

Panasonic®

Operating Instructions DVD Stereo System

Model No. **SC-VK960**
SC-VK860
SC-VK760



The illustration shows SC-VK960



Before connecting, operating or adjusting this product, please read the instructions completely. Please keep this manual for future reference.

Operations in these instructions are described using the remote control, but you can perform the operations on the main unit if the controls are the same.

Unless otherwise indicated, illustrations in these operating instructions are for the Southeast Asia.

Your unit may not look exactly the same as illustrated.

SC-VK960 is used in the illustrations unless otherwise indicated.

Region number

The player plays DVD-Video marked with labels containing the region number or "ALL".

Region	Number
Southeast Asia	3
Australia and N.Z.	4

Example: **For Southeast Asia**



Dear customer

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

- VK960** : indicates features applicable to SC-VK960 only
- VK860** : SC-VK860 only
- VK760** : SC-VK760 only

System	SC-VK960	SC-VK860	SC-VK760
Main unit	SA-VK960 (1 unit)	SA-VK860 (1 unit)	SA-VK760 (1 unit)
Front speakers	SB-PF960 (2 units)	SB-PF860 (2 units)	SB-PF760 (2 units)
Center speaker	SB-PC960 (1 unit)	SB-PC860 (1 unit)	SB-PC760 (1 unit)
Surround speakers	SB-PS960 (2 units)	SB-PS860 (2 units)	SB-PS760 (2 units)
Subwoofer(s)	SB-WVK960 (2 units)	SB-WVK860 (1 unit)	SB-WVK760 (1 unit)



CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION	- LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION	- CLASS 1M VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1:4:2 / Class 1M
WARNING	- KLASS 1M SYNÄLIK OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN DIREKT GENOM OPTISKT INSTRUMENT.
FORSIGTIG	- SYNLIG OG USYNLIG LASERSTRÅLING KLASS 1M. NÄR LAGET ER ÅBENT, UNDGÅ AT SE LIGE PÅ MED OPTISKE INSTRUMENTER.
VARO!	- AVATTAESSA OLET ALTIIN LUOKAN 1M NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYÄ, ÄLÄ KATSO OPTISELLÄ LAITTEELLA SUORAAN SÄTEESEEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 1M. WENN ABDECKUNG GEÖFFNET, NICHT DIREKT MIT OPTISCHEN INSTRUMENTEN BETRACHTEN.
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE. CLASSE 1M. EN CAS D'OUVERTURE, NE PAS REGARDER DIRECTEMENT À L'ŒIL DES INSTRUMENTS D'OPTIQUE.
注意	- ここを開くと可視及び不可視レーザーが出ます。 ヒームを直接、眼をたらしめないでください。
注意	- 打开时有可见及不可见激光辐射。避免直视眼睛。 GB7241, 14001198 类 RQLXS0075-J

Inside of product

For Southeast Asia

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 page 9.)

- If you see this symbol -

Information on Disposal in other Countries outside the European Union



This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

For Southeast Asia

THIS UNIT IS INTENDED FOR USE IN TROPICAL CLIMATES.

For Australia and N.Z.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

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.
- USE ONLY THE RECOMMENDED ACCESSORIES.
- DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

The socket outlet shall be installed near the equipment and easily accessible.

The mains plug of the power supply cord shall remain readily operable.

To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from AC receptacle.

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.



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Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files.

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WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

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"DTS" and "DTS 2.0 + Digital Out" are registered trademarks of DTS, Inc.

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.

Place it at least 15 cm away from wall surfaces to avoid distortion and unwanted acoustical effects.

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.

Power cord protection

Ensure the AC power cord 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 power cord 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 power cord 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.

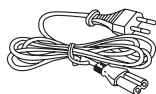
Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

SUPPLIED ACCESSORIES

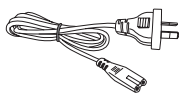
Please check and identify the supplied accessories.

1 x AC power supply cord

For Southeast Asia



For Australia and N.Z.



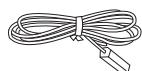
1 x Video cable



1 x AM loop antenna



1 x FM indoor antenna



2 x Remote control batteries



1 x Remote control



For Southeast Asia

VK960 | VK860 | VK760 (N2QAYB000167)

For Australia and N.Z.

VK860 (N2QAYB000168)

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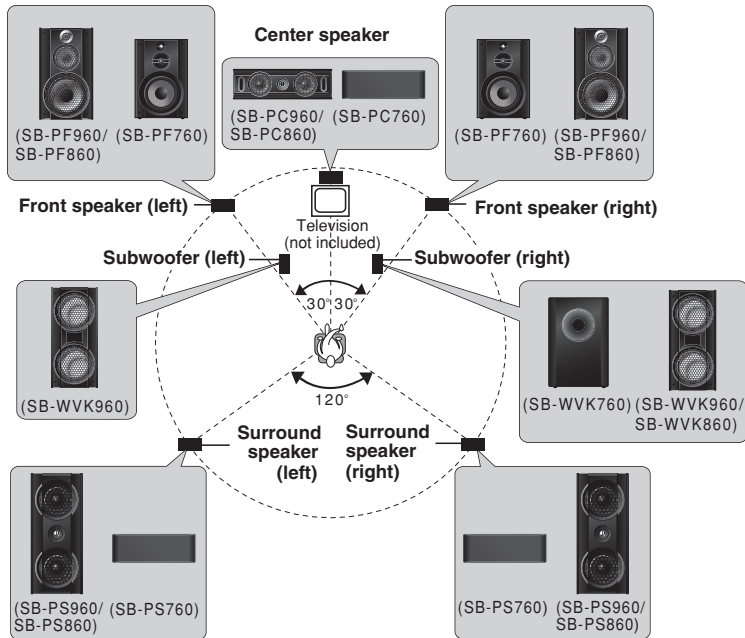
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Simple setup

Placement of speakers



Place the front, center, and surround speakers at approximately the same distance from the seating position.

Front speakers

Speakers are designed identically so that no left or right channel orientation is necessary.

Center speaker

Do not place the center speaker directly on the television as vibration may cause it to fall or disrupt the picture. Place it on a rack or shelf.

Surround speakers

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

Subwoofer(s)

Place on either side of the television, on the floor or a sturdy shelf to reduce vibration. Leave 10 cm at the rear for ventilation.

Use only the supplied speakers

- Using other speakers can damage the unit and sound quality will be negatively affected.
- Set the speakers up on an even surface to prevent them from falling. Take proper precautions to prevent the speakers from falling if you cannot set them up on an even surface.

Positioning for best effect

How you set up your speakers can affect the bass and the sound field. Note the following points.

- Place speakers on flat secure bases.
- Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with a thick curtain.

If irregular coloring occurs on your television

The supplied speakers are designed to be used close to a television, but the picture may be affected with some televisions and setup combinations.

If this occurs, turn the television off for about 30 minutes.

The television's demagnetizing function should correct the problem. If it persists, move the speakers further away from the television.

Note:

- Keep your speakers at least 10mm away from the system for proper ventilation.
- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage.
 - When playing distorted sound.
 - When the speakers emit strange noise (howling) from a microphone or record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
 - When adjusting the sound quality.
 - When turning the unit on or off.

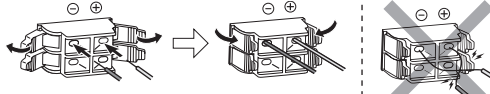
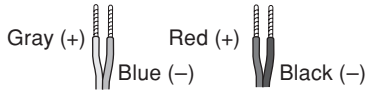
Caution

- **Use the speakers only with the recommended system. Failure to do so can damage the amplifier and speakers, and can cause fire. Consult a qualified service person if damage occurs or if a sudden change in performance is apparent.**
- **Do not attempt to attach these speakers to walls using methods other than those described in this manual.**

Speaker connections

Connect all the speakers as illustrated.

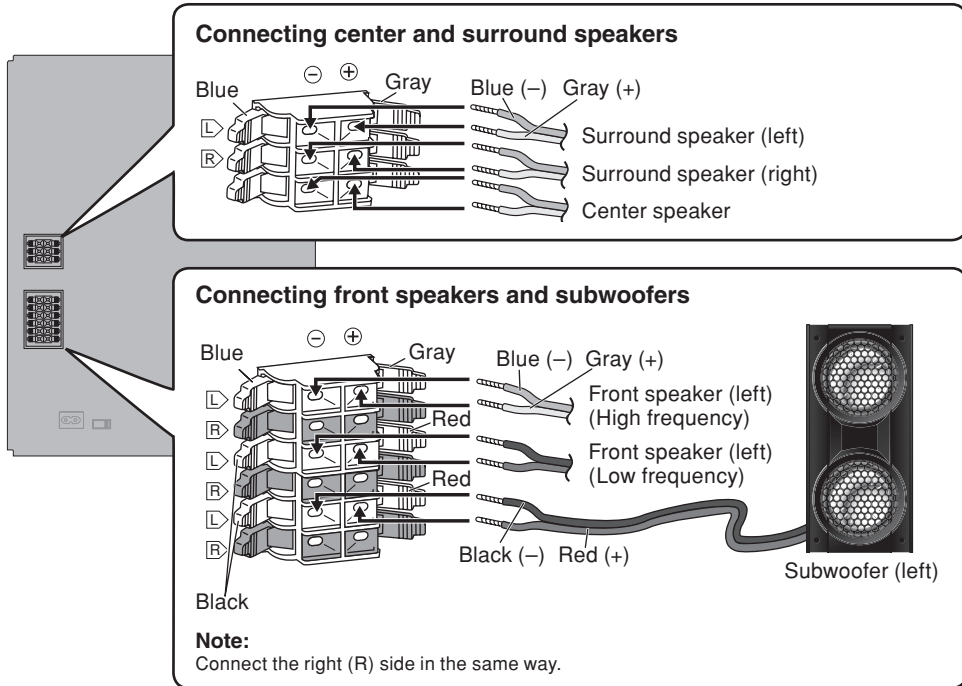
ENGLISH



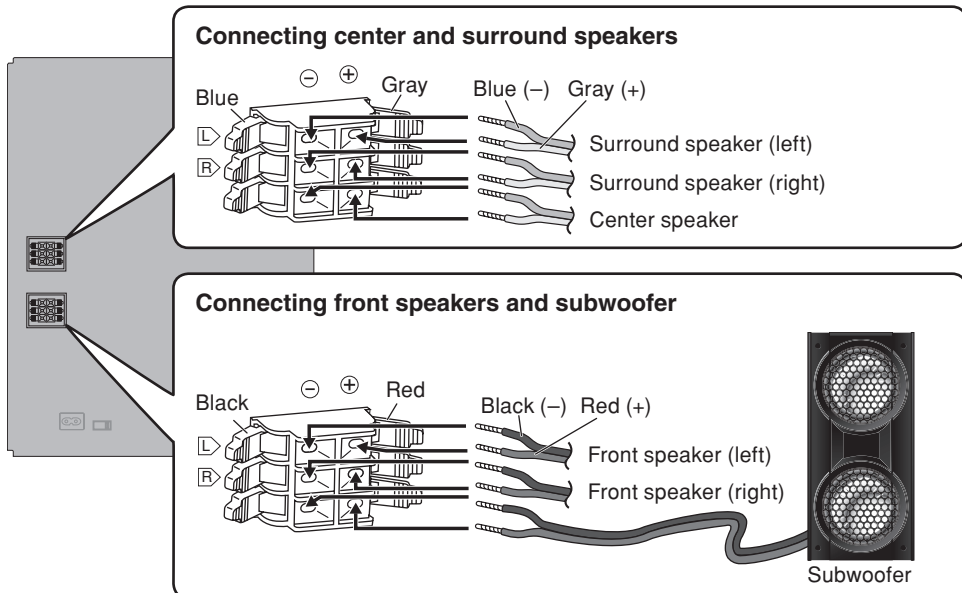
Connect so cord colors match the terminal colors.

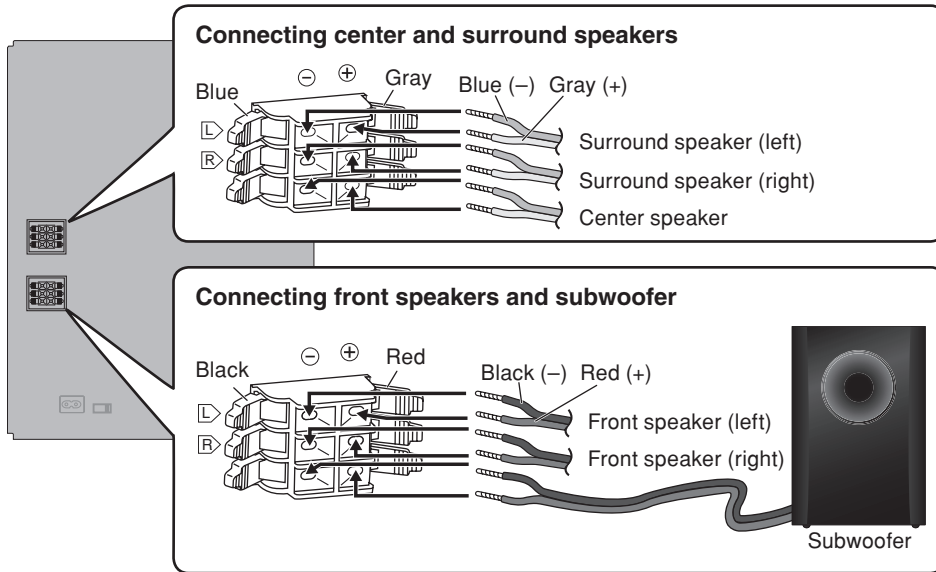
Note:
Never short-circuit positive (+) and negative (-) speaker wires. Incorrect connection can damage the speakers.

VK960



VK860

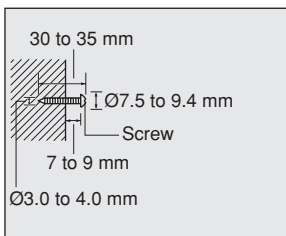




Other speaker setup options – attaching to a wall

You can attach the surround and center speakers to a wall.

1 Drive a screw (not included) into the wall.

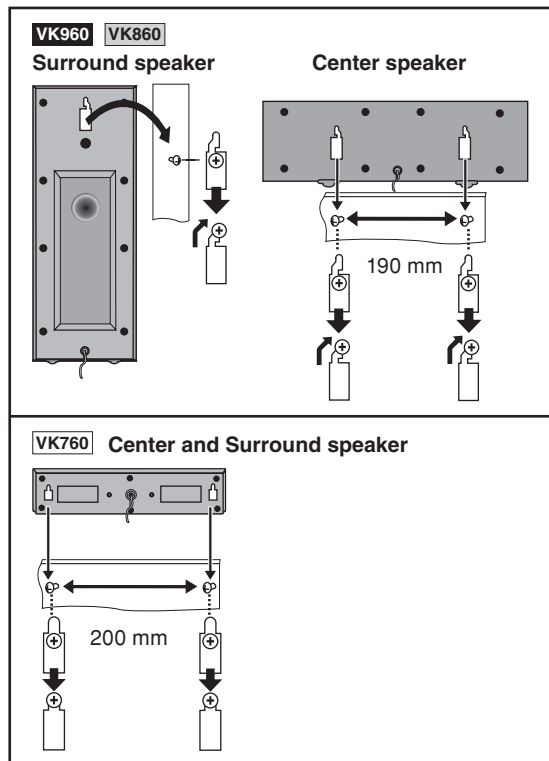


2 Fit the hole securely onto the screw(s).

Screw

The wall on which the speaker is to be mounted and the screw used for installing the speaker must be strong enough to support a weight of at least 10 kg. Consult the contractor in charge of the work.

※ A screw which is at least 30 mm long (→ see above) is used when installing the speaker on a wooden post or pillar. In all other cases, use a screw which is strong enough to support a weight of at least 10 kg.



Making the connections

Connect the AC power supply cord only after all other connections have been made.

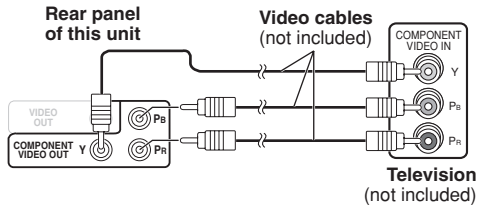
Conserving power

The unit consumes power (approx. 0.9 W) even when it is turned off with [⏻] (main unit: [⏻/1]). To save power when the unit is not to be used for a long time, unplug it from the household AC power socket. You will need to reset some memory items after plugging in the unit.

Video connections

- **Do not connect the unit through a video cassette recorder**
Due to copy guard protection, the picture may not be displayed correctly.
- Turn the television off before connecting, and refer to the television's operating instructions.

■ Television with COMPONENT VIDEO IN terminals



COMPONENT VIDEO OUT terminals

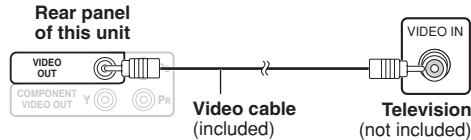
These terminals can be used for either interlace or progressive output. Connection using these terminals outputs the color difference signals (P_B/P_R) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colors.

The description of the component video input terminals depends on the television or monitor (example: Y/P_B/P_R, Y/B-Y/R-Y, Y/C_B/C_R). Connect to terminals of the same color.

To enjoy progressive video

1. Connect to the component video input terminals on a 480p or 576p compatible television. (Video will not be displayed correctly if connected to an incompatible television.)
2. Select "480p" or "576p" for "Video Output Mode" (Picture Menu, ➔ page 21).

■ Television with a VIDEO IN terminal



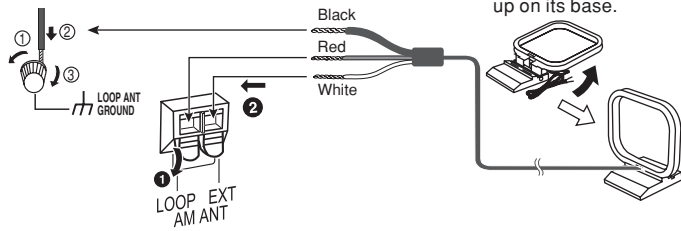
To household AC power socket

Power supply connection

The included AC power supply cord is for use with this unit only. Do not use it with other equipment.

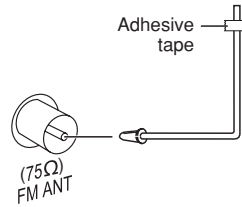
Antenna connections

AM loop antenna



FM indoor antenna

Tape the antenna where reception is best.



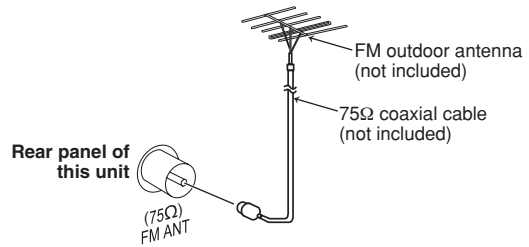
Optional antenna connections

Use outdoor antenna if radio reception is poor.

Note:

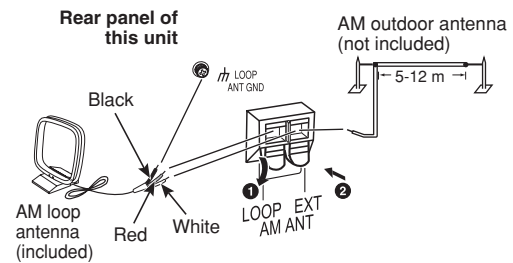
Disconnect the outdoor antenna when the unit is not in use. Do not use the outdoor antenna during a lightning storm.

FM outdoor antenna



- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

AM outdoor antenna



- Run a piece of vinyl wire horizontally across a window or other convenient location.
- Leave the loop antenna connected.

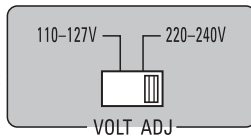
Set the voltage

For Southeast Asia

Before connecting the AC power supply cord, set the voltage.

Voltage Selector

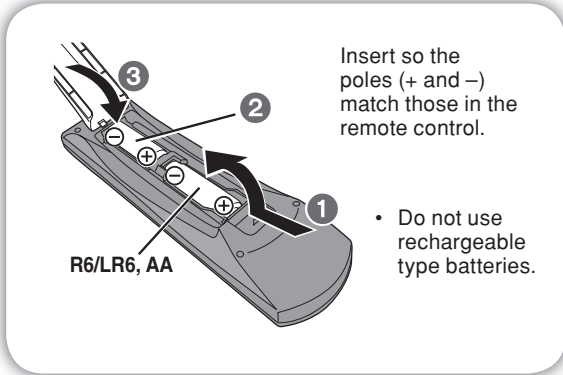
Use a flat-head screwdriver to set the voltage selector on the back of the main unit to the appropriate position for the area in which this system is used.



Please refer to "Connecting to other external unit" on page 32 for more information on AUX connection.

Preparing the remote control

ENGLISH



- Do not use rechargeable type batteries.

Do not:

- mix old and new batteries.
- use different types of the batteries at the same time.
- heat or expose batteries to flame.
- take apart or short circuit the batteries.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

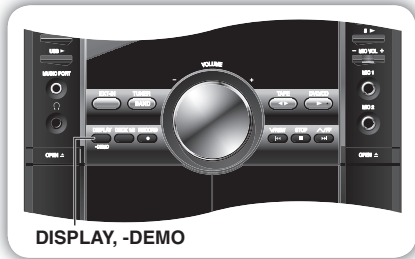
Mishandling of batteries can cause electrolyte leakage which can severely damage the remote control.

Remove the batteries if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

■ Use

Aim at the remote control signal sensor (→ page 12), avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

DEMO function



DISPLAY, -DEMO

When the unit is first plugged in, a demonstration of its functions may be shown on the display.

If the demo setting is off, you can show a demonstration by selecting "DEMO ON".

Press and hold [DISPLAY, -DEMO].

The display changes each time the button is held down.

DEMO OFF ↔ DEMO ON

While in standby mode, select "DEMO OFF" to reduce power consumption.

Note:

When the DEMO function is on, the Dimmer switches off automatically.




Language code list

Abkhazian: 6566	Danish: 6865	Italian: 7384	Norwegian: 7879	Swedish: 8386
Afar: 6565	Dutch: 7876	Japanese: 7465	Oriya: 7982	Tagalog: 8476
Afrikaans: 6570	English: 6978	Javanese: 7487	Pashto, Pushto: 8083	Tajik: 8471
Albanian: 8381	Esperanto: 6979	Kannada: 7578	Persian: 7065	Tamil: 8465
Ameharic: 6577	Estonian: 6984	Kashmiri: 7583	Polish: 8076	Tatar: 8484
Arabic: 6582	Faroese: 7079	Kazakh: 7575	Portuguese: 8084	Telugu: 8469
Armenian: 7289	Fiji: 7074	Kirghiz: 7589	Punjabi: 8065	Thai: 8472
Assamese: 6583	Finnish: 7073	Korean: 7579	Quechua: 8185	Tibetan: 6679
Aymara: 6589	French: 7082	Kurdish: 7585	Rhaeto-Romance: 8277	Tigrinya: 8473
Azerbaijani: 6590	Frisian: 7089	Laotian: 7679	Romanian: 8279	Tonga: 8479
Bashkir: 6665	Galician: 7176	Latin: 7665	Russian: 8285	Turkish: 8482
Basque: 6985	Georgian: 7565	Latvian, Lettish: 7686	Samoan: 8377	Turkmen: 8475
Bengali; Bangla: 6678	German: 6869	Lingala: 7678	Sanskrit: 8365	Twi: 8487
Bhutani: 6890	Greek: 6976	Lithuanian: 7684	Scots Gaelic: 7168	Ukrainian: 8575
Bihari: 6672	Greenlandic: 7576	Macedonian: 7775	Serbian: 8382	Urdu: 8582
Breton: 6682	Guarani: 7178	Malagasy: 7771	Serbo-Croatian: 8372	Uzbek: 8590
Bulgarian: 6671	Gujarati: 7185	Malay: 7783	Shona: 8378	Vietnamese: 8673
Burmese: 7789	Hausa: 7265	Malayalam: 7776	Sindhi: 8368	Volapük: 8679
Byelorussian: 6669	Hebrew: 7387	Maltese: 7784	Singhalese: 8373	Welsh: 6789
Cambodian: 7577	Hindi: 7273	Maori: 7773	Slovak: 8375	Wolof: 8779
Catalan: 6765	Hungarian: 7285	Marathi: 7782	Slovenian: 8376	Xhosa: 8872
Chinese: 9072	Icelandic: 7383	Moldavian: 7779	Somali: 8379	Yiddish: 7473
Corsican: 6779	Indonesian: 7378	Mongolian: 7778	Spanish: 6983	Yoruba: 8979
Croatian: 7282	Interlingua: 7365	Nauru: 7865	Sundanese: 8385	Zulu: 9085
Czech: 6783	Irish: 7165	Nepali: 7869	Swahili: 8387	




Disc information

Discs that can be played

■ Commercial discs

Disc	Logo	Indicated in these instructions by	Remarks
DVD-Video		DVD-V	High quality movie and music discs.
Video CD		VCD	Music discs with video. Including SVCD (Conforming to IEC62107).
CD		CD	Music discs.

■ Recorded discs (○: Playable, —: Not playable)

Disc	Logo	Recorded on a DVD video recorder, etc.		Recorded on a personal computer, etc.					Finalizing ^{×6}
		DVD-VR ^{×2}	DVD-V ^{×4}	WMA	MP3	JPEG	MPEG4 ^{×8}	DivX ^{×9}	
DVD-RAM		○	—	—	○	○	○	○	Not necessary
DVD-R/RW		○	○	—	○	○	○	○	Necessary
DVD-R DL		○ ^{×3}	○	—	—	—	—	—	Necessary
+R/+RW	—	—	(○) ^{×5}	—	—	—	—	—	Necessary
+R DL	—	—	(○) ^{×5}	—	—	—	—	—	Necessary
CD-R/RW ^{×1}	—	—	—	○	○	○	○	○	Necessary ^{×7}

- It may not be possible to play all the above-mentioned discs in some cases due to the type of disc, the condition of the recording, the recording method, or how the files were created (➔ page 25, Tips for making data discs).

^{×1} This unit can play CD-R/RW recorded with CD-DA or Video CD format.

WMA MP3 JPEG This unit also plays HighMAT discs.

^{×2} Discs recorded on DVD video recorders or DVD video cameras, etc. using Version 1.1 of the Video Recording Format (a unified video recording standard).

^{×3} Discs recorded on DVD video recorders or DVD video cameras using Version 1.2 of the Video Recording Format (a unified video recording standard).

^{×4} Discs recorded on DVD video recorders or DVD video cameras using DVD-Video Format.

^{×5} Recorded using a format different from DVD-Video Format, therefore, some functions cannot be used.

^{×6} A process that allows play on compatible equipment. To play a disc that is displayed as "Necessary" on this unit, the disc must first be finalized on the device it was recorded on.

^{×7} Closing the session will also work.

^{×8} MPEG4 data recorded with the Panasonic SD multi cameras or DVD video recorders [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system].

^{×9} Functions added with DivX Ultra are not supported.

Note about using a DualDisc

The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so playback may not be possible.

■ Discs that cannot be played

DVD-RW version 1.0, DVD-Audio, DVD-ROM, CD-ROM, CDV, CD-G, SACD, Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6 GB and 5.2 GB DVD-RAM, and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.

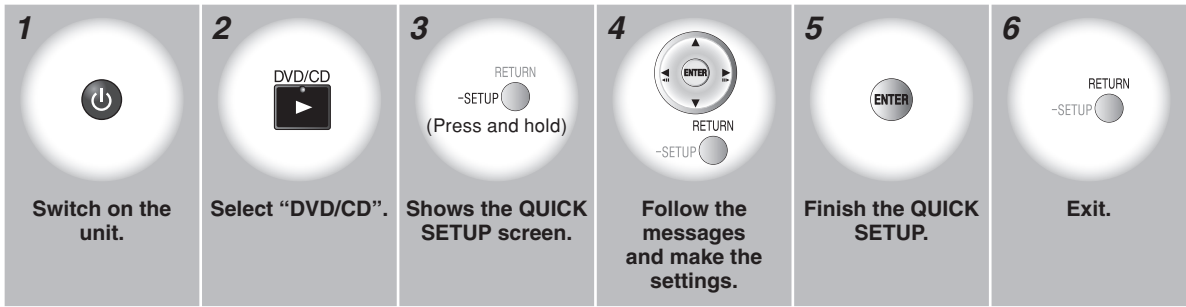
■ Video systems

- This unit can play PAL and NTSC, but your television must match the system used on the disc.
- PAL discs cannot be correctly viewed on an NTSC television.
- This unit can convert NTSC signals to PAL 60 for viewing on a PAL television (➔ page 23, "NTSC Disc Output" in "Video" tab).

QUICK SETUP

The **QUICK SETUP** screen assists you to make necessary settings. Turn on the television and select the appropriate video input on the television.

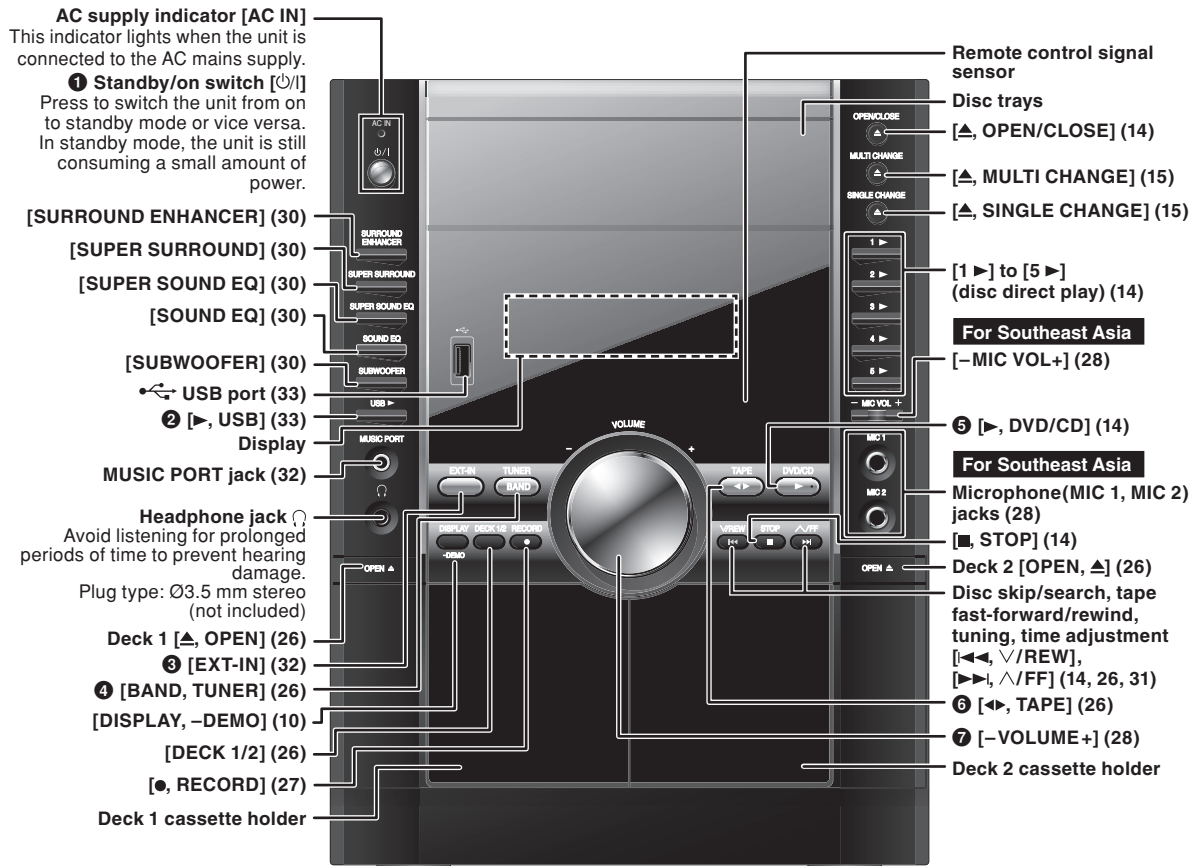
ENGLISH



Overview of controls

Main unit

Refer to the numbers in parentheses for page reference. Buttons such as ❶ function the same as the controls on the remote control.



To select the desired display mode
Every time you press the button:

→ Normal → Peak hold → Reflection → Off ←

Normal
Indicates strength of the sound in each tonal range

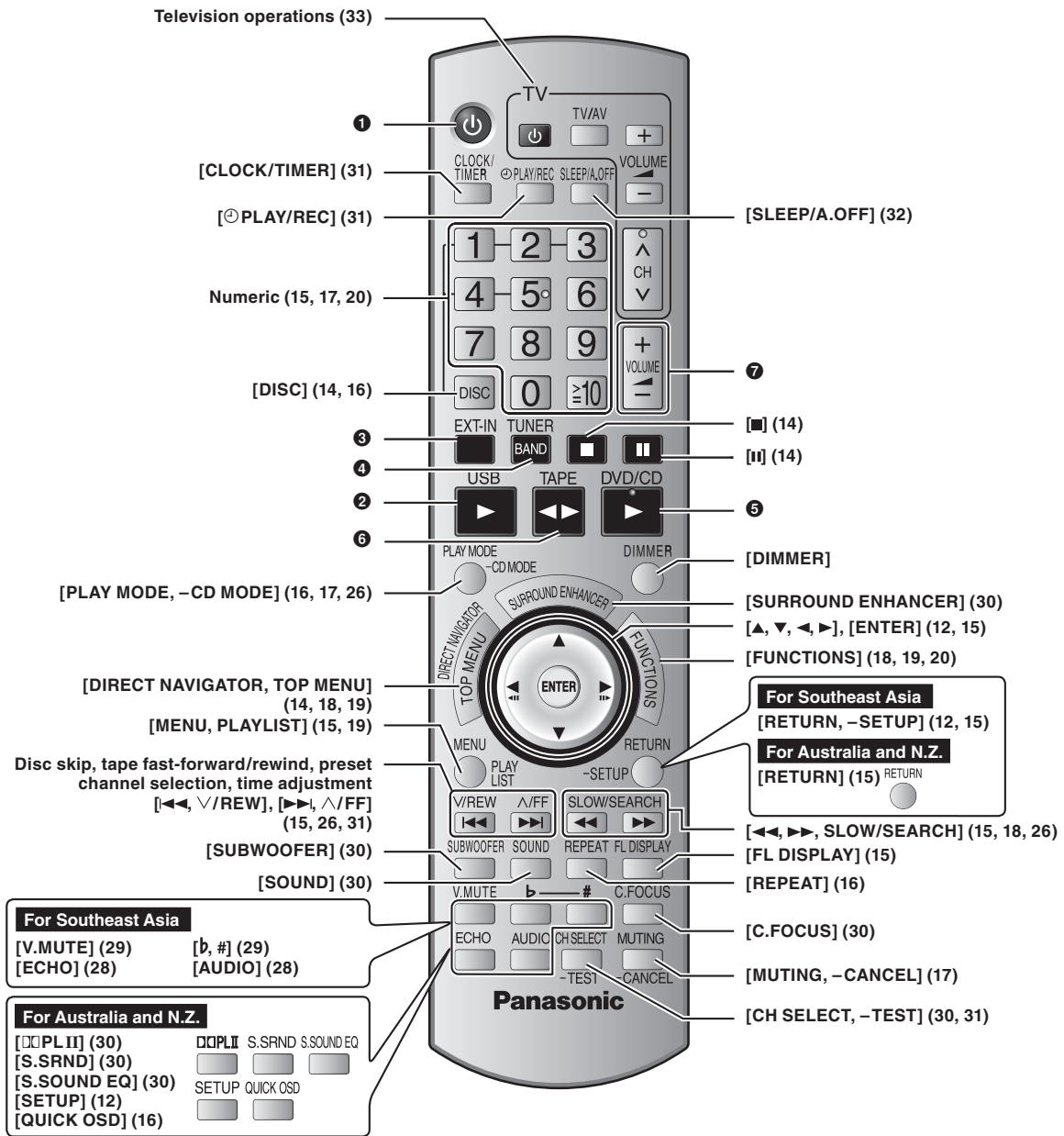
Peak hold
Peak sound value of each sound range (on display for about one second after it occurs).

Reflection
Indicates the strength of the sound in each tonal range (displayed in the opposite direction of normal mode).

RQTV0239

Remote control

Buttons labeled such as ❶ function in exactly the same way as the buttons on the main unit.



MUTING
-CANCEL

To mute the sound.

- Press the button to activate.
- Press the button again or adjust the volume to cancel.
- Muting is also canceled when you switch the unit to standby.

DIMMER

To dim the display panel.
Every time you press the button.

Setting	Effect
1	Display and ambient light dims
2	Display dims and ambient light is turned off
3	Original brightness

The display is dimmed, but brightens when you perform some operations.

SLEEP/A.OFF

This auto off function allows you to turn off the unit in disc or tape mode only after left unused for 10 minutes.
Every time you press the button:

SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP 120
SLEEP OFF ← AUTO OFF ←

- The setting is maintained even if the unit is turned off.
- If you select tuner or music port as the source, "AUTO OFF" turns off. It comes on again when you select disc or tape.

Discs — Basic play

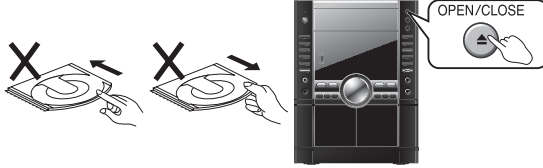
Handling of the disc trays and discs

Not doing the following will cause damage to the unit.

Removing the power plug

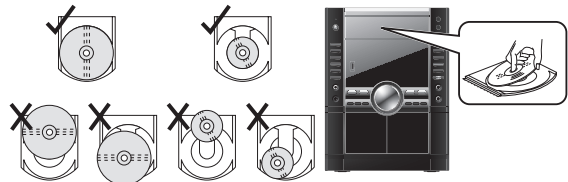
Press [⏻/⏪] to turn off the unit and then remove the power plug only after all the displays have disappeared.

Tray caution

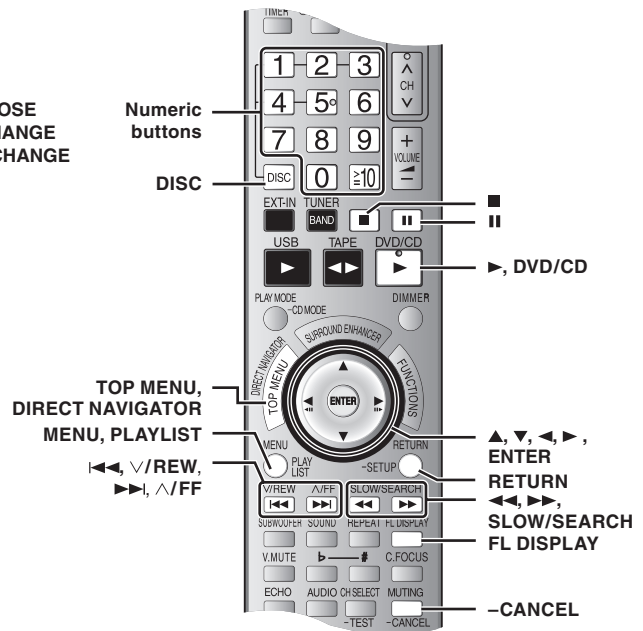


- Always press [▲, OPEN/CLOSE] to insert or remove a disc.
- Do not push or pull out the tray by hand as this will cause an accident.

Inserting a disc



- Place the disc correctly label-up as shown in the diagram.
- Insert only one disc into each tray.



1

OPEN/CLOSE



Open the tray.
The unit turns on.
Load a disc in the current tray.

DVD-VR



Remove the disc from its cartridge before use.

2

OPEN/CLOSE



Close the tray.

3

DVD/CD



Start play.

You can also press [1 ▶] ~ [5 ▶] to select and play the other loaded discs.

Stop



The position is memorized while "RESUME" is on the display.

- Press [▶, DVD/CD] to resume.
- Press [■] again to clear the position.

Pause



Press [▶, DVD/CD] to resume play.

Search (during play)

SLOW/SEARCH Play speed increases up to 5 steps.

Slow-motion play (during pause)

SLOW/SEARCH
 • Play speed increases up to 5 steps.
 • **VCD** Slow motion play is for forward direction only.

Skip

V/REW **A/FF**

WMA MP3 JPEG MPEG4 DivX
[▲, ▼]: Group skip.
[◀, ▶]: Content skip.
 This feature does not work during program and random play (→ page 17).

Enter numbers

1 2 3 **DVD-V** (while stopped)
4 5 6 **DVD-VR VCD CD**
 Example: to select 12:
≥10 → [1] → [2]
7 8 9 **VCD** with Playback control (PBC)
0 ≥10 Press **[■]** and then press the numeric buttons to cancel the PBC functions.
Note:
 The numeric buttons that can function depend on the number of tracks on the VCD.
WMA MP3 JPEG MPEG4 DivX
 Example: to select 123:
 [1] → [2] → [3] → [ENTER]

Cancel the numbers

MUTING
-CANCEL
Press and hold

Changing multiple discs (by main unit only)

MULTI CHANGE
Press the button repeatedly to check and change multiple discs.
 • The tray with a disc being played will not open.
 • If the player is stopped, all trays will open. To close the remaining trays simultaneously, press **[▲, OPEN/CLOSE]**.

Changing a single disc (by main unit only)

SINGLE CHANGE

 While one disc is playing, you can change the discs in other trays. Press **[▲, SINGLE CHANGE]** again to close the tray.
 If you select a disc which is being played, play stops and the tray opens.

Selecting a disc

DISC → **Select** or **1 2 3**
4 5
Confirm

Disc menus

DIRECT/INVERSE TOP MENU **DVD-V** (while stopped)
 Shows a disc top menu.
DVD-VR
 Show the programs (→ page 19).
MENU PLAY LIST **DVD-V** (while stopped) **MPEG4 DivX**
 Shows a disc menu.
DVD-VR
 Shows a playlist.
RETURN -SETUP **VCD** with Playback control (PBC)
 Shows disc menu.

Frame by frame (during pause)

DVD-V DVD-VR
VCD Forward direction only.

On-screen item select

Select **Select**
Confirm

Return to previous screen

RETURN
-SETUP

Main unit display

FL DISPLAY **DVD-V DVD-VR WMA MP3 MPEG4 DivX**
 Time display ↔ Information display
JPEG
 When Slideshow (→ page 20) is on:
SLIDE ↔ Information display
 When Slideshow (→ page 20) is off:
PLAY ↔ Information display

Note:

- **DISC CONTINUES TO ROTATE WHILE MENUS ARE DISPLAYED.**
 Press **[■]** when you finish to preserve the unit's motor and your television screen.
- Total title number may not be displayed properly on +R/+RW.



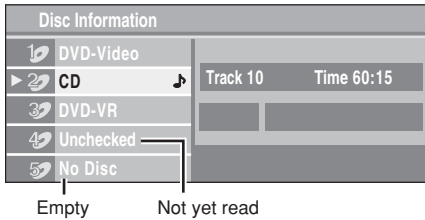
Disc information

You can select the disc after checking the discs loaded with the “Disc Information” screen.

You can also select the disc directly with the disc buttons on the main unit.

- 1 Press [DISC] to show the “Disc Information” screen.

Example:



- 2 Press the numeric buttons ([1] ~ [5]) to select and play the disc.

To clear the screen

Press [DISC].



CD sequential play (CD MODE)

VCD CD WMA MP3

This feature is very convenient if you want to play several music CDs sequentially. Make sure that the applicable disc is in the play position before playing. DVD, JPEG, MPEG4 and DivX are skipped without being played.

While stopped

- 1 Press and hold [–CD MODE].



- 2 Press [▶, DVD/CD].

To cancel the CD mode (while stopped)

Press and hold [–CD MODE].

Note:

- If the disc in the play position is not applicable (example: DVD), CD MODE does not work.
- HighMAT menus and Video CD playback control are disabled.
- You cannot change the mode during play, or while in program or random mode.
- If you want to play a DVD, press and hold [–CD MODE] again to cancel CD MODE. (CD MODE is also canceled when you open the current disc tray, switch the unit to standby or select another source.)

REPEAT



Repeat play

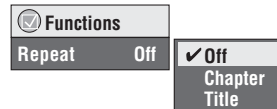
(Only when the elapsed play time can be displayed.)

JPEG: Works with all JPEG contents.)

During play

Press [REPEAT] several times to select an item to be repeated.

Example: **DVD-V**



DVD-V: Off → Chapter → Title*

DVD-VR: Off → Program → Disc

During playlist play: Off → Scene → Playlist

VCD CD: Off → Track → Disc*

- When CD MODE is on: Off → Track → Disc → All CD's

- When CD MODE is on, during program and random play: Off → Track → All CD's

WMA MP3 MPEG4 DivX: Off → Content → Group*

WMA MP3 When CD MODE is on:

Off → Content → Group → All CD's

- **WMA MP3** When CD MODE is on, during program and random play: Off → Content → All CD's

JPEG: Off → Group*

*“All” is displayed during program and random play.

QUICK OSD



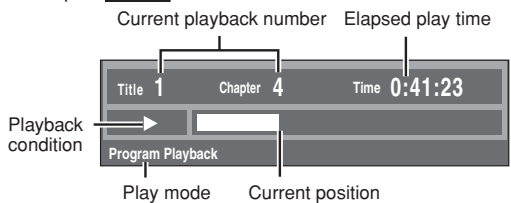
Displaying current playback condition (QUICK OSD)

For Australia and N.Z.

The current playback condition is displayed.

Press [QUICK OSD].

Example: **DVD-V**



Press [QUICK OSD] again to display detailed playback conditions.

To exit the screen

Press [QUICK OSD].

CD WMA MP3 The QUICK OSD screen will appear automatically.

Discs — Program and Random play



Start program/random

Play and select the desired mode.

Program and random playback screens appear sequentially. Every time you press the button:
Program → Random → Off (Normal play)

To exit program or random play mode

Press [PLAY MODE] several times while stopped.

Note:

Disable HighMAT disc play to use program and random play. Select "Play as Data Disc" in Other Menu (→ page 22).

Program play (up to 32 items)

When CD MODE is off (→ page 16)

DVD-V VCD CD WMA MP3 JPEG MPEG4 DivX

You can program all the items on a disc.

- DVD-V** Press the numeric buttons to select a group or title (**WMA MP3 JPEG** then press [ENTER]).

To select a 2-digit number

Example: 25:

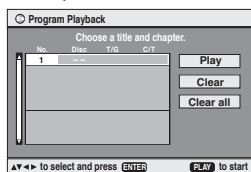
[≥10] → [2] → [5]

WMA MP3 JPEG

MPEG4 DivX

[2] → [5] → [ENTER]

Example: **DVD-V**



- Press the numeric buttons to select a chapter or track (**WMA MP3 JPEG MPEG4 DivX** then press [ENTER]).

Repeat steps 1 and 2 to program other items.

- Press [▶, DVD/CD].

When CD MODE is on (→ page 16)

VCD CD WMA MP3

You can program all the items on all the discs.

- Press the numeric buttons ([1] ~ [5]) to select a disc.
- Press the numeric buttons to select the items (**WMA MP3** then press [ENTER]). Repeat steps 1 and 2 to program other items.
- Press [▶, DVD/CD].

To select an item using the cursor buttons

Press [ENTER] and [▲, ▼] to select an item, then press [ENTER] again to confirm the number.

To change the selected program

- Press [▲, ▼] to select an item.
- Repeat above steps 1 and 2.

To clear the selected program

- Press [▲, ▼] to select an item.
- Press and hold [-CANCEL] (or press [▲, ▼, ◀, ▶] to select "Clear" and press [ENTER]).

To clear the whole program

Select "Clear all" with [▲, ▼, ◀, ▶] and press [ENTER].

Note:

The program is retained in memory unless one of the following occurs:

- The current disc tray is opened.
- Another source is selected.
- The unit is switched to standby.
- CD MODE is turned on or off.
- You manually select another disc (while CD MODE is off).

Random play

When CD MODE is off (→ page 16)

VCD CD

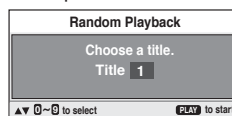
You can play all the items on a disc in random order.

DVD-V WMA MP3 JPEG MPEG4 DivX

You can play the selected item(s) on a disc in random order.

- DVD-V** Press the numeric buttons to select a group or title (**WMA MP3 JPEG MPEG4 DivX** then press [ENTER]).

Example: **DVD-V**



- Press [▶, DVD/CD].

ALL-DISC random play

When CD MODE is on (→ page 16)

VCD CD WMA MP3

You can play all the items on all the discs in random order.

Press [▶, DVD/CD].

Example: **CD**



Playing data discs

WMA MP3 JPEG MPEG4 DivX

You can play JPEG, MPEG4 and DivX video contents on DVD-VR or play HighMAT discs without using the HighMAT function (→ page 22, “Play as Data Disc” in Other Menu).



Playing items in order (Playback Menu)

- 1 Press [TOP MENU].
- 2 Press [▲, ▼] to select “All” (WMA/MP3/JPEG/MPEG4/DivX video), “Audio” (WMA/MP3), “Picture” (JPEG) or “Video” (MPEG4/DivX video), and press [ENTER].

To exit the screen
Press [TOP MENU] or [RETURN].

Playing from the selected item (Navigation Menu)

- 1 Press [MENU].
- 2 Press [▲, ▼, ◀, ▶] to select the group or audio/picture/video content and press [ENTER].
After listing all the contents in one group, the list for the next group appears.
- 3 To play content in the group in order Press [ENTER].

To start play from the selected content
Press [▲, ▼] and then [ENTER].
Example:

Navigation Menu

MP3 1:54

Linkin Park - Meteora \ Linkin Park [Hybrid Theory] 09 - A Pla

Sep 15 2003

Linkin Park - Meteora

Penguins

▶ : WMA/MP3 files

◀ : indicates the group/ content currently playing

📺 : MPEG4 and DivX video

📷 : JPEG files

Group 002/003

Content 0005/0012

Number currently selected

FUNCTIONS to display the sub menu

RETURN to exit

Group

Content

To enjoy listening to WMA/MP3 contents while showing a JPEG image on the screen
Select a JPEG file first, and then select audio contents. (The opposite order is not effective.)

To exit the screen
Press [MENU] or [RETURN].



Using the sub menu

- 1 While the Navigation Menu is displayed Press [FUNCTIONS].
Items shown differ depending on the type of disc.

- Multi: Groups and contents are displayed.
- List: Contents only
- ✓ Tree: Groups only
- Thumbnail: Thumbnail images JPEG
- Next group: To go to next group WMA MP3
- Previous group: MPEG4 DivX
- All: To go to previous group WMA MP3
- Audio: WMA/MP3, JPEG, MPEG4 and DivX video
- ✓ Picture: WMA/MP3 only
- Video: JPEG only
- ✓ Help display: MPEG4 only
- Find: To switch between guide messages and the elapsed play time indicator To search by content or group title (→ see below)

- 2 Press [▲, ▼] to select the sub menu and press [ENTER].

Searching by content or group title

Highlight a group title to search the group, or a content title to search its content.

- 1 While the sub menu is displayed (→ see above) Press [▲, ▼] to select “Find” and press [ENTER].



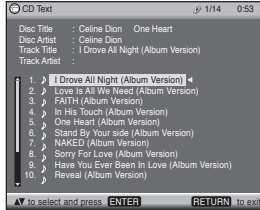
- 2 Press [▲, ▼] to select a character and press [ENTER].
 - Repeat to enter other characters.
 - Lower case is also searched.
 - Press [◀, ▶] to skip between A, E, I, O, and U.
 - Press [◀] to erase a character.
 - Leave the asterisk (*) when you search for the titles including the character you enter.
 - Erase the asterisk (*) to search for the titles starting with the character you enter. To add the asterisk (*) again, display the sub menu again and select “Find”.
- 3 Press [▶] to select “Find” and press [ENTER].
The search results screen appears.
- 4 Press [▲, ▼] to select the content or group and press [ENTER].



Playing from the selected track in the CD

CD Titles appear with CD Text disc playback.

- 1 Press [TOP MENU] or [MENU].
Example: CD text



- 2 Press [▲, ▼] to select the track and press [ENTER]. Press [FUNCTIONS] to show the playback position and current position.

To exit the screen

Press [TOP MENU], [MENU] or [RETURN].

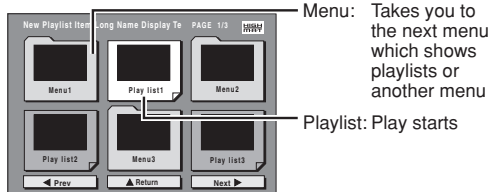


Playing HighMAT™ discs

WMA MP3 JPEG

While stopped

- 1 Press [TOP MENU].
- 2 Press [▲, ▼, ◀, ▶] to select the item and press [ENTER]. Repeat this step if necessary.
Example:



To change the menu background

Press [FUNCTIONS].
The background changes to the one recorded on the disc.

To exit the screen

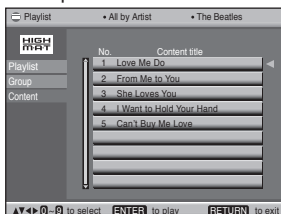
Press [■].

MENU



Selecting from the list

- 1 Press [MENU].
Example:



- 2 Press [◀] then [▲, ▼] to switch among "Playlist", "Group" and "Content" lists.
- 3 Press [▶] then [▲, ▼] to select an item and press [ENTER].

To exit the screen

Press [MENU] or [RETURN].

Playing RAM and DVD-R/-RW (DVD-VR) discs

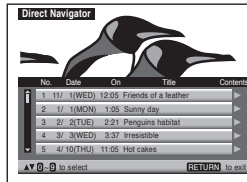
DVD-VR

- Titles appear only if the titles are recorded on the disc.
- You cannot edit programs, playlists and disc titles.



Playing the programs

- 1 Press [DIRECT NAVIGATOR].
Example:



- 2 Press [▲, ▼] or the numeric buttons to select the program.
Press [▶] to show the contents of the program and the disc.

Press [▶] to show the contents of the program and the disc.

- 3 Press [ENTER].

To exit the screen

Press [DIRECT NAVIGATOR] or [RETURN].

MENU



Playing a playlist

(Only when the disc contains a playlist)

- 1 Press [PLAYLIST].
Example:



- 2 Press [▲, ▼] or the numeric buttons to select the playlist.


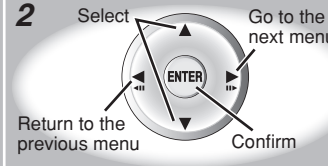
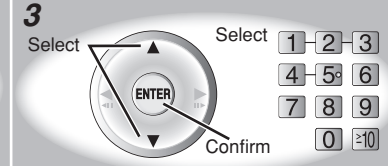

- 3 Press [ENTER].

To exit the screen

Press [PLAYLIST] or [RETURN].


Discs — Using on-screen menus

ENGLISH

1  Displays the "Functions" screen.	2  Select the menu.	3  Make the settings.	4  Exit.
--	--	---	---

Items shown differ depending on the type of disc as well as the recording format.

Functions Menu

Program Group Title Chapter Track Playlist Content	To start from a specific item Example: DVD-VR To select program 12 Press the numeric buttons: [1] → [2] → [ENTER] 
Time	(Time Slip does not work with +R/+RW discs.) To skip incrementally or decrementally (Time slip) (during play) 1. Press [ENTER] twice to show the Time Slip indicator. 2. Press [▲, ▼] to select the time and press [ENTER]. To change the steps quickly, press and hold [▲, ▼]. Time Search To start from a specific time. To change the elapsed or remaining time display
Video	MPEG4 DivX To display the pixel number DivX Fps (frame per second) is also displayed.
Audio	DVD-V DivX (with multiple soundtracks) To select audio soundtrack DVD-VR VCD To select "L R", "L", "R" or "L+R" DivX To select "1", "Audio L R", "Audio L" or "Audio R" DVD-V (Karaoke disc) For Southeast Asia To select "On" or "Off" for vocals To select "On", "Off", "V1", "V2" or "V1+V2" for different vocal selections Read the disc's instructions for details. Signal type/data LPCM/PPCM/Digital/DTS/MP3/MPEG: Signal type kHz (Sampling frequency)/bit/ch (Number of channels) Example: 3 / 2 .1ch .1: Low frequency effect (not displayed if there is no signal) 0: No surround 1: Mono surround 2: Stereo surround (left/right) 1: Center 2: Front left + Front right 3: Front left + Front right + Center DivX It may take some time for play to start if you change the audio on a DivX video disc. WMA MP3 To display the current bitrate or sampling frequency

Thumbnail	JPEG To show thumbnail images
Subtitle	DVD-V DivX (with multiple subtitles) VCD (SVCD only) To select subtitle language • On +R/+RW, a subtitle number may be shown for subtitles that are not displayed. • DVD-VR "On" or "Off" appears only with discs that contain subtitle on/off information (Subtitle on/off information cannot be recorded using Panasonic DVD Recorders).
Marker (VR)	DVD-VR To recall a marker recorded on DVD-Video recorders Press [▲, ▼] ⇒ Press [ENTER]
Angle	(with multiple angles) To select a video angle
Rotate Picture	JPEG To rotate pictures
Slideshow	JPEG To turn the slideshow on/off On ⇄ Off To change the slideshow timing 1 (Fast) to 5 (Slow)
Other Settings	(⇒ see below)


Other Settings

Play Speed	DVD-V DVD-VR To change play speed – from "x0.6" to "x1.4" • Press [▶], DVD/CD to resume normal playback. • After you change the speed – Audio output switches to 2-channel stereo. – Sampling frequency of 96 kHz is converted to 48 kHz. • This function may not work depending on the disc's recording.
■ Play Menu	
Repeat	(⇒ page 16)
A-B Repeat	Except DVD-VR (Still picture part) JPEG MPEG4 DivX To repeat a specified section Press [ENTER] at the starting and ending points. Press [ENTER] again to cancel.

RQTV0239

Other Settings (continued)

■ Play Menu (continued)

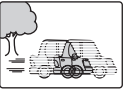
<p>Marker</p>	<p>Except DVD-VR To mark up to 5 positions to play again Press [ENTER]. (The unit is now ready to accept markers.) To mark a position: Press [ENTER] at the desired point. To mark another position: Press [◀, ▶] to select "*" ⇒ Press [ENTER] To recall a marker: Press [◀, ▶] ⇒ Press [ENTER] To erase a marker: Press [◀, ▶] ⇒ Press and hold [-CANCEL] • This feature does not work during program and random play.</p>
<p>Advanced Disc Review</p>	<p>DVD-V (Except +R/+RW) DVD-VR (Except still picture part) Allows you to browse the disc contents and start playing from the selected position. You can select either "Intro Mode" or "Interval Mode" in "Advanced Disc Review" in the "Disc" tab (⇒ page 23). Example: DVD-VR</p>  <p>Press [▶, DVD/CD] when you find a title or program of your choice. • This may not work depending on the disc and the play position. • DVD-VR This does not work when playing a playlist (⇒ page 19).</p>

■ Picture Menu

<p>Picture Mode</p>	<p>DVD-V DVD-VR VCD JPEG MPEG4 DivX Normal : Normal images. Cinema1 : Mellows images and enhances detail in dark scenes. Cinema2 : Sharpens images and enhances detail in dark scenes. Animation : Suitable for animation. Dynamic : Enhances the contrast for powerful images. User : Press [ENTER] to select "Picture Adjustment" (⇒ see below).</p> <p>Picture Adjustment Contrast : Increases the contrast between light and dark parts of the picture. Brightness : Brightens the picture. Sharpness : Adjusts the sharpness of the edges of horizontal lines. Color : Adjusts the shade of the picture's color. Gamma : Adjusts the brightness of dark parts. Depth Enhancer : Reduces the rough noise in the background to give a greater feeling of depth.</p>
<p>Video Output Mode</p>	<p>DVD-V DVD-VR VCD JPEG MPEG4 DivX ※480p/576p (progressive) ※480i/576i (interlace) When you select "xxx:p" (progressive) and a confirmation screen appears, select "Yes" only if connecting to a progressive output compatible television. ※ The numbers displayed depend on the geographical location and disc being played. One of the above numbers is displayed.</p>

Transfer Mode

DVD-V DVD-VR VCD MPEG4 DivX
 If you have chosen "xxx:p" (progressive) (⇒ see left), select the method of conversion for progressive output to suit the type of material. When playing PAL discs, MPEG4 or DivX video contents
Auto : Automatically detects the film and video content, and appropriately converts it.
Video : Select when using Auto, and the content is distorted.
Film : Select this if the edges of the film content appear jagged or rough when Auto is selected.



However, if the video content is distorted as shown in the illustration to the right, then select Auto.
 When playing NTSC discs
Auto1 : Automatically detects the film and video content, and appropriately converts it.
Auto2 : In addition to Auto1, automatically detects film contents with different frame rates and appropriately converts it.
Video : Select when using Auto1 and Auto2, and the content is distorted.

Source Select

DivX
 When you select "Auto" the constructing method of the DivX contents is automatically distinguished and output. If the picture is distorted, select "I (Interlace)" or "P (Progressive)" depending on which constructing method was used when the contents were recorded to disc.
Auto I (Interlace) P (Progressive)

■ Audio Menu

<p>Dolby Pro Logic II</p>	<p>(⇒ page 30, Using the Dolby Pro Logic II) DVD-V DVD-VR VCD Off ↔ Movie ↔ Music</p>
<p>Dialogue Enhancer</p>	<p>To make the dialog in movies easier to hear DVD-V (Dolby Digital, DTS, MPEG, 3-channel or higher, with the dialog recorded in the center channel) DivX (Dolby Digital, 3-channel or higher, with the dialog recorded in the center channel) On ↔ Off</p>
<p>Sound Enhancement</p>	<p>Enhances audio output to produce a warm hall-like sound. On ↔ Off</p>

■ Display Menu

<p>Information</p>	<p>JPEG : On ↔ Off</p>
<p>Subtitle Position</p>	<p>0 to -60</p>
<p>Subtitle Brightness</p>	<p>Auto, 0 to -7</p>
<p>4:3 Aspect</p>	<p>DVD-V DVD-VR VCD JPEG MPEG4 DivX To select how to show images made for 4:3 aspect screens on a 16:9 aspect television The "TV Aspect" needs to be set to "16:9" (⇒ page 23, "Video" tab) prior to selecting "4:3 Aspect". Normal : Laterally stretches images. Auto : Expands 4:3 letterbox images to fill more of the screen. Other images appear in full in the center of the screen. Shrink : Images appear in the center of the screen. Zoom : Expands to 4:3 aspect ratio. If your television has a similar feature, use it instead for a better effect.</p>

Other Settings (continued)

■ Display Menu (continued)

Just Fit Zoom **DVD-V** **DVD-VR** **VCD**

To select the appropriate screen size to fit your television screen

Auto **American Vista**
4:3 Standard **Cinemascope 1**
European Vista **Cinemascope 2**
16:9 Standard

MPEG4 **DivX**

Standard (x0.25 full-screen)
Original (actual recorded size)
Full (full-screen)
 This function may not work depending on the disc's recording.

Manual Zoom **To zoom in and out manually**

- in 0.01-unit steps from "x1.00" to "x1.60"
- in 0.02-unit steps from "x1.60" to "x2.00"
- in 0.05-unit steps from "x2.00" to "x4.00"

(**MPEG4** **DivX** only)

- To change the steps quickly, press and hold [▲, ▼].
- **MPEG4** **DivX** It may not be possible to zoom up to "x4.00" depending upon the connected television and its settings.

Bit Rate Display **DVD-VR** (motion picture parts only)
DVD-V **VCD** **MPEG4** **DivX**

On ↔ Off
 When you select "On":
 During play : shows the bit rate (approximate values) of the video being played
 During pause : shows the data volume of the frame and type of picture (⇒ page 34, Glossary – I/P/B)

GUI See-through **To make the on-screen menu transparent**
Off, On, Auto


GUI Brightness **To adjust the on-screen menu brightness**
 –3 to +3

■ Other Menu

Setup (⇒ see below)

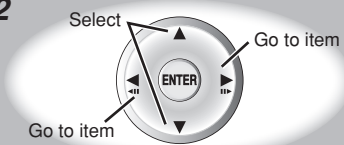
Play as DVD-VR, Play as HighMAT or Play as Data Disc **To use functions for data discs (⇒ page 18)**
 (To play MP3, JPEG, MPEG4 or DivX video contents on DVD-RAM, or to play a HighMAT disc without using HighMAT function)
 Select "Play as Data Disc".


Discs — Changing the player settings

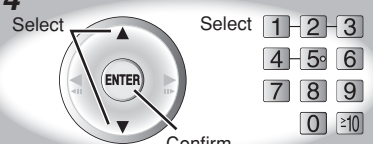
1  **Item** **Setting**


Disc	Audio	English
Video	Subtitle	Automatic
Audio	Menu	English
Display	Advanced Disc Review	Intro Mode
Others	Ratings	Level 8 (off)

Display the Setup menu.
 If you have not set QUICK SETUP (⇒ page 12), the QUICK SETUP screen appears.

2  **Select the tab.**

3  **Select the item.**

4  **Make the setting.**

5  **Exit.**

- The settings remain intact even if you switch the unit to standby.
- Underlined items in the following diagram are the factory preset.

QUICK SETUP enables successive settings of the items in the shaded area.

Player settings

■ "Disc" tab

Audio Choose the audio language.	• <u>English</u> • (Language options) ^{*1} • Original ^{*2} • Other * * * * ^{*3}
Subtitle Choose the subtitle language.	• <u>Automatic</u> ^{*4} • English • (Language options) ^{*1} • Other * * * * ^{*3}
Menus Choose the language for disc menus. Changing the menu language in QUICK SETUP also changes this setting.	• <u>English</u> • (Language options) ^{*1} • Other * * * * ^{*3}

*1 Language options : **For Southeast Asia** Chinese

For Australia and N.Z. French, German, Spanish, Polish, Russian, Hungarian and Czech

*2 The original language designated on the disc is selected.

*3 Input a code number referring to the table (⇒ page 10).

*4 If the language selected for "Audio" is not available, subtitle appears in that language (if available on the disc).

Discs — Changing the player settings (continued)



QUICK SETUP enables successive settings of the items in the shaded area.

Player settings (continued)

■ “Disc” tab (continued)

Advanced Disc Review (⇒ page 21)	<ul style="list-style-type: none"> • Intro Mode: Reviews each title or program. • Interval Mode: Reviews not only each title or program but also each 10-minute interval within a title or program.
Ratings Set a ratings level to limit DVD-Video playback.	<p>Setting ratings (When level 8 is selected)</p> <ul style="list-style-type: none"> • 8 No Limit • 1 to 7 • 0 Lock All: To prevent play of discs without rating levels. <p>Changing ratings (When level 0 to 7 is selected)</p> <ul style="list-style-type: none"> • Unlock Player • Change Password • Change Level • Temporary Unlock <p>When you select your ratings level, a password screen is shown. Follow the on-screen instructions. Do not forget your password. A message screen will be shown if a DVD-Video disc exceeding the ratings level is inserted in the unit. Enter your password and then follow the on-screen instructions.</p>

■ “Video” tab

TV Aspect Choose the setting to suit your television and preference.	<ul style="list-style-type: none"> • 4:3 Pan&Scan: Regular aspect television (4:3) The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc).  • 4:3 Letterbox: Regular aspect television (4:3) Widescreen picture is shown in the letterbox style.  • 16:9: Widescreen television (16:9) 										
TV Type Select to suit the type of television.	<ul style="list-style-type: none"> • Standard (Direct View TV) • CRT Projector • LCD TV/Projector • Projection TV • Plasma TV 										
Time Delay When connected with a Plasma display, adjust if you notice the audio is out of sync with the video.	<ul style="list-style-type: none"> • 0ms • 20ms • 40ms • 60ms • 80ms • 100ms 										
Still Mode Specify the type of picture shown when paused.	<ul style="list-style-type: none"> • Automatic • Field^{※4} : The picture is not blurred, but picture quality is lower. • Frame^{※4} : Overall quality is high, but the picture may appear blurred. 										
NTSC Disc Output Choose PAL 60 or NTSC output when playing NTSC discs (⇒ page 11, Video systems).	<table border="0"> <tr> <td style="background-color: #cccccc;">For Southeast Asia</td> <td style="background-color: #cccccc;">For Australia and N.Z.</td> </tr> <tr> <td>• PAL60</td> <td>• PAL60 : When connected to a PAL television.</td> </tr> <tr> <td>• NTSC</td> <td>• NTSC : When connected to an NTSC television.</td> </tr> </table>	For Southeast Asia	For Australia and N.Z.	• PAL60	• PAL60 : When connected to a PAL television.	• NTSC	• NTSC : When connected to an NTSC television.				
For Southeast Asia	For Australia and N.Z.										
• PAL60	• PAL60 : When connected to a PAL television.										
• NTSC	• NTSC : When connected to an NTSC television.										
Picture/Video Output Change the video signal format to be output for JPEG, MPEG4 and DivX video if picture output is not smooth during playback.	<table border="0"> <tr> <td style="background-color: #cccccc;">For Southeast Asia</td> <td></td> </tr> <tr> <td>• NTSC/PAL60: Output will depend on “NTSC Disc Output” setting (⇒ see above)</td> <td></td> </tr> <tr> <td>• PAL</td> <td></td> </tr> <tr> <td style="background-color: #cccccc;">For Australia and N.Z.</td> <td></td> </tr> <tr> <td>• Automatic • PAL • NTSC/PAL60</td> <td></td> </tr> </table>	For Southeast Asia		• NTSC/PAL60: Output will depend on “NTSC Disc Output” setting (⇒ see above)		• PAL		For Australia and N.Z.		• Automatic • PAL • NTSC/PAL60	
For Southeast Asia											
• NTSC/PAL60: Output will depend on “NTSC Disc Output” setting (⇒ see above)											
• PAL											
For Australia and N.Z.											
• Automatic • PAL • NTSC/PAL60											

■ “Audio” tab

Dynamic Range Compression	<ul style="list-style-type: none"> • Off • On: Adjust for clarity even when the volume is low by compressing the range of the lowest sound level and the highest sound level. Convenient for late night viewing. (Only works with Dolby Digital)
Speaker Settings (⇒ page 24) Set the delay time for your center and surround speakers	<ul style="list-style-type: none"> • Center (C) : 0.0/1.0/2.0/3.0/4.0/5.0 ms • Surround (LS/RS) : 0.0/5.0/10.0/15.0 ms

■ “Display” tab

Menu Language	<table border="0"> <tr> <td style="background-color: #cccccc;">For Southeast Asia</td> <td></td> </tr> <tr> <td>• English • 中文</td> <td></td> </tr> <tr> <td style="background-color: #cccccc;">For Australia and N.Z.</td> <td></td> </tr> <tr> <td>• English • Français • Deutsch • Español • Polski • Русский • Magyar • Česky</td> <td></td> </tr> </table>	For Southeast Asia		• English • 中文		For Australia and N.Z.		• English • Français • Deutsch • Español • Polski • Русский • Magyar • Česky	
For Southeast Asia									
• English • 中文									
For Australia and N.Z.									
• English • Français • Deutsch • Español • Polski • Русский • Magyar • Česky									
On-Screen Messages	<ul style="list-style-type: none"> • On • Off 								
Background during Play Select background during JPEG, MPEG4 and DivX video playback.	<ul style="list-style-type: none"> • Black • Gray or Grey 								

■ “Others” tab

DivX Registration Displays the unit’s registration code.	You need this registration code to purchase and play DivX Video-on-Demand (VOD) content. (⇒ page 24, “About DivX VOD content”)
QUICK SETUP	<ul style="list-style-type: none"> • Yes • No
“Re-initialize Setting” or “Re-initialise Setting” This returns all values in the Setup menus to the default settings.	<ul style="list-style-type: none"> • Yes: The password screen is shown if “Ratings” (⇒ see above) is set. Please enter the same password. After “Initialized” or “Initialised” on the display disappears, turn the unit off and on again. • No

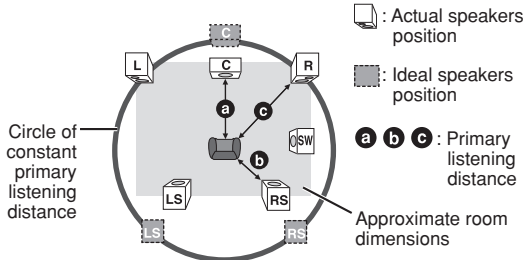
※4 Refer to “Frame still and field still” (⇒ page 34, “Glossary”).

Changing the delay time of the speakers

Effective when playing multi-channel audio

(Center and surround speakers only)

For optimum listening with 5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position. If you have to place the center or surround speakers closer to the seating position, adjust the delay time to make up for the difference.

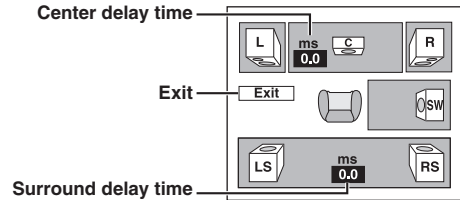


If either distance **a** or **b** is less than **c**, find the difference in the table and change to the recommended setting.

a Center speaker		b Surround speaker	
Difference (Approx.)	Setting	Difference (Approx.)	Setting
30 cm	1.0 ms	150 cm	5.0 ms
60 cm	2.0 ms	300 cm	10.0 ms
90 cm	3.0 ms	450 cm	15.0 ms
120 cm	4.0 ms		
150 cm	5.0 ms		

To enter the speaker setting

- 1 Press **[▲, ▼]** to select the delay time box and press **[ENTER]**.
- 2 Press **[▲, ▼]** to adjust the delay time and press **[ENTER]**.



To finish the speaker setting

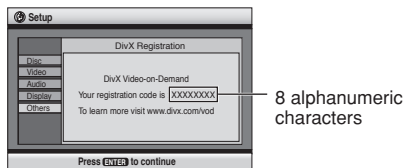
Press **[◀]** to select "Exit" and press **[ENTER]**.

About DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit. Follow the online instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod.

Display the unit's registration code

(⇒ page 23, "DivX Registration" in "Others" tab)



- We recommend that you make a note of this code for future reference.
- After playing DivX VOD content for the first time, another registration code is then displayed in "DivX Registration". Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased using the previous code.
- If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. ("Authorization Error" is displayed.)

Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("Rented Movie Expired" or "Rental Expired" is displayed.)

When playing this content

- The number of remaining plays is reduced by one if
 - you press **[⏪]** or press and hold **[–SETUP]**.
 - you press **[■]**. [Press **[II]** (pause) to pause play.]
 - you press **[◀▶]** (skip) or **[◀▶▶]** (search) etc. and arrive at another content or the start of the content being played.
- The "Resume" function (⇒ page 14, Stop) and "Marker" (⇒ page 21, Play Menu) functions will not work.

Tips for making data discs

- When there are more than eight groups, the eighth group onwards will be displayed on one vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

DVD-RAM

- Discs must conform to UDF 2.0.

DVD-R/RW

- Discs must conform to UDF bridge (UDF 1.02/ISO9660).
- This unit does not support multi-session. Only the default session is played.

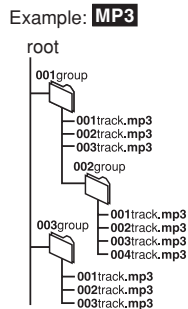
CD-R/RW

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are many sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

Naming folders and files

Files are treated as contents and folders are treated as groups on this unit.

At the time of recording, prefix folder and file names. This should be with numbers that have an equal number of digits, and should be done in the order you want to play them (this may not work at times). Files must have the extension (➡ see below).



WMA (Extension: “.WMA” or “.wma”)

- Compatible compression rate: between 48 kbps and 320 kbps.
- You cannot play WMA files that are copy-protected.
- This unit does not support Multiple Bit Rate (MBR).

MP3 (Extension: “.MP3” or “.mp3”)

- Compatible compression rate: between 32 kbps and 320 kbps.
- This unit does not support ID3 tags.
- Compatible sampling rates:
 - DVD-RAM, DVD-R/RW: 11.02, 12, 22.05, 24, 44.1 and 48 kHz
 - CD-R/RW: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz

JPEG (Extension: “.JPG”, “.jpg”, “.JPEG” or “.jpeg”)

- JPEG files taken on a digital camera that conform to DCF Standard (Design rule for Camera File system) Version 1.0 are displayed. Files that have been altered, edited or saved with computer picture editing software may not be displayed.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, and still pictures other than JPEG (Example: TIFF), or play pictures with attached audio.

MPEG4 (Extension: “.ASF” or “.asf”)

- You can play MPEG4 data [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system] recorded with Panasonic SD multi cameras or DVD video recorders with this unit.
- The recording date may differ from that of the actual date.

DivX (Extension: “.DIVX”, “.divx”, “.AVI” or “.avi”)

- You can play all versions of DivX® video (including DivX®6) [DivX video system/MP3, Dolby Digital or MPEG audio system] with standard playback of DivX® media files. Functions added with DivX Ultra are not supported.
- DivX files greater than 2 GB or have no index may not be played properly on this unit.
- This unit supports all resolutions up to maximum of 720 x 480 (NTSC)/720 x 576 (PAL).
- You can select up to eight types of audio and subtitles on this unit.

Disc handling precautions

- Do not attach labels or stickers to discs. This may cause disc warping, rendering it unusable.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
 - Discs with exposed adhesive from removed stickers or labels (rented discs, etc).
 - Discs that are badly warped or cracked.
 - Irregularly shaped discs, such as heart shapes.

To clean discs

Wipe with a damp cloth and then wipe dry.



Using the radio



Manual tuning

- 1 Press [BAND, TUNER] to select "FM" or "AM".
- 2 Press [◀◀] or [▶▶] (main unit: [◀◀, √/REW] or [▶▶, ^/FF]) to select the frequency of the required station.
 - "ST" is displayed when a stereo FM broadcast is being received.
 - "TUNED" is displayed when a radio station is tuned.



To improve FM sound quality

Press [PLAY MODE] to display "MONO".

Monaural sound is selected and noise reduces when reception is weak.

Press [PLAY MODE] again to cancel the mode.

"MONO" is also canceled if the frequency is changed.

For Southeast Asia



AM allocation setting (by main unit only)

This system can also receive AM broadcasts allocated in 10 kHz steps in addition to the 9 kHz steps.

To change the step from 9 kHz to 10 kHz

- 1 Select "FM".
- 2 Press and hold [BAND, TUNER].
After a few seconds the display changes to a flashing display of the current minimum frequency.
- 3 Continue to hold down [BAND, TUNER].
 - When the minimum frequency changes, release the button. To return to the original step, repeat the above steps.
 - After changing the setting, previously preset frequency will be cleared.

Memory preset (by remote control only)

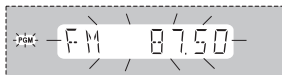
20 FM and 15 AM stations can be preset.

Preparation

Press [BAND, TUNER] to select "FM" or "AM".

Automatic presetting

- 1 Tune to the frequency where pre-setting is to begin.
- 2 Press and hold [ENTER] to start presetting.



The tuner presets all the stations it can receive into the channels in ascending order. When finished, the last station memorized is tuned in.

Manual presetting

- 1 Press [◀◀] or [▶▶] to tune to the required station.
- 2 Press [ENTER].
- 3 Press the numeric buttons to select a channel.
For channels 10 to 20 press [≥10], then the two digits.
The station occupying a channel is erased if another station is preset to that channel.

Selecting a preset station

Press the numeric buttons to select the channel.
OR

Press [◀◀, √/REW] or [▶▶, ^/FF] to select the channel.

Playing and recording using the cassette tapes



Basic play

You can use either DECK 1 or DECK 2 for tape playback.

Use normal position tapes.

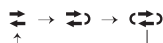
High position and metal position tapes can be played, but the unit will not be able to identify the characteristics of these tapes.

- 1 Press [◀▶, TAPE].
The unit turns on.
If a cassette was loaded, play starts automatically (One touch play).
- 2 Press [▲, OPEN] and insert the cassette.
Insert with the side to be played facing towards you and the exposed tape facing down. Close the holder by hand.
- 3 Press [◀▶, TAPE] to start play.
Every time you press the button:
For DECK 1
F▶
For DECK 2
F▶ ↔ ◀R
F▶: Forward side is played.
◀R: Reverse side is played.



Reverse mode (for DECK 2 only)

Every time you press and hold [PLAY MODE]:



- F▶: One side is played.
- F▶ ↔ ◀R: Both sides are played. (forward → reverse)
Play stops at the end of the reverse side.
- ◀R: Both sides are played repeatedly until [■] (main unit: [■, STOP]) is pressed.

Stop



Fast forward or rewind



Select between loaded decks



Note:

- Tape playback is momentarily interrupted if you open the other deck.
- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be taken up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly. Use tapes appropriate to this unit's auto-reverse mechanism.



Recording


Selection of tapes for recording

Use normal position tapes.
High position and metal position tapes can be used, but this unit will not be able to record or erase them correctly.

Preparation

Wind up the leader tape so recording can begin immediately.

Press [◀▶, TAPE] and then [■].

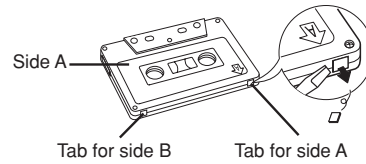
- 1 Press [OPEN, ▲] on the main unit for DECK 2 and insert the cassette to be recorded.
The tape direction is automatically set to "F▶". Insert with the side to be recorded facing towards you and the exposed tape facing down.
- 2 Select the reverse mode of DECK 2.
Every time you press and hold [PLAY MODE]:

 ▶ : One side only records.
 ▶, ◀ : Both sides record (forward → reverse).
 "◀▶" is automatically changed to "▶" when [●, RECORD] on the main unit is pressed.
- 3 Select the source to be recorded.
Radio recording:
 Select the preset station (⇒ page 26).
Disc recording:
 ① Insert the disc(s) you want to record.
 Press [▶, DVD/CD] and then [■, STOP].
 ② Prepare the desired disc recording mode.
 To record programmed items, perform steps 1 and 2, "Program play (up to 32 items)" (⇒ page 17). Ensure the disc has stopped.
Tape-to-tape recording:
 ① Press [◀▶, TAPE] and then [■].
 ② Press [▲, OPEN] on the main unit to open DECK 1 and insert the cassette you want to record.
- 4 Press [●, RECORD] on the main unit to start recording.

To erase a recorded sound

- 1 Press [◀▶, TAPE] and then [■].
- 2 Insert the recorded cassette into DECK 2.
Ensure there is no cassette in DECK 1.
- 3 Press and hold [PLAY MODE] to select the reverse mode.
- 4 Press [●, RECORD] on the main unit.

Erasure prevention

Use a screwdriver or similar object to break out the tab.



To re-record on a protected cassette

Cover the hole with adhesive tape.



Stop recording



If the tape finishes before the disc
The disc continues playing. Press [■] (main unit: [■, STOP]) to stop it.

Note:

- Multi-channel sources (3 to 5.1 channels) are automatically downmixed to 2 channels during recording.
- Changes to volume and sound or field quality do not affect recording.
- You cannot open DECK 1 while recording.
- You cannot fast-forward or rewind one deck while recording with the other.

The buttons described for “Enjoying karaoke” are mainly for the main unit unless indicated otherwise.



Enjoying karaoke with karaoke DVD and VCD

- 1 Firstly, lower the volume with [-MIC VOL+], then connect the microphone(s) to the microphone jack(s).

Every time you press the button:
MIC OFF ↔ MIC 1 ↔ ... ↔ MIC 7

Use a dynamic microphone.
Plug type : Ø6.3 mm monaural

- 2 Start playing the music source.
- 3 Adjust the volume with [-VOLUME+] and [-MIC VOL+] and sing along.

Note:

- If a strange noise (howling) is emitted during use, move the microphone away from the speakers, or turn down the microphone volume.
- When you are not using the microphone, disconnect it from the microphone jack, and turn down the microphone volume level to “MIC OFF”.
- Sound adjustments can be made using microphone mixing but recording will not be affected.



Enjoying karaoke with other sources

You can also perform karaoke with discs other than those described and also in USB mode.

- 1 Start play.
Refer to the pages for the source
 - **When singing along with discs**
Insert the desired disc (⇒ page 14).
 - **When singing along with cassette tape**
Press [▲, OPEN] on the main unit for DECK 1 and insert the desired cassette tape (⇒ page 26).
 - **When singing along with radio**
Select your desired station (⇒ page 26).
 - **When singing along with other equipment**
Connect and prepare the other equipment (⇒ page 32).
- 2 Press [AUDIO] on the remote control to make the selection (⇒ see right, Audio mode).
Only necessary if the vocals and melody are split between the left and right channels.
- 3 Adjust the volume with [-VOLUME+] and [-MIC VOL+] and sing along.
Even if the vocals and melody are not split, you may still be able to lower the volume of the vocals. (⇒ page 29, Vocal mute function)

Audio mode

DVD-V (Karaoke discs)

Solo

Off : No vocal

On : Vocal

Duet

Off : No vocal

V1+V2 : Vocal 1 and 2

V1 : Vocal 1

V2 : Vocal 2

- Choose “Off” for karaoke.
- Choose “V1” or “V2” to duet with the player.

VCD and other sources

Audio L R : Left channel sound is heard from the left speaker and right channel sound is heard from the right speaker — vocal and accompaniment

Audio L : Only left channel sound — no vocal

Audio R : Only right channel sound — vocal

Audio L + R : Left and right channel sounds are mixed and heard from both speakers

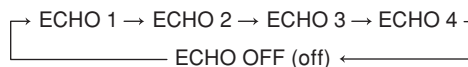
- Select no vocal for karaoke.
- Vocal and no vocal may be reversed.

ECHO



Adjusting the echo effect

- 1 Lower the volume with [-MIC VOL+] then connect the microphone(s) to the microphone jack(s).
- 2 Adjust the microphone volume with [-MIC VOL+].
- 3 Press [ECHO] on the remote control.
Every time you press the button:



Note:

The effect increases with the level.



Vocal mute function

Use this function on stereo sources to block out the vocals so you can sing along to the music.

Press [V. MUTE] on the remote control.

Every time you press the button:

V.MUTE ON → V.MUTE OFF



Note:

This function is not suitable for the following sources.

- Monaural recordings
- Classical music or works performed by a limited number of instruments
- Chorus works or duets



Changing the pitch

Use this function to change the pitch level.

Press [b] or [#] on the remote control to select the pitch between -6 and +6.



To record your karaoke performance

- 1 Adjust the volume with [- VOLUME+] and [- MIC VOL+].
- 2 Press [RECORD] and sing along.

To record from VCD with playback control

- a. Press [RECORD] on the remote control and then press the numeric buttons (→ page 15).
- b. Press [RECORD] to start recording.

Recording your voice

- 1 Press [RECORD] and speak through the microphone(s).
- 2 Adjust the volume with [- VOLUME+] and [- MIC VOL+].

To stop recording

Press [STOP].

Note:

When playing the recorded tape, be sure to select the "Audio L R" mode.

Using sound effects

You cannot use Surround Enhancer, Center Focus, Super Surround and Subwoofer level if you have connected headphones ("ERROR" appears on the display).

You may experience a reduction in sound quality when these sound field systems are used with some sources. If this occurs, turn the sound field system off.



Using the sound field control

Press [SOUND] (main unit: [SOUND EQ]) to select a setting.

Every time you press [SOUND] on the remote control:

MANUAL EQ → HEAVY → CLEAR → SOFT



Every time you press [SOUND EQ] on the main unit:

HEAVY → CLEAR → SOFT → DISCO



HEAVY : Adds punch to rock.

CLEAR : Clarifies higher sounds.

SOFT : For background music.

DISCO : Reverberates sound to make you feel like you are in a disco.

LIVE : Makes vocals more alive.

HALL : Expands sound to make you feel like you are in a hall.

EQ-OFF : Canceled (no effect is added).

MANUAL EQ: (→ see below).

To check the current setting

Press [SOUND] (main unit: [SOUND EQ]).



Using the Manual Equalizer (MANUAL EQ) (by remote control only)

Create your own sound quality effects.

- 1 Press [SOUND] to select "MANUAL EQ".

- 2 **Within 12 seconds or so**

Change the sound quality with the cursor buttons.

- ① Select the sound range to be adjusted with [◀] or [▶].

BASS ↔ MID ↔ TREBLE



- ② Adjust the level with [▲] or [▼]. (-3 to +3)

Repeat step 2 to set the desired sound quality.

The original display is restored on the display panel in about 3 seconds.

To cancel

Press [SOUND] to select "EQ-OFF".

The changes you make are stored and automatically recalled the next time you select "MANUAL EQ".



Using the Super Sound Equalizer

Turning on the super sound equalizer gives you a more powerful sound.

Press [SUPER SOUND EQ] on the main unit.
The "S.SOUND EQ" indicator lights up.

To cancel

Press [SUPER SOUND EQ] on the main unit to turn off the indicator.



Using the Surround Enhancer

Press [SURROUND ENHANCER].
The "SRD ENH" indicator lights up.

Every time you press the button:

SURROUND ENHANCER ON ↔ SURROUND ENHANCER OFF



Using the Super Surround

Press [SUPER SURROUND] on the main unit.
Every time you press the button:
MUSIC → MOVIE → PARTY → Off

- Music** : Adds surround effects to stereo sources.
- Movie** : Use this mode when playing movie software.
- Party** : Sound is in stereo regardless of the direction you are facing.
- Off** : Cancel.

Note:

- This function is also available for USB mode.
- You can adjust the volume of the surround speakers to get the best surround effect (➔ see right).
- Super Surround does not work when playing a DVD recorded with 5.1 channel.
- When Super Surround is on, Dolby Pro Logic II turns off.



Using the Center Focus

This applies to discs where the dialog is recorded in the center channel.
You can make the sound of the center speaker seem like it is coming from within the television.

Press [C. FOCUS].
The "C.F" indicator lights up.

Every time you press the button:
C FOCUS ON ↔ C FOCUS OFF

Note:

- This works only during 5.1 channel or when Dolby Pro Logic II is turned on.
- You can adjust the volume of the surround speakers to get the best surround effect (➔ see right).

Using the Dolby Pro Logic II

Except **DivX**

Dolby Pro Logic II is an advanced decoder that derives 5-channel surround (Left and Right Front, Center, Left and Right Surround) from stereo sound sources, whether or not it has been specifically Dolby Surround encoded.

For Australia and N.Z.

Press [DOLBY II].

Every time you press the button:

- Off** : Cancel
- Movie** : Movie software, recorded in Dolby Surround.
- Music** : Stereo sources

(➔ page 21, Audio Menu)

Note:

- This function is only available for DVD/CD and USB mode.
- "DOLBY II" lights when there is effect.



Using the subwoofer

Press [SUBWOOFER].

Every time you press the button:
SUB W1 → SUB W2 → SUB W3 → SUB W4



Speaker level adjustments

This is one of the ways to get appropriate surround effects.

Preparation

Press [▶], DVD/CD) and then [■].

- 1 While stopped and no on-screen display is shown**
Press and hold [-TEST] to output a test signal.
TEST L : Front Left
TEST C : Center
TEST R : Front right
TEST RS : Right surround
TEST LS : Left surround
There is no output from SW (subwoofer) channel.
- 2 Press [-VOLUME+] to set the volume level normally used for listening.**
- 3 Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.**
C, RS, LS: -6 dB to +6 dB
(L, R: Only the balance is adjustable.)
 - **To adjust the balance of the front speakers**
While outputting the test signal, press [◀, ▶].
 - **Adjust the speaker level to the same level as the front speakers.**

To stop the test signal

Press and hold [-TEST] again or [■]
(main unit: [■, STOP]).

CH SELECT

-TEST

To adjust speaker level during play

Effective when playing multi-channel audio or when Dolby Pro Logic II or Super Surround is turned on.

1 Press [CH SELECT] to select the speaker.

L → C → R → RS → LS → SW



SW: Subwoofer

- You can adjust SW only if the disc includes a subwoofer channel.
- "SW" does not appear on the display and is not adjustable when Dolby Pro Logic II is turned on.
- "S" appears on the display when "MUSIC" or "MOVIE" is selected with Super Surround (→ page 30). In this case, you can adjust both surround speaker levels at the same time using [▲, ▼].

S : -6 dB to +6 dB

2 Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.

C, RS, LS, SW: -6 dB to +6 dB

(L, R: Only the balance is adjustable.)

To adjust the balance of the front speakers

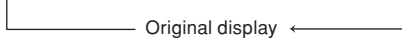
While "L" or "R" is selected, press [◀, ▶].

Using the timersCLOCK/
TIMER**Setting the time**

This is a 24-hour clock.

1 Press [CLOCK/TIMER] to select "CLOCK".
Every time you press the button:

CLOCK → ◻ PLAY → ◻ REC

**2 (Within 7 seconds or so)**

Press [◀◀, √/REW] or [▶▶, ^/FF] to set the time.

3 Press [CLOCK/TIMER] to finish setting the time.**Displaying the time**

Press [CLOCK/TIMER] once when the unit is on or in standby mode.

The time is displayed for a few seconds.

Note:

Reset the clock regularly to maintain accuracy.

Using the timers (continued)

◻ PLAY/REC

Using the play or record timer

You can set the timer to come on at a certain time to wake you up (play timer) or to record from the radio or the external equipment (record timer).
Play timer and record timer cannot be used together.

Turn the unit on and set the clock.

- For the play timer**, prepare the desired music source; cassette (DECK 2 has the priority), disc number (1 ~ 5), radio or external equipment, and set the volume.
- For the record timer**, check the cassette's erasure prevention tabs (→ page 27) and insert the tape in DECK 2 (→ page 27) and tune to the radio station (→ page 26) or select the external equipment (→ page 32).

1 Press [CLOCK/TIMER] to select the timer function.
Every time you press the button:

CLOCK → ◻ PLAY → ◻ REC



◻ PLAY : to set the play timer

◻ REC : to set the record timer

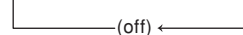
(Proceed to the next step **within 7 seconds**)**2 (Within 7 seconds or so)**

Press [◀◀, √/REW] or [▶▶, ^/FF] to set the "ON" time.

3 Press [CLOCK/TIMER] to confirm.**4 Repeat steps 2 to 3 to set the "OFF" time.****To activate the timer****5 Press [◻PLAY/REC] to display the timer's indicator.**

Every time you press the button:

◻ PLAY → ◻ REC



◻ PLAY : to turn the play time on

◻ REC : to turn the record timer on

(The indicator does not appear if the start and finish times or the clock has not been set.)

6 Press [◻] to turn off the unit.

The unit must be off for the timers to operate.

To change the settings

Perform steps 1 to 4 and 6 (→ see above).

To change the source or volume**When the unit is on**

- Press [◻PLAY/REC] to clear the timer indicator from the display.
- Make changes to the source or volume.
- Perform steps 5 and 6 (→ see above).

Using the timers (continued)

To check the settings

Press [CLOCK/TIMER] while the unit is on to select **▶PLAY** or **▶REC**.

The setting are shown in the following order.

- Play timer: start time→finish time→source
→volume
- Record timer: start time→finish time→source

When the unit is off

1 Press [CLOCK/TIMER].

2 During the clock display, press [CLOCK/TIMER] again.

To cancel the timer

Press [▶PLAY/REC] to clear the timer indicator from the display.

(The timer comes on at the set time everyday if the timer is on)

If you use the unit after the timers are set

After using, check that the correct tape or disc are loaded before turning the unit off.

Note:

- The play timer will start at the preset time with volume increasing gradually to preset level.
- The record timer will start 30 seconds before the set time with the volume muted.
- The timer comes on at the set time every day if the timer is on.
- The unit must be in the standby mode for the timer to function.
- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If MUSIC PORT is selected as the source when the timer comes on, the system turns on and engages MUSIC PORT as the source. If you wish to playback or record from the portable audio equipment, just activate the equipment's play mode and increase the volume. (See the portable audio equipment's instruction manual.)



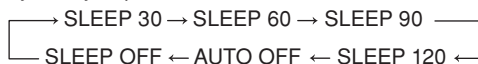
Using the sleep timer

This function enables you to turn off the unit automatically after the set time.

While enjoying the desired source

Press [SLEEP/A.OFF] successively to select the time (minutes).

Every time you press the button:



To change the settings

Press [SLEEP/A.OFF] successively to select a new setting.

To confirm the remaining time

Press [SLEEP/A.OFF] to show the remaining time.

To cancel the sleep timer

Press [SLEEP/A.OFF] successively to select "SLEEPOFF".

Note:

- The play and sleep timer or the record and sleep timer can be used together.
- The sleep timer always has priority. Be sure not to overlap timer settings.
- The sleep timer turns off when you perform the record function.

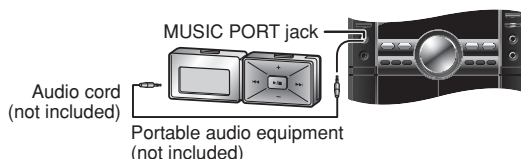
Using other equipment

Before connection

- Disconnect the AC power supply cord.
- Turn off all equipment and read the appropriate operating instructions.
- The equipment connections described are examples only.
- Peripheral equipment and optional cables are sold separately unless otherwise indicated.

Connecting to a portable audio equipment

This feature enables you to enjoy music from a portable audio equipment.



EXT-IN Playing or recording from a portable audio equipment

Switch off the equalizer function (if there is any) of the portable audio equipment before you plug into the MUSIC PORT jack. Otherwise, sound from the speaker may be distorted.

1 Plug the audio cord into the MUSIC PORT jack and press [EXT-IN] to select "MUSIC PORT".

MUSIC PORT ↔ AUX

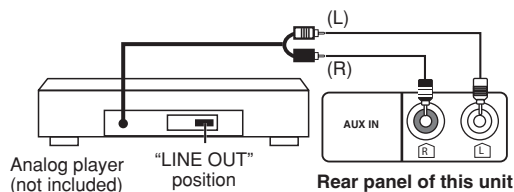
2 For listening : Proceed to step 3.

For recording : Press [●, RECORD] on the main unit to start recording.

3 Start playback from the portable audio equipment. (See the portable audio equipment's instruction manual.)

Connecting to other external unit

You can connect to an analog player with a built-in phone equalizer.



EXT-IN Playing or recording from an external unit

1 Press [EXT-IN] repeatedly until "AUX" is displayed. MUSIC PORT ↔ AUX

2 For listening : Proceed to step 3.

For recording : Press [●, RECORD] on the main unit to start recording.

3 Start playback from the external source.

Note:

- For details, refer to the instruction manual of the unit which is to be connected.
- When units other than those described above are to be connected, please consult your audio dealer.
- Sound distortion may occur when you use an adaptor other than the one supplied.



Connecting to the USB devices

The USB connectivity enables you to connect and play tracks or files from USB mass storage class devices. Typically, USB memory devices. (Bulk only transfer)

Preparation

Before connecting any USB mass storage device to the unit, ensure that the data stored therein has been backed up.

It is not recommended to use a USB extension cable. The USB device is not recognised by this unit.

1 Connect the USB mass storage device (not included).

USB enabled device
(not included)

It is not recommended to use a USB extension cable.

The device connected via the cable will not be recognised by this unit.



2 Press [▶, USB] to begin playback.

3 Press [TOP MENU] or [MENU] to display the USB menu.

4 Press [▲, ▼, ◀, ▶] and then [ENTER] to select the desired item.

For other operating functions, they are similar as those described in "DISC OPERATIONS" (➔ page 14 to 25).

Compatible Devices

Devices which are defined as USB mass storage class:

- USB devices that support bulk only transfer.
- USB devices that support USB 2.0 full speed.

Supported Formats

	File name	File extension
Still pictures	JPG ^{※1}	.jpg .jpeg
Music	MP3 WMA	.mp3 .wma
Video	MPEG4 ^{※2}	.asf

※1 It may not be possible to play all the files due to the condition on how they were created.

※2 For Panasonic D-Snap/DIGA

Note:

Maximum number of folders	400
Maximum number of files	4000
Maximum length of folder name	44
Maximum length of file name	44

- CBI (Control/Bulk/Interrupt) is not supported.
- Digital Cameras that use PTP protocol or which require additional program installation when connected to a PC are not supported.
- A device using NTFS file system is not supported. [Only FAT 12/16/32 (File Allocation Table 12/16/32) file system is supported].
- Depending on the sector size, some files may not work.
- It will not operate with Janus enabled MTP (Media Transfer Protocol) devices.
- Only one memory card will be selected when connecting a multi-port USB card reader. Typically the first memory card inserted.

Operating a television

Point the remote control at the television for the following operations.

To switch the television on or off



To switch the television's video input mode



Adjust the volume



Changing channels



Note:

Some models cannot be operated by this remote control.



Changing the main unit and remote control mode

The remote control and main unit are factory-set to "REMOTE 1" mode.

If your remote control affects other equipment during operation, you can switch to operate in "REMOTE 2" mode.

To switch to "REMOTE 2" mode

1 While pressing and holding [EXT-IN] on the main unit

Press and hold [2] until "REMOTE 2" appears on the main unit display.

2 Press and hold [ENTER] and [2] for at least 2 seconds.

The main unit and remote control are now set to operate in "REMOTE 2" mode.

To return to "REMOTE 1" mode

Perform steps 1 and 2 but use [1] instead of [2] for both steps. ("REMOTE 1" appears on the main unit during step 1.)

The remote control cannot work with the main unit if their modes are different.

"REMOTE 1" or "REMOTE 2" appears on the main unit display when you operate the remote control.*

* If "REMOTE 1" appears (The main unit is in "REMOTE 1" mode.)

Press and hold [ENTER] and [1] on the remote control for at least 2 seconds.

If "REMOTE 2" appears (The main unit is in "REMOTE 2" mode.)

Press and hold [ENTER] and [2] on the remote control for at least 2 seconds.

Note:

You can still operate a television using the remote control (➔ see above) even after switching the mode.

Glossary

Decoder

A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

DivX

DivX is a popular media technology created by DivX, Inc. DivX media files contain highly compressed video with high visual quality that maintains a relatively small file size.

Dolby Digital

This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio. A large amount of audio information can be recorded on one disc using this method.

DTS (Digital Theater Systems)

This surround system is used in many movie theaters around the world. There is good separation between the channels, so realistic sound effects are possible.

Dynamic range

Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

Film and video

DVD-Videos are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

For NTSC

Film is 24 or 30 frames per second, with motion picture film generally being 24 frames per second. Video is 60 fields per second (two fields making up one frame).

For PAL

Film is 25 frames per second. Video is 50 fields per second (two fields making up one frame).

Frame still and field still

Frames are the still pictures that go together to make a moving picture.

There are about 30 frames shown each second.

One frame is made up of two fields. A regular television shows these fields one after the other to create frames.

A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high.

A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

Progressive/Interlace

The PAL video signal standard has 576 interlaced (i) scan lines, whereas progressive scanning, called 576p, uses twice the number of scan lines. For the NTSC standard, these are called 480i and 480p respectively. Using progressive output, you can enjoy the high-resolution video recorded on media such as DVD-Video. Your television must be compatible to enjoy progressive video.

MPEG4

A compression system for use on mobile devices or a network, that allows highly efficient recording at a low bit rate.

I/P/B

I: Intra coded picture

This picture has the best quality and is the best to use when adjusting the picture.

P: Predictive coded picture

This picture is calculated based on past I or P-pictures.

B: Bidirectionally-predictive coded picture

This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

Linear PCM (Pulse Code Modulation)

These are uncompressed digital signals, similar to those found on CDs.

Playback control (PBC)

If a Video CD has playback control, you can select scenes and information with menus.

Sampling frequency

Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding).

Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

Maintenance

If the surfaces are dirty

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

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

For a cleaner crisper sound (cassette deck)

Clean the heads regularly to assure good quality playback and recording. Use a cleaning tape (not included).

When moving the unit

- 1 Remove all discs.
- 2 Press [D/I] to turn the unit off.
- 3 Disconnect the AC power supply cord.

Troubleshooting guide

Before requesting service, make the following 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, consult your dealer for instructions.

Power		Page
No power.	• Insert the AC power supply cord securely.	8
The unit is automatically switched to the standby mode.	• The unit was switched to standby by the sleep timer or auto-off function.	13, 32

Unresponsive or inoperable function

No response when buttons are pressed.	• This unit cannot play discs other than the ones listed in these operating instructions.	11
	• Some operations may be prohibited by the disc.	—
	• The unit may not be operating properly due to lightning, static electricity or some other external factor. Turn the unit off then back to ON. Alternatively, turn the unit off, disconnect the AC power supply cord, and then reconnect it.	—
No operations can be performed with the remote control.	• Condensation has formed: Wait 1 to 2 hours for it to evaporate.	—
	• Check that the batteries are installed correctly.	10
	• The batteries are depleted: replace them with new ones.	10
	• Aim the remote control at the remote control sensor and operate.	10, 12
Cannot play DVDs.	• The remote control and main unit are in different modes.	33
	• Change the remote control mode to match the main unit mode.	—
No picture or sound.	• CD MODE is on. Press and hold [–CD MODE] to turn CD MODE off.	16
You have forgotten your ratings password. Reset all the settings to Factory Preset.	• Check the video or audio connection.	8, 9
	• Check the power or input setting of the connected equipment.	—
	• Check that the disc has something recorded in it.	—
Other products respond to the remote control	• While stopped and "DVD/CD" is the source, press and hold [■, STOP] on the main unit and [≥10] on the remote control until "Initialized" or "Initialised" disappears from the television.	—
	• Turn the unit off and on again. All settings will return to the default values.	—
	• Change the remote control operating mode.	33

Specific operation undesirable or unexpected

It takes time before play starts.	• Play may take time to begin when an MP3 track has still picture data. Even after the track starts, the correct play time will not be displayed. This is normal. MP3	—
	• This is normal on DivX video. DivX	—
Folders deeper than the eighth layer on a data disc are not displayed correctly. WMA MP3 JPEG MPEG4 DivX	• Folders deeper than the eighth layer are displayed as the eighth layer.	—
A menu screen appears during skip or search. VCD	• This is normal for Video CDs.	—
Playback control menu doesn't appear. VCD with playback control	• Press [■] twice and then press [▶, DVD/CD].	—
The program and random play functions do not work. DVD-V	• These functions do not work with some DVD-Videos.	—
Programmed items are not played. DVD-V	• Some items cannot be played even if you have programmed them.	—
Scenes are skipped intermittently. DVD-V DVD-VR	• If you change the volume or sound field/quality setting during "Advanced Disc Review", the function continues without the on-screen display. Press [▶, DVD/CD] to cancel "Advanced Disc Review".	21

Subtitle

Subtitle position is wrong.	• Adjust the position. ("Subtitle Position" in the Display Menu)	21
No subtitles.	• Display the subtitles.	20
	• Subtitles may not be displayed depending on the disc.	—

A-B repeat		Page
Point B is automatically set.	• The end of an item becomes point B when it is reached.	20

Marker		
Cannot add markers.	• You cannot add markers with DVD-VR. • If the disc's elapsed play time doesn't appear on the unit's display, you cannot add markers.	21 —

Sound		
Sound distorted.	• Noise may occur when playing WMA.	—
Effects do not work.	• Some audio effects do not work or have less effect with some discs.	—
Humming heard during play.	• An AC power supply cord or fluorescent light is near the cables. Keep other appliances and cords away from this unit's cables.	—
No sound.	• There may be a pause in sound when you change the play speed. • Audio may not be output due to how files are created. DivX	20 11

Menus		
The SETUP menu cannot be accessed.	• Select "DVD/CD" as the source. • Cancel program and random play.	— 17

Picture abnormal or un-viewable		
Picture distorted.	• Some distortion is normal during SEARCH. • Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. • Change "Source Select" in Picture Menu. DivX	15 8 21
Picture size doesn't fit the screen.	• Change "TV Aspect" in the "Video" tab. • Change the Zoom setting.	23 22
The television may display incorrectly or colors appear faded.	• The unit and television are using different video systems. – For Southeast Asia Use the multi-system or NTSC television. – For Australia and N.Z. Use a multi-system or PAL television. • The system used on the disc does not match your television. – PAL discs cannot be correctly viewed on an NTSC television. – This unit can convert NTSC signals to PAL 60 for viewing on a PAL television ("NTSC Disc Output" in "Video" tab).	— — 23
Menu is not displayed correctly.	• Restore the zoom ratio to "x1.00". ("Manual Zoom" in Display Menu) • Set "Subtitle Position" in Display Menu to "0".	22 21
Auto zoom function does not work well.	• Turn off television zoom function. • Use the other preset aspect ratios or manual adjustment. • Zoom function may not work well, especially in dark scenes and may not work depending on the type of disc.	— 21, 22 —

Progressive video		
There is ghosting when progressive output is on.	• This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlace output. Change "Video Output Mode" in Picture Menu to "480i" or "576i".	21
Picture not in progressive output.	• Select "480p" or "576p" in "Video Output Mode" in Picture Menu. • If the unit is connected to the television through VIDEO OUT terminal, output will be interlace, even if "PRG" is displayed.	21 8

Listening to the radio		
Noise is heard.	• Adjust the position of the FM or AM antenna.	9
"ST" flickers or doesn't light.	• Use an outdoor antenna.	9
Sound is distorted.	• Press [PLAY MODE] to select "MONO".	26
A beat sound is heard.	• Turn the television off or separate it from the unit.	—
A low hum is heard during AM broadcasts.	• Separate the antenna from other cables and cords.	—

USB		
The USB drive or it's contents cannot be read.	• The USB drive format or it's contents is/are not compatible with the system. • The USB host function of this product may not work with some USB devices. • USB devices with storage capacity of more than 32 GB may not work in some instances.	33 — —
Slow operation of the USB device.	• Large file size or high memory USB device takes longer time to read and display on the TV.	—

Unit displays		Page
Although the unit is on standby mode, the display lights up and changes continuously.	<ul style="list-style-type: none"> Turn off the demo function. If you set the clock, demo function will be turned off automatically. 	10 —
The display is dark.	<ul style="list-style-type: none"> Press [DIMMER] to brighten the display. 	13
“NO PLAY”	<ul style="list-style-type: none"> You inserted a disc or USB device which the unit cannot play; insert one that can. You inserted a blank disc or USB device. You inserted a disc that has not been finalized. 	11, 33 — —
“NO DISC”, “NO USB”	<ul style="list-style-type: none"> You haven't inserted a disc or USB device; insert one. You haven't inserted the disc or USB device correctly; insert it correctly. 	— 14, 33
“OVER CURRENT ERROR”	<ul style="list-style-type: none"> The USB device is drawing too much power. Switch to DVD/CD mode, remove the USB and turn the unit off. 	—
“F61”	<ul style="list-style-type: none"> Check and correct the speaker cord connections. If this does not fix the problem, there is a power supply problem. Consult the dealer. 	6, 7
“DVD U11”	<ul style="list-style-type: none"> Disc is dirty. Wipe it clean. 	25
“ERROR”	<ul style="list-style-type: none"> Incorrect operation performed. Read the instructions and try again. 	—
“DVD H □□” “DVD F □□□” □ stands for a number.	<ul style="list-style-type: none"> Trouble may have occurred. The numbers following “H” and “F” depend on the status of the unit. Turn the unit off and back to on. Alternatively, turn the unit off, disconnect the AC power supply cord, and then reconnect it. If the service numbers fail to clear, note the service number and contact a qualified service person. 	— —
“REMOTE 1” or “REMOTE 2”	<ul style="list-style-type: none"> Match the modes on the main unit and remote control. Depending on the number being displayed (“1” or “2”), press and hold [ENTER] and the corresponding numeric button ([1] or [2]) for at least 2 seconds. 	33

Television displays

“This disc may not be played in your region”	<ul style="list-style-type: none"> You can only play DVD-Video if their region number is the same or includes the same region number as the unit or if the DVD Video is marked “ALL”. Confirm the region number for the unit on the back of the main unit. 	Cover
No on-screen display.	<ul style="list-style-type: none"> Select “On” in “On-Screen Messages” in “Display” tab. 	23
“⊘”	<ul style="list-style-type: none"> The operation is prohibited by the unit or disc. 	—
“Cannot display group xx, content xx”	<ul style="list-style-type: none"> You are trying to display incompatible contents. 	—
“Check the disc”	<ul style="list-style-type: none"> This disc may be dirty. 	25
“Authorization Error”	<ul style="list-style-type: none"> You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit. DivX 	24
“Rented Movie Expired” or “Rental Expired”	<ul style="list-style-type: none"> The DivX VOD content has zero remaining plays. You cannot play it. DivX 	24

Using the cassette deck

Poor quality sound.	<ul style="list-style-type: none"> Clean the heads. 	34
Recording is not possible.	<ul style="list-style-type: none"> If the erasure prevention tabs have been removed, cover the holes with adhesive tape. 	27

Disc trays

Disc tray(s) cannot open. “CHGR ERR” is displayed.	<ul style="list-style-type: none"> Press [⏏/I] to release the jammed tray(s) as the unit will switch off. Switch it on again and the tray(s) will initialize to the previous tray(s) condition. If this still does not fix the problem, please consult the dealer. 	14 —
---	--	---------

Memory reset (Initialization)

When the following situations occur, refer to the instructions below to reset the memory:

- There is no response when buttons are pressed.
- You want to clear and reset the memory contents.

To reset memory

- 1 Disconnect the AC power supply cord. (Wait at least 3 minutes before proceeding to step 2)**
- 2 While pressing and holding down [⏏/I] on the main unit, reconnect the AC power supply cord.**
“-----” appears on the display.
- 3 Release [⏏/I].**
All the settings are returned to the factory preset. You will need to reset the memory items.

Specifications

AMPLIFIER SECTION

VK960

RMS Output Power : Dolby Digital Mode

Front Ch (High Ch)	110 W per channel (3 Ω), 1 kHz, 10% THD
Front Ch (Low Ch)	55 W per channel (6 Ω), 100 Hz, 10% THD
Surround Ch	110 W per channel (3 Ω), 1 kHz, 10% THD
Center Ch	110 W per channel (3 Ω), 1 kHz, 10% THD
Subwoofer Ch	110 W per channel (3 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power	880 W

PMPO output power 10000 W

VK860

RMS Output Power : Dolby Digital Mode

Front Ch	110 W per channel (3 Ω), 1 kHz, 10% THD
Surround Ch	110 W per channel (3 Ω), 1 kHz, 10% THD
Center Ch	110 W per channel (3 Ω), 1 kHz, 10% THD
Subwoofer Ch	110 W per channel (3 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power	660 W

PMPO output power 7000 W

VK760

RMS Output Power : Dolby Digital Mode

Front Ch	95 W per channel (3 Ω), 1 kHz, 10% THD
Surround Ch	95 W per channel (3 Ω), 1 kHz, 10% THD
Center Ch	95 W per channel (3 Ω), 1 kHz, 10% THD
Subwoofer Ch	95 W per channel (3 Ω), 100 Hz, 10% THD
Total RMS Dolby Digital mode power	570 W

PMPO output power 6300 W

FM/AM TUNER, TERMINALS SECTION

Preset station FM 20 stations
AM 15 stations

Frequency Modulation (FM)

Frequency range	87.50 to 108.00 MHz (50 kHz step)
Sensitivity	4.0 μV (IHF)
S/N 26dB	2.2 μV
Antenna terminals	75 Ω (unbalanced)

Amplitude Modulation (AM)

Frequency range	522 to 1629 kHz (9 kHz step)
	520 to 1630 kHz (10 kHz step)

For Southeast Asia

For Australia and N.Z.

AM Sensitivity S/N 20dB at 999 kHz 1000 μV/m

Music Port input jack

Sensitivity	100 mV, 4.7 kΩ
Terminal	Stereo, 3.5 mm jack

Phone jack

Terminal	Stereo, 3.5 mm jack
----------	---------------------

For Southeast Asia

Mic jack

Sensitivity	0.7 mV, 600 Ω
Terminal	Mono, 6.3 mm jack (2 system)

AUX

Sensitivity	2 V, 8 kΩ
Terminal	Stereo, RCA jack

USB Port

USB Standard	USB 2.0 full speed
Media file format support	MP3 (*.mp3), WMA (*.wma) JPEG (*.jpg, *.jpeg), MPEG4 (*.asf)
USB device file system	FAT12, FAT16, FAT32
USB port power	500 mA (Max)

CASSETTE DECK SECTION

Type 1 way, Auto Reverse
Track system 4-Track, 2 Channel

Heads

Record/playback	Solid permalloy head
Erase	Double gap ferrite head

Motor

DC servo motor

Recording system

AC bias 100 kHz

Erasing system

AC erase 100 kHz

Tape speed

4.8 cm/s

Overall frequency response (+3, -6 dB) at DECK OUT

Normal 35 Hz to 14 kHz

S/N ratio

50 dB (A weighted)

Wow and flutter

0.18% (WRMS)

Fast forward and rewind time

Approx. 120 seconds with C-60 cassette tape

VIDEO SECTION

Video system PAL625/50, PAL525/60, NTSC

Composite video output

Output level	1 Vp-p (75 Ω)
Terminal	Pin jack (1 system)

Component video output

[NTSC: 480p/480i, PAL: 576p/576i]

Y output level 1 Vp-p (75 Ω)

P_B output level 0.7 Vp-p (75 Ω)

P_R output level 0.7 Vp-p (75 Ω)

Terminal Pin jack (Y : green, P_B : blue, P_R : red) (1 system)

DISC SECTION

Disc played (8 cm or 12 cm)

- (1) DVD (DVD-Video, DivX[®]^{*6,*7})
- (2) DVD-RAM (DVD-VR, JPEG^{*4,*7}, MP3^{*2,*7}, MPEG4^{*5,*7}, DivX^{*6,*7})
- (3) DVD-R (DVD-Video, DVD-VR, JPEG^{*4,*7}, MP3^{*2,*7}, MPEG4^{*5,*7}, DivX^{*6,*7})
- (4) DVD-R DL (DVD-Video, DVD-VR)
- (5) DVD-RW (DVD-Video, DVD-VR, JPEG^{*4,*7}, MP3^{*2,*7}, MPEG4^{*5,*7}, DivX^{*6,*7})
- (6) +R/+RW (Video)
- (7) +R DL (Video)
- (8) CD, CD-R/RW [CD-DA, Video CD, SVCD^{*1}, MP3^{*2,*7}, WMA^{*3,*7}, JPEG^{*4,*7}, MPEG4^{*5,*7}, DivX^{*6,*7}, HighMAT Level 2 (Audio and Image)]

^{*1} Conforming to IEC62107

^{*2} MPEG-1 Layer 3, MPEG-2 Layer 3

^{*3} Windows Media Audio Ver.9.0 L3
Not compatible with Multiple Bit Rate (MBR)

^{*4} Exif Ver 2.1 JPEG Baseline files
Picture resolution: between 160 x 120 and 6144 x 4096 pixels (Sub sampling is 4:0:0, 4:2:0, 4:2:2 or 4:4:4). Extremely long and narrow pictures may not be displayed.

^{*5} MPEG4 data recorded with the Panasonic SD multi cameras or DVD video recorders
Conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/ G.726 audio system

^{*6} Plays all versions of DivX[®] video (including DivX[®]6) with standard playback of DivX[®] media files. Certified to the DivX Stereo System Profile.

^{*7} The total combined maximum number of recognizable audio, picture and video contents and groups: 4000 audio, picture and video contents and 400 groups.

Pick up

Wavelength	
CD	785 nm
DVD	662 nm
Laser power	
CD	CLASS 1M
DVD	CLASS 1

Audio output (Disc)

Number of channels (FL, FR, C, SL, SR, SW) 5.1 ch

Audio performance (measurement at: Rec Out terminal)

Frequency response (CD-Audio) 4 Hz to 20 kHz

SPEAKER SECTION

* Rating with low-cut filter equipped amplifier.

VK960 Front speakers SB-PF960

Type	3 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance High 3 Ω/Low 6 Ω
1. Super woofer	20 cm Cone type
2. Woofer	12 cm Cone type
3. Tweeter	2.5 cm Titanium Dome type
Input power (IEC)	High 110 W* (Max)/Low 55 W (Max)
Output sound pressure	88 dB/W (1.0 m)
Cross over frequency	160 Hz, 6 kHz
Frequency range	40 Hz to 29 kHz (-16 dB)
	54 Hz to 28 kHz (-10 dB)
Dimensions (WxHxD)	250 mm x 429.5 mm x 298.5 mm
Mass	6.1 kg

VK860 Surround speakers SB-PS960

Type	2 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Full range	8 cm Cone type
2. Full range	8 cm Cone type
3. Super tweeter	Piezo type
Input power (IEC)	110 W* (Max)
Output sound pressure	82 dB/W (1.0 m)
Cross over frequency	10 kHz
Frequency range	100 Hz to 24 kHz (-16 dB)
	110 Hz to 22 kHz (-10 dB)
Dimensions (WxHxD)	140 mm x 331 mm x 146.5 mm
Mass	1.6 kg

VK960 Center speaker SB-PC960

Type	2 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Full range	8 cm Cone type
2. Full range	8 cm Cone type
3. Super tweeter	Piezo type
Input power (IEC)	110 W* (Max)
Output sound pressure	82 dB/W (1.0 m)
Cross over frequency	10 kHz
Frequency range	92 Hz to 27 kHz (-16 dB)
	105 Hz to 25 kHz (-10 dB)
Dimensions (WxHxD)	330 mm x 104 mm x 94.5 mm
Mass	1.4 kg

VK860 Front speakers SB-PF860

Type	3 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Super woofer	20 cm Cone type
2. Woofer	12 cm Cone type
3. Tweeter	2.5 cm Titanium Dome type
Input power (IEC)	110 W* (Max)
Output sound pressure	88 dB/W (1.0 m)
Cross over frequency	200 Hz, 6 kHz
Frequency range	40 Hz to 29 kHz (-16 dB)
	54 Hz to 28 kHz (-10 dB)
Dimensions (WxHxD)	250 mm x 429.5 mm x 298.5 mm
Mass	6.1 kg

VK860 Surround speakers SB-PS860

Type	2 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Full range	8 cm Cone type
2. Full range	8 cm Cone type
3. Super tweeter	Piezo type
Input power (IEC)	110 W* (Max)
Output sound pressure	82 dB/W (1.0 m)
Cross over frequency	10 kHz
Frequency range	100 Hz to 24 kHz (-16 dB)
	110 Hz to 22 kHz (-10 dB)
Dimensions (WxHxD)	140 mm x 331 mm x 146.5 mm
Mass	1.6 kg

VK860 Center speaker SB-PC860

Type	2 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Full range	8 cm Cone type
2. Full range	8 cm Cone type
3. Super tweeter	Piezo type
Input power (IEC)	110 W* (Max)
Output sound pressure	82 dB/W (1.0 m)
Cross over frequency	10 kHz
Frequency range	92 Hz to 27 kHz (-16 dB)
	105 Hz to 25 kHz (-10 dB)
Dimensions (WxHxD)	330 mm x 104 mm x 94.5 mm
Mass	1.4 kg

VK960 Subwoofers SB-WVK960**VK860 Subwoofer SB-WVK860**

Type	1 way, 2 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Woofer	16 cm Aluminum Cone type
2. Woofer	16 cm Aluminum Cone type
Input power (IEC)	110 W* (Max)
Output sound pressure	86 dB/W (1.0 m)
Frequency range	26 Hz to 310 Hz (-16 dB)
	30 Hz to 250 Hz (-10 dB)
Dimensions (WxHxD)	200 mm x 429.5 mm x 359 mm
Mass	6.1 kg

VK760 Front speakers SB-PF760

Type	3 way, 3 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Super tweeter	Piezo type
2. Tweeter	6 cm Cone type
3. Woofer	16 cm Cone type
Input power (IEC)	110 W* (Max)
Output sound pressure	82 dB/W (1.0 m)
Cross over frequency	4.16 kHz, 10 kHz
Frequency range	30 Hz to 28 kHz (-16 dB)
	38 Hz to 21 kHz (-10 dB)
Dimensions (WxHxD)	220 mm x 330 mm x 182 mm
Mass	2.6 kg

VK760 Surround speakers SB-PS760

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Full range	6.5 cm Cone type
Input power (IEC)	110 W* (Max)
Output sound pressure	80 dB/W (1.0 m)
Frequency range	95 Hz to 25 kHz (-16 dB)
	110 Hz to 22 kHz (-10 dB)
Dimensions (WxHxD)	270 mm x 92 mm x 95.4 mm
Mass	0.9 kg

Specifications (continued)

VK760 Center speaker SB-PC760

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Full range	6.5 cm Cone type
2. Full range	6.5 cm Cone type
Input power (IEC)	110 W* (Max)
Output sound pressure	85 dB/W (1.0 m)
Frequency range	100 Hz to 29 kHz (-16 dB)
	110 Hz to 22 kHz (-10 dB)
Dimensions (WxHxD)	270 mm x 92 mm x 95.4 mm
Mass	0.9 kg

VK760 Subwoofer SB-WVK760

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 3 Ω
1. Woofer	16 cm Cone type
Input power (IEC)	110 W* (Max)
Output sound pressure	80 dB/W (1.0 m)
Frequency range	28 Hz to 173 Hz (-16 dB)
	33 Hz to 148 Hz (-10 dB)
Dimensions (WxHxD)	220 mm x 330 mm x 303 mm
Mass	3.7 kg

GENERAL

Power supply

For Southeast Asia

AC 110 to 127V/220 to 240V, 50/60 Hz

For Australia and N.Z.

AC 230 to 240V, 50 Hz

Power consumption

VK960

360 W

VK860 VK760

290 W

Dimensions (WxHxD)

250 mm x 330 mm x 334.6 mm

Mass

5.5 kg

Operating temperature range

+5°C to +35°C

Operating humidity range

5% to 90% RH (no condensation)

Power consumption in standby mode

0.9 W (approximate)

Note:

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

Matsushita Electric Industrial Co., Ltd.

Web Site: <http://panasonic.net>

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