

Panasonic

AV Control Receiver

Operating Instructions

Model No. **SA-HE100**

22289

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PQA

APPROVED

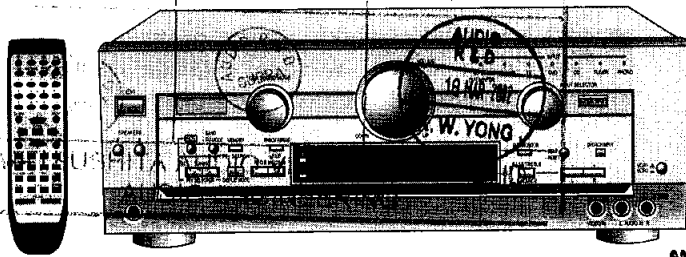
(01)

Date 19/3/02

Approved

Checked

Prepared



Dear customer

Thank you for purchasing this product.
Before connecting, operating or adjusting this product, please read these instructions completely.
Please keep this manual for future reference.

Note:

"EB" on the packaging indicates the United Kingdom.



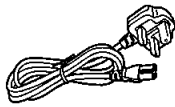
Supplied accessories



Please check and identify the supplied accessories.

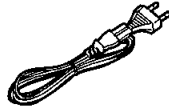
- 1 AC mains lead

For the United Kingdom



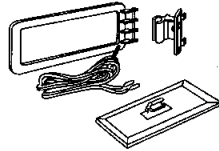
(VJA0733)

For others

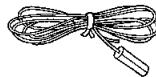


(RJA0019-2K)

- 1 AM loop antenna set (N1DAEYA00006) (AM loop antenna, antenna stand, antenna wall bracket)



- 1 FM indoor antenna (RSA0007-L)

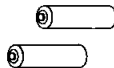


For the United Kingdom

- 1 Antenna plug adapter (K1YZ02000013)



- 2 Batteries



- 1 Remote control (EUR7702KF0)

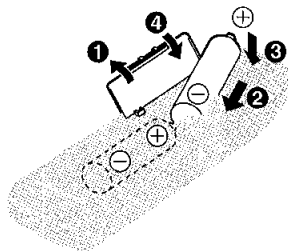


- Refer to the separate booklet, "Remote Control Operation Guide", for remote control operation details.

Use the numbers indicated in parentheses when asking for replacement parts.

The remote control

Batteries



(R6, AA, UM-3)

- Insert so the poles (+ and -) match those in the remote control.
- Do not use rechargeable type batteries.

Safety precautions

Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other place where DC is used.

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock.

Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

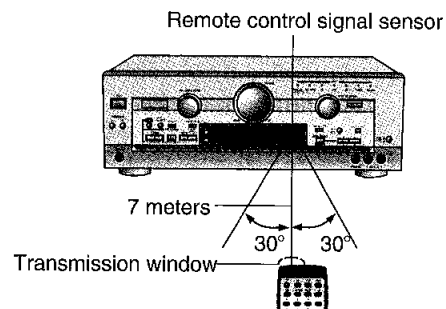
Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

Use





- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

Caution for AC Mains Lead

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 5-ampere fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below. If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL \perp OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

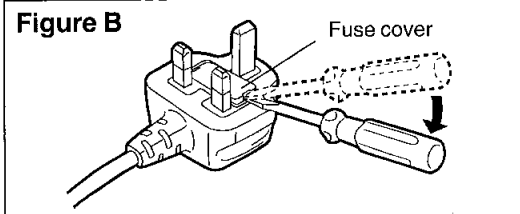
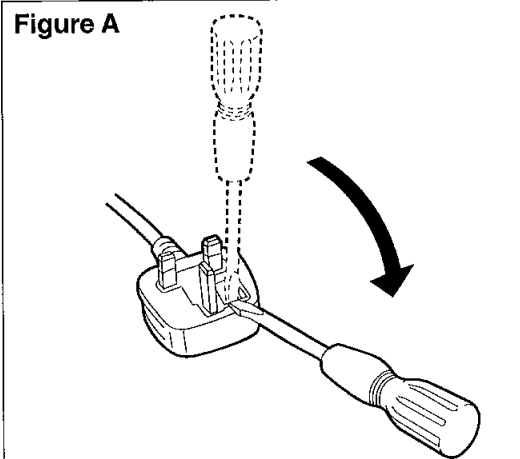
Before use

Remove the connector cover.

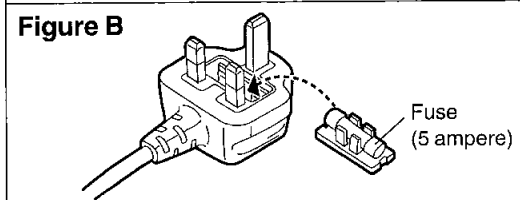
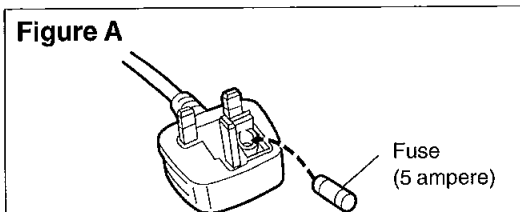
How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

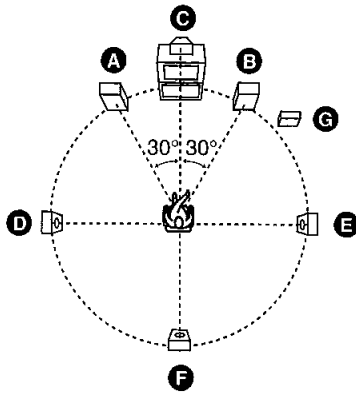
1. Open the fuse cover with a screwdriver.



2. Replace the fuse and close or attach the fuse cover.



Placement of speakers



The front, center, and surround speakers should be placed at approximately the same distance from the seating area. The angles in the diagram are approximate.

Front speakers (A left B right)

Place on the left and right of the TV at seated ear height so that there is good coherency between the picture and sound.

Center speaker (C)

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

Surround speakers (D left E right)

Place on the side of or slightly behind the seating area, about one meter higher than ear level.

Surround back speaker (F)

Place behind the seating area, about one meter higher than ear level.

Subwoofer (G)

The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.

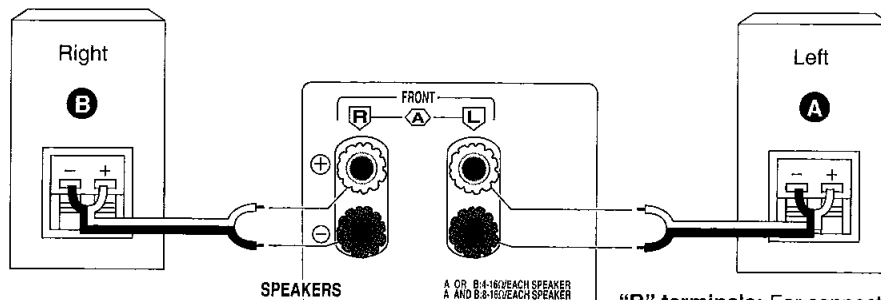
Note that some experimentation can yield the smoothest low frequency performance. Placement near a corner can increase the apparent output level, but can result in unnatural bass.

Connecting speakers

Other connections are possible depending on your speaker system. See your speaker system's operating instructions for details.

Turn off the receiver before connecting the speakers.

Front speakers – Impedance: A or B 4–16 Ω, A and B 8–16 Ω



Note

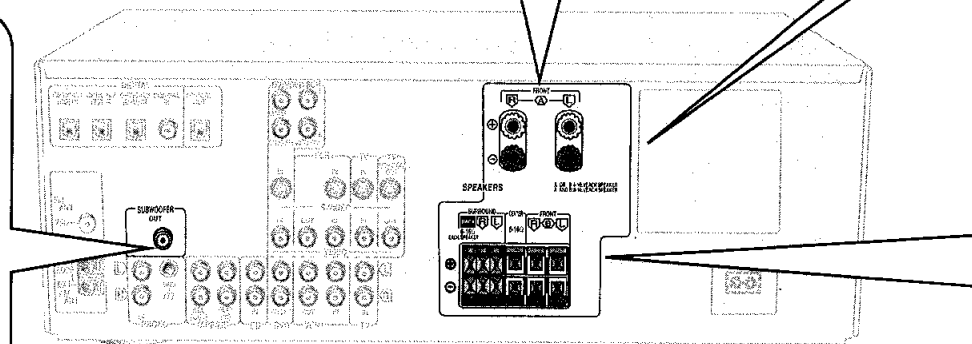
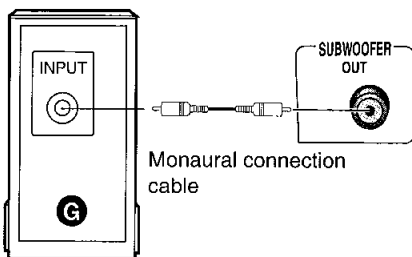
If you connect speakers with an impedance under 6 Ω, switch on "LOW IMP" (→ page 12).

"B" terminals: For connection to a second pair of speakers.

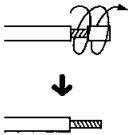
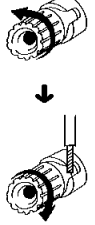
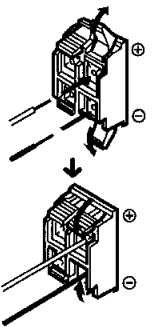
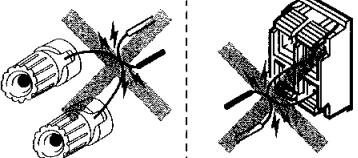
Note

Use the A terminals to enjoy SURROUND, SFC and DVD 6CH INPUT. SURROUND, SFC and DVD 6CH INPUT do not work if you select "B".

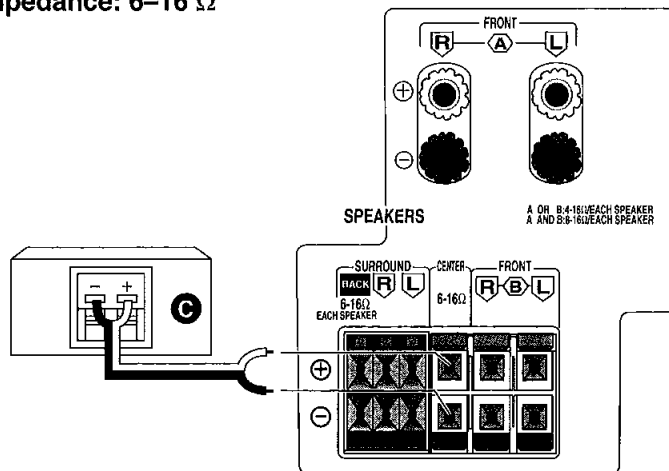
Active subwoofer



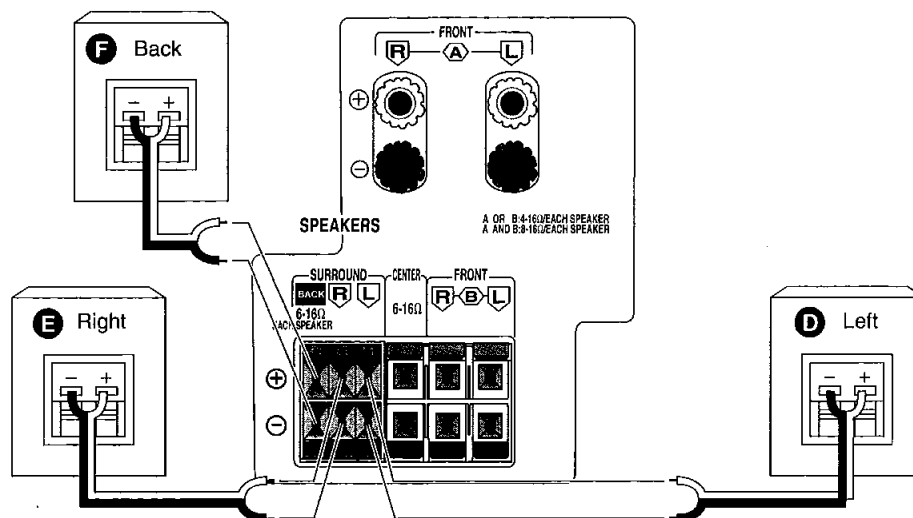
Speaker cable

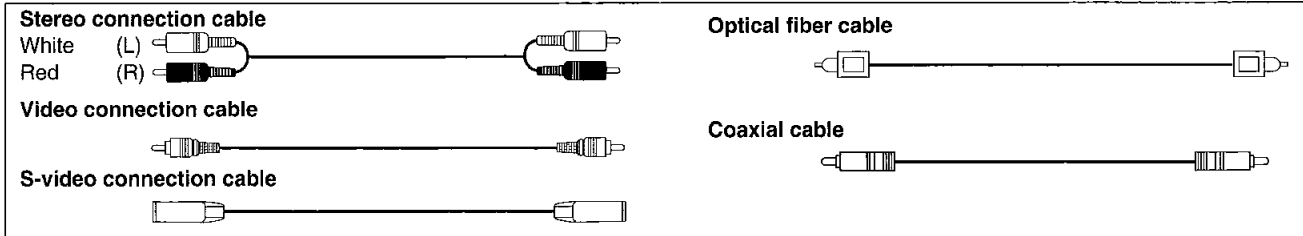
Cable	Speaker terminals		Note
<p>Twist the wire.</p> 	<p>FRONT A</p> 	<p>Other terminals</p> 	<p>Do not short circuit.</p> 

Center speaker – Impedance: 6–16 Ω



Surround speakers – Impedance: 6–16 Ω





Note

- Do not bend optical fiber cables.
- Turn off all components before making any connections.
- Use digital connection to enjoy Dolby Digital or DTS and record digital sources (→ page 10).
- Use analog connection to enjoy sources that cannot be decoded on this unit and to record analog sources (→ pages 10 and 17).

Changing the digital input settings
You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings (→ pages 8 and 9).

TV, VCR and DVD player

Video terminals

S-VIDEO
Use this connection for better picture quality than with the VIDEO terminals.

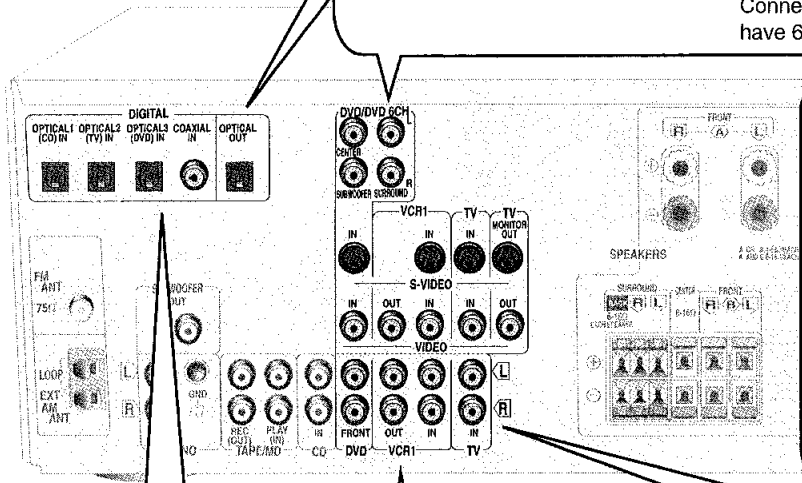
VIDEO
This is the most basic video connection.

- Video input can only be output again through the same type of terminal.

DVD player

DIGITAL AUDIO OUT

Note
Connect to FRONT L, R if your DVD player does not have 6-channel output.



Connection to the VCR 2 terminals on the front panel

VIDEO OUT
AUDIO OUT Video camera, etc.

Satellite receiver etc.

DIGITAL OUT

VCR

S-VIDEO OUT
VIDEO IN
VIDEO OUT
AUDIO IN
AUDIO OUT

21-pin scart cable connection also possible.

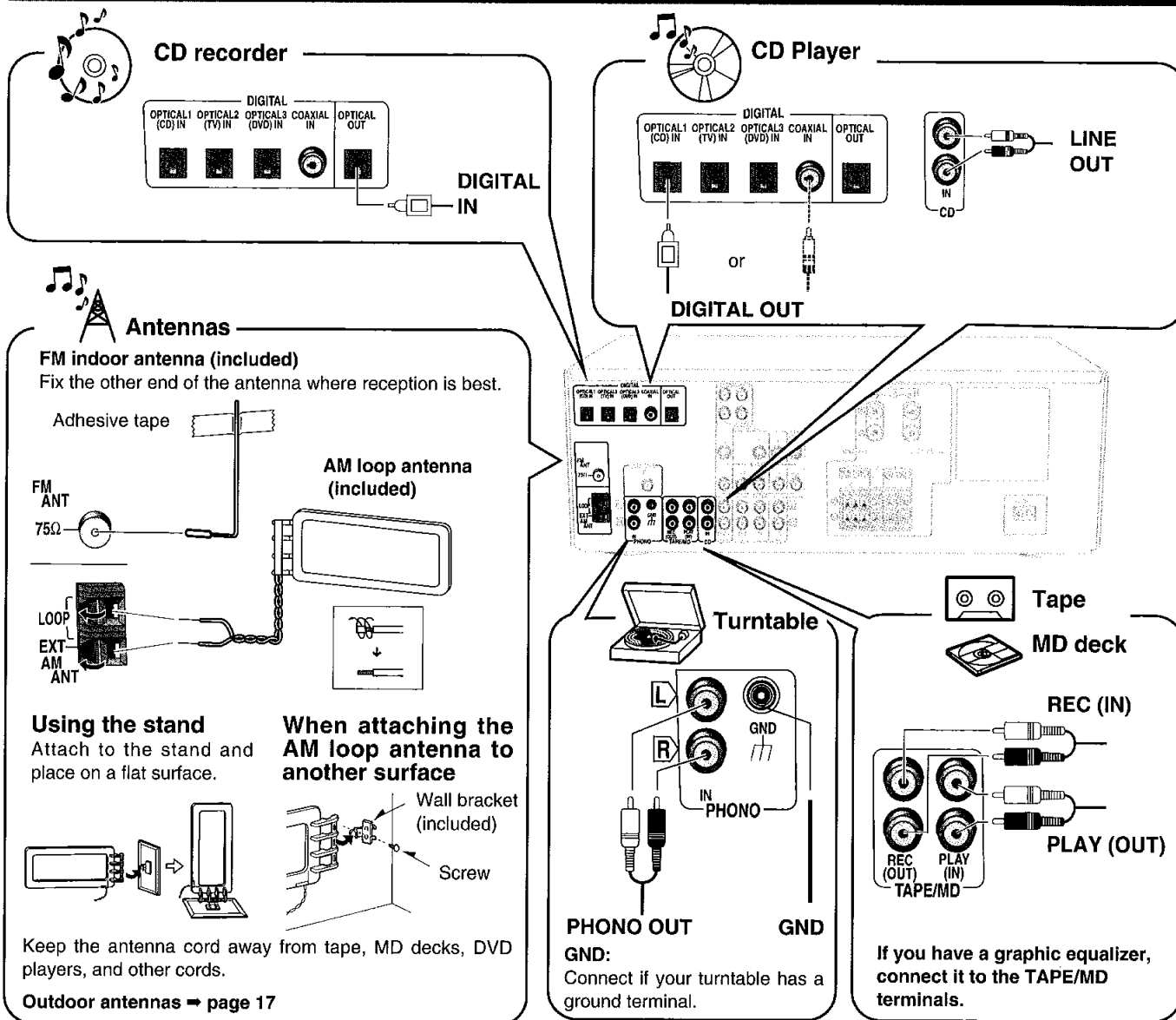
TV or monitor

S-VIDEO OUT
S-VIDEO IN
VIDEO IN
VIDEO OUT
AUDIO OUT

21-pin scart cable connection also possible.

- To connect equipment, refer to the appropriate operating instructions.
- Peripheral equipment and cables sold separately unless otherwise indicated.

Other equipment and antennas



Before use

Step 1

Step 2

After use

Step 3

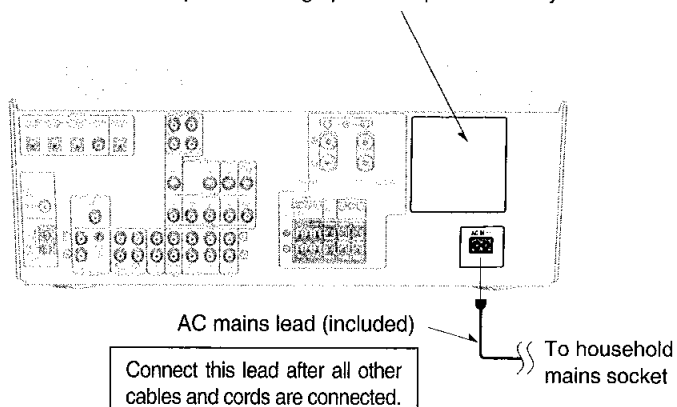
Others

Reference

Connecting the AC mains lead and other information

(FOR THE UNITED KINGDOM ONLY)
READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 3 BEFORE CONNECTION.

Cooling fan
Operates at high power output levels only.



Conserving power

The unit consumes 2 W even when it is turned off with [⏻]. To save power when the unit is not to be used for a long time, unplug it from the household mains socket.

If the unit is left unplugged for longer than a few weeks, all settings will revert to the factory settings. Do the settings again if this occurs.

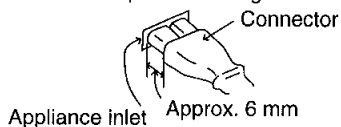
Note

The included AC mains lead is for use with this unit only. Do not use it with other equipment.

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.



Change the settings to suit your speakers and units to the environment in which you are using them. Before making any changes, read the descriptions of the settings, note the factory settings and ranges, and refer to equipment's instructions.

Press [].

1

SIZE
Set the size to suit your speakers

LARGE: Speakers that can reproduce a full sound range (bass below 100 Hz).

SMALL: Speakers that cannot adequately reproduce the bass range (sufficient for most speakers when using a subwoofer).

NONE: Speakers not connected (center, surround or surround back).

The factory settings are: FRONT: LARGE
CENTER, SURROUND and SUR BACK (surround back): SMALL

For the subwoofer (SUB-WFR), select YES if you have connected one (factory setting), or NO if not.

2

DISTANCE

Change the distance so that the sound from all the speakers (except for the subwoofer) reaches you at the same time.

You can select distances between 1.0 and 10.0 meters at 0.1-meter intervals.

The factory settings are: FRONT and CENTER: 3.0 meters
SURROUND and SUR BACK: 1.5 meters

3

FILTER
Change the cut-off for bass output from the front speakers

If you set the front speakers to "SMALL", the filter is set to 100 Hz. Raise the cut-off if the bass from the front speakers is unsatisfactory so that this bass is output through the subwoofer.

You can raise the cut-off from 100 Hz to either 150 Hz or 200 Hz.

4

D-INPUT
Digital Input

Change these settings to suit the connections you have made to the optical (OPT) and coaxial (COAX) digital input terminals, so that the correct source is selected when you turn [INPUT SELECTOR].

The factory settings are:
CD:OPT 1 DVD:OPT 3 TV:OPT 2 (Free :COAX)

5

Adjusting speaker output level

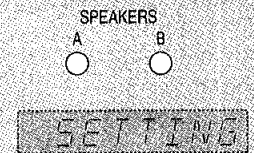
Adjust center, surround and surround back output to the same apparent level of the front speakers, and subwoofer output so it is balanced with the front speakers.

(Adjust the volume of the front speakers with [VOLUME].)

C(center), SR(surround right), SB(surround back), and SL(surround left) can be adjusted between -10 dB and +10 dB, with 0 being the level of the front speakers.

For SW(subwoofer), you can select "-- --" so there is no output, "MIN" for minimum output, a level between 1 and 19, or "MAX" for maximum output. Subwoofer output is easily influenced by the source. You can also change its level while playing something for better effect.

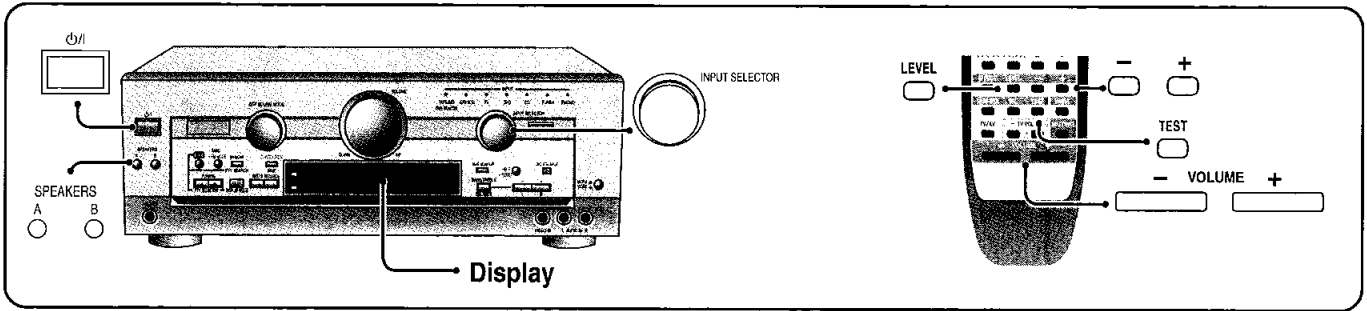
Press at the same time to enter the setting mode.



Turn SPEAKERS A on.



• You cannot adjust output level when SPEAKERS B is on.



Select "SIZE".

SPEAKERS
A
○

SIZE

Select the speaker.

SPEAKERS
B
○

FRONT

Change the setting.

INPUT SELECTOR

LARGE

Repeat this step for each speaker channel.

Select "DISTANCE".

SPEAKERS
A
○

DISTANCE

Select the speaker.

SPEAKERS
B
○

FRONT

Change the setting.

INPUT SELECTOR

1.0 m

Repeat this step for each speaker channel.

Press at the same time to exit the setting mode.

SPEAKERS
A
○

COMPLETE

Select "FILTER".

SPEAKERS
A
○

FILTER

Change the setting.

INPUT SELECTOR

100

Select "D-INPUT".

SPEAKERS
A
○

D-INPUT

Select the input position.

SPEAKERS
B
○

CD OPT 1

Change the setting.

INPUT SELECTOR

CD 200K

Output the signal.

The speakers output a signal in order for about two seconds each.

TEST

TEST 4

L-C-R-SR-SB-SL-SW

Speakers set as "NONE" or "NO" are skipped.

Adjust the main volume.

- VOLUME +

[Volume Control Buttons]

Adjust the level.

Press [LEVEL] to select the speaker channel, then press [-] or [+].

LEVEL

[Level Control Buttons]

L +4.0 dB


Repeat this step for each speaker channel.

Stop the test signal.


TEST


[TEST Button]


•The "SURROUND" DSP mode is engaged.

1  **Switch on.**

2 **Turn SPEAKERS A on.**

 **SPEAKERS A**

 **SPEAKERS B**

- To use SPEAKERS B: Press [].
- "SURROUND" and "SFC" do not work if you select "B".

3 **Select input.**

 **INPUT SELECTOR**

TAPE/MD ↔ VCR 1/FRT-VCR2 ↔ TV
↓
PHONO ↔ TUNER ↔ CD ↔ DVD

For CD, DVD, TV
Select digital/analog input.
The button lights when digital is selected.

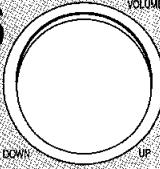
 **DIGITAL INPUT**

4 **Select the DSP sound mode.**

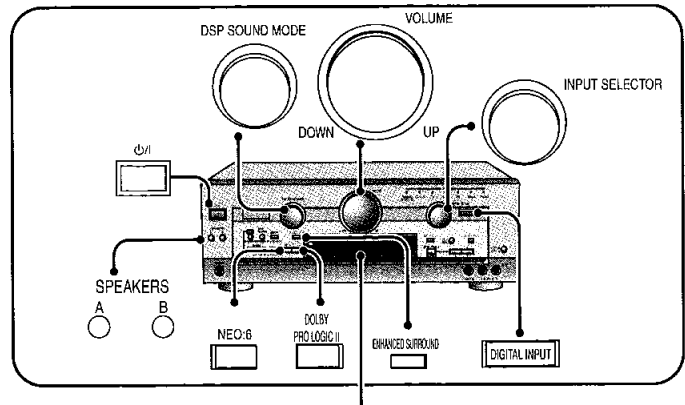
 **DSP SOUND MODE**

5 **Start play of the source.**


6 **Adjust the volume.**

 **VOLUME**

DOWN **UP**




STEREO mode


 **STEREO**

Use this mode to play digital or analog stereo sources or to play surround sources through two speakers. When surround sources are played in this mode, the sounds intended for the other speaker channels are played through the front speakers.


SURROUND mode

 **SOUND MODE SURROUND**

Select this mode when you are playing a digital surround source (Dolby Digital or DTS). Also select this mode when playing analog or digital stereo sources. The Dolby Pro Logic II processor works not only on sources recorded with Dolby Surround, but also on any stereo source. The following modes are available when using Dolby Pro Logic II.

 **DOLBY PRO LOGIC II**


ENHANCED SURROUND mode

 **SOUND MODE SURROUND ENHANCED**


This mode uses the surround back speaker to create a realistic sound field. It is especially effective when playing DTS-ES and Dolby Digital Surround EX, but can be used with other DTS and Dolby Digital sources.

Use DTS NEO:6 to play 5.1-channel DTS and 2-channel PCM and analog sources through 6.1 channels.

The following modes are available when playing 2-channel PCM and analog sources.

 **NEO:6**


SFC modes

 **SOUND MODE SFC**


Enjoy an enhanced sound experience with greater presence and spread by using these SFC (sound field control) modes with PCM or analog stereo sources.

The SFC modes cannot be used if the input signal is Dolby Digital or DTS.

Choose from the following modes.


 **SFC**

(Remote control)

When you finish listening
Be sure to reduce the volume and press [] to switch the unit to standby.

For your reference
In rare cases, the unit may have trouble recognizing the digital signals on discs.

- With the PCM signals on CDs, this may cause the beginning of a track to be cut off. Engage the PCM FIX mode if this occurs.
- With DTS, the signals may not be recognized at all. Engage the DTS FIX mode if this occurs.

While the input source is selected and digital input is engaged:
Press and hold [].
The current mode is displayed. Press again to change the mode.
Each time you press the button:
AUTO → PCM FIX → DTS FIX

When a FIX mode is on, the unit cannot process other signals. This may cause noise to be output. Select "AUTO" if this occurs.
The selected mode is stored for each input source even if the unit is turned off.

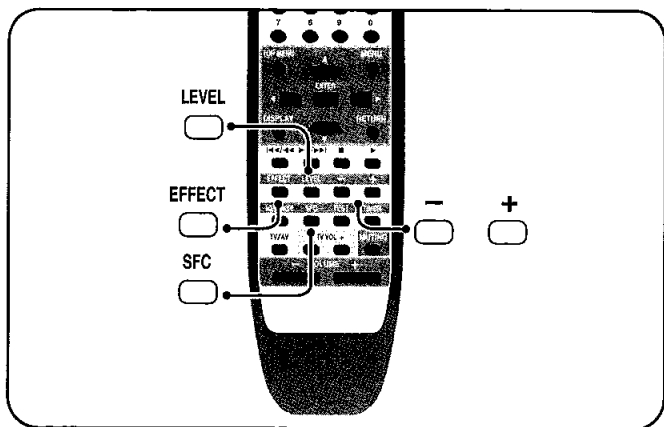
Notes on using the Digital Signal Processor
The digital signal processor (DSP) in this unit can decode the following signals:

- **Dolby Digital**
- **DTS, including DTS-ES**
- **PCM, including PCM with sampling frequencies of 96 or 88.2 kHz**

It cannot decode:

- Other digital signals, such as MPEG
- Dolby Digital RF signals from a laser disc player

When playing PCM with sampling frequencies of 96 or 88.2 kHz, the STEREO DSP mode is engaged automatically.



MOVIE

Use this mode when playing movie software, especially videotapes, recorded in Dolby Surround.

MUSIC

Adds surround effects to stereo sources.

PANORAMA

Sound is spread more so you feel like you are surrounded by music.

Notes on using Dolby Pro Logic II

You cannot select the above modes when ENHANCED SURROUND is on.

CINEMA

Use this mode when playing movie software.

MUSIC

Adds surround effects to stereo sources.

Notes on using DTS NEO:6

You cannot select the above modes when ENHANCED SURROUND is on and the "DTS" indicator is lit.

HALL

Imparts the reflection and spread of a large concert hall.

CLUB

Conveys the exciting and intimate atmosphere of a jazz club.

LIVE

Brings you up close for "live" stage performance and smoother vocals.

THEATER

Recreates natural sound ambience and direction.

SIM SURR (Simulated Surround)

Heightens the sensation of expanded space with stereo sources, and augments monaural sources.

PARTY

This mode uses the front and surround speakers so that sound is in stereo regardless of the direction you are facing.

You can adjust the effect of MUSIC and PANORAMA with the center width and dimension controls.

Center Width Control – C-WDTH

This adjustment helps you realize a more natural sound image when listening to music. Move sound out into the front speakers to improve the overall front image, or add sound to the center speaker to fix the center image.

You can choose a level between 0 (the center speaker is dominant) and 7 (center sound is spread out). The default is level 3.

① Press [] to select "C-WDTH".

② Press [] or [] to adjust the effect.

Dimension Control – DIMEN

You can make up for differences in the output level of the front and surround speakers.

You can choose a level between -3 and +3 – increase the level to move sound to the front speakers, decrease to move it to the surround speakers.

The default level is 0.

① Press [] to select "DIMEN".

② Press [] or [] to adjust the effect.

You can adjust the effect of MUSIC with the center image control.

Center Image Control– C-IMG

This adjustment helps you realize a more natural sound image when listening to music. Move sound out into the front speakers to improve the overall front image, or add sound to the center speaker to fix the center image.

You can choose a level between 0 (the center speaker is dominant) and 5 (center sound is spread out). The default level is 3.

① Press [] to select "C-IMG".

② Press [] or [] to adjust the effect.

You can adjust the sound field by adjusting the level of the speakers and the delay time of the surround speakers. These adjustments can be made for each SFC mode.

To adjust the speaker level

① Press [] to select the speaker channel.

Each time you press the button:

C → SR → SL → SW

Speakers set as "NONE" or "NO" are skipped.

② Press [] or [] to adjust the level.

C, SR, and SL: -10 dB to +10 dB

SW: --- (off) ↔ MIN ↔ 1 – 19 ↔ MAX

To adjust the delay time

① Press [].

② Press [] or [] to change the delay time.

Delay time can be set at 10-millisecond (ms) intervals between 10 and 100 ms.

The factory setting is 50 ms for each mode.

CAUTION!

- DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

SUOMI

VAROITUS!

- ÄLÄ ASENNATA TAI LAITTA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.
- ÄLÄ PEITÄ LAITTEEN TUULETUSAUKKOJA SANOMALEHDellä, PÖYTÄLIIKALLA, VERHOLLA TAI MUULLA VASTAAVALLA ESINEELLÄ.
- ÄLÄ ASETA PALAVAA KYNTTILÄÄ TAI MUUTA AVOTULEN LÄHDETTÄ LAITTEEN PÄÄLLE.
- HÄVITÄ PARISTOT LUONTOA VAHINGOITTAMATTOMALLA TAVALLA.

VAROITUS:

TULIPALO-, SÄHKÖISKUVAARAN TAI TUOTETTA KOHTAAVAN MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, KOSTEUDELLE, VESIPISAROILLE TAI ROISKEELLE, EIKÄ NESTETTÄ SISÄLTÄVIÄ ESINEITÄ, KUTEN ESIMERKIKSI MALJAKOITA, SAA ASETTAA LAITTEEN PÄÄLLE.

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

NORSK

ADVARSEL!

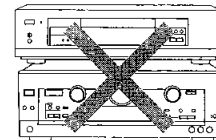
- APPARATET MÅ IKKE PLOSSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.
- APPARATETS VENTILASJONSÅPNINGER MÅ IKKE DEKKES TIL MED AVISER, BORDDUKER, GARDINER OG LIGNENDE.
- PLOSSER IKKE ÅPEN ILD, SLIK SOM LEVENDE LYS, OPPÅ APPARATET.
- BRUKTE BATTERIER MÅ KASSERES UTEN FARE FOR MILJØET.

ADVARSEL:

FOR Å REDUSERE FAREN FOR BRANN, ELEKTRISK STØT ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, FUKTIGHET, VANNDRÅPER ELLER VANNSPRUT. DET MÅ HELLER IKKE PLOSSERES GJENSTANDER FYLT MED VANN, SLIK SOM BLOMSTERVASER, OPPÅ APPARATET.

CAUTION

Do not place anything on top of this unit or block the heat radiation vents in any way. In particular, do not place tape decks or CD/DVD players on this unit as heat radiated from it can damage your software.



THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

SUOMI

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA ILMASTOSSA.

NORSK

DETTE APPARATET ER BEREGNET TIL BRUK UNDER MODERATE KLIMAFORHOLD.