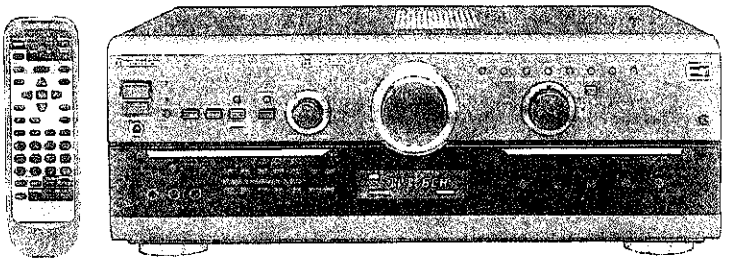
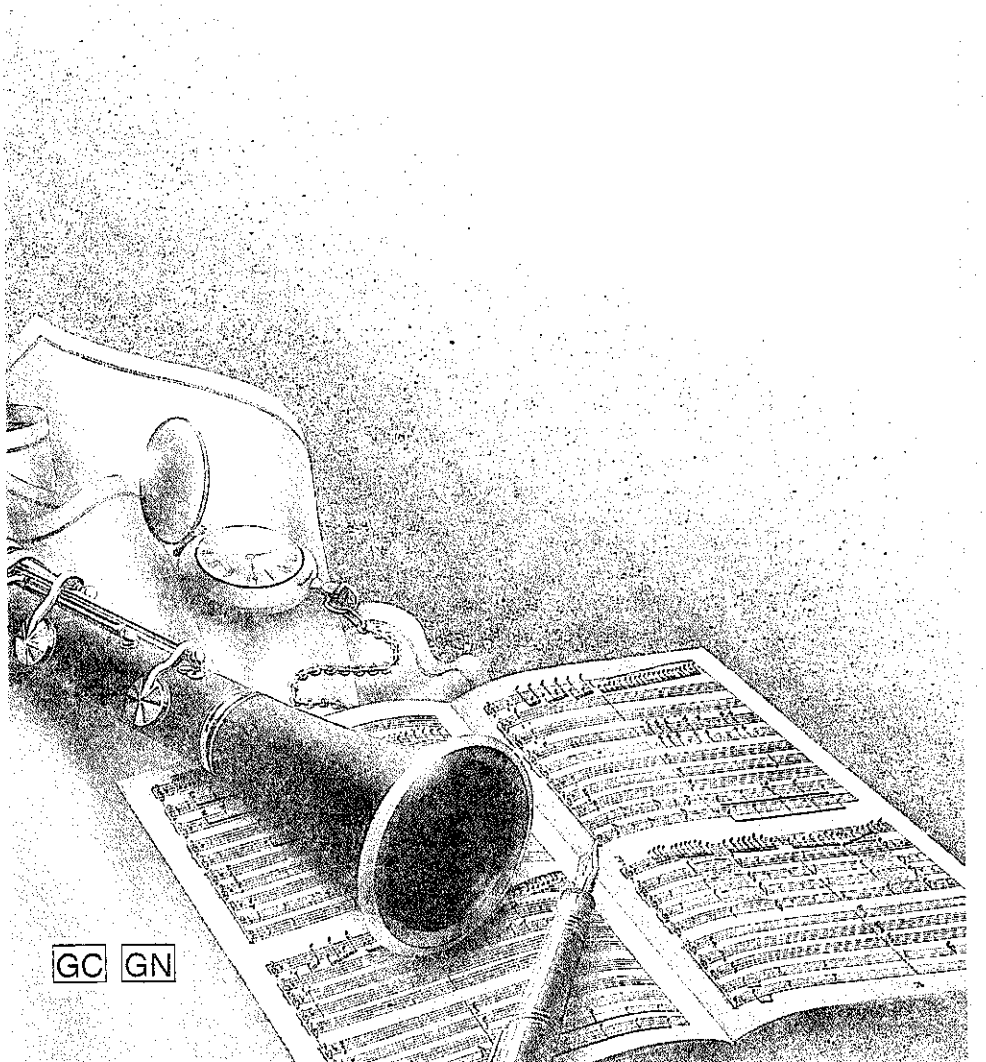
*AV Control Stereo Receiver*

Technics®

# *SA-AX6*

Operating Instructions



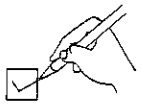


GC GN

Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

RQT4465-L

## *Supplied accessories*



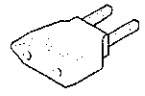
Please check and identify the supplied accessories.

☐ AC power supply cord (1)

**(For Australia and N.Z.)**

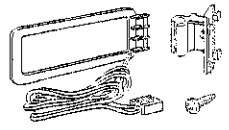
**(For others)**

☐ Power plug adaptor (1)

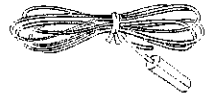


**(For areas except Australia and N.Z.)**

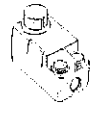
☐ AM loop antenna set
- AM loop antenna (1)
- AM loop antenna holder (1)
- Screw (1)



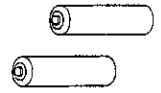
☐ FM indoor antenna (1)



☐ Antenna plug (1)



☐ Batteries (2)



☐ Remote control transmitter (1)

(EUR646469)

## *Dear Customer*

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.

**(For areas except Australia and N.Z.)**

**CAUTION:**
**The AC voltage is different according to the area.**
**Be sure to set the proper voltage in your area before use.**
**(For details, please refer to the page 9.)**

# *Table of contents*

# Suggestions for safety

## Placement

Avoid placing the unit in areas of:
- direct sunlight
- high temperature
- high humidity
- excessive vibration
- uneven surfaces (Place the unit on a flat level surface.)

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

## Stacking

Never place heavy items on top of the unit or the AC power cord.

## Voltage

- It is very dangerous to use an AC power source of high voltage such as for an air conditioner.
  A fire might be caused by such a connection.
- A DC power source can not be used.
  Be sure to check the power source carefully, especially if on a ship or other place where DC is used.

## Power cord protection

- Avoid cuts, scratches or poor connection of the AC power cord, as this may result in fire or electric shock.
  Excessive bending, pulling or slicing of the cord should also be avoided.
- Do not pull on the cord when you are disconnecting the power, as this could cause an electric shock. Grasp the plug firmly when you disconnect the power supply.
- Never touch the plug with wet hands or a serious electric shock could result.

## Foreign materials

- Ensure that no foreign objects, such as needles, coins, screwdrivers etc., accidentally fall into the unit.
  Otherwise, a serious electric shock or malfunction could occur.
- Be extremely careful about spilling water or liquid on/into the unit, as a fire or electric shock could occur.
  (Disconnect the power plug and contact your dealer immediately if this occurs.)
- Avoid spraying insecticides onto the unit as they contain flammable gases which can be ignited.
- Insecticides, alcohol, paint thinner and similar chemicals should never be used to clean the unit as they can cause flaking or cloudiness to the cabinet finish.

## Service

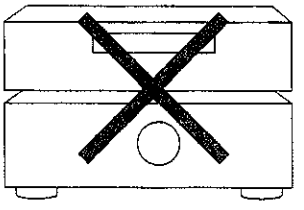
- Never attempt to repair, disassemble or reconstruct the unit if there seems to be a problem.
  A serious electric shock could result if you ignore this precautionary measure.
- If a problem occurs during operation (the sound is interrupted, indicators fail to light up, smoke is detected, etc.) contact your dealer or Authorized Service Center immediately.
- Disconnect the power supply if the unit will not be used for a long time. Otherwise the operation life could be shortened.

**CAUTION!**

**DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT IN CABINET OR IN ANOTHER CONFINED SPACE IN ORDER TO KEEP WELL VENTILATED CONDITION. ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION CONDITION TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING.**

**CAUTION**

Do not place a tape deck or CD player on top of this unit.
Heat radiated from the top of this unit may cause damage to the tape or CD software.

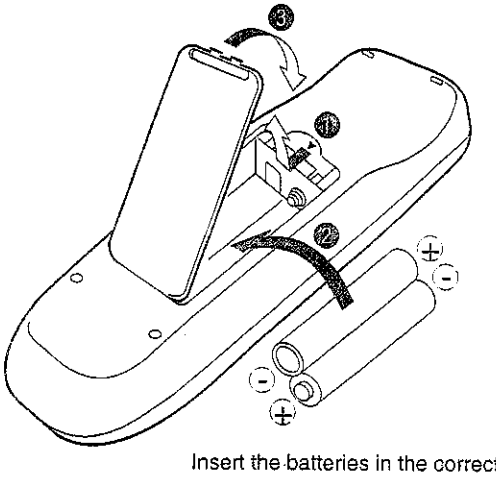


NO

## Concerning the remote control

### Battery installation

A



Insert the batteries in the correct polarities (⊕, ⊖).

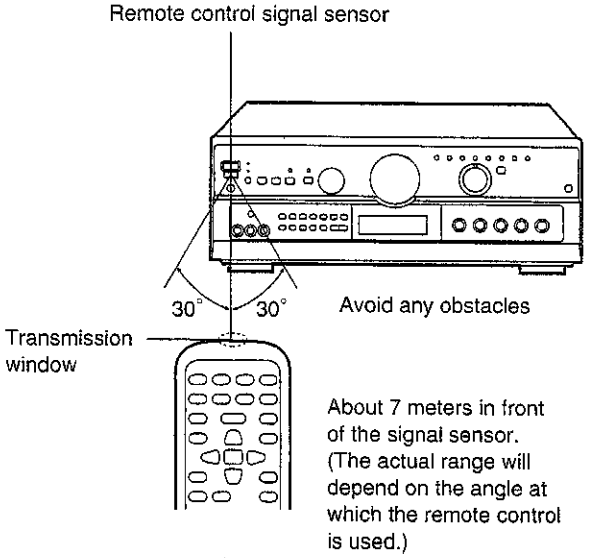
- Thoroughly clean the battery compartment before inserting new batteries.
- Do not mix old and new batteries, or batteries of different types (carbon and alkaline, etc.).
- If you will not use the remote control for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not use rechargeable type batteries.
- Do not attempt to recharge alkaline or carbon batteries.
- Always remove old, weak or worn-out batteries promptly and dispose of them properly.
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the leaking electrolyte comes into contact with skin or clothes, flush with water immediately.

**When you need to replace these batteries**

Use two R6/LR6, AA, UM-3 batteries.

### Method for use

B

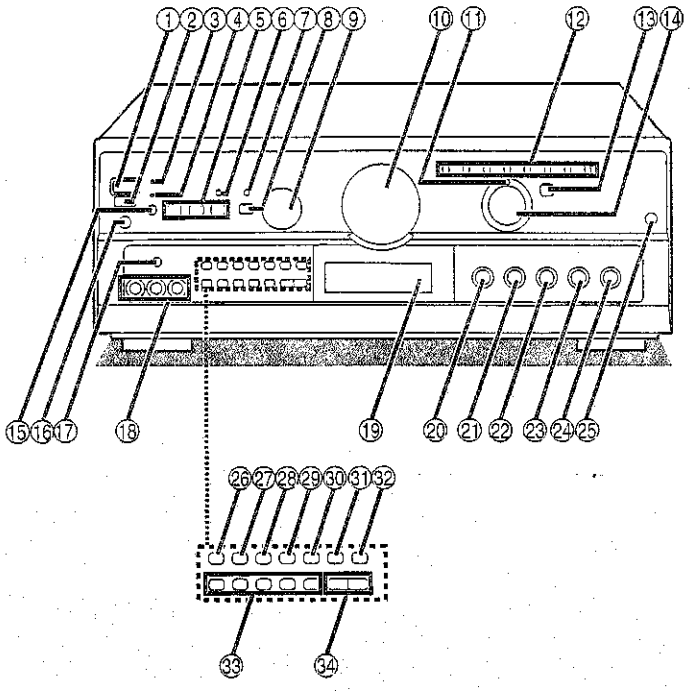



**Note**

Be sure the transmission window and the signal sensor are free from dust. Excessive dust might effect performance.

The operation may not be correct if direct sunlight or other strong light source strikes the signal sensor of this unit. If there is a problem, place the unit away from the light source.

## *Front panel controls*




① **Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② **Remote control signal sensor**

③ **"STANDBY" indicator (STANDBY)**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

④ **Wake timer indicator (WAKE)**

⑤ **Speaker select buttons (SPEAKERS A, B, BI-WIRE)**

⑥ **Bi-amp indicator (BI-AMP)**

⑦ **Subwoofer adaptive control indicator (SUBWOOFER ADAPTIVE CONTROL)**

⑧ **Subwoofer adaptive control ON/OFF button**

⑨ **Subwoofer level control (SUBWOOFER LEVEL)**

⑩ **Volume control (VOLUME)**

⑪ **DVD 6ch input indicator**

⑫ **Input indicators**

⑬ **DVD 6ch input select button (DVD 6CH INPUT)**

⑭ **Input selector (INPUT SELECTOR)**

⑮ **Timer setting button (TIMER)**

⑯ **Headphones jack (PHONES)**

⑰ **TV/VCR 2 input select button (TV, VCR 2)**

⑱ **VCR 2 input terminals (VCR 2)**

⑲ **Display**

⑳ **Bass control (BASS)**

㉑ **Treble control (TREBLE)**

㉒ **Balance control (BALANCE)**

㉓ **Bi-amp balance control (BI-AMP BALANCE)**

㉔ **Subwoofer low pass filter control (SUBWOOFER LOW PASS FILTER)**

㉕ **Front cover open button (PUSH OPEN)**

㉖ **DOLBY PRO LOGIC/SFC OFF/ON button (OFF/ON)**

㉗ **DOLBY PRO LOGIC mode select button (DD PRO LOGIC)**

㉘ **Delay time adjust button (DELAY TIME)**

㉙ **Center mode select button (CENTER MODE)**

㉚ **Band/FM mode select button (-BAND, -FM MODE)**

㉛ **Radio station presetting button (PRESET)**

㉜ **Memory button (MEMORY)**

㉝ **Sound field control buttons (SFC HALL CLUB LIVE THEATER SIMULATED)**

㉞ **Tuning buttons (TUNING)**

## *Equipment connections*

Make sure that the power supply for all components has been turned off before making any connections.

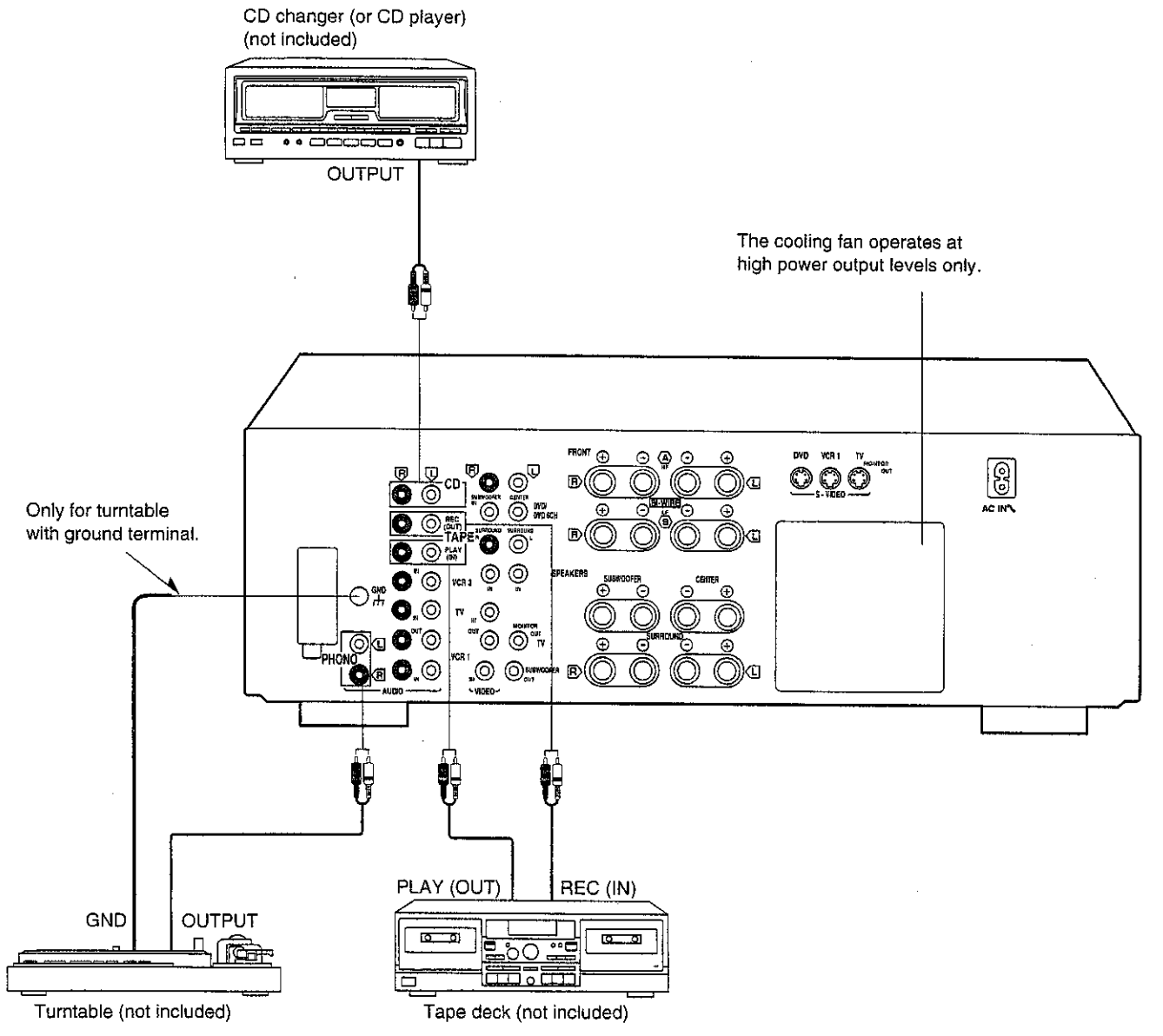
**Refer to the operating instructions of the equipment to be connected.**

**Note**

Do not place books, etc., on the top of this unit or block the heat radiation vents in any way.

### Connecting audio equipment

**Stereo connection cable** (not included)
White (L)
Red (R)



## To connect video equipment

**Stereo connection cable** (not included)
White (L)
Red (R)

**Video connection cable** (not included)

VCR (for playback only) (not included)

TV (not included)

AUDIO OUT
VIDEO OUT
AUDIO OUT
VIDEO OUT
VIDEO IN

AUDIO IN
AUDIO OUT
VIDEO IN
VIDEO OUT

VCR (not included)

**Connecting to the VCR 2 terminals on the front panel**

Camcorder, etc. (not included)

AUDIO OUT
VIDEO OUT

## To connect video equipment with a 21 pin terminal

(AUDIO OUT)
(VIDEO OUT)
(VIDEO IN)

AV IN
TV (not included)

21 pin scart cables (not included)

AV IN
VCR (not included)

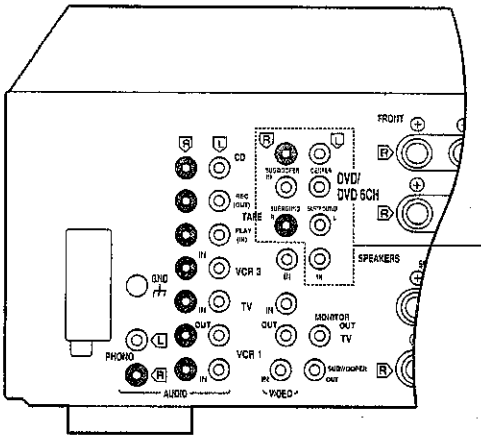
(VIDEO OUT)
(VIDEO IN)
(AUDIO OUT)
(AUDIO IN)

## Connecting a DVD player

**Stereo connection cable** (not included)
White (L)
Red (R)

**Monaural connection cable** (not included)

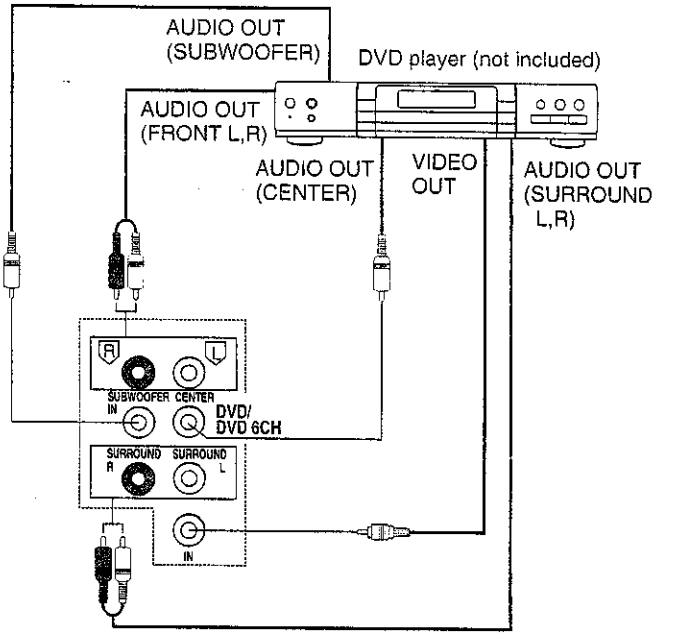
**Video connection cable** (not included)



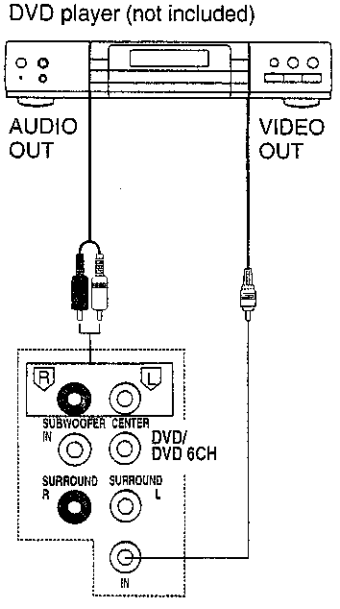

**Note**

If you want to connect a DVD player with DISCRETE 6CH output using only 2 channels, make the connection through the DVD player's MIXED AUDIO OUT terminals and this unit's DVD/DVD 6CH L and R terminals.
Do not connect any cables to this unit's DVD/DVD 6CH CENTER, SUBWOOFER IN, or SURROUND L and R terminals.

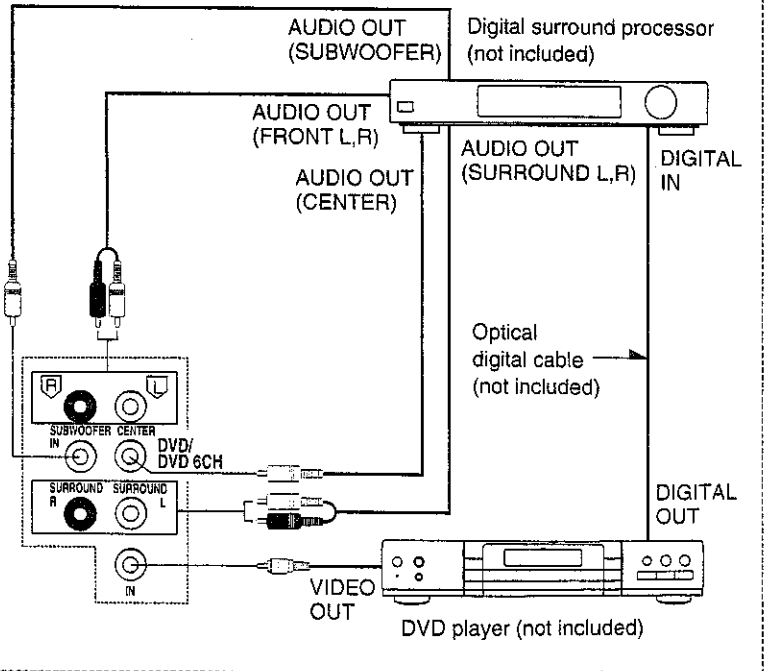
### Connecting a DVD player with 6 channel discrete output

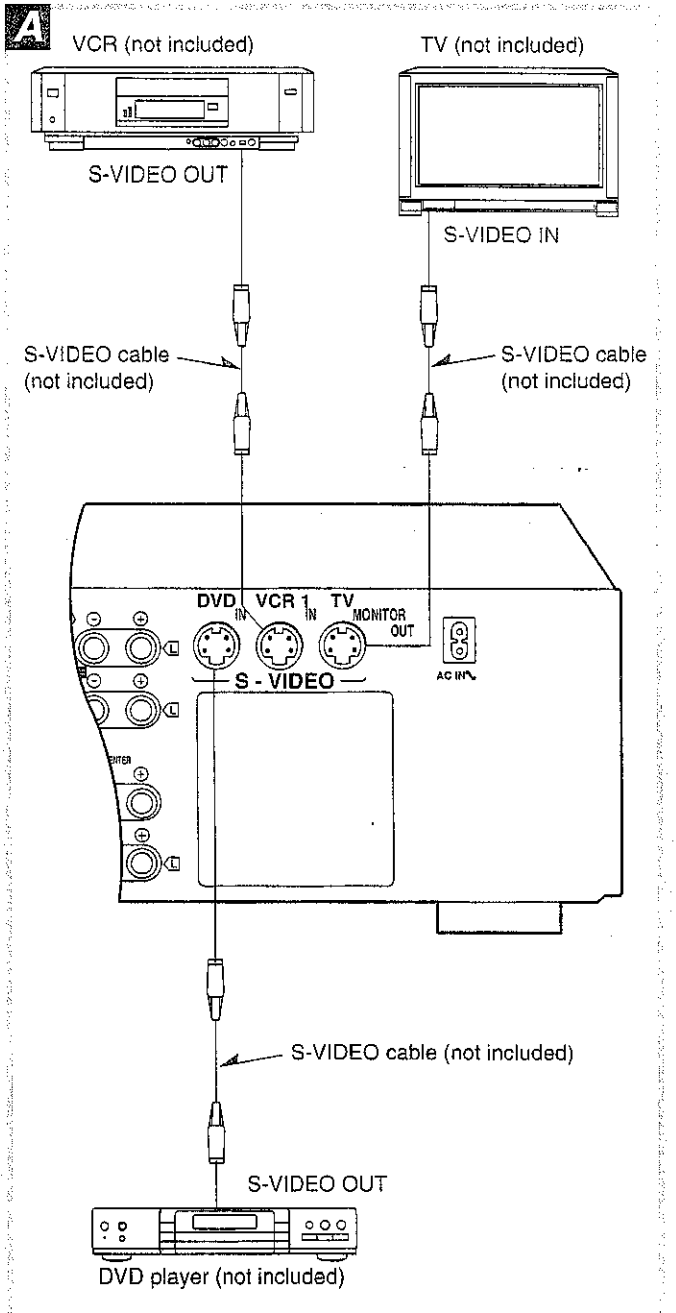


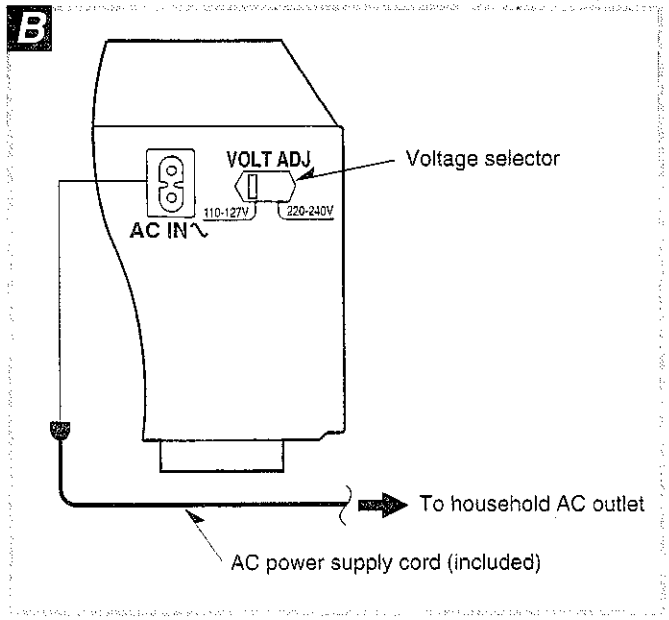

### Connecting a DVD player with 2 channel output




### You can enjoy 6 channel discrete sound by making the below connections.






## Connections from S-VIDEO terminals A

This receiver has S-VIDEO terminals for a DVD player, VCR (VCR 1 only) and TV.

### Caution when using a TV with an S-VIDEO terminal

On some television models, the video signal from components which do not use S-VIDEO input and are connected only to the VIDEO terminals will not be shown on the television screen.
If this occurs, use one of the following methods to view the video signal.

Does the television have a "VIDEO/S-VIDEO" selector switch?

- YES — Set the switch to "VIDEO".
- NO —
  - **If the television has two or more video input terminals**
    Connect the VIDEO terminal and the S-VIDEO terminal to different video input terminals on the television, and switch the picture on the television according to the video source being played.
  - **If the television has only one video input terminal**
    Disconnect the S-VIDEO cable connected to the television's S-VIDEO terminal and connect only the video terminal.

**Note**

When using S-VIDEO terminals be aware of the following.
Video signals input into the VIDEO terminals cannot be output from S-VIDEO terminals or vice versa.

## AC power supply cord B

Connect this cord after all other cables and cords are connected.
**(For areas except Australia and N.Z.)**
Set the voltage selector to the voltage setting for the area in which the unit will be used.

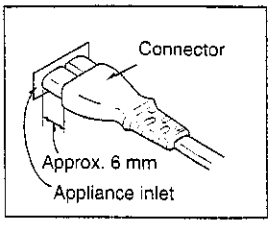
**Note**

This unit will be seriously damaged if this setting is not made correctly.

**(For areas except Australia and N.Z.)**

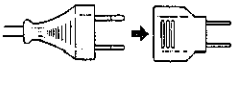
### Insertion of Connector

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.




### (Some areas)

If the power plug will not fit your socket, use the power plug adaptor (included).



## Antenna connections

### FM indoor antenna (included) A

This antenna is normally sufficient for reception of FM broadcasts.

Attach to a wall (using tape) facing in the direction of best reception.

**For best reception**
An FM outdoor antenna is recommended.

### FM outdoor antenna (not included) B

An outdoor antenna should be used when using this unit in mountainous areas or in spaces enclosed by reinforced concrete where the FM indoor antenna (included) does not provide satisfactory reception.
Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

**Note**

An outdoor antenna should be installed by a qualified technician only.

### How to use the antenna plug (included)

Two types of wire are most commonly used for connection from the antenna: 300 Ω parallel feeder wire or 75 Ω coaxial cable. For best resistance to outside interference, the use of 75 Ω coaxial cable is suggested.

#### To connect a 75 Ω coaxial cable C

① Remove a piece of the outer vinyl insulator.
② Remove the cover while pulling the tabs.

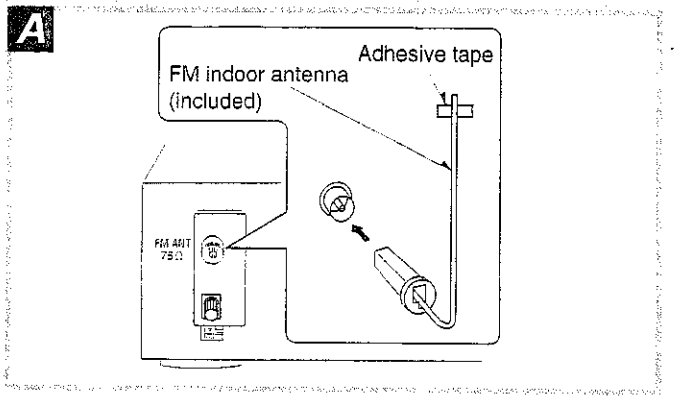
**Note**

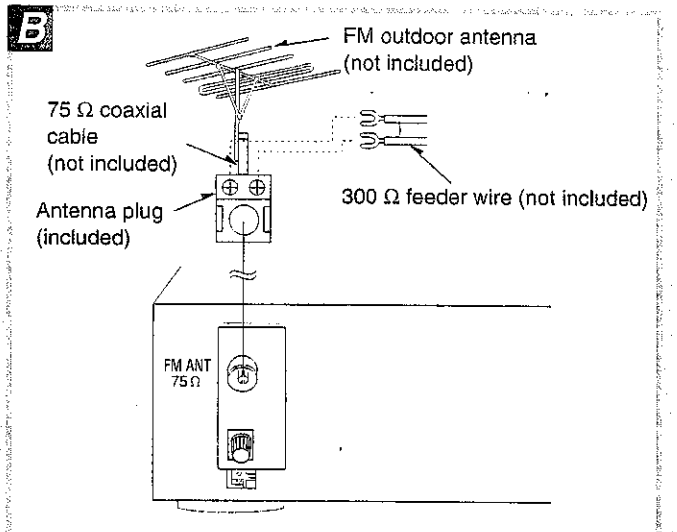
If the tabs are pulled too hard, the casing may be damaged.

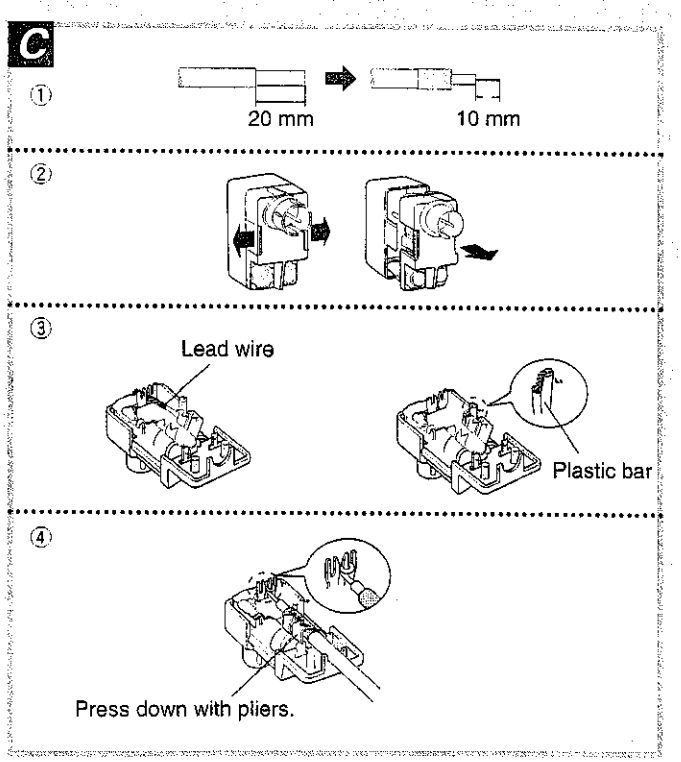
③ Remove the lead wire and clamp it with the plastic bar.
④ Install the coaxial cable.
Clamp the cable conductor, and wind it on so that it doesn't contact anything else.
⑤ Attach the cover.

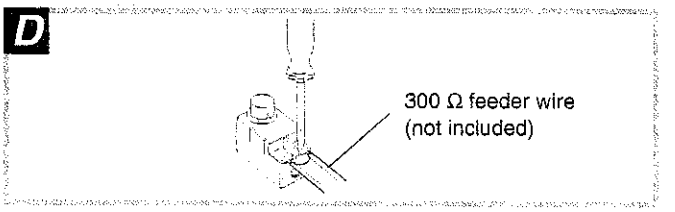
#### To connect a 300 Ω feeder wire D

Loosen the screw to connect the feeder wire and tighten it to secure the connection.

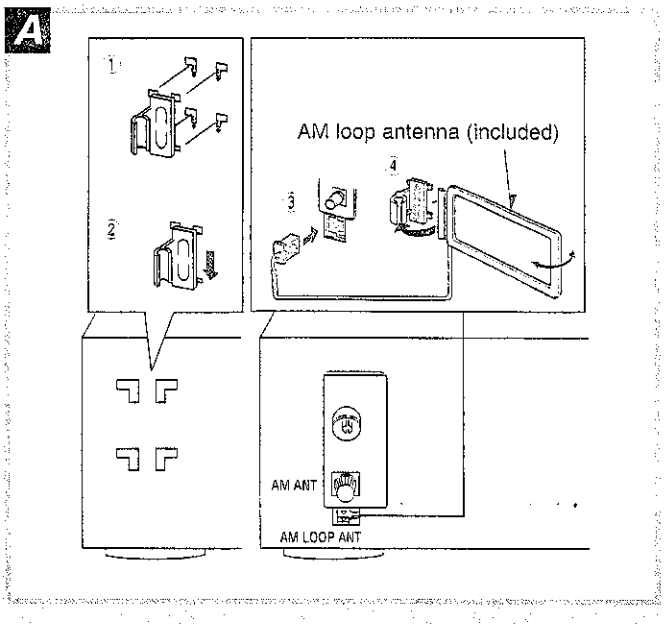


## Antenna connections



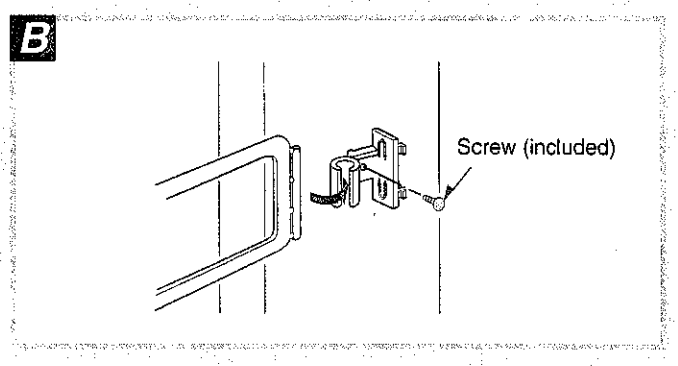

### AM loop antenna (included) A

This antenna is normally sufficient for reception of AM broadcasts.

Fit the AM loop antenna holder (included) onto the rear panel of this unit and then attach the AM loop antenna to the AM loop antenna holder (facing in the direction of best reception).

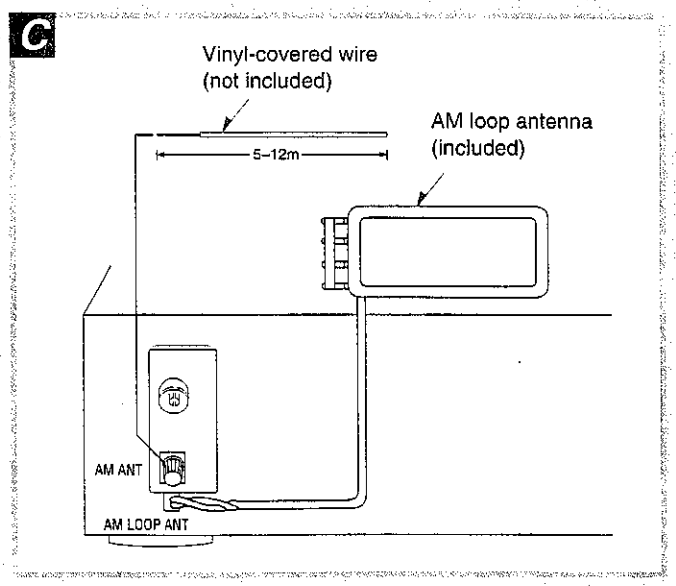
**Pay attention to the following points when mounting the antenna.**

- Do not mount it close to power cords, speaker wires or metal surfaces (Doing so will result in noise).
- Do not mount it close to a tape deck. When the tape deck is being used, chirping or beeping sounds may result.




### When mounting the antenna to a column, a wall or rack B

Mount the antenna so that the hinge is vertical.




### AM outdoor antenna (not included) C

An outdoor antenna should be used when using this unit in mountainous areas or in spaces enclosed by reinforced concrete where the AM loop antenna (included) does not provide satisfactory reception.

Stretch 5 to 12 m of vinyl-covered wire horizontally across a window frame or other convenient location, keeping it as high as possible from the ground.

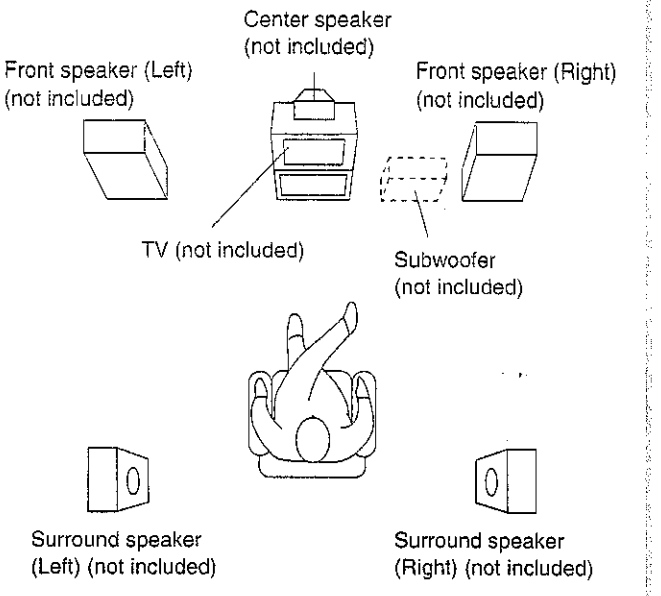
When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

**Note**

Be sure to connect the AM loop antenna even when AM outdoor antenna is used.

# Speaker connections

## Placement of speakers




### Front speakers
Place the front left/right speakers at both the left and right sides of the TV at seated ear height so that there is good coherency between the picture and sound.

### Center speaker
Place the center speaker underneath or above the center of the TV. Aim the speaker at the seating area.

### Surround speakers
Place the surround speakers on the side of or slightly behind the listener, and about one meter higher than ear level.

### Subwoofer
The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.
Note that some experimentation in placement of the subwoofer can yield the smoothest low frequency performance. Placement near a corner can increase the apparent output level, but can result in unnatural bass.

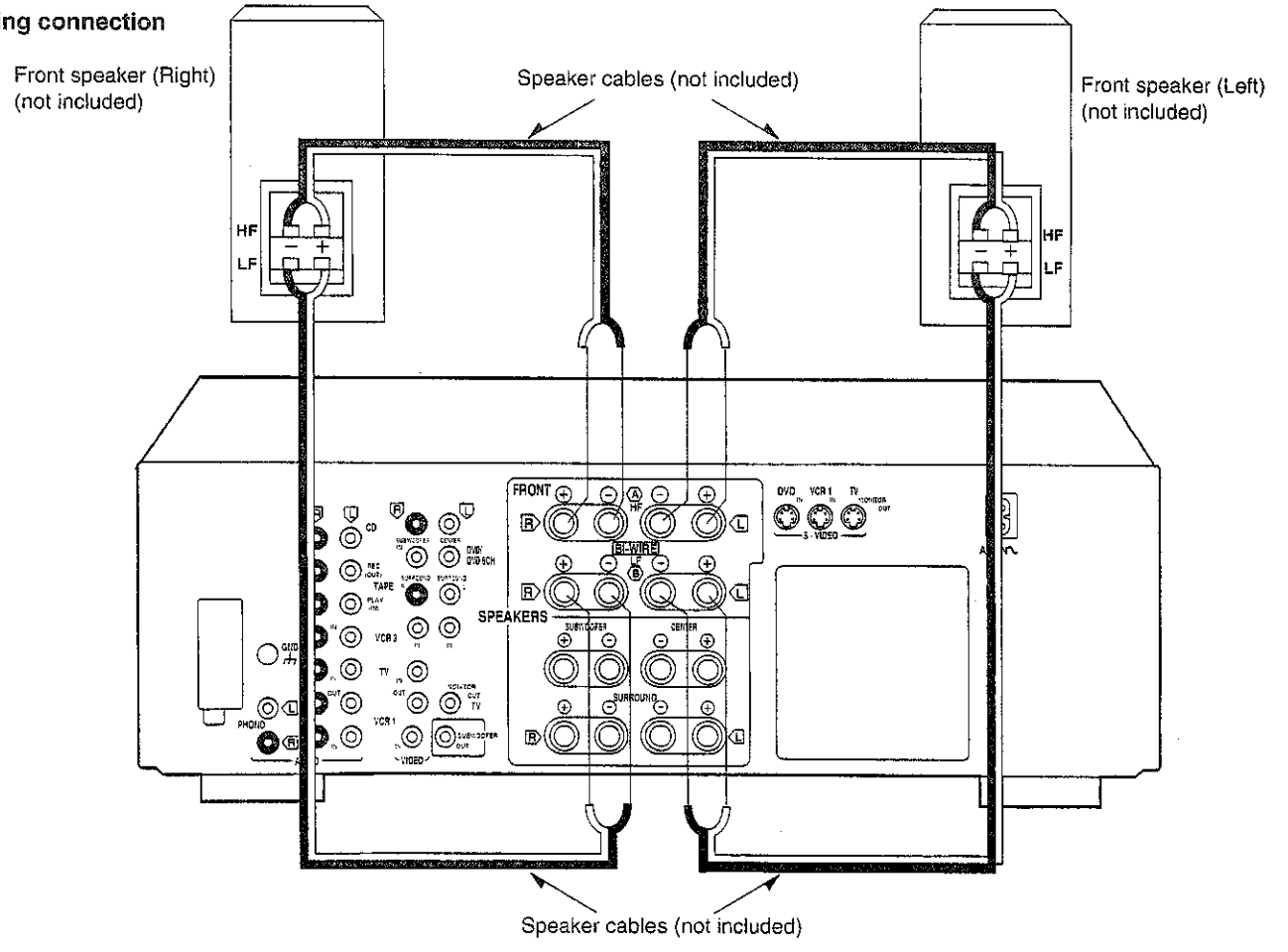
## Connecting speakers

**Note**

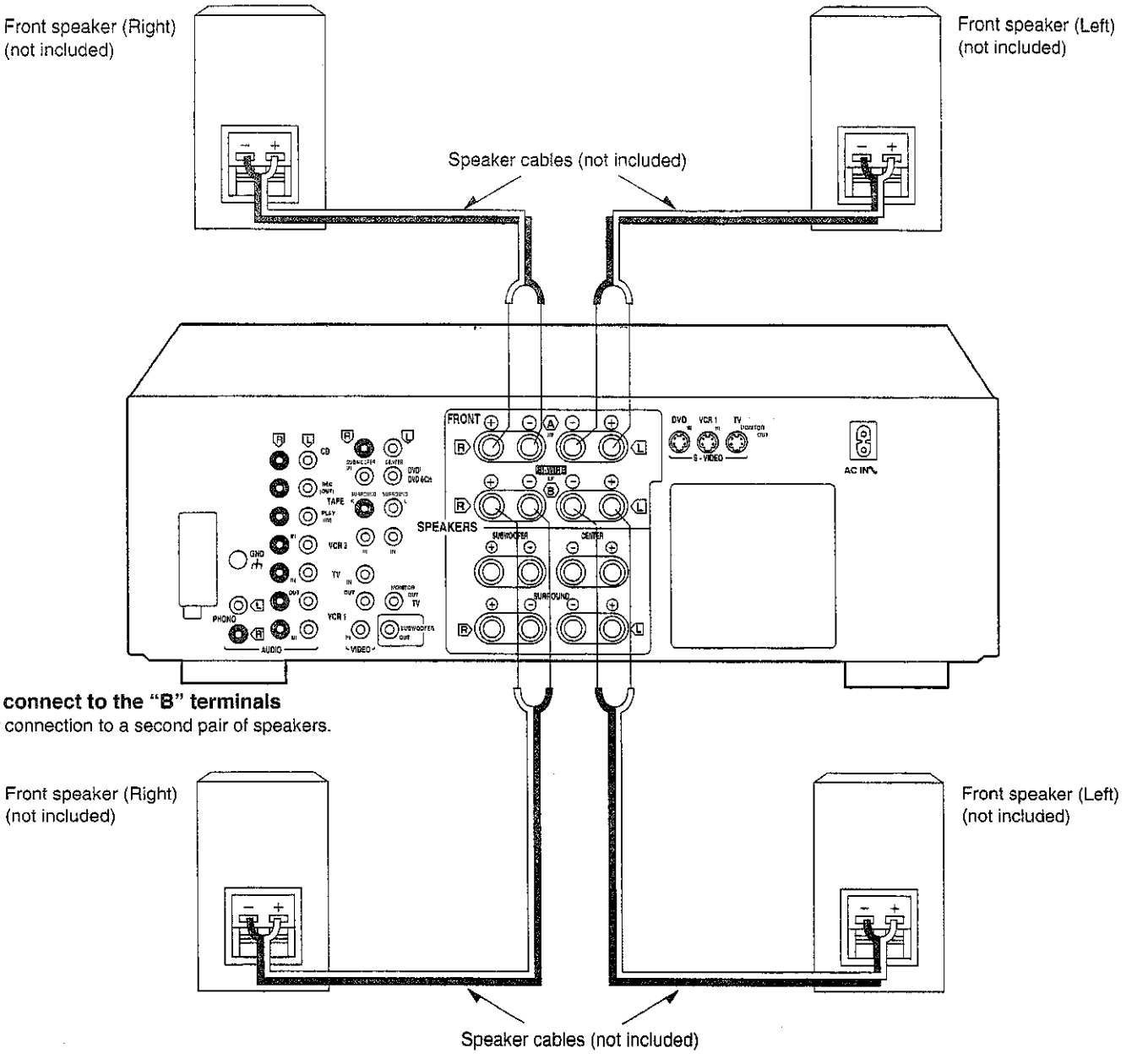
Other connections are possible depending on the speaker system you have.
For details, see the operating instructions that came with your speaker system.

### Front speakers

**Bi-wiring connection**



### To connect to the "A" terminals



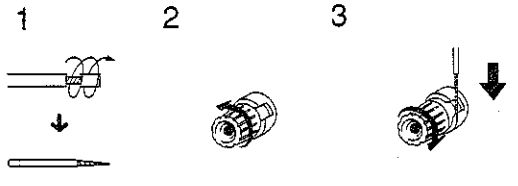

### To connect to the "B" terminals

For connection to a second pair of speakers.

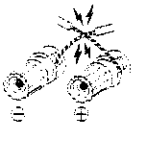



| | | |
|---|---|---|
| **Speaker impedance:** | A or B: | 4–16 Ω |
| | A and B: | 8–16 Ω |
| | BI-WIRE: | 6–16 Ω |

**Connecting the speaker cable**



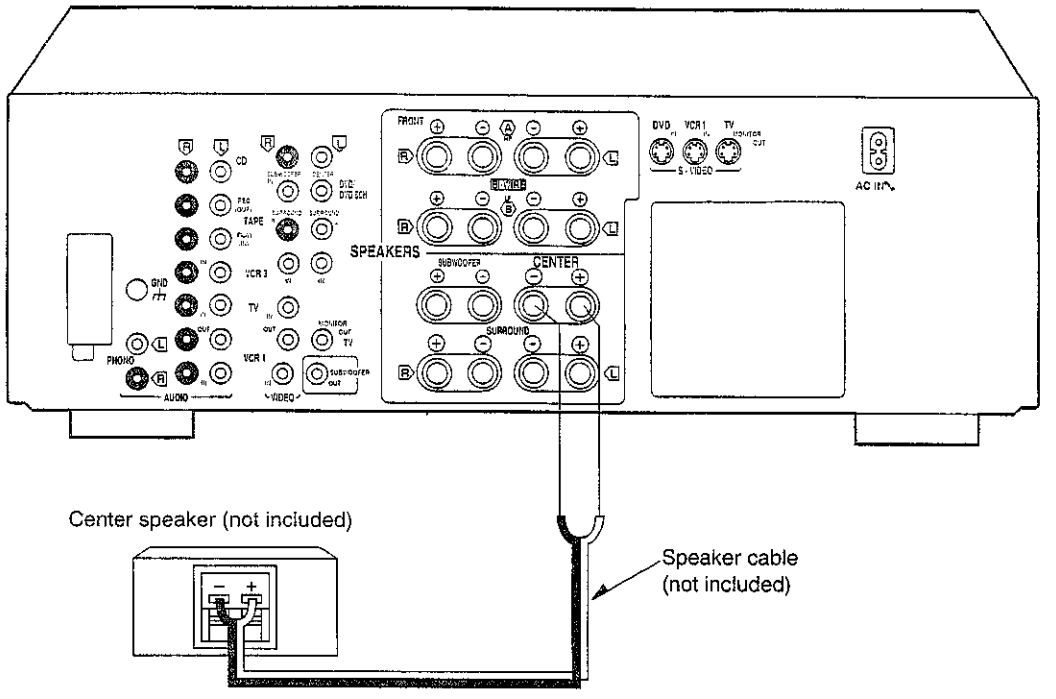

NO



**Note**

To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.

## Center speaker

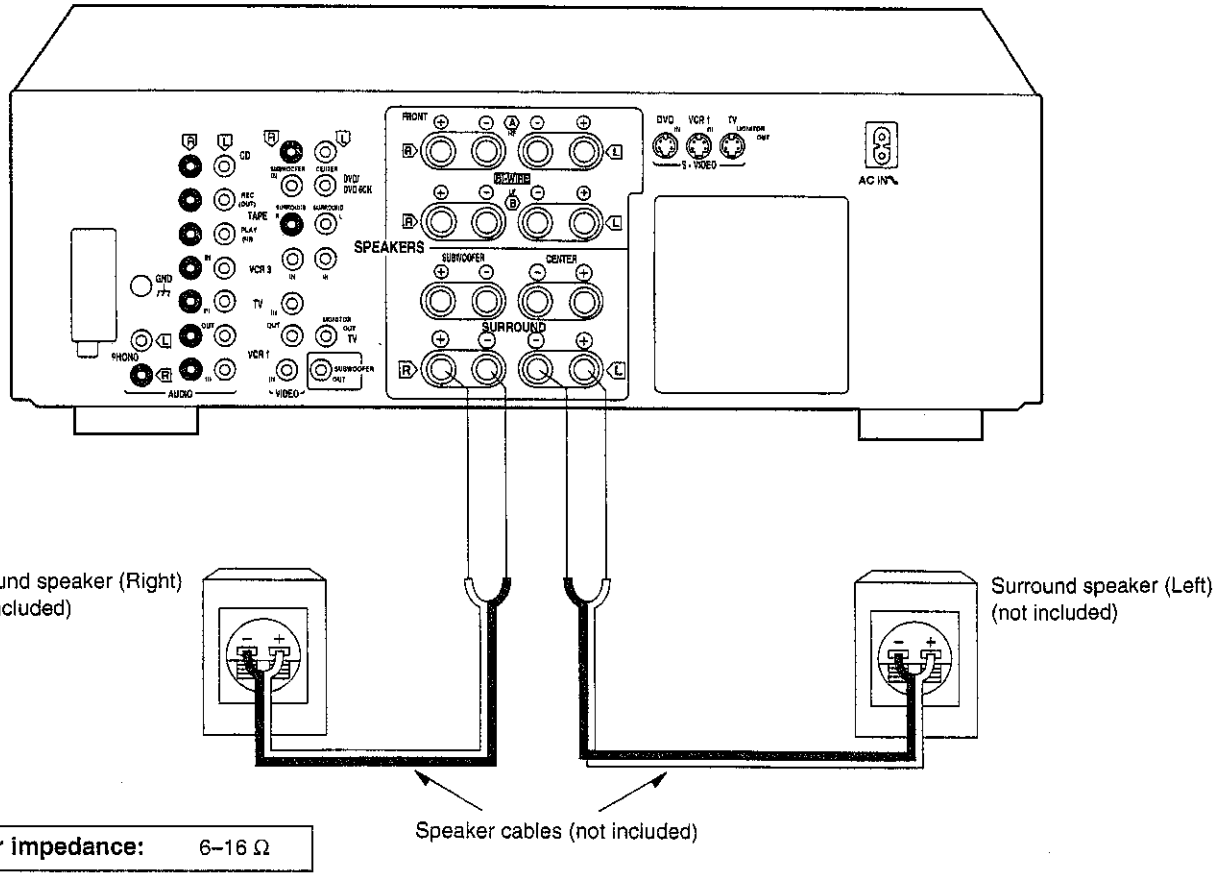



**Speaker impedance:** 6–16 Ω

## Surround speakers

**Notes**

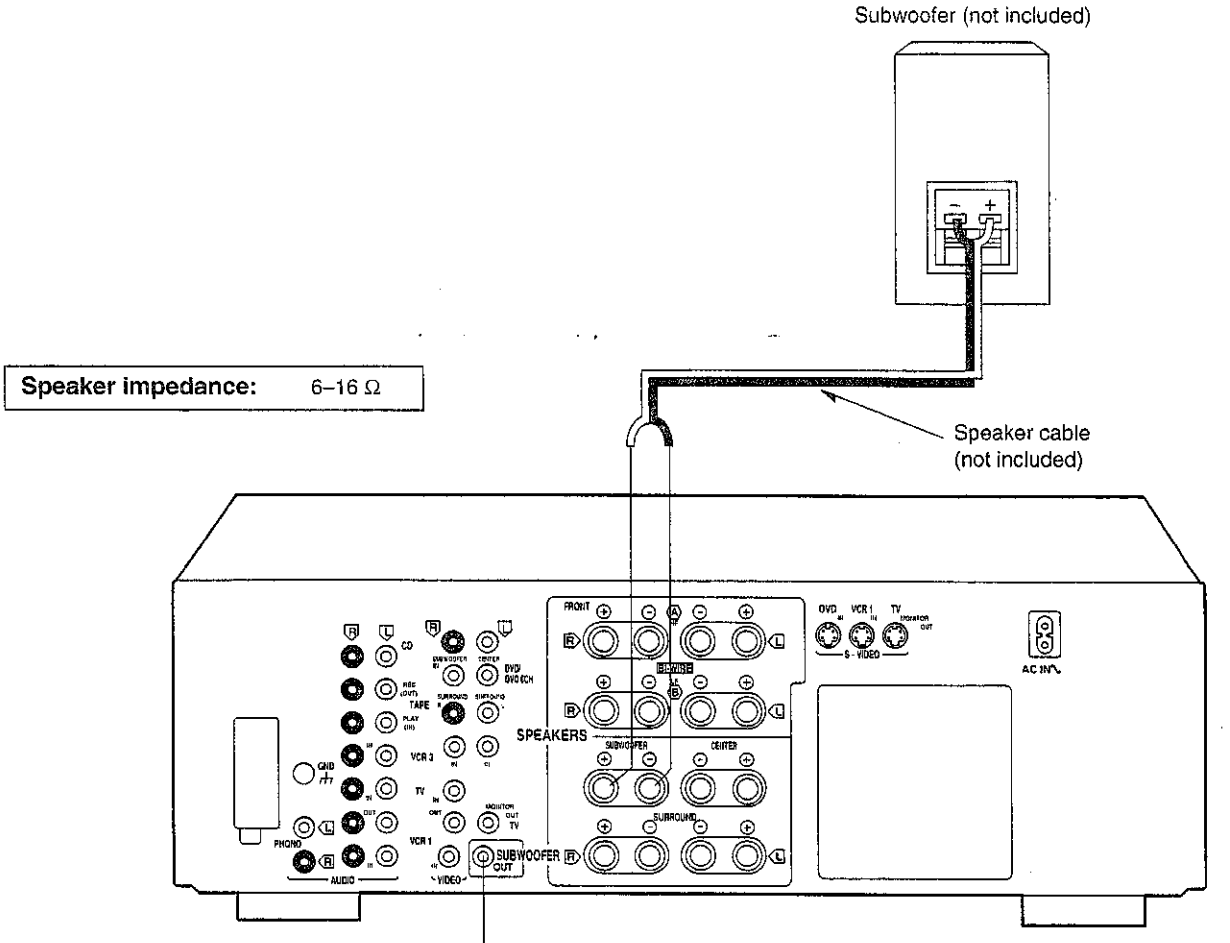
1. Both surround speakers must be connected before sound can be heard from them.
2. Do not connect the surround speakers to the front speaker terminals, as they may be damaged.



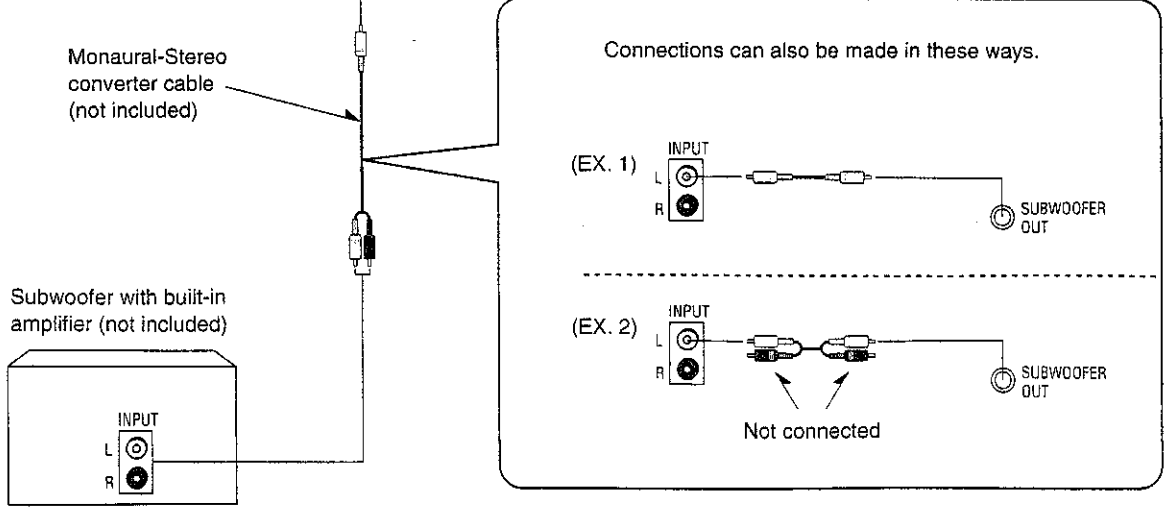

**Speaker impedance:** 6–16 Ω

## Subwoofer

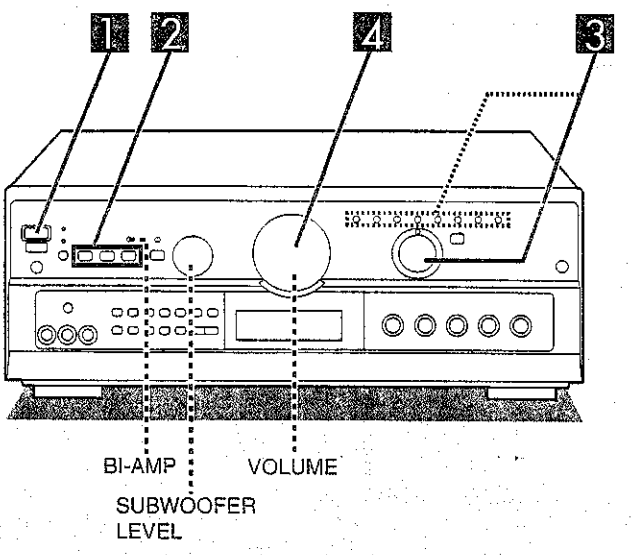
**To connect a subwoofer which does not have a built-in amplifier**

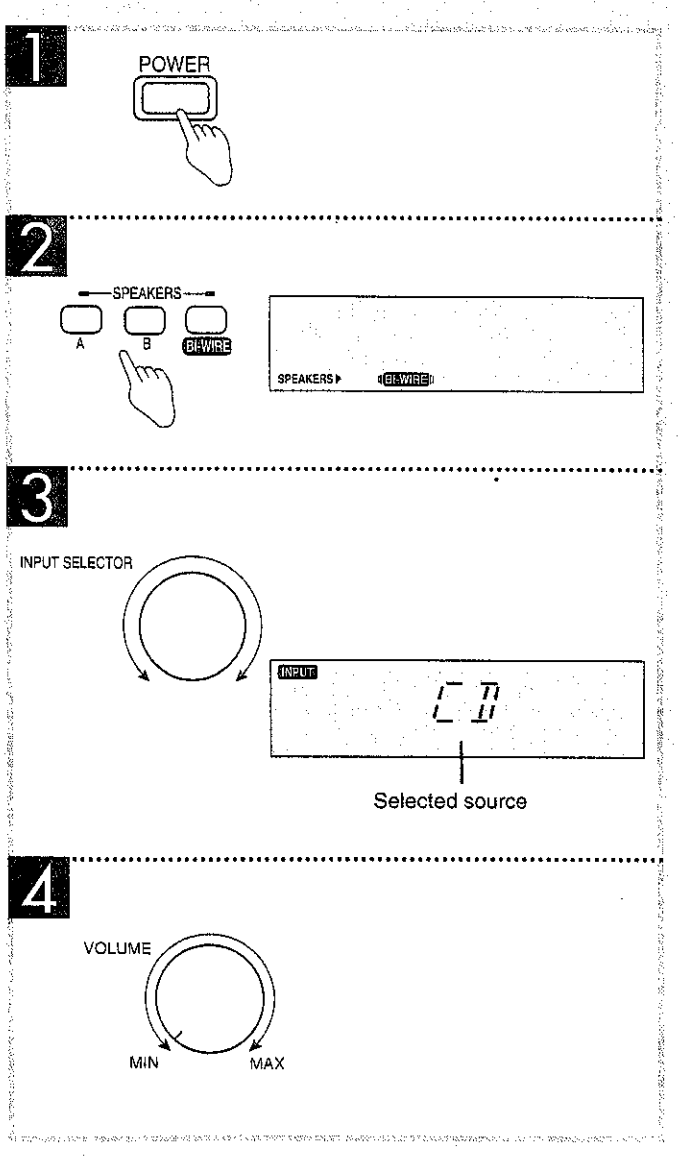



**To connect a subwoofer which has a built-in amplifier**



## Basic operations




Before operation, set VOLUME to the "MIN" position.

### 1 Press POWER.

### 2 Press A and/or B, or BI-WIRE to select the speaker system(s) to be used.

A, B and BI-WIRE refer to the speaker terminals at the rear of the unit.
When BI-WIRE is selected, the BI-AMP indicator will illuminate.

If the button is pressed once more, the indicator will switch off and no sound will be heard from the speakers.

**Note**

BI-WIRE and A, or BI-WIRE and B cannot both be used at the same time.
The BI-AMP indicator goes out if a Dolby Pro Logic or SFC mode is turned on or if the DVD 6CH INPUT mode is selected.

### 3 Turn INPUT SELECTOR to select and start the desired source.

(Refer to the appropriate operating instructions for details.)

The indicator which corresponds to the selected input source will illuminate.
The selected source and "INPUT" will be shown on the display.

**VCR 1:** To watch video tapes (VCR 1)
**TV/VCR 2:** To watch TV or video tapes (VCR 2)
**VCR 3:** To watch video tapes (VCR 3)
**DVD:** To watch DVD
**TAPE:** To listen to cassette tapes
**CD:** To listen to compact discs
**TUNER:** To listen to radio broadcasts
**PHONO:** To listen to phono discs

#### If a Dolby Pro Logic or SFC mode has been selected

After displaying the selected source, the display will then change to show the Dolby Pro Logic or SFC mode and "INPUT" will go out.
If the source chosen was TUNER then the display will change again to show the frequency.

**Note**

To watch a video (or DVD) or the TV, set the TV to either the TV mode or VIDEO mode.

#### For your reference

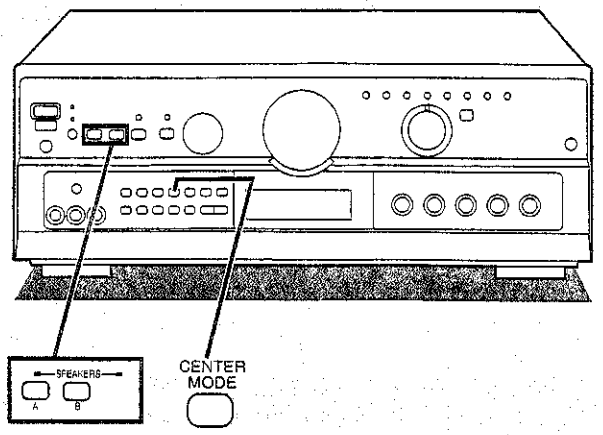
If you are using VCR and you select TAPE, CD, TUNER, or PHONO, the picture will remain on the screen.

### 4 Adjust the volume level.

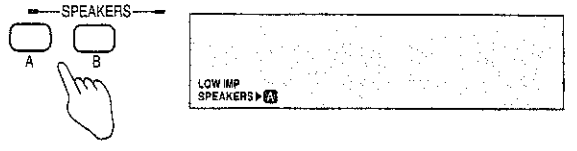
If using a subwoofer, adjust its volume with SUBWOOFER LEVEL.
If the subwoofer isn't being used, be sure to set SUBWOOFER LEVEL to MIN.

**After listening is finished**

Be sure to reduce the volume level, and switch the power to the standby condition by pressing POWER.

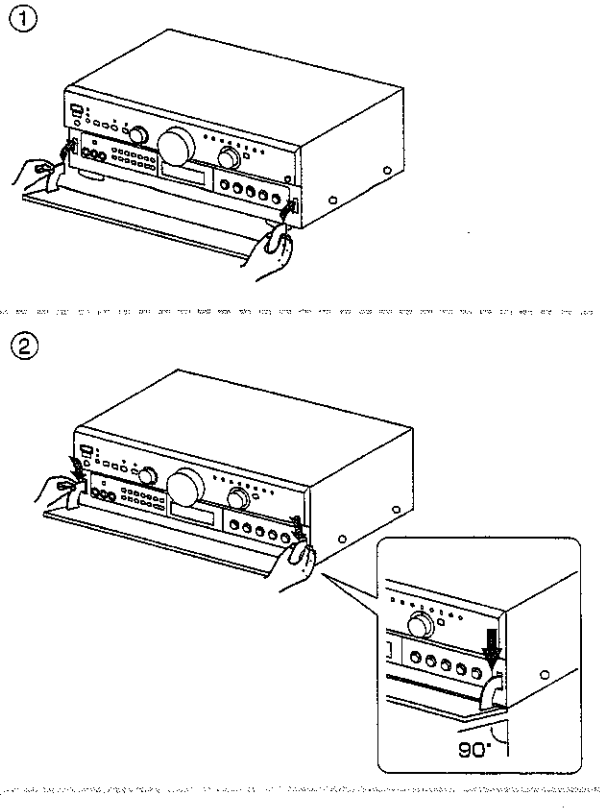



**A**




**B**


**C**




## When using speakers under 6 Ω A

### Press and hold A or B until LOW IMP lights up on the display.

If even one of the speakers being used has an impedance under 6 Ω, press and hold down either button A or button B for 4 seconds or more to set the impedance on the main unit to LOW.

(Press and hold down once again for 4 seconds or more to turn it off.)

Note that when "LOW IMP" is illuminated, speakers A and B cannot both be used at the same time.

**To change a speaker:**
e.g. To use speaker B, press A (A goes out), and then press B to activate speaker B.

## To turn off the blue light B

Turning off the blue light sometimes improves video viewing in dark or dimly lit rooms.

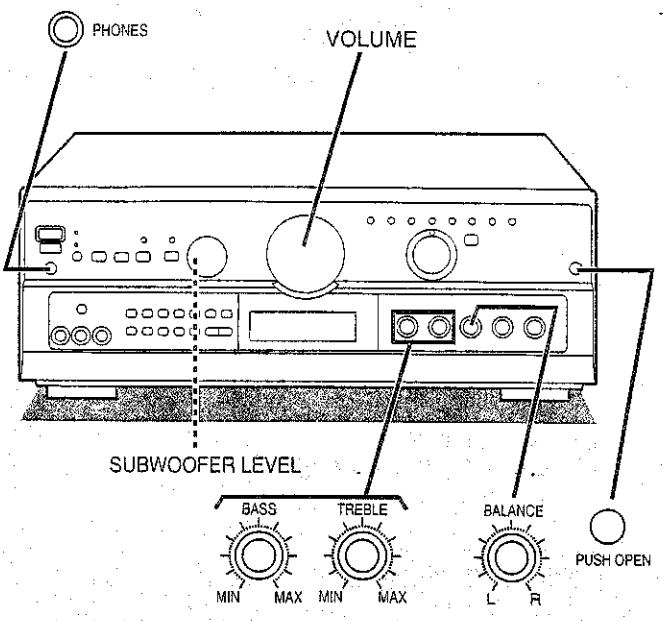
### Press and hold CENTER MODE for 4 seconds.

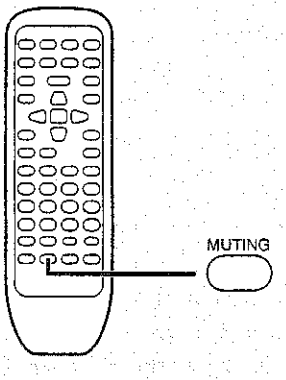
Press and hold it once again to turn the light back on.

**Note**
This light comes on when the power is turned on.

## If the front cover comes off C

**① Insert the cover as shown in the illustration.**
**② Ensure the cover is parallel to the unit, then press firmly down on the levers until they click into place.**
**③ Check that the cover now moves correctly.**
If it does not, remove it and repeat the above procedure.




## To open the front cover A

**Press PUSH OPEN.**

## To adjust the tone control B

**Turn BASS to adjust the low frequency sound.**
**Turn TREBLE to adjust the high frequency sound.**

## To adjust the sound balance C

**Turn BALANCE to adjust the left/right sound balance.**

## To mute the sound level D

**by remote control only**

**Press MUTING.**
The message "MUTING ON NOW" runs repeatedly from right to left across the display as long as the muting function is on.

Press once again to return to the previous volume level.

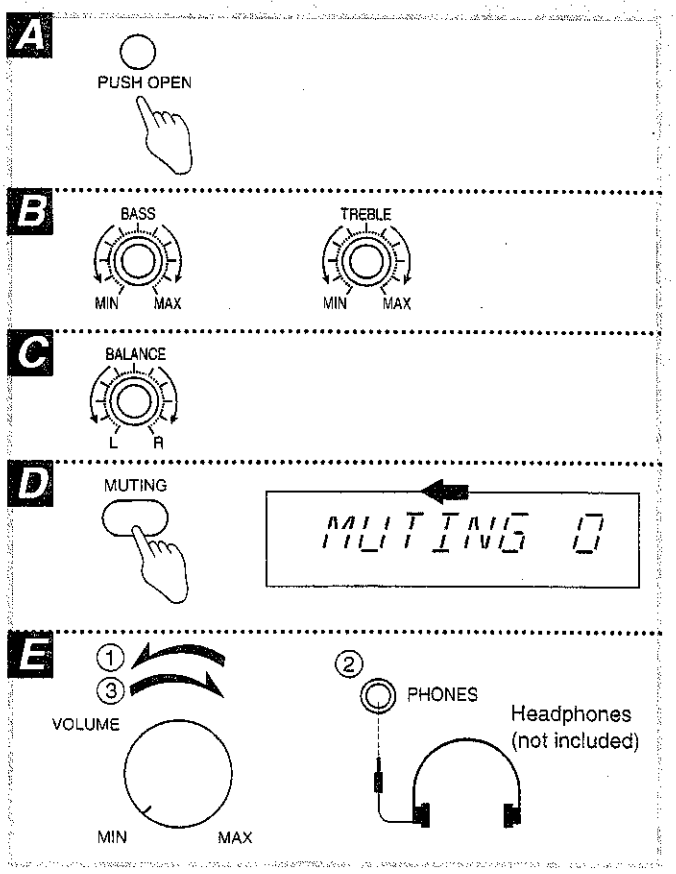
**Note**
When the receiver is turned off, the muting operation will be automatically cancelled.

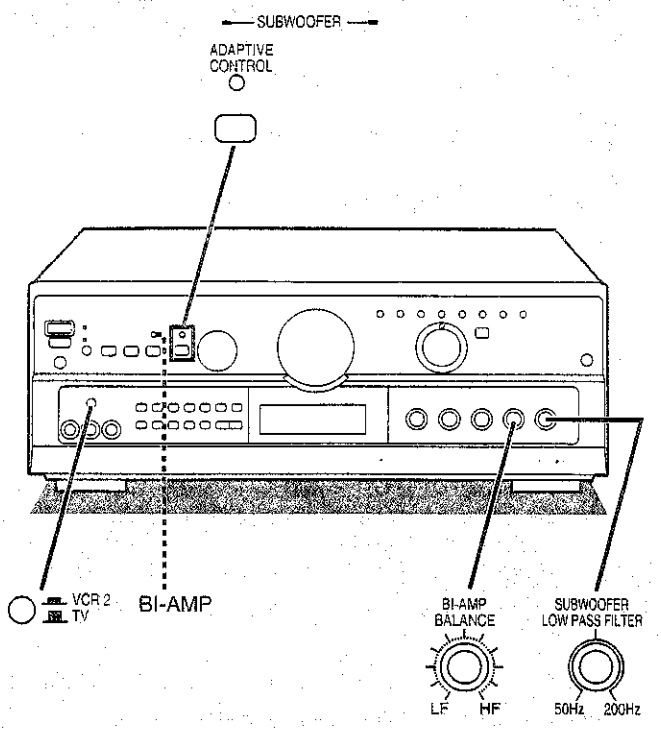
## To listen through headphones E

**① Reduce the volume level.**
**② Connect the headphones.**
Plug type: 6.3 mm stereo
**③ Adjust the volume level.**

If you do not want sound from the speakers, press the SPEAKERS button(s) and check the speaker indicator(s) goes out.
If a subwoofer is connected to your system, silence it by turning the SUBWOOFER LEVEL control on the receiver to MIN.

**Note**
Avoid listening for prolonged periods of time to prevent hearing damage.






## To compensate when the volume is low A

This button balances low volume sounds by boosting bass sound pressure of the front speakers and subwoofer.

This function allows you to enjoy balanced sounds even if the volume is low.

### Press SUBWOOFER ADAPTIVE CONTROL.

The message "ON" will appear on the display for 2 seconds.
SUBWOOFER ADAPTIVE CONTROL indicator will light up.
To return to the previous condition, press once again.
The message "OFF" will appear on the display for 2 seconds and the indicator turns off.

## When using the VCR 2 terminals (front side) B

This button can be used only when TV/VCR 2 is selected as the input source.
The TV/VCR 2 input select button works for both TV input and input from the source connected to the front side "VCR 2" terminals. (See page 7.)

### Set " TV" or " VCR 2" position.

## To adjust the high and low balance of the front speakers C

**Only when BI-AMP is ON**

### Turn BI-AMP BALANCE to adjust the LF/HF balance.

This adjusts the high and low frequency output of bi-wired front speakers.
The setting depends on the speakers being used.
Adjust the balance to suit your room's acoustics and the features of the speakers.

**When BI-AMP is ON**

"BI-AMP" will illuminate.
BI-AMP makes use of the special characteristics of bi-wiring to reproduce high quality stereo sound.

**Note**

BI-AMP will turn off and the indicator will go out in the following cases:

- If any of the Dolby Pro Logic or SFC modes are turned on.
- If DVD 6CH INPUT is selected.

## To adjust the output range of the subwoofer D

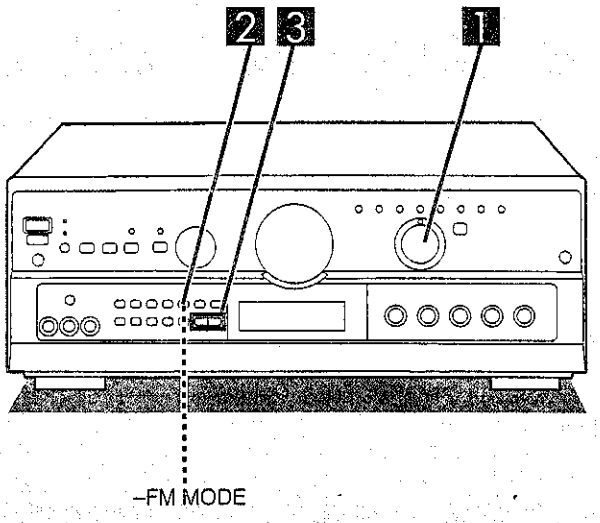
**Only when a subwoofer is connected**

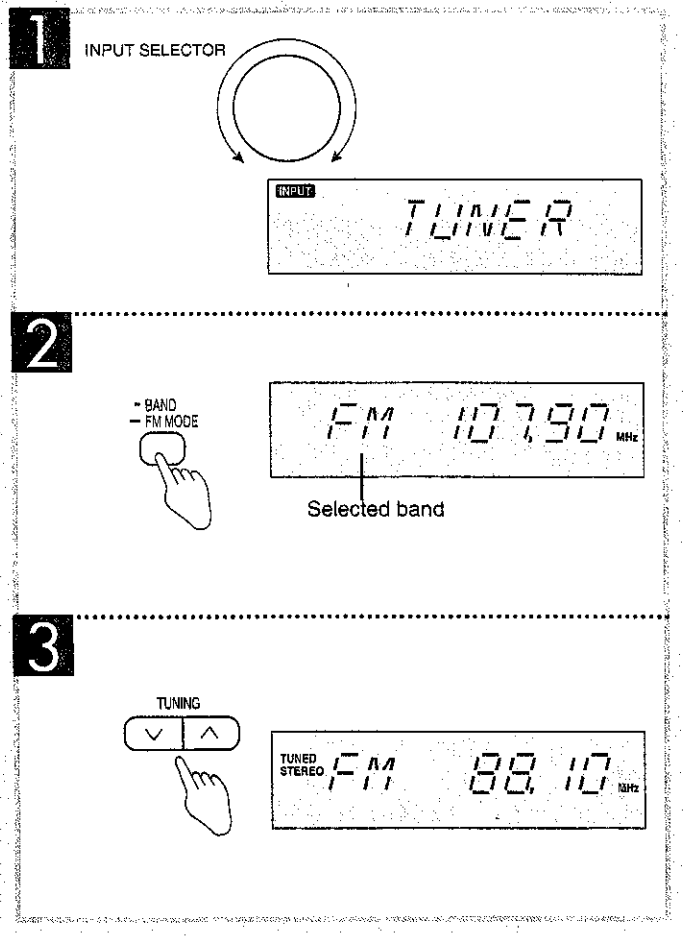
### Turn SUBWOOFER LOW PASS FILTER to select a suitable frequency.

The setting depends on the room's acoustics, the peculiarities of the subwoofer, and the interaction of the subwoofer and the front speakers.

**Note**

Adjustments can not be made when DVD 6CH INPUT has been selected.




## *Listening to radio broadcasts*

### Sequential tuning

Use the tuning buttons to tune-in radio stations.

**1 Turn INPUT SELECTOR to select TUNER.**

**2 Press -BAND to select "FM" or "AM".**

**3 Press TUNING (∨) or (∧) to tune to the desired frequency.**

"TUNED" lights up when tuned.
"STEREO" lights up when an FM stereo broadcast is received.

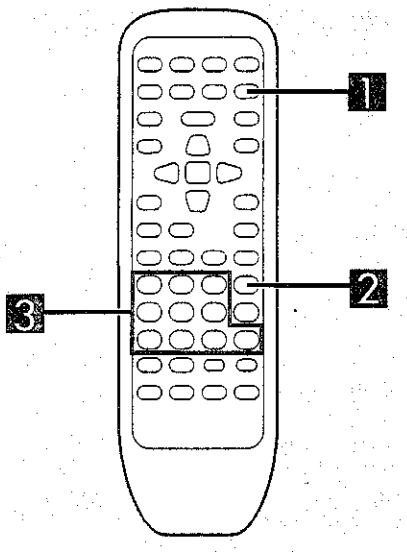
**To make an automatic search for stations**
If TUNING(∨) or (∧) is held down for an instant until the frequency begins to scroll, the broadcast stations are tuned in automatically when one is found.

**Note:**
Tuning may stop automatically if any jamming is encountered.

**If noise is excessive in the FM stereo mode**
Press and hold –FM MODE for 2 seconds.
("STEREO" will go out, and "MONO" will light up)

The broadcast will be monaural, but noise will be reduced.
If the button is pressed and held for 2 seconds once more, the stereo mode will be resumed.

**To change the AM frequency step**
Press and hold -BAND for about 3 seconds when AM band is selected.
(The frequency step changes to 10 kHz per step.)
To return to the previous step, press and hold -BAND for about 3 seconds again.




## Direct tuning

**by remote control only**

Specify the frequency using the numeric buttons on the remote control transmitter to directly tune to the desired station.

### 1 Press TUNER/BAND.

This will set the remote control to operate the tuner.
The selector on the receiver will change to TUNER.
Each time the button is pressed, the band will change as follows,
FM ⇄ AM

### 2 Press DIRECT TUNING/DISC ENTER.

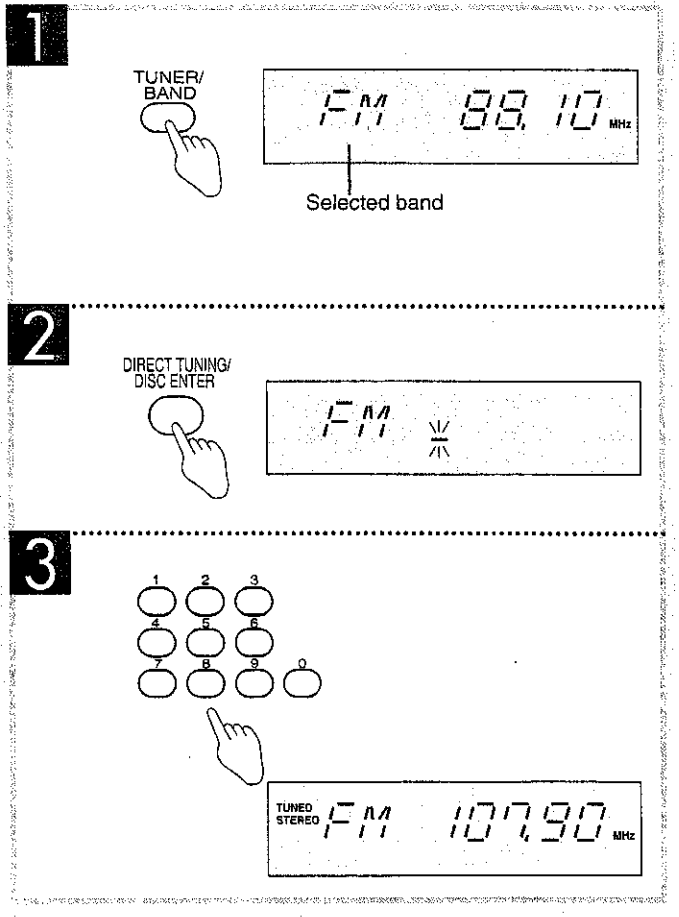
### 3 While cursor display is flashing (approx. 10 seconds) **Press the appropriate numeric buttons to enter the frequency.**

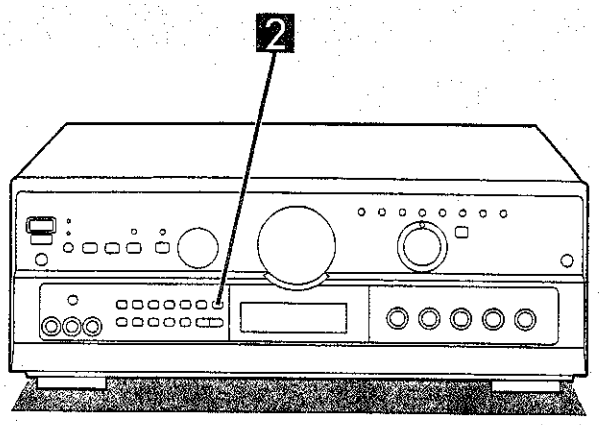
If the desired FM frequency is 107.90 MHz, press
[1] → [0] → [7] → [9] → [0]

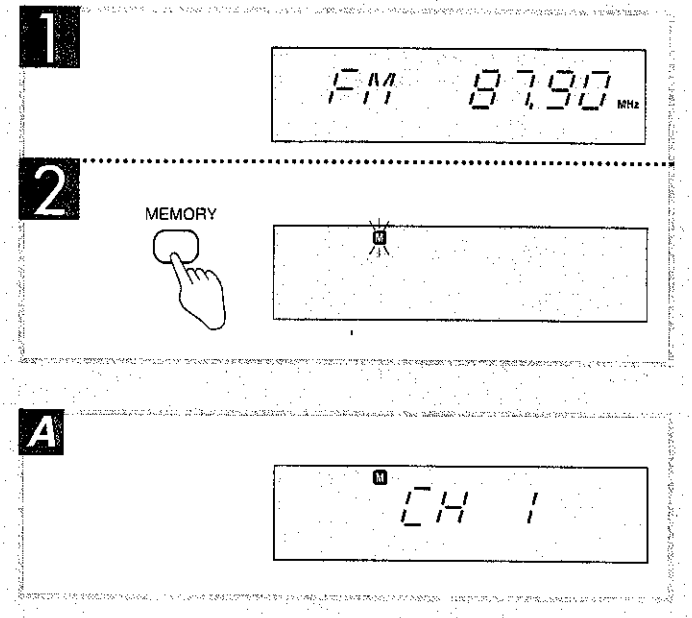
If the frequency has been input correctly, the displayed frequency will blink once.

**Note**

1. If no button is pressed while the cursor display is flashing, the display will return to the frequency which is currently being received. To re-specify the frequency, repeat the procedure from step 2.
2. If the frequency has not been input correctly, "ERROR" will be displayed. In this case, re-enter the frequency.






## Preset tuning

Presetting radio stations into the memory channels of this unit makes selecting stations simple.

A total of 30 FM and AM stations can be preset.

### Please remember this

If a new broadcast station is preset into a channel, the setting for the broadcast station which was previously entered in that channel will be automatically erased.

### Automatic memory presetting

Automatic memory presetting allows this unit to automatically search for broadcast stations and then preset them into memory. With this method, the channels that can be preset into the memory are set as follows for different bands.

**When FM stations are preset,**
For FM stations ..... 1–30
**When FM and AM stations are preset,**
For FM stations ..... 1–20
For AM stations ..... 21–30

**1** **Set to the frequency from which you want to start automatic memory presetting.**
(See page 20, 21.)

**2** **Press MEMORY until the frequency begins to change.**
(Automatic memory presetting will start.)
During automatic memory presetting, the memory indicator will flash while the frequency scrolls.

To stop, press MEMORY once again.

### When a broadcast station is preset A

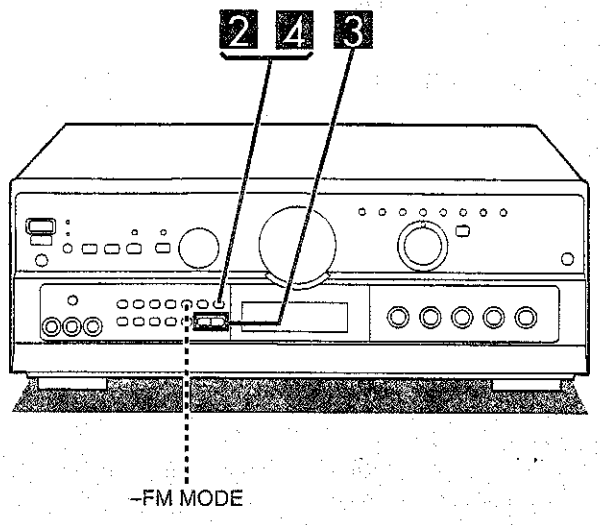
The memory indicator and the preset channel number will be displayed for approximately 1 second.

### When presetting is completed

The last broadcast station to be preset will be displayed.

**Note**

Frequencies may not be preset correctly in cases where the broadcast waves are too strong or too weak. In such cases, carry out presetting manually. (See page 23.)




## Manual memory presetting

The desired stations can be preset into the desired channels by the user.

### 1 Set to the desired frequency.

(See page 20, 21.)

If interference or static is keeping you from enjoying an FM broadcast, press and hold –FM MODE and change to monaural.
You can preset the station in monaural just as in stereo.

### 2 Press MEMORY.

To cancel the memory function, press MEMORY again.

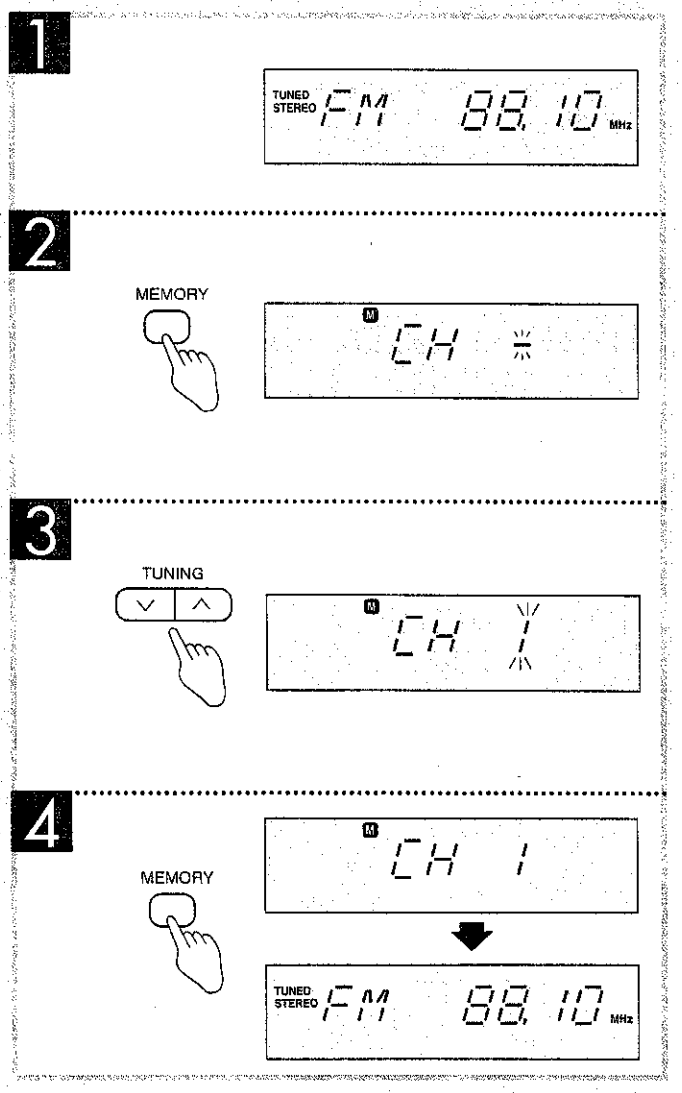
### 3 Press TUNING (∨) or (∧) to select the desired channel.

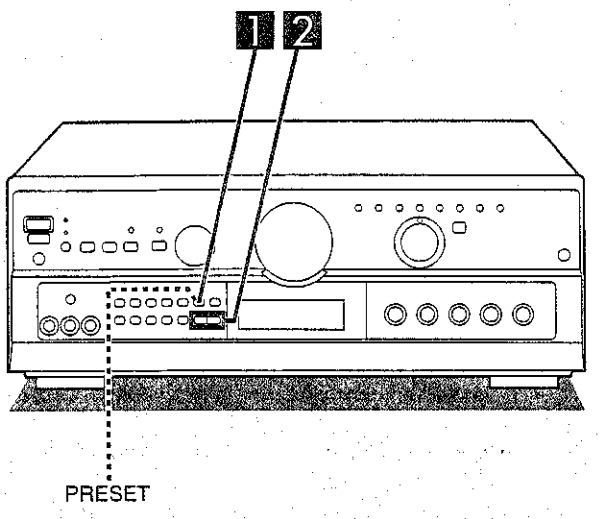
Holding the buttons down lets you scroll through channels faster.

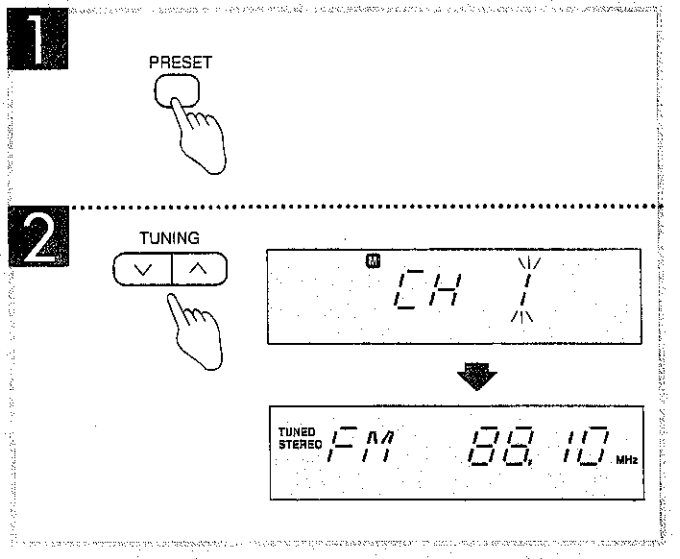
### 4 Press MEMORY.

The channel will blink on the display.

**To continue presetting**
Repeat steps 1 through 4.






**To listen to preset channels**

**1 Press PRESET.**

**2 Press TUNING (∨) or (∧).**

Holding down the buttons lets you scroll through channels faster.

The channel number will be changed for approximately 5 seconds.
Select the desired channel number during that time.
After 5 seconds, the display will change from the channel number to the frequency.

**Note**

If you press PRESET while the channel number is displayed, the display will change to the frequency.

### To confirm the channel number of the broadcast station being received

Press PRESET.
(The channel number will be displayed for approximately 5 second.)

**Note**

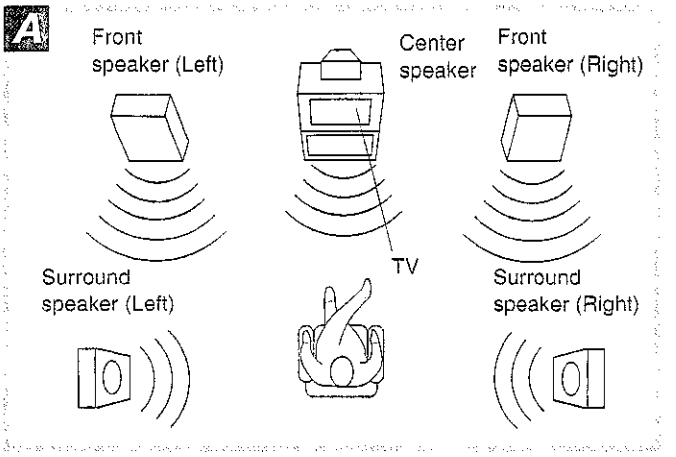
The channel number is not displayed if you change the frequency or FM mode setting.

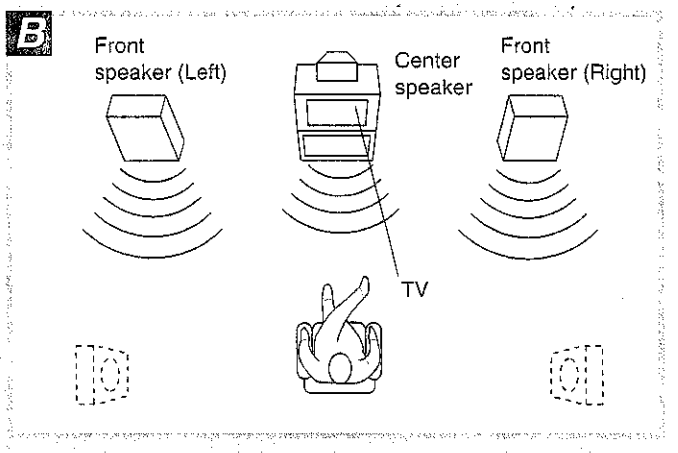
### For your reference

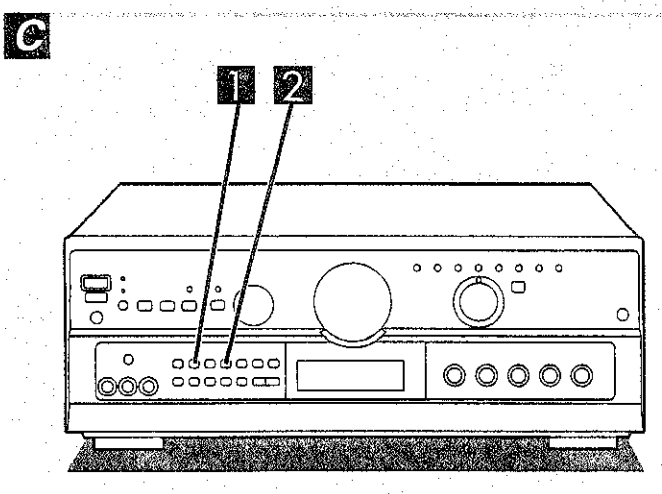
Even if the power cord is disconnected from the household AC outlet, the memory will retain its contents for approximately one month.

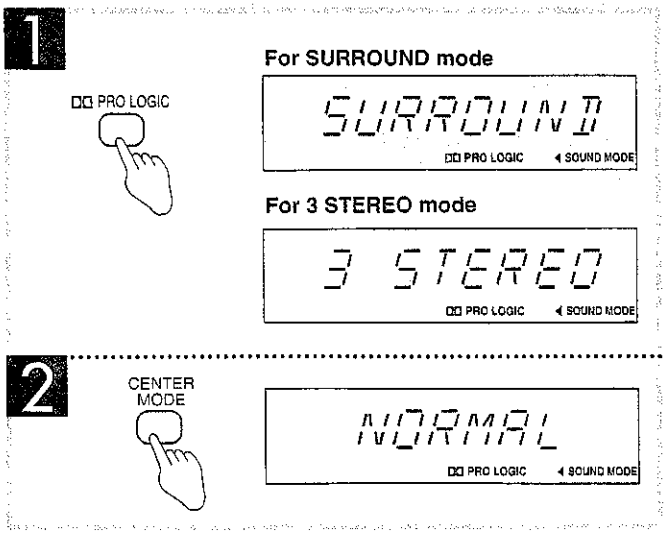
### If frequency presettings are accidentally erased

Program the presettings once again.
The power cord should remain connected for one hour or more for the memory back-up to be effective.




# *Enjoying sound with DOLBY PRO LOGIC*

Dolby Pro Logic lets you enjoy movie software (video tapes and DVDs) in your own home with the same powerful stereophonic effect found in movie theaters. This unit has two Dolby Pro Logic modes: SURROUND and 3 STEREO.

## SURROUND A

By reproducing the feeling of depth and movement of sound, video software or compact discs recorded with Dolby Surround provide the listener with a feeling of presence like that of a movie theater.

## 3 STEREO B

You can enjoy audio/video sources with clear sound, more presence and a good feeling of orientation. 3 STEREO can be used with stereo sources not encoded with Dolby Surround.

**Note**

BI-AMP and Dolby Pro Logic cannot be used at the same time.
If you are using BI-AMP and you select Dolby Pro Logic, BI-AMP will turn OFF and the BI-AMP indicator will go out.

## Setting the center mode and adjusting speakers output level C

**Note**

- When ready to adjust speakers output level, situate yourself where you would normally be listening.
- The subwoofer does not put out a test signal. Ensure no sound comes from the subwoofer during the test by turning SUBWOOFER LEVEL to MIN.
- First turn ON the speakers with the speaker select button on the receiver.
- If front speaker volume is unbalanced, adjust the balance with the BALANCE control.

### 1 Press DD PRO LOGIC to select SURROUND mode.

**Note**

Select 3 STEREO if surround speakers have not been connected.

### 2 Press CENTER MODE to select the correct center mode.

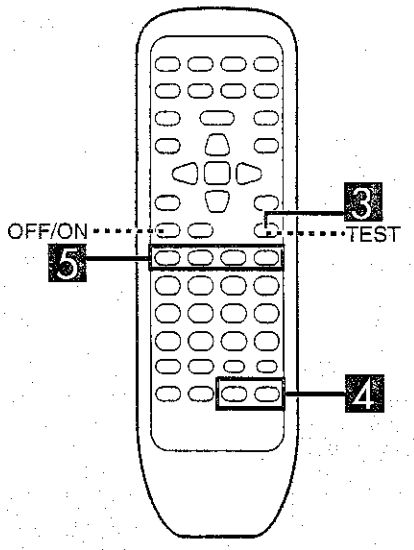
When the button is pressed, the current center mode is displayed.
Pressing it again changes the center mode.

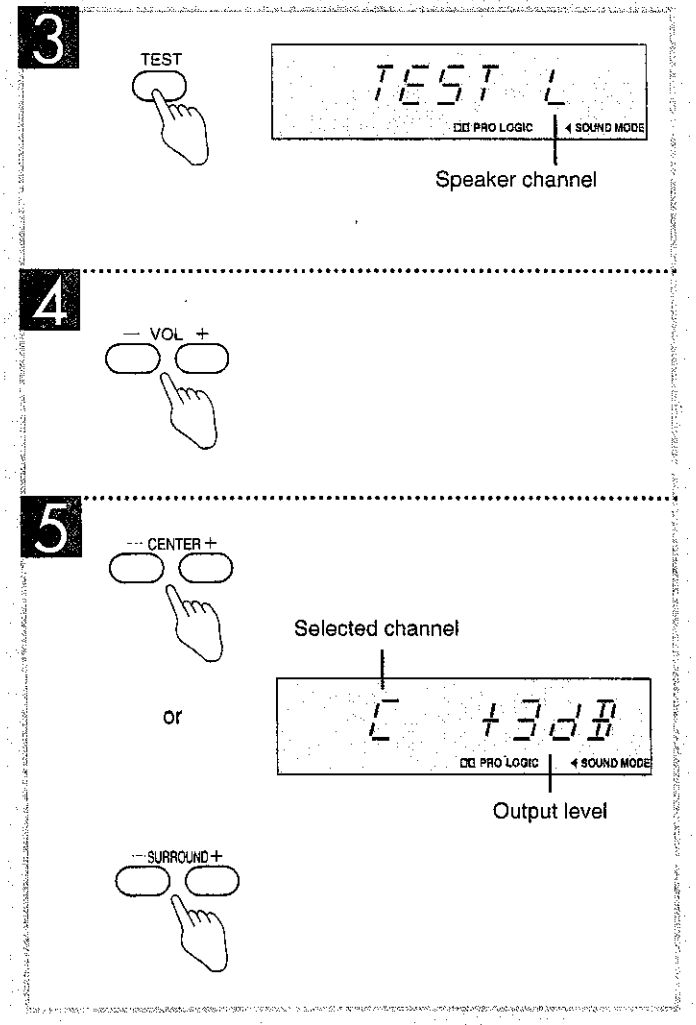
**NORMAL**
When the center speaker is smaller than the front speakers.
**WIDEBAND**
When the center speaker is the same size as or larger than the front speakers.
**PHANTOM** **SURROUND mode only**
When no center speaker is connected.

**Note**

In the PHANTOM mode, the sound which would have been sent to the center speaker will be divided equally between both the left and right front speakers.

**(Continued on next page)**




**3** by remote control only

### Press TEST to output a test signal.

The speaker outputting the test signal is displayed while the test is running.

L : Front speaker (Left)
C : Center speaker
R : Front speaker (Right)
S : Surround speakers

For SURROUND mode

L → C → R → S

In the PHANTOM mode, the center speaker is OFF, so there is no center test signal and "C" is not displayed.

For 3 STEREO mode

L → C → R

**4** by remote control

### Press VOL (–) or (+) to set the volume level normally used for enjoying the source

The following steps are for setting the output level of the front speakers and the center/surround speakers to the same listening level.

**5** by remote control only

### Press CENTER (–) or (+), or SURROUND (–) or (+) to adjust the output level.

Adjust the output level of each speaker from the listening position until they are all identical.

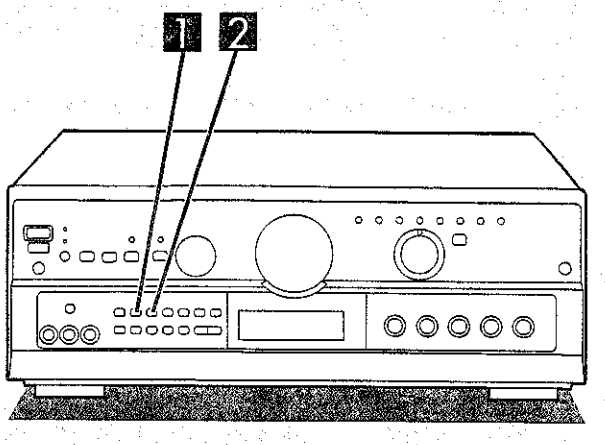
–: Decrease the output level.
+: Increase the output level.
Output level can be varied within a range of –12 dB to +12 dB with front speaker output level serving as the zero point.

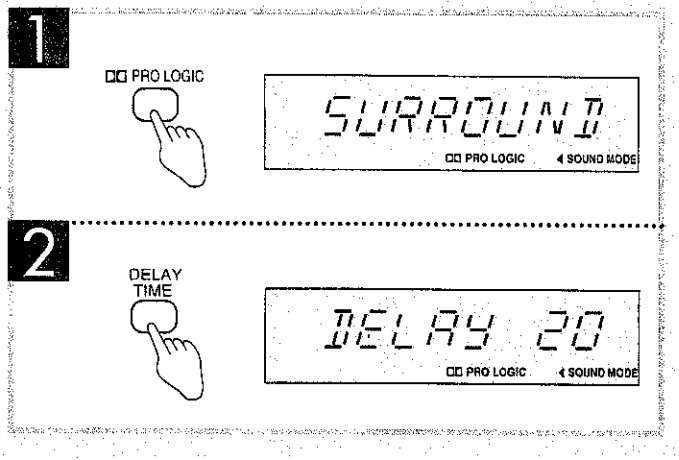
**Note**

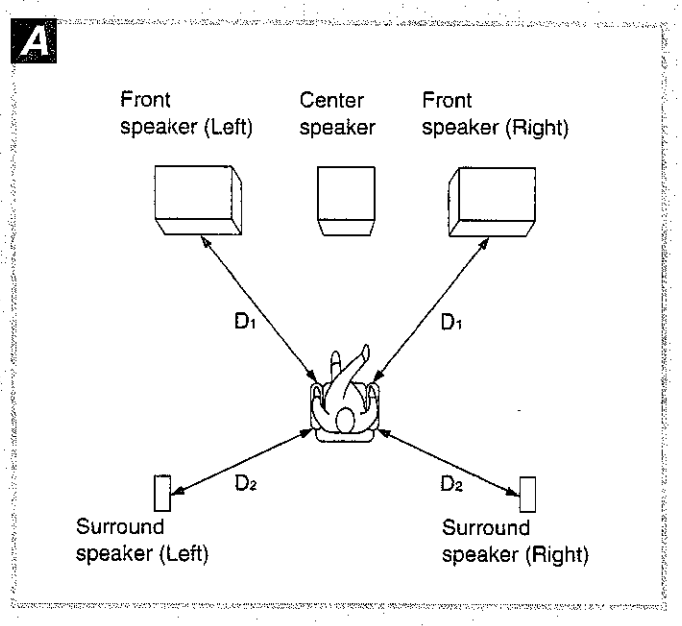
1. During step 5 above the test signal sequence is interrupted and the signal will only come from the selected speaker.
   The sequence will resume when adjustments are stopped.
2. Remember you cannot adjust the output level of the surround speakers if you selected the 3 STEREO mode in step 1.

**To stop the test signal**
Press TEST.

**To turn off the Dolby Pro Logic systems**
Press OFF/ON.
Press once again to turn it on.




## Adjusting the delay time

### When enjoying with SURROUND only

Adjust the sound from the surround speakers until the proper effect is produced.

**1** **Press DD PRO LOGIC to select the SURROUND mode.**

**2** **Press DELAY TIME to set the time.**

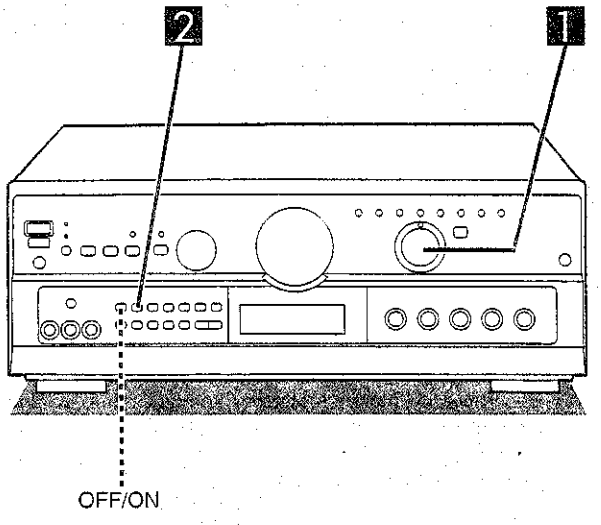
When the button is pressed, the current delay time is displayed.
Pressing it again changes the delay time.
Each time the button is pressed, the delay time will increase by 5 ms within a range of 15 ms to 30 ms.

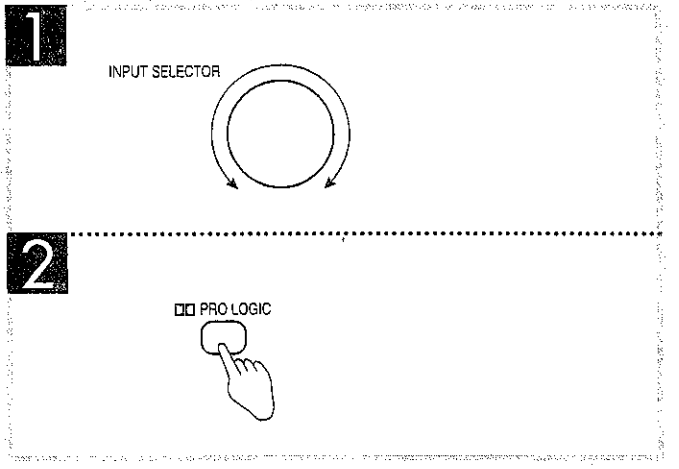
The standard setting is 20 ms.

### To calculate the delay time A

$D_1$: Distance from front speakers
$D_2$: Distance from surround speakers

- **If $D_1$ is equal to or less than $D_2$**
  Set to 15ms.
- **If $D_2$ is less than $D_1$**
  Start at 15ms and increase by 5 ms for every 1.5 m of difference between $D_1$ and $D_2$.




## ENJOY THE SURROUND or STEREO

**1 Turn INPUT SELECTOR to select and start the desired source.**

**2 Press DD PRO LOGIC to turn on the Dolby Pro Logic system and select the desired mode.**

When the button is pressed, the Dolby Pro Logic mode is displayed.
Pressing it again changes the Dolby Pro Logic mode.

**Note**

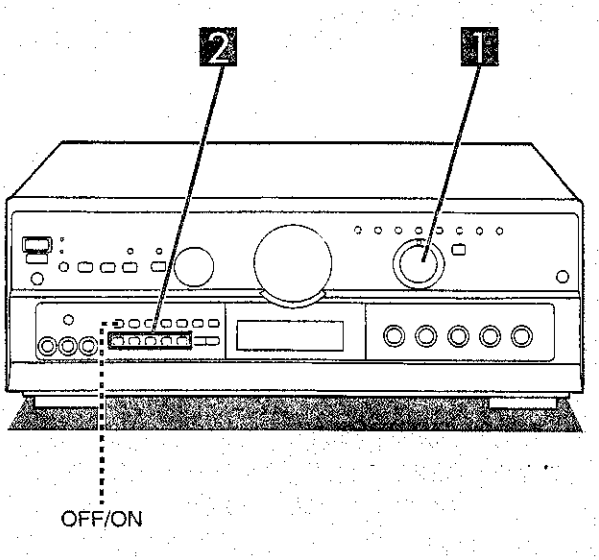
When employing SURROUND, use software recorded in Dolby Surround.

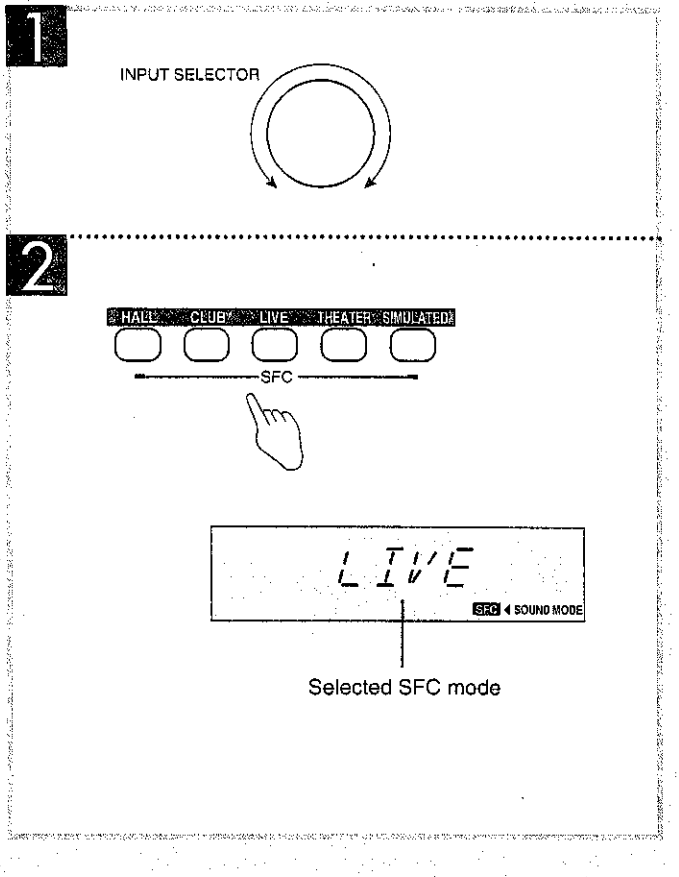
### For your reference

You can set the Dolby Pro Logic mode for each source.
Each source will retain the selected mode.

### To turn off the Dolby Pro Logic systems

Press OFF/ON.




## *Enjoying sound with SFC*

SFC is the abbreviation of Sound Field Control.
The SFC function gives presence and spread thereby enhancing and enriching the music or movie.
Read the following explanations in order to better understand how to make your selection.

### HALL
This mode imparts a reflection and spread which will make you feel as if you are in a large concert hall.

### CLUB
Like a jazz club, this mode provides an exciting and intimate atmosphere. It simulates the sound field of a relatively small room having a low ceiling and hard reflective surfaces, for a "live" sound with enhanced presence to bring the performers up close.

### LIVE
Primarily for vocal pieces, this mode adds gloss to the vocals and you'll feel as though you were hearing a live stage performance.

### THEATER
You can clearly perceive the directions and source of the movie.
Real ambience of sound can also be recreated naturally using this mode.
THEATER mode can be used with stereo sources not encoded with DOLBY SURROUND.

**Note**

When using Dolby Surround encoded materials, select DOLBY PRO LOGIC SURROUND.

### SIMULATED (SIM SURR)
Choose this mode if little or no sound will be heard from the surround speakers.
You can feel as if you were in a more expanded space adding to the actual sound from the source.
This mode also adds effect to monaural sources by outputting sound from surround speakers.

**Note**

You can adjust center speaker volume only in the theater mode.
The center speaker is not used in the hall, and simulated modes.

**1 Turn INPUT SELECTOR to select and start the desired source.**

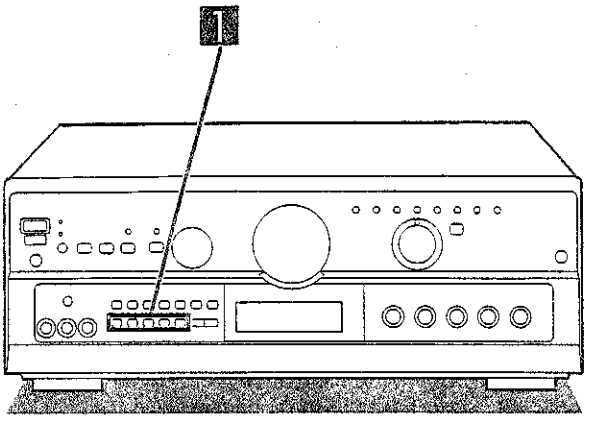
**2 Select the desired SFC mode.**

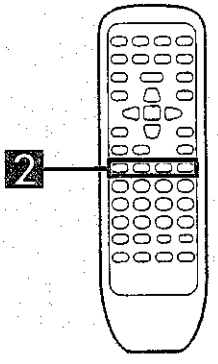
### For your reference
You can set the SFC mode for each source.
Each source will retain the selected mode.

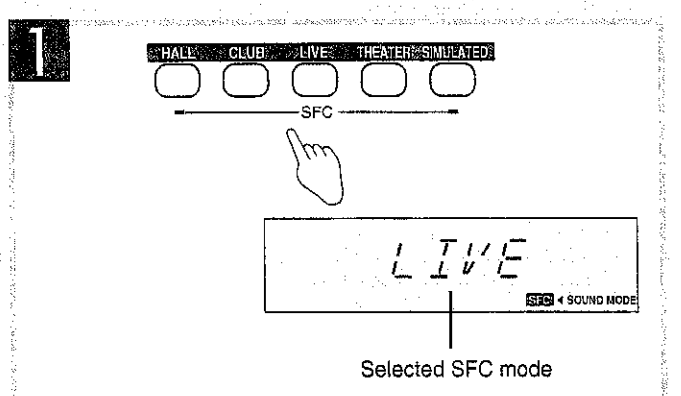
### To turn off the SFC function
Press OFF/ON.
Press once again to turn it on.

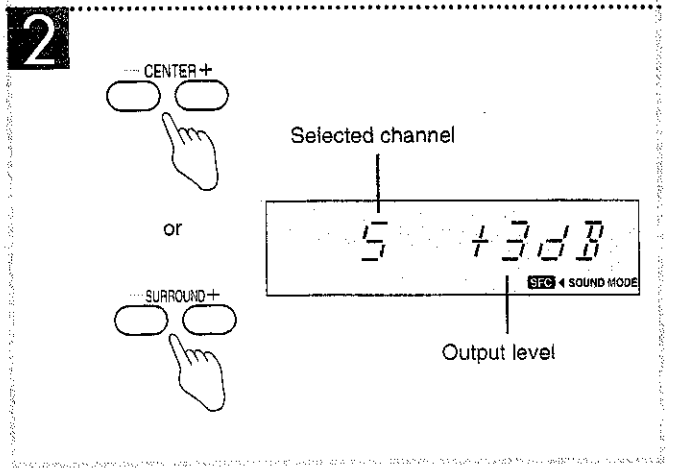
**Note**

BI-AMP and the SFC modes cannot be used at the same time.
If you are using BI-AMP and you select an SFC mode, BI-AMP will turn OFF and the BI-AMP indicator will go out.




## Adjusting field of sound

With this unit, you can adjust speaker volume.
Adjust the field of sound while listening to a source.

### To adjust the volume of the center and surround speakers

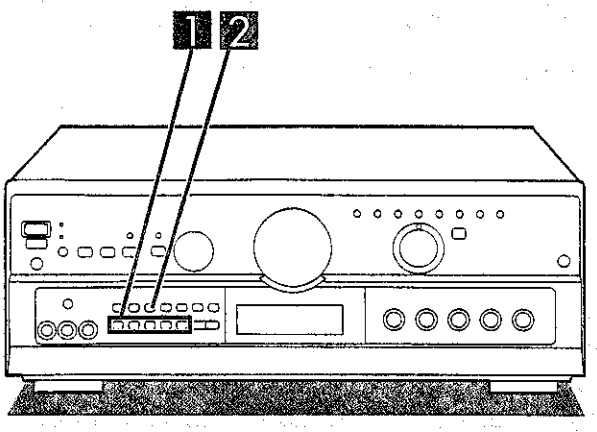
**Note**

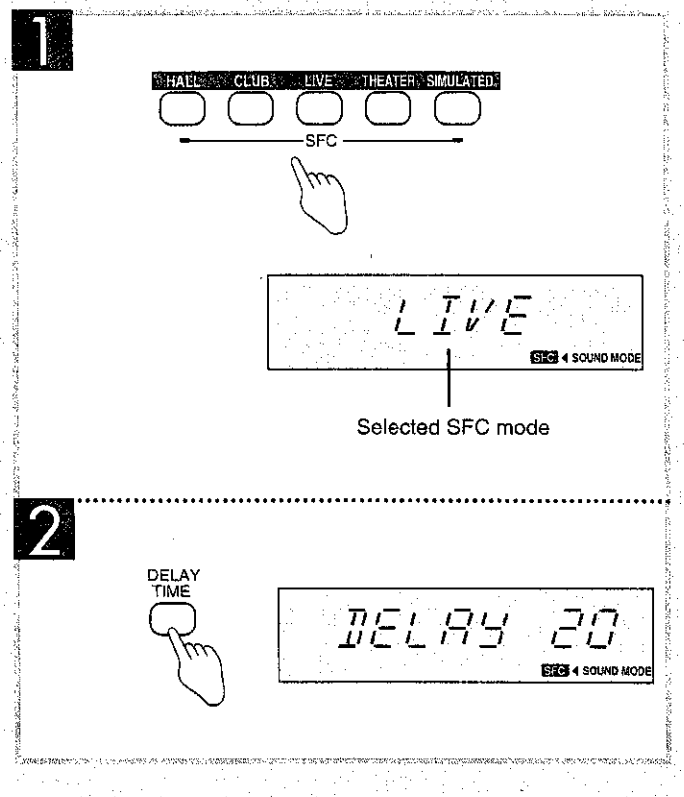
Center speaker volume can be adjusted only in the THEATER mode.

**1** **Select the desired SFC mode.**

**2** **by remote control only**

**Press CENTER (–) or (+), SURROUND (–) or (+) to adjust the output level.**




**To adjust the delay time**

**1** **Select the desired SFC mode.**

**2** **Press DELAY TIME to set the time.**

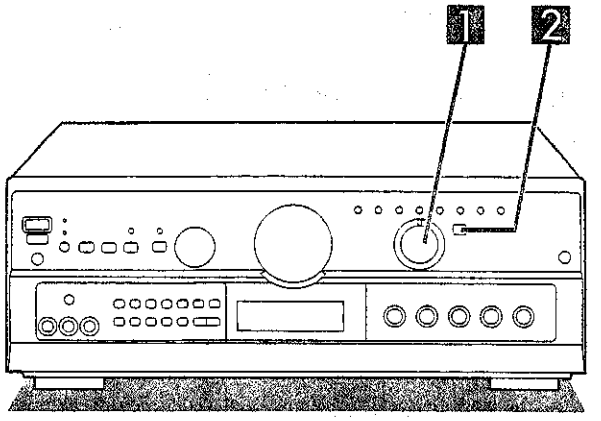
When the button is pressed, the current delay time is displayed.

Each time the button is pressed, the delay time will change.

The delay time increments are different depending on the SFC mode.
Select a delay time setting to accommodate to your individual needs.

| SFC modes | Available delay time setting (ms) |
|---|---|
| HALL | 40, 50, 20, 25, 30 |
| CLUB | 15, 20, 25, 30, 0 |
| LIVE | 50, 15, 20, 30, 40 |
| THEATER | 20, 25, 30, 40, 15 |
| SIMULATED | 15, 20, 25, 30, 40 |

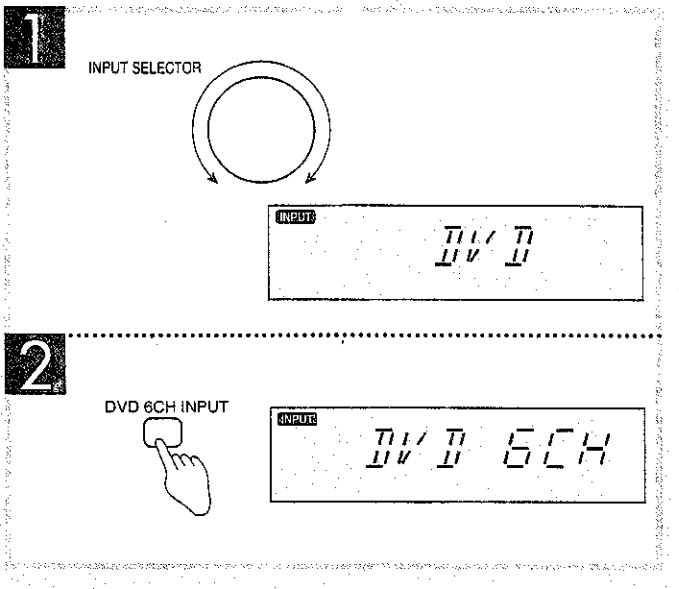
# *Enjoying sound with 6 channel discrete*




This receiver can playback 6 channel discrete sound.
It has terminals for connecting to components with 6 channel discrete output, such as a DVD player.

6 channel discrete output makes playback sound more real by adding depth, movement, position and other characteristics to the field of sound.
It will make you feel as if you were at the movie theater when in your own home.

**To enjoy 6 channel discrete output sound**
You have to connect a DVD player or other component that has 6 channel discrete output capabilities.




**1 Turn INPUT SELECTOR to select DVD.**

**2 Press DVD 6CH INPUT to select DVD 6CH.**
Changes as follows, each time the button is pressed.
DVD 6CH ⇄ DVD (2CH)

If you press this button while another source (CD, PHONO, etc.) is selected, the receiver switches the source to DVD and engages the DVD 6CH INPUT mode.

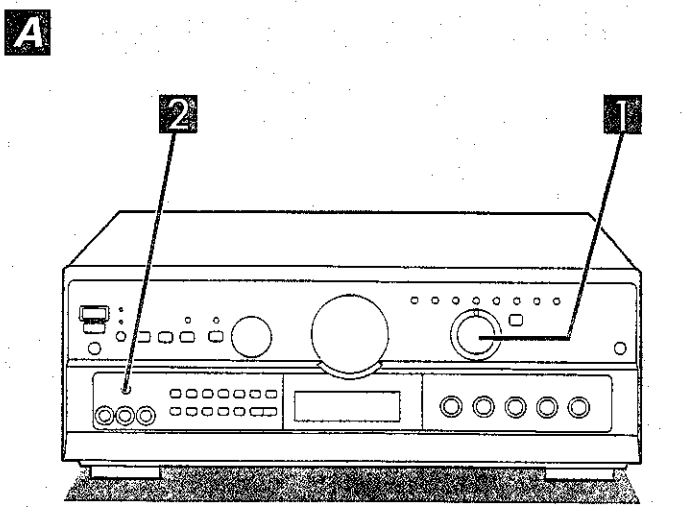
**3 Start the desired source.**
Follow your equipment's operating instructions.

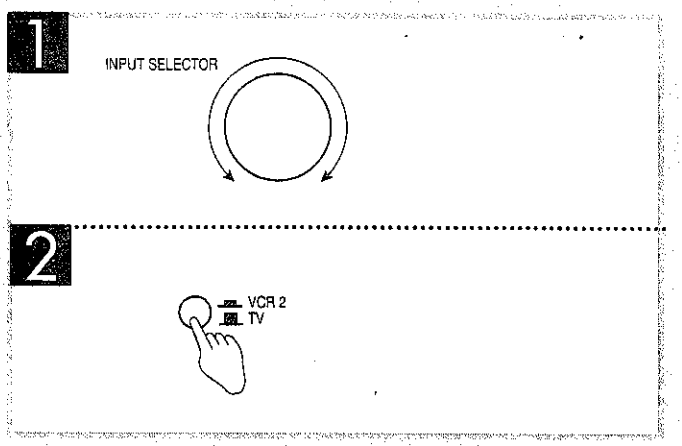
**Note**

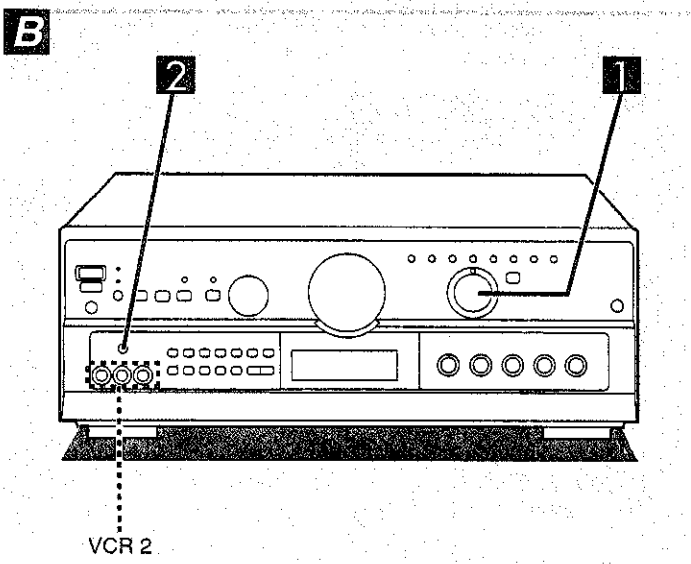
You cannot select Dolby Pro Logic or any of the SFC modes while in the DVD 6CH INPUT mode. If you try, the message "NOT POSSIBLE IN 6CH DISCRETE INPUT" will appear on the display.

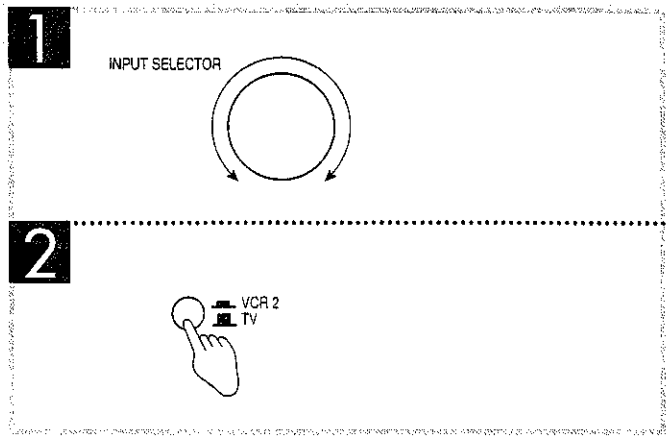
BI-AMP and DVD 6CH INPUT cannot be used at the same time.
If you are using BI-AMP and you select DVD 6CH INPUT, BI-AMP will turn OFF and the BI-AMP indicator will go out.

# Making a recording




**Note**

When you select DVD 6CH INPUT mode, only sound from the front left and right speakers is recorded.

### To record all 6 channels

Set the playback mode on your DVD player or decoder to 2 channel (stereo) mode.

For details, see the instruction manual that came with the connected equipment.

## Recording on a tape deck A

Before recording, prepare the tape deck for recording (recording level adjustment, etc.).
See the tape deck's operating instructions for details.

**1 Turn INPUT SELECTOR to select the source to be recorded.**
Any source can be selected except TAPE.

**2** (only if you select TV/VCR 2 in the above step)
**Set " TV" or " VCR 2" position.**

**3 Begin recording on the tape deck.**
Follow your tape deck's operating instructions.

**4 Begin the source to be recorded.**
Follow your equipment's operating instructions.

## Recording on a VCR B

You can record only on VCR 1.
Before recording, prepare the VCR 1 (VCR) for recording (recording level adjustment, input selector setting, etc.).
See the VCR's operating instructions for details.

**1 Turn INPUT SELECTOR to select the source to be recorded.**
Any source can be selected except VCR 1 (VCR) and TAPE.

**Note**

Recording from the tape deck is not possible.

**2** (only if you select TV/VCR 2 in the above step)
**Set " TV" or " VCR 2" position.**

**3 Begin recording on the VCR.**
Follow your VCR's operating instructions.

**4 Begin the source to be recorded.**
Follow your equipment's operating instructions.

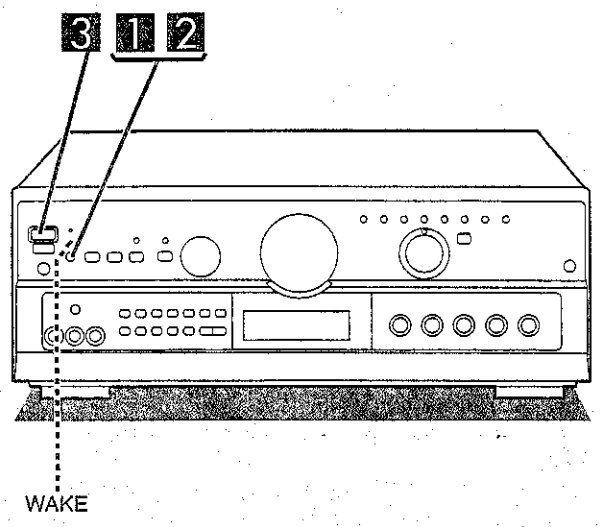
### For your reference

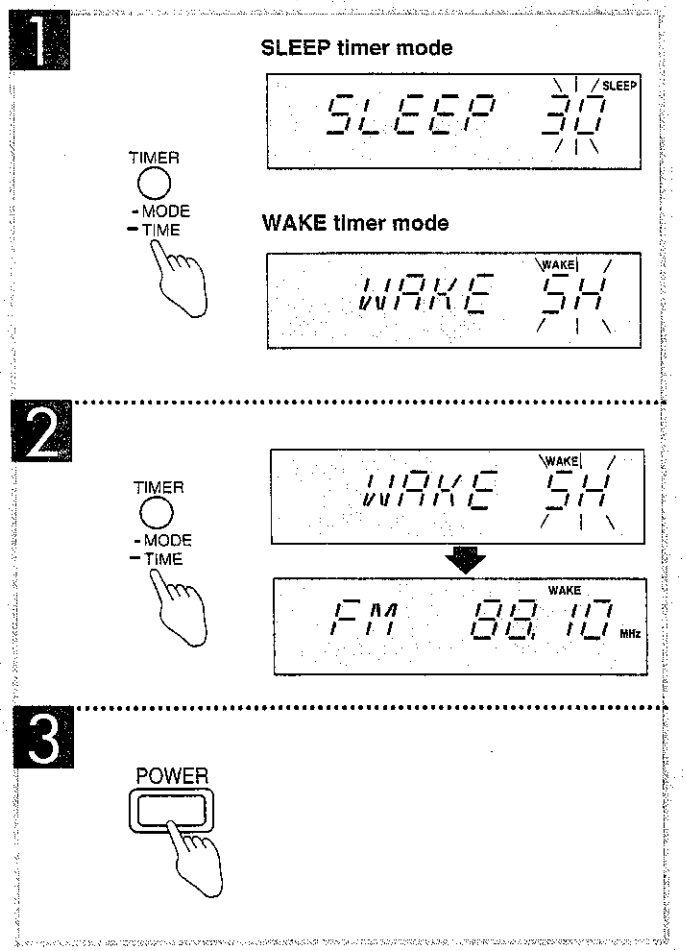
There are VCR 2 terminals at the front of this unit.
It is easier to carry out dubbing from a camcorder if it is connected to the front terminals.

## Timer function

There are two timer functions: the sleep timer and the wake timer.

- **Sleep timer:**
  The unit turns off after a set time.
  It can be set for 30, 60, or 90 minutes.
- **Wake timer:**
  The unit can be set to turn on a certain number of hours after it is turned off.
  It can be set for 5, 7, or 9 hours.




### Setting the timers

**1** (while listening to the radio)

**Press TIMER to select the desired timer mode.**

The timer mode changes as follows:

SLEEP — WAKE — OFF

**2** (within 5 seconds)

**Press TIMER and release when the time you require is displayed.**

The display changes as follows:

- In sleep timer mode
  30 — 60 — 90 (minutes)
- In wake timer mode
  5H — 7H — 9H (hours)

The frequency is displayed again 5 seconds after the setting is completed.

**3** Wake timer mode only

**Press POWER to turn off the power.**

The WAKE indicator lights up.

---

**Checking the remaining time on the sleep timer and the time set for the wake timer**

Press TIMER once.

**Note**

**Do not press TIMER again before the remaining time indication goes out.**

The setting may change if you do this.

**Changing a setting**

Repeat steps 1 and 2.

**To cancel the timer**

Press TIMER until "OFF" is displayed.
"SLEEP" or "WAKE" will go out.

**Note**

- The timers cannot be used together.
- The sleep timer turns off the receiver, and the wake timer turns on the receiver, but they do not turn off/on any externally connected components.

## *Troubleshooting guide*

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation.

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

**Reference pages indicated in black circles. (For example: ⑱)**

| Problem | Probable cause(s) | Suggested remedy |
|---|---|---|
| **While listening to FM broadcasts** | | |
| **An unusual hissing noise is heard when listening to the broadcast in stereo, but not heard when listening monaurally.** | A slight noise may be heard because the method used for modulation of FM stereo broadcasts is different than that used for monaural broadcasts. | • Try reducing the treble sound by using the treble control. (⑱)<br>• Try changing the location, height and/or direction of the antenna. (⑲)<br>• If an indoor antenna is being used, change to an outdoor antenna. (⑳)<br>• Try using an antenna with more elements. |
| **Noise is excessive in both stereo and monaural broadcasts.** | Poor location and/or direction of the antenna.<br>Transmitting station is too far away. | |
| **The "STEREO" indicator or the "TUNED" indicator flickers, without completely illuminating.** | Poor location and/or direction of the antenna.<br>Transmitting station is too far away. | • Try changing the location, height and/or direction of the antenna. (⑲)<br>• If an indoor antenna is being used, change to an outdoor antenna. (⑳)<br>• Try using an antenna with more elements. |
| **Excessive distortion in the sound of stereo broadcasts.** | Nearby building or mountain. | |
| **While listening to AM broadcasts** | | |
| **An unusual "beat" sound is heard.** | Unit is being used at the same time as the television set. | • Turn off the television set, or use this unit farther away from it. |
| | Interference from adjacent broadcast signal. | • Try reducing the treble sound by using the treble control. (⑱) |
| **A low-pitched "hum" sound is heard when the station is tuned.** | The AM loop antenna connection wires are too close to the power cord. | • Place the antenna connection wires and the power cord farther apart. |
| | The power supply frequency from the power cord is modulated and heard from the speakers. | • Install a special outdoor antenna. (⑰) |
| **A strange hissing noise is produced continuously or intermittently.** | Caused by the "discharge phenomenon" and the "oscillation phenomenon" of electric appliances (such as fluorescent lights, TV, small series-type motors, rectification equipment, etc.). | • Try placing this unit farther away from such equipment. |
| **Common Problems** | | |
| **Power will not switch ON.** | The power cord plug is not completely inserted. | • Confirm that the power cord plug is connected completely. |
| **No sound is heard.** | The speaker indicator(s) is(are) turned off. | • Turn on the speaker indicator(s). (⑯) |
| | The muting function is ON. | • Press the muting button. (⑲) |
| | Connections to the speaker systems or external equipment are incomplete or incorrect. | • Check that all wires and cables are correctly connected. (❻–❾, ⑫–⑮) |
| | The incorrect input source has been selected. | • Check that the correct source is selected.(⑯) |
| **Sound stops during a performance, or no sound is heard when the power is switched ON. (The word "OVERLOAD" appears on the display.)** | The protection circuitry has functioned because the positive and negative speaker connection wires have "shorted," speaker systems with an impedance less than the indicated rated impedance of this unit have been used or are under severe use, such as through excessive volume, excessive power or being in an excessively hot environment. | • Switch off the power, and after determining and correcting the cause, switch on the power once again.<br>• Use a speaker system of the proper impedance rating. (⑬–⑮) |

## *Technical specifications (DIN 45 500)*

### ■ AMPLIFIER SECTION

**Power output** (at 240 V for Australia and N.Z.)
(at 127 V for others)

| | |
|---|---|
| **DIN 1 kHz (T.H.D. 1%)** | 2×100 W (6 Ω) |
| **20 Hz-20 kHz continuous power output both channels driven** | 2×80 W (6 Ω) |
| **Total harmonic distortion** | |
| rated power at 20 Hz-20 kHz | 0.05% (6 Ω) |
| half power at 1 kHz | 0.03% (6 Ω) |
| **Power output at the Dolby Pro Logic operation** | |
| **DIN 1 kHz (T.H.D. 1%)** | |
| **Front** | (for Australia and N.Z.) 2×100 W (6 Ω) (for others) 2×85 W (6 Ω) |
| **Center** | (for Australia and N.Z.) 100 W (6 Ω) (for others) 85 W (6 Ω) |
| **Surround** | (for Australia and N.Z.) 2×100 W (6 Ω) (for others) 2×85 W (6 Ω) |
| **Subwoofer (f=100 Hz)** | (for Australia and N.Z.) 100 W (6 Ω) (for others) 85 W (6 Ω) |
| **Power bandwidth** | |
| **both channels driven, –3dB** | 10 Hz-40 kHz (6 Ω) |
| **Damping factor** | 30 (6 Ω) |
| **Load impedance** | |
| **Front** | |
| **A or B** | 4-16 Ω |
| **A and B** | 8-16 Ω |
| **BI-WIRE** | 6-16 Ω |
| **Center** | 6-16 Ω |
| **Surround** | 6-16 Ω |
| **Subwoofer** | 6-16 Ω |
| **Frequency response** | |
| **PHONO** | RIAA standard curve (30 Hz-15 kHz) ±0.8 dB |
| **CD, TAPE, DVD, VCR 1, TV/VCR 2, VCR 3** | 10 Hz-40 kHz, ±3 dB |
| **Input sensitivity and impedance** | |
| **PHONO** | 3 mV/ 47 kΩ |
| **CD, TAPE, DVD, VCR 1, TV/VCR 2, VCR 3** | 200 mV/ 22 kΩ |
| **S/N at rated power (6 Ω)** | |
| **PHONO** | 70 dB (IHF, A: 80 dB) |
| **CD, TAPE, DVD, VCR 1, TV/VCR 2, VCR 3** | 75 dB (IHF, A: 85 dB) |
| **Tone controls** | |
| **BASS** | 50 Hz, +10 to –10 dB |
| **TREBLE** | 20 kHz, +10 to –10 dB |
| **Output voltage** | |
| **TAPE REC (OUT), VCR 1 OUT** | 200 mV |
| **Channel balance (250 Hz-6.3 kHz)** | ±1 dB |
| **Channel separation** | 55 dB |
| **Adaptive control (volume at –30 dB)** | 50 Hz, +9 dB |
| **Headphones output level and impedance** | 430 mV/330 Ω |
| **Subwoofer cut off frequency control** | 50-200 Hz |

### ■ FM TUNER SECTION

| | |
|---|---|
| **Frequency range** | 87.50-108.00 MHz |
| **Sensitivity** | |
| **S/N 30 dB** | 1.5 µV/75 Ω |
| **S/N 26 dB** | 1.3 µV/75 Ω |
| **S/N 20 dB** | 1.2 µV/75 Ω |
| **IHF usable sensitivity** | 1.5 µV/75 Ω (IHF'58) |
| **IHF 46 dB stereo quieting sensitivity** | 22 µV/75 |
| **Total harmonic distortion** | |
| **MONO** | 0.2% |
| **STEREO** | 0.3% |
| **S/N** | |
| **MONO** | 60 dB (75 dB, IHF) |
| **STEREO** | 58 dB (71 dB, IHF) |
| **Frequency response** | |
| **20 Hz-15 kHz** | +1 dB, –2 dB |
| **Alternate channel selectivity** | |
| **±400 kHz** | 65 dB |
| **Capture ratio** | 1.5 dB |
| **Image rejection at 98 MHz** | 40 dB |
| **IF rejection at 98 MHz** | 70 dB |
| **Spurious response rejection at 98 MHz** | 70 dB |
| **AM suppression** | 50 dB |
| **Stereo separation** | |
| **1 kHz** | 40 dB |
| **Carrier leak** | |
| **19 kHz** | –30 dB (–35 dB, IHF) |
| **38 kHz** | –50 dB (–55 dB, IHF) |
| **Channel balance (250 Hz-6.3 kHz)** | ±1.5 dB |
| **Limiting point** | 1.2 µV |
| **Bandwidth** | |
| **IF amplifier** | 180 kHz |
| **FM demodulator** | 1000 kHz |
| **Antenna terminal** | 75 Ω (unbalanced) |

### ■ AM TUNER SECTION

| | |
|---|---|
| **Frequency range** | 522-1611 kHz (9 kHz steps) 530-1620 kHz (10 kHz steps) |
| **Sensitivity** | 20 µV, 330 µV/m |
| **Selectivity (at 999 kHz)** | 55 dB |
| **IF rejection (at 999 kHz)** | 50 dB |

### ■ VIDEO SECTION

| | |
|---|---|
| **Output voltage at 1 V input (unbalanced)** | 1 ±0.1 Vp-p |
| **Maximum input voltage** | 1.5 Vp-p |
| **Input/output impedance** | 75 Ω(unbalanced) |

### ■ GENERAL

| | |
|---|---|
| **Power supply** | |
| **For Australia and N.Z.** | AC 230-240 V, 50 Hz |
| **For others** | AC 110-127 V/220-240 V, 50/60 Hz |
| **Power consumption** | 300 W |
| **Dimensions (W×H×D)** | 430×158×378.4 mm |
| **Weight** | 11 kg |

**Notes:**

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

## *Maintenance*

### If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

**Matsushita Electric Industrial Co., Ltd.**
Osaka 542-8588, Japan

(En)

RQT4465-L

H0598V0