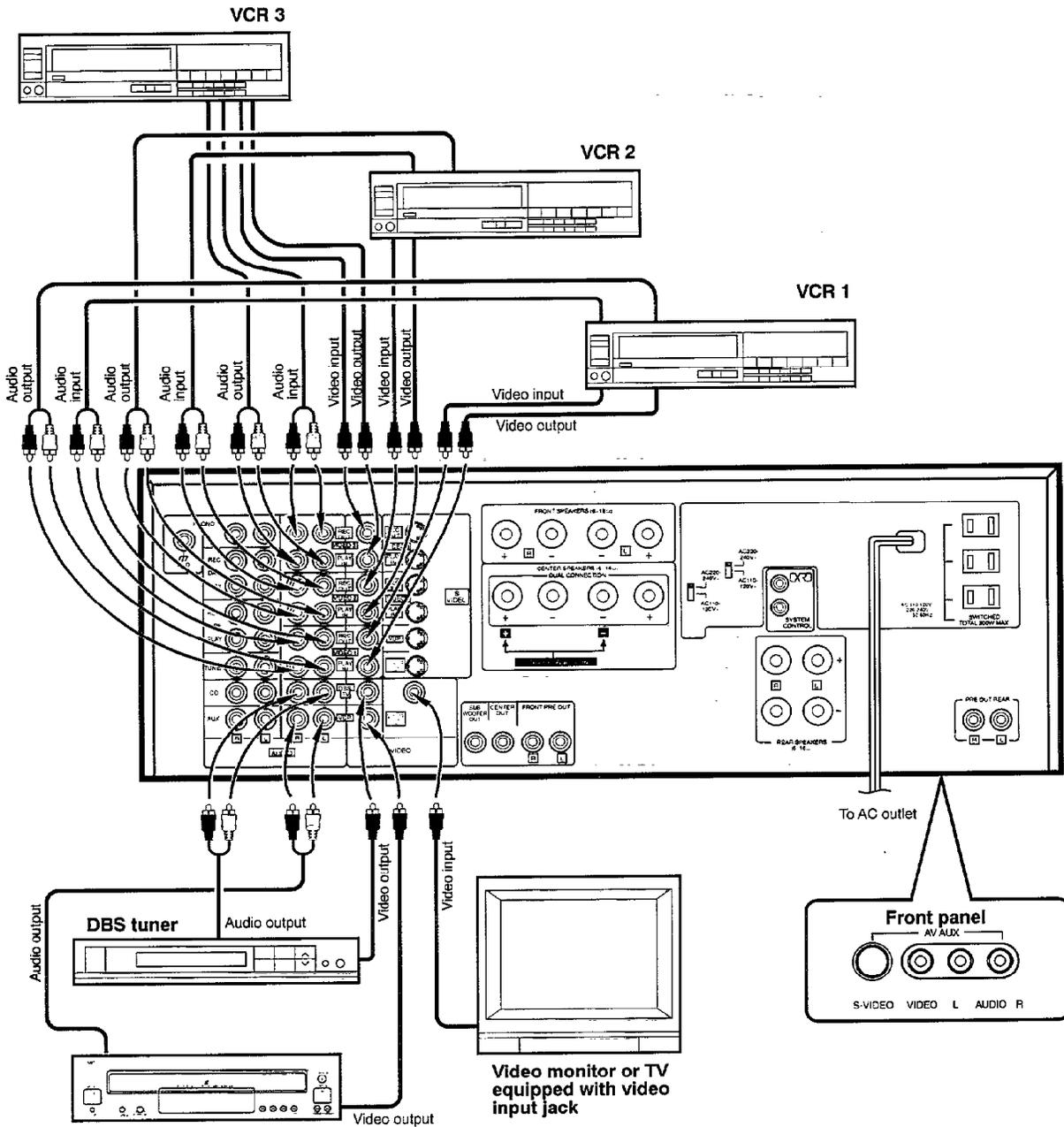
Unit destination	Shape of the AC outlet
U.S.A. and Canada	 x3
U.S. Military	 x3
Other countries	 x1

Connect the power plugs of the tuner, tape deck, or CD player to these outlets. By leaving the POWER switches of these components ON, they will be switched ON-OFF at the same time as the POWER switch of this unit. Never connect components having a total combined power consumption of more than total 200W. (For Canada: Total 200W, 1.7A max.)

Notes:

1. Connect all cords firmly. If connections are loose there could be loss of sound or noise produced.
2. Do not connect up a power source which is larger than indicated on the socket at the rear of the unit.
3. When plugging and unplugging connection cords after connections are complete, be sure to first remove the power cord from the AC outlet. Plugging/unplugging connection cords without removal of the power cord can cause malfunctions or damage to the unit.

■ Connection of video components



VDP (Video disc player)

When a CD player and a VDP are connected, do not connect the VDP with the system control cord.

AV AUX jacks:

Connect a video camera, etc.
When the L jack is only connected, the sound is reproduced in monaural.

■ Connection of video components (S-VIDEO jacks)

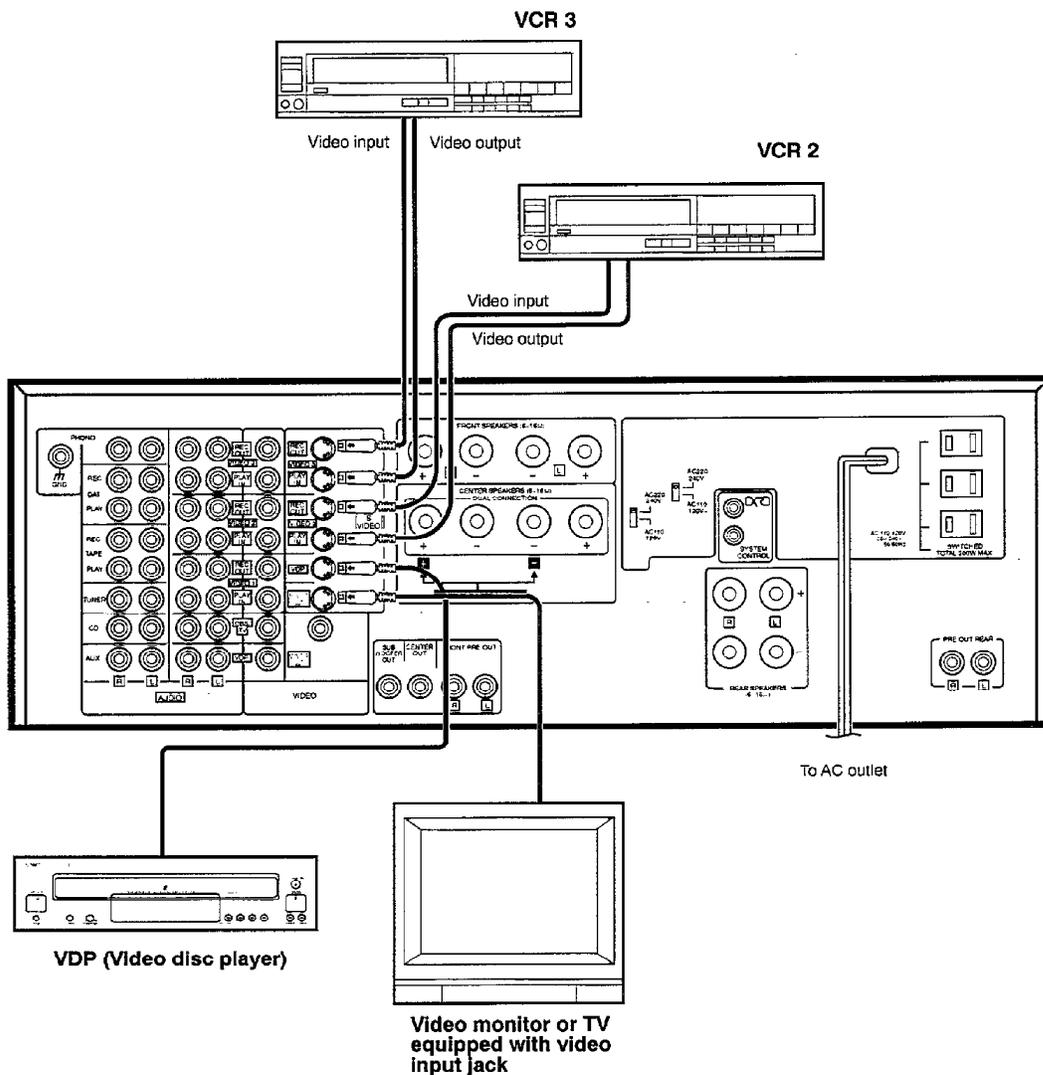
The audio output jacks are to be connected in the same way as the connections shown on page 8.

S-VIDEO jacks

The S-VIDEO signaling system transmits ordinary video signal (composite video signal) by separating its components into the signal representing brightness (Y signal) and signal representing colors (C signal). The use of these jacks is recommended to obtain a better picture quality in your video entertainment. For details, please read the instruction manual of your VCR.

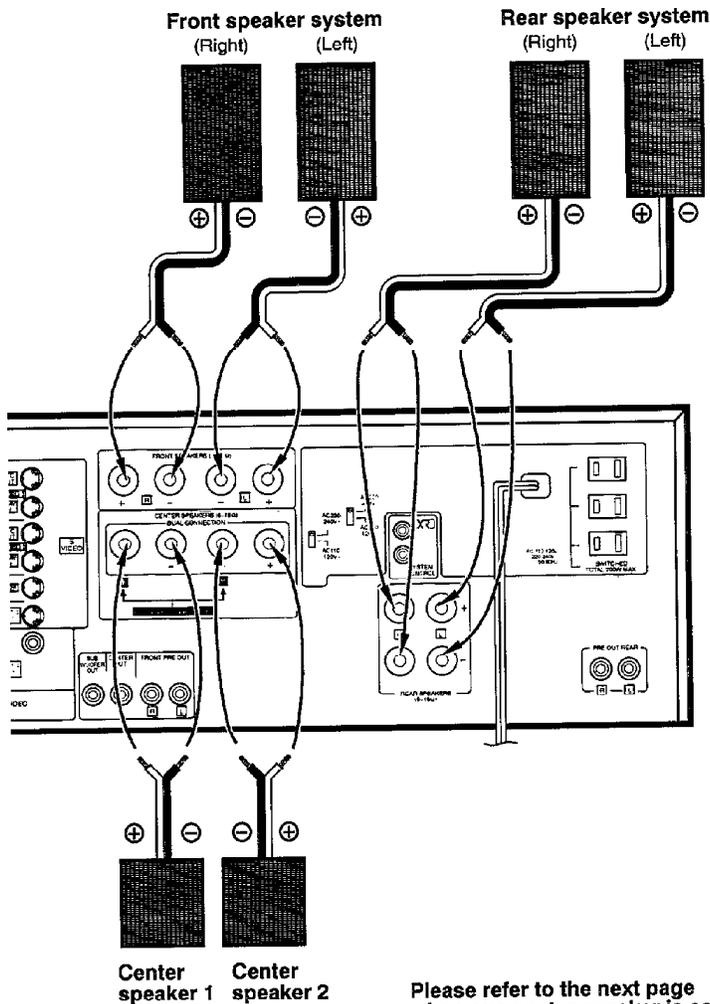
Notes:

1. If your TV monitor accepts the S-VIDEO connector signal in priority and you want to display characters on its screen, connect the monitor TV through the VIDEO jack. Do not connect anything to the S-VIDEO connector on the rear panel.
2. Dubbing between a VCR connected to a composite input/output and a VCR connected to an S-VIDEO input/output is not possible.



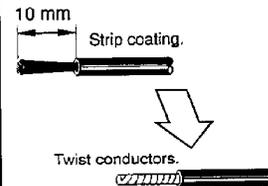
■ Speaker connections

Connect the speakers as shown in the figure, paying attention to the core wires not to come contact with other jacks.



Please refer to the next page when one center speaker is connected.

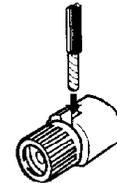
1 Process the cord.



2 Turn counterclockwise to loosen.



3 Fully insert the cable.



4 Turn clockwise to secure the cable.



Notes:

1. Connect all cords firmly. If connections are loose there could be loss of sound or noise produced.
2. Do not connect up a power source which is larger than that indicated on the socket at the rear of the unit.
3. When plugging and unplugging connection cords after connections are complete, be sure to first remove the power cord from the AC outlet. Plugging/unplugging connection cords without removal of the power cord can cause malfunctions or damage to the unit.

Cautions concerning speaker connections

1. Set the POWER switch to OFF before connection the speaker cords.
2. After connecting the lead wires, verify that they do not come into contact with other terminals.
3. Never short-circuit the (+) and (-) speaker cords.
4. Be sure not to inverse the left and right speaker connections or the (+) and (-) terminal polarity. This will cause the acoustic image of instruments to be unclear and the sound to be unnatural.

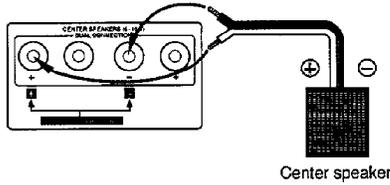
Speaker impedance

Front speakers, Center speakers and rear speakers
Use speakers having an impedance of 6 to 16 Ω . In this case, even if only one speaker has an impedance of less than 6 Ω , damage to the amplifier may occur.

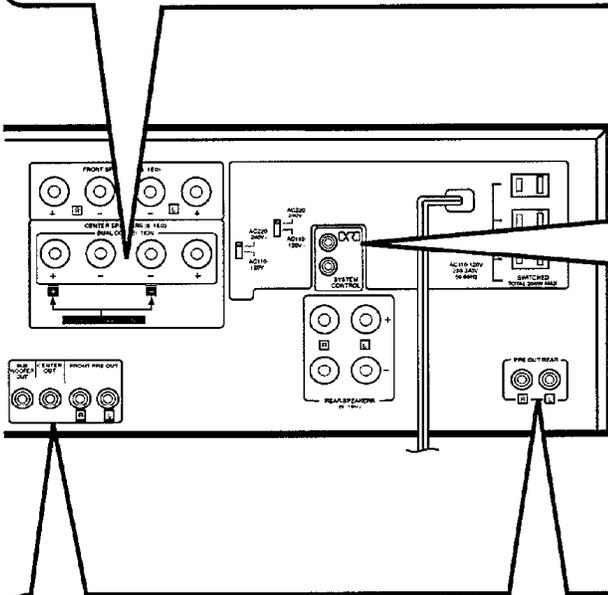
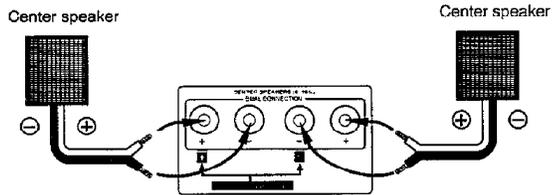
Connection of CENTER SPEAKERS

Up to two center speakers can be connected to this unit.

① When one center speaker is connected:



② When two center speakers are connected:



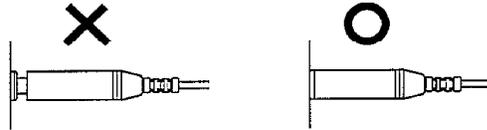
Connection to SYSTEM CONTROL jacks

These jacks are for use in controlling KENWOOD components as a system.

By connecting these jacks to the SYSTEM CONTROL jacks of compatible KENWOOD components using the system control cords, the following operations can be performed.

What is System Remote Control

When System Control cords are used to connect this unit with a tuner, cassette deck and/or CD player equipped with "XS" SYSTEM CONTROL terminals, all components in the system can be controlled using the keys on the remote controller provided with this unit. For details, read the instruction manuals supplied with the connected components.

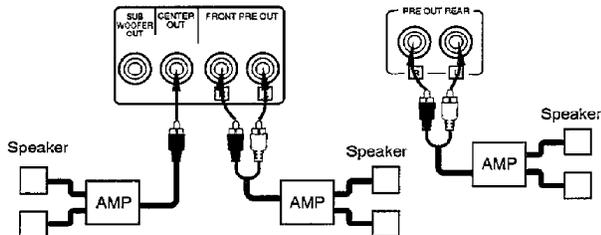


- Be sure to insert the System Control cord plugs fully into the SYSTEM CONTROL terminals.

Connection of PRE OUT jacks

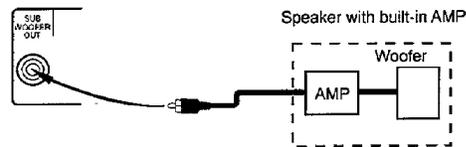
Sound will not be output from the speakers if they are connected directly to the PRE OUT jacks. The output from these jacks should be connected to speakers with built-in amplifier or to exclusive amplifiers to which the speakers are connected.

① Connection to CENTER, FRONT and REAR jacks



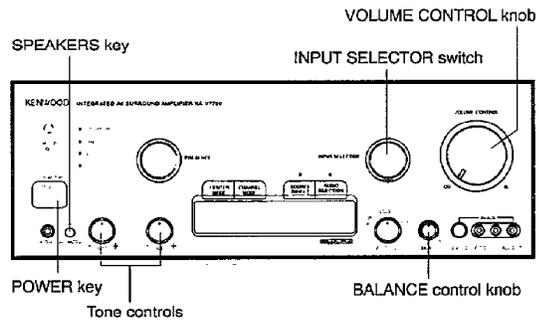
Use these jacks if you want to listen to the speakers with larger volumes or with different tones.

② Connection to SUB WOOFER jacks



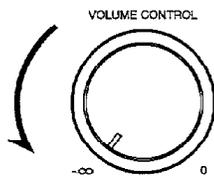
If you want to listen to richer bass sound, connect the exclusive amplifier for the woofer to this jack, and connect the woofer speaker to the amplifier.

Playing back an audio source



Basic operation procedure

1 Minimize the volume.



- Fully rotate the VOLUME CONTROL knob to the left.

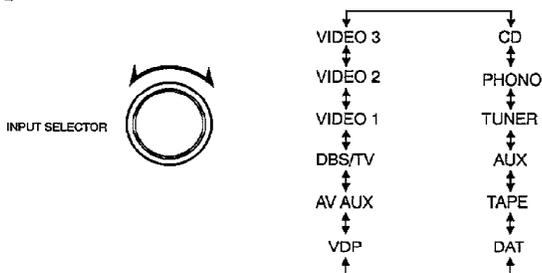
2 Turn the POWER key to ON.



3 Turn the speakers ON.



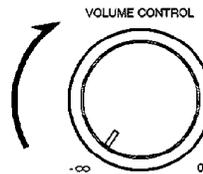
4 Select the desired source to be played.



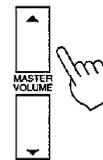
The sources are switched over as shown above, and the selected source is shown on the display.

5 Play the selected source component.

6 Adjust the volume.

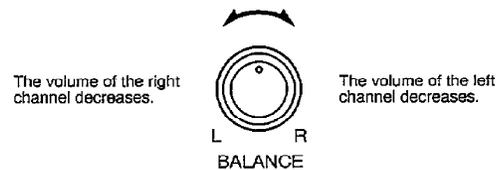


(Amplifier)



(Remote control unit)

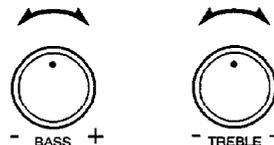
7 Adjust the left and right volume balance.



The volume of the right channel decreases.

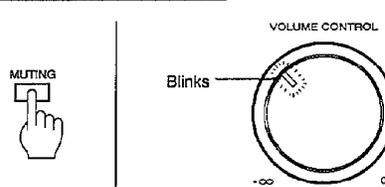
The volume of the left channel decreases.

8 Adjust the tone.



Adjust low frequencies Adjust high frequencies

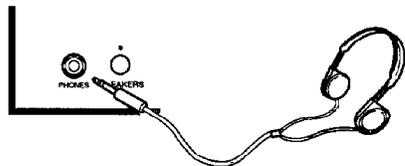
To mute sound temporarily Remote control unit only



- Press again to resume the previous volume.

■ How to listen through headphones

1 Insert the headphone plug into the PHONES jack.

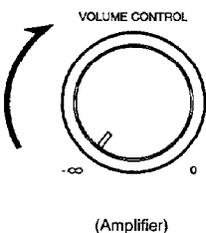


2 Turn the speakers OFF.

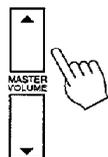


- The indicator goes off.

3 Adjust the volume.



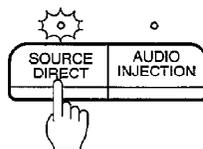
(Amplifier)



(Remote control unit)

■ Operation of SOURCE DIRECT key

When this key is pressed, the SOURCE DIRECT indicator lights up and the source selected with the INPUT SELECTOR switch can be reproduced with a higher sound quality.



(Amplifier)

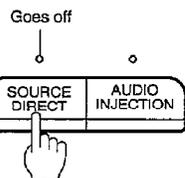


(Remote control unit)

- As the sound signal does not pass through the tone and balance control circuitry, the tone and balance controls are invalidated.

To cancel SOURCE DIRECT

Press the key again.



(Amplifier)



(Remote control unit)

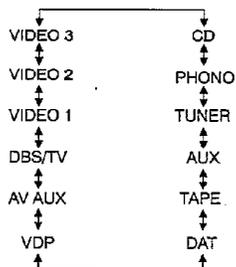
- The SOURCE DIRECT function is also canceled when any of the presence modes is selected.

■ Recording on cassette deck

1 Select the source to be recorded.



INPUT SELECTOR



The sources are switched over as shown above, and the selected source is shown on the display.

2 Start recording on the cassette deck.

- The source can be recorded on either or both of the cassette TAPE deck and DAT deck.

On-screen character display

The on-screen character display appears on the monitor TV screen when specific operations are performed. The information on the present setup various modes can be checked by pressing the MENU key on the remote control unit. Whether the on-screen display is displayed or not can also be set.

■ Checking the modes Remote control unit only

Example: In case DSP.LOGIC is ON

1 Press the MENU key.



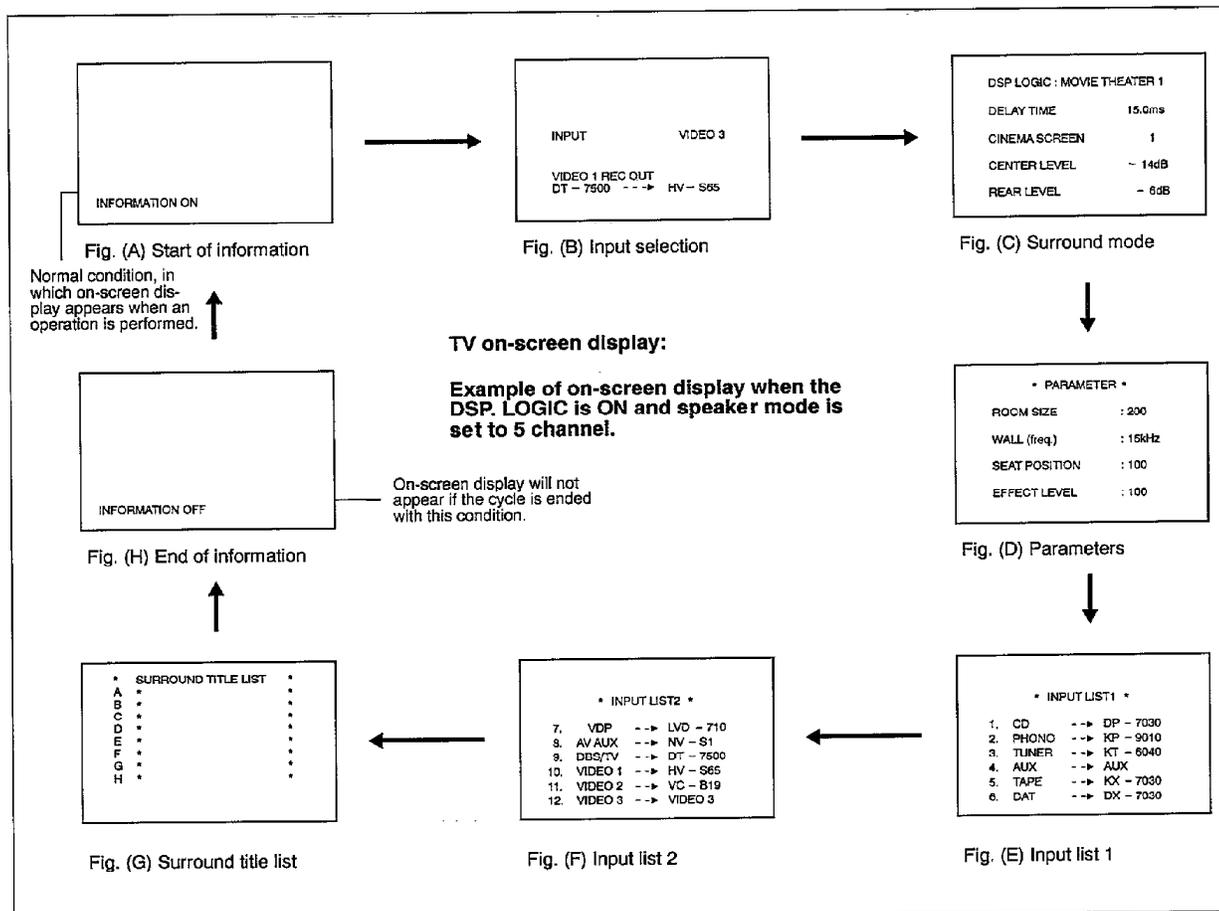
• The TV screen changes to the condition shown in Fig. (A).

2 Press the MENU key more again.



• Every time the key is pressed, the display changes from Fig. (A) to Fig. (H) repeatedly in cycle.

The display which appears when the MENU key is pressed changes according to the mode of the unit. For the character entry method, please see page 30.



Notes:

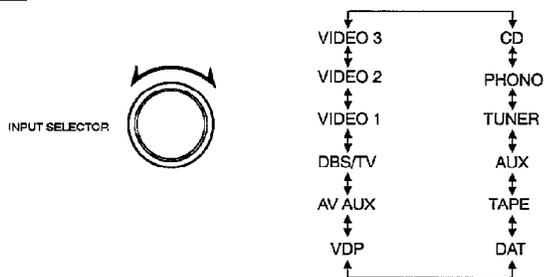
1. On-screen displays shown in Fig. (A) and Fig. (H) remains for about 1.5 second. Other displays will not change until the MENU key is pressed.
2. If the above cycle is terminated with "INFORMATION OFF" display, the on-screen character display will not appear in later operations.
3. If it is required to have on-screen character display afterward, terminate the cycle with "INFORMATION ON".
4. If your TV monitor accepts the S-VIDEO connector signal in priority and you want to display characters on its screen, connect the monitor TV through the VIDEO jack. The on-screen character display is not available in case the connection is made through the S-VIDEO jacks. If the connection to the monitor TV is made via the S-VIDEO jack on the rear panel, the on-screen display is defeated. If the TV monitor does not accept the S-VIDEO connector signal in priority, set its video input switch to "Video".

Playing back a video source

How to play a video source

1 Switch ON the monitor TV connected to the MONITOR OUT jacks.

2 Select the video source to be viewed.

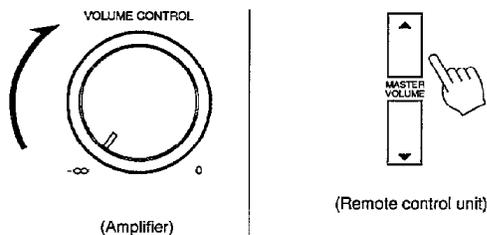


The sources are switched and displayed as above.

3 Start playing the selected video component.

- The picture is reproduced on the monitor TV screen, and the sound is reproduced through the speakers.

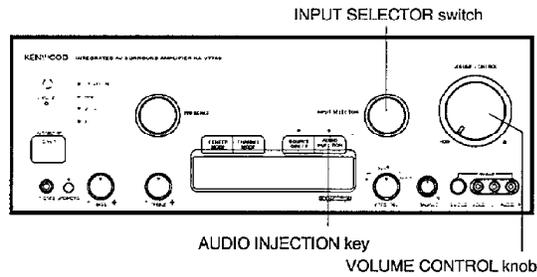
4 Adjust the volume.



- The audio operation procedure is the same as that described in "Playing back an audio source".

Note:

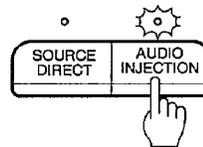
The characters "VIDEO 1" in the display window will blink if the VIDEO 1 is selected with the input selector key when the VIDEO 1 REC switch is set to either V2►V1 or V3►V1. In this case, set the VIDEO 1 REC switch to SOURCE.



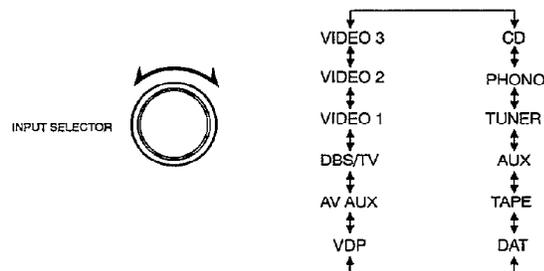
Audio Injection operation

This feature allows to replace the audio of the video source being played back with the audio of another source.

- Play a video source.
- Press the AUDIO INJECTION key.

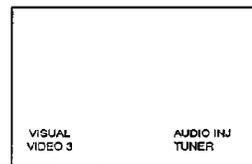


- Select the source to replace the audio.



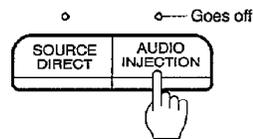
The sources are switched and displayed as above.

TV on-screen display with VIDEO 3 video and TUNER audio



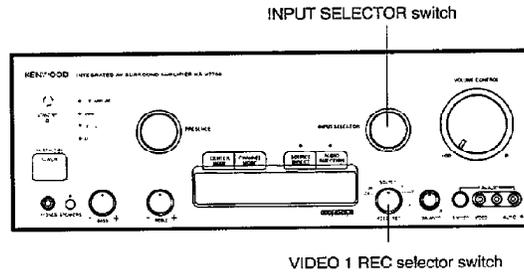
To cancel audio injection

Press the AUDIO INJECTION key again.



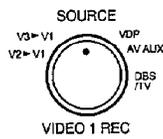
- The Audio Injection function is also canceled when the POWER is switched OFF.

Recording a video source

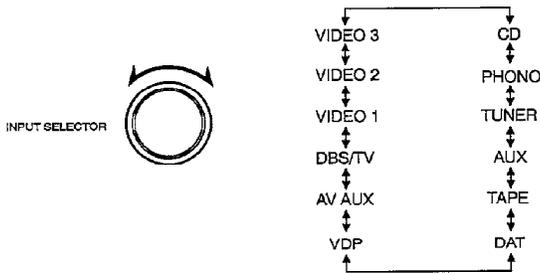


■ Video/audio recording on video deck(s) 1/2/3

1 Set the VIDEO 1 REC switch to SOURCE.



2 Select the source to be recorded.



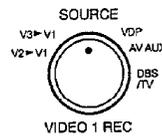
The sources are switched and displayed as above.

3 Put video deck in the record mode.

- The selected source being recorded can be monitored on the monitor TV during recording.

■ Dubbing from video deck 1 to video deck 2 or 3

1 Set the VIDEO 1 REC switch to SOURCE.



2 Select VIDEO 1 with the input selector switch.



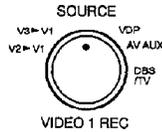
3 Put video deck 2 or 3 in the record mode.

4 Put video deck 1 in the play mode.

- The video and audio of video deck 1 can be monitored during dubbing.

■ Dubbing from video deck 2 to video deck 3

1 Set the VIDEO 1 REC switch to SOURCE.



2 Select VIDEO 2 with the INPUT SELECTOR switch.

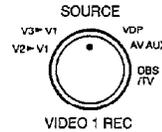


3 Put video deck 3 in the record mode.

4 Put video deck 2 in the play mode.

■ Dubbing from video deck 3 to video deck 2

1 Set the VIDEO 1 REC switch to SOURCE.



2 Select VIDEO 3 with the INPUT SELECTOR switch.

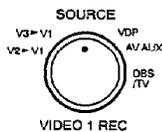


3 Put video deck 2 in the record mode.

4 Put video deck 3 in the play mode.

■ Dubbing from video deck 2 or 3 to video deck 1

1 Set the VIDEO 1 REC switch to V2 > V1 or V3 > V1.



- Select the source to be listened to with the INPUT SELECTOR switch.

2 Put video deck 1 in the record mode.

3 Put video deck 2 or 3 in the play mode.

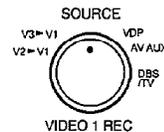
- While dubbing from video deck 2 or 3 to video deck 1, you can listen to the source selected with the INPUT SELECTOR switch.

■ To listen to another source during recording

1 Select the source to be listened to.



2 Select the source to be recorded onto video deck 1.



- If the switch is set to SOURCE, the source selected by the INPUT SELECTOR knob will be recorded.

3 Put video deck 1 in the record mode.

Presence feature

Presence effects

Why do we feel the sounds in movie theaters, concert halls and stadiums so powerful and live? Because the sound reaches us not only from the front, but from all other directions surrounding us. To reproduce this ambience as close as possible to the reality, this unit incorporates two types of DSP (Digital Signal Processor) for use with different types of music sources. These circuits allow creation of an acoustic field without compromising the sound quality. To make full use of the Surround effects, read the following instructions carefully and perform equipment installation and adjustments that suit your individual listening room.

① DOLBY SURROUND PRO LOGIC

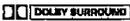
Video and LD software packages marked with  incorporate the same Dolby Surround information as movies in the recording. The Digital DOLBY PRO LOGIC Surround decoder built into this unit makes it possible to enjoy such software packages with the same audio effects as in movie theaters.

- Set the center speaker mode according to the speaker layout (see page 19).

② DOLBY 3 STEREO

When the right and left speakers are installed away from each other, the center sound image becomes fade. DOLBY 3 STEREO mode gives the directivity effect to enhance the center sound image (see page 19).

③ DSP LOGIC Presence

Video and LD software packages marked with  incorporate the same Dolby Surround information as movies in the recording. Two types of DSP built into this unit makes it possible to enjoy such software packages with the same audio effects as in movie theaters. The DSP creates the same realistic feeling as the powerful sound surrounding us in movie theaters by adding early reflection sound and reverberation sound signals to the output signal from the directivity enhancer circuit.

- This unit incorporates two preset DSP LOGIC Presence sound-field patterns (MOVIE 1, MOVIE 2). (See page 23.)
- It is also possible to create the user's own sound fields by combining parameters. (See page 27.)
- Set the CHANNEL MODE key according to your speaker layout. (See page 19.)

④ DSP Presence

An advanced digital signal processing adds to the enjoyment of stereo audio sources such as CD, TAPE and TUNER. This unit creates the DSP Presence sound fields (hall tones) of these sources by means of the 16-bit A/D converters which perform high-level conversion of analog signals into digital signals, as well as of the computer simulation and dedicated DSP (Digital Signal Processor) which create early reflection and reverberation sound signals. By combining these signals, the parameters such as the room sizes, walls, seat positions and effect levels can be set so that realistic feeling proper to live performances can be reproduced in the living rooms of households.

- This unit incorporates six preset DSP Presence sound-field patterns (MOVIE 3, ARENA, OPERA, CATHEDRAL, STADIUM, JAZZ). (See page 23.)
- It is also possible to create the user's own sound fields by combining parameters. (See page 27.)
- Set the CHANNEL MODE key according to your speaker layout. (See page 19.)

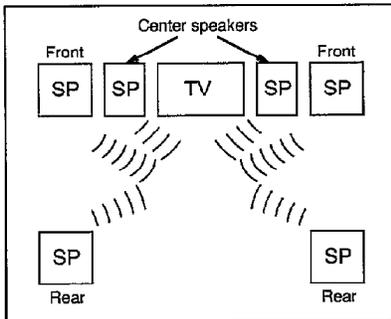
The information set in the above mode can be stored in the surround information memory. (Refer to page 28.)

Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590; Canadian numbers 1,004,603 and 1,037,877. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

■ Speaker layouts

It is possible to use either one or two center speakers.

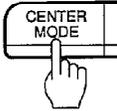
Standard layout



① DOLBY SURROUND mode

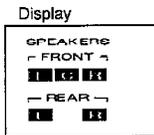
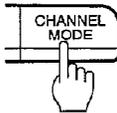
Set the center mode according to the center speakers used (see page 20).

- ... **NORMAL** (when compact speakers are used)
- ... **WIDE** (when medium-sized or larger speakers are used)



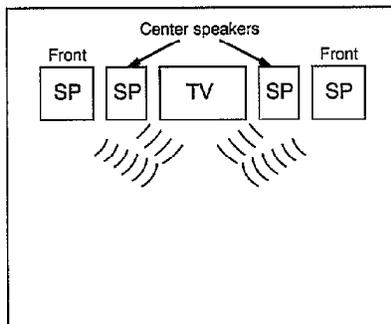
② DSP and DSP.LOGIC modes

Press repeatedly until the display becomes as shown on the right.



- Select the desired sound-field pattern (see page 23).

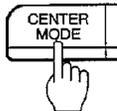
In case rear (Surround) speakers are not used



① DOLBY 3 STEREO mode

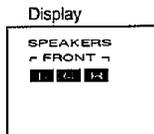
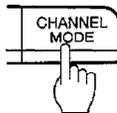
Set the center mode according to the center speakers used (see page 20).

- ... **NORMAL** (when compact speakers are used)
- ... **WIDE** (when medium-sized or larger speakers are used)



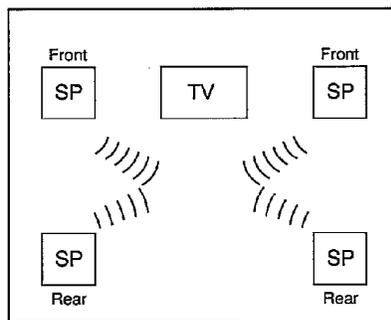
② DSP and DSP.LOGIC modes

Press repeatedly until the display becomes as shown on the right.



- Select the desired sound-field pattern (see page 23).

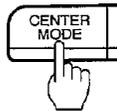
In case center speakers are not used



① DOLBY SURROUND mode

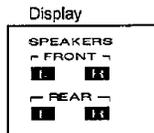
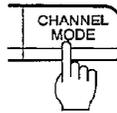
Set the center mode to PHANTOM (See page 20).

- ... **PHANTOM**



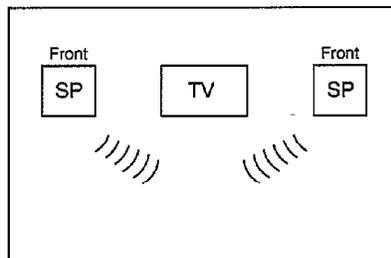
② DSP and DSP.LOGIC modes

Press repeatedly until the display becomes as shown on the right.



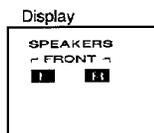
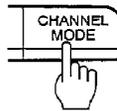
- Select the desired sound-field pattern (see page 23).

In case only two speakers are used



DSP mode

Press repeatedly until the display becomes as shown on the right.



- Select the desired sound-field pattern (see page 23).
- The Dolby Surround, Dolby 3 Stereo or DSP LOGIC play is not possible with this layout.

Dolby Surround

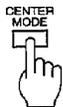
When video software carrying  mark is played, this mode provides the similar Dolby Surround effect to movie theaters.

Dolby Surround adjustment Remote control unit

1 Select the Dolby Surround mode.



2 Select the center mode.

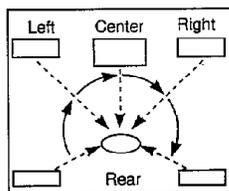
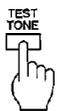


NORMAL → WIDE → PHANTOM
Each press switches the modes.

- Refer to "Note on center mode" below.

3 Adjust the speaker volumes.

- ① Press the TEST TONE key.



- The speakers generating test tone are changed over automatically every 1.5 seconds.

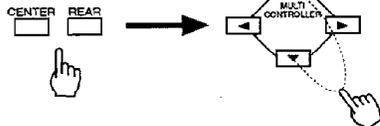
In **NORMAL** or **WIDE** mode:

Left → Center → Right → Rear

In **PHANTOM** mode:

Left → Right → Rear

- ② Adjust the volumes.



- Adjust so that the volume levels from all speakers become identical.
- The level being adjusted is shown on the display.

4 Stop the test tone.

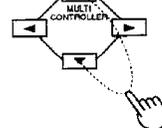


5 Set the delay time.

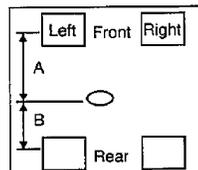
①



②



- Refer to the table below for the calculation of the delay time for Dolby Surround.
- The delay time can be adjusted in the range from 15 to 30 ms.
- When one of the MULTI CONTROLLER keys is pressed, the delay time is shown on the display, and each press of one of the keys varies it in 1.0 ms steps.
- The delay time is stored automatically in memory. Once set, the same delay time is recalled every time Dolby Surround is selected, unless another delay time is set.

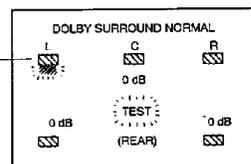


$$\text{Delay time (ms)} = 20 \text{ ms} + 3 \text{ ms (A - B) m}$$

A : Distance until front speaker (m)
B : Distance until rear speaker (m)

TV on-screen display during test tone adjustment With DOLBY SURROUND NORMAL

Speakers from which sound is produced.



Note on center mode

Select the center mode according to the size or presence of center speaker.

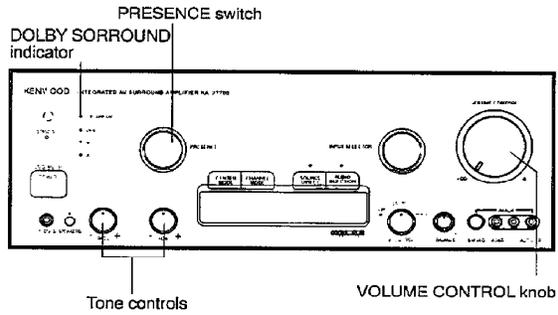
NORMAL : Select this mode when a compact center speaker is used.

WIDE : Select this mode when a medium-sized or larger center speaker is used.

- If you have problem in identifying whether your speaker size is compact or medium, try both of the NORMAL and WIDE modes and use the mode providing better positioning.

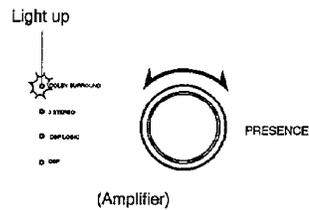
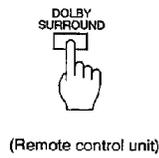
PHANTOM : Select this mode when the center speaker is not used.

- Even when the center speaker is not used, this mode provides a simulated processing to offer the center positioning so that Dolby Surround software can be enjoyed.

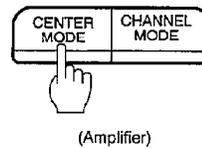
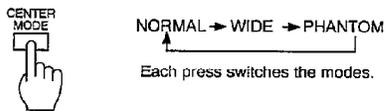


■ Dolby Surround playback

1 Select the Dolby Surround mode.



2 Select the center mode.

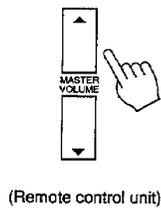


- Select the mode selected in step 2 of the procedure for "Dolby Surround adjustment" (page 20).

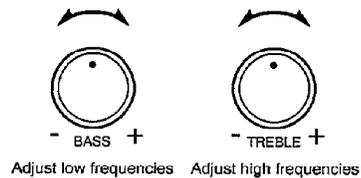
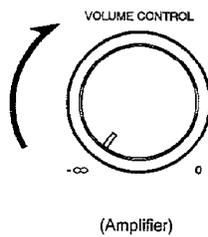
The display returns to the input source display in about 5 seconds.

3 Play Dolby Surround software.

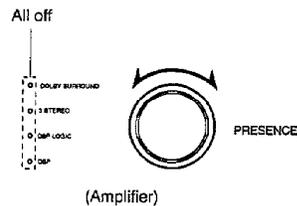
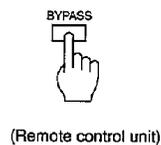
4 Adjust the volume and tone.



Adjusts the overall volume

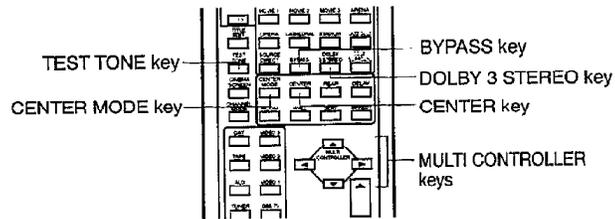


To return to normal stereo playback



Dolby 3 Stereo

When the center speaker is added, this mode improves the acoustic image of words, etc., during home enjoyment of video software like movies.



■ Dolby 3 Stereo adjustment

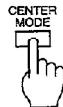
Remote control unit

1 Select the Dolby 3 Stereo mode.



2 Select the center mode.

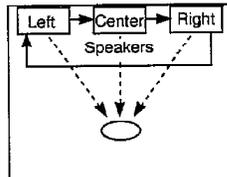
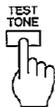
Each press switches the modes.
NORMAL ↔ WIDE



- Set to NORMAL when the center speaker is a compact model, or to WIDE when it is a medium or larger model.

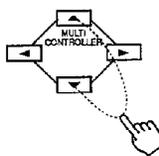
3 Adjust the center speaker volume.

① Press the TEST TONE key.



- The speakers generating test tone are changed over automatically every 1.5 seconds.

② Adjust the volumes.



- Adjust so that the volume levels from the Left, Right and Center speakers become identical.

4 Stop the test tone. Press the key again.



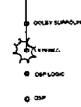
■ Dolby 3 Stereo playback

1 Select the Dolby 3 Stereo mode.



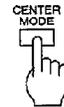
(Remote control unit)

Light up

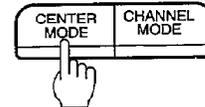


(Amplifier)

2 Select the center mode.



(Remote control unit)



(Amplifier)

- Select the mode selected step 2 of the procedure for "Dolby 3 stereo adjustment."

3 Play stereo program software or Dolby Surround software.

4 Adjust the volume and tone.

To return to normal stereo playback



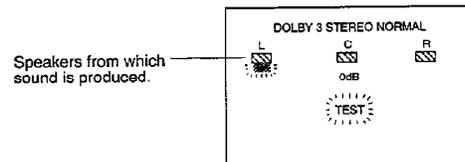
(Remote control unit)

All off



(Amplifier)

TV on-screen display during test tone adjustment With DOLBY 3 STEREO Normal



Presence

DSP (Digital Signal Processor)

The DSP allows to synthesize the early reflection and reverberation sound signals in order to create various sound-field effects without compromising the sound quality of music sources.

This unit provides two DSP Presence modes; the DSP mode and the DSP.LOGIC mode.

DSP mode:

Provides six sound field patterns.

DSP.LOGIC mode:

Applies a directivity enhancement to the DSP mode to enable even better acoustic image positioning. Two sound field patterns are available.

Preset sound field effects using DSP

This unit incorporates 8 kinds of preset sound field patterns, so that various sound field effects can be enjoyed by selecting a preset pattern according to the music source.

In addition, it is also possible to obtain desired sound field patterns by adjusting the parameters forming them. Refer to page 24 for the parameters.

Kinds and effects of preset sound field patterns

Select an optimum sound pattern according to the music source.

Sound Field Pattern	Effect
MOVIE 1 (DSP LOGIC)	Sound field of a high-quality movie theater.
MOVIE 2 (DSP LOGIC)	Sound field of a relatively wide movie theater with high quality and large sound reflection.
MOVIE 3 (DSP)	Sound field for enjoying movies or dramas recorded in monaural.
ARENA (DSP)	Sound field of a wide and deep hall, where the interval of early reflection sound is widely dispersed. The hall size may accommodate an audience of around 2500 people.
OPERA (DSP)	Sound field of an opera house, where the level of early reflection sound is high and the reverberation after it lasts for a long period.
CATHEDRAL (DSP)	Sound field of a large cathedral, where the early reflection sound has a long delay and the reverberation after it lasts for a long period.
STADIUM (DSP)	The interval of early reflection sound is widely dispersed. A sound field like the sound from the PA equipment in an outdoor stadium.
JAZZ CLUB (DSP)	Early reflection sound is concentrated in the period from 20 to 70 millise. A realistic and live sound field.

Presence

DSP parameters

In addition to the selection of preset sound field patterns, the Surround effect can also be enjoyed by adjusting the following parameters to obtain a sound field that matches your taste.

- ① **ROOM SIZE** Adjusts the interval of early reflection sound waves to simulate the room size. The size of a standard listening room is assumed to be 100, and the simulated room size can be adjusted in 4 steps from 50 to 200, with increments of 50 per step.
- ② **WALL** Simulates the sound reflected by walls. The higher the set frequency, the harder the simulated walls are (in 16 steps from 1 to 16 kHz, with increments of 1 kHz per step).
- ③ **SEAT POSITION** Defines the listening position. The adjustment range is 20 steps from 5 to 100, with increments of 5 per step.
When the parameter becomes larger, the listening position moves to the rear.
- ④ **EFFECT LEVEL** Adjusts the intensity of sound-field effect in 21 steps from 0 to 100, with increments of 5 per step.

DSP parameter initial setting table

ACOUSTIC FIELD PATTERNS	ROOM	WALL	SEAT	EFFECT
MOVIE 1	100	5 kHz	30	60
MOVIE 2	100	7 kHz	30	60
MOVIE 3	100	7 kHz	30	60
ARENA	100	7 kHz	30	60
OPERA	100	7 kHz	30	80
CATHEDRAL	100	16 kHz	30	80
STADIUM	100	5 kHz	30	80
JAZZ CLUB	100	16 kHz	30	80

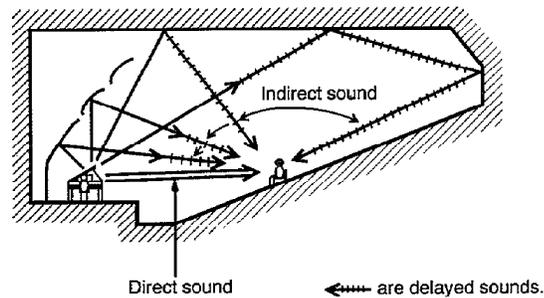
Types of sound

Delay time

As shown in the example of illustration, the sound of piano played on the stage attains the ears of listener as a synthesis of the direct sound from piano, the indirect sounds which are reflected once or twice by the reflectors, ceiling and side and back walls, and the reverberation sounds which repeat infinite reflections until they fade out completely.

The indirect sounds always pass through longer routes compared to the direct sound. The delay between the direct and indirect sounds is called the DELAY TIME, and the level of the indirect or reverberated sounds is called the PRESENCE LEVEL. The indirect sounds accompanied with delay play a very important role in providing better sound effects and the feeling of presence of concert halls, etc. The acoustic field also varies depending on the speaker arrangement. It is recommended to try various delay time setting to obtain the best sound field possible.

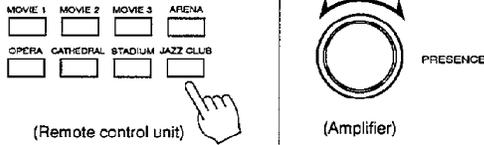
Example of a concert hall



Play with Presence effect

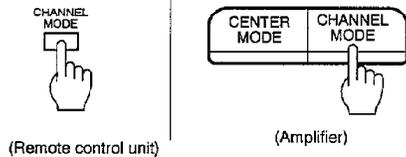
■ Presence effect adjustment

1 Select the desired Presence pattern.



- Parameters are set according to the selected sound-field pattern.

2 Select the channel mode.

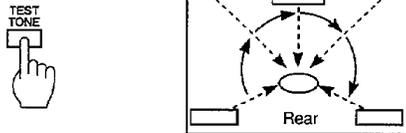


- See page 19.

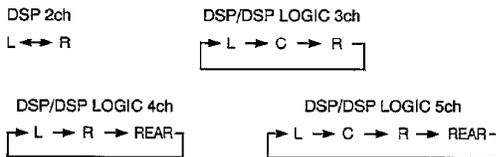
3 Adjust the center and rear speaker volumes.

Remote control unit only

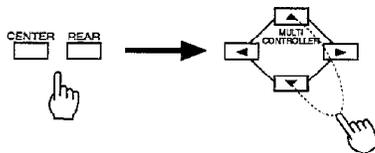
① Press the TEST TONE key.



- The speakers generating test tone are changed over automatically every 1.5 seconds.

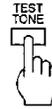


② Adjust the volumes.



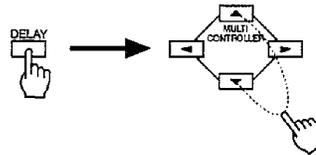
- Adjust so that the volume levels from all speakers become identical.
- The level being adjusted is shown on the display.

4 Stop the test tone.

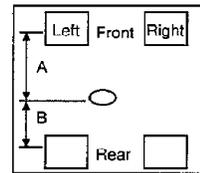


5 Set the delay time (DSP LOGIC only).

Remote control unit only



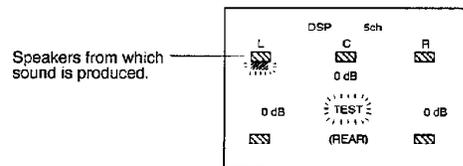
- The delay time can be adjusted in the range from 0 to 80 ms with increments of 1 ms per step.
- For the proper delay time, please calculate referring to the diagram below.
- The delay time cannot be set in Presence modes which do not use the rear speakers.

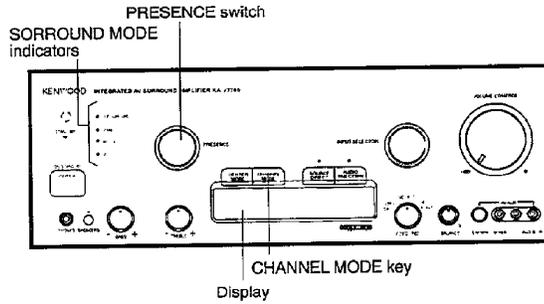


$$\text{Delay time (ms)} = 20 \text{ ms} + 3 \text{ ms (A - B) m}$$

A : Distance until front speaker (m)
B : Distance until rear speaker (m)

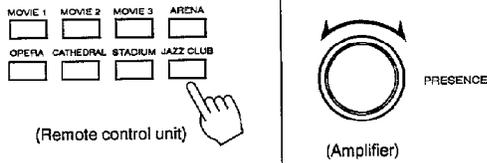
TV on-screen display during test tone adjustment





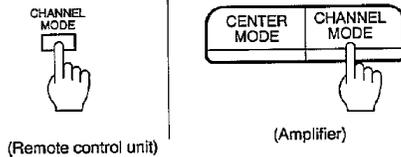
■ Play with Presence effect

1 Select the desired preset sound field pattern.



- The parameters are adjusted according to the sound field effect patterns.

2 Select the channel mode.



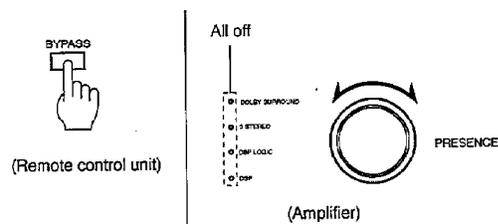
- Select the mode selected in step 2 of the procedure for "Presence effect adjustment" (see page 25).

3 Start playback.

4 Adjust the tone and volume.

To cancel

Press the BYPASS key.



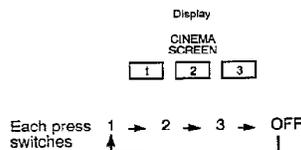
- Be sure to set the bypass mode when Surround playback is not required.

CINEMA SCREEN key

Remote control unit only

In case you notice that high frequencies are enhanced too much during playing a movie, etc., use the CINEMA SCREEN mode. Since the audio of video software recorded in Dolby Surround is originally intended to be played through speakers in a movie theater, it is sometimes recorded with enhanced high-frequency component taking the high-frequency filtering (cutting) effect of L/C/R channels, which are located behind the screen, in consideration.

The CINEMA SCREEN function is provided to compensate for such a recording characteristic. According to the characters of the movie or speakers used, select one of the three compensation filter characteristics.

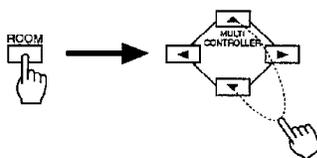


- The tone becomes softer in order from 3 → 2 → 1. Set to the desired tone.

■ Creation of user's own sound fields Remote control unit only

When one of the Presence patterns (MOVIE 1, MOVIE 2, MOVIE 3, ARENA, OPERA, CATHEDRAL, STADIUM, JAZZ CLUB) is selected, the user can create desired sound fields, other than those preset by us, by adjusting the following parameters.

ROOM SIZE setting



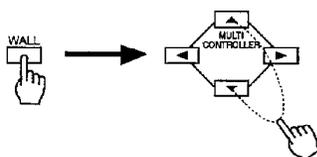
- The room size parameter can be adjusted in 4 steps from 50 to 200, with increment of 50 per step.
- The larger the figure, the larger the simulated room size.

TV on-screen display

TV screen

* PARAMETER *	
ROOM SIZE	200
WALL (freq.)	16 kHz
SEAT POSITION	100
EFFECT LEVEL	100

WALL setting



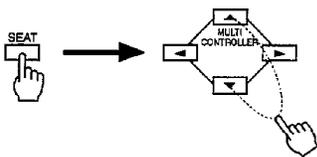
- The wall parameter can be adjusted in 16 steps from 1 to 16 kHz, with increments of 1 kHz per step.
- The higher the frequency value, the harder the simulated wall.

TV on-screen display

TV screen

* PARAMETER *	
ROOM SIZE	200
WALL (freq.)	16 kHz
SEAT POSITION	100
EFFECT LEVEL	100

SEAT POSITION setting



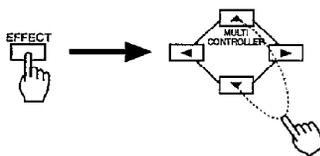
- The seat position parameter can be adjusted in 20 steps from 5 to 100, with increments of 5 per step.
- The smaller the value, the more advanced the simulated listening seat position is.

TV on-screen display

TV screen

* PARAMETER *	
ROOM SIZE	200
WALL (freq.)	16 kHz
SEAT POSITION	100
EFFECT LEVEL	100

EFFECT LEVEL setting



- The effect level parameter can be adjusted in 21 steps from 0 to 100, with increments of 5 per step.
- The larger the value, the higher the presence effect level.

TV on-screen display

TV screen

* PARAMETER *	
ROOM SIZE	200
WALL (freq.)	16 kHz
SEAT POSITION	100
EFFECT LEVEL	100

Note:

The last state of the preset parameters is memorized in the acoustic field pattern.

Surround Information Memory

Surround information memory and Surround title lists functions

For the enjoyment in Surround modes, it is required to set the levels of the channels, delay time, etc., as described on pages 20, 22, 25 and 27. The Surround information memory function makes it possible to store such information in memory.

Example: To enjoy movie in Dolby Surround Pro Logic, Normal mode

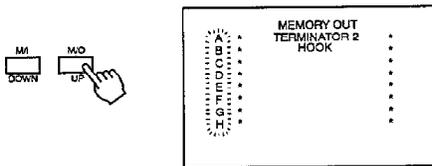
- ① Surround mode selection → Dolby Pro Logic
- ② Center mode selection → NORMAL position
- ③ Channel level adjustments using test tone
- ④ Delay time setting

The Surround information is set by the steps above. The Surround Information Memory function allows to store up to eight sets of Surround information set in this way in memory. In addition, a name can be assigned to each set of information by means of the Surround Title List function.

■ How to save Surround setup in memory

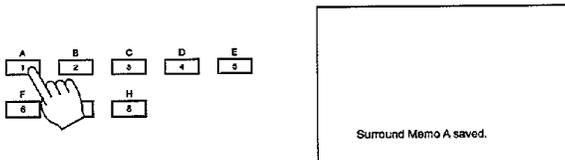
Remote control unit only

1 Press the M/I (Memory Input) key.



- Press and hold for more than 1 second.

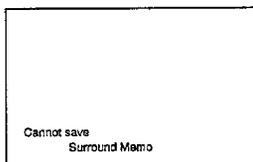
2 Save the current setup in memory.



- Press desired one of the **A** to **H** keys.
- Surround mode, delay time, center level and rear level, etc. are memorized in the pressed keys.

Note:

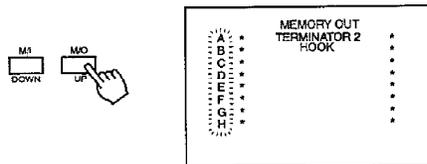
If the source direct function is activated or the Surround mode is Bypass, the display as shown below appears and the Surround information cannot be stored in memory.



■ How to recall a Surround setup

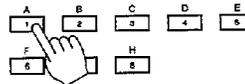
Remote control unit only

1 Press the M/O (Memory Output) key.

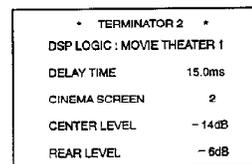


- The title name is displayed when it has been input with the Title Edit function. Please also refer to "Title Edit function".

2 Recall a memory.



- Press desired one of the **A** to **H** keys.
- Example: Display when the **A** key is pressed



Title Edit function

The input selection display or Surround memory name on the TV screen can be replaced with a desired title. The title characters can be change according to the components.

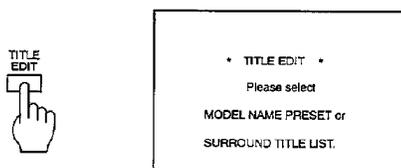
Surround title list function

A title (movie name, video production title, etc.) can be saved together with the each Surround setup saved by the Surround information memory function described on page 28 (using max. 16 characters).

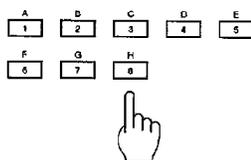
How to make a Surround title list

Remote control unit only

1 Press the TITLE EDIT ON/OFF key.

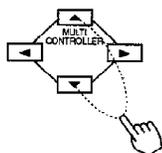


2 Select the memory bank to assign the title.



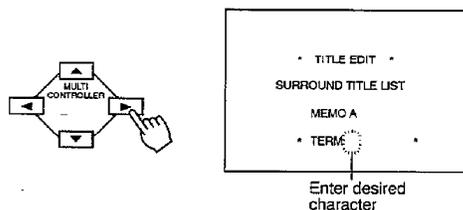
- Press one of memory keys [A] to [H] corresponding to the Surround information memory you want to assign a title.

3 Select the desired letter or numeral.



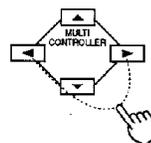
- If no key is input for 10 seconds, the characters being displayed is registered automatically.
- The registered letters are as shown below.

4 Establish the entry of the selected character.



- The selected character is entered, and the character entry cursor moves to the right by one position and blinks there.
- To continue character entry, repeat steps 3 and 4.

To change the character



- Move the blinking cursor to the position of the character to be modified.
- Perform steps 3 and 4 to modify the character.

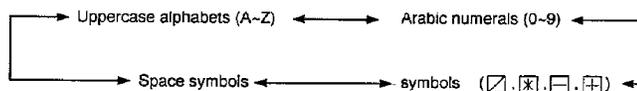
5 Terminate the entry.

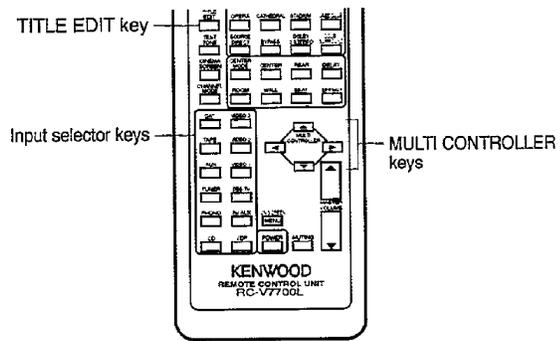


Table 1

41 characters are registered for use in entry.

Every time the or key is pressed, the characters are varied in the cycle as shown below.

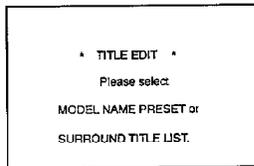
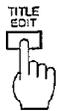




■ How to title-edit the model name Remote control unit only

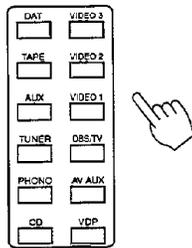
This function allows to enter the model name of a component used in your system. (MAX 8 characters)

1 Press the TITLE EDIT key.

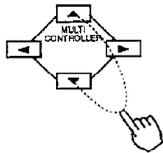


- The display returns to the previous condition if no key has been pressed for about 15 seconds.

2 Select the component for which the model name is to be entered.

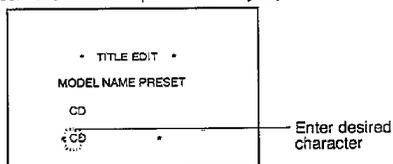


3 Select the desired letter or numeral.

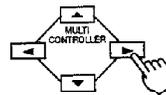


- For the characters registered for use in title entry, refer to Table 1 on page 29.

TV screen when the CD input selector key is pressed.

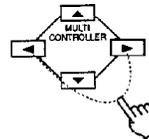


4 Establish the entry of the selected character.



- The selected character is entered, and the character entry cursor moves to the right by one position and blinks there.
- Enter other characters by repeating steps 3 and 4.

To change the character



- Move the blinking cursor to the position of the character to be modified.
- Perform steps 3 and 4 to modify the character.

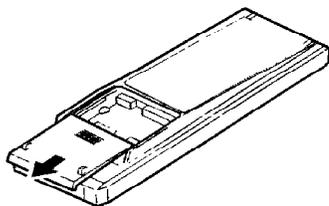
5 End the entry.



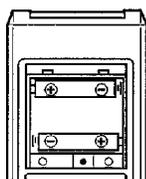
Operation of remote control unit

■ Loading batteries

1 Remove the cover.

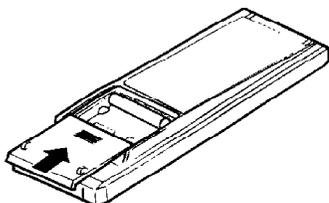


2 Insert batteries.



Insert two AAA-size (R03) batteries as indicated by the polarity marking.

3 Close the cover.



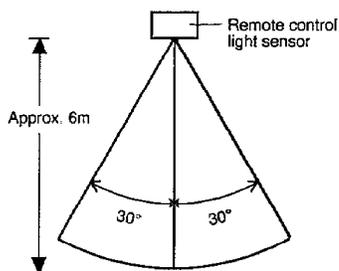
Battery replacement

1. If the TRANSMIT indicator will not light up when an operation key is pressed, the batteries may be exhausted. In this case, replace them with new batteries.
2. The programmed contents are not immediately lost when the batteries are removed for replacement. However, they could be lost if the unit is left without batteries for more than 3 minutes. In such a case, the programming should be performed again. The function signals of the non-learning, or fixed keys are not lost even in this case.

■ Operation procedure

Plug the power cord of the system into an AC wall outlet, and press the **POWER** key on the remote control unit to turn the power on.

When the power is turned on, press the key of the source component to be operated.

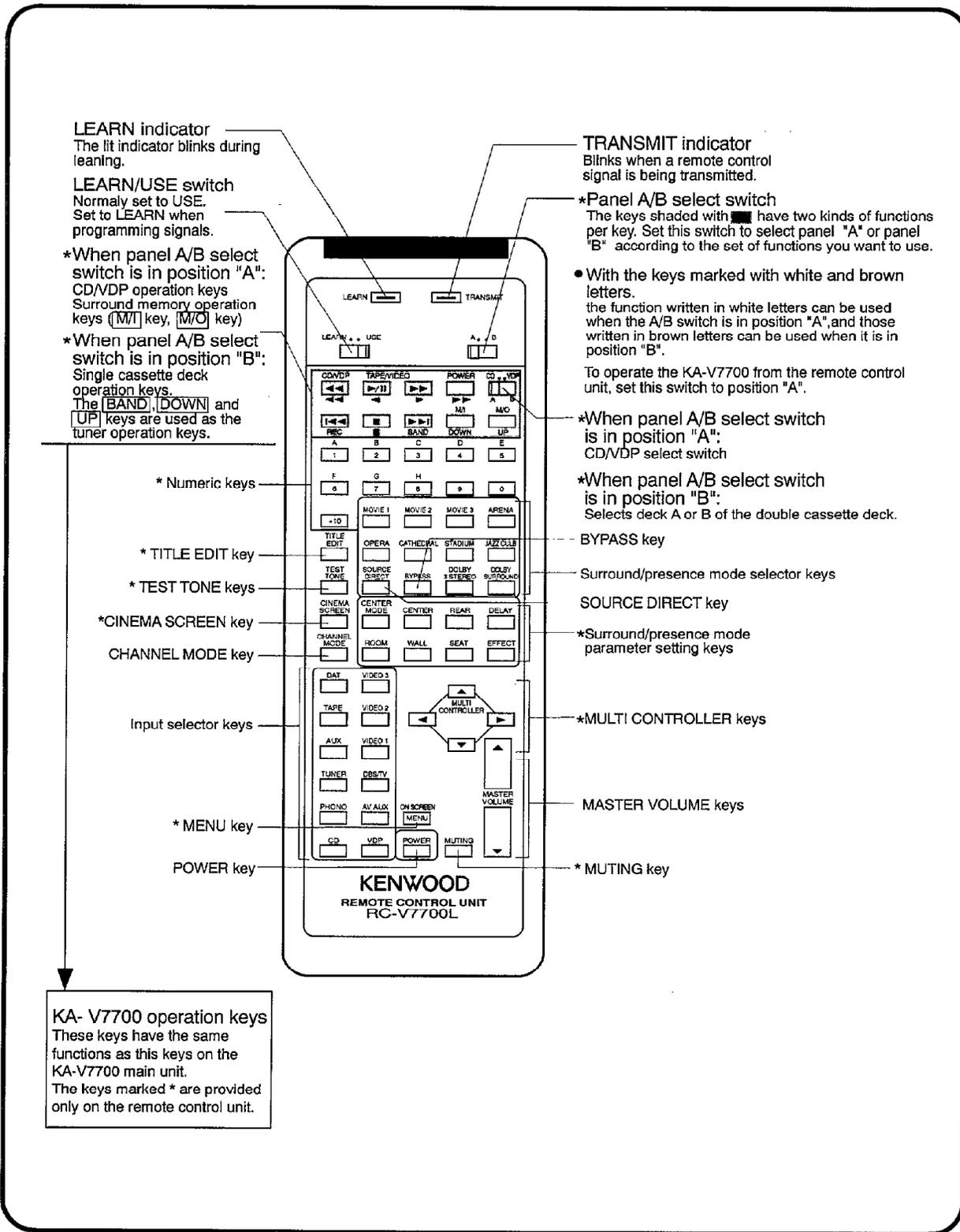


- When two operation keys on the remote control unit are pressed successively, press each key securely reserving an interval of more than 1 second for each press.

Notes:

1. The supplied batteries are intended for use in operation checks. Therefore, their lives may be shorter than ordinary batteries.
2. When the remote-controllable distance gets shorter than before, replace all batteries with new ones.
3. Malfunction may occur if direct sunlight or the light of a high-frequency lighting fluorescent lamp enters the remote control light sensor. In such a case, change the system installation position to prevent the malfunction.

Names of controls



KA- V7700 operation keys
These keys have the same functions as this keys on the KA-V7700 main unit.
The keys marked * are provided only on the remote control unit.

■ Using the unit as a programmable remote control unit

The remote control functions of other audio and video components can be programmed (stored) in this unit. For the programming operation, refer to page 34.

The A/B select switch allows to use the remote control unit as if it has two panels, "A", "B".

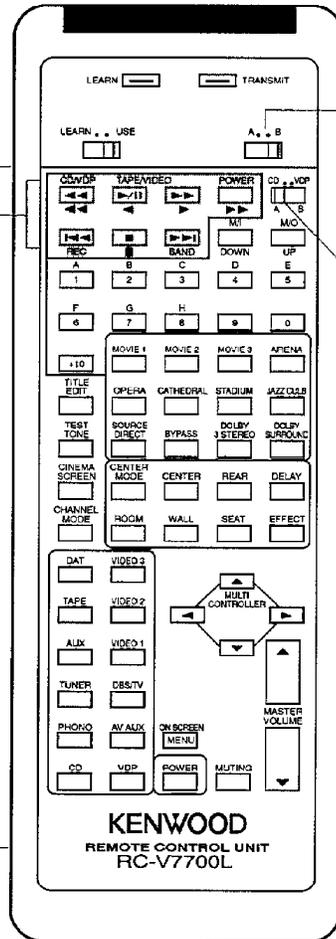
Panel "A": Original functions are stored. Programming of new functions is possible only with ■ keys.

Panel "B": All keys can be used as programmable keys for storing new functions. The original functions when unchanged are basically the same as panel "A", but it should be noted that the functions of the keys shaded with ■ keys are still different between panels "A" and "B".

The programmable keys (learning keys) very depending on the position of the A/B select switch.

When panel A/B select switch is in position "A":
The remote control functions of a video component can be programmed (stored) under the operation keys in this section.

When panel A/B select switch is in position "B":
All keys are usable as the programmable keys (learning keys.) Program (Store) the remote control functions of any other audio or video component under them.



Panel A/B select switch

CD/VDP operation keys

CD/VDP select switch
When panel A/B select switch is in position "A":
If both a CD player and LD player are used, this switch can be used to select the CD or LD player.
The KENWOOD VDP can be operated with the remote control unit even when the VDP is not connected with the system control cord.

For your convenience, it is recommended to write the programmed (stored) functions on the provided entry sheets. Use a oil-ink felt pen, pencil, etc., for writing. For erasing, use an ordinary eraser and rub with a strong force.

■ Programming operation

Use the following procedure to program remote control signals of other remote control units in this unit. Remote control signals can be programmed under some keys on panel "A" and all keys on panel "B".

1 Set the LEARN/USE switch to the LEARN position.

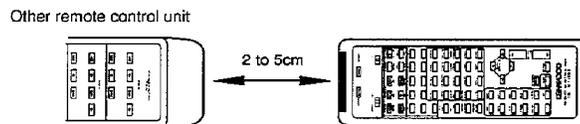


2 Set to the desired mode.



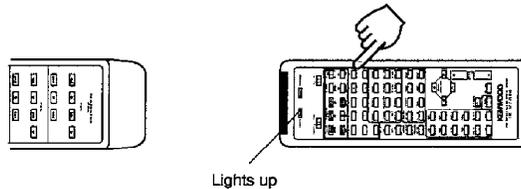
3 Position the remote control unit so that their transmitters face each other.

- The distance between the remote control units is about 2 to 5cm.



4 To program.

① Press one of the keys to be programmed.

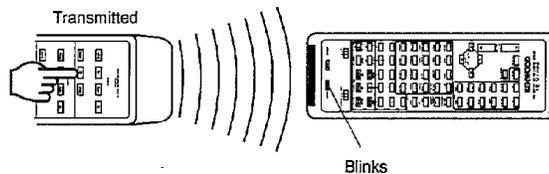


- The LEARN indicator lights up.

② Hold down the key of the other remote control unit containing the signal to be programmed.

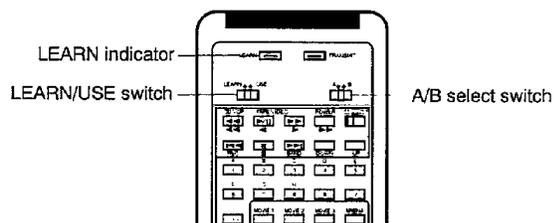
Press while the **LEARN** indicator is lighted.

- Programming is complete when the lighted LEARN indicator goes out after blinking twice.
- Hold the key of the other remote control unit depressed until the LEARN indicator goes out.
- To program another remote control signal, repeat steps 4-① and ② again.



Notes:

1. If the optical output level of the other remote control unit is higher or lower, programming may not be carried out correctly. If this occurs, adjust the distance between this unit and the other remote control unit (by putting them away or closely) and perform the programming procedure again.
2. If the LEARN and TRANSMIT indicators blink simultaneously during programming, this indicates either that the key being programmed cannot be programmed or that programming has not been performed completely. If this occurs, check that the key can be programmed and perform the programming procedure again.
3. Remote control functions using signals other than infrared signals or specially - coded signals cannot be programmed. Programming is also impossible when this unit's memory capacity becomes full.
4. The LEARN indicator goes out if no programming operation has been made for 30 seconds after a programmable key is pressed. After this, programming is impossible. To continue programming, press the programming key again.
5. When two or more programmable keys are pressed at the same time, the key which was pressed last will be programmed.
6. Do not program the remote control functions of equipment other than A/V components, such as air conditioners, etc.



■ To check the programmed contents

1 Set to the USE position.



2 Set the mode.



- Set to the mode used with the key to be checked.

3 Press the key to be checked.

- Verify that the component to be operated works correctly.

■ To change the programmed contents

Perform the programming operation again referring to "Programming operation" on the previous page.

- The previously-programmed content is cleared automatically and replaced by the newly-programmed content.

■ To clear the entire programmed contents

You can clear all of the programmed contents, returning this unit to the initial status.

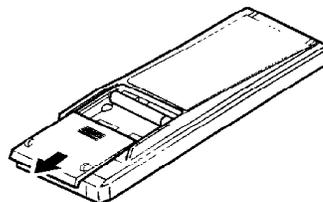
1 Set to the LEARN position.



2 Set the B mode.



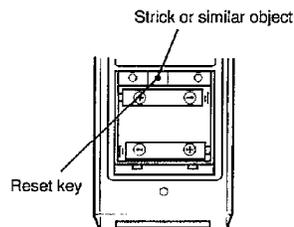
3 Remove the battery case cover.



4 Press any one of the operation keys.

- The LEARN indicator lights up.

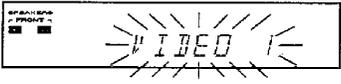
5 Press the reset key.



- The reset key must be pressed within 30 seconds of pressing one of the operation keys.

In case of difficulty

What appears to be a malfunction may not always be serious. If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your dealer or service representative.

Symptom	Cause	Remedy
When the POWER key is set to ON, the indicators do not light and sound is not reproduced.	<ul style="list-style-type: none"> The power plug is disconnected from the power outlet. 	<ul style="list-style-type: none"> Insert in securely.
Picture and sound are not reproduced.	<ul style="list-style-type: none"> The connection cords are disconnected. The connection cords are connected improperly. The source component selected by the input selector switch is different from that being played. 	<ul style="list-style-type: none"> Connect the cords securely into the jacks. Check connections, and correct as required. Select the source to be listened to.
Sound is not reproduced.	<ul style="list-style-type: none"> The SPEAKERS key is set to OFF. The speaker cords are disconnected. 	<ul style="list-style-type: none"> Set the SPEAKERS key to ON. Connect the cords securely to the speaker terminals.
The display shows blinking "PROTECT", and no sound is output.	<ul style="list-style-type: none"> The speaker cords are short-circuited. 	<ul style="list-style-type: none"> Connect the speaker cords properly.
The sound from the center speaker is not heard or is very low.	<ul style="list-style-type: none"> The center speaker cord is connected in a wrong way. The setting of the CHANNEL MODE switch is not correct for the connection. 	<ul style="list-style-type: none"> Check connection, and correct as required. Set the CHANNEL MODE switch correctly. (See page 19.)
Sound from the rear speakers is not reproduced or is at a low volume level.	<ul style="list-style-type: none"> The setting of the CHANNEL MODE switch is not correct for the connection. The rear level is set to the minimum position. The sound source is not a Dolby Surround source, while the Surround mode is set to Dolby PRO LOGIC. 	<ul style="list-style-type: none"> Set the CHANNEL MODE switch correctly. (See page 19.) Increase the rear speaker level to an optimum level. Play a source recorded in Dolby Surround.
The remote control does not work.	<ul style="list-style-type: none"> The remote controlling distance is too far. The batteries are exhausted. 	<ul style="list-style-type: none"> Operate the remote control unit from a closer position. Replace the batteries.
The DELAY key does not work.	<ul style="list-style-type: none"> The Surround mode is BYPASS, 3 STE-REO or DSP SURROUND. (Also, even the mode is DSP LOGIC Surround, the use of rear speakers is not specified by the channel mode selected with the CHANNEL MODE switch.) 	<ul style="list-style-type: none"> The delay time cannot be adjusted in these mode.
Characters "VIDEO 1" blink on the display. 	<ul style="list-style-type: none"> They blinks when ... Input selector switch: VIDEO 1, VIDEO 1 REC switch: V3 ▶ V1 or V2 ▶ V1. 	<ul style="list-style-type: none"> ① Set the VIDEO 1 REC switch to SOURCE. ② Select other input selector than VIDEO 1.

Memory backup feature

This unit is provided with backup circuitry for various memory functions. The memory will be backed up for a period of about 3 days while the power cord of the unit is disconnected from the power outlet. If the memory is cleared, perform the programming or storage operations again.

Speaker protection circuitry

If the speaker cords are short-circuited, the speaker protection circuitry is activated and the sound is muted. In such a case, switch the POWER key to OFF, remove the short-circuit from the speaker cords, and switch the POWER key ON again. Normal operation will resume.

Notes:

- As this unit is microprocessor-controlled, malfunction may occur due to external noise or interference. In such a case, unplug the power cord from the power outlet and then, while holding the POWER key depressed, plug the power cord again to the power outlet. (This clears the title and Surround information memory.)
- Do not use contact revitalizer, for this may cause malfunction. Be specially cautious against contact revitalizer containing oil, because it may deform the plastic parts.

**For the U.S.A.
FCC WARNING:**

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

NOTE:

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 may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. 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.

**For CANADA
DOC REGULATION**

"This digital apparatus does not exceed the CLASS B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications."

Specifications (For the U.S.A. and Canada)

AUDIO section

Continuous rated power output (FTC)

60 watts per channel minimum RMS, both channels driven, at 8 Ω from 20 Hz to 20,000 Hz with no more than 0.08 % total harmonic distortion.

[SURROUND MODE]

Continuous rated power output (FTC)

Front

50 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 0.2 % total harmonic distortion.

Center

50 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 0.2 % total harmonic distortion.

Rear

25 watts per channel minimum RMS, both channels driven, at 8 Ω 1 kHz with no more than 0.5 % total harmonic distortion.

Total harmonic distortion

0.08 % (20 Hz-20 kHz, 60 W, 8 Ω)
0.03 % (1 kHz, 60 W, 8 Ω)

Frequency response

LINE (CD)
.....5 Hz - 20 kHz, +0 dB, -3 dB

PHONO 'RIAA' response

.....20 Hz - 20 kHz, +0.3 dB, -0.3 dB

Maximum input level

PHONO (MM).....110 mV, 0.08 % T.H.D. at 1 kHz

Signal to noise ratio

PHONO (MM).....78 dB (IHF'66)/79 dB (IHF'78)
LINE (CD, TUNER, AUX, TAPE)
..... 100 dB(IHF'66)/84 dB (IHF'78)

Input sensitivity/Impedance

PHONO (MM).....2.5 mV/ 47 k Ω
LINE (CD, TUNER, AUX, TAPE) ...200 mV/47 k Ω

Tone control

BASS ± 10 dB (at 100Hz)
TREBLE ± 10 dB (at 10kHz)

Output level/Impedance

TAPE REC 200 mV/800 Ω
PRE OUT 1 V/600 Ω
Center channel preout 1 V/600 Ω
Rear channel preout 1 V/600 Ω
SUB WOOFER PREOUT 2 V/600 Ω (50Hz)

VIDEO section

Input level/Impedance

VIDEO (composite) 1Vp-p/75 Ω
Input (VDP, DBS/TV, AV AUX, VIDEO 1 VIDEO 2, VIDEO 3)

S-VIDEO (Luminance signal) 1Vp-p/75 Ω
(Chrominance signal) 0.286Vp-p/75 Ω
Input (VDP, AV AUX, VIDEO 2, VIDEO 3)

Output level/Impedance

VIDEO (composite) 1Vp-p/75 Ω
Output (VDP, DBS/TV, AV AUX, MONITOR, VIDEO 1, VIDEO 2, VIDEO 3)

S-VIDEO (Luminance signal) 1Vp-p/75 Ω
(Chrominance signal) 0.286Vp-p/75 Ω
Output (VDP, AV AUX, MONITOR, VIDEO 2, VIDEO 3)

GENERAL

Power consumption

..... 3 A (For U.S.A. and Canada)

AC outlets

SWITCHED 3: (For U.S.A.: Total 200 W max.)
(For Canada: Total 200 W, 1.7A max.)

Dimensions W: 440 mm (17-5/16")
H : 162 mm (6-3/8")
D : 432 mm (17")

Weight (Net) 13.4 kg (30 lb)

Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Specifications (For other countries)

AUDIO section

STEREO MODE

Continuous rated power output

60 watts per channel minimum RMS, both channels driven, at 8 Ω from 20 Hz to 20,000 Hz with no more than 0.08 % total harmonic distortion. (FTC)

[SURROUND MODE]

Continuous rated power output

Front (1kHz, 0.2 % T.H.D. at 8Ω). 50 W + 50 W
Center (1kHz, 0.2 % T.H.D. at 8Ω). 50 W
Rear (1kHz, 0.2 % T.H.D. at 8Ω). 25 W + 25 W

Total harmonic distortion

0.08 % (20 Hz – 20 kHz, 60 W, 8Ω)
0.03 % (1 kHz, 60 W, 8Ω)

Frequency response

LINE (CD, TUNER, AUX, TAPE)

..... 5 Hz – 100 kHz, +0 dB, –3dB

PHONO 'RIAA' response 20 Hz – 20 kHz,
+0 dB, –3 dB

Maximum input level

PHONO (MM)..... 110 mV, 0.08 % T.H.D. at 1 kHz

Signal to noise ratio

PHONO (MM).....78 dB (IHF'66)/79 dB (IHF'78)
LINE (CD, TUNER, AUX, TAPE)
..... 100 dB(IHF'66)/84 dB (IHF'78)

Input sensitivity/Impedance

PHONO (MM).....2.5 mV/ 47 kΩ
LINE (CD, TUNER, AUX, TAPE)200 mV/47 kΩ

Tone control

BASS ±10 dB (at 100Hz)
TREBLE ±10 dB (at 10kHz)

Output level/Impedance

TAPE REC 200 mV/800 Ω
PRE OUT 1 V/600 Ω
Center channel preout 1 V/600 Ω
Rear channel preout 1 V/600 Ω
SUB WOOFER PREOUT 2 V/600 Ω (50Hz)

VIDEO section

Input level/Impedance

VIDEO (composite) 1Vp-p/75Ω
Input (VDP, DBS/TV, AV AUX, VIDEO 1, VIDEO 2,
VIDEO 3)

S-VIDEO (Luminance signal) 1Vp-p/75Ω
(Chrominance signal) 0.286Vp-p/75Ω
Input (VDP, AV AUX, VIDEO 2, VIDEO 3)

Output level/Impedance

VIDEO (composite) 1Vp-p/75Ω
Output (VDP, DBS/TV, AV AUX, MONITOR,
VIDEO 1, VIDEO 2, VIDEO 3)
S-VIDEO (Luminance signal) 1Vp-p/75Ω
(Chrominance signal) 0.286Vp-p/75Ω
Output (VDP, AV AUX, MONITOR, VIDEO 2,
VIDEO 3)

GENERAL

Power consumption 300 W (IEC)

AC outlet

SWITCHED 200 W max.

Dimensions W: 440 mm (17-5/16")
H : 162 mm (6-3/8")
D : 432 mm (17")

Weight (Net) 13.4 kg (30 lb)

Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

KENWOOD