

KENWOOD

AV SURROUND PROCESSOR SS-3300

INSTRUCTION MANUAL

KENWOOD CORPORATION

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 _____

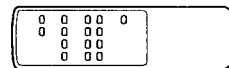
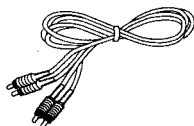
Unpacking

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.

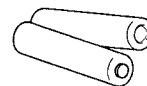
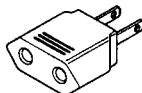
We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Accessories

Audio cord 2 Remote control unit 1






AC plug adaptor 1 Batteries (R6/AA) 2
(Except for U.K., Australia and Europe)



Contents




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

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Special feature

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

This system incorporates the following Surround functions which can provide the feeling of presence in a concert hall or theater or the powerful effects of theater movies recorded in Dolby Surround.

- 1.  **PRO LOGIC** : When video software carrying “  **DOLBY SURROUND** ” mark is played, this mode provides the Dolby Surround effect as heard in movie theaters.
- 2.  **3 STEREO** : The Dolby 3 Stereo mode uses an additional center speaker to improve the positioning of dialogue, etc., on stereo TV broadcasts.
- 3. **HALL/THEATER** : **HALL** A powerful sound effect, as if the listener is in a concert hall, can be obtained.
THEATER A natural reverberation effect, like when viewing a movie in a movie theater, can be obtained with sources which are not recorded in Dolby Surround.

Before applying power

Units are designed for operation as follows.

- U.S.A. and Canada** 120 V only
- U.K. and Australia** 240 V only
- Europe (Except for U.K.)** 230 V only
- * Other countries** 110-120 / 220-240 V switchable

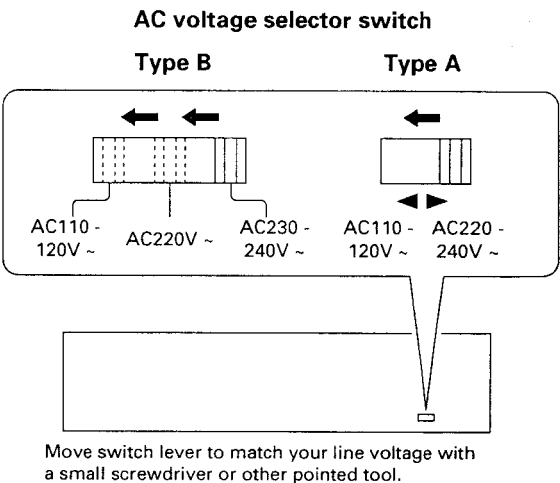
For the United Kingdom

Factory fitted moulded mains plug

- The mains plug contains a fuse. For replacement, use only a 13-Amp ASTA-approved (BS1362) fuse.
- The fuse cover must be refitted when replacing the fuse in the moulded plug.
- Do not cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home, or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or adaptor, or consult your dealer. If nonetheless the mains plug is cut off, remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

* AC voltage selection





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.



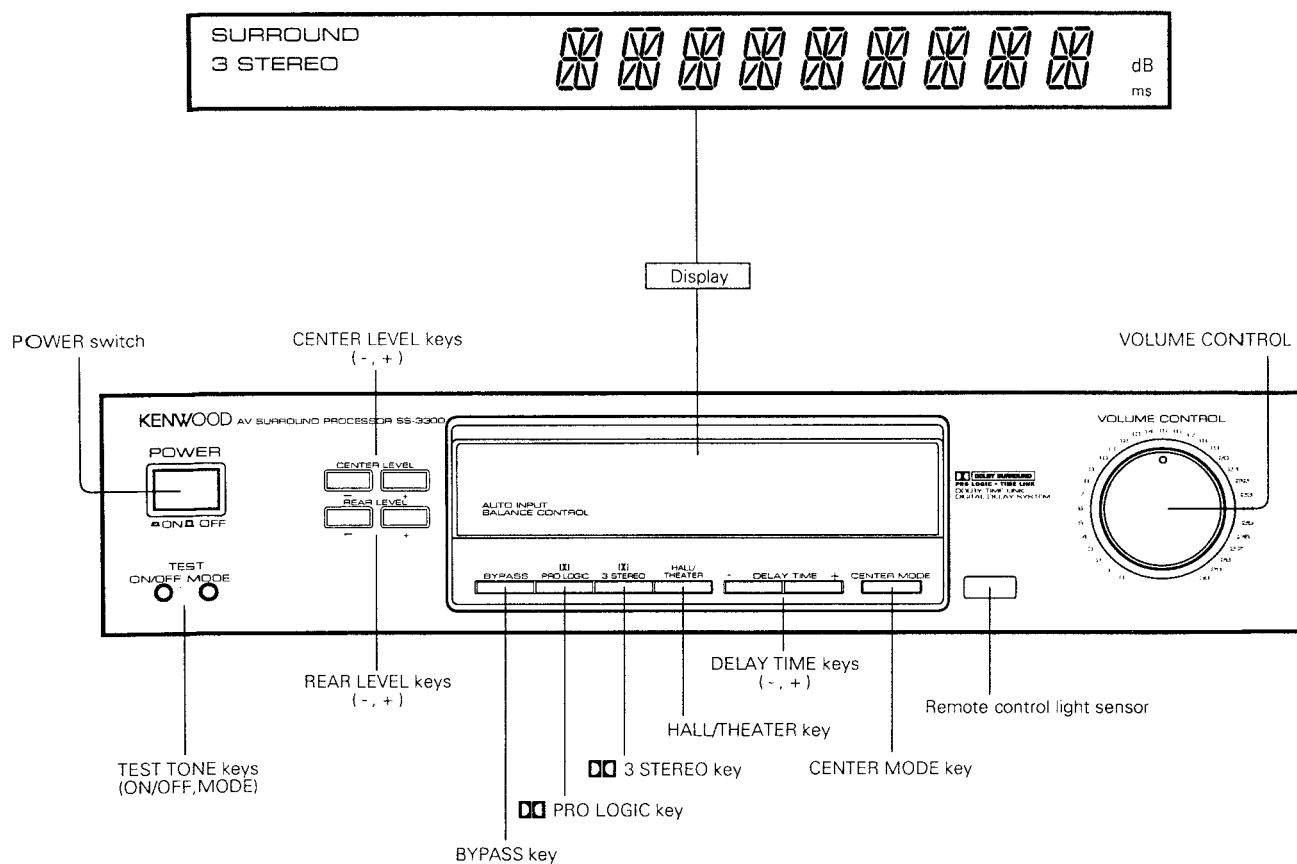
Note:
Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

Safety precautions

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

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN		CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.		
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.		

Controls and indicators



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.

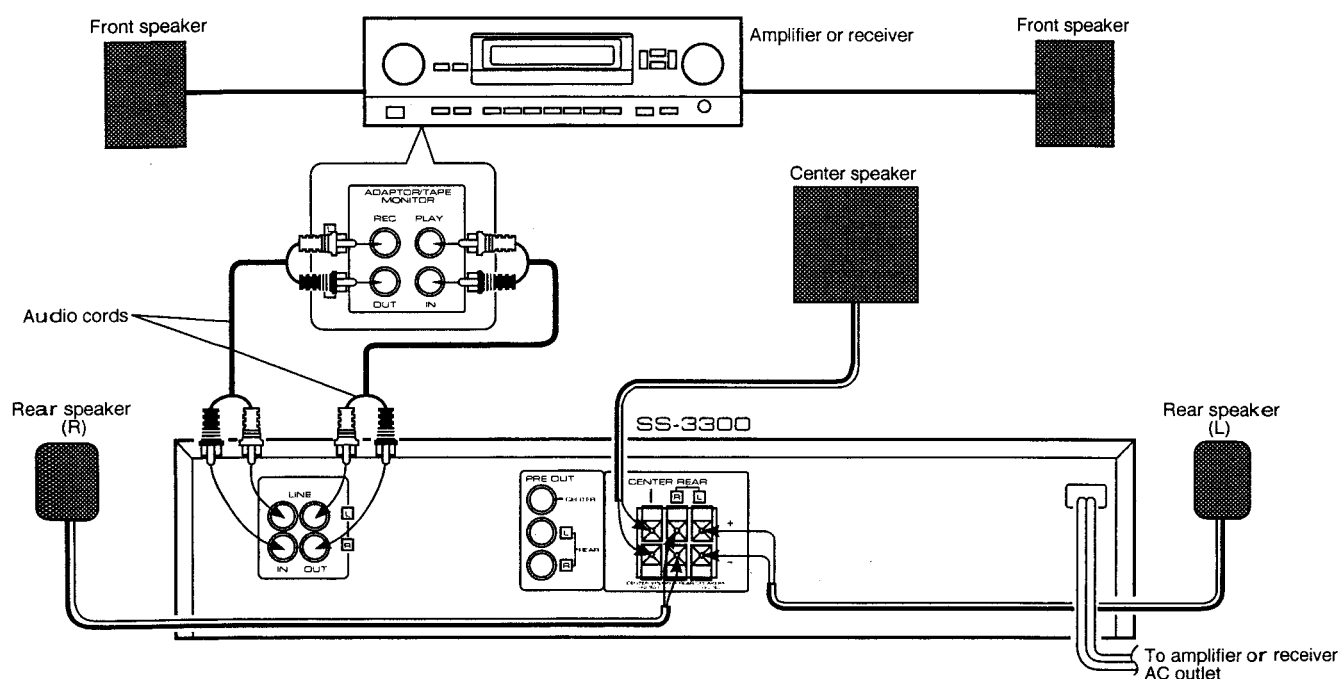
System connections

Make connections as shown below. 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.

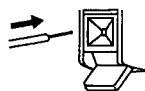
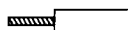
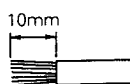
■ Connection with an amplifier or a receiver which has ADAPTOR or TAPE MONITOR jacks

When the unit has a TAPE MONITOR switch, be sure to set the MONITOR switch to turn on.



Speaker connections

- ① Remove insulation.
- ② Twist wire tightly.
- ③ Push the lever.
- ④ Insert the wire.
- ⑤ Return the lever.



- Connect speakers rated at 8 ohm or more to the SPEAKERS terminals.
- Never short-circuit the + and - speaker cords.
- If the left and right speakers are connected inversely or if the speaker cords are connected with reversed polarity, the sound becomes unnatural with ambiguous acoustic image positioning. Be sure to connect the speakers and speaker cords correctly.

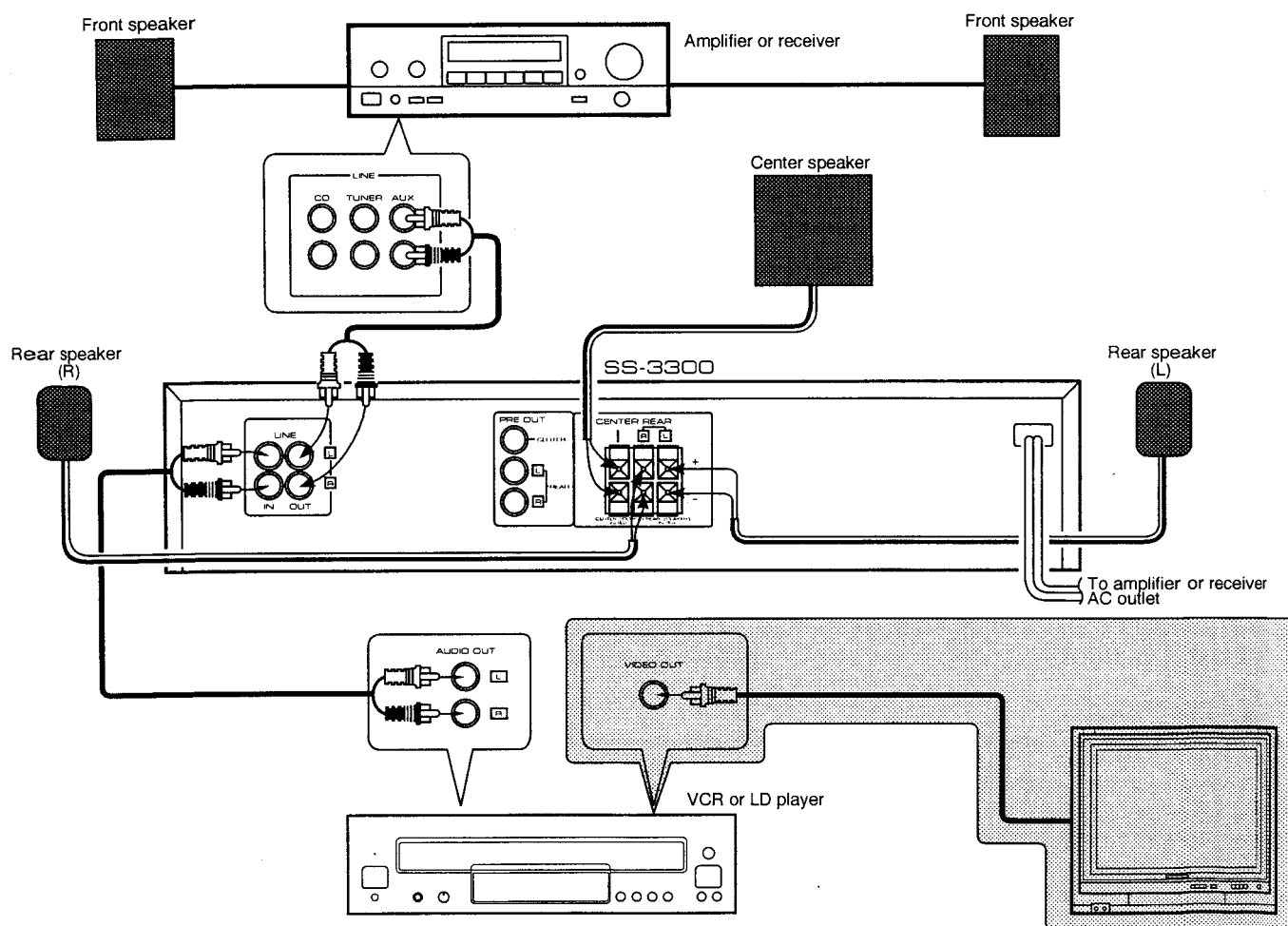
Notes:

1. Connect all cords firmly. If connections are loose, there could be loss of sound or noise produced.
2. When plugging and unplugging connection cords, 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.
3. Do not connect up a power source which is larger than that indicated on the socket at the rear of the unit.

■ Connection with an amplifier or a receiver which does not have TAPE MONITOR or ADAPTOR jacks

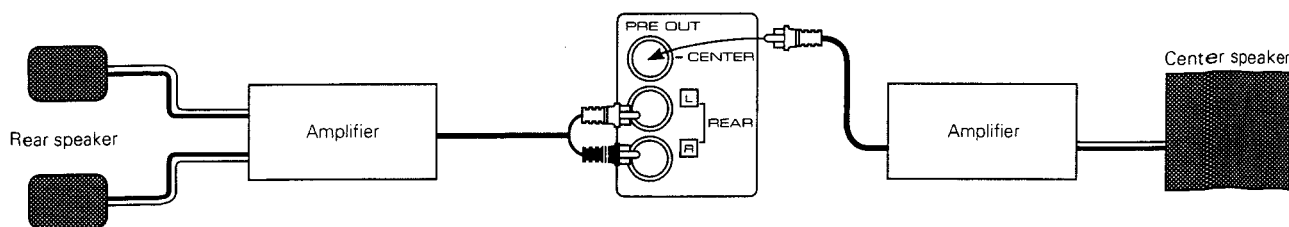
Unplugged line jacks such as AUX jacks can be used for the connection.

In such a case, only the VCR or LD player which is directly connected to this unit can be useful for the surround sound effect.



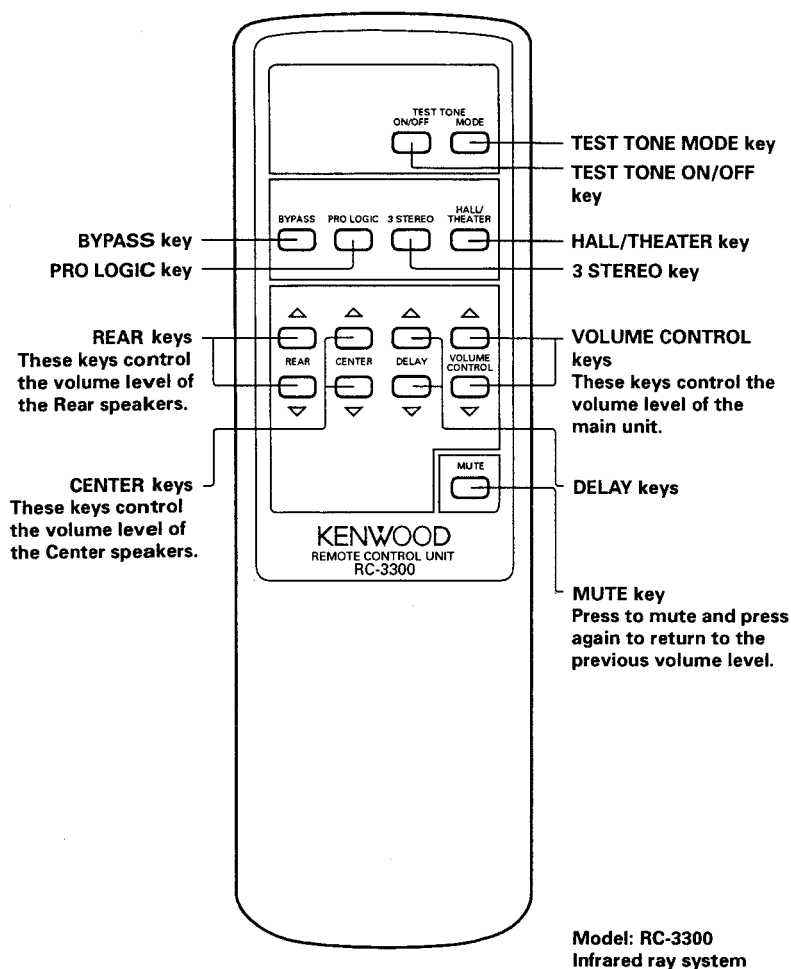
Connection of PRE OUT jacks

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 amplifiers or to exclusive amplifiers to which the speakers are connected.



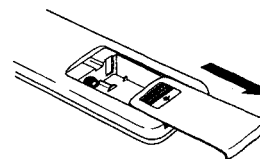
- Use these jacks if you require more power for a large room installation.

Remote control operation

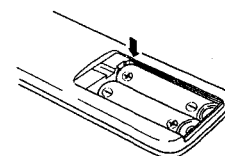


■ Loading batteries

1 Remove the cover.

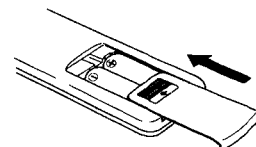


2 Insert batteries.



Insert two batteries (R6/AA) as indicated by the polarity marking.

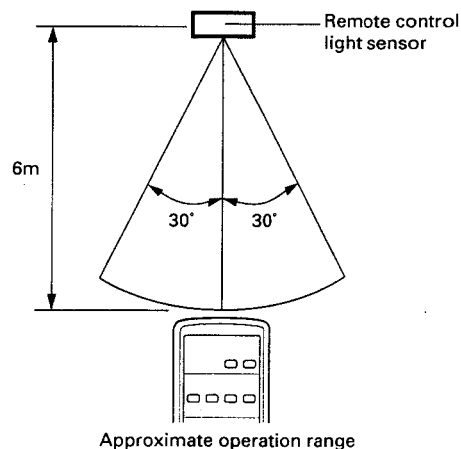
3 Close the cover.



- All of the keys except MUTE key correspond to those of the main unit.
- The CENTER MODE key of the main unit is not available on the remote control.

■ Operation

The coverage angle and distance varies depending on the temperature and humidity. Refer to the following illustration for the approximate operation range.



- When pressing the remote control operation keys, press them securely, leaving an interval of more than 1 second between them.

Notes:

1. The supplied batteries are intended for use in checking the operation of the unit and may have a short life.
2. When operating distance range of the remote control unit becomes noticeably shorter, replace both batteries with new ones.
3. Malfunction may occur in case direct sunlight or the light of a high-frequency lighting fluorescent lamp enters the remote control light receptor. In such a case, change the installation position of the unit so that the malfunction does not occur.

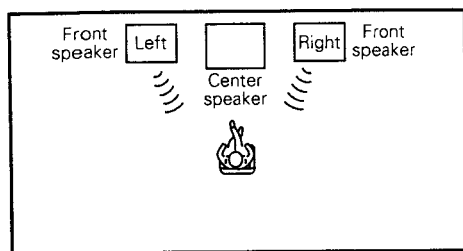
Operating instructions

■ Speaker arrangements

Surround (rear) speakers can be placed with various arrangements according to the listening room size and its reverberation characteristics. The example shown in the illustration is a typical example among several arrangements which provide efficient enjoyment of Surround effects. In addition to it, other arrangements are also possible. Please install the rear speakers according to your individual taste as well as to the listening room.

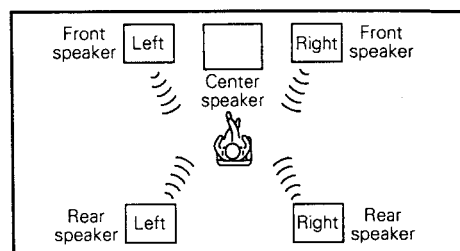
When the rear speakers are not used

DOLBY 3 STEREO mode



Standard layout

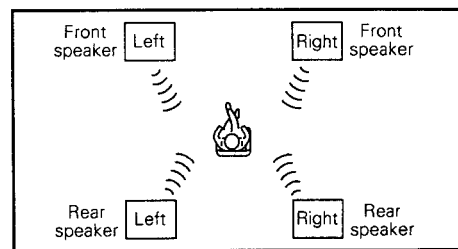
DOLBY PRO LOGIC mode (NORMAL/WIDEBAND)



Note: Always use a magnetically shielded center speaker.

When the center speaker is not used

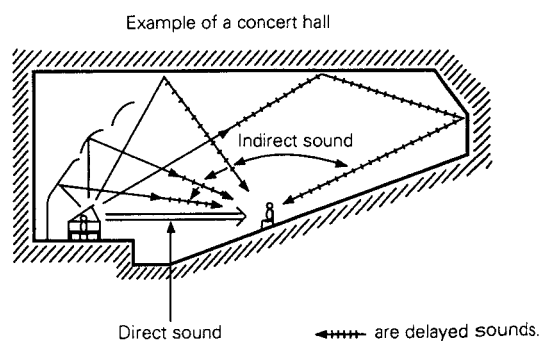
DOLBY PRO LOGIC mode (PHANTOM), HALL/THEATER




Delay time

As shown in the illustration, the sound of a piano played on the stage reaches the listener's ears as a combination of the direct sound from the piano, the indirect sounds which are reflected once or twice by the reflectors, ceiling and side and back walls, and the reverberation sounds which are reflected repeatedly until they fade out completely. The indirect sounds always take longer routes than 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 that you try various delay time settings to obtain the best sound field possible.

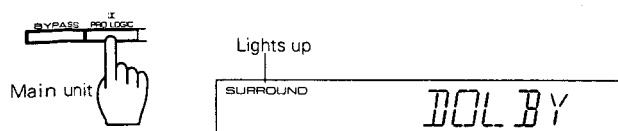


Manufactured under license from Dolby Laboratories Licensing Corporation.

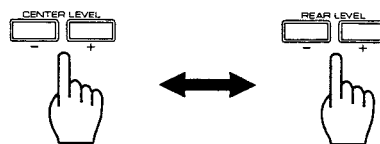
DOLBY and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

■ Dolby Surround field adjustment (DOLBY PRO LOGIC)

1 Set the Dolby Surround mode.

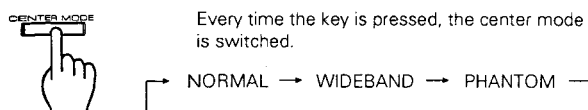


② Adjust the volume balance.



- Repeat steps ① and ②, and adjust so that the test tone volumes are the same on all speakers.
- The level being adjusted is displayed.

2 Select the center mode.

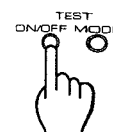


- Refer to column "Center mode" below.

3 Turn on the test tone.

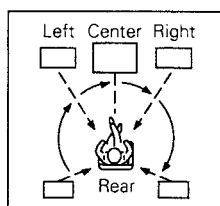
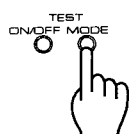


5 Stop generating the test tone.



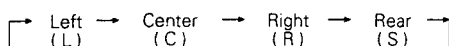
4 Adjust the volume balance.

① Press the MODE key.

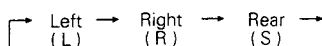


- Every time the key is pressed, the speaker generating the noisy test tone is changed.
(Holding the key pressed switches the test tone automatically every 2 seconds.)

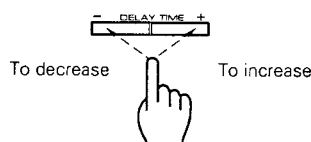
In NORMAL or WIDEBAND mode :



In PHANTOM mode :

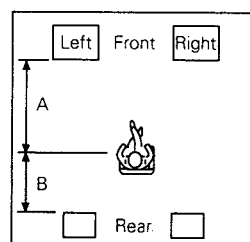


6 Set the delay time.



20 ms

- Calculate the proper delay time for Dolby Surround by referring to the illustration below.
- The delay time can be adjusted in the range from 15 to 30 ms.
- Once a delay time is set, it is automatically held in memory so the same delay time is displayed whenever Dolby Surround is switched ON later.



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

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

Center mode

Select one of the following center modes according to the type of the presence speakers in your system.

NORMAL : Use this mode with a center speaker of a compact size.

WIDEBAND : Use this mode with a center speaker of a medium or larger size.

- If you cannot identify whether your center speaker is of the medium or compact size, try both the NORMAL and WIDEBAND mode and use the one that can provide better sound positioning.

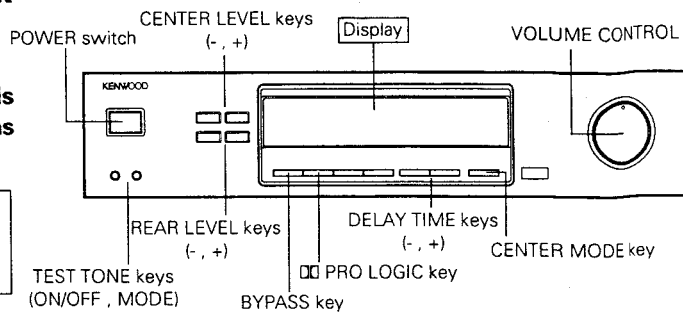
PHANTOM : Use this mode when the center speaker is not used.

- Even without the center speaker, the signal is processed in a simulated manner to ensure proper center image positioning and provide the enjoyment of Dolby Surround.

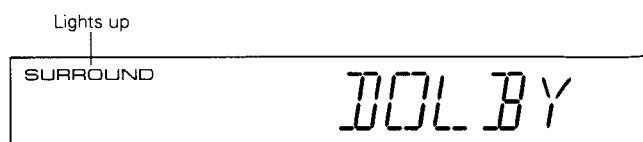
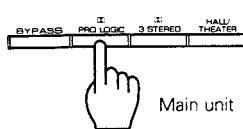
■ Operation of Dolby Surround playback (DOLBY PRO LOGIC)

When video software carrying "DOLBY SURROUND" mark is played, this mode provides the Dolby Surround effect as heard in movie theaters.

Before using the Dolby PRO LOGIC mode, be sure to perform the "Dolby Surround field adjustment" procedure.



1 Set the Dolby Surround mode.



2 Check the center mode.

- Normally, the last mode used is held in memory. If it is different from the required mode, select the mode which was used in step 2 of the "Dolby Surround field adjustment" (page 8).

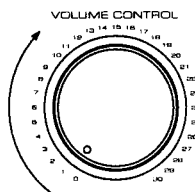


Every time the key is pressed, the center mode is switched.

NORMAL → WIDE BAND → PHANTOM

3 Play a software program encoded with Dolby Surround.

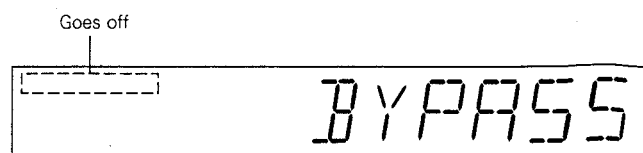
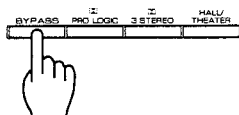
4 Adjust the volume.



Adjusts the overall volume.

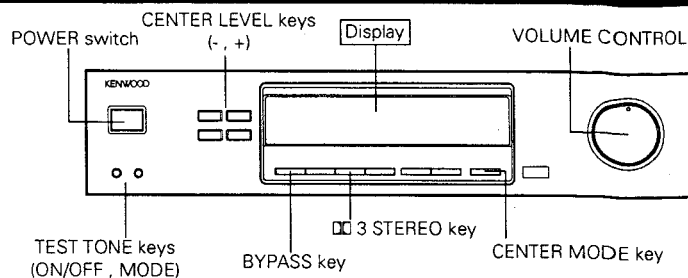
- When the level balance of center and rear speakers is not good, perform the "Dolby Surround field adjustment" procedure again.

To return to normal stereo playback.



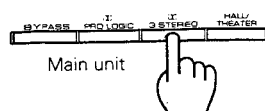
Operating instructions

The Dolby 3 Stereo mode uses an additional center speaker to improve the positioning of dialogue, etc., on stereo TV broadcasts.



■ DOLBY 3 STEREO adjustment

1 Set the 3 STEREO mode.



Lights up — 3 STEREO

2 Select the center mode.

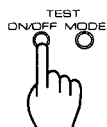
Every time the key is pressed, the center mode is switched.

NORMAL ↔ WIDEBAND



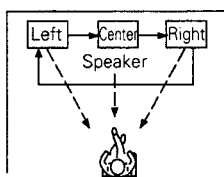
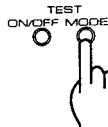
- Set the center mode to NORMAL if using a small center speaker, or set to WIDEBAND if using a medium-sized or larger speaker.

3 Turn on the test tone.



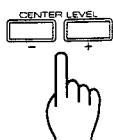
4 Adjust the center speaker volume.

① Press the MODE key.



- Every time the key is pressed, the speaker generating the test tone is changed. (Holding the key pressed switches the test tone automatically every 2 seconds.)

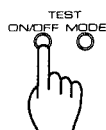
② Adjust the volume.



- Repeat steps ① and ②, and adjust so that the level of the center speaker is equal to that of the left and right speakers.

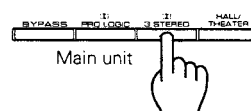
5 Stop generating the test tone.

Press the TEST TONE ON/OFF key.



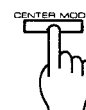
■ DOLBY 3 STEREO playback

1 Set the 3 STEREO mode.



Lights up — 3 STEREO

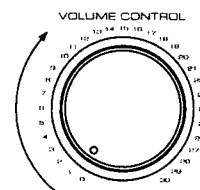
2 Check the center mode.



- Normally, the last mode used is held in memory. If it is different from the required mode, select the mode which was used in step 2 of the "3 STEREO adjustment".

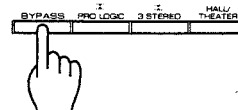
3 Play a stereo software program or a Dolby surround program.

4 Adjust the volume.

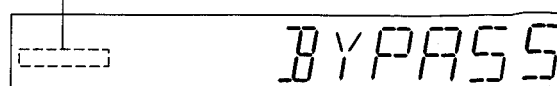


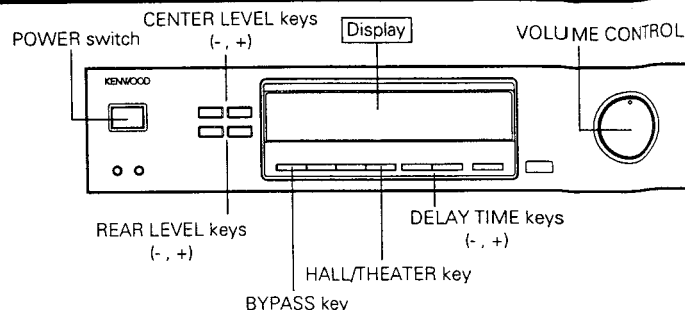
Adjusts the overall volume.

To return to normal stereo playback



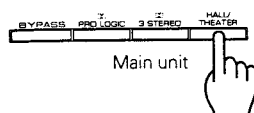
Goes off





■ HALL/THEATER Surround play

1 Select the Surround mode.



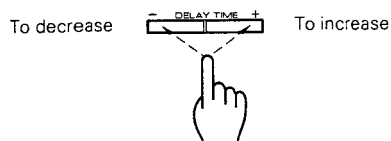
Every time the key is pressed, the surround mode is switched.

HALL ↔ THEATER

HALL

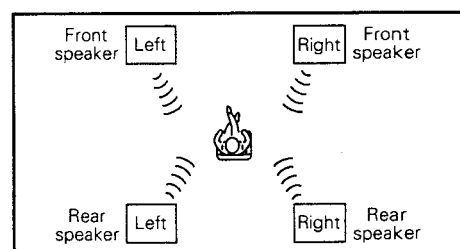
- When the source is monaural, select "HALL".

2 Set the delay time.



DELAY 20 ms

- The delay time can be adjusted in the range from 2 to 30 ms.
- The delay time is displayed when the DELAY TIME key is pressed. It can be adjusted in 1.0 ms step every time the key is pressed.
- When the delay time is decreased : An atmosphere of a small hall, for example a jazz club, can be obtained.
- When the delay time is increased : An atmosphere of a large hall, for example a concert hall, can be obtained.

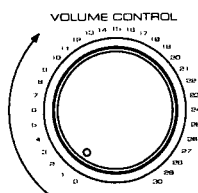


3 Play a music source.

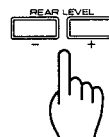
① Play a music source.

② Adjust the listening volume.

③ Adjust the rear speaker volume.

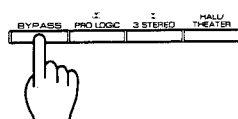


Adjusts the overall volume.



REAR -- 10 dB

To return to normal stereo playback from Surround playback



BYPASS

In case of difficulty

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

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
Sound is not output.	<ul style="list-style-type: none"> • The speaker cords are disconnected. • The VOLUME is set to the minimum position. • The audio cords are disconnected. • The MUTE key of the remote control unit is set to ON. 	<ul style="list-style-type: none"> • Connect them properly referring to "System connections". • Adjust the volume to a proper level. • Check the audio cords connections. • Press the MUTE key to OFF.
Sound is not output from the Surround rear speaker and/or their sound is very small.	<ul style="list-style-type: none"> • The rear-speaker cords are disconnected. • The REAR LEVEL is set to the minimum level. • The BYPASS mode has been set. Or the Dolby 3 STEREO mode has been selected. • The audio source is monaural. (When the audio source is monaural, sound is not output from the rear speakers when the unit is set to the DOLBY SURROUND or THEATER surround position.) 	<ul style="list-style-type: none"> • Connect them properly referring to "System connections". • Adjust the REAR LEVEL controls. • Select a Surround mode (DOLBY SURROUND, HALL or THEATER). • Set the surround position to HALL.
Remote control operation is not possible.	<ul style="list-style-type: none"> • Batteries are exhausted. • The audio cords are not connected properly. • The remote control unit is too far away from the main system, controlling angle is too large, or there is an obstacle in between. 	<ul style="list-style-type: none"> • Replace with new batteries. • Connect properly referring to "System connections". • Operate the remote control unit within the controllable range.

Notes:

1. This system is microprocessor-controlled, so malfunction may occur due to external noise or interference noise. In such a case, unplug the power cord, plug it and turn power on again.
2. Do not use contact cleaners because it could cause a malfunction. Be specially careful against contact cleaners containing oil, for they may deform the plastic components.

Specifications

Power Output

Continuous Rated Power Output

For the U.K. and Europe

Center DIN 1 kHz, 0.7 % T.H.D. at 8Ω 37 W

Rear DIN 1 kHz, 0.7 % T.H.D. at 8Ω 15 W + 15 W

For other countries

Center EIAJ 1 kHz, 10 % T.H.D. at 8Ω 45 W

Rear EIAJ 1 kHz, 10 % T.H.D. at 8Ω 19 W + 19 W

Total harmonic distortion

Center 0.08 % (1 kHz, 17.5 W, 8 Ω)

Rear 0.08 % (1 kHz, 7.5 W + 7.5 W, 8 Ω)

Frequency Response

(LINE OUT) 10 Hz ~ 40 kHz, 0 dB, -3 dB

Signal to Noise Ratio

(LINE OUT) 95 dB (IHF A)

Input Sensitivity/Impedance 200 mV/47 kΩ

Output Level/Impedance

LINE OUT 1 V/2.2 kΩ

PRE OUT (Center, Rear) 1 V/2.2 kΩ

General

Power Consumption 90 W

Dimensions W : 440 mm (17 - 5/16")

H : 99 mm (3 - 7/ 8")

D : 285 mm (11 - 1/ 4")

Weight (net) 5.6 kg (12.3 lb)

Note:

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