

Control Receiver Operating Instructions

Model No. **SA-XR50**



Dear customer

Thank you for purchasing this product.
Before connecting, or before using, please read the instructions completely.
Please keep this manual in a safe place.

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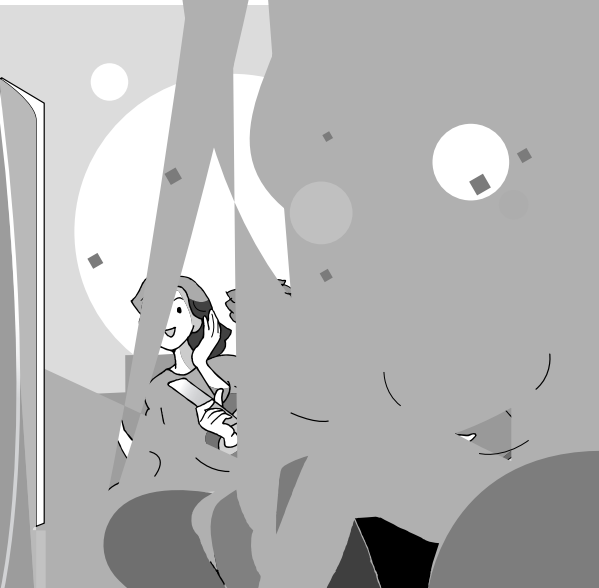
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Reference

Maintenance	
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For U.S.A.
An
na
pro
guid

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

Before use

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

<p>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.</p>
--

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Listening caution



Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

We recommend that you avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.

Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

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.

CAUTION!

Do not place anything on top of the unit. Do not place the unit on top of other electronic equipment, such as CD/DVD players, as this can damage your software.

User memo:

DATE OF PURCHASE
DEALER NAME
DEALER ADDRESS

TELEPHONE NUMBER

The model number is printed on the bottom of the unit, either the front or the back. Please refer to the space provided below.

MODEL NUMBER

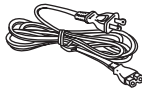
SERIAL NUMBER

Supplied accessories



Please check and identify the supplied accessories.

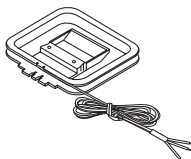
1 AC power supply cord (K2CB2CB00006)



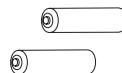
1 FM indoor antenna (RSA0006-L)



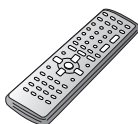
1 AM loop antenna (RSA0037)



2 Batteries



1 Remote control (EUR7722KB0)



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

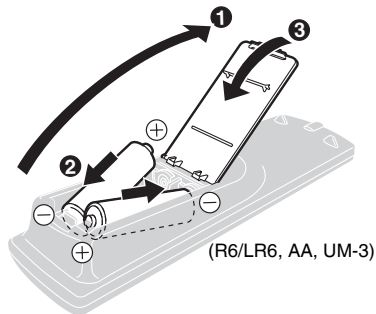
Use the numbers indicated in parentheses when asking for replacement parts.

(Only for U.S.A.)

To order accessories contact 1-800-332-5368 or the website (<http://www.pasc.panasonic.com>).

The remote control

Batteries



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

Use

Point the remote control at the sensor, avoiding obstacles, at a maximum range of 7m (23 feet) directly in front of the unit.



- 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.

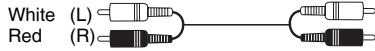
Step 1

Home Theater connections

DVD player/
TV or monitor

Before connecting

Stereo connection cable



Video connection cable



Coaxial cable



Speaker cable

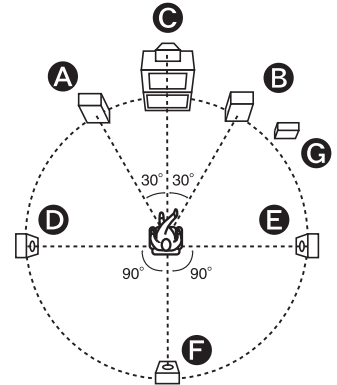


Turn off all components before making any connections.

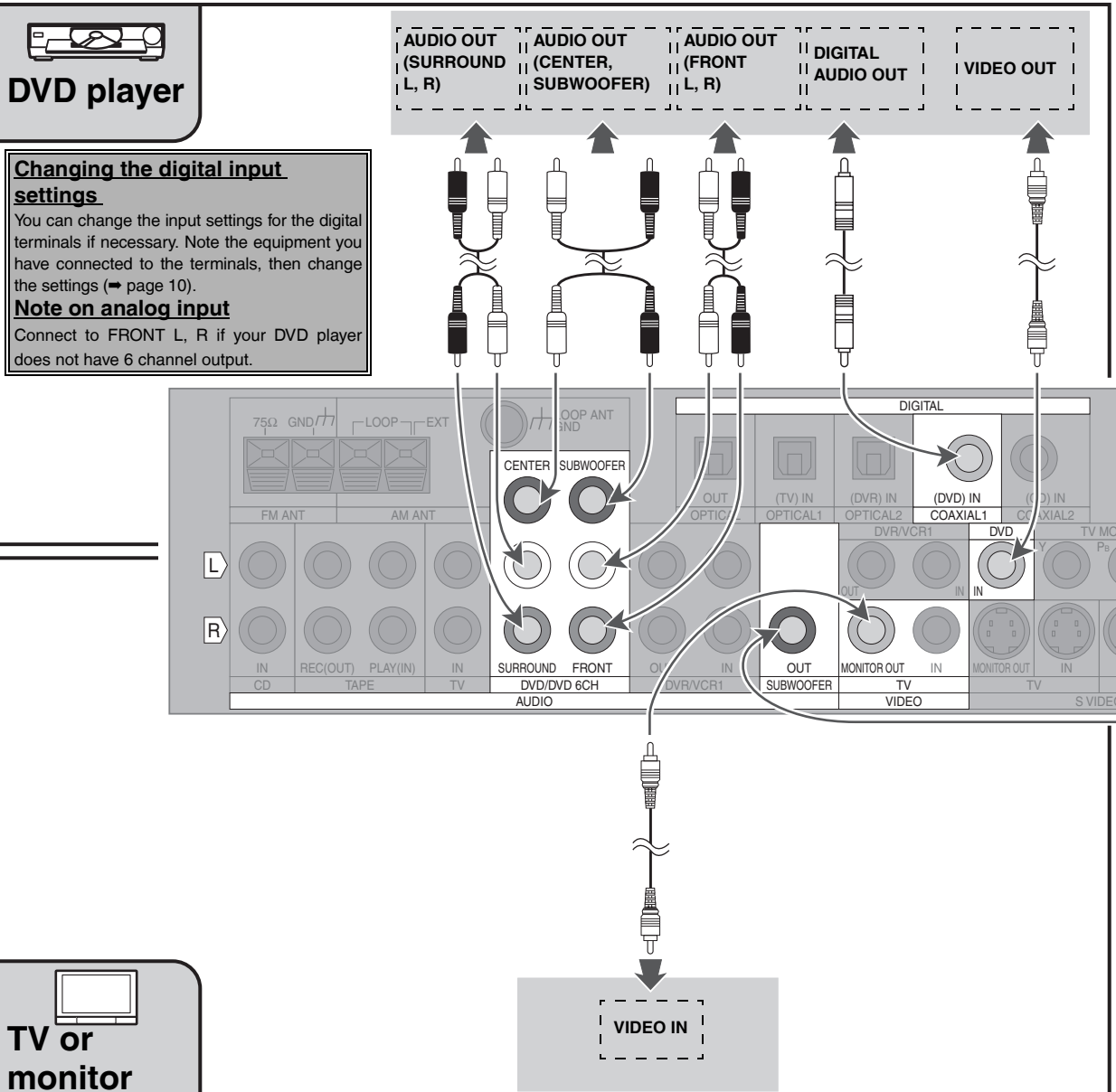
Note

- Use a digital connection to enjoy Dolby Digital or DTS and record digital sources (→ pages 12 and 20).
- Use an analog connection to enjoy sources that cannot be decoded on this unit and to record analog sources (→ pages 12 and 20).
- Enjoy higher picture quality using the S VIDEO or COMPONENT terminal (→ page 7).
- Refer to pages 6 through 9 regarding connections to other equipment.

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.



DVD player

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 (→ page 10).

Note on analog input

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

TV or monitor

Speakers/ AC power supply cord

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

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 (3 feet) higher than ear level.

Surround back speaker (F)

Place behind the seating area, about one meter (3 feet) higher than ear level.

Subwoofer (G)

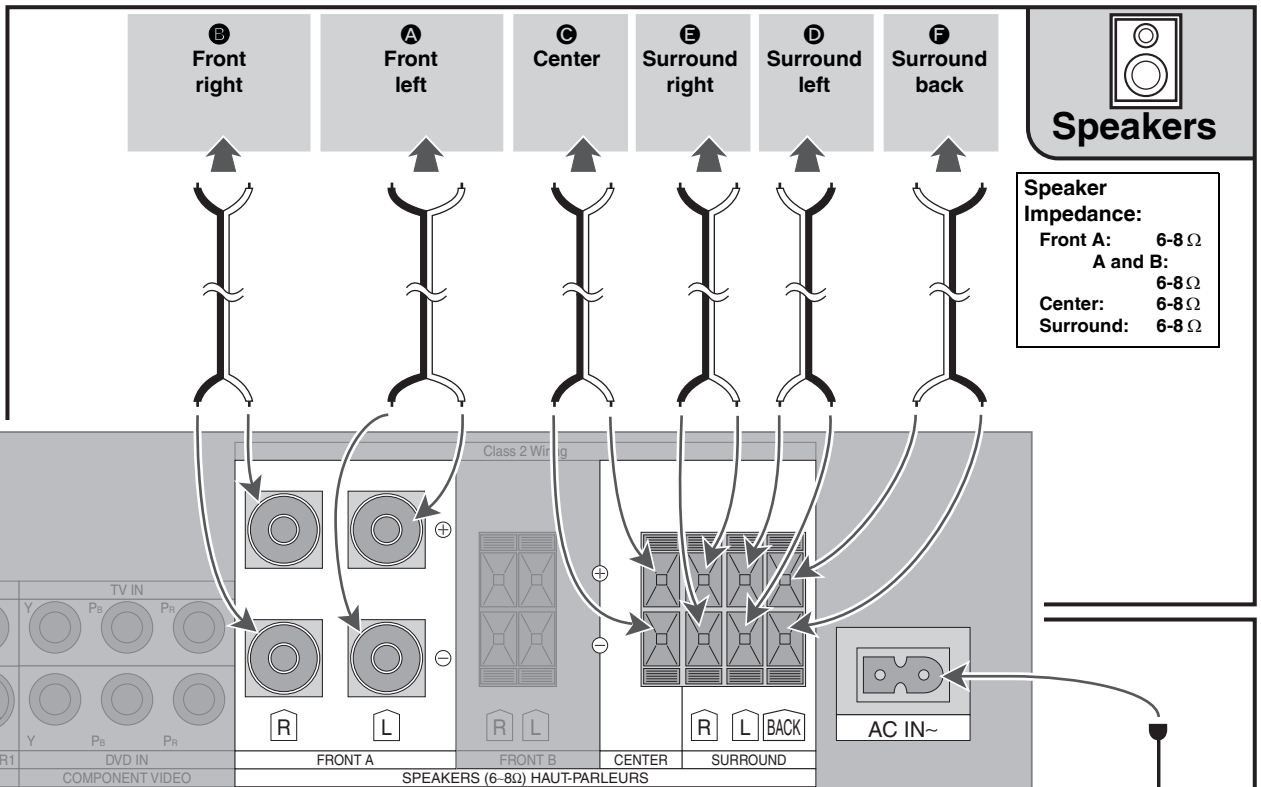
The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.

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

Cable	Speaker terminals	
Twist the wire 	FRONT A 	Other terminals
	Note Do not short-circuit. 	
		If using 4-mm plugs <p>Fully tighten the terminal, then insert.</p>

Step 1



Monaural connection cable

Active subwoofer
G

Connect this cord after all other cables and cords are connected.

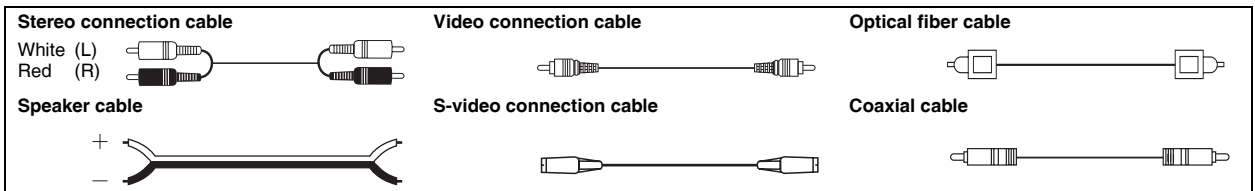
Note

- The included AC power supply cord is for use with this unit only. Do not use it with other equipment.
- If the unit is left unplugged for longer than two weeks, all settings will revert to the factory settings. Do the settings again if this occurs.

Household AC outlet (AC 120 V/60 Hz)

AC power supply cord (included)

Other connections



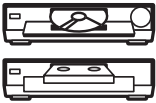
Turn off all components before making any connections.

Note

- Do not sharply bend the optical fiber cable.
- Use a digital connection to enjoy Dolby Digital or DTS and record digital source (⇒ pages 12 and 20).
- Use an analog connection to enjoy sources that cannot be decoded on this unit and to record analog sources (⇒ pages 12 and 20).

Changing the digital input settings

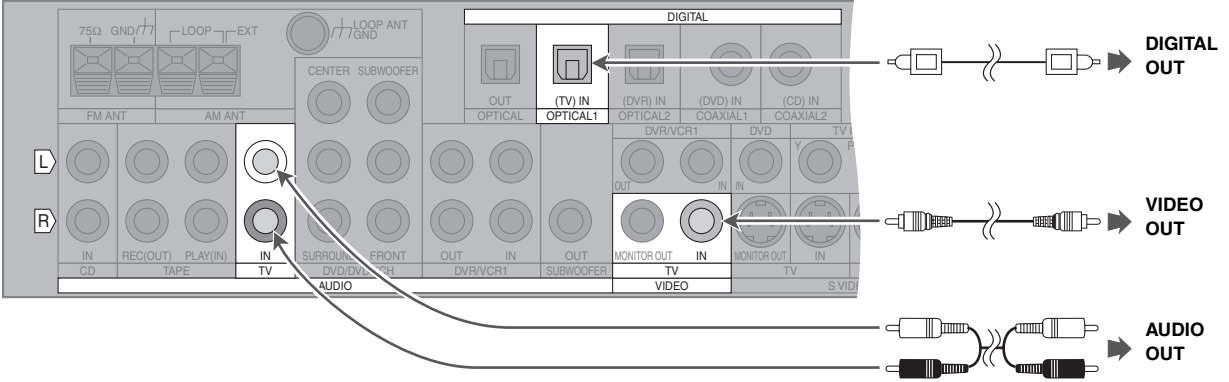
You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings (⇒ page 10).



DVD recorder/VCR

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

Cable box or satellite receiver etc.

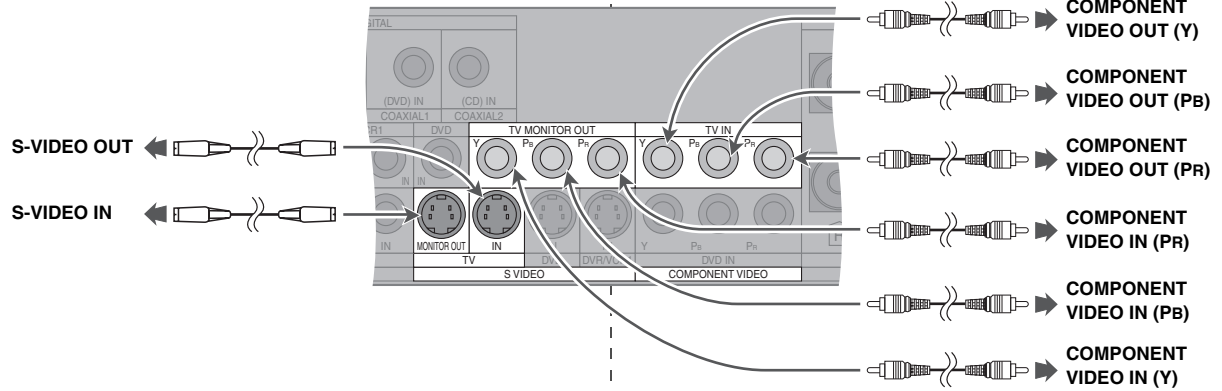


Enjoy even higher picture quality

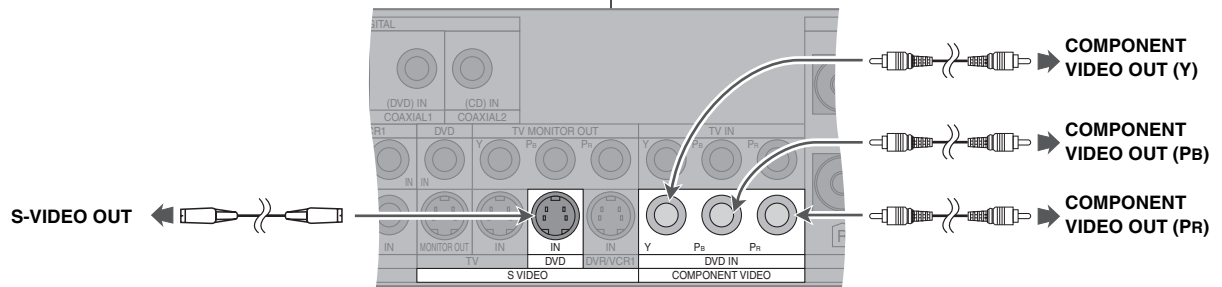
S VIDEO

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

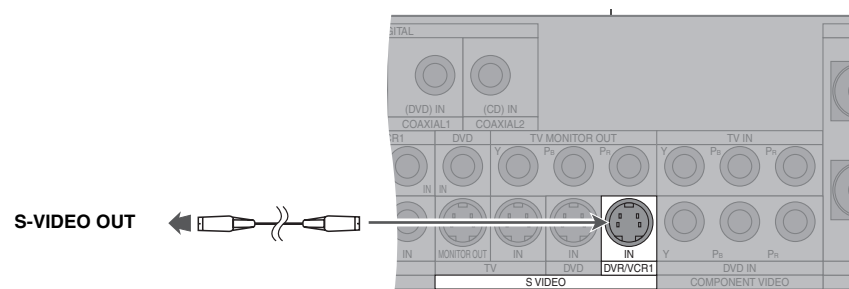
■ TV, monitor, cable box or satellite receiver etc.



■ DVD player



■ DVD recorder/VCR



Note

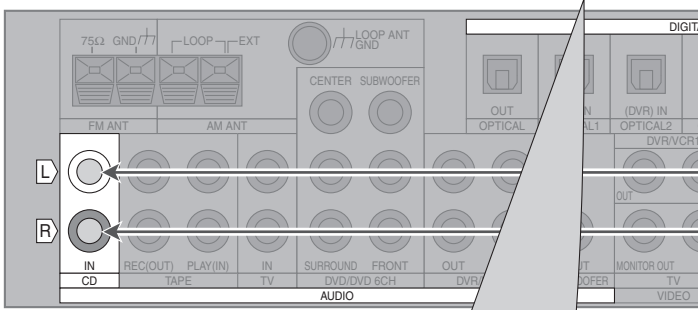
Video input can only be output again through the same type of terminal.

Step 2 Other connections

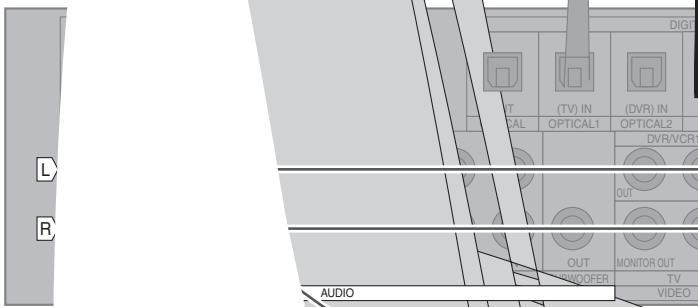
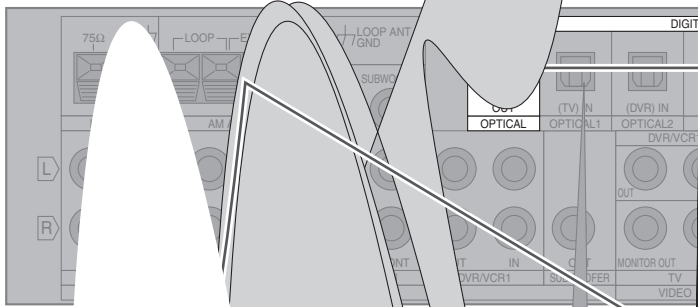
Turn off all components before making any connections.



CD player



CD recorder



REC (IN)

PLAY (OUT)

If you have a graphic equalizer, connect it to the TAPE terminals.

VIDEO OUT

AUDIO OUT

VCR 2
VIDEO IN L AUDIO IN R

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

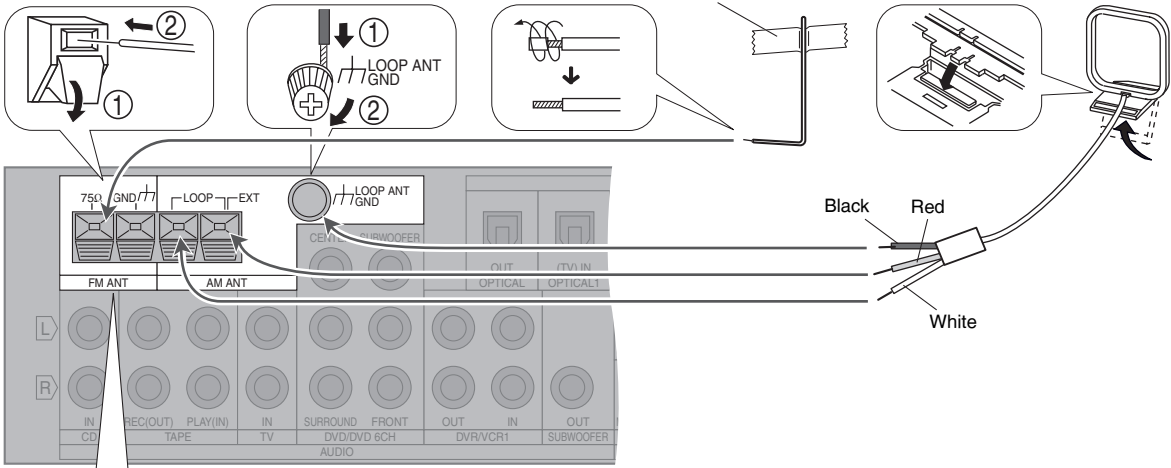


Antennas

FM indoor antenna (included)
Fix the other end of the antenna where reception is best.

AM loop antenna (included)
Keep the antenna cord away from tape decks, DVD players, and other cords.

Adhesive tape

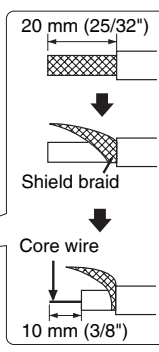
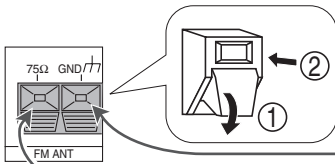


FM outdoor antenna

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.
- Twist the coaxial cable's shield braid firmly and connect it to the GND terminal.

FM outdoor antenna

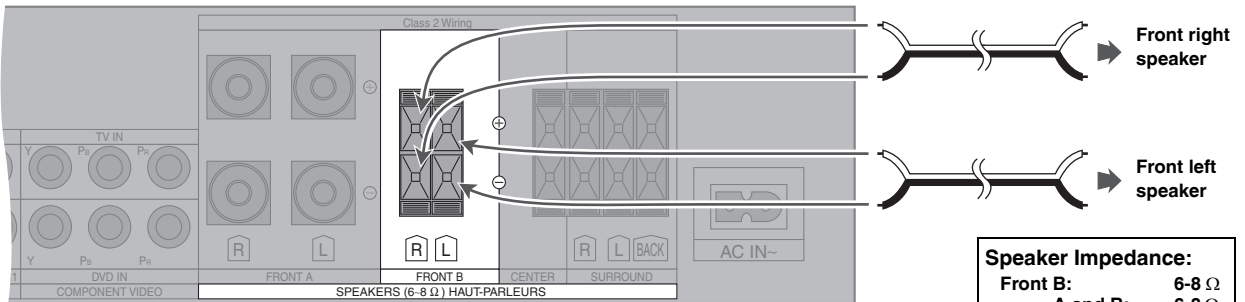
75Ω coaxial cable



Using speaker terminal B

For connection to a second pair of speakers.
Use the A terminals to enjoy multi-channel sound.

Cable	Speaker terminals	Note
Twist the wire		Do not short-circuit.



Speaker Impedance:
Front B: 6-8 Ω
A and B: 6-8 Ω

Settings

Multi control basic setup settings

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

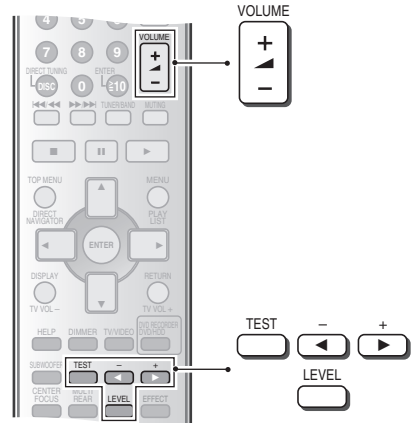
Enter Multi control mode.

SPEAKERS

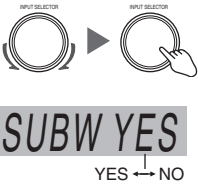
1. Select.

Adjusting speaker output level

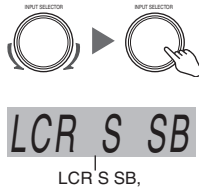
Adjust the level of the other speakers based on the output of the front speakers. (Output is only from the speakers selected in the SPEAKERS settings. Adjust the volume of the front speakers with [VOLUME].)



2. Select.



3. Select the speakers.



2. Select the input position.

3. Change the setting.

2. Select the input position.

3. Change the setting.

For more detailed information on settings refer to “Advanced setup” on page 21.

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

Adjust center, surround and surround back output to the same apparent level of the front speakers.

For SW (subwoofer), “MIN” for minimum output, a level between 1 and 19, or “MAX” for maximum output. Adjust subwoofer output so it is balanced with the front speakers. Subwoofer output is easily influenced by the source. You can also change its level while playing something for better effect (→ page 18)

Preparation: Press [SPEAKERS A] to turn on SPEAKERS A. (On the main unit)

Output the signal.

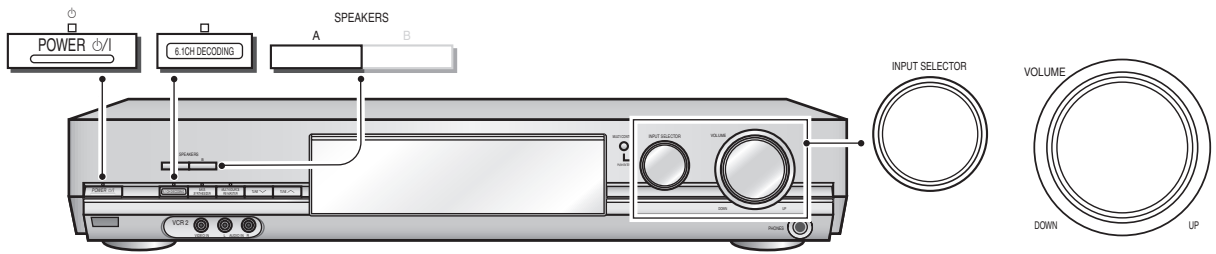
Adjust the main volume.

Select the speaker channel.

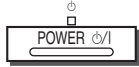
Adjust the level.

Stop the test signal.

Step 4 Basic operations



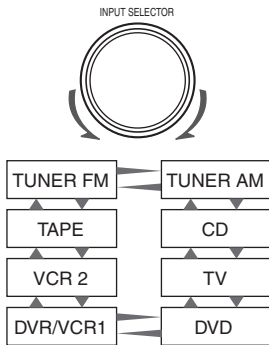
1 Switch on.



2 Turn SPEAKERS A on.



3 Select input.

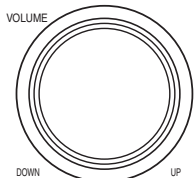


4 Start play of the source.

The unit sets the sound mode (stereo or multi-channel) to suit the input signal.

- Select the desired sound mode (→ right)

5 Adjust the volume.



When you finish listening

Be sure to reduce the volume and press [POWER] to switch the unit to standby.

Notes on digital input

This unit can decode the following signals:

- Dolby Digital, including Dolby Digital Surround EX
- DTS, including DTS-ES or DTS 96/24
- PCM, including PCM with sampling frequencies of 192, 176.4 (COAXIAL1), 96 or 88.2 kHz

It cannot decode:

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

Sound modes

Adding surround effects

Using Dolby Pro Logic II

Dolby Pro Logic 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



MOVIE

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

MUSIC

Adds surround effects to stereo sources.

PANORAMA

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

- **To cancel:** Press [STEREO/2CH MIX, OFF].

Using DTS NEO:6

Use DTS NEO:6 to play 2-channel sources through multi-channels.

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



CINEMA

Use this mode when playing movies.

MUSIC

Adds surround effects to stereo sources.

- **To cancel:** Press [STEREO/2CH MIX, OFF].

- When the "DTS" or "DIGITAL" indicator is lit, only the CINEMA mode can be selected.

Using the Sound Field Control (SFC)

Enjoy an enhanced sound experience with greater presence and spread by using these SFC modes with Dolby Digital, DTS, PCM or analog stereo sources. Choose from the following modes.



MUSIC

LIVE
Imparts the reflection and spread of a large concert hall.

POP/ROCK

Best suited for dynamic sound such as pop and rock music.

VOCAL

Best suited to enhance vocals.

JAZZ

Recreates natural sound ambience and direction.

DANCE

Enjoy a dance hall like audio effect.

PARTY

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

AV/MOVIE

DRAMA

Best suited for dialogues in drama movies.

ACTION

Best suited for action movies with impact.

SPORTS

Enjoy a feeling like being at a live sporting event.

MUSICAL

Enjoy a feeling like being at a live musical performance.

GAME

Enjoy games with greater audio impact.

MONO

Best suited for older monaural audio movies.

- **To cancel:** Press [STEREO/2CH MIX, OFF].

6.1CH DECODING mode

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, as well as Dolby Pro Logic, DTS NEO:6 and SFC. This mode engages automatically if the disc has a recognition signal for DTS-ES or Dolby Digital Surround EX (you can still turn the mode off).



- **To cancel**

Press [6.1CH DECODING].



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 level is 3.

Select "C-WDTH".

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 is level 0.

Select "DIMEN".

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.

Select "C-IMG".

Adjust the effect.

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

To adjust the speaker level

To adjust SFC effect

Select speaker channel.

Adjust the level.

Adjust the effect.

C, RS, SB and LS: -10 dB to +10 dB
 SW: --- (off) MIN
 1 - 19 MAX

When 6.1CH DECODING is on:

SFC effect can be adjusted between EFFECT 1 (minimum) and EFFECT 10 (maximum).
 The factory setting is EFFECT 5 for each mode.

- Output is only from the speakers selected in the SPEAKERS settings.

Listening to multi-channel source in stereo (2CH MIX mode)

When multi-channel sources are played in this mode, the sounds intended for the other speaker channels are played through the front speakers.

Notes on sound modes

Dolby Pro Logic , DTS NEO:6 and SFC modes remain in effect until you change them.

When input is PCM with sampling frequencies of 192, 176.4 (COAXIAL1), 96, or 88.2 kHz:

- **To cancel**
Press [STEREO/2CH MIX, OFF].

- You cannot add surround effects with Dolby Pro Logic , DTS NEO:6 or SFC.

The 2CH MIX mode remains in effect until you change input mode or turn off the unit.

When neither the center or surround speakers are selected in the SPEAKERS settings:

- **To return to surround sound**
Press [STEREO/2CH MIX, OFF].

- You cannot use Dolby Pro Logic , DTS NEO:6, or SFC.

When the surround back speaker is not selected in the SPEAKERS settings:

- You cannot use 6.1CH DECODING mode.

If the unit does not automatically recognize Dolby Digital Surround EX or DTS-ES and output is 5.1 channels:

- Press [6.1CH DECODING] to switch the mode on manually. Sound will now come from the surround back speaker.

Control guide

Main unit

Standby indicator [⏻]

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.

[POWER ⏻/⏻]

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.

[SPEAKERS, A, B]

For selecting speakers A or B.
Turning the speakers off automatically engages the STEREO/2CH mode (when listening through headphones, for example).

[DIGITAL EX, DIGITAL, PL II, DTS 96/24, DTS-ES, DTS, DTS NEO:6]

Lights to indicate the source's input signal and decoding format used.

DIGITAL EX: Dolby Digital Surround EX sources

DIGITAL: Dolby Digital sources

PL II : Dolby Pro Logic decoder is being used

DTS 96/24: DTS 96/24 sources

DTS-ES: DTS-ES discrete or matrix sources

DTS: DTS sources

DTS NEO:6: DTS NEO:6 matrix decoder is being used

[MULTI CONTROL]

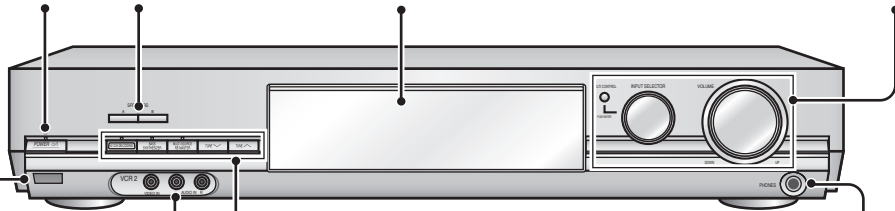
Press to enter Multi control mode, and use [INPUT SELECTOR] to select/enter.

[INPUT SELECTOR]

For selecting input. Selects/Enters each setting in Multi control mode.

[VOLUME]

Volume control.



Remote control signal sensor

[VCR 2]

For a video camera, etc.

[6.1CH DECODING]

For turning on the 6.1 channel decoding mode. When using this mode the indicator lights.

[BASS SYNTHESIZER]

For turning on the bass synthesizer mode. When using this mode the indicator lights.

[MULTI-SOURCE RE-MASTER]

For selecting a re-master mode. When using this mode the indicator lights.

[TUNE ∇, ▲]

For tuning the radio and selecting preset stations.

Press and hold until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

[PHONES]

Headphone jack
Plug type: 6.3 mm (1/4") stereo

- Avoid listening for prolonged periods of time to prevent hearing damage.
- Turn the speakers off when using the headphones.

Display

- When you turn the dimmer to "ON", the following indicators change to dim.

[— SPEAKERS— A, B]

Speaker indicators

A :Sound is output from speakers connected to the front A, surround, and center terminals.

B : Sound is output only from speakers connected to the front B terminals.

A B :Sound is output from speakers connected to the front A and B terminals.

[TUNED, ST, M, MONO]

Radio indicators

TUNED: A station is tuned.

ST: A stereo FM broadcast is tuned.

M : Flashes during automatic presetting.

MONO: Lights when using the monaural mode.

[SLEEP]

Sleep timer indicator.

[SFC, CENTER FOCUS, 2CH MIX, MULTI REAR]

SFC: Lights when using an SFC mode.

CENTER FOCUS: Lights when using the center focus mode.

2CH MIX: Lights when playing a multi-channel source in 2CH MIX mode.

MULTI REAR: Lights when using the multi rear surround mode.

[<<<MULTI CONTROL>>>]

When you press the [MULTI CONTROL] button and enter the settings the indicator lights.

[—DIGITAL INPUT—, L, C, R, S, LS, SB, RS, LFE]

Program format indicators

Show the channels contained in the digital input signal. They do not light when input is analog.

L: Front left channel

C: Center channel

R: Front right channel

S: If the surround channel is monaural.

LS: Surround left channel

SB: Surround back channel

RS: Surround right channel

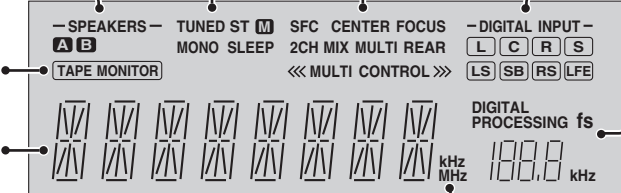
LFE (Low Frequency Effects): Deep-bass effect.

[TAPE MONITOR]

Lights when the tape monitor is on.

General display

Shows the input mode, radio frequency, and other general information.



[DIGITAL PROCESSING fs]

Displays the frequency the unit is processing.

[kHz, MHz]

Frequency unit indicators

kHz: AM, or PCM sampling frequency

MHz: FM

Remote control

Buttons not explained on this page are used only to operate other equipment.

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

[⏻, RECEIVER]
Standby/on button.

[1, 2, 3, 4, 5, 6, 7, 8, 9, 0]
To enter radio frequencies and channels.
[DISC, DIRECT TUNING]
To enable selection of radio stations by frequency.
[≥ 10, ENTER]
To enter two digit channels.

[TUNER/BAND]
Change the input mode and remote control mode to TUNER.
For switching between FM and AM.

[HELP]
Displays help messages.
Press if an error message appears.
A message offering a possible solution scrolls across the display.

[SUBWOOFER]
For selecting subwoofer level.
[CENTER FOCUS]
For turning on the center focus mode.
[MULTI REAR]
For turning on the multi rear surround mode.

[STEREO/2CH MIX, OFF]
For selecting STEREO or 2CH MIX mode.
To cancel surround effect.
[DOLBY II]
For selecting a Dolby Pro Logic mode: MOVIE, MUSIC or PANORAMA.
[DTS NEO:6]
For selecting a DTS NEO:6 mode: CINEMA or MUSIC.
[SFC]
For selecting a SFC mode: MUSIC or AV/MOVIE

[DVD –ANALOG 6CH, TV, CD, TAPE –MONITOR, DVD RECORDER, VCR]
Input mode and remote control mode buttons.
DVD –ANALOG 6CH
When DVD mode is selected
• Press and hold:
For switching between analog 6-channel and 2-channel DVD input.
TAPE –MONITOR
• Press and hold:
For monitoring sound when recording to a 3 head cassette deck. Also used when you have connected a graphic equalizer to the TAPE terminals.

[^, CH, v]
For selecting preset radio channels.

[+, -, VOLUME]
To adjust the volume.

[MUTING]
To mute the volume.

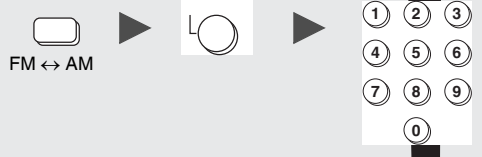
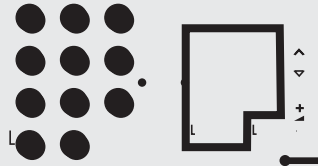
[DIMMER]
For dimming the unit's display.

[TEST]
To start the speaker test signal.
[LEVEL]
Use when adjusting speaker level.
[EFFECT]
Use when adjusting Dolby Pro Logic II, DTS NEO:6 or SFC effects.
[◀, -, ▶, +]
First select EFFECT, LEVEL or SFC, and then press [◀, -] or [▶, +] to complete the setting.

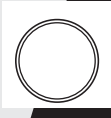
For your reference

- **When playing video sources connected to DVR/VCR1**
The picture remains on the screen even if you select TAPE, CD or TUNER.
- **When SPEAKERS B is on**
The STEREO/2CH MIX mode is engaged automatically.

- **When DVD ANALOG 6CH input is on**
Speaker settings are ineffective. Change the settings on the DVD player if necessary.
- **When using a graphic equalizer**
Some distortion may occur, depending on the equalizer's settings.
- **When input is DIGITAL**
The tape monitor cannot be used.
- **When muting is on**
Muting is also canceled when the unit is turned off.



2
3



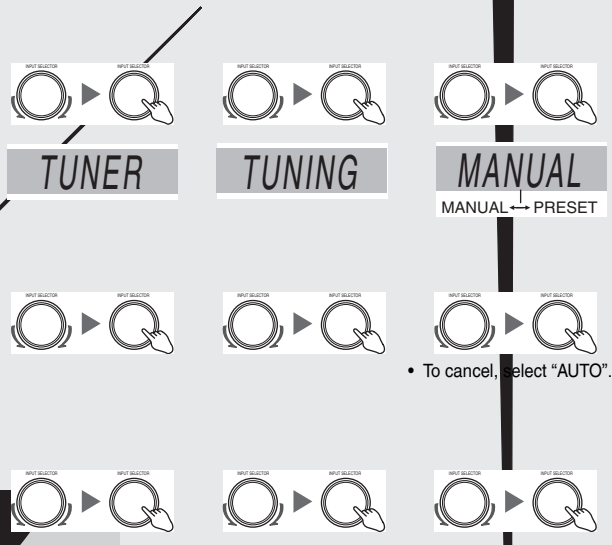
TUNE ▾ TUNE ▸

MULTI CONTROL

1



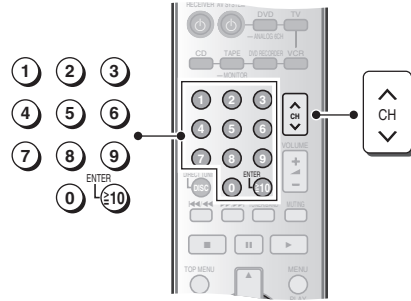
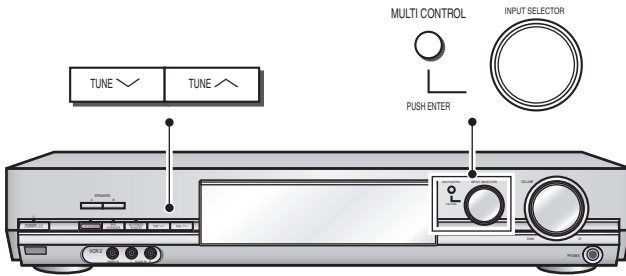
2




• To cancel
MULTI CONTROL
PUSH ENTER



• To cancel, select "AUTO".

Preset tuning




- 1 Presetting stations.**
(→ below, "Automatic presetting" or "Manual presetting")
- 2 Select PRESET tuning mode.**
(→ page 16, "Select MANUAL or PRESET tuning mode")
- 3 Select the preset channels.**

 Hold down the button to change channels faster.

Selecting preset channels


 or
 




When using the numbered buttons
 To select a two digit number e.g. 21:
 [≥ 10, ENTER] → [2] → [1]

Multi control tuner settings MULTI CONTROL


- 1 Enter Multi control mode.**

Main menu is displayed.
 (Multi control mode menus and factory settings → back cover)

Automatic presetting

Preparation:
 First, set the channel reception to FM 87.9 MHz or AM 530 kHz. Preset channels that are automatically assigned by this unit are:
 FM: 1 to 30, AM: 21 to 30
 (FM stations are replaced if any were preset in these channels.)




- 1. Select.**

- 2. Select.**

- 3. Select.**

 START → CANCEL
 • To cancel, select "CANCEL".

- During automatic presetting, the memory indicator (**M**) flashes and the frequency scrolls. The memory indicator and channel numbers are displayed for a second when a station is preset.
- The last station to be preset is displayed when presetting finishes.

- 2 Change the settings.**
 - To cancel


Manual presetting

Preparation:
 Set the station signal you want set as a preset.
 Preset the stations one at a time.
 • FM stations can also be preset in the MONO mode.

- 1. Select.**

- 2. Select.**

- 3. Select the channel.**

 CH 1 CH 30
 • "STORED" is displayed.

- In the state, press [TUNE ∨ or ^] to tune the station (Exit the Multi control mode).

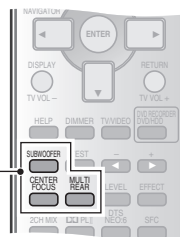
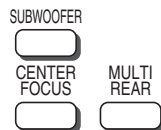
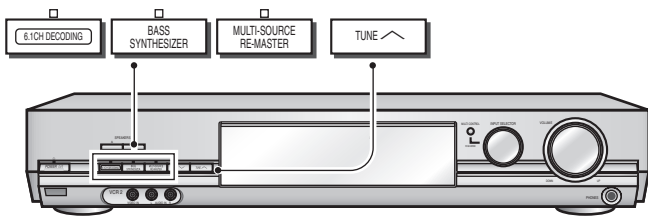
To finish settings

1. Press [MULTI CONTROL] several times to select "EXIT".
2. Press [INPUT SELECTOR].

For your reference

Even if the power supply cord is disconnected from the house hold AC outlet, the stations remain in memory for approximately two weeks.

Audio settings



Bass synthesizer

Provides depth of bass for audio play with impact.

- When input signal is Dolby digital stereo or DTS stereo, this mode cannot be used.



BASS ON

- To cancel Press [BASS SYNTHESIZER].

Multi-source re-master

This original feature boosts the frequencies of the higher harmonics that are lost during recording due to compression.

When Re-master is on, the current level appears.

EFFECT 1: For fast tracks (pop and rock)

EFFECT 2: For tracks with a variety of tempos (jazz)

EFFECT 3: For slow tracks (classical)

EFFECT 4: For compressed audio signals

OFF: The re-master processing is off.



EFFECT 1

EFFECT 1, EFFECT 2, EFFECT 3, EFFECT 4, OFF

Subwoofer level

You can adjust the volume of the subwoofer while listening to a source. Select SW --- to stop output.

The factory setting is SW 10.

- You cannot adjust the subwoofer level if DVD ANALOG 6CH is selected.
- Sound can be distorted if you raise the volume while the subwoofer level is high. Reduce the subwoofer level if this occurs.



SW 10

---, MIN, 5, 10, 15, MAX

Center focus

You can make the sound of the center speaker seem like it is coming from within the television.

The center focus cannot be used in the following cases:

- When there is no center input signal.
- When the center speaker is not selected in the SPEAKERS settings.



C.FOCUS

- To cancel Press [CENTER FOCUS].

Multi rear surround

This mode makes it seem like sound is coming from the multiple rear surround speakers virtually when connected with surround speaker.

The multi rear surround cannot be used in the following cases:

- When there is no surround input signal.
- When the surround channel is monaural.
- When the surround speaker is not selected in the SPEAKERS settings.



M.REAR

- To cancel Press [MULTI REAR].

DTS FIX mode

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

With DTS, the signals may not be recognized at all. Engage the DTS FIX mode if this occurs.

When DTS FIX mode is on, the unit cannot process other signals. This may cause noise to be output. Turn the setting off in this case.

- When you turn the unit power off the DTS FIX mode is canceled.

While the input source is selected



DTS FIX

Press and hold at the same time for 2 seconds.

- To cancel, perform the same operation again. "AUTO" is displayed.

For your reference

The bass synthesizer, center focus or multi rear surround cannot be used in the following cases.

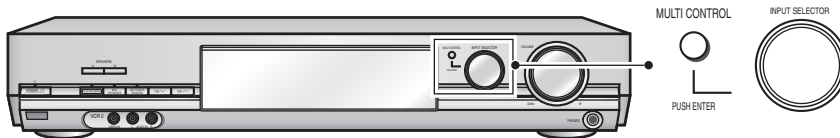
- When input signal is monaural, DTS 96/24, PCM with sampling frequencies of 192, 176.4, 96 or 88.2 kHz.
- When Dolby Pro Logic, DTS NEO:6, SFC or multi-source re-master is on.

The center focus or multi rear surround cannot be used in the following case.

- When input signal is PCM or analog stereo.
- When DVD ANALOG 6CH is selected.

When DTS FIX mode is on

- You cannot use 6.1CH DECODING mode. DTS-ES and DTS 96/24 are played as normal DTS (i.e., there is no output from the surround back speaker).



Multi control audio settings MULTI CONTROL

1 Enter Multi control mode.



Main menu is displayed.
(Multi control mode menus and factory settings
→ back cover)

2 Change the settings.

• To cancel



To finish settings

1. Press [MULTI CONTROL] several times to select "EXIT".
2. Press [INPUT SELECTOR].

Tone

You can adjust the level of the bass and treble.

- The STEREO mode must be on and input must be either analog or PCM signals. You cannot adjust the tone if DVD ANALOG 6CH is selected.

1. Select.



TONE

2. Select.



BASS

BASS → TREBLE

3. Adjust the level.



0dB

-10 dB → +10 dB

Balance

You can adjust the balance of the front speakers.

1. Select.



BALANCE

2. Adjust the balance.



L | R

Dual program

When the input signal is Dolby Digital and "DUAL" appears in the display, the audio to be output is set.

- MAIN: Main audio output
- SAP: Sub channel audio output
- MAIN+SAP: Main and sub channel audio output

1. Select.



OPTION

2. Select.



DUAL PRG

3. Select.



MAIN

MAIN, SAP, MAIN+SAP

Dynamic range compression

Change this setting to listen to software recorded with Dolby Digital at low volume (such as late at night) maintaining audio clarity. It reduces the peak level in loud scenes without affecting the sound field.

OFF:

The software is played with the original dynamic range.

STANDARD:

The level recommended by the producer of the software for household viewing.

MAX:

The maximum allowable compression (recommended for night viewing).

1. Select.



OPTION

2. Select.



DR COMP

3. Select.



OFF

OFF, STANDARD, MAX

A/D attenuator

Turn the A/D attenuator on if "OVERFLOW" lights frequently when using 2-channel analog input or DVD ANALOG 6CH input.

1. Select.



OPTION

2. Select.



A/D ATT

3. Select.



OFF

OFF → ON

er function



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er Multi ontrol mode.

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setl

- The brightness changes to show the level.

- **To check the setting**
After setting the time, you can check the remaining time using step 2.
- **To change a setting**
Repeat the procedure from the beginning.

- To cancel, select "OFF"

1. Select.

2. Select.

3. Select.

the unit
settings
ment.
radio stations

LT
ne

in recording

to recorded.

You can record to a tape deck connected to TAPE REC (OUT), a DVD

Advanced setup

You can use the remote control to match the setup environment and performance of the connected speakers.



advanced setup settings MULTI CONTROL

<p>Main room (Multi channel plus and factory back cover)</p>	<p>SPEAKER</p> <p>Set the speaker for your speakers.</p> <p>LARGE: For speakers that can reproduce a full frequency range, particularly the bass range (below 100 Hz).</p> <p>SMALL: For speakers that cannot adequately reproduce the bass range. This setting is sufficient for most speakers if you are using a subwoofer.</p> <p>NONE: For speakers you haven't connected (center or surround).</p> <p>For the surround back (SURR-BK) subwoofer (SUB-WFR), select the subwoofer you have connected one, or NONE.</p>	<p>1. Select the speaker.</p> <p>2. Select the speaker.</p> <p>3. Change the setting.</p>
<p>Switch</p>	<p>Enter the surround position.</p> <p>Change the position so that the sound from all speakers (except for the subwoofer) is output at the same time. You can set the distance between 3 and 30 feet at the same time.</p>	<p>3. Change the</p>
<p>T</p> <p>1. Press [MUTE] select "EXT".</p> <p>2. Press [DIRECTOR].</p>	<p>FILTER</p> <p>Change the cut-off for bass output from the front speakers.</p> <p>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.</p> <p>You can raise the cut-off from 100 Hz to either 150 Hz or 200 Hz.</p>	<p>1. Select.</p> <p>2. Change the setting.</p>

Specifications (IHF'78)

■ AMPLIFIER SECTION

Rated minimum sine wave RMS power output	
20 Hz-20 kHz both channels driven	
0.09 % total harmonic distortion	100 W per channel (6 Ω)
1 kHz continuous power output both channels driven	
0.09 % total harmonic distortion	105 W per channel (6 Ω)
Total harmonic distortion	
rated power at 20 Hz-20 kHz	0.09 % (6 Ω)
Power bandwidth	
both channels driven, -3 dB	4 Hz-88 kHz (6 Ω, 0.9 %)
Power output each channel driven	
0.9 % total harmonic distortion at 1kHz	
Front (L/R)	100 W (6 Ω)
Center	100 W (6 Ω)
Surround (L/R/BACK)	100 W (6 Ω)
Load impedance	
Front (L/R)	
A or B	6-8 Ω
A and B	6-8 Ω
Center	6-8 Ω
Surround (L/R/BACK)	6-8 Ω
Frequency response	
CD, TV, DVD/DVD 6CH, DVR/VCR1, VCR2, TAPE	4 Hz-88 kHz, ±3 dB
Input sensitivity	
CD, TV, DVD/DVD 6CH, DVR/VCR1, VCR2, TAPE	27 mV (200 mV, IHF '66)
Input impedance	
CD, TV, DVD/DVD 6CH, DVR/VCR1, VCR2, TAPE	22 kΩ
S/N (IHF A)	
TV, DVD, DVR/VCR1 (Digital Input)	85 dB (103 dB, IHF '66)
Tone controls	
BASS	50 Hz, +10 to -10 dB
TREBLE	20 kHz, +10 to -10 dB
Subwoofer frequency response (-6 dB)	7 Hz-200 Hz

Digital input (OPTICAL)	2
(COAXIAL)	2
Digital output (OPTICAL)	1

■ FM TUNER SECTION

Frequency range	87.9-107.9 MHz
Sensitivity	11.2 dBf (2 μV, IHF '58)
50 dB quieting sensitivity	
MONO	18.3 dBf (4.5 μV, IHF '58)
STEREO	38.3 dBf (45 μV, IHF '58)
Total harmonic distortion	
MONO	0.2%
STEREO	0.3%

S/N

MONO	73 dB
STEREO	67 dB
Frequency response	20 Hz-15 kHz, +1 dB, -2 dB
Alternate channel selectivity	65 dB
Capture ratio	1.5 dB
Image rejection at 98 MHz	40 dB
Spurious response rejection at 98 MHz	75 dB
AM suppression	50 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Antenna terminal	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	530-1710 kHz
Sensitivity	20 μV, 330 μV/m
Selectivity	55 dB
IF rejection at 1000 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
S-Video	
Input	TV, DVD, DVR/VCR1
Output	TV MONITOR
Component Video	
Input	TV, DVD
Output	TV MONITOR

■ GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	135 W
Dimensions (W x H x D)	430 x 83 x 376 mm (16-15/16" x 3-9/32" x 14-13/16")
Mass	4.2 kg (9.3 lb.)

■ DIN POWER

1 kHz, T. H. D 1 %	2 x 100 W (6 Ω)
--------------------	-----------------

Power consumption in standby mode:	1 W
---	------------

Notes:

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

Marking sign is located on bottom of the unit.
--

Product Service

- Damage requiring service** — The unit should be serviced by qualified service personnel if:
 - The AC power supply cord or the plug has been damaged; or
 - Objects or liquids have gotten into the unit; or
 - The unit has been exposed to rain; or
 - The unit does not operate normally or exhibits a marked change in performance; or
 - The unit has been dropped or the cabinet damaged.
- Servicing** — Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized service personnel.
- Replacement parts** — When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
- Safety check** — After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

Product information

For product information or assistance with product operation: In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or the website <http://www.panasonic.com/contactinfo>, or the website (<http://www.panasonic.com/support>). In Canada, contact Panasonic Canada Inc. Customer Care Centre at 905-624-5505, or visit the website (www.panasonic.ca), or an authorized Servicentre closest to you.

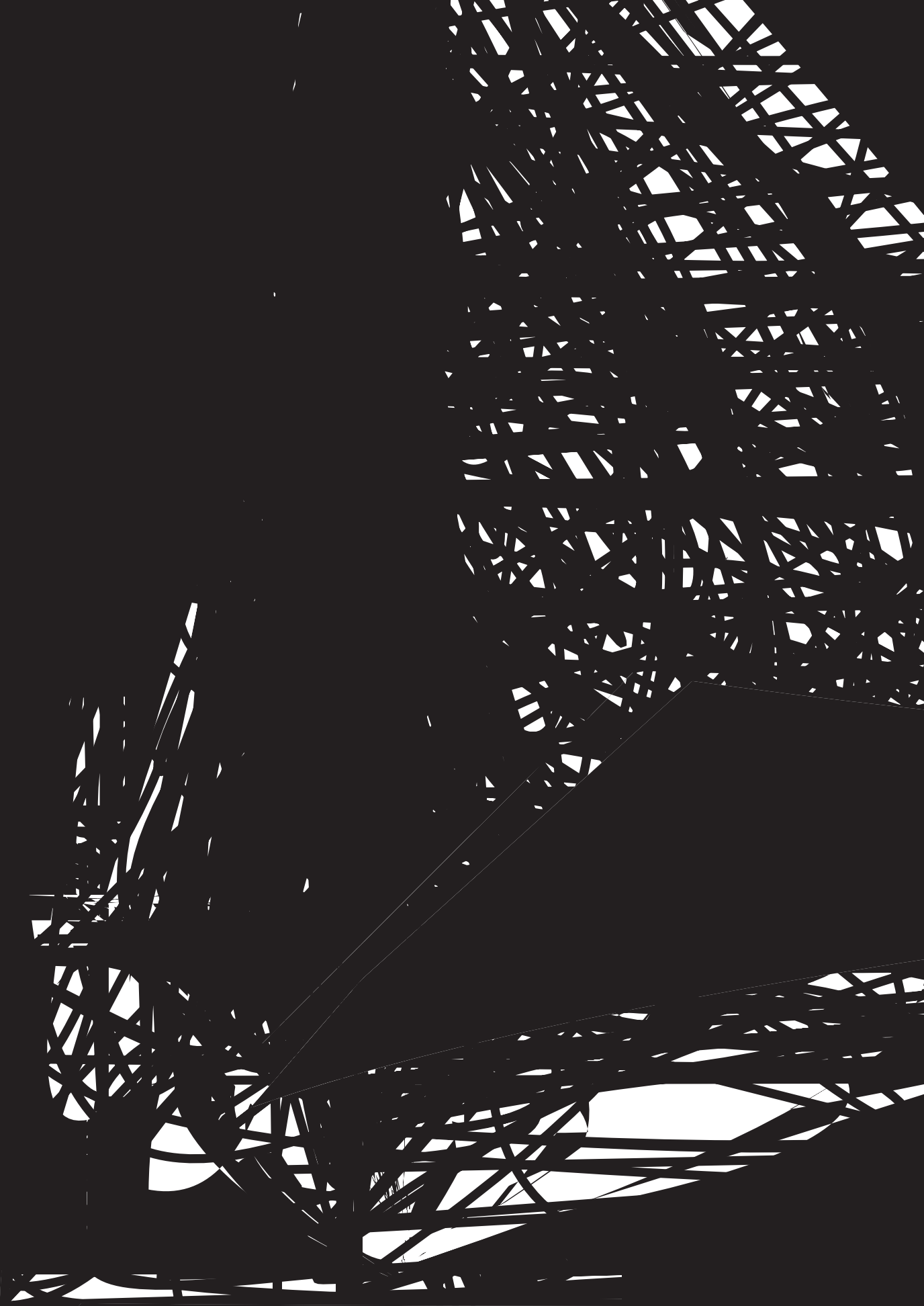
Maintenance

To clean this unit, wipe with a soft, dry cloth.

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

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.
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"DTS", "DTS-ES", "Neo:6" and "DTS 96/24" are trademarks of Digital Theater Systems, Inc.
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Troubleshooting guide

Before requesting service, make the below checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem:

In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or the website (<http://www.panasonic.com/contactinfo>), or the website (<http://www.panasonic.com/support>).

In Canada, contact the Panasonic Canada Inc. Customer Care Centre at 905-624-5505, or visit the website (www.panasonic.ca), or an authorized Servicentre closest to you.

Common problems

		Pages
No power.	<ul style="list-style-type: none"> Ensure the power cord is connected. 	5
No sound.	<ul style="list-style-type: none"> Turn the volume up. Check connections to speakers and other equipment. Turn on the speakers Turn off the tape monitor. Select the correct source. Change the D-INPUT setting to suit the type of connection you have made. Check that the digital signals can be decoded by this unit. Turn PCM FIX or DTS FIX off. 	12 4-9 12 15 12 10 12 10, 18
Sound stops. "F 76" or "OVERLOAD" appears on the display for about a second, and the unit turns off.	<ul style="list-style-type: none"> Determine and correct the cause, then turn the unit on. Causes include: <ul style="list-style-type: none"> Shorting (bare wires touching) of positive and negative speaker wires. Using speakers with an impedance lower than that rated for this unit. Straining of the speakers through excessive volume or power. Using the unit in a hot environment without proper ventilation. Consult your dealer if the problem occurs again after switching the unit on. 	5, 9 5, 9 - -
"F 70" appears on the display.	<ul style="list-style-type: none"> Turn the unit off, disconnect the AC power supply cord, and consult your dealer. 	-

Sound modes

		Pages
Sound is not heard from the center, surround, or subwoofer speakers.	<ul style="list-style-type: none"> Ensure the SPEAKERS settings for your speakers are correct. Turn 2CH MIX off. The source may be stereo. Change the sound mode. 	10, 21 13 12
Sound is not heard from the surround back speaker.	<ul style="list-style-type: none"> Ensure the SPEAKERS settings for your speakers are correct. Turn 6.1CH DECODING mode on. 	10, 21 12
Cannot use Dolby Pro Logic II, DTS NEO:6 or SFC.	<ul style="list-style-type: none"> Turn DVD ANALOG 6CH off. You cannot use Dolby Pro Logic II, DTS NEO:6 or SFC when input is PCM with sampling frequencies of 192, 176.4 (COAXIAL1), 96, or 88.2 kHz. 	15 13
There is no DTS audio output. There is Audio output, but the DTS decoder indicator is not lit.	<ul style="list-style-type: none"> Check the DVD player's digital output settings. 	-

Radio

		Pages
The radio cannot be tuned in or there is a lot of noise and interference.	<ul style="list-style-type: none"> Connect the appropriate antenna. (You may need an outdoor antenna or one with more elements.) Adjust the position of the FM or AM antenna. Reduce the treble. Turn off nearby televisions, video decks, DVD players, and satellite receivers. Separate the antenna from other cables, cords, and appliances. 	9 9 19 - -

Multi control mode menus and factory settings (Reference pages are shown as black circled numbers 16)

Main menu	Sub menu (factory settings)			Main menu	Sub menu (factory settings)			Main menu	Sub menu (factory settings)		
TUNER (TUNER mode only)	TUNING	MANUAL	16	OPTION	B PROOF	MODE A	16	SETUP 2	SPEAKERS	FRONT	21
	FM MODE	AUTO			RESET	YES				CENTER	
	MEMORY	CH 1		SPEAKERS	SUBW YES	LCR S SB	SURROUND			YES	
	AUTO MEM	START			SUBW NO	TV	OPT 1				
TONE	BASS	0dB	D-INPUT	DVR	OPT 2	DISTANCE	FRONT		10 FEET		
	TREBLE			DVD	COAX 1		CENTER		5 FEET		
BALANCE	L	R		IN MODE	CD	COAX 2	SURROUND		100		
					TV		SUR BACK				
DIMMER	OFF		DVR		AUTO	FILTER					
	ON	LEVEL 2	DVD								
SLEEP	OFF		CD								
	DUAL PRG	MAIN									
OPTION	DR COMP	OFF									
	A/D ATT	OFF									
						EXIT			⇒Exit the Multi control mode		

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