

Operating Instructions DVD Stereo System

Model No. **SC-PM86D**



SUPPLIED ACCESSORIES

Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts. (As of January 2008)

1 x AC mains lead	2 x Remote control batteries
For the United Kingdom (K2CT3CA00004)	1 x FM indoor antenna (RSA0007-L1)
For Continental Europe (K2CQ2CA00007)	1 x AM loop antenna (N1DAAA00001)
For Australia and N.Z. (K2CJ2DA00008)	1 x Antenna plug adaptor
For Southeast Asia (K2CQ2CA00006)	For the United Kingdom (K1YZ02000013)
1 x Remote control	1 x Video cable
For the United Kingdom, Continental Europe, Australia and N.Z. (N2QAYB000252)	For Southeast Asia, Australia and N.Z. (K2KA2BA00001)
For Southeast Asia (N2QAYB000253)	

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

Region	Number
The United Kingdom and Continental Europe	2
Southeast Asia	3
Australia and N.Z.	4

Example: **For the United Kingdom and Continental Europe**



Before connecting, operating or adjusting this product, please read the instructions completely.

Please keep this manual for future reference.

Unless otherwise indicated, illustrations in these operating instructions are for the United Kingdom and Continental Europe. 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.

Note:

"EB" on the packaging indicates the United Kingdom.

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Dear customer

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

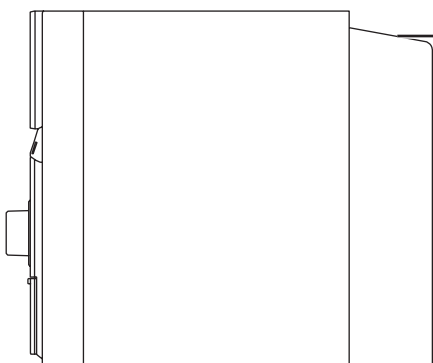
These operating instructions are applicable to the following system.

System	SC-PM86D
Main unit	SA-PM86D
Speakers	SB-PM86

**CLASS 1
LASER PRODUCT**

**LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT**

(Back of 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	
WARNING	- KLASS 1M SYNLIS OCH OSYNLIS LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN DIREKT GENOM OPTISKA INSTRUMENT.	
FORSIGTIG	- SYNLIS OG OSYNLIS LASERSTRÅLING KLASS 1M. NÅR LASETER ÅBNET, UNDGÅ AT SE IJES PÅ MED OPTISKE INSTRUMENTER.	
VARO!	- AVVÄRSTA OCH ALTERNATIV LUOKAN 1M NÄRKYÄÄ JA NÄKYMÄTÖNÄ LASERSÄTELYÄ. ÄLÄ KATSO OPTISELLÄ LAITTEELLA SUORAAN SÄTEESEEN.	
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 1M. MEIN ABDECKUNG GEOFFNET, 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ー光が出ます。 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。	GB7241.1-1-2001GB 类 ROLX50075

Inside of product
Tuotteen sisällä
Produktets innsida

For the United Kingdom, Continental Europe, Australia and N.Z.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA
ILMASTOSSA.

DETTE APPARATET ER BEREGNET TIL BRUK UNDER
MODERATE KLIMA FORHOLD.

For Southeast Asia

THIS UNIT IS INTENDED FOR USE IN TROPICAL CLIMATES.

**■ Sales and Support Information
(For the United Kingdom and Republic of Ireland)**

Customer Care Centre

- For customers within the UK: 0844 844 3852
- For customers within the Republic of Ireland: 01 289 8333
- Visit our website for product information
- E-mail: customer.care@panasonic.co.uk

Direct Sales at Panasonic UK

- Order accessory and consumable items for your product with ease and confidence by phoning our Customer Care Centre Monday-Thursday 9:00am-5:30pm, Friday 9:30am-5:30pm (Excluding public holidays).
- Or go on line through our Internet Accessory ordering application at www.panasonic.co.uk.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products, take a browse on our website for further details.

Interested in purchasing an extended guarantee?

Please call 0870 240 6284 or visit our website
www.panasonic.co.uk/guarantee.

Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Cd

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

CAUTION!

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

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

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

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

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

SUOMI**VAROITUS!**

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ
KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA
ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1
YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VAROITUS:

VÄHENNÄ TULIPALON, SÄHKÖISKUN TAI LAITTEISTON
VAHINGOITTUMISEN VAARAA

- TÄTÄ LAITETTA EI SAA ALTISTAA SATEELLE,
KOSTEUDELLE, ROISKEILLE TAI TIPPUVILLE NESTEILLE.
LAITTEEN PÄÄLLE EI SAA MYÖSKÄÄN ASETTAA MITÄÄN
NESTEELLÄ TÄYTETTYÄ ESINETTÄ, KUTEN MALJAKKOA.
- KÄYTÄ VAIN SUOSITELTUJA LISÄVARUSTEITA.
- ÄLÄ IRROTA KANTTA (TAI TAUSTAA). SISÄLLÄ EI
OLE KÄYTTÄJÄN HUOLLETTAVISSA OLEVIA OSIA.
HUOLLON SAA SUORITTAA VAIN AMMATTITAITOINEN
HENKILÖKUNTA.

VAROITUS!

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

Pistorasia tulee asentaa laitteen lähelle helppopääsyiseen
paikkaan.

Verkkojohdon pistokkeen on oltava aina helposti käytettävissä.

Tämä laite voidaan kytkeä kokonaan irti verkkovirrasta irrottamalla
verkkojohdon pistoke pistorasiasta.

NORSK**ADVARSEL!**

DETTE PRODUKTET ANVENDER EN LASER.
BETJENING AV KONTROLLER, JUSTERINGER ELLER
ANDRE INNGREP ENN DE SOM ER BESKREVET I DENNE
BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING.
DEKSLER MÅ IKKE ÅPNES, OG FORSØK ALDRI Å
REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG
REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT
PERSONELL.

ADVARSEL:

FØLG NEDENSTÅENDE INSTRUKSER FOR Å REDUSERE
RISIKOEN FOR BRANN, ELEKTRISK STØT OG SKADE PÅ
PRODUKTET:

- DETTE APPARATET MÅ IKKE UTSETTES FOR REGN,
FUKTIGHET, DRYPP ELLER SPRUT, OG INGEN
VÆSKEFYLTE GJENSTANDER, SOM F.EKS. VASER, MÅ
PLASSERES PÅ APPARATET.
- BRUK KUN ANBEFALT TILBEHØR.
- IKKE FJERN DEKSELET (ELLER BAKSIDEN); APPARATET
INNEHOLDER INGEN DELER SOM KAN SKIFTES ELLER
REPARERES AV BRUKEREN. OVERLAT TIL KVALIFISERTE
SERVICETEKNIKERE Å UTFØRE SERVICE.

ADVARSEL!

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

Strømuttaket må befinne seg i nærheten av utstyret og være lett
tilgjengelig.

Støpslet på strømkabelen må være klart til bruk.

Når dette apparatet skal kobles helt fra strømmettet (AC), må
støpslet på strømkabelen trekkes ut av stikkkontakten.

Caution for AC Mains Lead

For United Kingdom, "EB" area code model only.

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

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

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

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

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

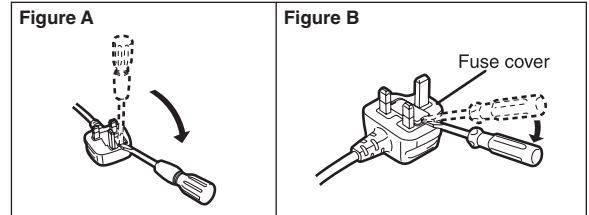
Remove the connector cover.

How to replace the fuse

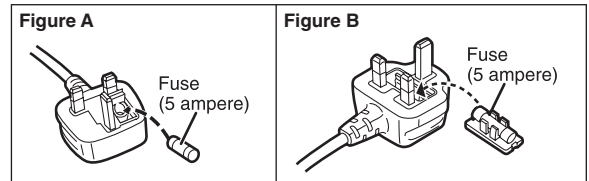
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



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



Safety precautions

Placement

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

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

Do not place heavy items on the unit.

Voltage

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

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

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged.

Poor connection and lead damage can cause fire or electric shock.

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

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

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

Foreign matter

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

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

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

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorised service centre. 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.

Placement of speakers

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



Caution

- Use the speakers only with the recommended system. Failure to do so can damage the amplifier and speakers, and can cause fire. Consult a qualified service person if damage occurs or if a sudden change in performance is apparent.
- Do not attach these speakers to walls or ceilings.

Use only the supplied speakers

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

If irregular coloring occurs on your television.

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

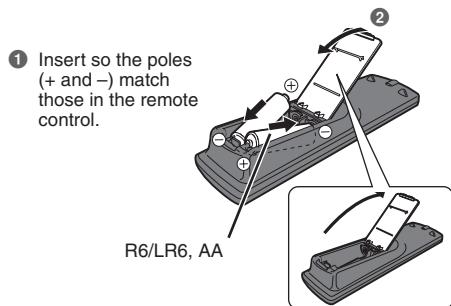
If this occurs, turn the television off for about 30 minutes.

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

Note:

- Keep your speakers at least 10mm away from the system for proper ventilation.
- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage:
 - When playing distorted sound.
 - When the speakers are reverberating due to a record player, a microphone (except **For the United Kingdom, Continental Europe, Australia and N.Z.**), 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.
- To avoid damage to the speakers, do not touch the speaker cones if you have taken the nets off.

Preparing the remote control



Do not:

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

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

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

■ Use

Aim at the remote control signal sensor (→ page 10), avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- Do not use rechargeable type batteries.
- Do not heat or expose to flame.
- Do not leave the battery(ies) in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

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 selecting "DEMO ON".

Press and hold [■, -DEMO].

The display changes each time the button is held down.

DEMO OFF ↔ DEMO ON

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

Simple setup

Making the connections

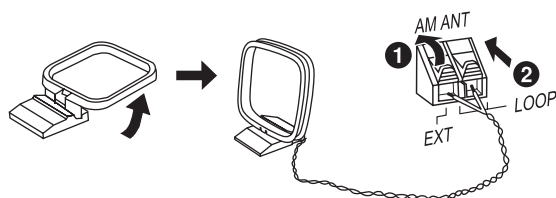
Connect the AC mains lead only after all other connections have been made.

Conserving power

The main unit consumes a small amount of power, even when it is in standby mode (approx. 0.7 W). To save power when the unit is not to be used for a long time, unplug it from the household mains socket. You will need to reset some memory items after plugging in the unit.

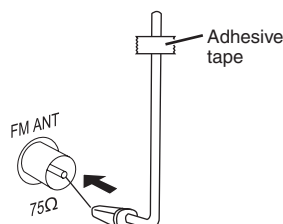
Antenna connections

■ AM loop antenna

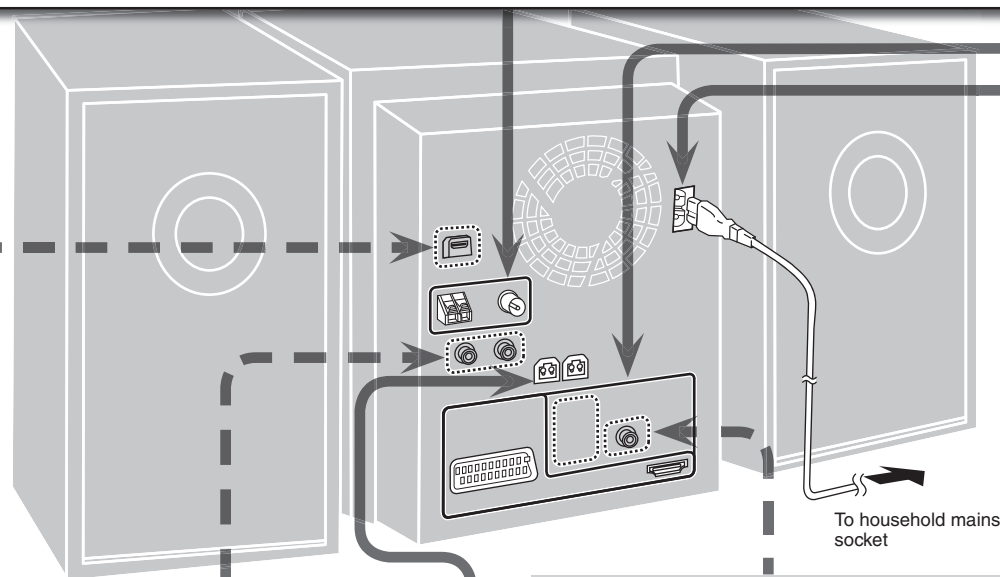


Stand the antenna up on its base.

■ FM indoor antenna



Tape the antenna where reception is best.



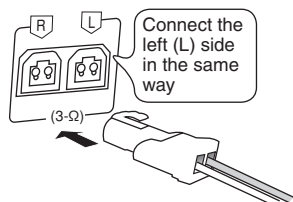
Please refer to "Connecting to other external unit" on page 27 for more information on AUX connection.

Please refer to "Digital Output" on page 28 for more information on the DIGITAL OUT connection.

For the United Kingdom, Continental Europe, Australia and N.Z.

Please refer to "Connecting the Universal Dock for iPod" on page 27 and "Connecting and playing a Bluetooth device" on page 28 for more information on the OPTION port connection.

Speaker connections



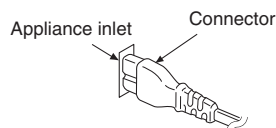
Incorrect connection can damage the unit.

Power supply connection

FOR THE UNITED KINGDOM ONLY
READ THE CAUTION FOR AC MAINS LEAD ON PAGE 4 BEFORE CONNECTION.

Insertion of connector

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



Note:

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

Video connections

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

For the United Kingdom and Continental Europe

■ Television with SCART terminal



Using the SCART (AV) terminal

To improve picture quality, you can change the video signal output from the SCART (AV) terminal to suit the type of television you are using.

For Continental Europe

- Select "S-VIDEO", "RGB 1" or "RGB 2" from "VIDEO OUT - SCART" (→ page 20, "VIDEO" tab).

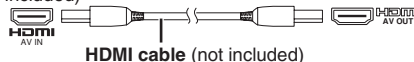
For the United Kingdom

- Select "VIDEO", "S-VIDEO" or "RGB 1" from "VIDEO OUT - SCART" (→ page 20, "VIDEO" tab).
- Set "VIDEO PRIORITY" to "OFF" (→ page 21, "HDMI" tab).

Do not use the HDMI cable when you use the scart cable for the connection.

■ Television with an HDMI terminal

HDMI-compatible television (not included)



Use the HDMI connection to enjoy higher quality audio and video with a single cable.

- Set "VIDEO PRIORITY" to "ON" and "AUDIO OUT" to "ON" (→ page 21, "HDMI" tab).
- Set "VIDEO FORMAT" (→ page 18).

VIERA Link ("HDAVI Control™")

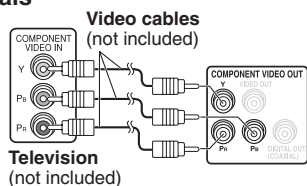
If your Panasonic television is a VIERA Link compatible television, you can operate your television synchronising with stereo operations or vice versa (→ page 28, Using the VIERA Link "HDAVI Control™").

Note:

- It is recommended that you use Panasonic's HDMI cable. [Recommended part number: RP-CDHG15 (1.5 m), RP-CDHG30 (3.0 m), RP-CDHG50 (5.0 m), etc.]
- Non-HDMI-compliant cables cannot be utilised.

For Southeast Asia, Australia and N.Z.

■ Television with COMPONENT VIDEO IN terminals



Using the COMPONENT VIDEO OUT terminals

These terminals can be used for either interlaced or progressive output. Connection using these terminals outputs the colour difference signals (Pb/Pb) and luminance signal (Y) separately in order to achieve high fidelity in reproducing colours.

- The description of the component video input terminals depends on the television or monitor (example: Y/Pb/Pb, Y/B-Y/R-Y, Y/Cb/Cb).
- Connect to terminals of the same colour.

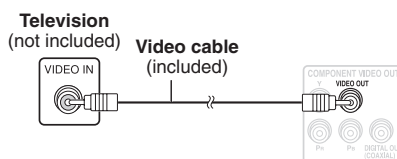
To enjoy progressive video

Connect to a progressive output compatible television.

- ① Set "VIDEO PRIORITY" to "OFF" (→ page 21, "HDMI" tab).
- ② Set "VIDEO FORMAT" to "480p" or "576p", and then follow the instructions on the menu screen (→ page 18, Functions menu).

For Southeast Asia, Australia and N.Z.

■ Television with a VIDEO IN terminal



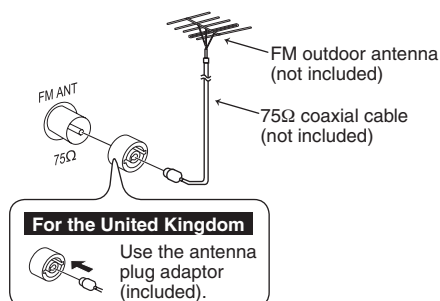
Optional antenna connections

Use outdoor antenna if radio reception is poor.

Note:

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

FM outdoor antenna

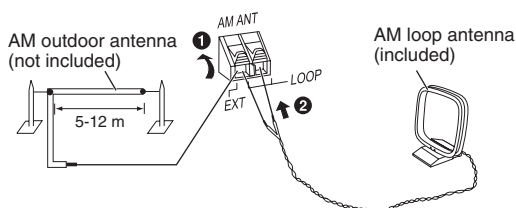


For the United Kingdom

Use the antenna plug adaptor (included).

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

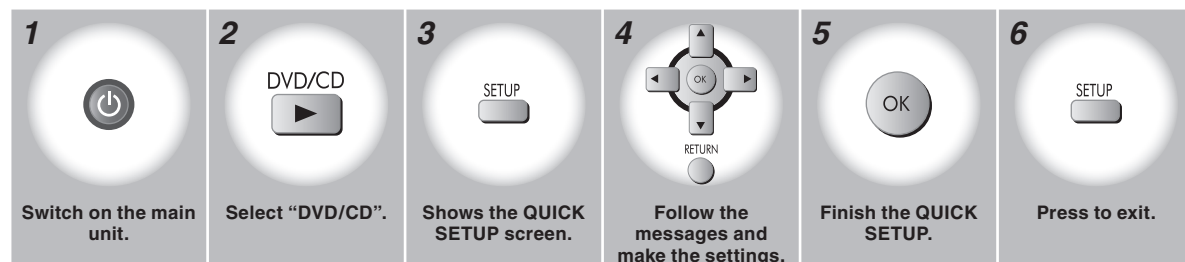
AM outdoor antenna



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

Performing 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.



To change these settings later

Select "QUICK SETUP" in "OTHERS" tab (➔ page 21).

■ Details of settings

Menu language Choose the language for the on-screen messages.	• ENGLISH	• (Language options)*	
TV type Select to suit the type of television.	• STANDARD • PROJECTION	• CRT • PLASMA	• LCD
TV's aspect ratio Choose the setting to suit your television and preference.	• 4:3 PAN&SCAN • 16:9 NORMAL	• 4:3 LETTERBOX • 16:9 SHRINK	• 4:3 ZOOM • 16:9 ZOOM
PCM Digital Output Select the maximum sampling frequency of "PCM OUTPUT".	• UP TO 48kHz	• UP TO 96kHz	

* Language options :

For the United Kingdom, Australia and N.Z. :

FRANÇAIS, ESPAÑOL, DEUTSCH, ITALIANO, SVENSKA, NEDERLANDS, POLSKI

For Continental Europe : FRANÇAIS, ESPAÑOL, DEUTSCH, РУССКИЙ, MAGYAR, ČESKY, POLSKI

For Southeast Asia : 繁體中文

- Boxed items in the above table are the factory preset.

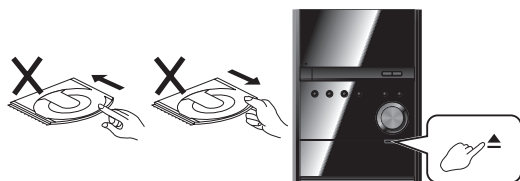
Handling of the disc tray and disc

Not doing the following will cause damage to the unit.

■ Removing the mains plug

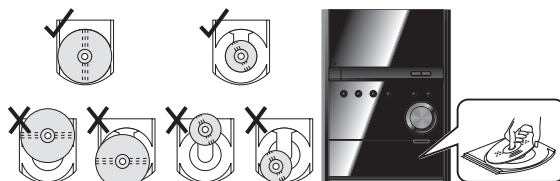
Press [⏻/I] to turn off the unit and remove the mains plug only after all the displays have disappeared.

■ Tray caution



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

■ Inserting a disc



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

■ 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.



Disc information

Discs that can be played

Commercial discs

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

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

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

- It may not be possible to play all the above-mentioned discs in some cases due to the type of disc, the condition of the recording, the recording method, or how the files were created (➡ page 22, Tips for making data discs).

※1 This unit can play CD-R/RW recorded with CD-DA or Video CD format.

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

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

※4 Discs recorded on DVD video recorders or DVD video cameras using DVD-Video Format.

※5 Recorded using a format different from DVD-Video Format, therefore, some functions cannot be used.

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

※7 Closing the session will also work.

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

※9 Functions added with DivX Ultra are not supported.

For the United Kingdom : DivX function is not applicable.

Note about using a DualDisc

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

Discs that cannot be played

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

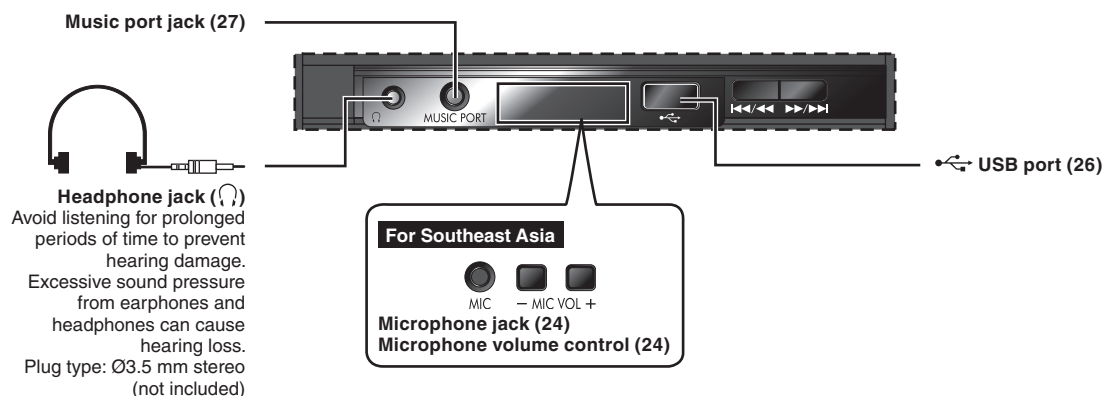
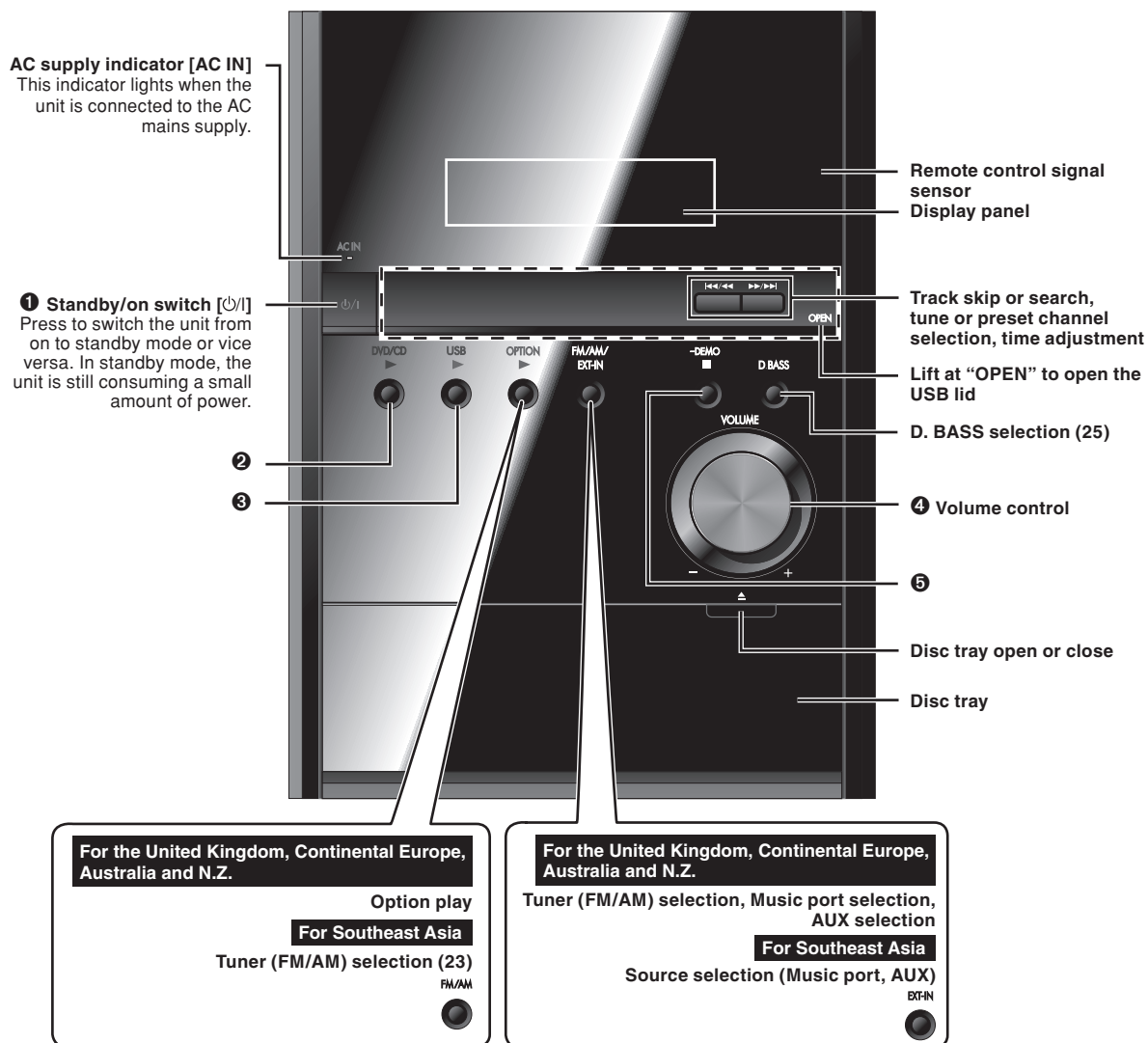
Video systems

- This unit can play PAL and NTSC, but your television must match the system used on the disc.
- PAL discs cannot be correctly viewed on an NTSC television.
- This unit can convert NTSC signals to PAL 60 for viewing on a PAL television (➡ page 20, "NTSC DISC OUT" in "VIDEO" tab).

Overview of controls

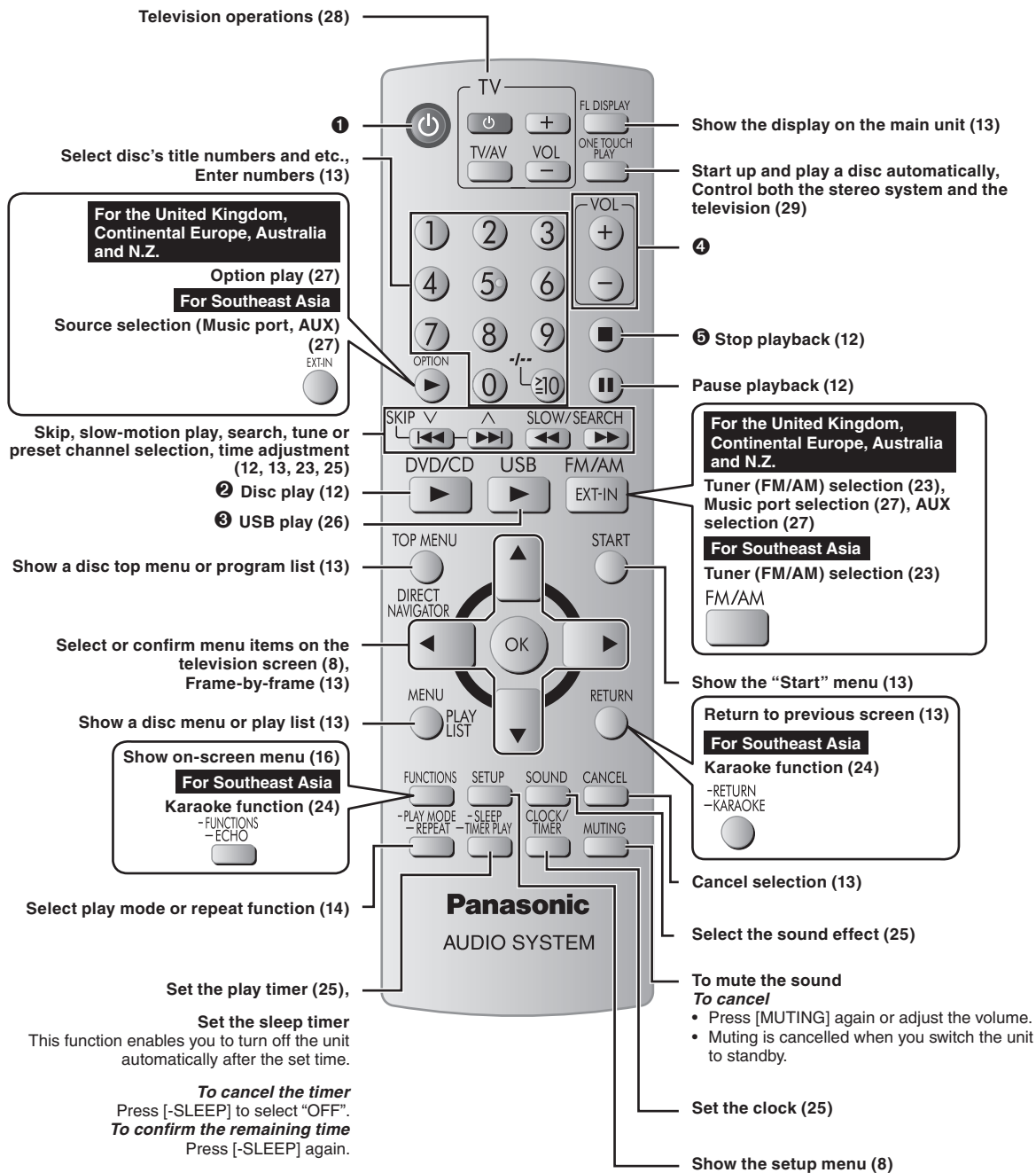
Main unit

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



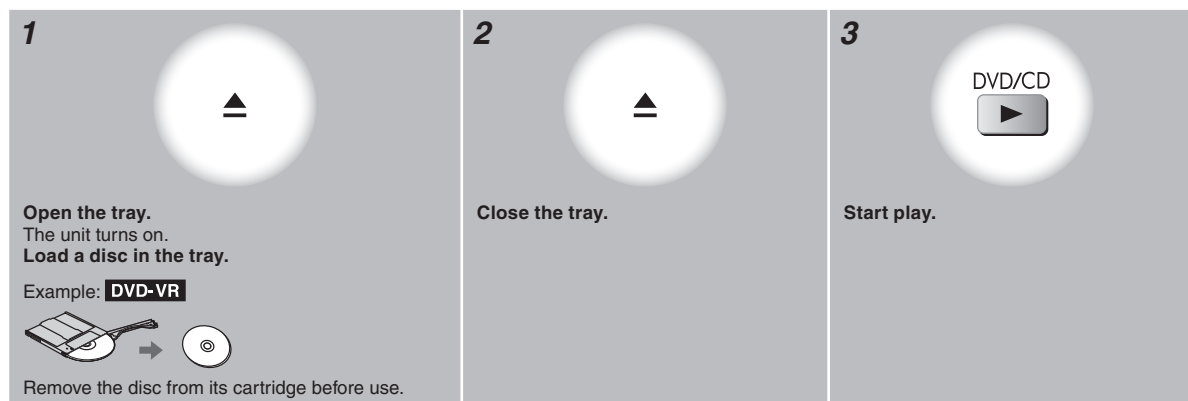
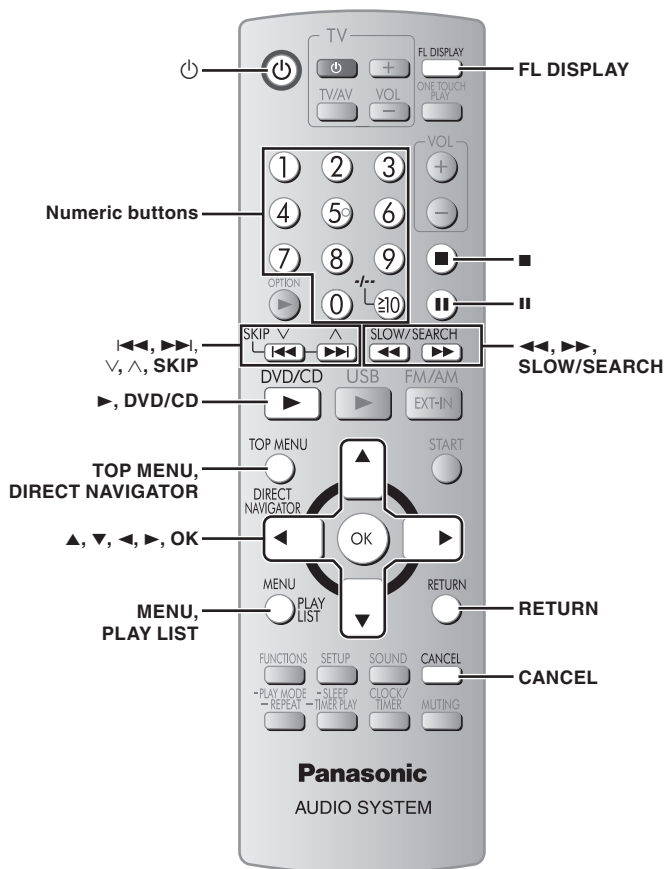
Remote control

Buttons labelled such as ❶, function in exactly the same way as the controls on the main unit.



Note:

- The play and sleep timer can be used together.
- The sleep timer always has priority. Be sure not to overlap the timer settings.



Stop



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

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

Pause



Press **[▶, DVD/CD]** to resume playback.

Search (during play)



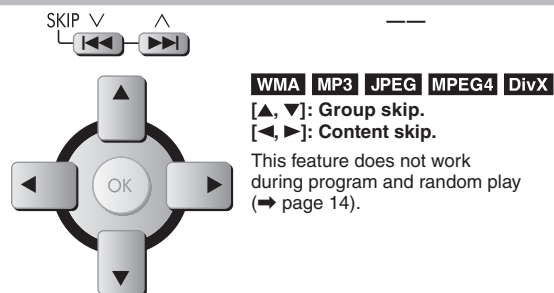
- Play speed increases up to 5 steps.
- Press **[▶, DVD/CD]** to resume normal playback.

Slow-motion play (during pause)

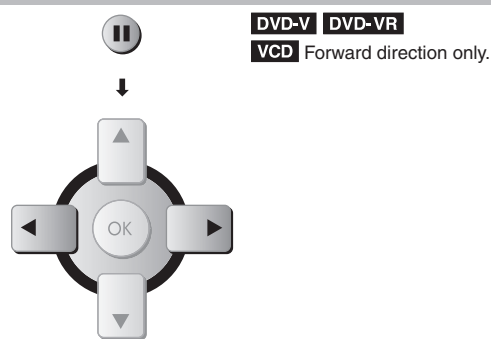


- Play speed increases up to 5 steps.
- VCD** Slow motion play is for forward direction only.
- Except **MPEG4 DivX**.
- Press **[▶, DVD/CD]** to resume normal playback.

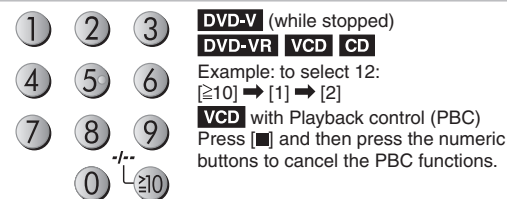
Skip



Frame by frame (during pause)



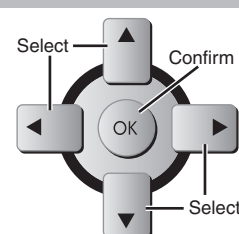
Enter numbers



Cancel the numbers



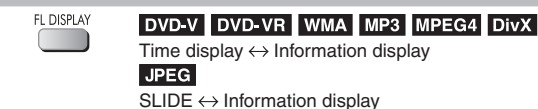
On-screen item select



Return to previous screen



Main unit display



Note:

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

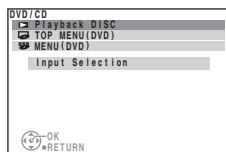
Discs — Advanced play

START

Using the "Start" menu

1 Press [START] while stopped.

Example: DVD-V



2 Press [▲, ▼] and then [OK] to select an item.

To exit the screen
Press [START].

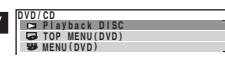
On-screen selection

Press [▲, ▼] and then [OK] to confirm the selection.

The desired source can be selected when you select "Input Selection".
– DVD/CD (→ page 12), FM and AM (→ page 23), AV^{x1} (→ page 7), AUX (TV) (→ page 27), USB (→ page 26), OPTION^{x2} (→ page 27 to 28) and MUSIC PORT (→ page 27).

You may access the playback or menu when the source has been selected.

Example: DVD-V



Playback or menu access

You may also use the on-screen panel to operate the playback when it appears.



^{x1} For the United Kingdom and Continental Europe

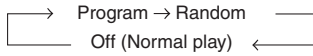
^{x2} For the United Kingdom, Continental Europe, Australia and N.Z.



Program and Random play

Press [-PLAY MODE] while stopped or in “RESUME” mode.

Example: **DVD-V**



To exit program or random play mode while stopped.

Press [-PLAY MODE] several times.

- **DVD-V** Some items cannot be played even if you have programmed them.
- Program and random play functions only within the selected “AUDIO”, “PICTURE” and “VIDEO” folder.

Program play (up to 30 items)

1 Press [▲, ▼] and then [OK] to select the item(s) to be programmed.

- Press [RETURN]^{※1} (or [-RETURN]^{※2}) to select from the previous folders.
- Repeat this step to program other items.

Example: **DVD-V**

DVD-V PROGRAM	
SELECT TITLE	TITLE CHAP.
TITLE 1	1
TITLE 2	2
TITLE 3	3
TITLE 4	4
TITLE 5	5
TITLE 6	6
TITLE 7	7
	8
	9
	10
START:PLAY	CLEAR ALL



DVD-V PROGRAM	
SELECT CHAPTER	TITLE CHAP.
ALL	1 2 1
CHAP. 1	2 2 2
CHAP. 2	3 3 6
CHAP. 3	4 3 3
CHAP. 4	5 5 1
CHAP. 5	6 5 5
CHAP. 6	7 5 7
CHAP. 7	8 5 8
CHAP. 8	9 2 1
CHAP. 9	10 2 4
START:PLAY	CLEAR ALL

2 Press [▶, DVD/CD].

To select all the Items

Press [▲, ▼] to select “ALL”.
Then press [OK] again to confirm.

To clear the selected program

1. Press [▶, ▲, ▼] to select the program number.
2. Press [CANCEL].

To clear the whole program

Select “CLEAR ALL” with [▶] and press [OK].
The whole program is also cleared when the unit is turned off, the disc tray is opened or another source is selected.

Random play

1 Press [▲, ▼] and then [OK] to select a title.

Example: **DVD-V**

DVD-V RANDOM	
SELECT TITLE	
TITLE 1	
TITLE 2	
TITLE 3	
TITLE 4	
TITLE 5	
TITLE 6	
TITLE 7	
PRESS PLAY TO START	



DVD-V RANDOM	
SELECT TITLE	
* TITLE 1	
TITLE 2	
TITLE 3	
TITLE 4	
TITLE 5	
TITLE 6	
TITLE 7	
PRESS PLAY TO START	

Press [OK] again to cancel the selection.

2 Press [▶, DVD/CD].



Repeat play

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

(During play)

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

Example: **DVD-V**

TITLE → CHAPTER → OFF

To cancel, select “OFF”.

Items shown differ depending on the type of disc and playback mode.

※1 For the United Kingdom, Continental Europe, Australia and N.Z.

※2 For Southeast Asia

Discs — Playing data discs using navigation menus

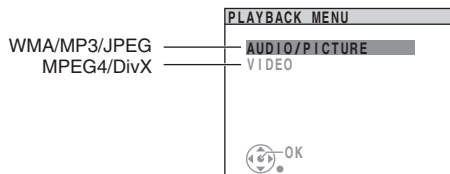
Playing data discs

Select "DATA" in "OTHERS" tab (➡ page 21) to play WMA, MP3, JPEG, MPEG4 or DivX content.

WMA MP3 JPEG MPEG4 DivX

Playing items from the menu (PLAYBACK MENU)

"PLAYBACK MENU" screen appears when the disc contains both video (MPEG4/DivX) and other formats (WMA/MP3/JPEG).



Press [▲, ▼] and then [OK] to select "AUDIO/PICTURE" or "VIDEO".

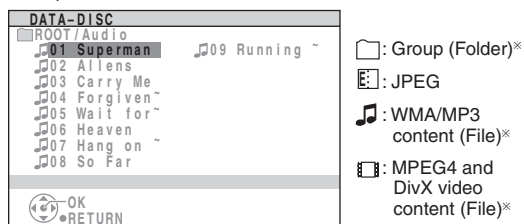
MENU



Playing from the selected item

1 Press [MENU].

Example:



* Files are treated as contents and folders are treated as groups in these instructions.

Maximum file or folder name: approximate 12 characters

2 Press [▲, ▼] and then [OK] to select the group.

3 Press [▲, ▼] and then [OK] to begin playback from the selected content.

To exit the screen

Press [MENU].

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

DVD-VR

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

TOP MENU



DIRECT NAVIGATOR

Playing the programs

(While stopped)

1 Press [DIRECT NAVIGATOR].

Example:

PG	DATE	LENGTH	TITLE
1	01/01 00:00	0:00:21	01
2	01/01 00:00	0:00:56	02
3	01/01 00:00	0:00:23	03

OK RETURN

2 Press [▲, ▼] to select from the program.

Press [◀, ▶] to skip page by page.

3 Press [OK].

To exit the screen

Press [DIRECT NAVIGATOR].

MENU



Playing a play list

Applicable only when the disc contains a play list.

(While stopped)

1 Press [PLAY LIST].

Example:

PL	DATE	LENGTH	TITLE
1	01/10 11:43	0:05:41	
2	01/10 11:48	0:00:46	
3	01/10 12:02	0:00:15	

OK RETURN

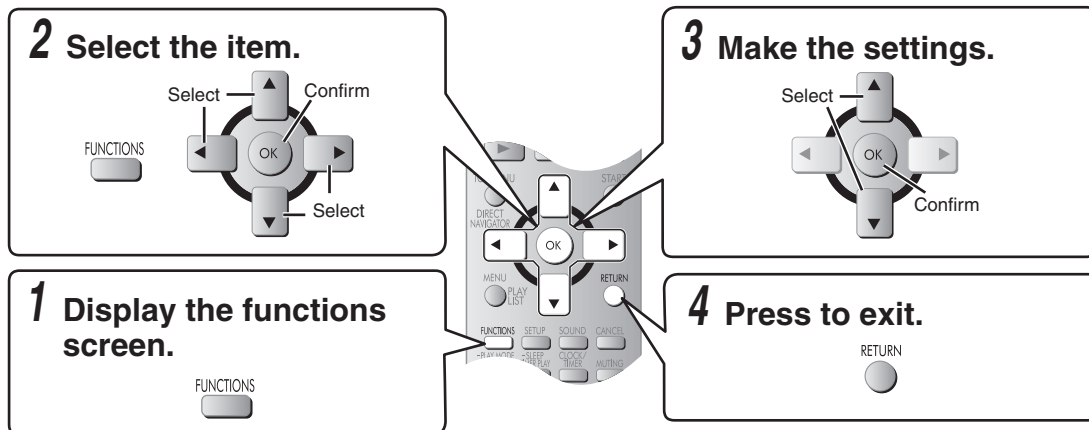
2 Press [▲, ▼] to select from the play list.

Press [◀, ▶] to skip page by page.

3 Press [OK].

To exit the screen

Press [PLAY LIST].



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

Functions menu

TRACK SEARCH
TITLE SEARCH
CONTENT SEARCH
CHAPTER SEARCH
PG (Program) SEARCH
PL (Playlist) SEARCH

To start from a specific item

Example: **DVD-V**

T5 C13 J1: ENG 2/0 ch [D] x1.0
[O]FF [O]FF 1
TITLE SEARCH

AUDIO

Example: **DVD-V**

T5 C13 J1: ENG 2/0 ch [D] x1.0
[O]FF [O]FF 1
AUDIO

DVD-V **DivX** (with multiple soundtracks)

To select audio soundtrack

DVD-VR **VCD**

To select "L", "R", "L+R" or "L R"

DVD-V (Karaoke disc) (→ page 24, Enjoying Karaoke)

To select "ON" or "OFF" for vocals

To select "OFF", "V2", "V1" or "V1+V2" for different vocal selections

Read the disc's instructions for details.

Signal type/data

LPCM/PPCM/[D]Digital/DTS/MP3/MPEG: Signal type kHz (Sampling frequency)/bit/ch (Number of channels)

Example: 3/2 .1ch

- .1: Low frequency effect (not displayed if there is no signal)
- 0: No surround
- 1: Mono surround
- 2: Stereo surround (left/right)
- 1: Centre
- 2: Front left + Front right
- 3: Front left + Front right + Centre

DivX It may take some time for play to start if you change the audio on a DivX video disc.

PLAY SPEED

To change play speed

– from "x0.6" to "x1.4" (in 0.1-unit steps)

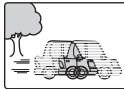
Example: **DVD-V**

T5 C13 J1: ENG 2/0 ch [D] x1.0
[O]FF [O]FF 1
PLAY SPEED

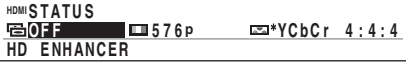
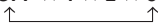
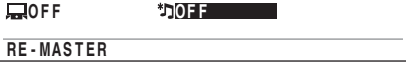
DVD-V **DVD-VR**

- Press [▶, DVD/CD] to resume normal playback.
- After you change the speed.
 - Sampling frequency of 96 kHz is converted to 48 kHz.
- This function may not work depending on the disc's recording.

Functions menu (continued)

DATE DISPLAY	JPEG : OFF ↔ ON C4 JPG DATE OFF ⊙OFF DATE DISPLAY
REPEAT MODE	(⇒ page 14, Repeat play) C---- JPG OFF ⊙OFF REPEAT MODE A-B Repeat (To repeat a specified section) Except DVD-VR (Still picture part) JPEG MPEG4 DivX VCD (SVCD) Press [OK] at the starting and ending points. Select "OFF" to cancel.
ROTATION	To rotate a picture (during pause) JPEG : 0 ↔ 90 ↔ 180 ↔ 270 C4 JPG DATE OFF ⊙OFF ROTATION
SUBTITLE	To select subtitle language Example: DVD-V T5 C13 ♪ 1: ENG 2/0 ch ⊙OFF SUBTITLE DVD-V DivX (with multiple subtitles) VCD (SVCD only) - On +R/+RW, a subtitle number may be shown for subtitles that are not displayed. DVD-VR "ON" or "OFF" appears only with discs that contain subtitle on/off information (Subtitle on/off information cannot be recorded using Panasonic DVD Recorders).
ANGLE	(with multiple angles) To select a video angle Example: DVD-V T5 C13 ♪ 1: ENG 2/0 ch ⊙OFF ANGLE
PICTURE MODE	Example: DVD-V □NORMAL QNORMAL PICTURE MODE NORMAL : Normal images. CINEMA1 : Mellows images and enhances detail in dark scenes. CINEMA2 : Sharpens images and enhances detail in dark scenes. DYNAMIC : Enhances the contrast for powerful images. ANIMATION : Suitable for animation.
ZOOM	To select various zoom sizes Example: DVD-V □NORMAL QNORMAL ZOOM NORMAL AUTO x2 x4
TRANSFER MODE	Example: DVD-V □NORMAL QNORMAL ⊙AUTO TRANSFER MODE If you have chosen "480p"/"576p"/"720p"/"1080p" (progressive) or "1080i" (interlace) (⇒ page 18, "VIDEO FORMAT"), select the method of conversion for progressive output to suit the type of material. – The setting will return to AUTO or AUTO1 when the disc tray is opened, the unit is turned off or another source is selected. When playing PAL discs AUTO : Automatically detects the film and video content, and appropriately converts it. VIDEO : Select when using AUTO, and the content is distorted. FILM : Select this if the edges of the film content appear jagged or rough when AUTO is selected. However, if the video content is distorted as shown in the illustration to the right, then select AUTO.  When playing NTSC discs AUTO1 : Automatically detects the film and video content, and appropriately converts it. AUTO2 : In addition to AUTO1, automatically detects film contents with different frame rates and appropriately converts it. VIDEO : Select when using AUTO1 and AUTO2, and the content is distorted.

Functions menu (continued)

SOURCE SELECT	DivX When you select "AUTO" the constructing method of the DivX contents is automatically distinguished and output. If the picture is distorted, select "INTERLACE" or "PROGRESSIVE" depending on which constructing method was used when the contents were recorded to disc. AUTO INTERLACE PROGRESSIVE Example: 
HDMI STATUS	Indicates various information when connected with HDMI AV OUT terminal. (⇒ page 19, Confirming HDMI information) 
HD ENHANCER	This works when the HDMI connection is being used and "VIDEO PRIORITY" (⇒ page 21, "HDMI" tab) is set to "ON".  To sharpen the "720p", "1080i" and "1080p" picture quality OFF ↔ 1 ↔ 2 ↔ 3 (sharpest picture) 
VIDEO FORMAT	To select suitable picture quality with your television (Video recordings will be converted to, and output as, high-definition video.) When HDMI connection is being used and "VIDEO PRIORITY" (⇒ page 21, "HDMI" tab) is set to "ON" ※480p/576p/720p/1080p (progressive) ※480i/576i/1080i (interlace) • If the picture is distorted, press and hold [CANCEL] until the picture is displayed correctly. ※1 • Output from the COMPONENT VIDEO OUT terminals will be "480i" or "576i". ※ The numbers displayed depend on the disc being played. One of the above numbers is displayed. 
COLOUR SPACE (or COLOR SPACE)	This works when the HDMI connection is being used with "VIDEO PRIORITY" (⇒ page 21, "HDMI" tab) is set to "ON".  To select suitable picture colour with your television YCbCr (4:2:2) YCbCr (4:4:4) RGB • If the setting above is not compatible with your television, it will not be displayed.
DIALOGUE ENHANCER	To make the dialogue in movies easier to hear Example: DVD-V  DVD-V (Dolby Digital, DTS, MPEG, 3-channel or higher, with the dialogue recorded in the centre channel) DivX (Dolby Digital, 3-channel or higher, with the dialogue recorded in the centre channel) OFF ↔ ON
RE-MASTER (Digital)	(⇒ page 25, Changing the sound quality: RE-MASTER (Analogue))  To select the sound quality OFF → 1 → 2 → 3  The actual effect depends on the selected source.
KARAOKE MODE ^{※2}	OFF ↔ ON (⇒ page 24, Enjoying Karaoke) Example: DVD-V 

※1 For Southeast Asia, Australia and N.Z.

※2 For Southeast Asia

Confirming HDMI information

Example:

HDMI — INFORMATION		
Connection status	CONNECTED STATE	CONNECTED
Shows the output signal type	AUDIO STREAM	PCM
Shows the number of audio channels	MAX CHANNEL	2Ch
(⇒ page 18, "VIDEO FORMAT")	VIDEO FORMAT	720p
(⇒ page 18, "COLOUR SPACE")	COLOUR SPACE	YCbCr 4:4:4

Note:

When "OFF" is selected in "AUDIO OUT" (⇒ page 21, "HDMI" tab), "--" will be displayed in "AUDIO STREAM" and "MAX CHANNEL".

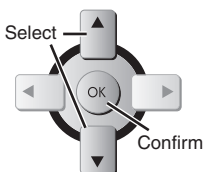
Discs — Changing the player settings



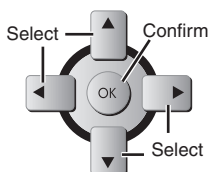
1 Display the MAIN menu.



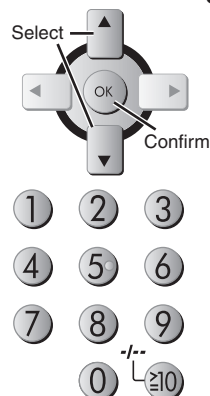
2 Select the tab.



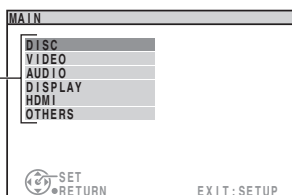
3 Select the item.



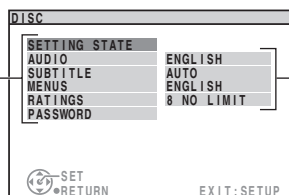
4 Make the settings.



5 Press to exit.



Tab



Item

Setting

If you have not performed QUICK SETUP (⇒ page 8), the QUICK SETUP screen appears.

Discs — Changing the player settings (continued)

- The settings remain intact even if you switch the unit to standby.
- Boxed items are the factory settings in the following table.

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

MAIN menu

■ “DISC” tab

AUDIO Choose the audio language.	• ENGLISH • (Language options) ^{※1} • ORIGINAL ^{※2} • OTHER — — — — ^{※3}
SUBTITLE Choose the subtitle language.	• AUTO ^{※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}
RATINGS Set a ratings level to limit DVD-Video play.	Setting ratings (When level 8 is selected) • 0 LOCK ALL: To prevent play of discs without rating levels. • 1 to 7: To prohibit play of DVD-Video with corresponding ratings recorded on them. • 8 NO LIMIT When you select your ratings level, a password screen is shown. Enter your password and then follow the on-screen instructions. Do not forget your password. A message screen will be shown if a DVD-Video disc exceeding the ratings level is inserted in the unit. Follow the on-screen instructions.
PASSWORD Change the password for “RATINGS”.	• SETTING Changing ratings (When level 0 to 7 is selected) • CHANGE: Follow the on-screen instructions.

■ “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. 4 : 3 ZOOM Regular aspect television (4:3) The picture zooms in and out. 16 : 9 NORMAL Widescreen television (16:9) Laterally stretches image. 16 : 9 SHRINK Widescreen television (16:9) Images appear in the centre of the screen. 16 : 9 ZOOM Widescreen television (16:9) Expands to 4:3 aspect ratio.  
TV TYPE Select to suit the type of television.	STANDARD CRT LCD PROJECTION PLASMA
TIME DELAY When connected with a Plasma display, adjust if you notice the audio is out of sync with the video.	0 ms/AUTO 20 ms 40 ms 60 ms 80 ms 100 ms When using VIERA Link “HDAVI Control™” with “HDAVI Control 3” compatible television (➡ page 29), select “0 ms”. Audio and video will automatically be set in sync.
NTSC DISC OUT Choose PAL 60 or NTSC output when playing NTSC discs (➡ page 9, Video systems).	NTSC When connected to a NTSC television. PAL60 When connected to a PAL television. (^{※5} “NTSC” is the factory preset.)
STILL MODE Specify the type of picture shown when paused.	AUTO FIELD^{※6} : The picture is not blurred, but picture quality is lower. FRAME^{※6} : Overall quality is high, but the picture may appear blurred.
VIDEO OUT – SCART^{※7} Choose the video signal format to be output from the SCART (AV) terminal.	VIDEO S-VIDEO RGB 1 (Only when connected to a RGB compatible television) If you always would like to view the picture from the unit in RGB signal, select this mode. The television screen will automatically switch to display the picture from the unit when the unit is turned on. RGB 2 (Only when connected to a RGB compatible television) When in television tuner mode, if the selector is set to “DVD/CD”, the television screen will automatically switch to display the picture from the unit only during disc playback (DVD-V DVD-VR VCD) or when viewing on-screen menu of DVD/CD. The television picture will be displayed when the selector is set to “AV”. With other selectors, the picture from this unit will be displayed. (^{※8} “RGB 2” is the factory preset.)
VIDEO OUT (I/P)^{※9} Select “PROGRESSIVE” only if connecting to a progressive output compatible television.	INTERLACE PROGRESSIVE (a message screen will appear, follow the on-screen instructions)

MAIN menu (continued)

■ “AUDIO” tab

PCM OUTPUT ※10 (⇒ page 28, Digital Output)	• UP TO 48kHz • UP TO 96kHz	
DOLBY DIGITAL ※10 (⇒ page 28, Digital Output)	• BITSTREAM • PCM	Select to suit the type of equipment you connected to the HDMI AV OUT terminal. Select “BITSTREAM” when the equipment can decode the bitstream (digital form of 5.1 channel data). Otherwise, select “PCM”. (If the bitstream is output to the equipment without a decoder, high levels of noise can be output and may damage your speakers and hearing.)
DTS ※10 (⇒ page 28, Digital Output)	• BITSTREAM • PCM	
MPEG ※7 ※10 (⇒ page 28, Digital Output)	• BITSTREAM • PCM	
DYNAMIC RANGE	• ON : Adjusts for clarity even when the volume is low. Convenient for late night viewing. (Only works with Dolby Digital) • OFF	

■ “DISPLAY” tab

LANGUAGE	※11: ENGLISH • SVENSKA ※12: ENGLISH • MAGYAR ※5: ENGLISH	• FRANÇAIS • NEDERLANDS • FRANÇAIS • ČESKY • 繁體中文	• ESPAÑOL • POLSKI • ESPAÑOL • POLSKI	• DEUTSCH • DEUTSCH	• ITALIANO • РУССКИЙ
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■ “HDMI” tab

VIDEO PRIORITY	• ON: When using the HDMI AV OUT terminal for video output. The resolution of the video output from the HDMI AV OUT terminal is optimized according to the capability of the connected equipment (example: television). • OFF: When not using the HDMI AV OUT terminal for video output. Video output will not depend on the connected equipment, but on this unit.
AUDIO OUT	• ON: When audio output is from the HDMI AV OUT terminal. (Depending on the capabilities of the connected equipment, audio output may differ from the audio settings of the main unit.) • OFF: When audio output is not from the HDMI AV OUT terminal. (The audio is output using the settings of the main unit.)
RGB RANGE Set “COLOUR SPACE” to “RGB” (⇒ page 18, Functions menu).	• STANDARD • ENHANCED: When the black and white images are not distinct.
VIERA Link	• ON: The VIERA Link “HDAVI Control”TM function is available (⇒ page 28). • OFF

■ “OTHERS” tab

REGISTRATION DivX Displays the unit's registration code.	• SHOW CODE You need this registration code to purchase and play DivX Video-on-Demand (VOD) content. (⇒ page 22, “About DivX VOD content”)
JPEG TIME Set the speed of the slideshow.	• 1 SEC • 2 SEC • 3 SEC • 4 SEC to 15 SEC • 15 SEC to 60 SEC (in 5-unit steps) • 60 SEC to 180 SEC (in 30-unit steps)
FL DIMMER Change the brightness of the unit's display.	• BRIGHT • DIM • AUTO: The display is dimmed, but brightens when you perform some operations.
QUICK SETUP	• SET • YES (Follow the on-screen instructions.) • NO
DVD-VR/DATA Select to play only DVD-VR or DATA format (⇒ page 15).	• DVD-VR: To play the video programs on DVD-RAM or DVD-R/-RW. • DATA: To play the data files on DVD-RAM or DVD-R/-RW.
DEFAULTS This returns all values in the MAIN menu to the default settings.	• RESET The password screen is shown if “RATINGS” (⇒ page 20) is set. Please enter the same password, then turn the unit off and on again.

※1 Language options :

For the United Kingdom, Australia and N.Z. : FRENCH, SPANISH, GERMAN, ITALIAN, SWEDISH, DUTCH and POLISH.

For Continental Europe : FRENCH, SPANISH, GERMAN, RUSSIAN, HUNGARIAN, CZECH and POLISH.

For Southeast Asia : CHINESE TRAD.

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

※3 Input a code number referring to the table (⇒ page 33).

※4 If the language selected for “AUDIO” is not available, subtitle appears in that language (if available on the disc).

※5 **For Southeast Asia**

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

※7 **For the United Kingdom and Continental Europe**

※8 **For the United Kingdom**

※9 **For Southeast Asia, Australia and N.Z.**

※10 When audio is output from HDMI AV OUT terminal, and the connected equipment does not support the item selected, the actual output will depend on the performance of this connected equipment.

※11 **For the United Kingdom, Australia and N.Z.**

※12 **For Continental Europe**

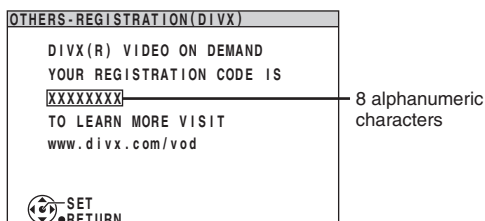
About DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the online instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod.

■ Display the unit's registration code

(⇒ page 21, "REGISTRATION (DIVX)" in "OTHERS" tab)



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

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

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

When playing this content

- The number of remaining plays is reduced by one if
 - you press [◀] or press [SETUP].
 - you press [■] (stop).
 - you press [◀◀, ▶▶] (skip) or [◀◀, ▶▶] (slow/search) etc. and arrive at another content.
- Resume (⇒ page 12, Stop) function does not work.

Tips for making data discs

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

DVD-RAM

- Discs must conform to UDF 2.0.

DVD-R/RW

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

CD-R/RW

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

Naming folders and files

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

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

WMA (Extension: ".WMA" or ".wma")

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

MP3 (Extension: ".MP3" or ".mp3")

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

JPEG (Extension: ".JPG", ".jpg", ".JPEG" or ".jpeg")

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

MPEG4 (Extension: ".ASF" or ".asf")

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

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

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

Using the FM/AM radio

FM/AM

EXT-IN

Manual tuning

1 Press [EXT-IN, FM/AM]^{×1} (or [FM/AM]^{×2}) to select "FM" or "AM".

2 Press [-PLAY MODE] (main unit: [■, -DEMO]) to select "MANUAL".

3 Press [◀◀, SLOW/SEARCH] or [▶▶, SLOW/SEARCH] to select the frequency of the required station.

Press and hold [◀◀, SLOW/SEARCH] or [▶▶, SLOW/SEARCH] until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.



To improve FM sound quality

Press and hold [-PLAY MODE] to display "MONO".

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

Press and hold [-PLAY MODE] again to cancel the mode. "MONO" is also cancelled if the frequency is changed.

FM/AM



AM allocation setting (by main unit only)^{×2}

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

To change the step from 9 kHz to 10 kHz

1 Select "FM".

2 Press and hold [FM/AM].
After a few seconds the display changes to a flashing display of the current minimum frequency.

3 Continue to hold down [FM/AM].

- When the minimum frequency changes, release the button. To return to the original step, repeat the above steps.
- After changing the setting, previously preset frequency will be cleared.

Memory preset

30 FM and 15 AM stations can be preset.

Preparation

Press [EXT-IN, FM/AM]^{×1} (or [FM/AM]^{×2}) to select "FM" or "AM".

Manual presetting

1 *While listening to the radio broadcast*
Press [OK].

2 *While the frequency is flashing on the display*
Press the numeric buttons to select a channel.

- For channels 10 to 30 press [≥10], then the two digits.
- Alternatively, press [◀◀, ∨] or [▶▶, ∧], then press [OK].

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

Automatic presetting

Press and hold [OK].
Release the button when "FM AUTO" or "AM AUTO" is displayed.

The tuner tunes to the lowest frequency and starts to preset all the stations it can receive into the channels in ascending order.

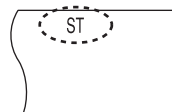
- "SET OK" is displayed when the stations are set, and the radio tunes to the last preset station.
- "ERROR" is displayed when automatic presetting is unsuccessful. Preset the channels manually (→ see left).

Selecting the preset channels

1 Press [EXT-IN, FM/AM]^{×1} (or [FM/AM]^{×2}) to select "FM" or "AM".

2 Press the numeric buttons to select a channel.

- Alternatively, press [◀◀, ∨] or [▶▶, ∧].
- When a stereo FM broadcast is being received, "ST" lights in the display.



For the United Kingdom and Continental Europe

RDS broadcasting

The unit can display the text data transmitted by the radio data system (RDS) available in some areas.

If the station you are listening to is transmitting RDS signals, "RDS" will light up on the display.

While listening to the radio broadcast

Press [FUNCTIONS] to display;

PS → PTY → FREQ

PS : Program service

PTY : Program type

FREQ : Frequency display

PTY displays			
NEWS	VARIED	FINANCE	COUNTRY
AFFAIRS	POP M	CHILDREN	NATIONAL
INFO	ROCK M	SOCIAL A	OLDIES
SPORT	M-O-R- M*	RELIGION	FOLK M
EDUCATE	LIGHT M	PHONE IN	DOCUMENT
DRAMA	CLASSICS	TRAVEL	TEST
CULTURE	OTHER M	LEISURE	ALARM
SCIENCE	WEATHER	JAZZ	

* M-O-R- M = Middle-of-the-Road music

Note:

RDS displays may not be available if reception is poor.

^{×1} For the United Kingdom, Continental Europe, Australia and N.Z.

^{×2} For Southeast Asia

Enjoying karaoke For Southeast Asia

Enjoying karaoke with karaoke DVD and VCD

DVD-V VCD

- 1 Firstly, lower the microphone volume to "MIN" (⇒ see right, Microphone volume adjustment), then connect the microphone to the microphone jack.

Use a dynamic microphone (not included).
Plug type : Ø6.3 mm monaural

- 2 Start playing the music source.
- 3 Press and hold [–KARAOKE] to display the audio menu on the television.
- 4 Press [OK] or [▲, ▼] to switch "ON" the karaoke function.
- 5 Adjust the microphone volume and sing along.

To exit the screen

Press [–KARAOKE].

Note:

- If a strange noise (howling) is emitted during use, move the microphone away from the speakers, or turn down the microphone volume.
- When you are not using the microphone, disconnect it from the microphone jack, and turn down the microphone volume level to "MIN".

Enjoying simple karaoke with other sources

You can also perform simple karaoke with discs other than those described.

- 1 Repeat steps 1 to 2 of Enjoying karaoke with karaoke DVD and VCD (⇒ see above).

Refer to the pages for the source;

• When singing along with discs

Insert the desired disc (⇒ page 12).

• When singing along with radio

Select your desired station (⇒ page 23).

• When singing along with other equipment

Connect and prepare the other equipment (⇒ page 26).

- 2 Adjust the microphone volume and sing along. (⇒ see right, Microphone volume adjustment).

Audio mode (AUDIO CHANGE)

- 1 Repeat steps 1 to 3 of Enjoying karaoke with karaoke DVD and VCD (⇒ see above).

- 2 Press [▼] then [OK] to select "AUDIO CHANGE".

- 3 Press [▲, ▼] to select your desired setting.

DVD-V (Karaoke discs)

Solo

Off : No vocal

On : Vocal

Duet

Off : No vocal

V1+V2 : Vocal 1 and 2

V1 : Vocal 1

V2 : Vocal 2

- Choose "Off" for karaoke.

- Choose "V1" or "V2" to duet with the player.

VCD and other sources

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

L : Only left channel sound — no vocal

R : Only right channel sound — vocal

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

- Select no vocal for karaoke.

- Vocal and no vocal may be reversed.

Microphone volume adjustment (by main unit only)

Press [+/-, MIC VOL] to adjust the microphone's volume level.

Adding an echo effect

Press and hold [–ECHO] to select your desired setting.

ECHO OFF → ECHO 1 → ECHO 2
↑ ECHO 4 ← ECHO 3 ←

Note:

- Ensure that the microphone is connected before selecting the desired setting.
- The effect increases with the level.

Vocal cancel function

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

- 1 Repeat steps 1 to 3 of Enjoying karaoke with karaoke DVD and VCD (⇒ see left).

- 2 Press [▶] then [OK] to select "VOCAL CANCEL".

- 3 Press [▲, ▼] to switch the function "ON" or "OFF".

Note:

This function is not suitable for the following sources.

- Monaural recordings
- Chorus works or duets

Changing the pitch

Use this function to change the pitch level.

- 1 Repeat steps 1 to 3 of Enjoying karaoke with karaoke DVD and VCD (⇒ see left).

- 2 Press [▶] then [OK] to select "KEY CONTROL".

- 3 Press [▲, ▼] to select your desired setting.

b6 ... OFF ... #6

Using sound effects

Note:

- The following sound effects may not be available or have no effect depending on the type of source.
- You may experience a reduction in sound quality when these sound effects are used with some sources. If this occurs, turn the sound effects off.

Press [SOUND].

(For files with the extension ".mp3" or ".MP3".)

In DVD/CD, USB, AUX or AV^{*1} selection;

→ PRE EQ (Preset EQ) → MAN EQ (Manual EQ)
D.BASS ← SURROUND ←

In MUSIC PORT, OPTION port^{*2} or FM/AM tuner selection;

→ PRE EQ (Preset EQ) → MAN EQ (Manual EQ)
D.BASS ← RE-MASTER ← SURROUND ←

SOUND

Changing the sound quality: Preset EQ

- Press [SOUND] to select "PRE EQ".
- Press [◀] or [▶] to select your desired setting.

HEAVY ↔ SOFT ↔ CLEAR
EQ OFF ↔ VOCAL ↔

HEAVY : Adds punch to rock.
SOFT : For background music.
CLEAR : Clarifies higher sounds.
VOCAL : Adds gloss to vocal.
EQ OFF : No effect.

SOUND

Changing the sound quality: Manual EQ

- Press [SOUND] to select "MAN EQ".
- (Within 3 seconds or so)
Change the sound quality with the cursor buttons.
 - Select the sound range to be adjusted with [◀] or [▶].
BASS ↔ MID ↔ TREBLE
 - Adjust the level with [▲] or [▼].
(-4 to +4)

Repeat step 2 to set the desired sound quality.

SOUND

Changing the sound quality: Surround sound

- Press [SOUND] to select "SURROUND".
- Press [◀] or [▶] to select either "SURROUND ON" or "SURROUND OFF".

SOUND

Changing the sound quality: RE-MASTER (Analogue)

This function is only available for MUSIC PORT, OPTION port^{*2} or FM/AM tuner selection mode.

- Press [SOUND] to select "RE-MASTER".
- Press [◀] or [▶] to select either "RE-MASTER ON" or "RE-MASTER OFF".

For other modes with MP3 contents, refer to page 18.

SOUND

Enjoying the bass: D.BASS

- Press [SOUND] to select "D.BASS".
- Press [◀] or [▶] to select either "D.BASS ON" or "D.BASS OFF".

Alternatively, press [D.BASS] on the main unit several times to select either "D.BASS ON" or "D.BASS OFF".

^{*1} For the United Kingdom and Continental Europe

^{*2} For the United Kingdom, Continental Europe, Australia and N.Z.

Using the timers

CLOCK/TIMER

Setting the clock

This is a 24-hour clock.

- Press [CLOCK/TIMER] to select "CLOCK".

CLOCK → ⌚ PLAY
Original display ←

- (Within 5 seconds or so)

Press [◀◀, ▼] or [▶▶, ▲] to set the time.

- Press [CLOCK/TIMER] to finish setting the time.

Displaying the time

Press [CLOCK/TIMER] once when the unit is on or in standby mode. The time is displayed for a few seconds.

Note:

Reset the clock regularly to maintain accuracy.

-SLEEP
-TIMER PLAY

Using the play timer

You can set the play timer to come on at a certain time to wake you up.

Preparation

Turn the unit on and set the clock.

Prepare the music source you want to listen to; disc, radio, USB, option port or music port source, and set the volume.

- Press [CLOCK/TIMER] repeatedly to select play timer.

CLOCK → ⌚ PLAY
Original display ←

- (Within 5 seconds or so)

Press [◀◀, ▼] or [▶▶, ▲] to set the starting time.

- Press [CLOCK/TIMER] to confirm.

- Repeat steps 2 and 3 to set the finishing time.

To activate the timer

- Press and hold [-TIMER PLAY] to turn on the timer.
"⌚PLAY ON" is displayed.

- Press [⌚] to turn off the unit.
The unit must be off for the timer to operate.

To	Action
Change the settings	Repeat steps 1 to 4 and 6.
Change the source or volume	1) Press and hold [-TIMER PLAY] to select "⌚PLAYOFF". 2) Make changes to the source or volume. 3) Perform steps 5 and 6.
Check the settings (when the unit is on or in standby mode)	Press [CLOCK/TIMER] repeatedly to select "⌚PLAY".
Cancel	Press and hold [-TIMER PLAY] to select "⌚PLAYOFF".

Note:

- The play timer will start at the preset time, with the volume increasing gradually to the preset level.
- The timer comes on at the set time every day if the timer is on.
- The unit must be in the standby mode for the timer to function.
- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If MUSIC PORT or OPTION port^{*2} or USB is selected as the source when the timer comes on, the system turns on and engages MUSIC PORT or OPTION port^{*2} or USB as the source. If you wish to playback from the connected equipments, activate the equipments' play mode and increase the volume. (See the other equipments' instruction manual.)

Using other equipment

Before connection

- Disconnect the AC mains lead.
- 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.

Avoid interfering with other Panasonic equipment

Other Panasonic audio or video equipment may start functioning when you operate the unit using the supplied remote control.

You can operate this unit in another mode by setting the remote control operating mode to "REMOTE 2".

The main unit and remote control must be set to the same mode.

1 Press and hold [▶▶/▶▶] on the main unit and [2] on the remote control until the main unit's display shows "REMOTE 2".

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

To change the mode back to "REMOTE 1", repeat both steps above by replacing [2] with [1].

Connecting and playing a USB mass storage device

WMA MP3 JPEG MPEG4

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

Preparation

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

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

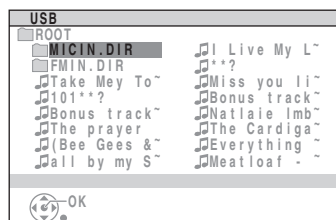
1 Connect the USB mass storage device (not included).



USB enabled device
(not included)
It is not recommended to use a USB extension cable.
The device connected via the cable will not be recognised by this unit.

2 Press [▶, USB] to select "USB".

Example:



3 Adjust the volume of the main unit.

4 Press [▲] or [▼] followed by pressing [OK] to select your desired item for playback.

For other operating functions, they are similar as those described on "DISC OPERATIONS" (➡ page 12 to 22).

Compatible Devices

Devices which are defined as USB mass storage class:

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

Supported Formats

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

^{*1} It may not be possible to play all the files due to the condition on how they were created.

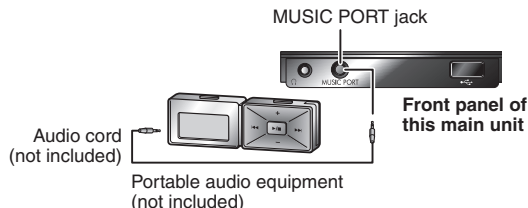
^{*2} For Panasonic D-Snap/DIGA.

Note:

- CBI (Control/Bulk/Interrupt) is not supported.
- Digital Cameras that use PTP protocol or which require additional program installation when connected to a PC are not supported.
- A device using NTFS file system is not supported.
[Only FAT 12/16/32 (File Allocation Table 12/16/32) file system is supported].
- Depending on the sector size, some files may not work.
- It will not operate with Janus enabled MTP (Media Transfer Protocol) devices.
- Maximum folder: 256 folders
- Maximum file: 4000 files
- Maximum file name: 12 characters
- Maximum folder name: 12 characters
- Only one memory card will be selected when connecting a multiport USB card reader. Typically the first memory card inserted.

Connecting to a portable audio equipment

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



Playing from a portable audio equipment

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

- 1 Plug the audio cord into the MUSIC PORT jack and press [EXT-IN, FM/AM]^{※3, ※4} (or [EXT-IN]^{※5}) to select "MUSIC PORT".

※3 FM → AM → MUSIC P. → AUX → AV

OR

※4 FM → AM → MUSIC P. → AUX

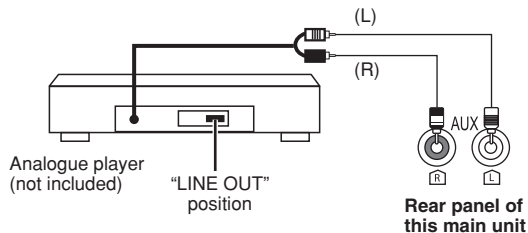
OR

※5 → MUSIC P. → AUX

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

Connecting to other external unit

You can connect to an analogue player with a built-in phone equaliser.



Playing from an external unit

- 1 Press [EXT-IN, FM/AM]^{※3, ※4} (or [EXT-IN]^{※5}) repeatedly until "AUX" is displayed.

※3 FM → AM → MUSIC P. → AUX → AV

OR

※4 FM → AM → MUSIC P. → AUX

OR

※5 → MUSIC P. → AUX

- 2 Start playback from the external source.

Note:

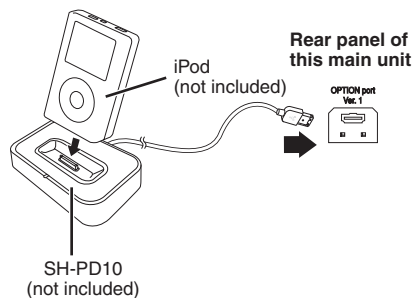
- For details, refer to the instruction manual of the unit which is to be connected.
- When units other than those described above are to be connected, please consult your audio dealer.
- Sound distortion may occur when you use an adaptor other than the one supplied.

Connecting the Universal Dock for iPod^{※3, ※4}

You can charge and play your iPod by connecting a Universal Dock for iPod (SH-PD10, sold separately) to this unit.

Connecting and charging the iPod

- 1 Connect the Universal Dock for iPod into the OPTION port.



- 2 Insert the appropriate adapter and place your iPod into the Universal Dock. (See the SH-PD10's instruction manual.)

Note:

- Hold the dock when disconnecting the iPod.
- iPod will be recharged regardless of whether this unit is on or off.

Playing the iPod

- 1 Connect the iPod as described above.
- 2 Press [▶, OPTION] to select "OPTION".
- 3 Press [◀, V] or [▶, ^] to select your desired item for playback.
- 4 Adjust the volume of the main unit.
- 5 Press [▶, OPTION] to start play.

Basic controls

Button	Functions
[■]	Stop
[⏏]	Pause
[◀, V], [▶, ^]	Skip
(press and hold) [◀, SLOW/SEARCH], [▶, SLOW/SEARCH]	Search

Note:

- Reduce the volume of the main unit before you disconnect the dock from the OPTION port.
- Refer to the SH-PD10's instruction manual for the compatible iPod models.

※3 For the United Kingdom and Continental Europe

※4 For Australia and N.Z.

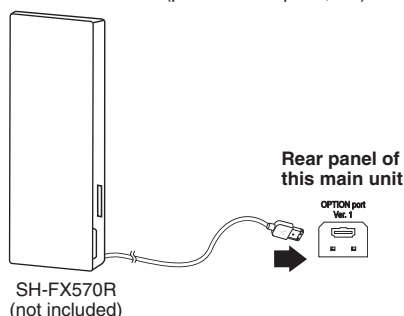
※5 For Southeast Asia

Using other equipment (continued)

Connecting and playing a Bluetooth device^{※2}

For the United Kingdom and Continental Europe

By connecting a Bluetooth Receiver (example: SH-FX570R, sold separately), you can receive and play the audio stored in your Bluetooth audio source device (personal computer, etc).



- 1 Connect the Bluetooth Receiver into the OPTION port and press [▶, OPTION] to select "OPTION".
- 2 Pairing and play your Bluetooth audio device. (See the SH-FX570R's instruction manual.)
- 3 Press [◀◀, ∨] or [▶▶, ∧] to select your desired item for playback.
- 4 Adjust the volume of the main unit.
- 5 Press [▶, OPTION] to start play.

Operating the television

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

Press to switch the television on or off



Press to switch the television's video input mode



Press to adjust the volume



Note:
Some models cannot be operated by this remote control.

Enjoying audio from the television

Preparation

Confirm the audio connection to the SCART (AV)^{※2} or AUX terminal on the main unit (⇒ page 7).

Press [EXT-IN, FM/AM]^{※1} (or [EXT-IN]^{※3}) to select "AV"^{※2} or "AUX".

AV^{※2} : For audio input through the SCART (AV) terminal.
AUX : For audio input through the AUX terminal.

Reduce the volume on the television to its minimum, and then adjust the volume of the main unit.

Digital Output

DVD-V DVD-VR VCD CD WMA MP3

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

PCM OUTPUT

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

"UP TO 48kHz":

Signals over 48 kHz converted to 48 kHz or 44.1 kHz

"UP TO 96kHz":

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 and MPEG

"BITSTREAM" (Factory preset for "DOLBY DIGITAL" and "DTS"):
Select if the equipment you connected can decode the signal.

"PCM" (Factory preset for "MPEG"):

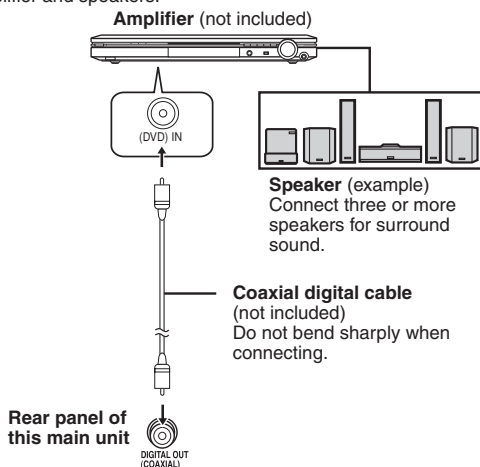
Select if the equipment you connected cannot decode the signal.

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 Theatre—Enjoying more powerful sound

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



Recording Output

- With DVD, the following conditions must be met:
 - a) the disc does not have protection preventing digital recording, and
 - b) 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.

- "PCM OUTPUT": "UP TO 48kHz" (⇒ page 21, "AUDIO" tab).
- "DOLBY DIGITAL"/"DTS"/"MPEG": "PCM" (⇒ page 21, "AUDIO" tab).

Using the VIERA Link "HDAVI ControlTM"

What is VIERA Link "HDAVI ControlTM"?

VIERA Link "HDAVI ControlTM" is a convenient function that offers linked operations of this unit, and a Panasonic television (VIERA) under "HDAVI ControlTM". You can use this function by connecting the equipment with the HDMI cable.

See the operating instructions for connected equipment for operational details.

- VIERA Link "HDAVI Control"™, based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed. (Refer to the operating instructions for your equipment.)
- This unit supports "HDAVI Control 3" function.
"HDAVI Control 3" is the newest standard (current as of December, 2007) for Panasonic's HDAVI Control compatible equipment. This standard is compatible with Panasonic's conventional HDAVI equipment.

The television with "HDAVI Control 2 (or later)" function enables the following operation: VIERA Link Control only with television's remote control [for "HDAVI Control 2" (or later)] (⇒ see right)

Preparation

- Confirm that the HDMI connection (⇒ page 7) has been made.
- ※ Confirm that the start cable is not connected.
- Set "VIERA Link" to "ON" (⇒ page 21, "HDMI" tab).
- To complete and activate the connection correctly, turn on all VIERA Link "HDAVI Control"™ compatible equipment and set the television to the corresponding HDMI input mode for the stereo system.

Whenever the connection or settings are changed, reconfirm the points above.

Automatic setup

The settings for "TV ASPECT"※4 (⇒ page 20, "VIDEO" tab) and "LANGUAGE"※5 (⇒ page 21, "DISPLAY" tab) will automatically follow to the settings of the television.

(This may not work if the corresponding setting you have made for your television is not available on this unit.)

※4 When using VIERA Link "HDAVI Control"™ with "HDAVI Control 3" compatible television

※5 When using VIERA Link "HDAVI Control"™ with "HDAVI Control 2 (or later)" compatible television

ONE TOUCH
PLAY

One Touch Play

You can turn on the stereo system and television, and start playing the disc in the play position with a single press of a button.

Press [ONE TOUCH PLAY].

Stereo system speakers will be automatically activated (⇒ see below, Speaker control).

This function also works if you press [▶, DVD/CD] on the stereo system remote control during stereo system standby mode.

Note:

Playback may not be immediately displayed on the television. If you miss the beginning portion of playback, press [◀◀, √] or [◀◀, SLOW/SEARCH] to go back to where playback started.

Speaker control

You can select whether audio is output from the stereo system or the television speakers by using the television menu settings. For details, refer to the operating instructions of your television.

Home Cinema

Stereo system speakers are active.

- When the stereo system is in standby mode, changing the television speakers to stereo system speakers in the television menu will automatically turn the stereo system on and select "AUX" as the source.
- The television speakers are automatically muted.
- You can control the volume setting using the volume or mute button on the television's remote control. (The volume level is displayed on the main unit's FL display.)
- To cancel muting, you can also use the stereo system remote control (⇒ page 11).
- If you turn off the stereo system, television speakers will be automatically activated.

Television

Television speakers are active.

- The volume of the stereo system is set to "0".
 - This function works only when "DVD/CD", "USB" or "AUX" is selected as the source on the stereo system.
- Audio output is 2-channel audio.

When switching between the stereo system and television speakers, the television screen may be blank for several seconds.

Power off link

When the television is turned off, the stereo system goes into standby mode automatically.

- This function works only when "DVD/CD", "USB" or "AUX" is selected as the source on the stereo system.
- When the television is turned on, the stereo system does not turn on automatically. (Power on link is not available.)

Note:

Only the stereo system turns off when you press [⏻] for shutting it down. Other connected equipment compatible with VIERA Link "HDAVI Control"™ stays on.

Auto input switching

- When you switch the television input to television tuner mode, the stereo system will automatically switch to "AUX".
- When you start disc play, the television will automatically switch to the HDMI input mode for the stereo system.
- ※2 **DVD-V | VCD** When playback stops, the television will automatically return to television tuner mode.
- ※2 When you select "AUX" from "Input Selection" in START menu, the television will automatically switch to television tuner mode.

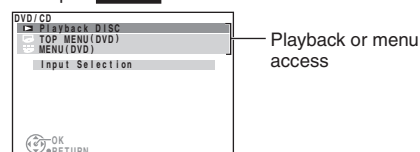
VIERA Link Control only with television's remote control [for "HDAVI Control 2" (or later)]

You can control the disc menus of the stereo system with the television's remote control when using the "DVD/CD" or "USB" source. When operating the television's remote control, refer to the below illustration for operation buttons.

1. Select the stereo system operation menu by using the television menu settings. (For details, refer to the operating instructions of your television.)

The "Start" menu will be displayed.

Example: **DVD-V**



2. Select the desired item from the "Start" menu (⇒ page 13).

When the on-screen control panel appears;

Example: **DVD-V** (when "Playback Disc" is selected from the "Start" menu)



You can operate the playback with the indicated controls.

The on-screen control panel can be selected directly by using a button on the television's remote control (example: [OPTION]). (This is only applicable during "DVD/CD" or "USB" mode.)

- ※2 **If the television has automatically switched to the HDMI input mode for this unit (⇒ see above, Auto input switching).**

When you press [EXIT] button on the television's remote control to exit VIERA Link Control, the television will automatically switch to television tuner mode. (This is only applicable during "DVD/CD" or "USB" mode.)

Note:

- Depending on the menu, some button operations cannot be performed from the television's remote control.
- You cannot input numbers using the numeric buttons on the television's remote control ([0] to [9]). You may use this unit's remote control to select the play list and etc.

※1 **For the United Kingdom, Continental Europe, Australia and N.Z.**

※2 **For the United Kingdom and Continental Europe**

※3 **For Southeast Asia**

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 mains lead securely.	6
The unit is automatically switched to the standby mode.	• The Sleep timer was working and had reached the set time limit.	11

■ Unresponsive or inoperable function

No response when any buttons are pressed.	• This unit cannot play discs other than the ones listed in these operating instructions. • 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 mains lead, and then reconnect it. • Condensation has formed: Wait 1 to 2 hours for it to evaporate.	9 — —
No response when remote control buttons are pressed.	• Check that the batteries are installed correctly. • The batteries are depleted. Replace them with new ones. • Aim the remote control at the remote control signal sensor and operate.	5 5 10
Other products respond to the remote control.	• Change the remote control operating mode.	26
No picture or sound.	• Check the video or speaker connection. • Check the power or input setting of the connected equipment and the main unit. • Check that the disc has something recorded on it.	6, 7 — —
You have forgotten your ratings password. Reset all the settings to Factory Preset.	• While stopped and "DVD/CD" is the source, press and hold [■, -DEMO] (stop) on the main unit and [≥10] on the remote control until "INITIALIZED" (or "INITIALISED") disappears from the television. Turn the unit off and on again. All settings will return to the default values. (This does not work during program and random modes, or when setup menu or START menu is displayed.)	—
The VIERA Link "HDAVI Control™" function does not respond.	• Depending on the condition of the stereo system or the connected equipment, it may be necessary to repeat the same operation so that the function can work correctly.	28

■ Specific operation undesirable or unexpected

It takes time before play starts.	• Play may take time to begin when an MP3 track has still picture data. Even after the track starts, the correct play time will not be displayed. This is normal. MP3 • This is normal on DivX video. DivX	— —
Folders on a data CD 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.	—
Play does not start.	• This unit may not play WMA and MPEG4 that contains still picture data. • If playing DivX VOD content, refer to the homepage where you purchased the DivX VOD content. (Example: www.divx.com/vod) DivX • If a disc contains CD-DA and other formats, proper playback may not be possible.	— — —

■ Subtitle

No subtitles.	• Display the subtitles. ("SUBTITLE" in Functions menu) • Subtitles may not be displayed depending on the disc. DivX	17 17
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■ A-B repeat

Point B is automatically set.	• The end of an item becomes point B when it is reached.	—
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■ Menus

The Setup menu cannot be accessed.	• Select "DVD/CD" as the source. • Cancel program and random play. • Cancel JPEG's playback.	— 14 —
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■ Sound abnormal or improper

Page

Sound is distorted.	- Noise may occur when playing WMA. - When using the HDMI output, audio may not be output from other terminals.	—
Effects do not work.	Some audio effects do not work or have less effect with some discs.	—
Humming is heard during play.	An AC mains lead or fluorescent light is near the main unit. Keep other appliances and cables away from the main unit.	—
No sound.	- There may be a slight pause in sound when you change the play speed. - Audio may not be output due to how files were created. DivX - Audio may not be heard when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices. - When using the HDMI connection, ensure that "AUDIO OUT" in the "HDMI" tab is set to "ON".	21

■ Picture abnormal or unviewable

The picture on the television is not displayed correctly or disappears.	- The unit and television are using different video systems. ※1 Use a multi-system or PAL television. ※2 Use a multi-system or NTSC television. - The system used on the disc does not match your television. - PAL discs cannot be correctly viewed on an NTSC television. - This unit can convert NTSC signals to PAL 60 for viewing on a PAL television ("NTSC DISC OUT" in "VIDEO" tab). - Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder. - Mobile telephone chargers can cause some disturbance. - If you are using an indoor television antenna, change to an outdoor antenna. - The television antenna wire is too close to the unit. Move it away from the unit. - Change "SOURCE SELECT" in Functions menu. DivX - Picture may not be seen when more than 4 devices are connected with HDMI cables. Reduce the number of connected devices. - When using the COMPONENT VIDEO OUT terminal, ensure that progressive output is not selected when the connected television is not progressive compatible. Press and hold [CANCEL] until the picture is displayed correctly. (The output will return to "480i".) - When using the HDMI AV OUT terminal, ensure that video output unacceptable with the connected television is not selected. Press and hold [CANCEL] until the picture is displayed correctly. (The output will return to "480p" or "576p".) - When using SCART (AV) terminal, set "VIDEO PRIORITY" in the "HDMI" menu to "OFF".	— — 20 7 — — 18 — 18 21 21
Picture stops DivX	Picture may stop if the DivX files are greater than 2 GB.	—
Picture size does not fit the screen.	- Change "TV ASPECT" in the "VIDEO" tab. - Use the television to change the aspect. - Change the zoom setting. ("ZOOM" in Functions menu.)	20 — 17
Menu is not displayed correctly.	Restore the zoom ratio to "NORMAL". ("ZOOM" in Functions menu.)	17
Auto zoom function does not work well.	- Turn off television zoom function. - Zoom function may not work well, especially in dark scenes and may not work depending on the type of disc.	— —
When playing PAL disc, picture is distorted.	Set "TRANSFER MODE" in Functions menu to "AUTO".	17

■ HDMI or Progressive video

There is ghosting when progressive or HDMI output is on.	This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlaced output. When using the HDMI AV OUT terminal, set "VIDEO FORMAT" in Functions menu to "480i" or "576i". Or, disable the HDMI AV OUT connection and use other video connections.	18
	※3 When using the COMPONENT VIDEO OUT terminal, set "VIDEO OUT (I/P)" in "VIDEO" tab to "INTERLACE". (Alternatively, press and hold [CANCEL] until "PRG" is displayed.)	18
Pictures not in progressive output.※3	- Select "PROGRESSIVE" in "VIDEO OUT (I/P)" in the "VIDEO" tab. - The unit's VIDEO OUT terminal outputs an interlaced signal even if "PRG" is displayed.	18 —

※1 For the United Kingdom, Continental Europe, Australia and N.Z.

※2 For Southeast Asia

※3 For Southeast Asia, Australia and N.Z.

■ Unit displays		Page
When the unit is in 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.	5 —
The display is dark.	Select "BRIGHT" in "FL DIMMER" in the "OTHERS" tab.	21
"NO PLAY"	- You inserted a disc which the unit cannot play; insert one that can. - You inserted a blank disc. - You inserted a disc that has not been finalized.	9 — —
"NO DISC"	- You have not inserted a disc; insert one. - You have not inserted the disc correctly; insert it correctly.	— 8
"OVER CURRENT ERROR"	The USB device is drawing too much power. Switch to DVD/CD mode, remove the USB and turn the unit off.	—
"F61"	Check and correct the speaker cord connections. If this does not fix the problem, there is a power supply problem. Consult the dealer.	6
"DVD U11"	Disc is dirty. Wipe it clean.	8
"ERROR"	Incorrect operation performed. Read the instructions and try again.	—
"DVD H □ □" "DVD F □ □ □" □ stands for a number.	- Trouble may have occurred. The numbers following "H" and "F" depend on the status of the unit. Turn the unit off and back to on. Alternatively, turn the unit off, disconnect the AC mains lead, and then reconnect it. - If the service numbers fail to clear, note the service number and contact a qualified service person.	— —
"REMOTE 1" or "REMOTE 2"	Match the modes on the main unit and remote control. Depending on the number being displayed ("1" or "2"), press and hold [OK] and the corresponding numeric button ([1] or [2]) for at least 2 seconds.	26
"U70 □" □ stands for a number. The actual number following "U70" will depend on the state of the main unit.	- The HDMI connection acts unusually. - Please use HDMI cables that have HDMI logo (as shown on the cover page). - The connected equipment is not HDMI-compatible. - The HDMI cable is too long. - The HDMI cable is damaged.	— — — —

■ Television displays

"⊙"	The operation is prohibited by the unit or disc.	—
"ERROR"	- You are trying to display an incompatible group or content. - You are trying to play a protected group or content. You cannot play it.	— —
"Check the disc"	This disc may be dirty.	—
"THIS DISC MAY NOT BE PLAYED IN YOUR REGION"	Only DVD-Video discs that include or have the same region number as the one on the rear panel of this unit can be played.	Cover page
"AUTHORIZATION ERROR" DivX	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.	22
"RENTAL EXPIRED" DivX	The DivX VOD content has zero remaining plays. You cannot play it.	22
Main unit's screen saver remains.	When using the HDMI connection, audio/video information is continually transferred between the main unit and the television regardless of which source has been selected on the main unit. This is normal.	—

■ Using the USB device

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

■ Listening to the radio

Distorted sound or noise is heard. "ST" flickers or does not light.	- Adjust the position of the FM or AM antenna. - Use an outdoor antenna.	— 7
A beat sound is heard.	Turn the television off or move it away from the unit.	—

Memory reset (Initialization)

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

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

To reset memory

1 Disconnect the AC mains lead. (Wait at least 3 minutes before proceeding to step 2)

2 While pressing and holding down [⏻/I] on the main unit, reconnect the AC mains lead.

“-----” appears on the display.

3 Release [⏻/I].

All the settings are returned to the factory preset.
You will need to reset the memory items.

Language code list

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

Glossary

Decoder

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

DivX

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

Dolby Digital

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

DTS (Digital Theatre Systems)

This surround system is used in many movie theatres 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.

Film: Recorded at 25 frames per second (PAL discs) or 24 frames per second (NTSC discs). (NTSC discs recorded at 30 frames per second as well). Generally appropriate for motion picture films.

Video: Recorded at 25 frames/50 fields per second (PAL discs) or 30 frames/60 fields per second (NTSC discs). Generally appropriate for TV drama programs or animation.

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.

HDMI (High-Definition Multimedia Interface)

HDMI is a next-generation digital interface for consumer electronic products. Unlike conventional connections, it transmits uncompressed digital video and audio signals on a single cable. This unit supports high-definition video output (720p, 1080i, 1080p) from the HDMI AV OUT terminal. To enjoy high-definition video, a high-definition compatible television is required.

I/P/B

MPEG 2, the video compression standard adopted 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.

JPEG (Joint Photographic Experts Group)

This is a system used for compressing/decoding colour still pictures. If you select JPEG as the storage system on digital cameras, etc., the data will be compressed to 1/10–1/100 of its original size. The benefit of JPEG is less deterioration in picture quality considering the degree of compression.

Linear PCM (Pulse Code Modulation)

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

MP3 (MPEG Audio Layer 3)

An audio compression method that compresses audio to approximately one tenth of its size without any considerable loss of audio quality.

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/Interlaced

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 (analogue 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.

WMA (Windows Media™ Audio)

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.

Specifications

AMPLIFIER SECTION

For the United Kingdom, Continental Europe, Australia and N.Z.

RMS Output Power

THD 10% 80 W per channel (3 Ω), 1 kHz
Total RMS Dolby Digital mode power 160 W

For Southeast Asia

RMS Output Power

THD 10% 80 W per channel (3 Ω), 1 kHz
Total RMS Dolby Digital mode power 160 W

PMPO Output Power

1800 W

FM/AM TUNER, TERMINALS SECTION

Preset station

FM 30 stations
AM 15 stations

Frequency Modulation (FM)

Frequency range 87.50 to 108.00 MHz (50 kHz step)
Sensitivity 2.5 μV (IHF)
S/N 26dB 2.2 μV
Antenna terminals 75 Ω (unbalanced)

Amplitude Modulation (AM)

Frequency range

For the United Kingdom, Continental Europe, Australia and N.Z.

522 to 1629 kHz (9 kHz step)

For Southeast Asia

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

AM Sensitivity S/N 20dB at 999 kHz

1000 μV/m

Digital audio output

Coaxial digital output Pin jack

Music Port (front)

Sensitivity 100 mV, 10 kΩ
Terminal Stereo, 3.5 mm jack

Phone jack

Terminal Stereo, 3.5 mm jack
Output level (CD, 1kHz, -20dB) 32 Ω

For Southeast Asia

Mic jack

Sensitivity 0.7 mV, 600 Ω
Terminal Mono, 3.5 mm jack (2 system)

VIDEO SECTION

Video system

PAL625/50, PAL525/60, NTSC

Composite video output

Output level 1 Vp-p (75 Ω)
Terminal

For the United Kingdom and Continental Europe

Scart jack (1 system)

For Southeast Asia, Australia and N.Z.

Pin jack (1 system)

For Southeast Asia, Australia and N.Z.

Component video output

Y output level 1 Vp-p (75 Ω)
P_B output level 0.7 Vp-p (75 Ω)
P_R output level 0.7 Vp-p (75 Ω)
Terminal Pin jack (Y: green, P_B: blue, P_R: red) (1 system)

For the United Kingdom and Continental Europe

S-video output

Y output level 1 Vp-p (75 Ω)
C output level PAL; 0.3 Vp-p (75 Ω)
NTSC; 0.286 Vp-p (75 Ω)
Terminal Scart jack (1 system)

RGB video output

R output level 0.7 Vp-p (75 Ω)
G output level 0.7 Vp-p (75 Ω)
B output level 0.7 Vp-p (75 Ω)
Terminal Scart jack (1 system)

HDMI AV output

Terminal

Type A connector (19 pin)

HDAVI Control

This unit supports "HDAVI Control 3" function.

USB SECTION

USB Port

USB Standard
Media file format support

USB 2.0 full speed
MP3 (*.mp3)
WMA (*.wma)
JPEG (*.jpg, *.jpeg)
MPEG4 (*.asf)
FAT12, FAT16, FAT32
500 mA (Max)

USB device file system

USB port power

DISC SECTION

Discs played (8 cm or 12 cm)

- (1) DVD (DVD-Video, DivX[®]₆, ^{※7})
- (2) DVD-RAM (DVD-VR, MP3^{※2}, ^{※7}, JPEG^{※4}, ^{※7}, MPEG4^{※5}, ^{※7}, DivX^{※6}, ^{※7})
- (3) DVD-R (DVD-Video, DVD-VR, MP3^{※2}, ^{※7}, JPEG^{※4}, ^{※7}, MPEG4^{※5}, ^{※7}, DivX^{※6}, ^{※7})
- (4) DVD-R DL (DVD-Video, DVD-VR)
- (5) DVD-RW (DVD-Video, DVD-VR, MP3^{※2}, ^{※7}, JPEG^{※4}, ^{※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})

^{※1} Conforming to IEC62107

^{※2} MPEG-1 Layer 3, MPEG-2 Layer 3

^{※3} Windows Media Audio Ver.9.0 L3

Not compatible with Multiple Bit Rate (MBR)

^{※4} Exif Ver 2.1 JPEG Baseline files

Picture resolution: between 160 x 120 and 6144 x 4096 pixels (Sub sampling is 4:0:0, 4:2:0, 4:2:2 or 4:4:4). Extremely long and narrow pictures may not be displayed.

^{※5} MPEG4 data recorded with 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.

^{※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) 655/785 nm

Laser power (DVD/CD) CLASS 1/CLASS 1M

NORSK

Bølgelengde (DVD/CD) 655/785 nm

Laserstyrke Ingen farlig stråling sendes ut

Audio output (Disc)

Number of channels 2 channels (FL, FR)

Specifications (continued)

SPEAKER SECTION

* Rating with low-cut filter equipped amplifier.

Type	2 way, 2 speaker system (Bass reflex)
Speaker(s)	
Woofer	10 cm Cone type
Tweeter	6 cm Cone type
Impedance	3 Ω
Input power (IEC)	80 W* (Max)
Output sound pressure	81 dB/W (1.0 m)
Cross over frequency	5 kHz
Frequency range	52 Hz to 31 kHz (–16 dB) 74 Hz to 27 kHz (–10 dB)
Dimensions (WxHxD)	145 mm x 240 mm x 217 mm
Mass	2.1 kg

GENERAL

Power supply

For the United Kingdom, Australia and N.Z.

AC 230 to 240 V, 50 Hz

For Continental Europe

AC 230 V, 50 Hz

For Southeast Asia

AC 220 to 240 V, 50/60 Hz

Power consumption

95 W

Dimensions (WxHxD)

175.0 mm x 240.0 mm x 342.3 mm

Mass

4.5 kg

Operating temperature range

0°C to 40°C

Operating humidity range

35% to 80% RH (no condensation)

Power consumption in standby mode

approx. 0.7 W

Note:

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

Maintenance

Clean this unit with a soft, dry cloth.

- Never use alcohol, paint thinner or benzene to clean this unit.
- Before using chemically treated cloth, carefully read the instructions that came with the cloth.
- Do not use commercially available lens cleaners as they may cause malfunction. (Cleaning the lens is generally not necessary although this depends on the operating environment.)

Before moving the unit, ensure the disc tray is empty.

Failure to do so will risk severely damaging the disc and the unit.

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Manufactured under license from Dolby Laboratories.
Dolby and the double-D symbol are trademarks of Dolby Laboratories.

"DTS" is a registered trademark of DTS, Inc. and "DTS 2.0 + Digital Out" is a trademark of DTS, Inc.

U.S. Patent Nos. 6,836,549; 6,381,747; 7,050,698; 6,516,132; and 5,583,936.

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

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Official DivX® Certified product.

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

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Matsushita Electric Industrial Co., Ltd.

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

Pursuant to at the directive 2004/108/EC, article 9 (2)

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