Panasonic®

Operating Instructions
DVD Stereo System

Model No. **SC-VK650**

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:
Southeast Asia

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 mainly with the remote control, but you can perform the operations on the main unit if the controls are the same.

Your unit may not look exactly the same as illustrated.

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

Table of contents

GCS GCT GN

RQTV0141-1L

Dear Customer

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

System	SC-VK650
Main Unit	SA-VK650
Front Speaker	SB-VK650
Subwoofer	SB-WVK650

CLASS 1
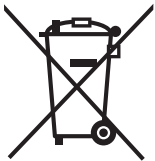LASER PRODUCT
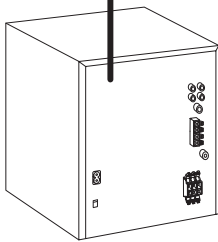
CAUTION	– LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR / Class II
CAUTION	– CLASS 1M VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1 +A2/ Class 1M
VARNING	– KLASS 1M SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN DIREKT GENOM OPTISKT INSTRUMENT.
FORSIGTIG	– SYNLIG OG USYNLIG LASERSTRÅLING KLASS 1M, NÅR LÅGET ER ÅBENT, UNDGÅ AT SE LIGE PÅ MED OPTISKE INSTRUMENTER.
VARO!	– AVATTAESSA OLET ALTTIINA LUOKAN 1M NÄKYVÄÄ JA NÄKYMÄTÖNTÄ. LASERSÄTEILYÄ, ÄLÄ KATSO OPTISELLA 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'AIDE D'INSTRUMENTS D'OPTIQUE.
注意	– ここを開くと可視及び不可視レーザ光が出ます。 ビームを見たり、触れたりしないでください。
注意	– 打开时有可见及不可见激光辐射。避免光束照射。 GB7241.1-2001/3B 类 RQLXS0075-J

(Inside of product)

-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.

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.**

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.

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.**

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.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or an appliance coupler shall remain readily operable.
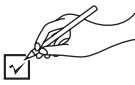
For Southeast Asia

THIS UNIT IS INTENDED FOR USE IN TROPICAL CLIMATES.

For Australia and N.Z.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

Accessories

Please check and identify the supplied accessories.
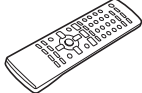
☐ **1 AC power supply cord**

For Southeast Asia
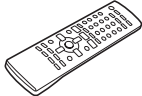
For Australia and N.Z.

☐ **1 Remote control**

For Southeast Asia

(N2QAYB000032)

For Australia and N.Z.

(N2QAYB000033)

☐ **1 Video cable**

☐ **1 AM loop antenna**

☐ **1 FM indoor antenna**

☐ **2 Remote control batteries**

Safety precautions

■ Placement

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

Do not place heavy items on the unit.

■ Voltage

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

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

■ 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 gasses 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.

Accessories / Safety precautions

Speaker, video, radio and power supply connections

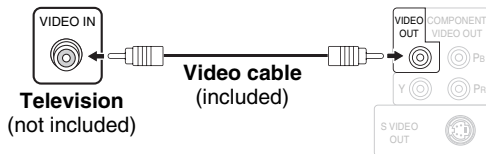## *STEP 1*   Speaker, video, radio and power supply connections

Conserving power

The unit consumes power (approx. 0.9 W) even when it is turned off with [⏻] (main unit: [⏻/I]). 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.
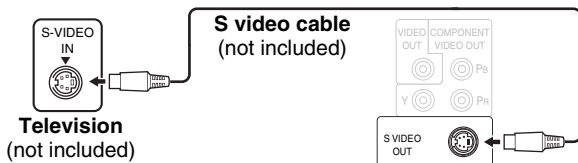
1   Video

- ●**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 a VIDEO IN terminal

VIDEO IN

Video cable (included)

VIDEO OUT   COMPONENT VIDEO OUT   PB

Y   PR

S VIDEO OUT

Television (not included)

Television with a S VIDEO IN terminal

S-VIDEO IN

S video cable (not included)

VIDEO OUT   COMPONENT VIDEO OUT   PB

Y   PR

S VIDEO OUT

Television (not included)

S VIDEO OUT terminal

The S VIDEO terminal achieves a more vivid picture than the VIDEO OUT terminal by separating the chrominance (C) and luminance (Y) signals. (Actual results depend on the television.)

Television with COMPONENT VIDEO IN terminals

COMPONENT VIDEO IN

Video cable (not included)

VIDEO OUT   COMPONENT VIDEO OUT   PB

Y   PR

S VIDEO OUT

Television (not included)
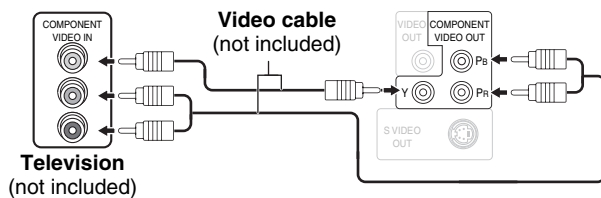
COMPONENT VIDEO OUT terminals

These terminals can be used for either interlace or progressive output and provide a purer picture than the S VIDEO OUT terminal. Connection using these terminals outputs the color difference signals (PB/PR) 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 (e.g. Y/PB/PR,Y/B-Y/R-Y, Y/CB/CR). Connect to terminals of the same color.

To enjoy progressive video

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.)

To household AC power socket
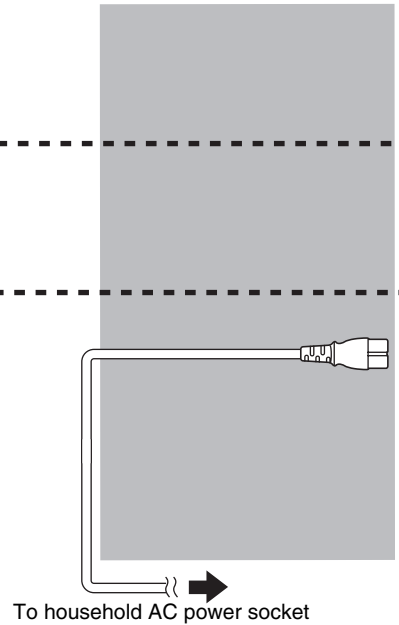
2   Antenna

AM loop antenna
Stand the antenna up on its base.

AM ANT LOOP EXT

❶

❷
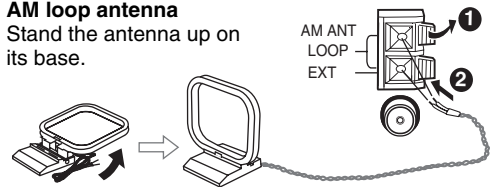
Optional antenna connections

■ *AM outdoor antenna*

AM outdoor antenna (not included)

Back of the main unit

5 -12 m

AM ANT LOOP EXT

❶

❷

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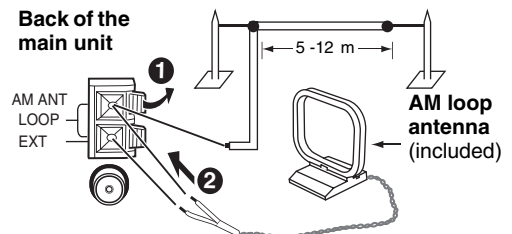
- ●Run a piece of vinyl wire horizontally across a window or other convenient location.
- ●Leave the loop antenna connected.

3 Speaker

Red

Red (+)

Subwoofer

Front speaker (left)

Front speaker (right)

Black (−)

⊕

⊖

Black

R L

Connect the left (L), right (R) and subwoofer speakers as illustrated in the picture shown above.

4 AC power supply

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

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

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

Appliance inlet

Connector

Approx. 3.5 mm
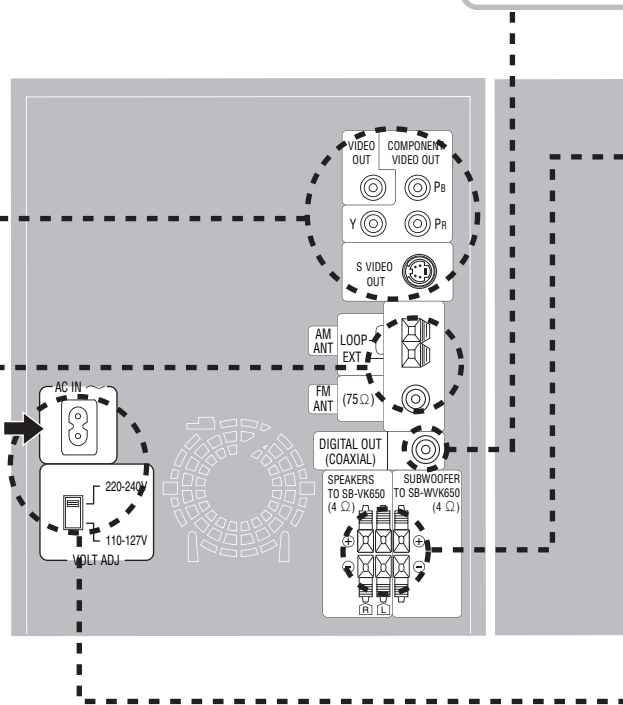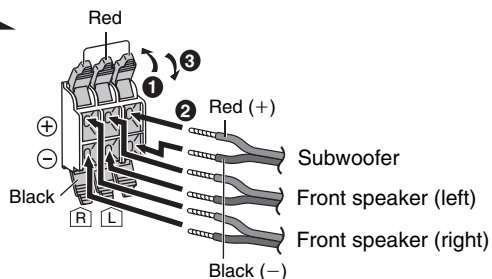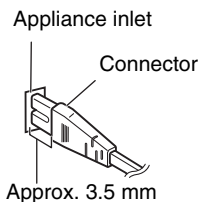
For Southeast Asia
Before connecting the AC supply, set the voltage.

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.

220-240V

110-127V

VOLT ADJ
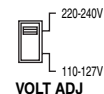
FM indoor antenna
Tape the antenna where reception is best.

Adhesive tape

FM ANT
(75Ω)

■ *FM outdoor antenna*

FM outdoor antenna
(not included)

Back of the main unit

75 Ω coaxial cable
(not included)

FM ANT
(75Ω)
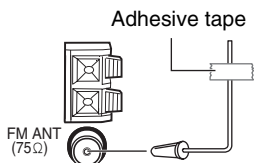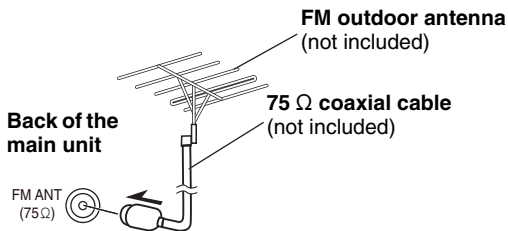
● Disconnect the FM indoor antenna.
● The antenna should be installed by a competent technician.

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

VIDEO OUT

COMPONENT VIDEO OUT

PB

Y

PR

S VIDEO OUT

AM ANT

LOOP EXT

FM ANT

(75Ω)

AC IN

220-240V

110-127V

VOLT ADJ

DIGITAL OUT (COAXIAL)

SPEAKERS TO SB-VK650 (4 Ω)

SUBWOOFER TO SB-WVK650 (4 Ω)

R L

STEP 2   Positioning

Caution
- Use the supplied speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
- Using other speakers can damage the unit and sound quality will be negatively affected.
- Do not attach these speakers to walls or ceilings.
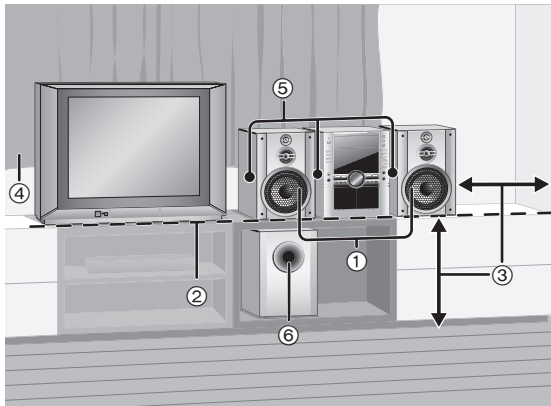
Positioning for best effect
① You cannot take the front net off the speakers.
② Set the speakers up on an even surface to prevent them from falling. Take proper precautions to prevent the speakers from falling if you cannot set them up on an even surface.
③ Placing speakers too close to floors, walls, and corners can result in excessive bass.
④ Cover walls and windows with a thick curtain.
⑤ Keep your speakers at least 10 mm away from the system for proper ventilation.
⑥ Place the subwoofer on the floor or a sturdy shelf so that it would not cause vibration. Leave 10 cm at the rear for ventilation.

Notes on speaker use
- 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.

**If irregular colouring occurs on your television**
These speakers are designed to be used close to a television, but the picture may be affected with some televisions and set-up 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.

STEP 3   The remote control

Remote control   **Batteries**

Insert so the poles (+ and −) match those in the remote control.
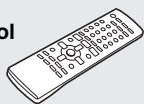
- Do not use rechargeable type batteries.
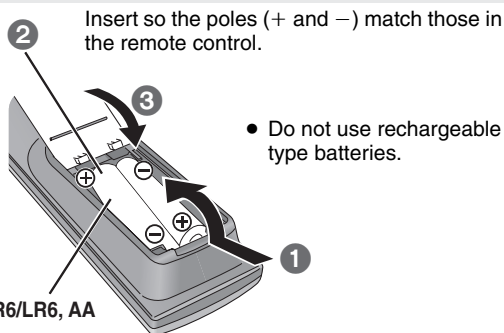
R6/LR6, AA

Do not:
- Mix old and new batteries.
- Use different types at the same time.
- Heat or expose to flame.
- Take apart or short circuit.
- 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 damage items the fluid contacts and may cause a fire.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.
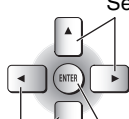
■ **Use**
Aim at the remote control signal sensor, avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

STEP 4 **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.

1

Power ON.

2

Select "DVD/CD".
●Press [■] when a disc is in the tray.

3

Press and hold to show the "QUICK SETUP" screen.

4

Select

Select   Confirm

Select the option from the screen.
●Press [RETURN] to go back to the previous screen.

5

Press to finish "QUICK SETUP".

6

Press to exit.

STEP 5 **Setting the time**

1

CLOCK/TIMER
−DIMMER

Select "CLOCK".
Every time you press the button:
CLOCK → ⏲PLAY → ⏲REC
↑— Previous display ←—┘

2

∨/REW   FF/∧

Set the time (press within 7 seconds or so).

3

CLOCK/TIMER
−DIMMER

Press to finish setting the time.
●The display will return to whatever was displayed before you set the time.

This is a 24-hour clock.
●Press [CLOCK/TIMER] once when the unit is on or at standby mode.
Time is shown for about 5 seconds.
●Reset the clock regularly to maintain accuracy.

DEMO function

−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 turning on the demo.

Press and hold [−DEMO].
The display changes each time the button is held down.
DEMO OFF (off) ←→ **DEMO ON** (on)

You can reduce the power consumed in standby mode by turning the demonstration off.

Control reference guide

Main Unit

AC supply indicator (AC IN)
This indicator lights when the unit is connected to the AC mains supply.
❶ **Standby/on switch [⏻/I]**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

Disc trays

Disc tray [▲, OPEN/CLOSE] (➔ 12)
[▲, MULTI CHANGE] (➔ 12)
[▲, SINGLE CHANGE] (➔ 12)

[ADVANCED SURROUND] (➔ 27)

Display

[SUPER SOUND EQ] (➔ 27)
[SOUND EQ] (➔ 27)
[SUBWOOFER] (➔ 27)

[1▶]−[5▶]
(disc direct play buttons) (➔ 12)

Remote control signal sensor

[−MIC VOL+] (➔ 26)
(Southeast Asia only)

MUSIC PORT jack (➔ 29)

Microphone jacks (MIC 1, 2) (➔ 26)
(Southeast Asia only)

Headphone jack (PHONES)

Deck 1 [▲, OPEN] (➔ 25)

Deck 2 [OPEN, ▲] (➔ 25)

Deck 1 cassette holder (➔ 25)

Deck 2 cassette holder (➔ 25)

[BAND, TUNER] (➔ 24)

❷ **[−VOLUME+] (➔ 12, 26)**

❸ **[◀ ▶, TAPE] (➔ 25)**

[MUSIC PORT] (➔ 29)

❹ **[▶, DVD/CD] (➔ 12, 15)**

[DISPLAY,−DEMO]
(➔ 7, see below)

❺ **[■, STOP] (➔ 13, 25)**

❻ **Disc skip/search/slow-motion play, tape fast-forward/rewind, tuning, time adjustment**
[|◀◀, REW/∨, ▶▶|, ∧/FF]
(➔ 13, 24)

[DECK 1/2] (➔ 25)

[●, RECORD] (➔ 25, 26, 29)

Headphone jack (PHONES)
Reduce the volume and connect the headphones.
Headphone plug type: Φ3.5 mm stereo (not included)
Avoid listening for prolonged periods of time to prevent hearing damage.

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).

Remote control

Buttons labelled such as ❶ function in exactly the same way as the buttons on the main unit.
To use functions labeled with "−":
Press and hold the button for at least 2 seconds.

[TV⏻] (➔ 29) ————— ❶

[TV/AV] (➔ 29)

Numeric buttons

[CANCEL] (➔ 13, 15, 20)

❺

[❙❙] (➔ 13)

[TUNER/MUSIC P.] (➔ 24, 29)

[DIRECT NAVIGATOR, TOP MENU]
(➔ 13, 16, 17)

[FUNCTIONS] (➔ 19)

❻

[QUICK OSD, −SLEEP/A.OFF]
(➔ 14, 28)

[SOUND] (➔ 27)

[+, −, TV VOL] (➔ 29)

[CLOCK/TIMER, −DIMMER]
(➔ 7, 28, see below)

[⏱PLAY/REC, −FL DISPLAY]
(➔ 13, 28)

[DISC] disc selection (➔ 13, 14)

[MUTING] (➔ see below)

❷

[PLAY MODE, −CD MODE]
(➔ 14, 15, 25)

[REPEAT] (➔ 14)

❹

❸

[PLAYLIST, MENU] (➔ 13, 17)

[▲, ▼, ◄, ►], [ENTER]
(➔ 7, 13, 19, 22)

[RETURN, −SETUP]
(➔ 7, 13, 17, 19, 22)

[◄◄, ►►, SLOW/SEARCH]
(➔ 13, 24)

[S.SOUND EQ, −SUBWOOFER] (➔ 27)

[A.SRND] (➔ 27)
[−ECHO] (➔ 26) (Southeast Asia only)

Panasonic

CLOCK/TIMER −DIMMER	**Every time you press and hold [−DIMMER].**	
	Setting	**Effect**
	1	Display dims
	2	Display dims and ambient light is turned off
	3	Original brightness

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

To mute the sound.
≥Press again to cancel.
≥Muting is also canceled when you switch the unit to standby.

MUTING

For Australia and N.Z.	
V/REW FF/⋀ SLOW/SEARCH QUICK OSD SOUND A.SRND S.SOUND EQ −SLEEP/A.OFF −SUBWOOFER	[A.SRND] (➔ 27)

Discs that can be played

Operations in these instructions are described mainly with formats. Icons such as **DVD-V** show the formats.

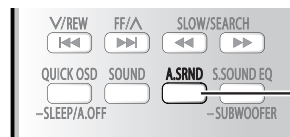|	
DVD VIDEO	**DVD-V** DVD-V —
COMPACT disc DIGITAL VIDEO / COMPACT disc SUPER VIDEO	**Video CD** VCD ●Including SVCD (Conforming to IEC62107).
DVD RAM RAM4.7	**DVD-RAM** DVD-VR MP3 JPEG MPEG4 DivX *3, *4 ●DVD-VR Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc. ●JPEG Recorded with Panasonic SD multi cameras or DVD video recorders using the DCF (Design rule for Camera File system) Standard Version 1.0. ●MPEG4 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].
DVD R R4.7 DVD RW / DVD R R DL	**DVD-R (DVD-Video)***1 **/DVD-RW (DVD-Video)** DVD-V ●Discs recorded and finalized*2 on DVD video recorders or DVD video cameras. **DVD-R (VR)***1 **/DVD-RW (VR)** DVD-VR ●Discs recorded and finalized*2 on DVD video recorders or DVD video cameras using Version 1.1 or 1.2 (DVD-R only) of the Video Recording Format (a unified video recording standard). **DVD-R/DVD-RW** MP3 JPEG ●Finalize*2 the disc after recording. **DVD-R (DivX Video)/DVD-RW (DivX Video)** DivX *3, *4 ●Finalize*2 the disc after recording.
—	**+R (Video)***1 **/+RW (Video)** DVD-V ●Discs recorded and finalized*2 on DVD video recorders or DVD video cameras.
COMPACT disc DIGITAL AUDIO / COMPACT disc DIGITAL AUDIO TEXT	**CD** CD WMA MP3 JPEG VCD MPEG4 DivX *3, *4 ●This unit can play CD-R/RW recorded with the above formats. Close the sessions or finalize*2 the disc after recording. ●CD This unit is compatible with HDCD, but does not support the Peak Extend function (a function which expands the dynamic range of high level signals). HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs. ●WMA MP3 JPEG This unit also plays HighMAT discs. ●WMA This unit does not support Multiple Bit Rate (MBR: an encoding process for audio content that produces an audio file encoded at several different bit rates).

*1 Includes single-sided, dual-layer discs.
*2 A process that allows play on compatible equipment.
*3 Functions added with DivX Ultra are not supported.
*4 Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files. Certified to the DivX Home Theater Profile. GMC (Global Motion Compensation) is not supported.

●It may not be possible to play the above discs in all cases due to the type of disc or condition of the recording.

■ 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.

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.
●Do not use a DualDisc in this unit as it may not be possible to insert it correctly and it may get scratched or scraped.

Playing DVDs and Video CDs
The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions (for example if the play time is not displayed or if a Video CD has menus). Read the disc's instructions carefully.

■ 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.

■ 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 PAL60 for viewing on a PAL television (→ page 23, "Video" tab – "NTSC Disc Output").

●Not doing the following will cause damage to the unit.

Removing the power plug
- ●Press [⏻/I] to turn off the unit and remove the power plug only after all the displays have disappeared.

A Tray caution
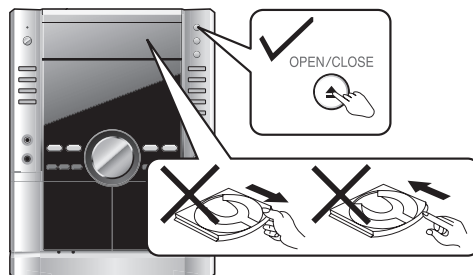
OPEN/CLOSE

B Inserting a disc
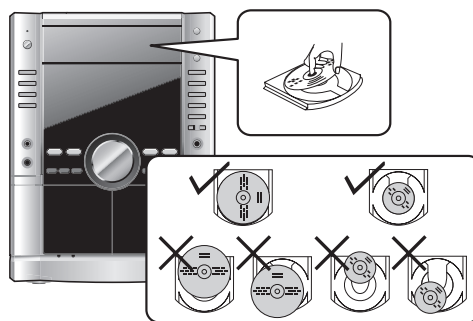
> **A** ●Always press [▲, OPEN/CLOSE] to insert or remove a disc.
> ●Do not push or pull out the tray by hand as this will cause an accident.
>
> **B** ●Place the disc label up in the center of tray.
> ●Insert only one disc into each tray.

Maintenance

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).

Before moving the unit, ensure that the disc trays are empty.
Failure to do so will risk severely damaging the discs and the unit.

U (power)

TV⌒⊙ / CLOCK/TIMER −DIMMER

TV/AM / TV VOL / ⊙ PLAY/REC −FL DISPLAY

Numeric Buttons — (1) (2) (3) / (4) (5⊙) (6) / (7) (8) (9) / (0) (≤10)

DISC

−, +, VOLUME

CANCEL — ■ ‖

DIRECT NAVIGATOR, TOP MENU

►, DVD/CD

PLAYLIST, MENU
▲, ▼, ◄, ►, ENTER

RETURN

|◄◄, ∨/REW, ►►|, FF/∧

◄◄, ►►, SLOW/SEARCH

QUICK OSD SOUND A.SIND S.SOUND EQ −SLEEP/A.OFF −ECHO −SUBWOOFER

Panasonic

U/I

▲, OPEN/CLOSE
▲, MULTI CHANGE
▲, SINGLE CHANGE

1► to 5►

−VOLUME+

►, DVD/CD

DISPLAY

■, STOP

|◄◄, REW/∨, ►►|, ∧/FF
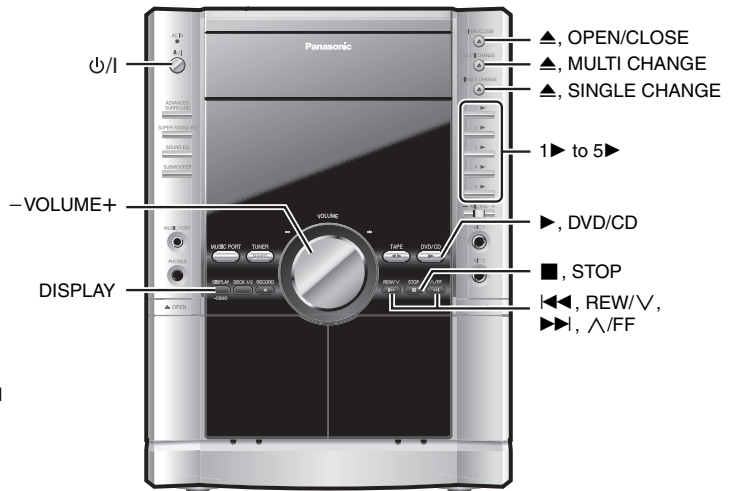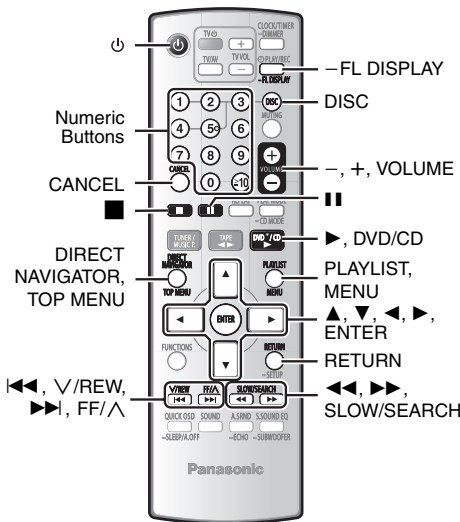
1

OPEN/CLOSE ▲

Press [▲, OPEN/CLOSE] to open the tray.
The unit comes on.
● To load discs in other trays, press [1►]−[5►] to select the tray and press [▲, OPEN/CLOSE] to open the tray.
● You can load up to 5 discs (one per tray).
● Load double-sided discs so the label for the side you want to play is facing up.
● **DVD-VR** Remove the disc from its cartridge before use.

2

OPEN/CLOSE ▲

Press [▲, OPEN/ CLOSE] to close the tray.

3

1►
2►
3►
4►
5►

Press [1►]−[5►] to play the disc.

4

VOLUME
− +

Adjust the volume.

Using the main unit

Changing multiple discs (MULTI CHANGE)

MULTI CHANGE ▲

Press [▲, MULTI CHANGE] to open the trays.
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 (SINGLE CHANGE)

SINGLE CHANGE ▲
↓
1►
2►
3►
4►
5►

Press [▲, SINGLE CHANGE] and then [1►]−[5►] to select the desired tray.
Press [▲, SINGLE CHANGE] again to close the tray.
● You can also remove a disc while another is playing.

[Note]
● Discs continue 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.

Using the remote control

Selecting a disc

(DISC)

↓

Select ▲

◄ ENTER ►

▼

Confirm

or

① — ② — ③
④ — ⑤

—

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.

Skip

∨/REW |◄◄   FF/∧ ►►|

—

▲
◄ ENTER ►
▼

WMA MP3 JPEG MPEG4 DivX
[▲, ▼]: Group skip
[◄, ►]: Content skip
●[▲, ▼, ◄, ►] buttons does not work during program and random play (➔ page 15).

Search (during play)

SLOW/SEARCH
◄◄   ►►

● Up to 5 steps.
● Press [►, DVD/CD] to start normal play.

Slow-motion (during pause)

SLOW/SEARCH
◄◄   ►►

● Up to 5 steps.
● VCD Slow motion: forward direction only.

Frame-by-frame (during pause)

▲
◄ ENTER ►
▼

DVD-V DVD-VR VCD
● VCD Forward direction only.

On-screen item select

Select
▲
◄ ENTER ►
▼
Select   Confirm

—

Enter numbers

① ② ③
④ ⑤ ⑥
⑦ ⑧ ⑨
⓪ ≧10

CANCEL
◯

DVD-V (while stopped)
DVD-VR VCD CD
E.g. to select 12:
[≧10] ➔ [1] ➔ [2]
VCD with playback control (PBC)
● Press [■] to cancel the PBC functions, then press the numeric buttons.

WMA MP3 JPEG MPEG4 DivX
E.g. to select 123:
[1] ➔ [2] ➔ [3] ➔ [ENTER]
● Press [CANCEL] to cancel the number(s).

Disc menu

DIRECT
NAVIGATOR
◯
TOP MENU

PLAYLIST
◯
MENU

RETURN
◯
–SETUP

DVD-V (while stopped)
Show a disc top menu.

DVD-VR Show the programs.

DVD-V (while stopped) MPEG4 DivX
Show a disc menu.

DVD-VR Show a playlist.

VCD with Playback control (PBC)
Show a disc menu.

Return to previous screen

RETURN
◯
–SETUP

—

Main unit display

⏱ PLAY/REC
◻
–FL DISPLAY

● Press and hold the button.
DVD-V DVD-VR WMA MP3 MPEG4
DivX
Time display ↔ Information display

JPEG
When slideshow (➔ page 19) is on:
SLIDE ↔ Information display
When slideshow is off:
PLAY ↔ Information display

Discs—Basic play

Discs—Convenient functions
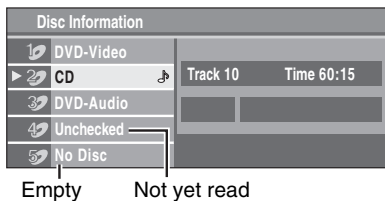
Disc information

DISC

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 [1▶]−[5▶] on the main unit.

1 Press [DISC] to show the "Disc Information" screen.

e.g.

Disc Information		
🔟 DVD-Video		
▶ ② CD ♪	Track 10	Time 60:15
③ DVD-Audio		
④ Unchecked		
⑤ No Disc		

Empty   Not yet read

2 Press the numeric buttons ([1]−[5]) to select the disc.

- **To clear the screen**
  Press [DISC] or [RETURN].

Displaying current playback condition (QUICK OSD)

QUICK OSD
−SLEEP/A.OFF

Press [QUICK OSD].

The current playback condition is displayed.

Each time you press the button:

Basic → Details → Off
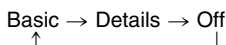
■ Basic

e.g. DVD-V   Current playback number   Elapsed play time

Title 1	Chapter 4	Time 0:41:23
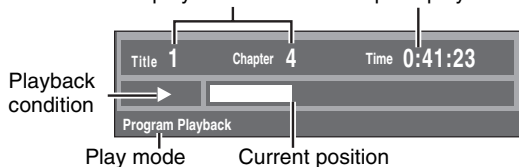
Playback condition   ▶

Program Playback

Play mode   Current position

■ Details

e.g. DVD-V

Subtitles information
Soundtrack information

Angle information

■ Details - DVD-Video
Audio   1 English □□Digital 3/2.1 ch
Subtitle   1 English
Angle   1/1
Source Aspect   4:3
Title Total Time   0:54:28

Total play time of current playback title
Aspect of current playback title
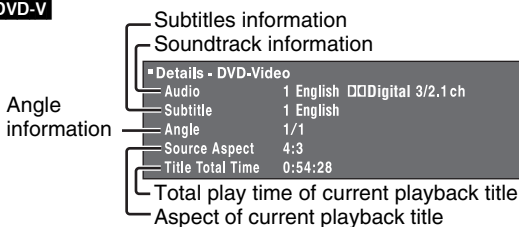
- **To exit the screen**
  Press [QUICK OSD].
- CD MP3 WMA The QUICK OSD screen will appear automatically.
- MPEG4 DivX Video and audio information is not displayed during search.

CD sequential play (CD MODE)

PLAY MODE
−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].

CD MODE

Note
- If the disc in the play position is not applicable (e.g.: 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 play
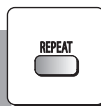
REPEAT

(Only when the elapsed play time can be displayed.
JPEG: Works with all JPEG content.)

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

e.g. DVD-V

☑ Functions	
Repeat Off	✔ Off
	Chapter
	Title
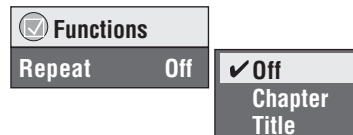
DVD-VR: Program→Disc→Off
- During playlist play: Scene→Playlist→Off
DVD-V: Chapter→Title※→Off
VCD CD: Track→Disc※→Off
- When "CD MODE" is on: Track→Disc→All CD's→Off
- When "CD MODE" is on, during program and random play: Track→All CD's→Off
WMA MP3: Content→Group※→Off
- When "CD MODE" is on: Content→Group→All CD's→Off
- When "CD MODE" is on, during program and random play: Content→All CD's→Off
MPEG4 DivX: Content→Group※→Off
JPEG: Group※→Off

※ "All" is displayed during program and random play.

Program/Random play

Press [PLAY MODE] while stopped.
Program and random playback screens appear sequentially.
Every time you press the button:
Program ⟶ Random ⟶ Off (Normal play)

To exit the program and random mode
Press [PLAY MODE] several times while stopped.

≥Disable HighMAT disc play to use program and random play. Select "Play as Data Disc" in "Other Menu" (➜ page 21).

Program play (up to 32 items)

■ *When "CD MODE" is off*
DVD-V VCD CD WMA MP3 JPEG MPEG4 DivX
You can program all the items on a disc.

1 **DVD-V Press the numeric buttons to select the item. (WMA MP3 JPEG MPEG4 DivX Press [ENTER] to register the selection.)**

≥**To select a 2-digit number**
e.g. 25: [≧10] ➜ [2] ➜ [5]
WMA MP3 JPEG
MPEG4 DivX
[2] ➜ [5] ➜ [ENTER]
≥Repeat this step to program other items.

e.g. DVD-V

○ Program Playback
Choose a title and chapter.
No.   Disc   T/G   C/T
1   ––   ––   **Play**
                        Clear
                        Clear all

▲▼◄► to select and press ENTER   PLAY to start

2 **Press [▶, DVD/CD].**
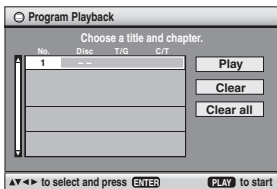
■ *When "CD MODE" is on (➜ page 14)*
VCD CD WMA MP3
You can program all the items on all the discs.

1 **Press the numeric buttons ([1]–[5]) to select a disc.**

2 **Press the numeric buttons to select the items.**
(WMA MP3 Press [ENTER] to register the selection.)
≥**To select a 2-digit number**
e.g. 25: [≧10] ➜ [2] ➜ [5]
WMA MP3 [2] ➜ [5] ➜ [ENTER]
≥Repeat this step to program other items.

3 **Press [▶, DVD/CD].**

To select an item using the cursor buttons
Press [ENTER] and [▲, ▼] to select an item, then press [ENTER] again to register.

To change the selected program
1 Press [▲, ▼] to select an item.
2 Repeat above steps 1 and 2.

To clear the selected program
1 Press [▲, ▼] to select an item.
2 Press [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*
VCD CD
You can play all the items on a disc in random order.

DVD-V WMA MP3 JPEG MPEG4 DivX
You can play selected item(s) on a disc in random order.

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

e.g. DVD-V

Random Playback
Choose a title.
Title 1

▲▼ 0 ~ 9 to select   PLAY to start
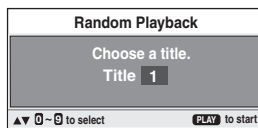
2 **Press [▶, DVD/CD].**

ALL-DISC random play

■ *When "CD MODE" is on (➜ page 14)*
VCD CD WMA MP3
You can play all the items on all the discs in random order.

Press [▶, DVD/CD].

e.g. CD

Random Playback

Press PLAY to start

Discs—Convenient functions

Discs—Using navigation menus

Playing data discs

DIRECT NAVIGATOR
TOP MENU

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 21, "Play as Data Disc" in "Other Menu").

Playing items in order (Playback Menu)

1 **Press [TOP MENU].**

e.g.

▷ Playback Menu	
All	Total 120
Audio	Total 50
Picture	Total 50
Video	Total 20
▲▼ to select and press ENTER	

All contents — All
WMA/MP3 — Audio
JPEG — Picture
MPEG4 and DivX video — Video

2 **Press [▲, ▼] to select "All", "Audio", "Picture" or "Video" and press [ENTER].**

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

Playing from the selected items (Navigation Menu)

1 **Press [MENU].**

2 **Press [▲, ▼, ◀, ▶] to select the group or audio/picture 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 [▲, ▼].

e.g.

○ Navigation Menu	📁5 📁1 JPEG --:--
002 My favorite2\005 Japanese\001 Lady Starfish	

Perfume
─001 My favorite1
─002 My favorite2
  ─001 Brazilian
  ─002 Chinese
  ─003 Czech
  ─004 Hungarian
  ─005 Japanese ◀
  ─006 Mexican
  ─007 Philippine
  ─008 Swedish
  ─009 Piano
  ─010 Vocal

01 Lady Starfish ◀
02 Metal Glue
03 Life on Jupiter
04 Starperson
05 Firebaby

Group 005/023   Content 0001/0005
FUNCTIONS to display the sub menu   RETURN to exit

Group   Content

Group and content number currently playing
📷 :JPEG
♪ :WMA/MP3
▤ :MPEG4 and DivX video
◀ :Indicates the group/content currently playing
Number currently selected

●**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

FUNCTIONS

1 **While the menu is displayed**
Press [FUNCTIONS].
Items shown differ depending on the type of disc.
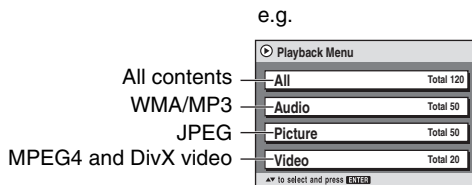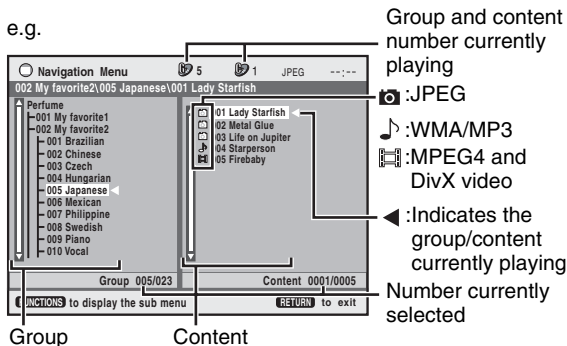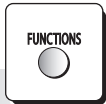
✓Multi	Groups and contents are displayed
List	Contents only
Tree	Groups only
Thumbnail	Thumbnail images **JPEG**
Next group	To go to next group **WMA** **MP3** **MPEG4** **DivX**
Previous group	To go to previous group **WMA** **MP3** **MPEG4** **DivX**
All	WMA/MP3, JPEG, MPEG4 and DivX video
Audio	WMA/MP3 only
Picture	JPEG only
Video	MPEG4 and DivX video
Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title (→ see below)

2 **Press [▲, ▼] to select an item and press [ENTER].**

■ Searching by a 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].

✳ A   **Find**

2 **Press [▲, ▼] to select a character and press [ENTER].**
●Repeat to enter another character.
●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 submenu again and select "Find".

3 **Press [▶] to select "Find" and press [ENTER].**
The search result screen appears.

4 **Press [▲, ▼] to select the content or group and press [ENTER].**

Playing from the selected track in the CD
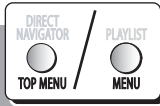
[CD]
Titles appear with CD Text disc playback.

1 **Press [TOP MENU] or [MENU].**

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

e.g. CD Text

CD Text	🔀 1/23 2:01

Disc Title   : All By Artist
Disc Artist : Pink Island
Track Title : Long John Platinum
Track Artist : SHIPWRECKED

1. ♪ Ashley at Prom ◀
2. ♪ City Penguin
3. ♪ Formula one
4. ♪ Soccer
5. ♪ Baseball
6. ♪ Neanderthal
7. ♪ Cartoons
8. ♪ Trilobites
9. ♪ White Dwarf
10. ♪ Discovery

▲▼ to select and press [ENTER]   [RETURN] to exit

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

Playing HighMAT™ discs

DIRECT NAVIGATOR — TOP MENU

[WMA] [MP3] [JPEG]

1 **Press [TOP MENU].**

2 **Press [▲, ▼, ◄, ►] to select the item, then press [ENTER].**
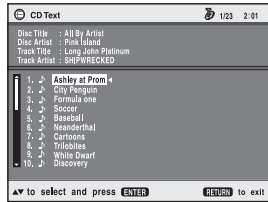   ● Repeat this step if necessary.

e.g.

New Playlist Item Long Name Display Te	PAGE 1/3 [HighMAT]

Menu1   Playlist1   Menu2

Playlist2   Menu3   Playlist3
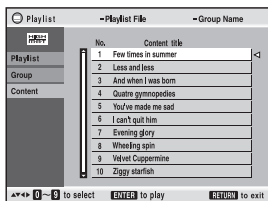
◄ Prev   ▲ Return   Next ►
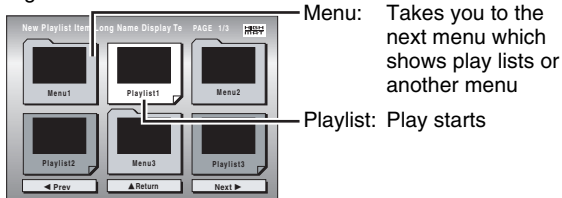
Menu: Takes you to the next menu which shows play lists or another menu

Playlist: Play starts

To change the menu background to the one recorded on the disc
Press [FUNCTIONS].

● **To exit the screen**
  Press [■].

Selecting from the lists

1 **Press [MENU].**

2 **Press [◄] then [▲, ▼] to switch among "Playlist", "Group" and "Content" lists.**

3 **Press [►] then [▲, ▼] to select an item and press [ENTER].**

e.g.

○ Playlist	▬ Playlist File	▬ Group Name

[HighMAT]
Playlist
Group
Content

No.   Content title
1   Few times in summer ◀
2   Less and less
3   And when I was born
4   Quatre gymnopedies
5   You've made me sad
6   I can't quit him
7   Evening glory
8   Wheeling spin
9   Velvet Cuppermine
10 Ziggy starfish

▲▼◄► [0]~[9] to select   [ENTER] to play   [RETURN] to exit

● **To exit the screen**
  Press [MENU] or [RETURN].
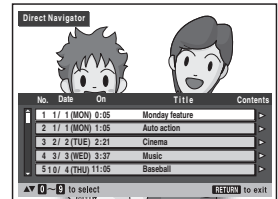
Playing DVD-VR discs

DIRECT NAVIGATOR — TOP MENU

[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].**

2 **Press [▲, ▼] or the numeric buttons to select the program.**
   ● **To select a 2-digit number**
     e.g. 23: [≧10] ➜ [2] ➜ [3]
   ● Press [►] to show the contents of the program and the disc.

3 **Press [ENTER].**

e.g.

Direct Navigator

No.	Date	On	Title	Contents
1	1/ 1 (MON)	0:05	Monday feature	▷
2	1/ 1 (MON)	1:05	Auto action	▷
3	2/ 1 (TUE)	2:21	Cinema	▷
4	3/ 3 (WED)	3:37	Music	▷
5	10/ 4 (THU)	11:05	Baseball	▷

▲▼ [0]~[9] to select   [RETURN] to exit

● **To exit the screen**
  Press [DIRECT NAVIGATOR] or [RETURN].

Playing a playlist

PLAYLIST — MENU

(Only when the disc contains a playlist)

1 **Press [PLAYLIST].**

2 **Press [▲, ▼] or the numeric buttons to select the playlist.**
   ● **To select a 2-digit number**
     e.g. 23: [≧10] ➜ [2] ➜ [3]

3 **Press [ENTER].**

e.g.

○ Playlist

No.	Date	Total time	Title	Contents
1	1/ 1	0:05:59	Monday feature	▷
2	1/ 1	1:05:03	City Penguin	▷
3	2/ 2	2:21:39	Cinema	▷
4	3/ 3	3:37:28	Discovery	▷
5	7/ 4	1:27:53	Cartoons	▷

▲▼ [0]~[9] to select and press [ENTER]   [RETURN] to exit
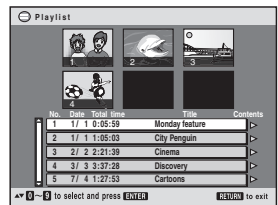
■ Playing scenes one by one

1 While the playlist menu is displayed
  Press [►].

2 **Press [▲, ▼] to select "Scene List" and press [ENTER].**
   ● "Contents" shows playlist information.

3 **Press [▲, ▼, ◄, ►] to select a scene and press [ENTER].**

● **To exit the screen**
  Press [PLAYLIST] or [RETURN].

Discs—Using navigation menus

Discs—Using navigation menus

Tips for making data discs
● Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
● This unit supports multi-session but if there are a lot of sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.
● When there are more than 8 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.
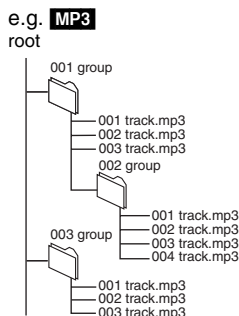● This unit cannot play files recorded using packet write.

Naming folders and files
(Files are treated as content and folders are treated as groups on this unit.)
At the time of recording, prefix folder and file names with 3-digit numbers in the order you want to play them (this may not work at times).
Files must have the extension:
".WMA" or ".wma"
".MP3" or ".mp3"
".JPG", ".jpg", ".JPEG" or ".jpeg"

e.g. MP3
root
    001 group
        001 track.mp3
        002 track.mp3
        003 track.mp3
    002 group
        001 track.mp3
        002 track.mp3
        003 track.mp3
        004 track.mp3
    003 group
        001 track.mp3
        002 track.mp3
        003 track.mp3

WMA
● You cannot play WMA files that are copy protected.
● This unit does not support Multiple Bit Rate (MBR).

MP3
● This unit is not compatible with ID3 tags.
● Compatible sampling rates: 8 kHz, 11.02 kHz, 12 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz and 48 kHz.

JPEG
● To view JPEG files on this unit:
  – Take them on a digital camera that meets the DCF (Design rule for Camera File system) Standard Version 1.0. Some digital cameras have functions that are not supported by the DCF Standard Version 1.0 like automatic picture rotation which may render a picture unviewable.
  – Do not alter the files in any way or save them under a different name.
● This unit cannot display moving pictures, MOTION JPEG and other such formats, still pictures other than JPEG (e.g.: TIFF) or play pictures with attached audio.

MPEG4
● MPEG4 files must have the 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
● DivX files must have the extension ".DIVX", ".divx", ".AVI", or ".avi".
● GMC (Global Motion Compensation) is not supported.
● DivX files greater than 2 GB or have no index may not play properly on this unit.
● This unit supports all resolutions up to maximum of 720×480 (NTSC)/720×576 (PAL).
● You can select up to 8 types of audio and subtitles on this unit.

Official DivX® Certified product.
Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files.
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Designed for
Windows Media™

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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.

HIGH M·A·T
AUDIO·IMAGE

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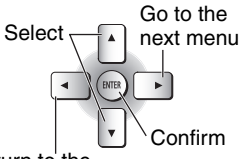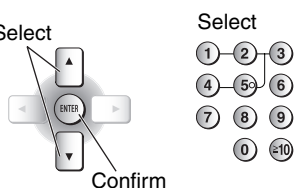

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See http://www.mpegla.com.

Common procedures

1	2	3	4
FUNCTIONS	Select — Go to the next menu — ENTER — Confirm — Return to the previous menu	Select — Confirm — Select — 1 2 3 4 5 6 7 8 9 0 ±10	RETURN –SETUP
Press once.	**Select the menu.**	**Make the settings.**	**Press to exit.**

● **Items shown differ depending on the type of disc.**

Main Menu

Program Group Title Chapter Track Playlist Content	**To start from a specific item**
Time ※ Except +R/+RW	**Time Slip** (during play) [DVD-V] [DVD-VR] [DivX] **To skip incrementally or decrementally**※ 1 Press [ENTER] twice to show the Time Slip indicator. 2 Press [▲, ▼] to select the time and press [ENTER]. ●Press and hold [▲, ▼] to alter faster. **Time Search** [DVD-V] [DVD-VR] [DivX] **To start from a specific time**※ **Elapsed/Remaining time** [DVD-V] [DVD-VR] [VCD] [CD] [MPEG4] [DivX] **To change remaining/elapsed time display**
Video	**To display pixel number** [MPEG4] [DivX] fps (frame per second) is also displayed.
Audio	[DVD-V] [DVD-VR] [DivX] (with multiple soundtracks) [VCD] **To select audio soundtrack** [DVD-VR] [VCD] [DivX] **To select "L", "R" or "LR"** [DVD-V] [DVD-VR] (Karaoke disc) **To select "On", "Off", "V1", "V2" or "V1+V2" for vocals** ●Read the disc's instructions for details. **Audio attributes** LPCM/PPCM/□□Digital/DTS/MP3/MPEG: Signal type kHz: Sampling frequency bit: Number of bits 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 [WMA] [MP3] **To display the current disc type**

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. **To display/clear the subtitles** Press [▲, ▼] to select "On" or "Off" and press [ENTER]. ●[DVD-VR] [DivX] (On/Off only with discs that contain subtitle on/off information) Subtitle on/off information cannot be recorded using Panasonic DVD Recorders. ●[DivX] DivX video files that do not display "Text" do not contain subtitles text. Subtitles text cannot be displayed.
Marker (VR)	[DVD-VR] **To recall a marker recorded on DVD-Video recorders** To recall a marker: Press [▲, ▼] ➜ Press [ENTER]
Angle	(with multiple angles) **To select a video angle**
Rotate Picture	[JPEG] **To rotate a picture**
Slideshow	[JPEG] **To turn slideshow on/off** **To change the slideshow timing** 1 (Fast) to 5 (Slow)
Other Settings	(➜ page 20)

(Continued on next page)

Other Settings

Play Speed	**DVD-V** **DVD-VR** **To change play speed** – from "×0.6" to "×1.4" (in 0.1 unit steps)

■ *"Play Menu"*

Repeat	(→ page 14)
A-B Repeat	Except **JPEG** **MPEG4** **DivX** **DVD-VR** (Still picture part) **To repeat a specified section** Press [ENTER] at the starting and ending points. Press [ENTER] again to cancel.
Marker	Except **DVD-VR** **VCD** with playback control (PBC) **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 [CANCEL] ● This feature does not work during program and random play.
Advanced Disc Review	**DVD-V** **DVD-VR** (except +R/+RW) Allows you to browse the disc contents and start playing from the selected position. You can select either "Intro Mode" or "Interval Mode" (→ page 22). **When you find a title/program to play** Press [►, DVD/CD]. ● This may not work depending on the disc and the play position.

■ *"Picture Menu"*

Picture Mode	**DVD-V** **DVD-VR** **VCD** **JPEG** **MPEG4** **DivX** (depends on disc) **Normal** **Cinema1**: Mellows images and enhances detail in dark scenes. **Cinema2**: Sharpens images and enhances detail in dark scenes. **Animation** **Dynamic** **User** (Press [ENTER] to select "Picture Adjustment") (→ see below) **Picture Adjustment** **Contrast** **Brightness** **Sharpness** **Colour** **Gamma** (Adjusts the brightness of dark parts.) **Depth Enhancer** (Reduces the rough noise in the background to give a greater feeling of depth.)

Video Output Mode	**DVD-V** **DVD-VR** **VCD** **JPEG** **MPEG4** **DivX** (depends on disc) **To select suitable picture quality with your television** ⁎**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 disc being played. One of the above numbers is displayed.
Transfer Mode	**DVD-V** **DVD-VR** **VCD** **MPEG4** **DivX** (depends on disc) If you have chosen "xxx⁎p" (progressive) (→ see above), select the method of conversion for video output to suit the type of material. When you play NTSC disc **Auto1** (normal): 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 video content is distorted. When you play PAL discs, MPEG4 or DivX video **Auto**: Automatically detects the film and video content, and appropriately converts it. **Video**: Select when using "Auto", and the content is distorted. **Cinema**: 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, then select "Auto".
Source Select	**DivX** (depends on disc) 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)**
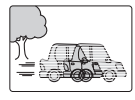
■ *"Audio Menu"*

Advanced Surround	(➜ page 27)
Dialogue Enhancer	**To make the dialogue in movies easier to hear** **DVD-V** (Dolby Digital, DTS, MPEG, 3 channels or higher, with the dialogue recorded in the center channel) **On ↔ Off**
Sound Enhancement	Enhances audio output to produce a warm hall-like sound. **On ↔ Off**

■ *"Display Menu"*

Information	**JPEG** On ↔ Off
Subtitle Position	**0 to −60** (in 2 unit steps)
Subtitle Brightness	**Auto, 0 to −7**
4:3 Aspect	**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** This function works only when you select 16:9 (➜ page 23, "TV Aspect") as default screen size. **Normal**: Horizontally stretches images. **Auto**: Expands 4:3 letterbox images to fill more of the screen. **Shrink**: Images appear in the center of the screen. **Zoom**: Expands all images to fill the screen. If your television has a similar feature, use it instead for a better effect.
Just Fit Zoom	**DVD-VR** (For motion picture part) **DVD-V** **VCD** **To select appropriate screen size to fit your television screen** **Auto** **4:3 Standard** 4:3 **European Vista** 1.66:1 **16:9 Standard** 16:9 **American Vista** 1.85:1 **Cinemascope1** 2.35:1 **Cinemascope2** 2.55:1 **MPEG4** **DivX** **Standard** (×0.25 full-screen), **Original** (actual recorded size), **Full** (full-screen) ≥This may not work depending on the discs recording.
Manual Zoom	**DVD-VR** (For motion picture part) **DVD-V** **VCD** **MPEG4** **DivX** **To zoom in and out manually** Press [▲, ▼]. – from "×1.00" to "×1.60" (in 0.01 units) – from "×1.60" to "×2.00" (in 0.02 units) – **MPEG4** **DivX** from "×2.00" to "×4.00" (in 0.05 units)

Bit Rate Display	**DVD-VR** (For motion picture part) **DVD-V** **VCD** **MPEG4** **DivX** When you select "On" During play: Shows the average bit rate (approximate values) of the video being played While paused: Shows the data volume of the frame and type of picture (I/P/B ➜ page 31)
GUI See-through	**Adjust the translucency of the on-screen menu** **Off, On, Auto**
GUI Brightness	**Adjust the brightness of the on-screen display** **−3 to +3**

■ *"Other Menu"*

Setup	(➜ page 22)
Play as DVD-VR, Play as HighMAT or Play as Data Disc	Select "Play as Data Disc" to play JPEG, MP3, MPEG4 or DivX video files on DVD-RAM or to play a HighMAT disc without using the HighMAT function.

Discs—Changing the player settings

1

RETURN

—SETUP

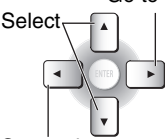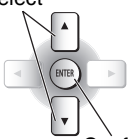**Press and hold to show the "Setup" menu.**

2

Go to item

Select

Go to tab

Select the tab.

3

Select

ENTER

Confirm

Select the item.

4

Select

ENTER

Confirm

Select

① ② ③
④ ⑤ ⑥
⑦ ⑧ ⑨
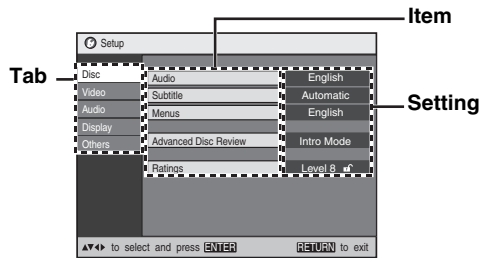   ⓪ ≧10
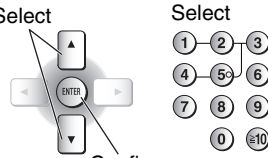
Make the settings.

5

RETURN

—SETUP

Press to exit.

●If you have not set "QUICK SETUP" (➔ page 7), the "QUICK SETUP" screen appears when [−SETUP] is pressed.
●The settings remain intact even if you switch the unit to standby.
●Underlined items in the following diagram are the factory preset.

e.g. **"Setup" menu**

```
⊙ Setup                                    Item
Disc        Audio               English
Video       Subtitle            Automatic
Audio       Menus               English     Setting
Display     
Others      Advanced Disc Review  Intro Mode
            Ratings             Level 8

▲▼◀▶ to select and press ENTER      RETURN to exit
```

Tab

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

■ **"Disc" tab**

Audio Choose the audio language.	●English　　　●(Language options)*1　　　●Original*2　　　●Other✳✳✳✳*3
Subtitle Choose the subtitle language.	●Automatic*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.	●English ●(Language options)*1 ●Other✳✳✳✳*3
Advanced Disc Review (➔ page 20)	●Intro Mode:　　Reviews each title/program. ●Interval Mode: Reviews not only each title/program but also each 10 minute interval within a title/program.
Ratings Set a ratings level to limit DVD-Video play. ●Follow the on-screen instructions.	Setting ratings (When level 8 is selected) ●8 No Limit　　●1 to 7　　　●0 Lock All: To prevent play of discs without rating levels.
	Changing ratings (When level 0 to 7 is selected) ●Unlock Player　　●Change Password　　●Change Level　　●Temporary Unlock
	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 exceeding the ratings level is inserted in the unit. Enter your password and then follow the on-screen instructions.

*1 Language options:
　For Southeast Asia　Chinese
　For Australia and N.Z.　French, German, Italian, Spanish, Portuguese, Russian and Dutch
*2 The original language designated on the disc is selected.
*3 Input a code number referring to the table on back cover.
*4 If the language selected for "Audio" is not available, subtitles appear in that language (if available on the disc).

■ "*Video*" *tab*

TV Aspect Choose the setting to suit your television and preference.	●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.	●<u>Standard (Direct View TV)</u> ●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.	●<u>0ms</u> ●20ms ●40ms ●60ms ●80ms ●100ms
Still Mode Specify the type of picture shown when paused.	●Automatic ●Field: The picture is not blurred, but picture quality is lower. ●Frame: Overall quality is high, but the picture may appear blurred.
NTSC Disc Output Choose "PAL60" or "NTSC" output when playing NTSC discs (➔ page 11, Video systems).	●PAL60: When connected to a PAL television. ●<u>NTSC</u>: When connected to an NTSC television. (For Southeast Asia : "NTSC" is factory preset)
Picture/Video Output Choose the video signal format to be output for JPEG, MPEG4 and DivX video.	For Southeast Asia ●PAL ●<u>NTSC/PAL60</u> For Australia and N.Z. ●<u>Automatic</u> ●PAL ●NTSC/PAL60

■ "*Audio*" *tab*

PCM Digital Output (➔ page 30)	●<u>Up to 48 kHz</u> ●Up to 96 kHz
Dolby Digital (➔ page 30)	●<u>Bitstream</u> ●PCM
DTS Digital Surround (➔ page 30)	●<u>Bitstream</u> ●PCM
For Australia and N.Z. **MPEG (➔ page 30)**	●<u>PCM</u> ●Bitstream
Dynamic Range Compression	●<u>Off</u> ●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")

■ "*Display*" *tab*

Menu Language	For Australia and N.Z. ●<u>English</u> ●Français ●Deutsch ●Italiano ●Español ●Português ●Русский ●Nederlands For Southeast Asia ●<u>English</u> ● 中文
On-Screen Messages	●<u>On</u> ●Off
Background during Play Select background during JPEG, MPEG4 and DivX video playback.	●<u>Black</u> ●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 31).
QUICK SETUP	●<u>Yes</u> ●No
Re-initialise Setting This returns all values in the "Setup" menus to the default settings.	●Yes: The password screen is shown if "Ratings" (➔ page 22) is set. Please enter the same password. After "Initialised" on the display disappears, turn the unit off and on again. All the settings will return to the default values. ●<u>No</u>

Discs—Changing the player settings

Manual Tuning

1 **Press [TUNER/MUSIC P.] (main unit: [BAND, TUNER]) to select "FM" or "AM".**
The unit comes on.

2 **Press [◄◄] or [►►] to select the frequency.**
Press and hold [◄◄] or [►►] until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

"TUNED" is displayed when a radio station is tuned.
"ST" is displayed when a stereo FM broadcast is being received.

■ If noise is excessive in FM

Press [PLAY MODE] to display "MONO".
Monaural sound is selected and noise is reduced when reception is weak.
Press [PLAY MODE] again to cancel the mode.
"MONO" is also canceled if the frequency is changed.

■ AM allocation setting (Main unit only)

The step is factory preset to 9 kHz, but you can change it to receive broadcasts allocated to 10 kHz steps.
1 Select "FM".
2 Press and hold [BAND, TUNER].
After a few seconds the display changes to show the current minimum frequency. Continue to hold the button down. The minimum frequency changes and the step is changed.
To return to the original step, repeat the above steps.

Note
After changing the allocation setting, the frequencies you previously preset in the memory will be cleared. Preset them again.

Memory Preset

Remote control only
There are two methods of presetting stations.
Automatic presetting: All the stations the tuner can receive are preset.
Manual presetting: You can select the stations to preset and the order they are preset in.
Up to 15 stations each can be set in the FM and AM bands.

Preparation:
Press [TUNER/MUSIC P.] to select "FM" or "AM".

Automatic presetting

Do the following once each for FM and AM.

Preparation: Tune to the frequency where presetting is to begin.

Press and hold [ENTER] until the frequency changes.

The tuner presets all the stations it can receive into the channels in ascending order. The last station to be set is then played.

Manual presetting

Preset the stations one at a time.
1 **Tune to the station (➔ see left).**
2 **Press [ENTER].**
3 **While "PGM" is flashing on the display**
Press the numeric buttons to select a channel.
●**To select a 2-digit number**
e.g. 12: [≧10] ➔ [1] ➔ [2]

The station occupying a channel is erased if another station is preset in that channel.

Selecting channels

Remote control only
1 **Press [TUNER/MUSIC P.] to select "FM" or "AM".**
2 **Press the numeric buttons, [I◄◄, ∨/REW] or [►►I, FF/∧] to select the channel.**
●**To select a 2-digit number**
e.g. 12: [≧10] ➔ [1] ➔ [2]

[Display: CH 12]

Cassette tapes—Playback and Recording

Playback

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 do full justice to the characteristics of these tapes.

1 Press [◀ ▶, TAPE].
The unit comes on.
If a cassette was loaded, play starts automatically (One touch play).

2 Press deck 1 [▲, OPEN] or deck 2 [OPEN, ▲] on the main unit and insert the cassette.
Insert with the side to be played facing towards you and the exposed tape facing down. Close the deck by hand.

Front side

3 Press [◀ ▶, TAPE] to start playback.
Every time you press the button: F▶ ↔ ◀R
F▶: Forward side is played.
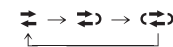◀R: Reverse side is played.

To stop tape playback
Press [■].

To select the reverse mode
While TAPE is selected as the source
Every time you press and hold [PLAY MODE]:

⇄ → ⇄) → (⇄)

⇄ : One side is played.
⇄) : Both sides are played. (forward → reverse)
     Play stops at the end of the reverse side.
(⇄): Both sides are played repeatedly until [■] is pressed.

To listen to 2 tapes consecutively, load a tape into each deck and select "(⇄)". Both tapes will be played repeatedly until [■] is pressed.

To fast-forward or rewind
Press [|◀◀, ∨/REW] (rewind) or [▶▶|, FF/∧] (fast-forward).

To select between loaded decks
Press [PLAY MODE] (main unit: [DECK 1/2]).

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 to open deck 2 and insert the cassette to be recorded.
Insert with the side to be recorded facing towards you and the exposed tape facing down. Close the deck by hand.
The tape direction is automatically set to "F▶".

2 Press and hold [PLAY MODE] to select the reverse mode.
Every time you press and hold the button:

⇄ → ⇄) → (⇄)
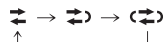
⇄   : One side only records.
⇄) , (⇄) : Both sides record. (forward → reverse)
"(⇄)" is automatically changed to " ⇄) " when [●, RECORD] on the main unit is pressed.

3 Select the source to be recorded.
Radio recording:
Tune to the required station. (→ page 24)
Disc recording:
① Insert the disc(s) you want to record.
   Press [▶, DVD/CD] and then [■].
② Prepare the desired disc recording mode.
   ● To record programmed item [→ do steps 1 and 2 on page 15, Program play (up to 32 items)].
   Ensure disc is 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 stop recording
Press [■].

If the tape finishes before the disc
The disc continues playing. Press [■] to stop it.

Note
● Multi-channel sources (3 to 5.1 channels) are automatically down-mixed 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.

Erasure prevention
The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown.

Side A

To re-record
Normal tape
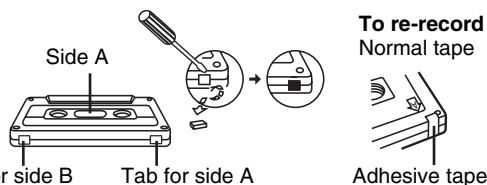
Tab for side B   Tab for side A   Adhesive tape

To erase a tape
1 Press [◀ ▶, TAPE] and then [■].
2 Insert the recorded tape into deck 2.
   Ensure there is no tape in deck 1.
3 Press and hold [PLAY MODE].
4 Press [●, RECORD] on the main unit.

Cassette tapes—Playback and Recording

Microphone mixing

Enjoy microphone mixing from various music sources such as cassette, disc, radio or portable audio equipment.

Preparation:
● Lower the microphone volume with [−MIC VOL+] on the main unit, then connect the microphone(s) to the microphone jack(s).
  Every time you press the [−MIC VOL+] buttons:
  MIC 1 ↔ MIC 2 ↔ MIC 3 ↔ MIC 4
  Use a dynamic microphone.
  Plug type: Φ6.3 mm monaural.
● If a strange noise (howling) is emitted during use, move the microphone away from the speakers, or lower the microphone volume.
● When you are not using the microphone, disconnect it from the microphone jack, and lower the microphone volume to "MIC 1".

1 **Select the music source:**
  ● **When singing along with discs**
    Insert the desired disc (➜ page 12).
  ● **When singing along with cassette tape**
    Press deck 1 [▲, OPEN] on the main unit and insert the desired cassette tape (➜ page 25).
  ● **When singing along with radio**
    Select your desired station (➜ page 24).
  ● **When singing along with a portable audio equipment**
    Connect and prepare the portable audio equipment (➜ page 29).
2 **Start singing and adjust volume with [−VOLUME+] and [−MIC VOL+] on the main unit.**

Record microphone mixing

Preparation:
● Do the preparatory steps 1 and 2 on page 25, Recording.

1 **Press deck 2 [OPEN, ▲] on the main unit and insert a cassette tape.**
2 **Select the music source (➜ see above) and press [■].**
3 **Press [●, RECORD] on the main unit and start microphone mixing.**

To stop recording
Press [■].

To record your voice

Preparation:
● Do the preparatory steps 1 and 2 on page 25, Recording.
● Ensure that there is no tape in deck 1.

1 **Press deck 2 [OPEN, ▲] on the main unit and insert a cassette tape.**
2 **Press [●, RECORD] on the main unit to start recording.**
3 **Speak through the microphone and adjust volume with [−VOLUME+] and [−MIC VOL+] on the main unit.**

Adjusting the echo effect

A.SRND
−ECHO

1 **Press and hold [−ECHO].**
  Current setting appears on the display.
2 **While current setting is displayed**
  Press [−ECHO] to change the setting.
  Every time you press the button:
  ECHO 1 → ECHO 2 → ECHO 3 → ECHO 4
  └───── ECHO OFF (off) ◄─────┘

Note
● The effect increases with the level.
● The setting will change only if you press [−ECHO] right after the current setting is displayed.

Microphone mixing

Sound field and sound quality

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.

Advanced Surround

A.SRND
−ECHO

DVD-V DVD-VR

Enjoy a surround-like effect that broadens when playing discs with surround effects. Sound seems to come from speakers on either side of you.

Press [A.SRND] (main unit: [ADVANCED SURROUND]).
Each time you press the button:
1 Natural → 2 Enhanced → Off (factory preset)

Optimum seating position

≥This does not work or has less effect with some discs.
≥Do not use in combination with surround effects on other equipment.

Speaker

A ↔ **3 to 4 times distance A**

Seating position

Speaker

Using the Super Sound Equalizer

S.SOUND EQ
−SUBWOOFER

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

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

The "S.SOUND EQ" indicator lights up.

≥**To cancel**
Press [S.SOUND EQ] (main unit: [SUPER SOUND EQ]) to turn off the indicator.

Sound field control

SOUND

Press [SOUND] (main unit: [SOUND EQ]).
Every time you press [SOUND] on the remote control:
MANUAL EQ → HEAVY → CLEAR → SOFT
↑ EQ-OFF ← HALL ← LIVE ← DISCO ←┘

Every time you press [SOUND EQ] on the main unit:
HEAVY → CLEAR → SOFT → DISCO
↑ EQ-OFF ← HALL ← LIVE ←┘

HEAVY : Adds punch to rock (factory preset).
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 right)

≥**To check the current setting**
Press [SOUND] (main unit: [SOUND EQ]).

Using the Manual Equalizer (MANUAL EQ)
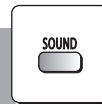
SOUND

Create your own sound quality effects.

Remote control only

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

2 (Within 12 seconds)
Change the sound quality with the cursor buttons.

① Select the sound range to be adjusted with [◄, ►].
BASS ↔ MID ↔ TREBLE

② Adjust the level with [▲, ▼].
(−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".

Subwoofer level

S.SOUND EQ
−SUBWOOFER

1 **Press and hold [−SUBWOOFER] (main unit: [SUBWOOFER]).**
Current setting appears on the display.

Remote control only

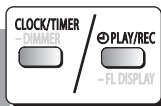**2** **While current setting is displayed**
Press [−SUBWOOFER] to change the setting.
Every time you press the button:
SUB W1 → SUB W2 → SUB W3 (factory preset)
↑_____|

Note
The setting will change only if you press [−SUBWOOFER] right after the current setting is displayed.

Sound field and sound quality

The play/record timer

You can set the timer to come on at a certain time to wake you up (play timer) or to record a radio station or from the music port source (record timer).
The play and record timers cannot be used together.

Preparation:
● Turn the unit on and set the clock (➜ page 7).
● **For the play timer**, prepare the desired music source (tape/disc/radio/music port source), and set the volume.
● **For the record timer**, check the cassette's erasure prevention tabs (➜ page 25) and insert the tape in deck 2 (➜ page 25). Tune the radio station (➜ page 24) or select the music port source (➜ page 29).

1 **Press [CLOCK/TIMER] to select the timer function.**
Every time you press the button:
CLOCK → ⏲PLAY → ⏲REC
└── Previous display ←──┘

⏲PLAY   : to set the play timer
⏲REC   : to set the record timer
(Proceed to the next step within 7 seconds)

2 <u>**ON time setting**</u>
①**Press [◄◄, ∨/REW] or [►►, FF/∧] to set the start time.**
②**Press [CLOCK/TIMER].**

<u>**OFF time setting**</u>
Repeat steps ① and ②.

3 **Press [⏲PLAY/REC] to display the timer indicator.**
Every time you press the button:
⏲PLAY → ⏲REC → Off
└─────────────────┘

⏲PLAY   : to turn the play timer 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.)

4 **Press [⏻] to turn the unit off.**
The unit must be off for the timers to operate.
● **Play timer**   : Play will start in the set condition at the set time with volume increasing gradually to the set level.
● **Record timer** : The unit comes on 30 seconds before the set time with the volume muted.

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.)

To change the settings (when the unit is on)

To change the play/record times
Do steps 1, 2 and 4.

To change the source or volume
1   Press [⏲PLAY/REC] to clear the timer indicator from the display.
2   Make changes to the source or volume.
3   Do steps 3 to 4.

To check the settings
Press [CLOCK/TIMER] while the unit is on or standby mode to select "⏲PLAY" or "⏲REC".
The settings are shown in the following order:
Play timer: start time → finish time → source → volume
Record timer: start time → finish time → source

If you use the unit after the timers are set
After using, check that the correct tape/disc(s) are loaded before turning the unit off.

<u>Note</u>
● If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
● If you selected music port as the source, when the timer comes on, the unit turns on and engages music port as the source. Activate the equipment's play mode and increase the volume if you want to playback or record from the connected portable audio equipment. (See the connected portable audio equipment's instruction manual.)

The sleep timer/Auto-off function

● **For the sleep timer,** this timer turns the unit off after a set time.
● **For Auto-off function,** when disc or tape is selected as the source. To save power, the unit turns off if it is left unused for 10 minutes. This function does not work if the source is tuner or music port.

1 **While enjoying the desired source**
Press and hold [−SLEEP/A.OFF].
Current setting appears on the display.

2 **While current setting is displayed**
Press [−SLEEP/A.OFF] to change the setting.
Every time you press the button:
SLEEP 30 → SLEEP 60 → SLEEP 90 → SLEEP 120
└── SLEEP OFF ← AUTO OFF ←──────┘

To cancel the sleep timer
Do steps 1 and 2 to select "SLEEP OFF".

To confirm the remaining time
Press and hold [−SLEEP/A.OFF] once.
The remaining time is shown for about 5 seconds.

To change the setting
Do steps 1 and 2 to select the new setting.

To cancel the Auto-off function
Do steps 1 and 2 to select "AUTO OFF".

<u>Note</u>
● The setting will change only if you press [−SLEEP/A.OFF] right after the current setting is displayed.
● The sleep timer will be turned off when you start recording.
● You can use the sleep timer in combination with the play/record timer.
● Make sure the unit is off before the play/record timer's start time.
● The Auto-off function is maintained even if the unit is turned off.
● If you select tuner or music port as the source, "AUTO OFF" goes out. It comes on again when you select disc or tape.

Using other equipment

Using the Music Port

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

MUSIC PORT jack

Portable audio equipment (not included)

Audio cord (not included)
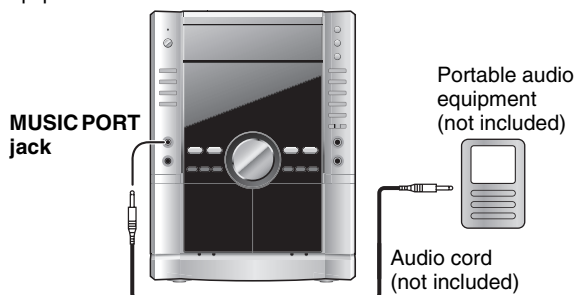
1 **Plug the audio cord into the MUSIC PORT jack and press [TUNER/MUSIC P.] to select "MUSIC PORT".**
Plug type: Φ3.5 mm stereo

2 **Play the portable audio equipment. (See the portable audio equipment's instruction manual.)**
For recording: Press [●, RECORD] on the main unit (recording starts). (➜ page 25)
Press [■, STOP] to stop recording.

● Sound from the speaker may be distorted if the portable audio equipment's equalizer function (if any) is turned on. Turn it off before you plug into the MUSIC PORT jack.

Operating a television

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

Turning the television on/off
Press [TV⏻].

Switching the television's video input mode
Press [TV/AV].

Adjusting the volume
Press [+, −, TV VOL].

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 preset 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 [MUSIC PORT] 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
Do step ① and ② above 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 left) even after switching the mode.

Using other equipment

Using other equipment

Digital output

DVD-V **DVD-VR** **VCD** **CD** **WMA** **MP3**

Change the settings when you have connected equipment through this unit's COAXIAL OUT terminal.

PCM Digital Output

Select the maximum sampling frequency of "PCM Digital Output". Check the digital input limitations of the equipment you connect.

Off: When not connected digitally
"Up to 48 kHz" (factory preset):
    Signals over 48 kHz converted to 48 kHz or
    44.1 kHz
"Up to 96 kHz":
    Signals over 96 kHz converted to 48 kHz or
    44.1 kHz

Note
- Signals from copy-protected discs are converted to 48 kHz or 44.1 kHz irrespective of the setting.
- Some equipment cannot handle sampling frequencies of 88.2 kHz, even if they can handle 96 kHz. Read your equipment's operating instructions for details.

Dolby Digital, DTS Digital Surround and MPEG∗

"Bitstream" (Factory preset for "Dolby Digital" and "DTS Digital Surround"):
Select if the equipment you connected can decode the signal.

"PCM" (Factory preset for "MPEG"∗):
Select if the equipment you connected cannot decode the signal.
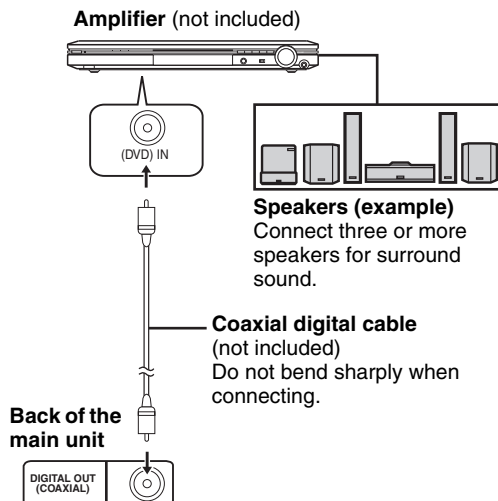
∗MPEG: **For Australia and N.Z.**

IMPORTANT
If the equipment you connected cannot decode the signal, the setting must be changed to "PCM". If not, signals the equipment cannot process will be output by this unit, causing high levels of noise which can damage your hearing and the speakers.

Home Theater—Enjoying more powerful sound

Enjoy the powerful movie theater and hall-like sound available with multiple channel audio found on DVD-Video by connecting an amplifier and speakers.

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.

Amplifier (not included)

(DVD) IN

Speakers (example)
Connect three or more speakers for surround sound.

Coaxial digital cable (not included)
Do not bend sharply when connecting.

Back of the main unit

DIGITAL OUT (COAXIAL)

Recording Output
- With DVD, the following conditions must be met: ⓐ the disc does not have protection preventing digital recording, and ⓑ the recording equipment can handle signals with a sampling frequency of 48 kHz.
- You cannot record WMA/MP3.

When recording DVDs, make the following settings.
– "Advanced Surround": "Off" (➜ page 27).
– "PCM Digital Output": "Up to 48 kHz" (➜ page 23, "Audio" tab).
– "Dolby Digital"/"DTS Digital Surround"/"MPEG"∗: "PCM" (➜ page 23, "Audio" tab).

Using other equipment

DivX VOD Contents

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

8 alphanumeric characters
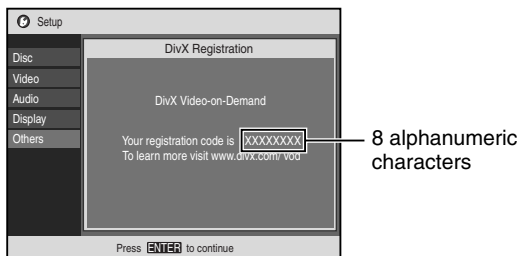
- ≥We recommend that you make a note of this code for future reference.
- ≥After playing DivX VOD content for the first time, another registration code is then displayed in "DivX Registration".

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 are displayed. You cannot play this content when the number of remaining plays is zero. (**"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 [▮▮] to pause play.)
  - You press [|◀◀ , ▶▶|] (SKIP) or [◀◀, ▶▶, SLOW/SEARCH] etc. and arrive at another content or the start of the content being played.
- ≥Resume and Marker functions do not work.

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 channels) 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.

I/P/B
MPEG 2, the video compression standard adapted for use with DVD-Video, codes frames using these 3 picture types.
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.

MPEG4
A compression system for use on mobile devices or a network, that allows highly efficient recording at a low bit rate.

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

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.

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.

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.	**5**
The unit is automatically switched to the standby mode.	●The unit was switched to standby by the sleep timer or auto-off function.	**28**

Unresponsive or inoperable function

No response when buttons are pressed.	●This unit cannot play discs other than the ones listed in these operating instructions. ●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 and then back to on. Alternatively, turn the unit off, disconnect the AC power supply cord, and then reconnect it. ●Condensation has formed: Wait 1 to 2 hours for it to evaporate. ●**DivX** If playing DivX VOD content, refer to the website where you purchased it. (E.g.: www.divx.com/vod)	**10, 18** — — — **31**
No operations can be performed with the remote control.	●Check that the batteries are installed correctly. ●The batteries are depleted: replace them with new ones. ●Aim the remote control at the remote control sensor and operate. ●The remote control and main unit are in different modes. Change the remote control mode to match the main unit mode.	**6** **6** **6, 8** **29**
Cannot play DVDs.	●"CD MODE" is on. Press and hold [−CD MODE] to turn "CD MODE" off.	**14**
No picture or sound.	●Check the video or audio connection. ●Check the power or input setting of the connected equipment. ●Check that the discs has something recorded on it.	**4, 5** — —
You have forgotten your ratings password. Reset all the settings to factory preset.	●While stopped and "DVD/CD" is the source, press and hold [■, STOP] on the main unit and [≧10] on the remote control until "Initialised" disappears from the television. Turn the unit off and on again. All settings will return to the default values.	—

Specific operation undesirable or unexpected

It takes time before play starts. **MP3** **DivX**	●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. ●This is normal on DivX video.	— —
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 does not 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 the function.	**20**

Subtitle

Subtitle position is wrong.	●Adjust the position. ("Subtitle Position" in "Display Menu".)	**21**
No subtitles.	●Display the subtitles. ("Subtitle" in Main Menu.) ●Subtitle may not be displayed depending on the disc.	**19** —

Marker

Cannot add markers.	●You cannot add markers with DVD-RAM or DVD-R/-RW (DVD-VR) discs. ●If the disc's elapsed play time does not appear on the unit's display, you cannot add markers.	— —

Troubleshooting guide

A-B repeat

		Page
Point B is automatically set.	●The end of an item becomes point B when it is reached.	**20**

Sound

Sound distorted.	●Noise may occur when playing WMA.	—
Effects do not work.	●Some audio effects do not work or have less effects with some discs. ●Advanced Surround do not work if you have changed the play speed.	— —
Humming is 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 were created. **DivX**	**20** **10**

Menus

The "Setup" menu cannot be accessed.	●Select "DVD/CD" as the source. ●Cancel program and random play.	— **15**

Picture abnormal or unviewable

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**	**13** **4** **20**
Picture size does not fit the screen.	●Change "TV Aspect" in the "Video" tab. ●Change the zoom setting.	**23** **21**

The television may display incorrectly or colors appear faded.	●The unit and television are using different video systems.
	  – 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 PAL60 for viewing on a PAL television ("NTSC Disc Output" in "Video" tab.)
	●Mobile telephone chargers can cause some disturbance.
	●If you are using a TV indoor antenna, change to an outdoor antenna.
	●The television antenna wire is too close to the unit. Separate the antenna wire of the television from the unit.
		
		—
		
		—
		23
		
		—
		—
		—

Picture stops. DivX	●Picture may stop if the DivX files are greater than 2 GB.	—
Menu is not displayed correctly.	●Restore the zoom ratio to "×1.00". ●Set "Subtitle Position" in "Display Menu" to "0".	**21** **21**
Auto zoom function does not work well.	●Turn off TV's 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** —

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".	**20**
Pictures 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 or S VIDEO OUT terminal, output will be interlace even if "PRG" is displayed.	**20** **4**

Listening to the radio

Noise is heard. **"ST" flickers or does not light.** **Sound is distorted.**	●Adjust the position of the FM or AM antenna. ●Use an outdoor antenna. ●Press [PLAY MODE] to select "Mono".	**4, 5** **4, 5** **24**
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.	—

Troubleshooting guide

Troubleshooting guide

Unit displays

		Page
Although the unit is on standby mode, the display lights up and changes continuously.	● Turn off the demo function. ● If you set the clock, demo function will be turned off automatically.	7 —
The display is dark.	● Press and hold [−DIMMER] to brighten the display.	9
"NO PLAY"	● You inserted a disc the unit cannot play; insert one that can. ● You inserted a blank disc.	10 —
"NO DISC"	● You have not inserted a disc; insert one. ● You have not inserted the disc correctly; insert it correctly.	— 11
"F61"	● Check and correct the speaker cord connections. If this does not fix the problem, there is a power supply problem. Consult the dealer.	5
"DVD U11"	● Disc is dirty. Wipe it clean.	11
"ERROR"	● Incorrect operation performed. Read the instructions and try again.	—
"DVD H□□" □□ stands for a number.	● Trouble may have occurred. The number following "H" depends on the status of the unit. Turn the unit off and then 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.	— —

Television displays

"This disc may not be played in your region."	● 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 page
No on-screen display.	● Select "On" in "On-Screen Messages" in the "Display" tab.	23
"◯"	● The operation is prohibited by the unit or disc.	—
"Cannot display group xx, content xx"	● You are trying to display incompatible contents.	—
"Check the disc"	● This disc may be dirty.	11
"Authorization Error"	● 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	31
"Rental Expired" **"Rented Movie Expired"**	● The DivX VOD content has zero remaining plays. You cannot play it. DivX	31

Using the cassette deck

Poor quality sound.	● Clean the heads.	11
Recording is not possible.	● If the erasure prevention tabs have been removed, cover the holes with adhesive tape.	25

Disc trays

Disc tray(s) cannot open. **"CHGR ERR" is displayed.**	● Press [⏻/I] to release the jammed tray(s) as the unit will switch off. Switch it on again and the tray(s) will initialise to the previous tray(s) condition. ● If this still does not fix the problem, please consult the dealer.	11 —

Memory reset (Initialisation)

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
RMS Output Power Stereo mode:
Front Ch (both ch driven)
  95 W per channel (4 Ω), 1 kHz, 10% THD
Subwoofer Ch 95 W (4 Ω), 100 Hz, 10% THD
Total RMS Stereo mode power 285 W

`For Southeast Asia`
PMPO output power 3000 W

FM/AM TUNER, TERMINALS SECTION
Preset station FM 15 stations
AM 15 stations
Frequency Modulation (FM)
Frequency range
  87.50 MHz to 108.00 MHz (50 kHz step)
Sensitivity 4.0 μV (IHF)
S/N 26 dB 2.2 μV
Antenna terminals 75 Ω (unbalanced)
Amplitude Modulation (AM)
Frequency range 522 kHz to 1629 kHz (9 kHz step)
520 kHz to 1630 kHz (10 kHz step)
AM Sensitivity S/N 20 dB at 999 kHz 560 μV/m

Digital audio output
Coaxial digital output Pin jack
Phone jack
Terminal Stereo, 3.5 mm jack
Mic jack
Sensitivity 0.7 mV, 600 Ω
Terminal Mono, 6.3 mm jack (2 system)
Music Port jack (Front)
Sensitivity 100 mV, 4.7 kΩ
Terminal Stereo, 3.5 mm jack

CASSETTE DECK SECTION
Track system 4 tracks, 2 channels
Heads
Record/playback Solid permalloy head
Erasure 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/sec
Overall frequency response (+3, −6 dB) at DECK OUT
Normal 35 Hz to 14 kHz
S/N ratio 50 dB (A-WTD)
Wow and flutter 0.18% (WRMS)
Fast forward and rewind time Approx. 120 seconds with
C-60 cassette tape

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 160×120 and 6144×4096 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 Home Theater Profile. GMC (Global Motion Compensation) is not supported.
[*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 (DVD/CD) 662/785 nm
Laser power (DVD/CD) CLASS 1/CLASS 1M
Audio output (Disc)
Number of channels (FL, FR), 2 ch (stereo)

VIDEO SECTION
Video system PAL625/50, PAL525/60, NTSC
Composite video output
Output level 1 Vp-p (75 Ω)
Terminal Pin jack (1 system)
S video output
Y output level 1 Vp-p (75 Ω)
C output level 0.3 Vp-p (75 Ω) (PAL)
0.286 Vp-p (75 Ω) (NTSC)
Terminal S terminal (1 system)
Component video output
[NTSC: 480p/480i, PAL: 576p/576i]
Y output level 1 Vp-p (75 Ω)
PB output level 0.7 Vp-p (75 Ω)
PR output level 0.7 Vp-p (75 Ω)
Terminal Pin jack (Y: green, PB: blue, PR: red) (1 system)

SPEAKER SECTION
`Front speakers SB-VK650`
Type 3 way, 3 speaker system (Bass reflex)
Speaker unit(s) Impedance 4 Ω
1. Super tweeter Piezo type
2. Tweeter 6 cm cone type
3. Woofer 16 cm cone type
Input power (IEC) 100 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 (W×H×D) 220 mm×330 mm×182 mm
Mass 2.6 kg

`Subwoofer SB-WVK650`
Type 1 way, 1 speaker system (Bass reflex)
Speaker unit Impedance 4 Ω
1. Woofer 16 cm cone type
Input power (IEC) 100 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 (W×H×D) 220 mm×330 mm×303 mm
Mass 3.7 kg

GENERAL
Power supply
`For Australia and N.Z.` AC 230 V to 240 V, 50 Hz
`For Southeast Asia`
  AC 110 V to 127 V/220 V to 240 V, 50/60 Hz
Power consumption 105 W
Dimensions (W×H×D) 250 mm×330 mm×333.6 mm
Mass 7.5 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 (approx.)

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

Specifications

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:	6588	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		

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