Panasonic®

TV / DVD / VCR Combination
Operating Instructions

Model No. AG-520VDH

VHS

Professional/Industrial Video

Getting Started

TV Operation

VCR Operation

TV/VCR Operation

Disc Operation

Information

• Connection and Initial Setup Procedures are on pages 10 and 13.

DOLBY DIGITAL

RAM COMPATIBLE PLAYER

COMPACT disc DIGITAL AUDIO

dts 2.0+DIGITAL OUT

DVD VIDEO™

COMPACT disc DIGITAL VIDEO

MULTI FORMAT PLAYBACK

DVD-RAM* DVD-R video playback

CD-R/RW* playback

*Ability to play back may depend on recording conditions.

ENERGY STAR

As an ENERGY STAR® Partner, Panasonic Corporation of North America has determined that this product or product model meets the ENERGY STAR® guidelines for energy efficiency.

READY TO PLAY!

LSQT0967 A

PRO LINE

Please read these instructions carefully before attempting to connect, operate, or adjust this product. Please save this manual.

Before Using

Congratulations

On your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you and your family years of enjoyment. Please fill in the information below. The serial number is on the tag located on the back of your unit.

Date of Purchase _____

Dealer Purchased From _____

Dealer Address_____

Dealer Phone No. _____

Model No. _____AG-520VDH_____

Serial No. _____

U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; 5,315,448; and 6,516,132.

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

This television receiver provides display of television closed captioning.

Accessories

☐ 1 Remote Control
(EUR7724020R)

☐ 2 Batteries "AA"

Panasonic

TV/DVD/VCR
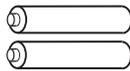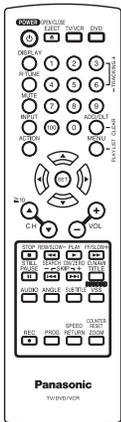
Safety Precaution

Be sure to read the following cautions carefully.

⚠ WARNING

Never pick unit up by VCR cassette opening.

2

Safety Precautions/Mesures de sécurité

⚠ WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

⚠ CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT IN WALL SOCKET. FULLY INSERT.

AVERTISSEMENT :

AFIN DE PRÉVENIR TOUT RISQUE D'INCENDIE OU DE CHOCS ÉLECTRIQUES, NE PAS EXPOSER CET APPAREIL À LA PLUIE OU À UNE HUMIDITÉ EXCESSIVE.

Attention :

POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

FCC WARNING :

ANY UNAUTHORIZED CHANGES OR MODIFICATIONS TO THIS EQUIPMENT WOULD VOID THE USER'S AUTHORITY TO OPERATE IT.

FCC NOTICE:
This equipment has been tested and found to comply with part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a residential environment. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver. If necessary, consult the dealer or an experienced radio/TV technician for help. You may find the booklet, "Something About Interference", available from FCC local regional offices, helpful.

This product utilizes both a Cathode Ray Tube (CRT) and other components that contain lead. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

This video recorder, equipped with the HQ (High Quality) System, is compatible with existing VHS equipment. Only use those tapes with the **VHS** mark. It is recommended that only cassette tapes that have been tested and inspected for use in 2, 4, 6, and 8 hour VCR machines be used. This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

CAUTION:
UNIT IS A CLASS I LASER PRODUCT.
HOWEVER, THIS UNIT USES A VISIBLE LASER BEAM WHICH COULD CAUSE HAZARDOUS RADIATION EXPOSURE IF DIRECTED. BE SURE TO OPERATE THE UNIT CORRECTLY AS INSTRUCTED.
WHEN THIS UNIT IS PLUGGED INTO THE WALL OUTLET, DO NOT PLACE YOUR EYES CLOSE TO THE OPENING OF THE DISC TRAY AND OTHER OPENINGS TO LOOK INTO THE INSIDE OF THIS UNIT.
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 ATTEMPT TO REPAIR THE UNIT YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION:
LASER RADIATION WHEN OPEN.
DO NOT STARE INTO BEAM.

ATTENTION:
RAYONNEMENT LASER EN CAS D'OUVERTURE.
NE PAS REGARDER DANS LE FAISCEAU.

(Inside of product)

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

IMPORTANT SAFEGUARDS AND PRECAUTIONS

⚠ WARNING

TO REDUCE THE RISK OF ELECTRIC SHOCK, FIRE, INJURY TO PERSONS OR DAMAGE TO THIS PRODUCT, READ AND RETAIN ALL SAFETY AND OPERATING INSTRUCTIONS. HEED ALL WARNINGS IN THE MANUAL AND ON THE PRODUCT.

■ INSTALLATION

1   POWER SOURCE CAUTION
Operate only from power source indicated on unit or in this manual. If uncertain, have your Electric Utility Service Company or Video Products Dealer verify your home power source.

2   POWER CORD PLUG
For safety, this unit has a polarized type plug (one wide blade), or a three-wire grounding type plug. Always hold the plug firmly and make sure your hands are dry when plugging in or unplugging the AC power cord. Regularly remove dust, dirt, etc. on the plug.
POLARIZED PLUG CAUTION:
The plug fits into outlet only one way. If it cannot be fully inserted, try reversing it. If it still will not fit, have an electrician install the proper wall outlet. Do not tamper with the plug.
GROUNDING PLUG CAUTION:
The plug requires a three-hole grounding outlet. If necessary, have an electrician install the proper outlet. Do not tamper with the plug.

3   POWER CORD
To avoid unit malfunction, and to protect against electrical shock, fire or personal injury:
• Keep power cord away from heating appliances and walking traffic. Do not rest heavy objects on, or roll such objects over the power cord.
• Do not tamper with the cord in any way.
• An extension cord should have the same type plug (polarized or grounding) and must be securely connected.
• Overloaded wall outlets or extension cords are fire hazards.
• Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified electrician.

**4   DO NOT BLOCK VENTILATION HOLES**
Ventilation openings in the cabinet release heat generated during operation. If blocked, heat build-up may result in a fire hazard or heat damage to cassettes or discs.
For your protection:
a. Never cover ventilation slots while unit is ON, or operate unit while placed on a bed, sofa, rug, or other soft surface.
b. Avoid built-in installation, such as a book case or rack, unless properly ventilated.

5   AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES
Do not place unit over or near a heater or radiator, in direct sunlight, inside closed vehicles, in high temperature locations [over 95 °F (35 °C)], or in over 75 % humidity. If unit is suddenly moved from a cold place to a warm one, moisture may condense in unit and on the tape causing damage. Never subject unit to vibration, impact, or place it so that the surface is tilted as internal parts may be seriously damaged.

6   TO AVOID PERSONAL INJURY
• Never place unit on support or stand that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
• Move any appliance and cart combination with care. Quick stops, excessive force, and uneven surfaces may cause objects to overturn.
• Carefully follow all operating instructions.

■ SERVICE

1   DO NOT SERVICE PRODUCT YOURSELF
If, after carefully following detailed operating instructions, the unit does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual. Unplug unit and contact a qualified service technician.
2   REPLACEMENT OF PARTS
Make sure the service technician uses only parts specified by the manufacturer, or that have equal safety characteristics as original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.
3   SAFETY CHECK AFTER SERVICING
After unit is serviced or repaired, request that a thorough safety check be done as described in the manufacturer's service literature to ensure video unit is in safe operating condition.

■ USING THE UNIT

Before unit is brought out of storage or moved to a new location, refer again to the INSTALLATION section of these safeguards.

1   KEEP UNIT WELL AWAY FROM WATER OR MOISTURE,
such as vases, sinks, tubs, etc.

2   IF EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT,
unplug unit and have it inspected by a qualified service technician before use.

3   ELECTRICAL STORMS
During a lightning storm, or before leaving unit unused for extended periods of time, disconnect all equipment from the power source as well as the antenna and cable system.

4   WHEN UNIT IS PLUGGED IN
• DO NOT OPERATE IF:
 - liquid has spilled into unit.
 - unit was dropped or otherwise damaged.
 - unit emits smoke, odours, or noises. Immediately unplug unit, and have it inspected by a service technician to avoid potential fire and shock hazards.
• Never drop or push any object through openings in unit. Touching internal parts may cause electric shock or fire hazard. Do not put any foreign object on the tray.
• Keep magnetic objects, such as speakers, away from unit to avoid electrical interference.

5   USING ACCESSORIES
Use only accessories recommended by the manufacturer to avoid risk of fire, shock, or other hazards.

6   CLEANING UNIT
Unplug unit. Use a clean, dry, chemically untreated cloth to gently remove dust or debris. DO NOT USE cleaning fluids, aerosols, or forced air that could over-spray, or seep into unit and cause electrical shock. Any substance such as wax, adhesive tape, etc. may mar the cabinet surface. Exposure to greasy, humid, or dusty areas may adversely affect internal parts.

■ OUTDOOR ANTENNA INSTALLATION

1   SAFE ANTENNA AND CABLE CONNECTION
An outside antenna or cable system must be properly grounded to provide some protection against built up static charges and voltage. Section 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code) provides information regarding proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

2   KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS
Locate an outside antenna system well away from power lines and electric light or power circuits so it will never touch these power sources should it ever fall. When installing antenna, absolutely never touch power lines, circuits or other power sources as this could be fatal.

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Information (Unit, Cassette)

Loading the Batteries

1 **Open the cover.**

2 **Insert batteries as marked.**

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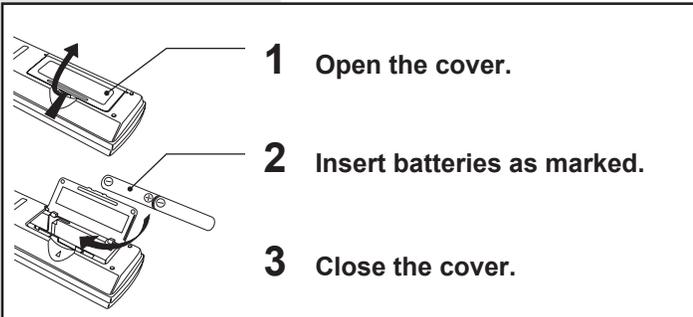
- Insert so the poles (+ and -) match those in the remote control.
- Do not use rechargeable type batteries.

Do not:
- Mix old and new batteries.
- Use different types at the same time.
- Heat or expose to flame.
- Take apart or short circuit.
- Attempt to recharge alkaline or manganese batteries.
- Use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

Prevent Accidental Tape Erasure

■ Break off the tab to protect.

Record Tab

Screw driver

■ To record again.

Cover the hole with cellophane tape.
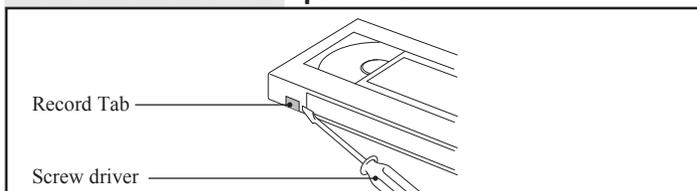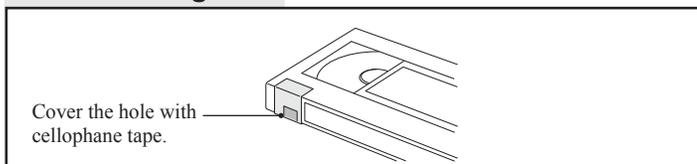
DST (Daylight Saving Time)

Unit auto adjusts clock for DST (Daylight Saving Time.)

■ Spring (First Sunday in April)
DST: ON ➜ Sets clock ahead one hour.

■ Autumn (Last Sunday in October)
DST: ON ➜ Turns clock back one hour.

- If your area does not observe Daylight Saving Time, select DST : OFF (see "Manual Clock Setting" on page 14).
- Keep these time changes in mind when programming the unit for timer recording.

Head Cleaning

Playing older or damaged tapes may eventually cause video heads to become clogged.

■ Head Clog Sensor

During playback this screen appears if clogging is detected. To clear message from screen, press PLAY on the remote or unit.

```
VIDEO HEADS MAY
NEED CLEANING
PLEASE INSERT HEAD
CLEANING CASSETTE
OR REFER TO MANUAL

END:PLAY
```

- **Use "dry" type head cleaning cassette only.** (Part No. NV-TCL30PT is recommended.)
- Follow cleaning tape directions carefully. Excessive use of head cleaning tape can shorten the video head life.

Information (Disc)

Discs that can be played

Disc type	Disc Logo	Indication in these operating instructions
DVD-Video	DVD VIDEO / DVD VIDEO	**DVD-V** (DVD-Video)
DVD-R*¹	DVD R4.7	
DVD-RAM*²	DVD RAM RAM4.7	**RAM**
CD	COMPACT disc DIGITAL AUDIO	**CD** (CD-DA)
Video CD	COMPACT disc DIGITAL VIDEO	**VCD**
CD-R	COMPACT disc Recordable	**CD** or
CD-RW	COMPACT disc Rewritable	**VCD**

Do not use irregularly shaped discs (e.g. heart-shaped), as these can damage the unit.

*¹ DVD-Video formatted discs [finalized].

*² Discs recorded using Version 1.1 of the Video Recording Format.

■ Discs that cannot be played
DVD with Region No. other than "1" or "ALL", DVD from PAL system, DVD-ROM, DVD+R, DVD-AUDIO, DVD-RW, DVD+RW, CD-ROM, CDV, CVD, CD-G, CD-TEXT, SACD, Photo-CD.

Note:
- **The digital audio content side of DualDiscs do not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so may not play back in this unit.**
- It may not be possible to play CD-R, CD-RW, DVD-R and DVD-RAM in all cases due to the type of disc or condition of the recording.

■ DVDs that can be played

You can play discs with these symbols.

DOLBY DIGITAL **dts DIGITAL SURROUND**

■ Playing DVDs

The producer of these discs can control how they are played so you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully.

■ DVD-R discs

Panasonic DVD-R recorded and finalized* on a Panasonic DVD video recorder are played as DVD-Video on this unit.

■ DVD-RAM discs

DVD-RAM discs must meet the following conditions for this unit to be able to play them.

Type	• Non-cartridge discs • Discs that can be removed from their cartridges (TYPE 2 and 4)
Capacity	• 12 cm (5″) 9.4 GB (double-sided) and 4.7 GB (single-sided) • 8 cm (3″) 2.8 GB (double-sided)

• Remove TYPE 2 and 4 discs from their cartridges before use, then return them when you are finished. Read the instructions for the disc carefully.

TYPE 2 or 4 disc   Non-cartridge disc
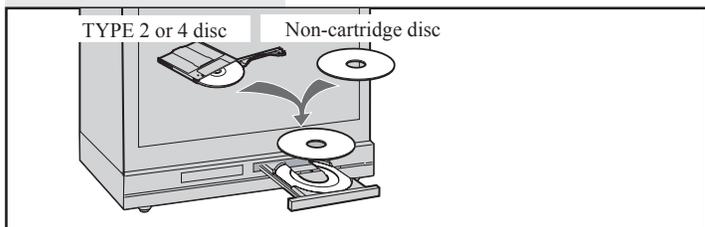
• Some parts of the disc, for example where one program ends and another begins, may not play smoothly.

■ CD-R and CD-RW discs

This unit can play CD-R and CD-RW if they are formatted as CD-DA (digital audio) and finalized*.

* A process that allows play on compatible equipment.

Region Management Information

This unit is designed and manufactured to respond to the Region Management Information that is recorded on a DVD disc. If the Region number described on the DVD disc does not correspond to the Region number of this unit, this unit cannot play this disc.

For U.S.A. and Canada

• The region number of this player is "1".

• The player will play DVD-Video marked with labels bearing "1" or "ALL".

**Example:**

1   **ALL**   **1 2 4**

Disc Handling

Handling precautions
• Sticking a label on the disc may impair DVD-R playback.
• Do not attach sticker to disc. (Do not use discs with exposed adhesive from tape or left over peeled-off stickers.)
• Only hold disc by edges as shown at right. Fingerprints, dirt and scratches can cause skipping and distortion.
• Do not write on label side of disc.
• Never use record cleaning sprays, benzine, thinner, static electricity prevention liquids, or any other solvent.
• Do not try to close disc tray when disc is not properly placed.

Disc tray   Disc
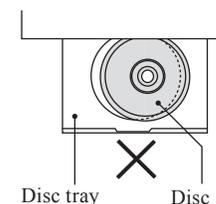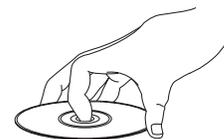
To clean disc surface

With a soft, damp (water only) cloth, gently wipe from the center hole to the outer edge as shown below. (Wiping in a circular pattern will scratch the surface.)

■ DVD-RAM, DVD-R :

Clean only with DVD-RAM disc cleaner. Never use cloths or cleaners for CDs, etc.

If disc is brought from a cold to a warm environment, moisture may form on the disc
Wipe away moisture with a soft, dry, lint-free cloth before using disc. (See above.)
Improper disc storage
Discs can be damaged if stored or left in areas:
• Exposed to direct sunlight.
• That are humid or dusty.
• Near heat (i.e. heater, radiator, etc.).

Information (MAIN MENU Screen)

In the Main Menu display, only icons which can be selected appear normally while those not available appear dark.

Example:
When the unit is used for the first time, the DVD icon is dark because it cannot be selected in this condition (see right). However, when DVD is pressed to enter DVD mode, the DVD icon becomes selectable.

```
         MAIN MENU
  ⊙        📁       ⬌
 DVD      LOCK   LANGUAGE
  📺      12:30    5 3 1
  TV      CLOCK     CH

SELECT:▲ ▼ ◄ ►   SET:SET
END    :ACTION
```
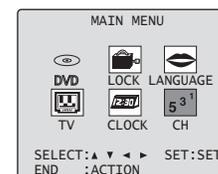
Location of Controls

Remote Control Buttons
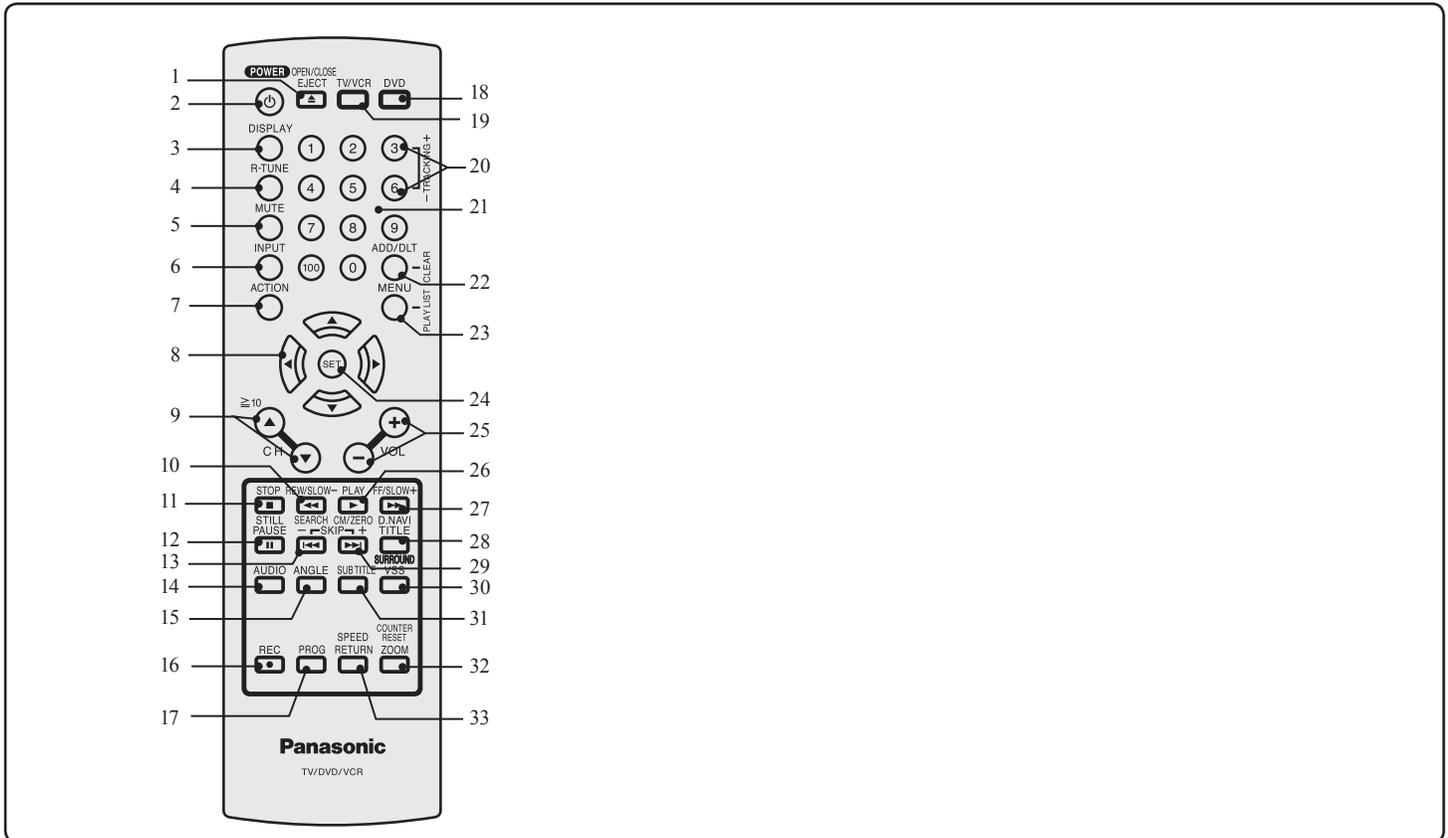


1	**OPEN / CLOSE / EJECT**	When this button is pressed in TV / VCR mode, the tape is ejected. This button is inoperative if pressed during recording. If pressed in DVD mode, the disc tray opens or closes.
2	**POWER**	Turns the unit on or off.
3	**DISPLAY**	Displays the TV status and clock. In DVD mode, displays disc and unit information.
4	**RAPID TUNE**	Displays the last channel you were watching.
5	**MUTE**	Mutes the sound instantly.
6	**INPUT**	Changes input source.
7	**ACTION**	Displays Main Menu.
8	**SELECT ▲▼◄►**	Controls navigation around on-screen menu.
9	**CHANNEL UP/ DOWN**	Selects a channel.
10	**REW/SLOW-**	Rewinds tape and searches previous scene. Decreases slow motion speed in Still mode.
11	**STOP**	Stops recording or playback.
12	**STILL/PAUSE**	Pauses picture in Playback mode and frame advance picture in Still mode.
13	**SKIP- I◄◄ / SEARCH**	Skips back one chapter or track. Goes to previous menu screen. Goes directly to the desired recording.
14	**AUDIO**	Selects the desired audio mode.
15	**ANGLE**	Selects the desired angle in DVD mode.
16	**REC**	Records a program.
17	**PROGRAM**	Displays SET PROGRAM screen. You can set Timer Program and On-Timer.
18	**DVD**	Set to DVD mode.

19	**TV/VCR**	Sets to TV/VCR mode.
20	**TRACKING UP / DOWN**	Reduces picture noise during Playback and Slow Motion.
21	**NUMBER Keys**	Selects a channel directly.
22	**ADD/DELETE/ CLEAR**	Adds or deletes a channel. Cancels an item on the screen.
23	**MENU / PLAY LIST**	Displays DVD menu. Displays Play List. (DVD-RAM)
24	**SET**	Sets selected menu.
25	**VOLUME UP/ DOWN**	Adjusts volume.
26	**PLAY**	Begins playback.
27	**FF/SLOW+**	Fast forwards tape and searches next scene. Increases slow motion speed in Still mode.
28	**TITLE / D.NAVI**	Selects the desired title by number on some DVDs. Displays Direct Navigator. (DVD-RAM).
29	**SKIP+ ►►I / CM SKIP / ZERO SEARCH**	Skips one chapter or track. Goes to next menu screen. In Stop mode, goes to counter position "0:00:00". In Playback mode, skips over 1 to 3 minutes of tape.
30	**SURROUND / VSS**	Creates a deeper, 3-D sound effect.
31	**SUB TITLE**	Selects a different subtitle language.
32	**ZOOM/ COUNTER RESET**	Enlarges specific portions of DVD picture. Resets to "0:00:00" at desired portion of tape.
33	**SPEED / RETURN**	Returns to DVD and Video CD (Playback Control) menu screen. Selects recording speed of tape.

8

Unit Buttons

■Front View
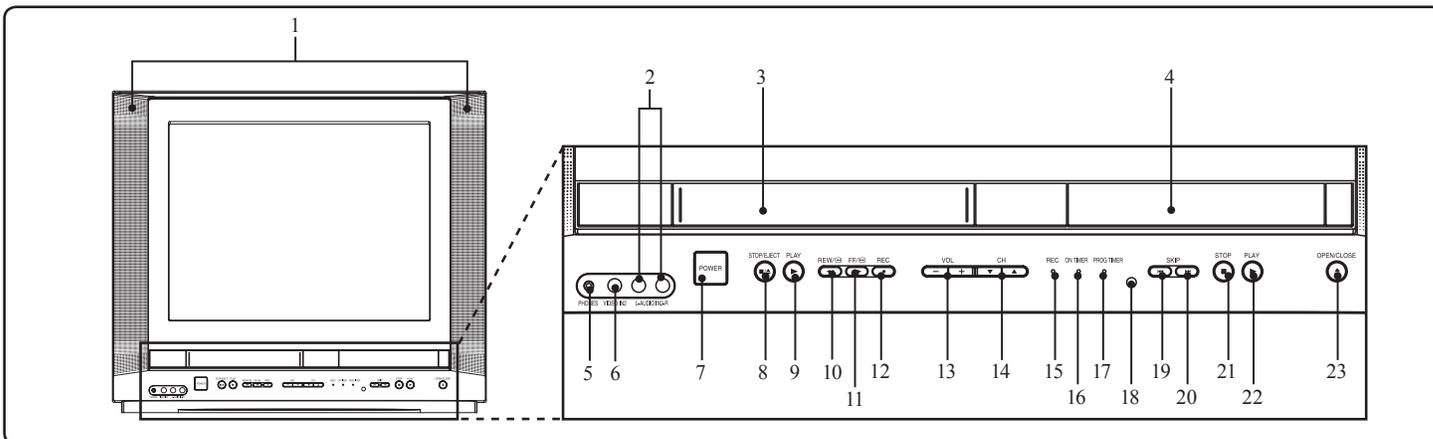
1	Built In Speakers	Equipped with 2 front speakers.
2	Audio Input Connector 2	Connect from other component. (LINE 2)
3	Cassette Compartment	Insert VHS tapes here.
4	Disc Tray	Place compatible discs here.
5	Phones Jack	Connect an ear phone or headphones.
6	Video Input Connector 2	Connect from other component. (LINE 2)
7	POWER	Turns the unit on or off.

8	VCR Operation	STOP/ EJECT	STOP: Stops playback. EJECT: Ejects the tape.
9		PLAY	PLAY: Begins playback. REPEAT: Set to see a recording over and over.
10		REWIND/ SEARCH	Rewinds tape and searches previous scene. Decreases slow motion speed in Still mode.
11		FAST FORWARD/ SEARCH	Fast forwards tape and searches next scene. Increases slow motion speed in Still mode.
12		REC	Records a program.
13		VOLUME UP/ DOWN	Adjusts volume.
14		CHANNEL UP/ DOWN or TRACKING UP/ DOWN	Selects a channel. Reduces picture noise during Playback and Slow Motion.

15	REC Indicator (RED)	Lights up during recording. In Rec Pause or OTR Pause mode, the Indicator flashes.
16	ON TIMER Indicator (ORANGE)	Lights when the On Timer is set.
17	PROG TIMER Indicator (GREEN)	Lights up when the unit is set for Timer Recording. It flashes when a Timer Recording has been set with no tape inserted, the clock is not set, or the tape is in motion. Lights up when the On Timer is set.
18	Remote Sensor	Receives infrared signal from remote control.
19	DVD Operation / SKIP |◀◀	Skips back one chapter or track. Goes to previous menu screen.
20	SKIP ▶▶|	Skips one chapter or track. Goes to next menu screen.
21	STOP	Stops playback.
22	PLAY	Begins playback.
23	OPEN/CLOSE	Opens or closes the disc tray.

■Rear View
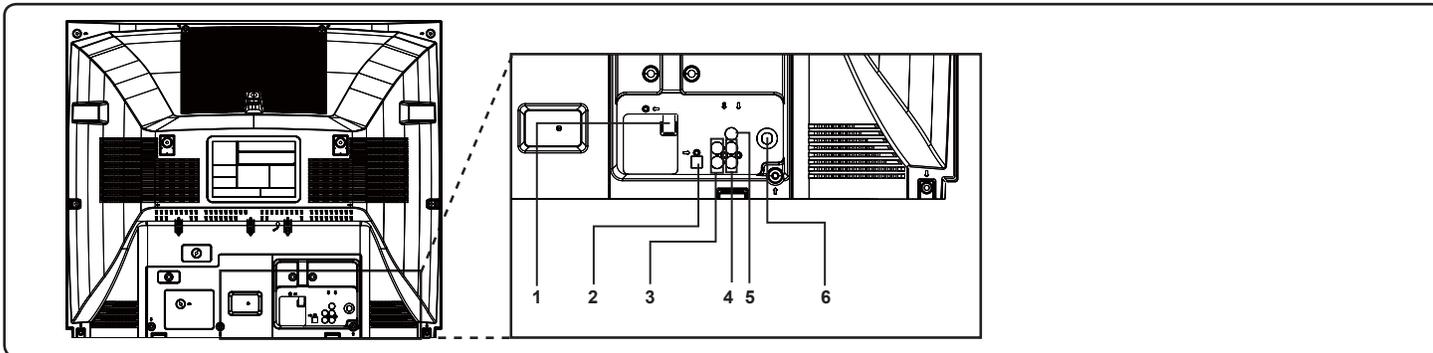
1	AC Power Plug	When plugged into an AC outlet, this unit consumes 0.8 W of electric power in OFF condition.	
2	Optical digital audio output connector	Outputs audio signal. (Digital)	
3	Audio Output Connector (L/R)	Outputs audio signal. (Analog)	
4	Audio Input Connector 1	Connect from other component. (LINE 1)	
5	Video Input Connector 1	Connect from other component. (LINE 1)	
6	VHF/UHF Antenna Input Terminal	Input terminal for an antenna or cable box signal.	

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Connections

Notes on connections

- Turn off the power supply for all components before making any connections.
- If the cables necessary for connecting a component to the system are not included with the component or available as an option, you may need to fashion a cable to suit the component concerned.
- Read the instruction manual for each system component carefully before connecting it.

Connecting the RF in Terminal

⚠ CAUTION

Overtightening "Nut type" RF coaxial cables may damage jacks. Finger tighten only.

■ Antenna Connection

Connect the cable from the Antenna to the VHF/UHF terminal on the unit.

VHF Antenna   UHF Antenna

Mixer
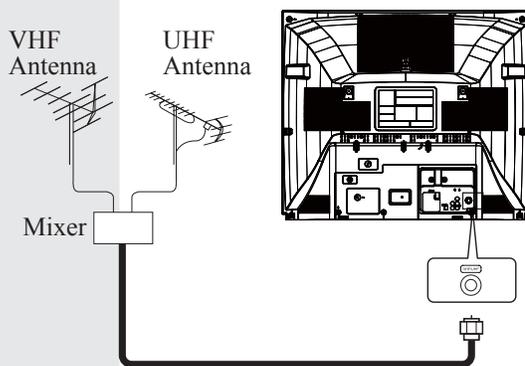
■ Cable Connection

Connect the cable supplied by your local cable company to the VHF/UHF terminal on the unit.

Cable Box

INPUT   OUTPUT

In from CABLE   **Or**
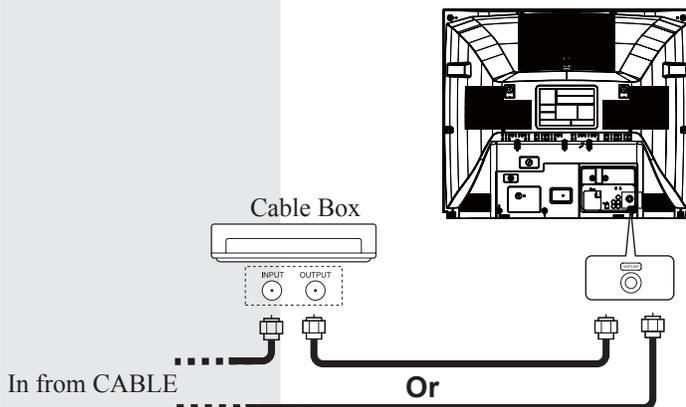
Note to CABLE system installer:
This reminder is provided to call the CABLE (Cable TV) System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Connecting the "1, 2" AV Input Terminals

Connects VCRs and other peripheral equipment

■ AV Input terminal 1 is used

IN 1

VIDEO

L

AUDIO

R
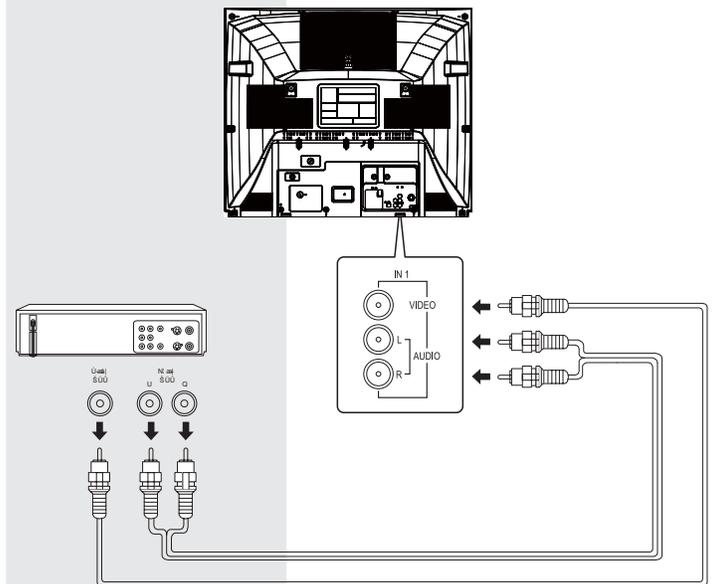
Notes:
- Similar connections are available at the "1, 2" AV input terminals.
- AV Input terminal 2 is located on the front of the unit.

10

Connecting the Audio Output Terminal

Enjoy the powerful movie theater and hall-like sound available with multiple channel audio found on DVDs by connecting an amplifier and speakers. There are two types of connection, digital and analog.

⚠ WARNING

Don't place the unit on amplifier or equipment that may become hot. The heat can damage the unit.
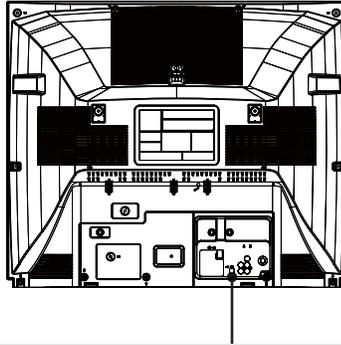
■ **Digital connection**

Firmly connect the cable to the connector.

Connect an AV amplifier with Dolby Digital or DTS decoders

Enjoy "Dolby Digital" or "DTS" surround sound.

OPTICAL

Amplifier with built in Dolby Digital or DTS decoders.

Speakers (example)
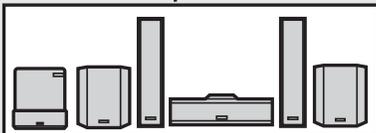
Please see amplifier manual for speaker requirements.

Connect a Digital amplifier

Smart one-line connection is possible.

OPTICAL

11
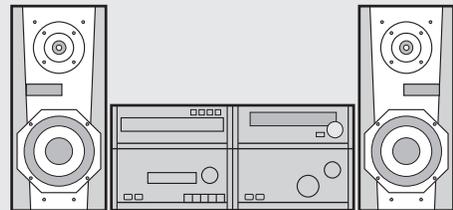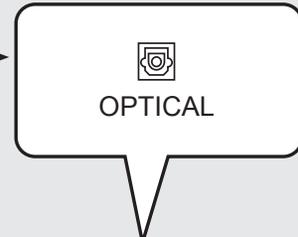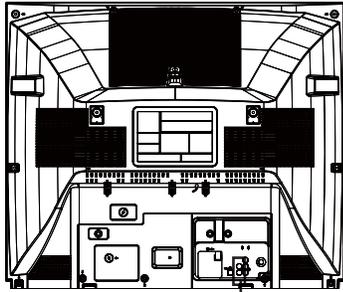
■ Analog connection

Connect an analog amplifier to enjoy high-quality stereo sound with sampling frequencies of 96 kHz.
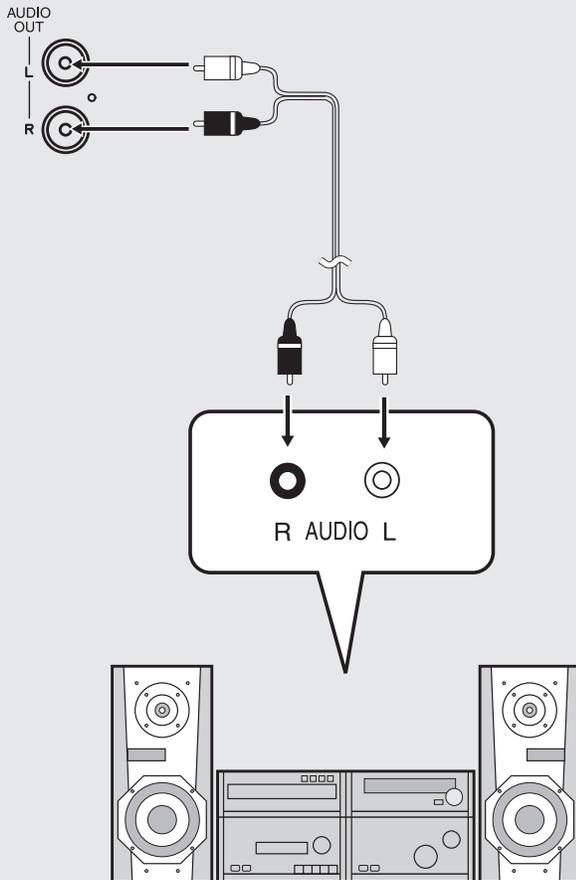
IMPORTANT NOTE:
Caution for optical digital audio output connector:
• Be sure to refer to page 50 regarding output settings of Dolby Digital, DTS, and PCM.
• CDs and Video CDs can be played as usual.
• Audio from the Digital Audio Out terminal is only output during playback.
• When connecting an amplifier which contains the Dolby Digital or DTS decoder, be sure to select "Bitstream". When connecting an amplifier which does not contain the Dolby Digital or DTS decoder, be sure to select "PCM". (See page 50.) Otherwise, attempting to play a DVD may cause such a high level of noise that it may harm your hearing and damage your speakers.

Notes:
• Some DTS decoders which do not support DVD-DTS Interface may not work properly with the unit.
• Avoid bending/twisting the optical digital cable when connecting.

For your reference:
• Dolby Digital is a digital sound compression technique developed by the Dolby Laboratories Licensing Corporation. Supporting 5.1-channel surround sound, as well as stereo (2-channel) sound, this technique enables a large quantity of sound data to be efficiently recorded on a disc.
• Linear PCM is a signal recording format used in CDs. While CDs are recorded in 44.1 kHz/16 bit, DVDs are recorded in 48 kHz/16 bit up to 96 kHz/24 bit.
• If you have a Dolby Pro Logic Surround decoder, you will obtain the full benefit of Pro Logic from the same DVD movies that provide full 5.1 channel Dolby Digital soundtracks, as well as from titles with the Dolby Surround mark. For information on Panasonic or Technics Dolby Pro Logic Surround Sound Decoders please contact your local dealer.

Manufactured under license from Digital Theater Systems, Inc. US Pat. No's. 5,451,942, 5,956,674, 5,974,380, 5,978,762, 6,487,535 and other U.S. and world-wide patents issued and pending. "DTS" and "DTS 2.0 + Digital Out" are trademarks of Digital Theater Systems, Inc. Copyright 1996, 2003 Digital Theater Systems, Inc. All Rights Reserved.

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

Tuning TV

EJECT
POWER
ACTION
SELECT ▲▼◄►/ SET
CH ▲▼
STOP
NUMBER Keys
ADD/DLT

POWER   STOP/EJECT   PLAY   FF

Panasonic
TV/DVD/VCR

Initial Setup (Ready to Play)

Please make all cable or antenna connections before powering on.

Plug the unit power cord into an AC wall outlet.

1 **Press POWER on the Remote Control or unit. Auto channel and clock set start.**
• If you use a cable box, turn it on and set it to the Public Broadcasting Service (PBS) channel in your time zone. If you use a DSS receiver, it must be turned off.

```
CH AUTO SET PROCEEDING

AUTO CLOCK SET
PROCEEDING

CANCEL:STOP
```

• Function buttons are void during Initial Setup.
• To eject a tape during Auto Set, press the unit STOP/EJECT button twice. Then, make settings manually. (See pages 14-15.)
• If Auto Clock Set takes more than 30 minutes, press STOP and perform settings manually. (See pages 14-15.)

Case 1

Settings are made automatically. When complete, this screen appears.

```
10/25/2005 TUE 11:45AM
               DST:ON
SETTING : CH 10

AUTO CLOCK SET

COMPLETED
```

Case 2

If setup is incomplete, the following screen appears. Check connection of Antenna/Cable to the RF in Terminal, then try to manually set the clock as follows.

```
AUTO CLOCK SET

IS INCOMPLETE

PLEASE SET CLOCK BY
PRESSING ACTION KEY
```
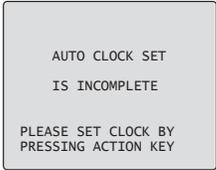
a. **Press ACTION on the Remote Control to display SET CLOCK Menu screen.**

```
         SET CLOCK

=1/1/2005 SAT 12:00AM
                DST:ON
─────────────────────

SELECT:▲ ▼        SET:SET
START :ACTION
```
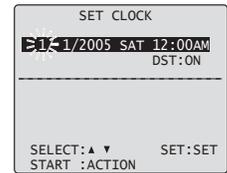
b. **Press ▲▼ to select the month and press SET to set. In the same manner, select and set the date, year, time, and DST (Daylight Saving Time).**
• Press ◄ repeatedly to move the cursor. Press ▲▼ to make a correction.

```
         SET CLOCK

10/25/2005 TUE 11:45AM
                DST:ON
─────────────────────

SELECT:▲ ▼        SET:SET
START :ACTION
```
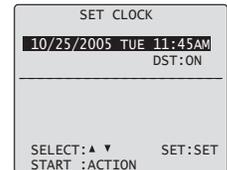
c. **Press ACTION twice to start CLOCK and exit.**

Automatic Channel Setting

1 Press ACTION to display MAIN MENU.

2 Press ▲▼◄► to select "CH."

```
         MAIN MENU

  DVD      LOCK  LANGUAGE

  TV      CLOCK    CH

SELECT:▲ ▼ ◄ ►    SET:SET
END    :ACTION
```

3 Press SET to display SET UP CHANNEL screen.

```
       SET UP CHANNEL

ANTENNA : CABLE
AUTO SET
WEAK SIGNAL DISPLAY:OFF

SELECT:▲ ▼        SET:SET
END   :ACTION
```
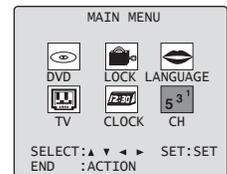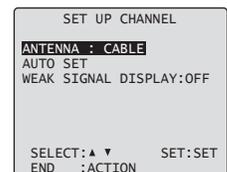
4 Press ▲▼ to select "ANTENNA," then press SET to set your antenna system ("TV" or "CABLE").

5 Press ▲▼ to select "AUTO SET," then press SET.

Note:
• After Channel Auto Set is finished, Clock Auto Set will be performed. (If clock is set manually, Clock Auto Set will not be performed.)

13

Add or Delete a Channel

■ To add channel:
Select channel with NUMBER keys and press ADD/DLT.

```
CHANNEL 08 ADDED
```

■ To delete channel:
Select channel with CH ▲ ▼ or NUMBER keys and press ADD/DLT.

```
CHANNEL 08 DELETED
```
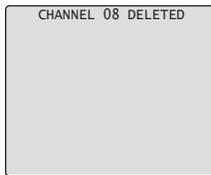
Automatic Clock Setting

1 **Press ACTION to display MAIN MENU.**

2 **Press ▲ ▼ ◄ ► to select "CLOCK."**

```
            MAIN MENU

    ⊙          📁        ◇
   DVD         LOCK  LANGUAGE
   🖳         12:30      5 3¹
   TV         CLOCK      CH

SELECT:▲ ▼ ◄ ►   SET:SET
END    :ACTION
```

3 **Press SET to display SET CLOCK screen.**

```
         SET CLOCK

   AUTO CLOCK SET
   MANUAL



SELECT:▲ ▼        SET:SET
END   :ACTION
```
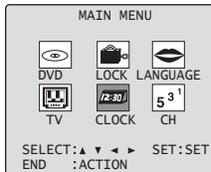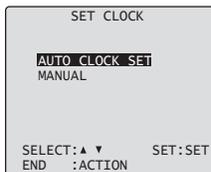
4 **Press ▲ ▼ to select "AUTO CLOCK SET," then press SET.**

Manual Clock Setting

1 **Press ACTION to display MAIN MENU.**

2 **Press ▲ ▼ ◄ ► to select "CLOCK."**

```
            MAIN MENU

    ⊙          📁        ◇
   DVD         LOCK  LANGUAGE
   🖳         12:30      5 3¹
   TV         CLOCK      CH

SELECT:▲ ▼ ◄ ►   SET:SET
END    :ACTION
```
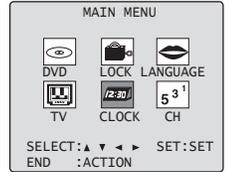
3 **Press SET to display SET CLOCK screen.**

("TIME ZONE ADJUST" appears only when auto clock is set.)

```
         SET CLOCK

   AUTO CLOCK SET
   MANUAL
   TIME ZONE ADJUST : 0


SELECT:▲ ▼        SET:SET
END   :ACTION
```
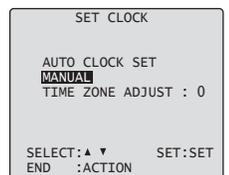
4 **Press ▲ ▼ to select "MANUAL," then press SET.**

```
         SET CLOCK

 10/25/2005 TUE 11:45AM
                 DST:ON
 --------------------


SELECT:▲ ▼        SET:SET
END   :ACTION
```
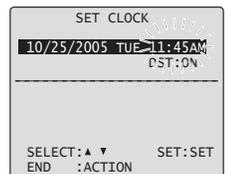
5 **Press ▲ ▼ and press SET to select and set the month, date, year, time, and DST (Daylight Saving Time).**

   To Make Corrections, repeatedly press ◄ to move to error, then correct.

6 **Press ACTION twice to start the clock and exit this mode.**

14

Time Zone Adjust

(Only when Auto Clock is set.)

1 Press ACTION to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "CLOCK."

```
            MAIN MENU

    ⬭        🗃️       ⬯
   DVD      LOCK    LANGUAGE
   📺       🕧       5 3¹
   TV      CLOCK      CH

   SELECT:▲ ▼ ◄ ►   SET:SET
   END   :ACTION
```

3 Press SET to display SET CLOCK screen.

```
            SET CLOCK

   AUTO CLOCK SET
   MANUAL
   TIME ZONE ADJUST : 0


   SELECT:▲ ▼        SET:SET
   END   :ACTION
```
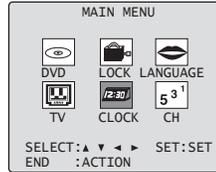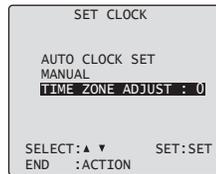
4 Press ▲ ▼ to select "TIME ZONE ADJUST" and press SET to subtract or add hour(s) as necessary.

```
            SET CLOCK

   AUTO CLOCK SET
   MANUAL
   TIME ZONE ADJUST :+1


   SELECT:▲ ▼        SET:SET
   END   :ACTION
```

```
   ┌→  0  →  +1  →  -1  ┐
   └────────────────────┘
```
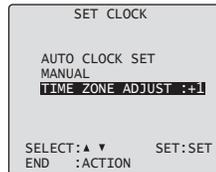
5 Press ACTION twice to exit.

Note:
• If set manually time zone does not appear.

Change Language Setting

1 Press ACTION to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "LANGUAGE."

```
            MAIN MENU

    ⬭        🗃️       ⬯
   DVD      LOCK    LANGUAGE
   📺       🕧       5 3¹
   TV      CLOCK      CH

   SELECT:▲ ▼ ◄ ►   SET:SET
   END   :ACTION
```

3 Press SET repeatedly.

```
   ┌→ English →  Spanish ┐
   │                     │
   └──── French ◄────────┘
```

For English
```
            MAIN MENU

    ⬭        🗃️       ⬯
   DVD      LOCK    LANGUAGE
   📺       🕧       5 3¹
   TV      CLOCK      CH

   SELECT:▲ ▼ ◄ ►   SET:SET
   END   :ACTION
```

For Spanish
```
          MENU PRINCIPAL

    ⬭        🗃️       ⬯
   DVD    BLOQUEO   IDIOMA
   📺       🕧       5 3¹
   TV      RELOJ    CANAL

   ELEGIR:▲ ▼ ◄ ►  FIJAR:SET
   TERMINAR:ACTION
```

For French
```
              MENU

    ⬭        🗃️       ⬯
   DVD    BLOCAGE   LANGUE
   📺       🕧       5 3¹
   TELE    HORLOGE  CANAL

   SEL.:▲ ▼ ◄ ►  REGLER:SET
   FIN   :ACTION
```
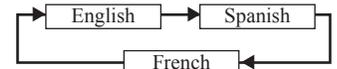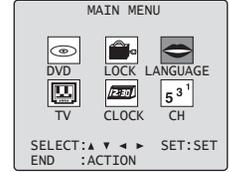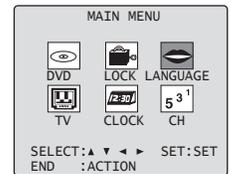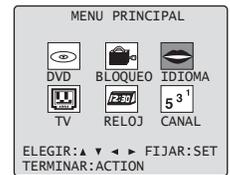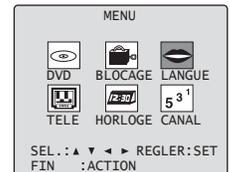
4 Press ACTION to exit.

Reset all unit Memory Functions

Returns to factory setting. Use if relocating unit, or if Initial Setup needs to be redone.
• Make sure a tape and/or disc is not inserted in unit.

1 Turn the unit Power on.

2 Hold down both PLAY and FF on the unit for more than 5 seconds.
  • The power will shut off.
  • Please ignore "NO CASSETTE" warning.

3 Perform "Initial Setup" on page 13.

TV Operation

15

TV Operation

RAPID TUNE

MUTE

INPUT

ACTION

SELECT ▲▼◄►/ SET

CH▲▼

NUMBER keys

100 key

VOL+/-

AV Input Terminal 2

Selecting Input Mode

■ Method 1:

Press CH ▲▼. The display will change as follows.

Notes:
- The diagram at right is an example.
- TV CH 2 and CABLE CH 1 represent the lowest channels in memory, while TV CH 69 and CABLE CH 125 represent the highest channels in memory.

(TV) CH2
(CABLE) CH1

LINE2

(TV) CH69
(CABLE) CH125

LINE1

■ Method 2:

Press INPUT. The display will change as follows.

LINE1 → LINE2 → TUNER
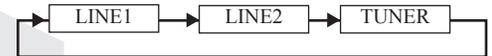
■ Method 3:

1 Press ACTION for MAIN MENU.

2 Press ▲▼◄► to select "TV", then press SET for SET UP TV screen.

```
          MAIN MENU

   DVD      LOCK   LANGUAGE

   TV       CLOCK    CH

SELECT:▲ ▼ ◄ ►    SET:SET
END    :ACTION
```
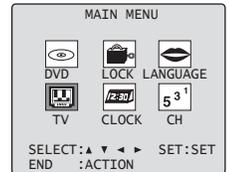
3 Press ▲▼ to select "INPUT SELECT," and then press SET to select "TUNER", "LINE 1", or "LINE 2."

```
        SET UP TV

CAPTION
INPUT SELECT    :TUNER
SET UP VIDEO/AUDIO
DVD VOL ADJUST :+2


SELECT:▲ ▼        SET:SET
END   :ACTION
```
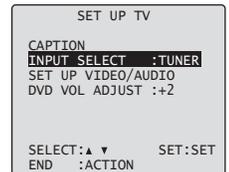
4 Press ACTION twice to exit this mode.

LINE 1:
Signal of source connected to AV Input terminal 1 is displayed. (Rear of the unit.)
LINE 2:
Signal of source connected to AV Input terminal 2 is displayed.
TUNER:
Signal of source connected to VHF/UHF terminal is displayed.

Using the CH/VOL Button

■ Select desired channel:
Press CH ▲▼ or NUMBER keys.

■ Adjust desired volume level:
Press VOL + or VOL -.

Using the Number and 100 keys

When selecting CABLE channels 100 to 125 with the NUMBER keys, first press the 100 key, and then enter the remaining two digits.

Example 1:
To select channel 125, first press the 100 key, then 2, then 5.
Example 2:
To select channel 12, first press the 1 key, then 2.
Example 3:
To select channel 2, first press the 0 key, then 2.

Rapid Tune

Press R-TUNE to display the last channel you were watching.

Audio Mute

Press MUTE to instantly mute the sound. Press again to restore the previous sound level.

Surround Sound System

You can hear a deeper, 3-D sound effect using just the unit's two front speakers.

1 **Press SURROUND.**
•"SURROUND ON" is displayed.

  To Cancel, press SURROUND.

Notes:
• Surround sound effect is not available for normal (mono) broadcasts.
• The surround effect (TV, VCR mode only) is not output to Audio Output L/R Connector.

Weak Signal Display Feature

When "ON" is selected, the picture is displayed even when a broadcast signal is weak or non-existent.

1 **Press ACTION to display MAIN MENU.**

2 **Press ▲ ▼ ◄ ► to select "CH."**

3 **Press SET to display SET UP CHANNEL screen.**

```
               MAIN MENU

      DVD       LOCK   LANGUAGE

      TV       CLOCK     CH

   SELECT:▲ ▼ ◄ ►    SET:SET
   END    :ACTION
```
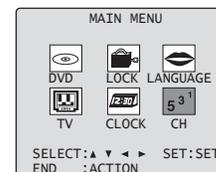
4 **Press ▲ ▼ to select "WEAK SIGNAL DISPLAY."**

5 **Press SET to set "ON" or "OFF."**

```
           SET UP CHANNEL

   ANTENNA : CABLE
   AUTO SET
   WEAK SIGNAL DISPLAY:OFF



   SELECT:▲ ▼        SET:SET
   END    :ACTION
```
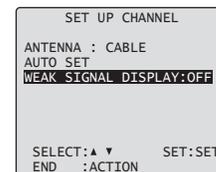
ON:
Picture is displayed regardless of signal condition, and may not always be clearly visible.
OFF:
Screen turns solid blue when signal is absent or weak.

 Note:
 • If the unit is connected to equipment which has a blue screen feature, selecting "ON" will have no effect on the other equipment.

6 **Press ACTION twice to return to the normal screen.**

17

MTS Broadcast / TV Stereo System

DISPLAY

AUDIO

Panasonic

TV/DVD/VCR
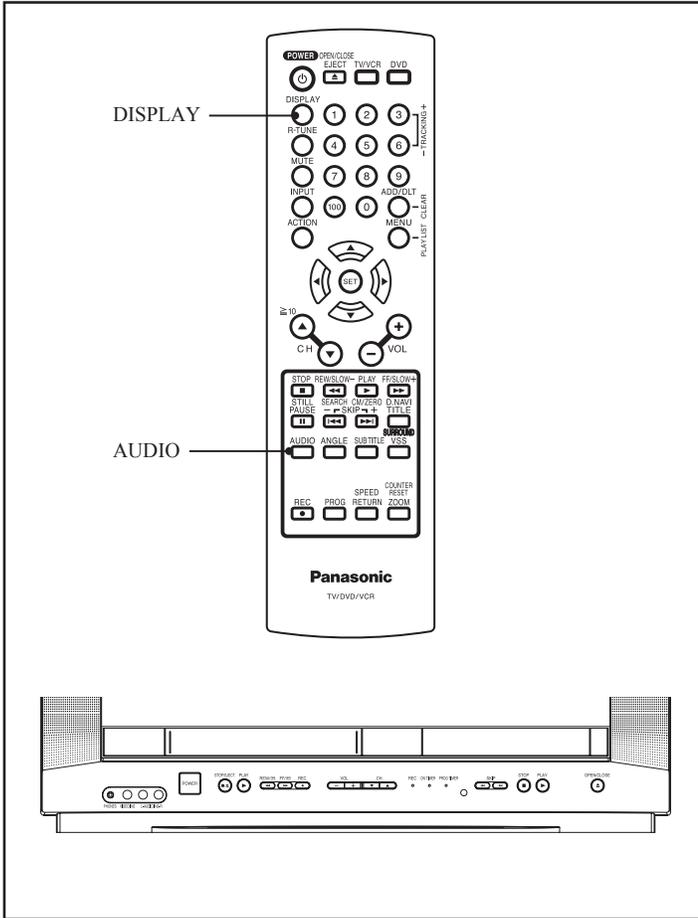
Equipped with **dbx**®-TV Noise Reduction for true MTS reproduction. **dbx**®-TV Noise Reduction is required for good stereo separation and audio fidelity. **dbx**® is a registered trademark, and is licensed by **dbx**® Technology Licensing.

Audio Mode for TV Viewing

1 **Press AUDIO to select the desired audio mode as described above. (Arrow shows selection.)**
   • Each press of AUDIO will change the audio mode as shown below.
   • "SAP" is selected with first press of AUDIO.

< Example >

```
12:00AM   CH 08

 (( STEREO
    SAP       ◄
    MONO
```

```
12:00AM   CH 08

 (( STEREO
    SAP
    MONO      ◄
```

```
12:00AM   CH 08

 (( STEREO ◄
    SAP
    MONO
```
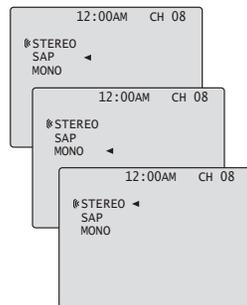
Receivable Broadcast Types

The following are possible audio broadcast types and on-screen displays. The signal being received is indicated with a " ((" mark while the selected audio mode is indicated with an arrow. To change the audio mode for these broadcasts, see the "Audio Mode for TV Viewing" section.

1 **Press DISPLAY to display the broadcast signal being received.**

■ **MTS Stereo broadcast:**
   Multi-channel Television Sound Stereo broadcast. Select STEREO audio mode.
   • If stereo broadcast is weak and the display flickers, select MONO audio mode for possible improvement.

```
12:00AM   CH 08

 (( STEREO ◄
    SAP
    MONO
```
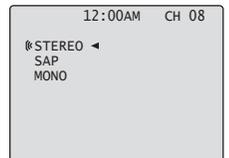
■ **SAP broadcast:**
   Secondary Audio Program (sub language).
   Select SAP audio mode for the sub language.

```
12:00AM   CH 08

    STEREO
 (( SAP       ◄
    MONO
```
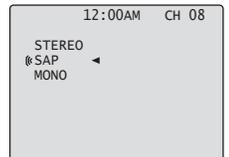
■ **MTS Stereo and SAP broadcast:**
   Multi-channel Television Sound Stereo (main language) and Secondary Audio Program (sub language) broadcasts are being received simultaneously. Select the STEREO or SAP audio mode.

```
12:00AM   CH 08

 (( STEREO
 (( SAP       ◄
    MONO
```
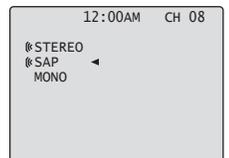
■ **MONO broadcast:**
   Normal monaural sound broadcast.

```
12:00AM   CH 08

    STEREO
    SAP
    MONO      ◄
```

TV Timer Features

DISPLAY

SELECT
▲▼◄►/
SET

PROG

ADD/DLT
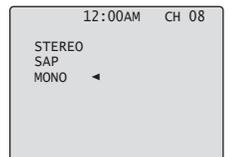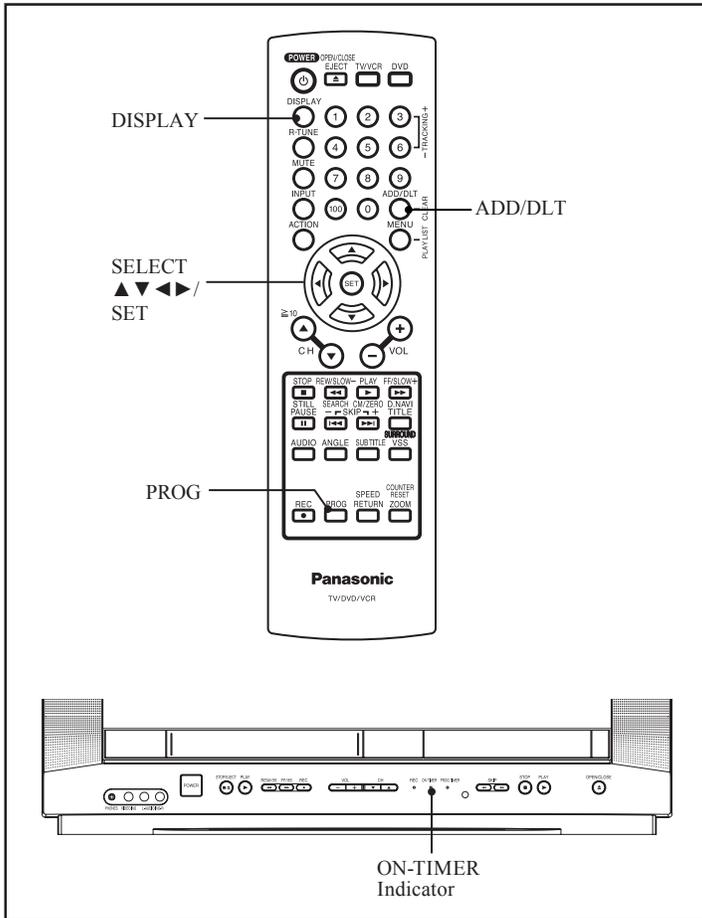
ON-TIMER
Indicator

- Make sure a tape is inserted if Playback mode is selected.
- Make sure a disc is inserted if Disc (DVD/CD/Video CD) mode is selected.

ON-TIMER mode selection order

Lowest channel CH01 Disc

Highest channel CH125 VCR
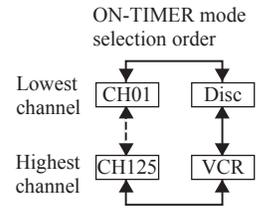
To Make Corrections, use ▲▼ and ◄ ► to move back and correct.

6 Press PROG to set ON TIMER.
- "ON TIMER SET" is displayed.
- PROG TIMER Indicator lights up on the unit.

```
        ON TIMER
   10:00AM  CH 05
   _____


   CANCEL:ADD/DLT
   SELECT:▲ ▼        SET:SET
   END   :PROG
```
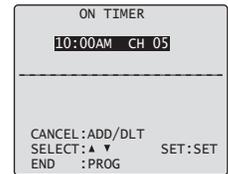
To Cancel ON-TIMER,
Repeat steps 1-3. Then, press ADD/DLT to clear the time in steps 4-5. Now, press PROG to end. "ON TIMER END" briefly appears on-screen.

Note:
- If no button on the remote or unit is pressed within 60 minutes after unit turns itself on, it will turn itself back off.

ON-TIMER

This unit can be set to automatically power on in one of 3 modes (TV, VCR Playback, or Disc.)

1 Press PROG to display SET PROGRAM screen.

2 Press ▲▼ to select "ON TIMER."

3 Press SET to display ON TIMER screen.

```
        SET PROGRAM

   TIMER PROGRAMMING
   ON TIMER
   SLEEP TIMER: 0


   SELECT:▲ ▼        SET:SET
   END   :PROG
```
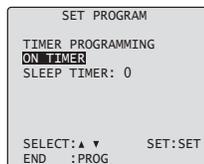
4 Press ▲▼ to select desired settings.

5 Press SET to set the ON-TIMER time and ON-TIMER mode.

```
        ON TIMER
    6:--AM  CH --
   _____


   SELECT:▲ ▼        SET:SET
   END   :PROG
```
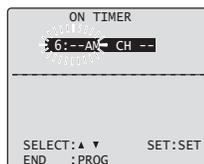
Sleep Timer

This unit can be set for auto power off.

1 Press PROG to display SET PROGRAM screen.

2 Press ▲▼ to select "SLEEP TIMER."

3 Press SET repeatedly to select the desired time.

```
        SET PROGRAM

   TIMER PROGRAMMING
   ON TIMER
   SLEEP TIMER: 0


   SELECT:▲ ▼        SET:SET
   END   :PROG
```
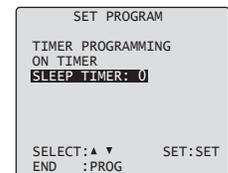
To cancel, press SET repeatedly until 0 appears.

30 → 60
↑   ↓
0 ← 90
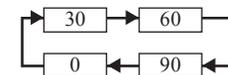
4 Press PROG to return to the normal screen.

- Pressing DISPLAY with sleep timer set displays remaining time.

Closed Caption System

MUTE
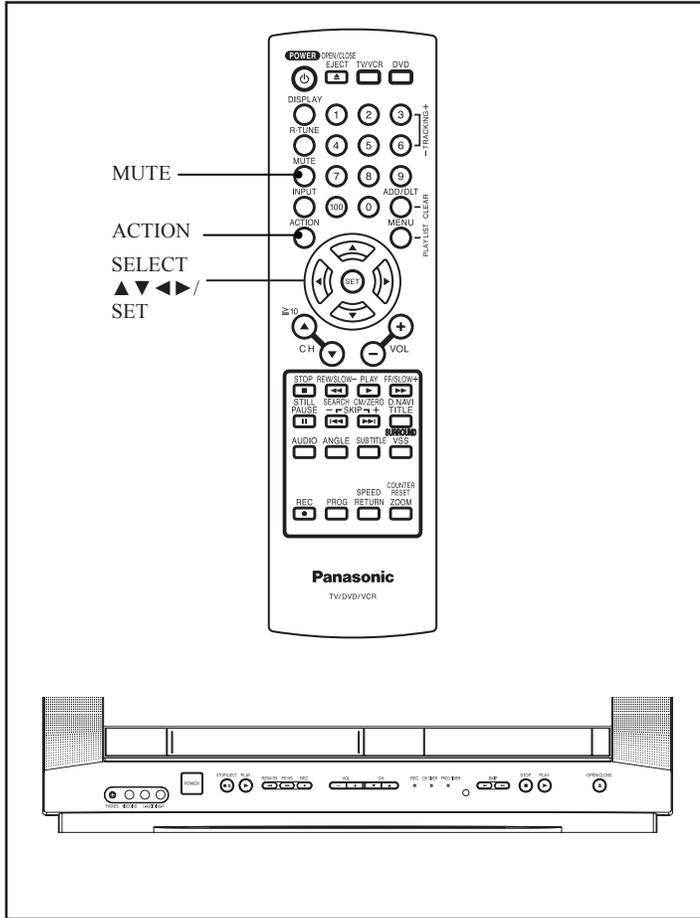
ACTION

SELECT
▲▼◄►/
SET

Closed Caption is ...
This multi-use system not only allows the hearing impaired to enjoy selected programs, but also allows one to watch programs with the volume muted.

Closed Caption Mode Feature

1 **Press ACTION to display MAIN MENU.**

2 **Press ▲▼◄► to select "TV."**

```
           MAIN MENU

    ⦿        📁        ◇
   DVD      LOCK   LANGUAGE
   📺       🕧       5³¹
   TV      CLOCK      CH

  SELECT:▲ ▼ ◄ ►   SET:SET
  END    :ACTION
```
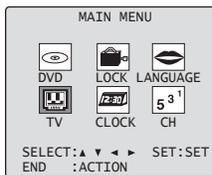
3 **Press SET to display SET UP TV screen.**

4 Press ▲▼ to select "CAPTION".

5 Press SET to display CAPTION screen.

```
           SET UP TV

  CAPTION
  INPUT SELECT   :TUNER
  SET UP VIDEO/AUDIO
  DVD VOL ADJUST :+2


  SELECT:▲ ▼        SET:SET
  END    :ACTION
```
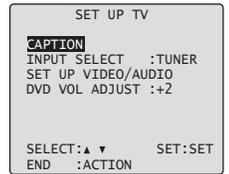
6 Press ▲▼ to select "CAPTION MODE."

7 Press SET repeatedly to select mode.

```
            CAPTION

  CAPTION MODE : OFF
  CC ON MUTE    : CAP C1




  SELECT:▲ ▼        SET:SET
  END    :ACTION
```

OFF → CAP C1 → TEXT C1 → CAP C2 → TEXT C2 → OFF
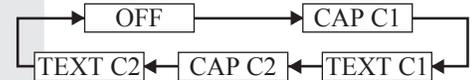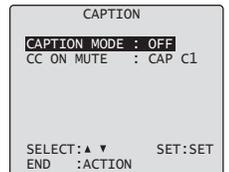
■ **Caption Mode: CAP C1 or C2**
A narration of selected TV programs is displayed.
Check TV program listings for CC (Closed Caption) broadcasts.

■ **Caption Mode: TEXT C1 or C2**
Most of the screen will be blocked out. When the TV station broadcasts information, such as program listings, it will appear in this space.

■ **Caption Mode: OFF**
Closed Caption/Text narration will not be displayed.

8 **Press ACTION three times to return to the normal screen.**

Notes:
• The closed caption or text signal may be broadcast over C1, C2, or both. Also, text contents can vary so you may wish to try different settings.
• The closed caption display may overlap the display of a Disc.

Caption On Mute Feature

Closed Caption narration, if available, is displayed when MUTE button is pressed for silence.

1 Press ACTION to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "TV."

3 Press SET to display SET UP TV screen.

```
        MAIN MENU

   ◉         📷        ⬌
  DVD      LOCK   LANGUAGE
   📺        🕝       5 ³¹
   TV       CLOCK      CH

SELECT:▲ ▼ ◄ ►   SET:SET
END     :ACTION
```

4 Press ▲ ▼ to select "CAPTION".

5 Press SET to display CAPTION screen.

```
        SET UP TV

CAPTION
INPUT SELECT   :TUNER
SET UP VIDEO/AUDIO
DVD VOL ADJUST :+2


SELECT:▲ ▼      SET:SET
END   :ACTION
```

6 Press ▲ ▼ to select "CAPTION MODE."

7 Press SET repeatedly to select "OFF."

```
         CAPTION

CAPTION MODE : OFF
CC ON MUTE   : CAP C1



SELECT:▲ ▼      SET:SET
END   :ACTION
```
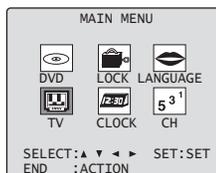
8 Press ▲ ▼ to select "CC ON MUTE."

9 Press SET repeatedly to select desired mode.
 • The caption may be broadcast over CAP C1 or C2.

```
         CAPTION

CAPTION MODE : OFF
CC ON MUTE   : CAP C1



SELECT:▲ ▼      SET:SET
END   :ACTION
```

```
┌──► NO ──────► CAP C1 ─┐
│                       │
└──── CAP C2 ◄──────────┘
```
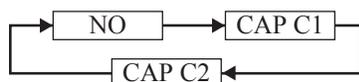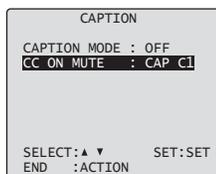
■ CC ON MUTE: CAP C1 or C2
A narration of selected TV programs is displayed when MUTE button is pressed for silence.

■ CC ON MUTE: NO
A narration will not be displayed when MUTE button is pressed for silence.

10 Press ACTION three times to return to the normal screen.

11 Press MUTE to mute the sound and display closed captioning.
 • To cancel, press MUTE again.

Note:
• When a disc supporting closed captions is used, the subtitle and the closed caption may overlap. In this case, turn the subtitle or caption mode off. (See page 39.)

Recording and Playing Back a Closed Caption/Text Program

■ Record:
Record normally. Closed Caption/Text signal, if present, is recorded automatically.

■ Playback:
Start playback. Perform steps to select desired caption mode.

21

Video / Audio Setting
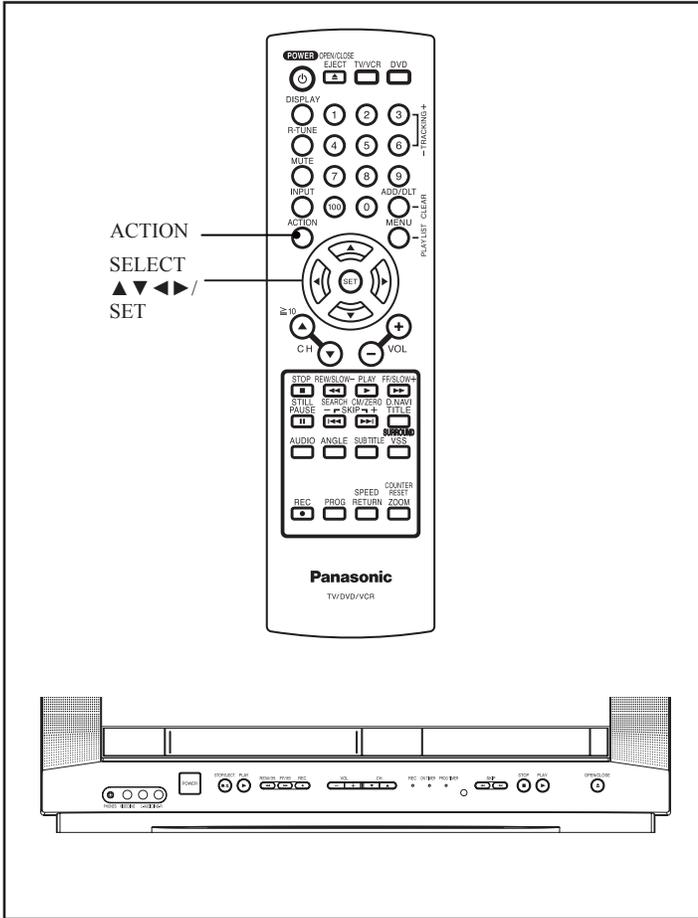
ACTION

SELECT
▲▼◀▶/
SET

This feature allows easy setting of picture and sound suitable for each program source.

Video Menu

1 **Press ACTION to display MAIN MENU.**

2 **Press ▲▼◀▶ to select "TV."**

3 **Press SET to display SET UP TV screen.**

```
           MAIN MENU

     ⬚        ⬚        ⬚
    DVD      LOCK   LANGUAGE
     ⬚        ⬚        ⬚
     TV      CLOCK      CH

  SELECT:▲ ▼ ◀ ▶   SET:SET
  END   :ACTION
```

4 **Press ▲▼ to select "SET UP VIDEO/AUDIO."**

5 **Press SET to display SET UP VIDEO/AUDIO screen.**

```
            SET UP TV

  CAPTION
  INPUT SELECT   :TUNER
  SET UP VIDEO/AUDIO
  DVD VOL ADJUST :+2


  SELECT:▲ ▼      SET:SET
  END   :ACTION
```
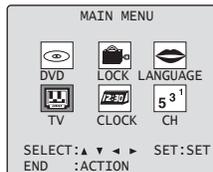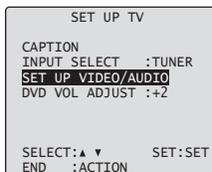
6 **Press ▲▼ to select "VIDEO MENU."**

7 **Press SET repeatedly to select desired mode.**

```
         SET UP VIDEO/AUDIO

  VIDEO MENU   :NORMAL
  VIDEO ADJUST
  AUDIO MENU   :MUSIC
  AUDIO ADJUST


  SELECT:▲ ▼      SET:SET
  END   :ACTION
```
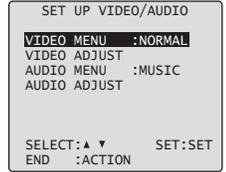
NORMAL	Factory setting.
MOVIE	Picture is adjusted for a movie-like feel.
NIGHT	Color and picture intensity are adjusted to be easier on the eyes for night viewing.

8 **Press ACTION three times to end setup.**

Audio Menu

1 **Perform steps 1 - 5 at left.**

2 **Press ▲▼ to select "AUDIO MENU."**

3 **Press SET to select desired mode.**

```
         SET UP VIDEO/AUDIO

  VIDEO MENU   :NORMAL
  VIDEO ADJUST
  AUDIO MENU   :MUSIC
  AUDIO ADJUST


  SELECT:▲ ▼      SET:SET
  END   :ACTION
```
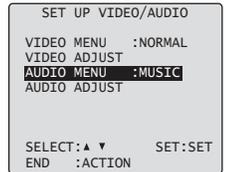
MUSIC	Sound suited to music. (Factory setting)
SPEECH	Sound suited to dialogue.
NORMAL	
AUTO	[Audio AGC (Auto Gain Control)] The sound level is automatically adjusted to suit the program source. <Audio AGC Example>
MOVIE	Sound suited to movies.

4 **Press ACTION three times to end setup.**

Notes:
- The effects of this feature on the signal are not output to the Audio/Video Output Connector.
- When AUDIO MENU mode is "AUTO," the AUDIO ADJUST setting will be "STANDARD."
- AUDIO MENU settings remain in memory.
- VIDEO MENU settings do not remain in memory.

Video Adjustment

1 Press ACTION to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "TV."
3 Press SET to display SET UP TV screen.

```
         MAIN MENU

  ⊙        📷        ◇
  DVD      LOCK    LANGUAGE
  📺       🕧       5 3¹
  TV      CLOCK      CH

SELECT:▲ ▼ ◄ ►   SET:SET
END   :ACTION
```

4 Press ▲ ▼ to select "SET UP VIDEO/AUDIO."
5 Press SET to display SET UP VIDEO/AUDIO screen.

```
          SET UP TV

CAPTION
INPUT SELECT   :TUNER
SET UP VIDEO/AUDIO
DVD VOL ADJUST :+2


SELECT:▲ ▼      SET:SET
END   :ACTION
```
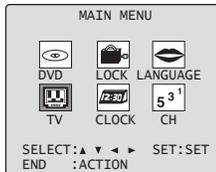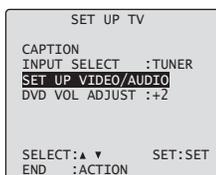
6 Press ▲ ▼ to select "VIDEO ADJUST."
7 Press SET to display VIDEO ADJUST screen.

```
      SET UP VIDEO/AUDIO

VIDEO MENU   :NORMAL
VIDEO ADJUST
AUDIO MENU   :MUSIC
AUDIO ADJUST


SELECT:▲ ▼      SET:SET
END   :ACTION
```

8 Press ▲ ▼ to select an item.
9 Press ◄ ► to adjust.

```
        VIDEO ADJUST

COLOR      ········|········
TINT       ········|········
BRIGHTNESS ········|········
PICTURE    ········|········
SHARPNESS  ········|········
STANDARD

SELECT:▲ ▼   ADJUST:◄ ►
END   :ACTION
```
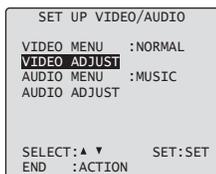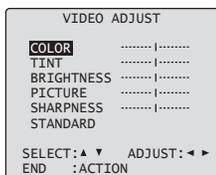
COLOR Control	Adjust color intensity.
TINT Control	Adjust for natural flesh tones.
BRIGHTNESS Control	Adjust picture brightness.
PICTURE Control	Adjust picture intensity by adjusting both contrast and color level in the proper balance.
SHARPNESS Control	Increases or decreases the level of detail in the image.

■ To Reset VIDEO Controls.
Press ▲ ▼ and SET to select and set "STANDARD." All controls return to their factory settings.

10 Press ACTION four times to end setup.

Audio Adjustment

1 Press ACTION to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "TV."
3 Press SET to display SET UP TV screen.

```
         MAIN MENU

  ⊙        📷        ◇
  DVD      LOCK    LANGUAGE
  📺       🕧       5 3¹
  TV      CLOCK      CH

SELECT:▲ ▼ ◄ ►   SET:SET
END   :ACTION
```

4 Press ▲ ▼ to select "SET UP VIDEO/AUDIO."
5 Press SET to display SET UP VIDEO/AUDIO screen.

```
          SET UP TV

CAPTION
INPUT SELECT   :TUNER
SET UP VIDEO/AUDIO
DVD VOL ADJUST :+2


SELECT:▲ ▼      SET:SET
END   :ACTION
```
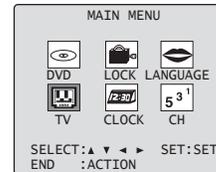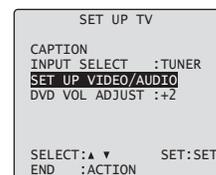
6 Press ▲ ▼ to select "AUDIO ADJUST."
7 Press SET to display AUDIO ADJUST screen.

```
      SET UP VIDEO/AUDIO

VIDEO MENU   :NORMAL
VIDEO ADJUST
AUDIO MENU   :MUSIC
AUDIO ADJUST


SELECT:▲ ▼      SET:SET
END   :ACTION
```

8 Press ▲ ▼ to select an item.
9 Press ◄ ► to adjust.

```
        AUDIO ADJUST

BASS       ········|········
TREBLE     ········|········
BALANCE    ········|········
STANDARD


SELECT:▲ ▼   ADJUST:◄ ►
END   :ACTION
```
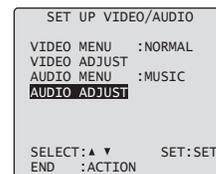
BASS Control	To adjust the intensity of low frequency sound.
TREBLE Control	To adjust the intensity of high frequency sound.
BALANCE Control	Controls the difference in audio level between the left and right speaker.

• The levels set here do not affect other audio equipment when connected to the Audio Output L/R Connector.

■ To Reset AUDIO Controls.
Press ▲ ▼ and SET to select and set "STANDARD." All controls return to their factory settings.

10 Press ACTION four times to end setup.

Before using the VCR

EJECT

TV/VCR

DISPLAY

NUMBER keys

ADD/DLT

CH▲▼

STOP

STILL/ PAUSE

AUDIO

REC

PROG

SPEED

Insert a tape   STOP / EJECT   REC   CH▲▼   REC Indicator
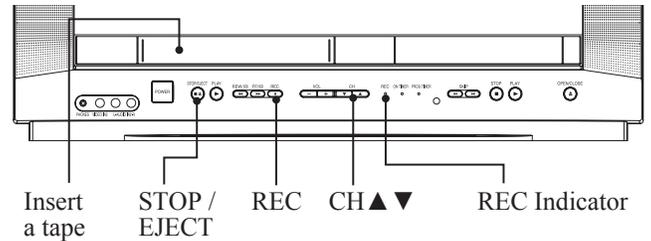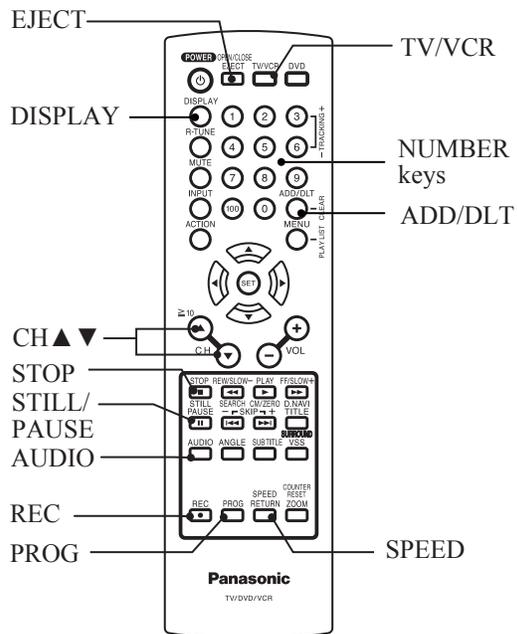
Before using VCR Functions

1 **Confirm that tape is inserted.**

2 **Press TV/VCR.**

Inserting a Tape

1 **Insert a tape.**
  • The unit power comes on automatically.
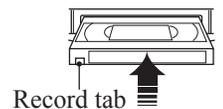
Record tab

To prevent tape jam,
remove loose or peeling labels from tapes.
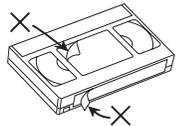
■ **Eject tape**
Press EJECT on the remote or STOP/EJECT on the unit.

Recording Television Programs

Record On a Tape

1 **Insert a tape with record tab.**
• The unit power comes on automatically.

2 **Press CH ▲▼ or NUMBER keys to Select Channel.**
• For "LINE" input, see page 16.

3 **Press SPEED to select recording speed.**
• Selected speed is displayed.

SP = **Standard Play**
SLP = **Super Long Play**

■ Recording modes and approximate recording times

Only use tapes with the VHS mark in this unit.

Tape Speed Setting	Type of Video Cassette		
	T60	T120	T160
SP (Standard Play)	1 Hour	2 Hours	2 Hours 40 Minutes
SLP (Super Long Play)	3 Hours	6 Hours	8 Hours

4 **Press REC to start recording.**
• You cannot view another channel during recording.

■ One Touch Recording (OTR)

Press REC repeatedly to set the recording length (30 min - 4 hours.)
• The unit stops recording at a preset time.
• PROG TIMER Indicator lights on the unit.

Normal Rec → 0:30 → 1:00
4:00 ← 3:00 ← 2:00 ← 1:30
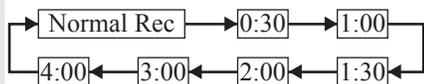
■ Pause a Recording
  a. Press STILL/PAUSE.
  b. Press STILL/PAUSE to resume recording.

Notes:
• It is not possible to record from DVD/CD/Video CD to VHS tape using the unit.
• After the unit has been in Rec Pause mode for 5 minutes, it will stop automatically to protect the tape and the video head.
• The remaining recording time of an OTR can be displayed by pressing DISPLAY.
• When an OTR is paused, the pause time is also factored into the total recording length.

Stop Recording

1 **Press STOP to stop recording.**

Audio Mode for Recording

With the proper audio mode setting, your unit can:
• Record and playback MTS stereo broadcast (main language) in stereo Hi-Fi. Stereo sound is recorded on the left and right audio tracks and on the video portion of a tape.
• Record and playback a monaural broadcast (main language) or SAP (Secondary Audio Program, usually in a second language) on the Hi-Fi tracks for better quality monaural sound.
• Playback non-Hi-Fi tapes in monaural.

Choose audio mode to match recording type.

1 **Press AUDIO repeatedly to select the audio mode according to the type of broadcast to be recorded.**
• The Audio mode selected stays in effect until it is changed.
• Refer to "MTS Broadcast / TV Stereo System" on page 18.

STEREO
SAP
MONO ◄

2 **See the "Record On a Tape" section to do a recording.**

Notes:
• Refer to "Audio Mode for Playback" on page 28.
• Only tapes recorded in Hi-Fi stereo will playback with true stereo sound. Standard stereo tapes will playback with monaural sound.
• To listen to Hi-Fi stereo playback, the unit AUDIO (L/R) jacks must be connected to a stereo amp and speakers.
• There may be a difference in audio level between Hi-Fi and normal audio playback.

Timer Recording

Set up to 8 Programs

You can set up to 8 programs to be recorded while you are away.

1 **Press PROG to display SET PROGRAM screen.**

2 **Press ▲▼ to select "TIMER PROGRAMMING."**

```
       SET PROGRAM

TIMER PROGRAMMING
ON TIMER
SLEEP TIMER: 0


SELECT:▲ ▼      SET:SET
END    :PROG
```
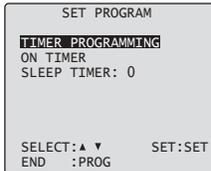
3 **Press SET to display screen.**
   • If a program is already in memory, press ▲▼, and SET to select an unused program number.

4 **Press ▲▼ to select and SET or ◄► to set the recording DATE.**
   • 1~31 = One time
   • DAILY (day) = Monday~Friday
   • WEEKLY (SU~SA) = Same time once a week

```
P  DT START  STOP  CH SPD
1  -- --:-- --:--  -- --
2  -- --:-- --:--  -- --
3  -- --:-- --:--  -- --
4  -- --:-- --:--  -- --
▼

SELECT:▲ ▼      SET:SET
END    :PROG
```

Repeat step 4 to set:
   • Start time, stop time
   • Channel (or LINE for outside source)
   • Speed (SP, SLP)

Example:

Today's Date → | 7 | | 8 |
↓
WEEKLY (SA)
↓
WEEKLY (MO)   31
↓   ↑
WEEKLY (SU)   1
↓   ↑
DAILY (day)   6
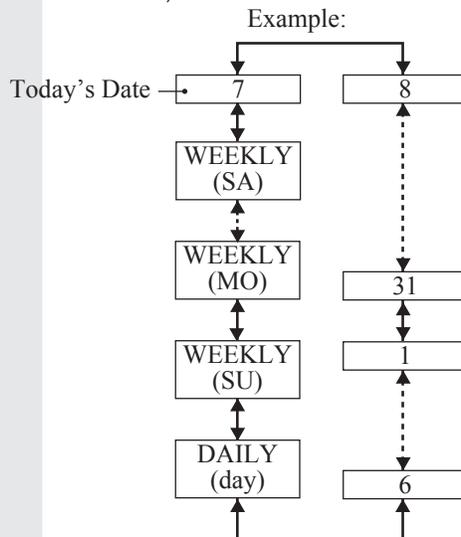
5 **Press PROG to set the program. To Enter More Programs, press ▲▼ to select and SET to set a blank program number, and then repeat step 4.**

```
P  DT START  STOP  CH SPD
1  10 9:00a12:00p 08 SP
2  -- --:-- --:--  -- --
3  -- --:-- --:--  -- --
4  -- --:-- --:--  -- --
▼
      SET COMPLETED

CANCEL:ADD/DLT
SELECT:▲ ▼      SET:SET
END    :PROG
```
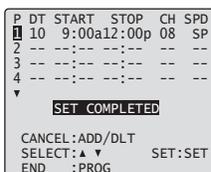
6 **Press PROG twice to exit this mode.**
   • If you're using a cable box, make sure that it is tuned to the desired channel and the power is left on for timer recording.
   • PROG TIMER indicator lights up on the unit.

Review, Replace or Clear Program Contents : (Recording is not in progress)

1 **Press PROG to display SET PROGRAM screen.**

2 **Press ▲▼ to select "TIMER PROGRAMMING."**

```
       SET PROGRAM

TIMER PROGRAMMING
ON TIMER
SLEEP TIMER: 0


SELECT:▲ ▼      SET:SET
END    :PROG
```
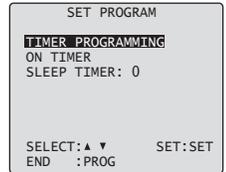
3 **Press SET to display screen.**
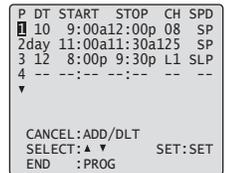
4 **Press ▲▼ to select the desired program.**

```
P  DT START  STOP  CH SPD
1  10 9:00a12:00p 08 SP
2day 11:00a11:30a125 SP
3  12 8:00p 9:30p L1 SLP
4  -- --:-- --:--  -- --
▼

CANCEL:ADD/DLT
SELECT:▲ ▼      SET:SET
END    :PROG
```

■ **To Replace program...**
   a. Press SET to display.
   b. Press ▲▼ to select and press SET or ◄► to set new program contents.
   c. Press PROG.

```
P  DT START  STOP  CH SPD
1  10 9:00a12:00p 08 SP
2day 11:00a11:30a125 SP
3  12 8:00p 9:30p L1 SLP
4  -- --:-- --:--  -- --
▼

CANCEL:ADD/DLT
SELECT:▲ ▼      SET:SET
EXIT   :PROG
```
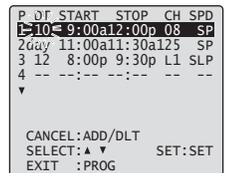
■ **To Clear program...**
   Press ADD/DLT.

```
P  DT START  STOP  CH SPD
1  -- --:-- --:--  -- --
2day 11:00a11:30a125 SP
3  12 8:00p 9:30p L1 SLP
4  -- --:-- --:--  -- --
▼

SELECT:▲ ▼      SET:SET
END    :PROG
```
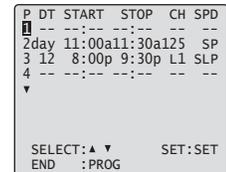
5 **Press PROG twice to exit this mode.**

Notes:
   • 2 minutes before Timer recording is performed, "PLEASE PREPARE FOR TIMER REC" appears and/or the PROG TIMER Indicator flashes. Be sure a cassette with record tab is loaded and the unit is in Stop mode.
   • If the start times of two programs overlap, the lower numbered program will have priority.
   • If the start time for a Timer Recording comes up during a normal recording or One Touch Recording (page 25), the Timer Recording will not be performed.
   • If there is a power interruption of more than one minute, the recording may not be performed or continued.
   • If "INCOMPLETE" appears after all items have been set, check all entries and make necessary corrections.

Cancel a Timer Recording: (Recording is in progress)

1 **Hold down STOP for a few seconds to cancel the Timer Recording.**

   • Any future daily or weekly recordings will be performed as programmed.

Playing VCR

EJECT — TV/VCR
TRACKING
NUMBER keys
ACTION
REW/SLOW- — PLAY
STOP — FF/SLOW+
STILL/PAUSE
SEARCH — CM / ZERO
AUDIO
COUNTER RESET

Insert a tape — STOP / EJECT — PLAY — REC — CH ▲ ▼

Playback a Tape

1 **Insert a tape with record tab. (p. 24)**
• The unit power comes on automatically.

2 **Press PLAY to play a tape.**
• If tape has no record tab (see page 6), auto play begins.

Note:
• To reduce picture noise, see "Manual Tracking Control" on page 29.

■ **Forward/Reverse scene search**
  a. **Press FF/SLOW+ or REW/SLOW-.**
  b. **Press PLAY to release.**
  • FF and REW search speed may vary depending on current tape position.
  • After 10 minutes in search mode, unit returns to Play mode to protect the tape and the video heads.

■ **Still (Freeze) picture**
  a. **Press STILL/PAUSE.**
  b. **Press PLAY to release.**

■ **Slow Motion picture**
  a. **Press STILL/PAUSE.**
  b. **Press FF/SLOW+ (increases speed) or REW/SLOW-(decreases speed) in Still mode.**
  c. **Press PLAY to release.**

■ **Frame by Frame picture**
  a. **Press STILL/PAUSE.**
  b. **Press STILL/PAUSE in Still mode.**
  c. **Press PLAY to release.**

Notes:
• These features work best in SLP mode.

• After 3 minutes in Still or Slow mode, unit stops to protect the tape and the video heads.

Stop a Tape

Press STOP.

■ **Rapid Rewind tape**
  Press REW/SLOW- in Stop mode.
  Rewinds a T-120 tape in approx. 1 minute.

■ **Rapid Fast forward tape**
  Press FF/SLOW+ in Stop mode.

■ **Eject tape**
  Press EJECT on the Remote Control or STOP/EJECT on the unit.

Repeat Play

Set to see a recording over and over.

```
PLAY
REPEAT ON
```

■ **To turn "ON"**
  Press PLAY on the unit repeatedly in Play mode to select "REPEAT ON."

■ **To turn "OFF"**
  Repeat above to select "REPEAT OFF."

Notes:
• Playback repeats when tape end is reached or an unrecorded portion longer than 30 seconds is detected.

• For repeat play in disc mode, see pages 42-44.

Zero Search

To quickly return to a specific tape counter location.

1 **Press DISPLAY during playback to display the Counter.**

2 **Press COUNTER RESET at the desired position to reset to "0:00:00."**

```
PLAY   12:00PM
                0:00:00
                    SLP
```
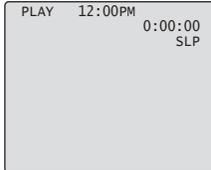
3 **Continue to record, playback, etc.**

4 **Press STOP.**

5 **Press CM/ZERO in Stop mode to start ZERO SEARCH.**
   • Unit will go into FF or REW mode and stop at the last point the Counter was set to 0:00:00.

Audio Mode for Playback

Choose the type of sound track for playback.

1 **See the "Playback a Tape" section on page 27 to playback the tape.**

2 **Press AUDIO repeatedly (each press within 5 seconds) to select desired mode.**
   • Select "HIFI (L/R)," to listen to a regular Hi Fi Stereo recording. Select "HIFI (L)" or "HIFI (R)" to listen only to the left or right channel of a stereo recording. This is commonly used for Karaoke, music on one channel and vocals on the other. Select "NORMAL" for linear stereo playback from a recorded tape with Hi Fi disabled.
   • This screen appears when you press AUDIO during playback.

```
HIFI(L/R)◄
HIFI(L)
HIFI(R)
NORMAL
```
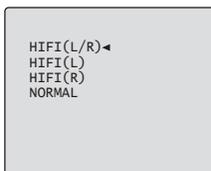
Index Search

Search System is ...
Each time a recording is made, an invisible index mark is placed on the tape. When timer recordings are made, program index and information are also included. These index marks can be used to access or scan recordings.

Go directly to the desired recording.

1 **Press SEARCH in Playback or Stop mode to display INDEX SEARCH screen, and then press NUMBER keys to select the recording number.**

```
       INDEX SEARCH

ENTER INDEX NUMBER :1
USING 1-9 KEYS

FORWARD SEARCH :FF
REVERSE SEARCH :REW

EXIT :SEARCH
```
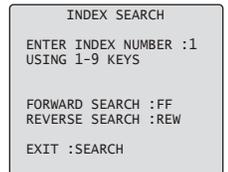
2 **Press FF or REW to start search.**

Example 1:
To go to rec. 2 from rec. 4, enter 3 and press REW.

1	2	3	4	5	6	7
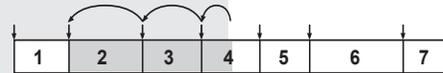
Example 2:
To go to rec. 6 from rec. 2, enter 4 and press FF.

1	2	3	4	5	6	7
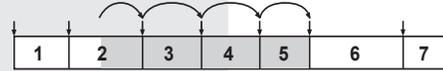
NOTE: ↓ indicates start points of each recording.

Note:
   • If Index Search is started very close to an index mark, that index mark may not be counted in the search.

3 **Play begins at search end. To search forward or back 1 index, press FF or REW while screen below is displayed (10 seconds).**

```
       INDEX SEARCH




FORWARD SEARCH :FF
REVERSE SEARCH :REW
```
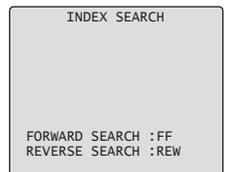
■ **To cancel,**
   press STOP.

Commercial Skip

By pressing CM/ZERO in Playback mode you can skip over 1, 2, or 3 minutes of recorded tape as desired.

1   Press CM/ZERO repeatedly to select skip time in Playback mode.

1st Press 1 min skip	→	2nd Press 2 min skip
OFF	←	3rd Press 3 min skip
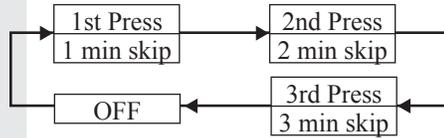
Note:
• No indication appears.

Auto Playback

Insert a tape in Power off mode.
Power turns on, → Play.

Note:
• Playback begins if tape has no record tab.

Auto Rewind

(except for Recording)

Tape reaches its end
Rewind, → Stop.

Playback Auto Eject

(Repeat Play must be "OFF")

Tape with no record tab reaches its end
Rewind, → Stop, → Eject.

Digital Auto Tracking

Continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control

Use during Playback and Slow Motion mode to reduce picture noise. Press the 3 or 6 number key on the remote control or CH ▲ ▼ on the unit until the picture clears up. To return to Auto Tracking, press POWER off, then on again a few seconds later.
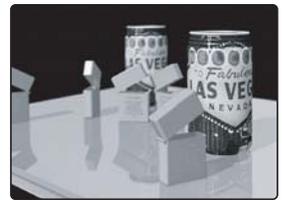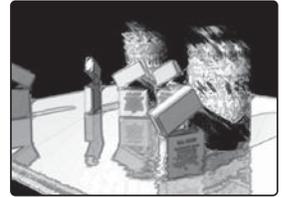
V-Lock Control

In Still mode, the 3 or 6 number key on the remote control or CH ▲ ▼ on the unit operate as a V-Lock control to reduce jitter.

VCR Lock

All operations are prohibited except Timer recording and tape eject. Useful for families with small children.

In Stop mode, hold down REC on the unit without a cassette inserted for 7 seconds to turn "ON."
(Please ignore "NO CASSETTE" warning.)

VCR LOCK ACTIVATED

Repeat above with or without cassette to turn "OFF."

VCR LOCK OFF

Note:
• VCR Lock is canceled automatically after about 24 hours if clock is set.

Copy Your Tapes (Dubbing)

Refer to page 10 "Connecting the "1, 2" Input Terminal" before you perform this operation.

IMPORTANT
Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

Note:
• Please note that some tapes cannot be dubbed on this unit. Also, it is not possible to dub DVD/CD/Video CD to VHS tape using this unit.

Playback (Source) unit	Recording (Editing) unit
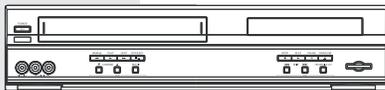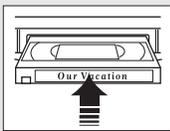
1	**Insert pre- recorded tape.**	**Insert blank tape with record tab.** • Dubbing tapes protected with Copy Guard will have poor quality results. **Select "LINE" mode.** See page 16 "Selecting Input Mode".	

2	**Press PLAY,** then **press PAUSE** at starting point to put in Standby mode.	**Press REC,** then **press STILL/PAUSE** immediately to put in Standby mode.

——— **(Perform operation of steps 3 and 4 on both units at same time.)** ———

3	**Press PLAY** to start dubbing. Playing Source unit starts playback.	**Press STILL/PAUSE** to start dubbing. Editing unit starts recording.

4	**Press STOP** to stop dubbing.	**Press STOP** to stop dubbing.

V-Chip Control Features

ACTION

SELECT
▲▼◄►/
SET

NUMBER keys

ADD/DLT (CLEAR)
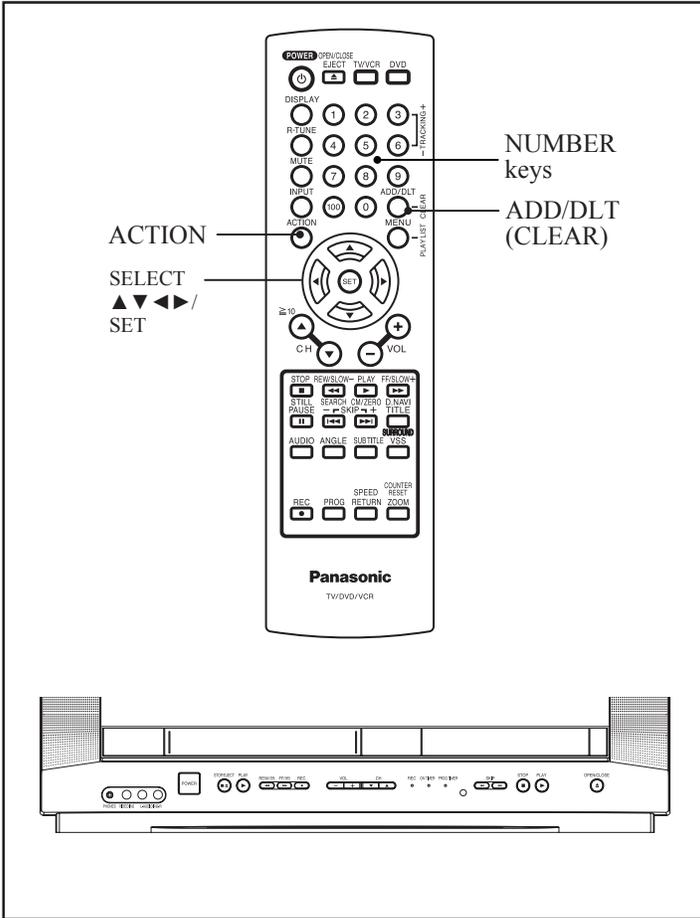
V-Chip Control Feature is...
This unit has a built-in V-Chip Control which allows you to block unwanted TV usage based on US MOVIES, US TV PROGRAMS Ratings, Canadian English Language Ratings and Canadian French Language Ratings.

Enter Secret Code

A 4-digit code must be entered to view a blocked program or change rating settings.

1 Press ACTION to display MAIN MENU.

2 Press ▲▼◄► to select "LOCK."

3 Press SET to display LOCK screen.

```
          MAIN MENU

     DVD     LOCK  LANGUAGE

     TV      CLOCK    CH

  SELECT:▲ ▼ ◄ ►   SET:SET
  END    :ACTION
```
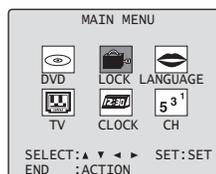
4 Press NUMBER keys to enter your secret code.
• Take care that you are not observed entering the secret code.

```
             LOCK

      ENTER 4-DIGIT CODE

            **--


  ENTER :0-9
  END   :ACTION
```
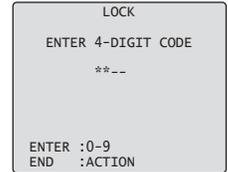
5 Enter same code again for confirmation.

```
             LOCK

     CONFIRM 4-DIGIT CODE

            ****
            ****
         RECOGNIZED

  CHANGE CODE:ADD/DLT
  CONTINUE:SET
  END    :ACTION
```
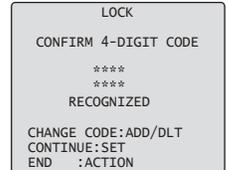
■ **To Make Corrections**
a. Press ◄ repeatedly to move the cursor.
b. Press NUMBER keys to make the correction.

6 Press SET to display Ratings menu (see pages 32-34). Or press ACTION twice to exit.

Notes:
• Some rental movies do not include V-Chip data.
• Do not forget your secret code.
• Once ratings are set, restricted tapes or programs cannot be accessed unless the secret code is entered.
• Step 5 not necessary when changing rating.

Changing your secret code

You will need your current code.

1 While this OSD (on screen display) is displayed, press ADD/DLT (CLEAR) to clear current code.

```
             LOCK

      ENTER 4-DIGIT CODE

            ****

         RECOGNIZED

  CHANGE CODE:ADD/DLT
  CONTINUE:SET
  END    :ACTION
```
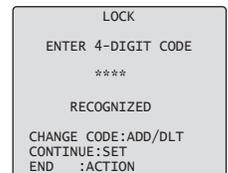
2 Enter new secret code.

> If LOCK menu is not displayed, perform "Enter Secret Code" steps on page 31.

US MOVIES Ratings

1 Press ▲ ▼ to select "US MOVIES."
• "NEXT PAGE" displays CANADIAN V-Chip settings menu. Please refer to page 33 for more details on Canadian tapes or broadcasts.

2 Press SET to set "ON" or "OFF."

ON:
V-Chip Control is activated.
OFF:
V-Chip Control is deactivated.

```
              LOCK

US MOVIES          :OFF
   CHANGE SETTINGS
US TV PROGRAMS     :OFF
   CHANGE SETTINGS
              NEXT PAGE


SELECT:▲ ▼        SET:SET
END   :ACTION
```

3 Press ▲ ▼ to select "CHANGE SETTINGS."

4 Press SET to display screen.

```
              LOCK

US MOVIES          :OFF
   CHANGE SETTINGS
US TV PROGRAMS     :OFF
   CHANGE SETTINGS
              NEXT PAGE


SELECT:▲ ▼        SET:SET
END   :ACTION
```
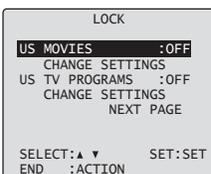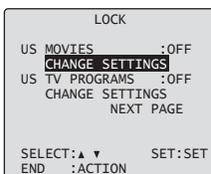
5 Press ▲ ▼ to select "VIEW NR PROGRAMS?."

6 Press SET to set "YES" or "NO."

■ **NR (Not Rated) PROGRAMS:**
Some movies, such as old movies or foreign movies, have no ratings.

```
VIEW NR PROGRAMS? : YES
   G          UNLOCKED
   PG
   PG-13
   R
   NC-17
   X
CONTAINS NO RATING

SELECT:▲ ▼        SET:SET
END   :ACTION
```
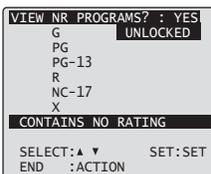
7 Press ▲ ▼ to select and SET to set ratings to be blocked.
• See "US MOVIES Ratings Chart" on page 34.

```
VIEW NR PROGRAMS? : YES
   G          UNLOCKED
   PG
   PG-13
   R
   NC-17
   X
GENERAL AUDIENCE

SELECT:▲ ▼        SET:SET
END   :ACTION
```
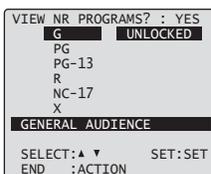
8 Press ACTION to redisplay LOCK menu and continue with US TV PROGRAMS Ratings. Or, press ACTION three times to exit.

US TV PROGRAMS Ratings

1 Press ▲ ▼ to select "US TV PROGRAMS."
• "NEXT PAGE" displays CANADIAN V-Chip setting menu. Please refer to page 33 for more details on Canadian tapes or broadcasts.

2 Press SET to set "ON" or "OFF."

ON:
V-Chip Control is activated.
OFF:
V-Chip Control is deactivated.

```
              LOCK

US MOVIES          :OFF
   CHANGE SETTINGS
US TV PROGRAMS     :OFF
   CHANGE SETTINGS
              NEXT PAGE


SELECT:▲ ▼        SET:SET
END   :ACTION
```

3 Press ▲ ▼ to select "CHANGE SETTINGS."

4 Press SET to display screen.

```
              LOCK

US MOVIES          :OFF
   CHANGE SETTINGS
US TV PROGRAMS     :OFF
   CHANGE SETTINGS
              NEXT PAGE


SELECT:▲ ▼        SET:SET
END   :ACTION
```
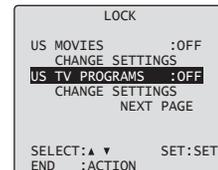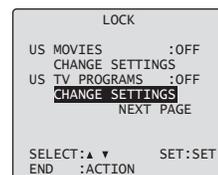
5 Press ▲ ▼ to select "VIEW NR PROGRAMS?."

6 Press SET to set "YES" or "NO."

■ **NR (Not Rated) PROGRAMS:**
Some TV shows, such as news, sports, weather, bulletins, emergency information have no ratings.

```
VIEW NR PROGRAMS? : YES
   TV-Y        UNLOCKED
   TV-Y7    FV

   TV-G
   TV-PG    V  S  L  D
   TV-14    V  S  L  D
   TV-MA    V  S  L
CONTAINS NO RATING
SELECT:▲ ▼ ◄ ►    SET:SET
END   :ACTION
```
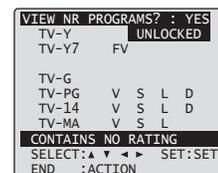
7 Press ▲ ▼ to select and SET to set ratings to be blocked.
• See "US TV PROGRAMS Ratings Chart" on page 34.
• You may select from standard TV ratings (chart 1), or customize to a specific content rating (chart 2).
• Ratings highlighted in green will be blocked. Ratings in white letters will not be blocked.

```
VIEW NR PROGRAMS? : YES
   TV-Y        UNLOCKED
   TV-Y7    FV

   TV-G
   TV-PG    V  S  L  D
   TV-14    V  S  L  D
   TV-MA    V  S  L
FOR ALL CHILDREN
SELECT:▲ ▼ ◄ ►    SET:SET
END   :ACTION
```
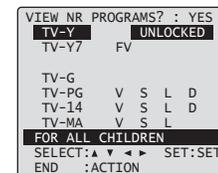
8 Press ACTION three times to exit this mode.

Canadian English Language Ratings

1 Press ▲▼ to select "NEXT PAGE."
2 Press SET to display screen.

```
                LOCK

US MOVIES         :OFF
   CHANGE SETTINGS
US TV PROGRAMS    :OFF
   CHANGE SETTINGS
              NEXT PAGE


SELECT:▲ ▼      SET:SET
END    :ACTION
```
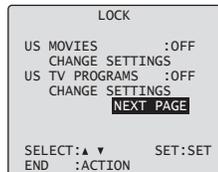
3 Press ▲▼ to select "CANADIAN ENGLISH."
4 Press SET to set "ON" or "OFF."
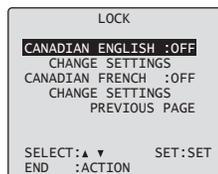
ON:
V-Chip Control is activated.
OFF:
V-Chip Control is deactivated.

```
                LOCK

CANADIAN ENGLISH :OFF
   CHANGE SETTINGS
CANADIAN FRENCH  :OFF
   CHANGE SETTINGS
            PREVIOUS PAGE

SELECT:▲ ▼      SET:SET
END    :ACTION
```

5 Press ▲▼ to select "CHANGE SETTINGS."
6 Press SET to display screen.

```
                LOCK

CANADIAN ENGLISH :OFF
   CHANGE SETTINGS
CANADIAN FRENCH  :OFF
   CHANGE SETTINGS
            PREVIOUS PAGE

SELECT:▲ ▼      SET:SET
END    :ACTION
```

7 Press ▲▼ to select "VIEW E PROGRAMS?."
8 Press SET to set "YES" or "NO."

■ **E (Exempt) PROGRAMS:**
Some TV shows, such as news, sports, weather, bulletins, and emergency information have no ratings.

```
VIEW E PROGRAMS? : YES
   C           UNLOCKED
   C8+
   G
   PG
   14+
   18+
EXEMPT

SELECT:▲ ▼      SET:SET
END    :ACTION
```
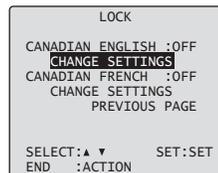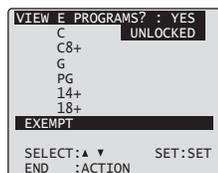
9 Press ▲▼ to select and SET to set ratings to be blocked.
• See "Canadian English Language Ratings Chart" on page 34.

```
VIEW E PROGRAMS? : YES
   C           UNLOCKED
   C8+
   G
   PG
   14+
   18+
FOR CHILDREN

SELECT:▲ ▼      SET:SET
END    :ACTION
```
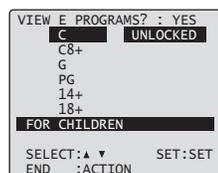
10 Press ACTION to redisplay LOCK menu and continue with Canadian French Language Ratings. Or, press ACTION three times to exit.

Canadian French Language Ratings

1 Press ▲▼ to select "NEXT PAGE."
2 Press SET to display screen.

```
                LOCK

US MOVIES         :OFF
   CHANGE SETTINGS
US TV PROGRAMS    :OFF
   CHANGE SETTINGS
              NEXT PAGE


SELECT:▲ ▼      SET:SET
END    :ACTION
```
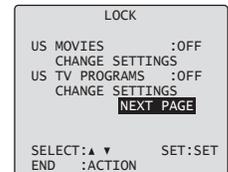
3 Press ▲▼ to select "CANADIAN FRENCH."
4 Press SET to set "ON" or "OFF."
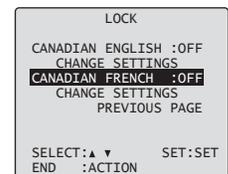
ON:
V-Chip Control is activated.
OFF:
V-Chip Control is deactivated.

```
                LOCK

CANADIAN ENGLISH :OFF
   CHANGE SETTINGS
CANADIAN FRENCH  :OFF
   CHANGE SETTINGS
            PREVIOUS PAGE

SELECT:▲ ▼      SET:SET
END    :ACTION
```

5 Press ▲▼ to select "CHANGE SETTINGS."
6 Press SET to display screen.

```
                LOCK

CANADIAN ENGLISH :OFF
   CHANGE SETTINGS
CANADIAN FRENCH  :OFF
   CHANGE SETTINGS
            PREVIOUS PAGE

SELECT:▲ ▼      SET:SET
END    :ACTION
```

7 Press ▲▼ to select "VIEW E PROGRAMS?."
8 Press SET to set "YES" or "NO."

■ **E (Exempt) PROGRAMS:**
Some TV shows, such as news, sports, weather, bulletins, and emergency information have no ratings.

```
VIEW E PROGRAMS? : YES
   G           UNLOCKED
   8 ANS+
   13 ANS+
   16 ANS+
   18 ANS+
EXEMPT

SELECT:▲ ▼      SET:SET
END    :ACTION
```
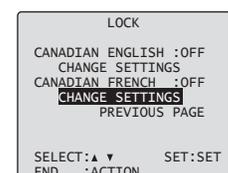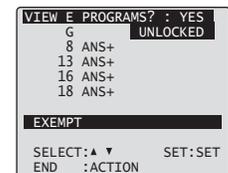
9 Repeatedly press ▲▼ to select and SET to set ratings to be blocked.
• See "Canadian French Language Ratings Chart" on page 34.

```
VIEW E PROGRAMS? : YES
   G           UNLOCKED
   8 ANS+
   13 ANS+
   16 ANS+
   18 ANS+
GENERAL AUDIENCE

SELECT:▲ ▼      SET:SET
END    :ACTION
```

10 Press ACTION three times to exit this mode.

33
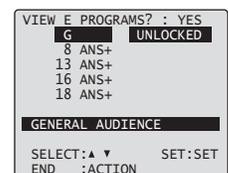
US MOVIES Ratings Chart

G	GENERAL AUDIENCE: All ages admitted.
PG	PARENTAL GUIDANCE: Some material may not be suitable for children.
PG-13	PARENTS CAUTIONED: Some material may be inappropriate for children under 13.
R	RESTRICTED: Children under 17 must be accompanied by a parent or adult.
NC-17	OVER AGE 17 ONLY: No one 17 and under admitted.
X	ADULTS ONLY:

US TV PROGRAMS Ratings Chart

Chart 1

TV-Y	FOR ALL CHILDREN: Content specifically geared to young viewers ages 2-6.
TV-Y7	FOR AGE 7 AND OLDER: May contain mild physical or comedic violence which may frighten children under 7.
TV-G	GENERAL AUDIENCE: Contains little or no violence, strong language, or sexual dialogue or situations.
TV-PG	PARENTAL GUIDANCE: May contain infrequent coarse language, limited violence, some suggestive sexual dialogue and situations.
TV-14	PARENTS CAUTIONED: May contain sophisticated themes, sexual situations, strong language, and more intense violence.
TV-MA	MATURE AUDIENCE: May contain mature themes, profane language, graphic violence, and sexual situations.

Chart 2

FV	Fantasy Violence
V	Violence
S	Sexual Situations
L	Adult Language
D	Sexually Suggestive Dialogue

Canadian English Language Ratings Chart

C	Children
C8+	Children 8 years and older
G	General Audience
PG	Parental Guidance
14+	Viewers 14 years and older
18+	Adult Programming

Canadian French Language Ratings Chart

G	General Audience
8 ANS +	Not recommended for young children
13 ANS +	Programming may not be suitable for children under the age of 13
16 ANS +	Programming is not suitable for children under the age of 16
18 ANS +	Programming restricted to adults

Blocking Message

<When V-Chip Control is activated>

If a program or movie exceeds the ratings you have set, a message will appear on a black background and sound is muted.

```
                    CH 08

PROGRAM RATING EXCEEDED

RATING:PG-13
ACCESS CODE       ----

  ENTER :0-9
```
<US Rating>

```
                    CH 08

PROGRAM RATING EXCEEDED

RATING:13ANS+
ACCESS CODE       ----

  ENTER :0-9
```
<Canadian French Rating>
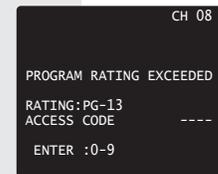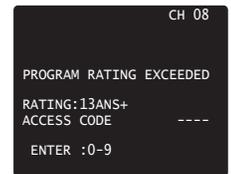
To View a Blocked Program/Movie

■ **Temporarily Deactivate V-Chip Control**
Press NUMBER keys to enter your secret code in the Blocking Message screen.
• V-Chip Control is reactivated when power is turned off or power failure occurs.

```
                    CH08

PROGRAM RATING EXCEEDED

RATING:PG-13
ACCESS CODE       *---

  ENTER :0-9
```
<Example: US Rating>
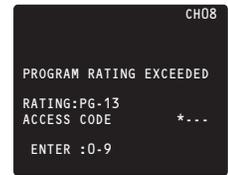
■ **Deactivate V-Chip Control**

1 Enter your secret code. (See page 31.)

```
          LOCK

    ENTER 4-DIGIT CODE

         **--



ENTER :0-9
END   :ACTION
```
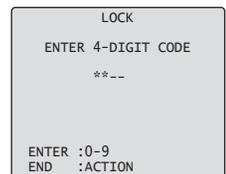
2 Then, set US MOVIES and/or US TV PROGRAMS and/or CANADIAN ENGLISH LANGUAGE and/or CANADIAN FRENCH LANGUAGE to "OFF" using ▲▼ and SET. (Ratings set on pages 31-34 are retained and will be in effect when V-Chip Control is activated again.)

```
          LOCK

US MOVIES       :OFF
  CHANGE SETTINGS
US TV PROGRAMS  :OFF
  CHANGE SETTINGS
        NEXT PAGE


SELECT:▲ ▼      SET:SET
END   :ACTION
```
<US Rating>

```
          LOCK

CANADIAN ENGLISH :OFF
  CHANGE SETTINGS
CANADIAN FRENCH  :OFF
  CHANGE SETTINGS
        PREVIOUS PAGE


SELECT:▲ ▼      SET:SET
END   :ACTION
```
<Canadian Rating>

Display Features

DISPLAY

Panasonic
TV/DVD/VCR

Channel & Function Display

When a function button is pressed (PLAY, FF, etc.) or you change channels, the unit mode or channel number will be displayed.

```
                                    08
  PLAY
```

Auto Shut Off

No broadcast signal in TV mode (Only when Weak Signal Display is set to OFF (See page 17)), or blank tape is played for 5 minutes. **Power turns off.**

Note:
• This feature is canceled if any button is pressed during above conditions.

TV/VCR Status & Clock Display

1 Press DISPLAY
to display or remove the overlay.

```
                        5
    1   ●REC      12:00PM   CH 08●  6
    2   ●0:25             -0:12:34● 7
    3    ((STEREO                SP● 8
         ((SAP
          MONO
    4   ●RATING:PG-13
```
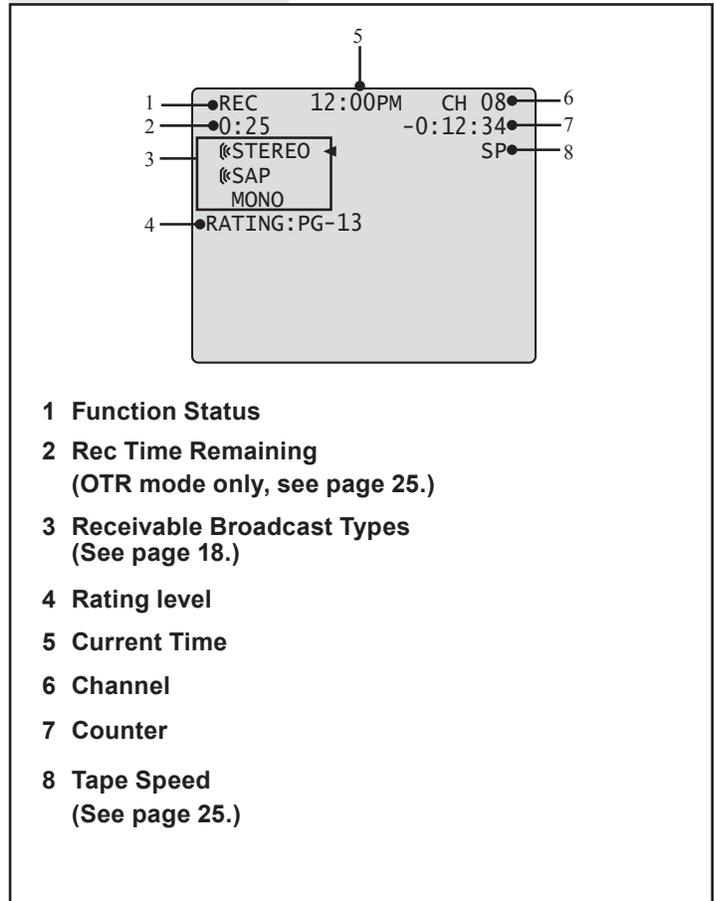
1 Function Status

2 Rec Time Remaining
   (OTR mode only, see page 25.)

3 Receivable Broadcast Types
   (See page 18.)

4 Rating level

5 Current Time

6 Channel

7 Counter

8 Tape Speed
   (See page 25.)

Blue Screen Display

Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the Weak Signal Display Feature set to "OFF" (see page 17), the screen will turn solid blue.

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Basic Disc Operation

OPEN /
CLOSE

POWER ——— ——— DVD

DISPLAY ———

——— NUMBER
keys

SELECT
▲ ▼ ◄ ► /
SET

——— MENU

≧10 ———

REW /
SLOW- ——— ——— PLAY

STOP ——— ——— FF/SLOW+

STILL /
PAUSE ——— ——— TITLE

——— SKIP+ ►►|

SKIP- |◄◄ ———

——— SUB TITLE

AUDIO ———

——— ZOOM

Panasonic
TV/DVD/VCR

POWER   Insert disc   STOP   PLAY   OPEN /
CLOSE
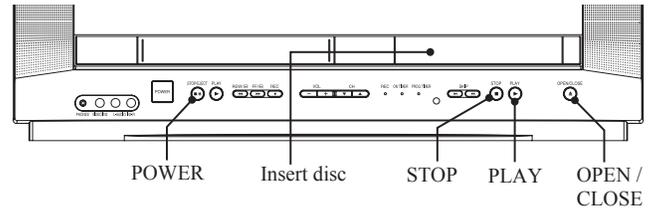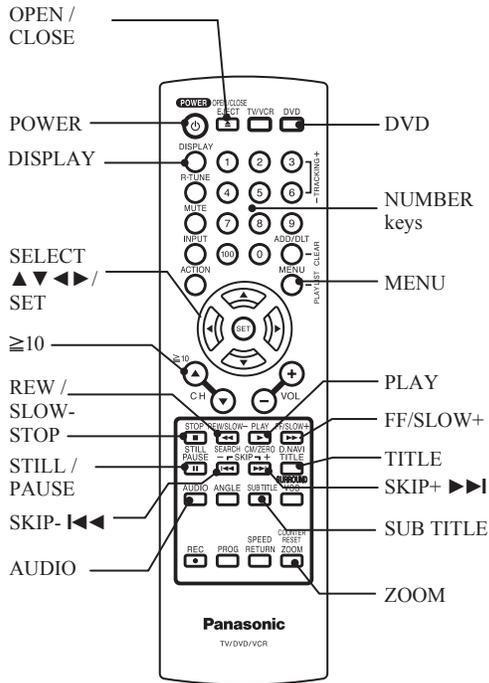
If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

Play Disc

1 **Press POWER on the remote or unit.**

2 **Press DVD to set remote to DVD mode.**

3 **Press OPEN/CLOSE.**
• If a disc is already inserted, go to step 5. (Depending on the disc, playback may start automatically.)

4 **Place disc into disc tray.**
• Hold disc by its edges only (page 7) with printed side up and use guides to place into tray. Use ❶ 3″(8 cm) or ❷ 5″ (12 cm) disc.

❶
❷

5 **Press PLAY to start play. Disc tray closes automatically.**
• You may also close the tray by pressing OPEN/CLOSE.
• Data reading time differs with each disc.

CLOSE

⊘READING
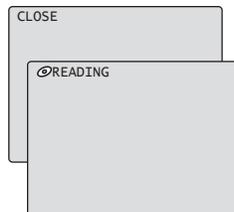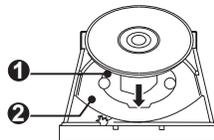
If an interactive DVD*[1] or a Video CD with playback control*[2] is used and a Main MENU of disc appears, go to step 6.

*[1] Interactive DVD...
May include multiple camera angles, stories, etc.

*[2] Video CD with playback control...
Particular scenes or information can be interactively selected from a menu that appears on the screen.

<Example>

LOVE STORY

1 MAIN STORY
2 SUBTITLE
3 AUDIO SOUNDTRACK
4 INFORMATION
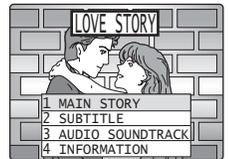
While Main MENU is displayed, press SKIP+ ►►| or SKIP- |◄◄ to go to next or previous Main MENU of disc screen.
• SKIP function not available with all discs. Please refer to disc jacket for operation information.

6 **Press ▲ ▼ ◄ ► to select title and press SET to start play. Or, pressing NUMBER keys starts play automatically.**
• The number of available titles varies with each disc.

To return to Main MENU of DVD (play stops):
Press TITLE, MENU, or RETURN.
To return to Main MENU of Video CD (play stops):
Press RETURN.

7 **Press STOP to stop playing.**

8 **Press OPEN/CLOSE to eject the disc.**

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- When ⊘ appears on the screen while a button is being pressed, it means that the corresponding operation is prohibited by the unit or the disc.

Auto-Power Off function

`DVD-V` `CD` `VCD` `RAM`

Power turns off after unit is in stop mode with wallpaper displayed for about 5 minutes.

Using the NUMBER keys

`DVD-V` `CD` `VCD` `RAM`

When a NUMBER key is used in disc mode, it performs a different operation from TV mode.

Example 1:
To select 12, first press the ≧10 key, then 1, then 2.
Example 2:
To select 2, press the 2 key.

Enjoy Video CDs featuring playback control without using menus

`VCD`

1 Do steps 1-5 (previous page).
When menu appears, press STOP.

2 Press NUMBER key(s) to select desired track (play begins).
• Check disc for track numbers.
• Press "1" to start at beginning of disc.

■ To Resume Menu use,
Press STOP, and press PLAY, then the menu appears. Now, go to step 6 (previous page).

Note:
• Please read the disc jacket for operation information.
• If a single sided disc is placed in upside down, "THIS TYPE OF DISC CANNOT BE PLAYED. PLEASE INSERT A DIFFERENT DISC" is displayed.
• Remove disc and press unit POWER off when not in use.
• Disc continues to rotate with menu displayed even after play is done. Press STOP to clear menu display when finished with menu.

Forward/Reverse Rapid Scene Search

`DVD-V` `CD` `VCD` `RAM`

1 Press FF/SLOW+ or REW/SLOW- during play.
• Search speed, slow at first, increases with each additional press of the button up to 5 levels.
• Starting forward/reverse search during play started from menu on Video CDs may recall menu.

2 Press PLAY to release.

Forward/Reverse Chapter/Track Skip

`DVD-V` `CD` `VCD` `RAM`

1 Press SKIP+ ▶▶| or SKIP- |◀◀ during play.

DVD and CD/Video CD
• Pressing SKIP- |◀◀ once midway through a chapter/track returns to start of that chapter/track. Each additional press skips back one chapter/track.
• Pressing SKIP+ ▶▶| or SKIP- |◀◀ during play started from menu on Video CDs may recall menu.

Current playback position

Chapter/Track	Chapter/Track	Chapter/Track

Reverse Skip ◀ — ▶ Forward Skip
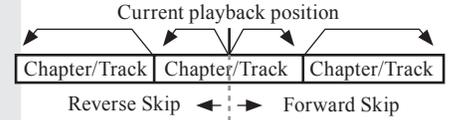
DVD-RAM
• Pressing SKIP- |◀◀ once midway through a program/play list returns to start of that program/play list. Each additional press skips back one program/play list.

Current playback position   Marker

Program/Play List	Program/Play List	Program/Play List

Reverse Skip ◀ — ▶ Forward Skip
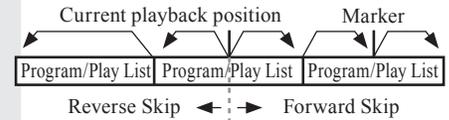
2 Each press skips a chapter (DVD), track (CD/Video CD) or Program/Play List/Marker (DVD-RAM).
• Pressing SKIP- |◀◀ within 3 seconds of a track/chapter/program/play list start point skips to the previous start point.

Slow Motion Picture

`DVD-V` `VCD` `RAM`

1 Press FF/SLOW+ or REW/SLOW- in Still mode.
• Slow motion speed, slow at first, is increased with each additional press of the button up to 5 levels.
• Reverse slow motion is not available for video CDs.

2 Press PLAY to release.

Still (Pause) Picture

`DVD-V` `CD` `VCD` `RAM`

1 Press STILL/PAUSE during play.
• DVD/Video CD:
The unit will enter Still picture mode.
• CD:
The unit will enter Pause mode.

2 Press PLAY to release.

Frame by Frame Picture

`DVD-V` `VCD` `RAM`

1 Press STILL/PAUSE in Still mode.
• Each press advances picture one frame.
• Hold down for consecutive frame advance.

2 Press PLAY to release.

Note:
• Whether pictures are advanced by "FRAME" or "FIELD" is selected automatically (see page 51).

Disc Operation

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RESUME Function

DVD-V | **CD** | **RAM**

The unit memorizes the point where STOP is pressed (STOP ► display on screen).
Press PLAY to resume play from this point.
Pressing STOP again or opening the tray cancels RESUME.
However, RESUME is not canceled when power is turned off and on.

Notes:
- RESUME works only with discs for which elapsed play time is displayed during play.
- When a DVD-RAM still picture is played back, the counter will not be displayed; however, RESUME will function.

Main Menu of DVD

DVD-V

DVDs may offer a special menu. This menu may include guides to unique contents, audio/subtitle languages, etc. Although contents and operation may vary, the following steps show basic steps for using menus.

1 **Press MENU in Play mode to display main menu of DVD.**

2 **Press ▲ ▼ ◄ ► or NUMBER keys to select an item.**

3 **Press SET or PLAY to access.**
  - Step 3 not necessary when using NUMBER keys.

<Example>

```
LOVE STORY

1 MAIN STORY
2 SUBTITLE
3 AUDIO SOUNDTRACK
4 INFORMATION
```
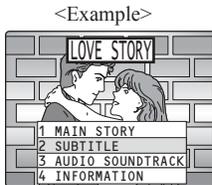
Note:
- Repeat steps 2-3 if there is more than one menu.

Title Menu of DVD

DVD-V

Some DVDs have more than one title, e.g. movies. If the disc offers a title menu, you can select the desired title number. (Operation may vary according to the disc.)

1 **Press TITLE in Play mode to display title screen.**

<Example>

```
TITLE MENU

1 PROLOGUE    2 A PAINFUL
                SEPARATION
3 MEETING     4 EPILOGUE
  AGAIN
```

2 **Press ▲ ▼ ◄ ► or NUMBER keys to select a title.**

3 **Press SET or PLAY to access.**
  - Step 3 not necessary when using NUMBER keys.

<Example>

```
TITLE MENU

1 PROLOGUE    2 A PAINFUL
                SEPARATION
3 MEETING     4 EPILOGUE
  AGAIN
```

↓

```
3 MEETING
  AGAIN

CHAPTER 1
CHAPTER 2
CHAPTER 3
CHAPTER 4
```
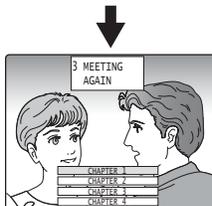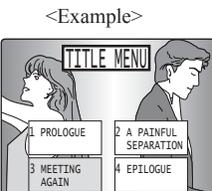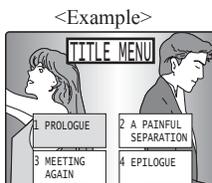
Audio Soundtrack Language

DVD-V

You can change the audio soundtrack language, selected at Settings for DVD Operation, to a different language if available. (See page 48.)
(This operation works only with discs on which multiple audio soundtrack languages are recorded.)

1 **Press AUDIO in Play mode to display the audio selection on-screen.**
  - Display disappears after 5 seconds.

Information on the audio stream currently being played back is displayed. (See page 50.)

```
AUDIO:1 ENG
Dolby Digital 3/2.1ch

                    I love you.

SELECT    :AUDIO
```

		16 bit	
LPCM	96 kHz or 48 kHz	20 bit	Linear PCM disc
		24 bit	
Dolby Digital	1 ch - 5.1 ch		Dolby Digital disc
dts	1 ch - 5.1 ch		dts disc

Note:
- With DVD-RAM, Audio Soundtrack Language cannot be set. Audio stream and Audio mode (LR/L/R) settings can be made. Audio stream operation method is the same as for Audio Soundtrack Language. Press ► to move the cursor to Audio mode, then press AUDIO or ▲ ▼ to select LR/ L/ R.

```
AUDIO:1  LR
Dolby Digital 3/2.1ch

SELECT    :AUDIO/◄ ►
```

2 **Press AUDIO repeatedly, ▲ ▼, or NUMBER keys to select desired language.**

Audio soundtrack language being played back.

```
AUDIO:3 ESP
Dolby Digital 3/2.1ch

                    Te amo.

SELECT    :AUDIO
```

ENG	English	SVE	Swedish	CHI	Chinese
FRA	French	NOR	Norwegian	KOR	Korean
DEU	German	DAN	Danish	MAL	Malay
ITA	Italian	POR	Portuguese	VIE	Vietnamese
ESP	Spanish	RUS	Russian	THA	Thai
NLD	Dutch	JPN	Japanese	*	Other

Notes:
- If, after several presses of the AUDIO button, the language does not change, language selection is not offered on the disc.
- When disc is removed, language reverts to initial setting. If this language is not recorded on the disc, the language recorded will be heard.

- When ⊘ appears on the screen while a button is being pressed, it means that the corresponding operation is prohibited by the unit or the disc.

Vocal selection for Karaoke discs

`DVD-V` `VCD`

1 Press AUDIO in Play mode to display the audio screen.

2 Press ◄► to select "VOCAL."

3 Press AUDIO or ▲▼ to set.

AUDIO:
2 ENG VOCAL ON

Yeah !
Yeah

SELECT :AUDIO/◄ ►

DVD Karaoke (1 vocal)
VOCAL ON → VOCAL OFF

DVD Karaoke (2 vocals)
VOCAL V1 → VOCAL V2
VOCAL OFF ← VOCAL V1 + V2

Video CD
LR → L → R
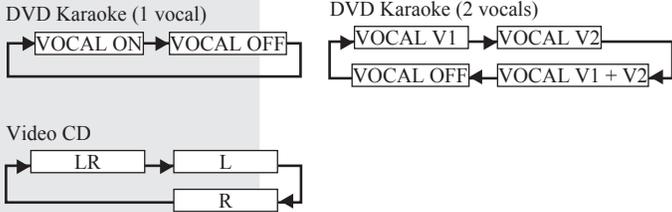
Subtitle Language

`DVD-V` `RAM`

You can select a different subtitle language (if offered) than the one set at Settings for DVD Operation. (See page 48.)

1 Press SUB TITLE in Play mode to display the subtitle selection on-screen.
• Display disappears after 5 seconds.

SUBTITLE: 1 ENG
I love you.
I love you.
SELECT :SUB TITLE

2 Press SUB TITLE repeatedly, ▲▼, or NUMBER keys to select desired language.

Note:
• With DVD-RAM, the subtitle can only be set to ON/OFF. The subtitle language cannot be selected.

Number of subtitle language being played back.

SUBTITLE: 3 ESP
Te amo.
I love you.
SELECT :SUB TITLE

ENG	English	SVE	Swedish	CHI	Chinese
FRA	French	NOR	Norwegian	KOR	Korean
DEU	German	DAN	Danish	MAL	Malay
ITA	Italian	POR	Portuguese	VIE	Vietnamese
ESP	Spanish	RUS	Russian	THA	Thai
NLD	Dutch	JPN	Japanese	*	Other

Notes:
• When closed captioning is used along with subtitles, they may overlap. If so, turn one function off. (See pages 20-21.)
• If, after several presses of the button, the language does not change, language selection is not offered on the disc.
• Subtitles may not change to the selected language immediately.
• When disc is removed, subtitles revert to initial setting language. If the initial language is not recorded on the disc, the disc's priority language will appear.

Information Display

`DVD-V` `CD` `RAM`

When DISPLAY is pressed, On-Screen Displays show disc information and unit information.

1 Press DISPLAY in Play or Stop mode to display "On-Screen Display."
• Each press of DISPLAY changes the on-screen display as follows. (Please refer to pages 42-44.)

Selected disc information

<Example of DVD>
TITLE   : 2
CHAPTER: 12
TIME   : 01:12:55
DVD Video
SELECT:▲▼
SET :SET   NEXT:DISPLAY

<Example of CD>
TRACK:12
TIME :00:00:23
Audio CD
SELECT:▲▼
SET :SET   NEXT:DISPLAY

<Example of DVD-RAM>
PROGRAM: 2
TIME   : 01:12:55
DVD VR
SELECT:▲▼
SET :SET   NEXT:DISPLAY

Selected unit information

<Example of DVD>
REPEAT   :OFF
SURROUND   :OFF
SELECT:▲▼
SET :SET   END:DISPLAY

<Example of CD>
REPEAT   :OFF
SURROUND   :OFF
SELECT:▲▼
SET :SET   END:DISPLAY

<Example of DVD-RAM>
REPEAT   :OFF
SURROUND   :OFF
SELECT:▲▼
SET :SET   END:DISPLAY

Normal Screen

Note:
• When DISPLAY is pressed during play of a Video CD with Play control, the NUMBER keys are not available on the displayed screen. In this case, press DISPLAY again to remove the displayed screen.
• DISPLAY button does not function while main menu of DVD, title menu of DVD, Direct Navigator, or Play List is displayed.

Picture Zoom

`DVD-V` `RAM`

You can enlarge specific portions of a picture and select the zoom ratio using the ZOOM button on the remote during DVD playback.

1 Press ZOOM repeatedly to change display as follows.
• You can enlarge the center portion of the image to one of 2 magnifications.

×1.0 (ORIGINAL) →1st press→ ×1.5 (ZOOM1) →2nd press→ ×2.0 (ZOOM2)
3rd press
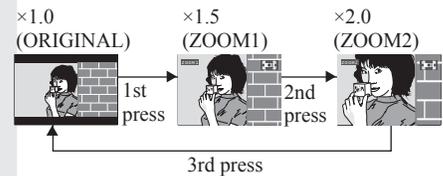
2 Use the ▲, ▼, ◄ and ► buttons to move the position up, down, left and right.

Notes:
• The subtitle cannot be enlarged nor can its position be changed.
• During picture zoom, "ZOOM1" or "ZOOM2" appears on-screen for 5 seconds.
• Zooming, on some discs, may result in poor picture quality, or may not operate at all.
• The picture zoom feature does not work with a Video CD.

Disc Operation

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DVD-RAM Operation

POWER
OPEN / CLOSE
DVD
NUMBER keys
SELECT ▲▼◄► / SET
PLAYLIST
≧10
PLAY
STOP
D.NAVI
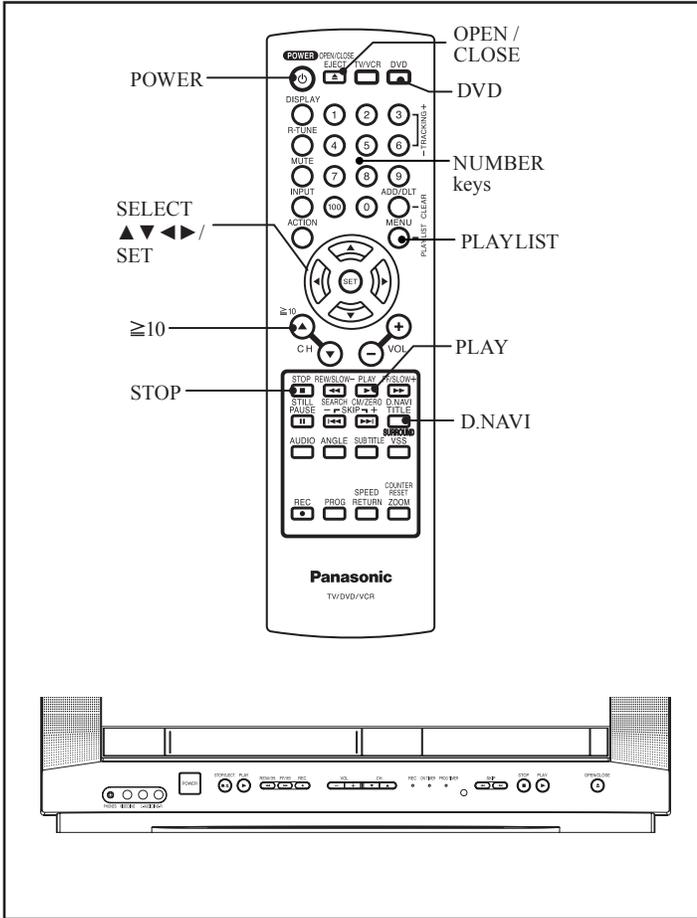
You can enjoy playing your personally recorded/edited DVD-RAM discs on this unit.

Note:
• This unit was designed for playback only. DVD-RAM recording is not possible.

Play a DVD-RAM

RAM

1 Press POWER on the remote or unit.

2 Press DVD to set remote to DVD mode.

3 Press OPEN/CLOSE.

4 Place disc into disc tray.

5 Press PLAY to start play. Disc tray closes automatically.
• Play begins from the first program title recorded on the DVD-RAM.

6 Press PLAYLIST or D.NAVI to display Play List or Direct Navigator menu for easy title or scene selection.

Example: Play List menu

Play List No.   Recorded time length   Page No.

Play List			Page1/5
No.	Date	Length	Title
1	2002/12/24 5:15:41AM	00:01:00	Movie Picture Playback
2	2002/12/25 4:31:49AM	00:03:12	Still Picture Playback
3	2002/12/25 8:24:25AM	00:15:01	Hybrid Playback
4	2002/12/25 12:45:00AM	00:03:00	Partial Playback
SELECT:▲ ▼ ◄ ► SET :SET			END:MENU

Recording time and date   Titles

Example: Direct Navigator menu

Program No.   Recorded time length   Page No.

Direct Navigator			Page1/4
No.	Date	Length	Title
1	2002/12/24 5:15:41AM	01:00:00	Drama
2	2002/12/25 4:31:49AM	00:30:00	Pana NEWS
3	2002/12/25 8:24:25AM	01:30:25	Tigers vs. Giants
4	2002/12/25 12:45:00AM	02:00:50	Dinosaur
SELECT:▲ ▼ ◄ ► SET :SET			END:TITLE

Recording time and date   Titles

7 Press STOP to stop playing.

8 Press OPEN/CLOSE to eject the disc.

Notes:
• Titles in Direct Navigator and Play List cannot be changed using this unit.
• With Direct Navigator, up to 99 programs can be displayed. With Play List, up to 99 titles (999 scenes) can be displayed.
• While DVD MAIN MENU is displayed, Play List and Direct Navigator display will not appear even if PLAYLIST or D.NAVI is pressed.

• When ⊘ appears on the screen while a button is being pressed, it means that the corresponding operation is prohibited by the unit or the disc.

Play List

RAM

If the DVD-RAM features a Play List, your preselected list of favorite scenes is displayed for easy access. (Operation can vary according to how you edited the DVD-RAM.)

1   Press PLAYLIST in Play/Stop mode to display the Play List menu.

Play List			Page1/5
No.	Date	Length	Title
1	2002/12/24 5:15:41AM	00:01:00	Movie Picture Playback
2	2002/12/25 4:31:49AM	00:03:12	Still Picture Playback
3	2002/12/25 8:24:25AM	00:15:01	Hybrid Playback
4	2002/12/25 12:45:00AM	00:03:00	Partial Playback

SELECT:▲ ▼ ◄ ►
SET   :SET   END:MENU

2   Press ◄► to select a page and press ▲ ▼ or the NUMBER keys to select a title (Play List No.).

Play List			Page1/5
No.	Date	Length	Title
1	2002/12/24 5:15:41AM	00:01:00	Movie Picture Playback
2	2002/12/25 4:31:49AM	00:03:12	Still Picture
3	2002/12/25 8:24:25AM	00:15:01	Hybrid Playback
4	2002/12/25 12:45:00AM	00:03:00	Partial Playback

SELECT:▲ ▼ ◄ ►
SET   :SET   END:MENU

3   Press SET or PLAY to start playing.
   • Pressing SET or PLAY is not necessary when using NUMBER keys.

Using NUMBER keys starts play automatically.
• The number of available titles varies with each disc.

Example 1:
To select No. 12, first press the ≧10 key, then 1, then 2.
Example 2:
To select No. 2, press 2.

4   Press PLAYLIST to clear Play List menu.

Direct Navigator

RAM

If the DVD-RAM features Direct Navigator, a list of recorded titles is displayed. Simply select a title number and start playback. (Operation can vary with disc used.)

1   Press D.NAVI in Play/Stop mode to display the Direct Navigator menu.

Direct Navigator			Page1/4
No.	Date	Length	Title
1	2002/12/24 5:15:41AM	01:00:00	Drama
2	2002/12/25 4:31:49AM	00:30:00	Pana NEWS
3	2002/12/25 8:24:25AM	01:30:25	Tigers vs. Giants
4	2002/12/25 12:45:00AM	02:00:50	Dinosaur

SELECT:▲ ▼ ◄ ►
SET   :SET   END:TITLE

2   Press ◄► to select a page and press ▲ ▼ or the NUMBER keys to select a title (Program No.).

Direct Navigator			Page1/4
No.	Date	Length	Title
1	2002/12/24 5:15:41AM	01:00:00	Drama
2	2002/12/25 4:31:49AM	00:30:00	Pana NEWS
3	2002/12/25 8:24:25AM	01:30:25	Tigers vs. Giants
4	2002/12/25 12:45:00AM	02:00:50	Dinosaur

SELECT:▲ ▼ ◄ ►
SET   :SET   END:TITLE

3   Press SET or PLAY to start playing.
   • Pressing SET or PLAY is not necessary when using NUMBER keys.

Using NUMBER keys starts play automatically.
• The number of available titles varies with each disc.

Example 1:
To select No. 12, first press the ≧10 key, then 1, then 2.
Example 2:
To select No. 2, press 2.

4   Press D.NAVI to clear Direct navigator menu.

Disc Operation

Disc Operation -Using Information Screen-

DISPLAY

NUMBER keys

SELECT ▲ ▼ ◄ ► / SET

Panasonic

TV/DVD/VCR

Disc information screen 1

DVD-V

1 **Press DISPLAY in Play or Stop mode to display "On-Screen Display."**

2 **Press ▲ ▼ to select an item.**

```
a                          c
TITLE   : 2          DVD
CHAPTER: 12          Video
TIME    : 01:12:55

SELECT:▲ ▼
SET    :SET        NEXT:DISPLAY
```

b
d

3 **Press SET to enter selected item. Change the item by pressing ▲ ▼ or the NUMBER keys, and press SET.**

```
TITLE   : 2          DVD
CHAPTER: 12          Video
TIME    : 01:12:55
        TITLE   : 2          DVD
        CHAPTER: 12          Video
        TIME    : 01:12:55

ENT
SET
        ENTER :0-9
        SET    :SET        NEXT:DISPLAY
```

a.TITLE:
Go directly to a preset title number.

b.Chapter:
Go directly to a preset chapter number.
• This function does not work with some discs.

c.Disc currently being played:
The type of disc currently inserted is displayed.

d.Elapsed playing time:
Go to a different scene by entering an elapsed playing time, then SET.
• This function does not work with some discs.
• If SET is pressed while making entries, unit returns to the condition before entries were made.

Example:

12 : 34 : 56   1 → 2 → 3 → 4 → 5 → 6
00 : 20 : 00   2 → 0 → 0 → 0 → SET

Unit information screen 1

DVD-V

1 **Press DISPLAY twice in Play or Stop mode to display "On-Screen Display."**

2 **Press SET to enter. Change the item by pressing ▲ ▼ and press SET.**

```
                              a
REPEAT      :OFF
SURROUND    :OFF

                              b

SELECT:▲ ▼
SET   :SET            END:DISPLAY
```
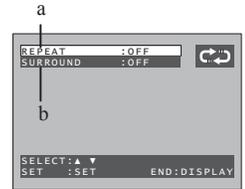
a.REPEAT MODE:
REPEAT MODE can be selected

Example: CURRENT PLAYBACK POSITION

TITLE		
chapter	chapter	chapter
REPEAT: CHAPTER	→	
REPEAT:TITLE	→	
REPEAT:OFF		→

b.SURROUND MODE:
See page 47.

Disc information screen 2

CD

1 Press DISPLAY in Play or Stop mode to display "On-Screen Display."

```
TRACK:12
TIME :00:00:23              Audio
                             CD
                              ▶
a

PROGRAM PLAY
                  NEXT:DISPLAY
```

2 Press SET to enter selected item. Change the item by pressing ▲ ▼ or the NUMBER keys, and press SET.

```
b                    d
TRACK:12              Audio
TIME :00:00:23        CD
                       ▶
c

ENTER :0-9
SET   :SET    NEXT:DISPLAY
```
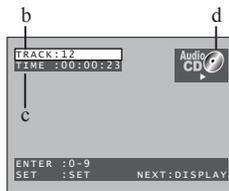
a.Play mode:
When Play mode is set (see pages 45-46), the mode name is displayed.

b.TRACK:
Go directly to a preset track number.

c.Elapsed playing time:
When disc information screen 2 is displayed, it is not possible to enter an elapsed playing time.

d.Disc currently being played:
The type of disc currently inserted is displayed.

Disc information screen 3

VCD

1 Press DISPLAY in Play or Stop mode to display "On-Screen Display."

```
TRACK:12              Video
TIME :00:35:12        CD
                    PBC OFF
a

PROGRAM PLAY
                  NEXT:DISPLAY
```

2 Press SET to enter selected item. Change the item by pressing ▲ ▼ or the NUMBER keys, and press SET.

```
b                    d
TRACK:12              Video
TIME :00:35:12        CD
                    PBC OFF
c                      e

ENTER :0-9
SET   :SET    NEXT:DISPLAY
```
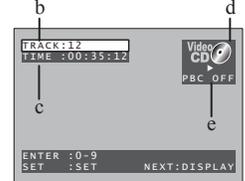
a.Play mode:
When Play mode is set (see pages 45-46), the mode name is displayed.

b.TRACK:
Go directly to a preset track number.

c.Elapsed playing time:
When disc information screen 3 is displayed, it is not possible to enter an elapsed playing time.

d.Disc currently being played:
The type of disc currently inserted is displayed.

e.Playback control ON/OFF:
ON: Video CD menu play is displayed.
OFF: Video CD menu play is not displayed.

Unit information screen 2

CD

1 Press DISPLAY twice in Play or Stop mode to display "On-Screen Display."

2 Press SET to enter. Change the item by pressing ▲ ▼, and press SET.

```
a
REPEAT    :OFF
SURROUND  :OFF
b

SELECT:▲ ▼
SET   :SET    END:DISPLAY
```

a.REPEAT MODE:
REPEAT MODE can be selected.
Example:

CURRENT PLAYBACK POSITION

	track	track	track
REPEAT:TRACK		➝	
REPEAT:DISC		➝	
REPEAT:OFF			➝
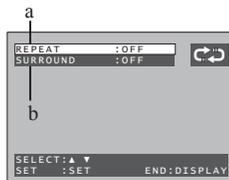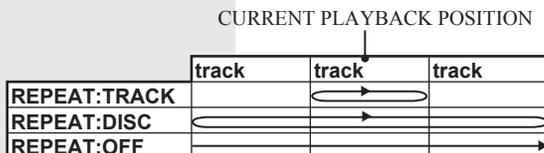
b.SURROUND MODE:
See page 47.

Unit information screen 3

VCD

1 Press DISPLAY twice in Play or Stop mode to display "On-Screen Display."

2 Press SET to enter. Change the item by pressing ▲ ▼, and press SET.

```
a
REPEAT    :OFF
SURROUND  :OFF
b

SELECT:▲ ▼
SET   :SET    END:DISPLAY
```

a.REPEAT MODE:
REPEAT MODE can be selected.
Example:

CURRENT PLAYBACK POSITION

	track	track	track
REPEAT:TRACK		➝	
REPEAT:DISC		➝	
REPEAT:OFF			➝

b.SURROUND MODE:
See page 47.

Disc Operation

43

Disc information screen 4

`RAM`

1 **Press DISPLAY in Play or Stop mode to display "On-Screen Display."**

2 **Press ▲▼ to select an item.**

```
PROGRAM:  2          DVD
TIME   : 01:12:55    VR



SELECT:▲ ▼
SET   :SET      NEXT:DISPLAY
```

3 **Press SET to enter selected item. Change the item by pressing ▲▼ or the NUMBER keys, and press SET.**

```
PROGRAM:  2          DVD
TIME   : 01:12:55    VR



ENTE
SET



ENTER :0-9
SET   :SET      NEXT:DISPLAY
```

Example:
Direct Navigation (PROGRAM)

a   b

```
PROGRAM:  2          DVD
TIME   : 01:12:55    VR

c



SELECT:▲ ▼
SET   :SET      NEXT:DISPLAY
```

Example:
PLAY LIST

a   b

```
PLAY LIST:  2        DVD
TIME   : 01:12:55    VR

c



SELECT:▲ ▼
SET   :SET      NEXT:DISPLAY
```
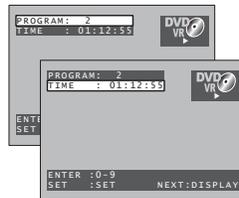
a.Direct Navigation (PROGRAM) or PLAY LIST No.:
Go directly to a preset title number.

b.Disc currently being played:
The type of disc currently inserted is displayed.

c.Elapsed playing time:
Go to a different scene by entering an elapsed playing time, then SET.
• This function does not work with some discs.
• If SET is pressed while making entries, unit returns to the condition before entries were made.

Example:
12 : 34 : 56   1 → 2 → 3 → 4 → 5 → 6
00 : 20 : 00   2 → 0 → 0 → 0 → SET

Unit information screen 4

`RAM`

1 **Press DISPLAY twice in Play or Stop mode to display "On-Screen Display."**

2 **Press SET to enter. Cursor moves to the right. Change the item by pressing ▲▼ and press SET.**

a

```
REPEAT       :OFF
SURROUND     :OFF

b



SELECT:▲ ▼
SET   :SET      END:DISPLAY
```
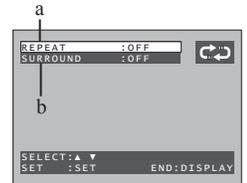
a.REPEAT MODE:
REPEAT MODE can be selected.

Example: Direct Navigation
(PROGRAM)

CURRENT PLAYBACK POSITION

	PROGRAM	PROGRAM	PROGRAM
REPEAT: PROGRAM		→	
REPEAT:DISC	←	→	→
REPEAT:OFF			→

Example: PLAY LIST

CURRENT PLAYBACK POSITION

	PLAY LIST	PLAY LIST	PLAY LIST
REPEAT:PLAY LIST		→	
REPEAT:ALL PLAY LISTS	←	→	→
REPEAT:OFF			→

b.SURROUND MODE:
See page 47.

Special Disc Operation

ACTION

SELECT
▲▼◄►/
SET

NUMBER keys

CLEAR

Program Play

| CD | VCD |

You can program specific tracks and order of play.

1 Press **ACTION** in Stop mode to display **MAIN MENU**.

2 Press ▲▼◄► to select "DVD."

3 Press **SET** to display DVD MAIN MENU.

```
            MAIN MENU

   [DVD]   [LOCK]  [LANGUAGE]

   [TV]   [CLOCK]   [CH]

SELECT:▲ ▼ ◄ ►  SET:SET
END    :ACTION
```

4 Press ▲▼ to select "PLAY MODE."

5 Press **SET** to display PLAY MODE screen.

```
      DVD MAIN MENU

DISC LANGUAGES
AUDIO OUTPUT
STILL MODE     :AUTO
TV MODE        :4:3 Pan&Scan
PLAY MODE

SELECT     :▲ ▼
SET        :SET
END        :ACTION
```

6 Press ▲▼ to select "PROGRAM PLAY."

7 Press **SET** to display screen.

```
      PLAY MODE

PROGRAM PLAY
RANDOM PLAY

SELECT     :▲ ▼
SET        :SET
END        :ACTION
```
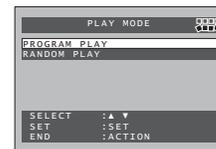
8 Press ▲▼◄► to select a track number.
   (Track numbers on disc are displayed.)

9 Press **SET** to set.

   • Repeat steps 8-9 to select another track.
   • The selected track is added on the right side.

```
         PROGRAM PLAY
     DISC            PROGRAM
  1  2  3  4      12  3  5  2
  5  6  7  8      16
  9 10 11 12
 13 14 15 16►
    CLEAR LAST
    CLEAR ALL         START
SELECT     :▲ ▼ ◄ ►
SET        :SET
END        :ACTION
```
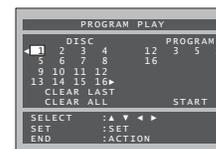
10 Press ▲▼◄► to select "START."

11 Press **SET** to start play of programs in the sequence selected.

   To cancel, press STOP during play, then press CLEAR.

```
         PROGRAM PLAY
     DISC            PROGRAM
  1  2  3  4      12  3  5  2
  5  6  7  8      16
  9 10 11 12
 13 14 15 16►
    CLEAR LAST
    CLEAR ALL        START
SELECT     :▲ ▼ ◄ ►
SET        :SET
END        :ACTION
```

Notes:
• Up to 16 tracks can be programmed.
• "◄" or "►" (depending on disc) indicates additional PROGRAM PLAY screen. Press ▲▼◄► for next or previous screen.
• To clear the last programmed track, press ▲▼◄► to move to "CLEAR LAST" and press SET. (Pressing CLEAR also clears.)
• To clear all programs, Press ▲▼◄► to move to "CLEAR ALL" and press SET. (Programs are also cleared when the power is turned off or the disc is removed.)

Disc Operation

45

Program Repeat Play

CD   VCD

1 Do steps 1-11 on page 45.

2 Press DISPLAY to display Disc Information screen.

(Disc Information Screen)

```
TRACK:12                    Audio
TIME :00:00:23                CD



PROGRAM PLAY
               NEXT:DISPLAY
```

3 Press DISPLAY again to display Unit Information screen.

(Unit Information Screen)

```
REPEAT       :OFF
SURROUND     :OFF




SELECT:▲ ▼
SET   :SET       END:DISPLAY
```

4 Press SET to enter Select mode.

(Unit Information Screen)

```
REPEAT       :OFF
SURROUND     :OFF




SELECT:▲ ▼
SET   :SET       END:DISPLAY
```

5 Press ▲ ▼ to select "DISC."

(Unit Information Screen)

```
REPEAT       :DISC
SURROUND     :OFF




SELECT:▲ ▼
SET   :SET       END:DISPLAY
```

6 Press SET to set mode.To cancel, select "REPEAT OFF" in step 5, then press SET.

(Unit Information Screen)

```
REPEAT       :DISC
SURROUND     :OFF




SELECT:▲ ▼
SET   :SET       END:DISPLAY
```

Random Play

CD   VCD

Tracks are played in random order.

1 Press ACTION in Stop mode to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "DVD."

3 Press SET to display DVD MAIN MENU.

```
            MAIN MENU


     DVD    LOCK  LANGUAGE

                     5 3 1
     TV    CLOCK    CH

SELECT:▲ ▼ ◄ ►   SET:SET
END   :ACTION
```

4 Press ▲ ▼ to select "PLAY MODE."

5 Press SET to display PLAY MODE screen.
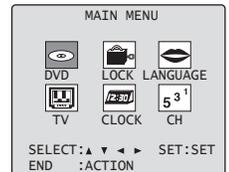
```
         DVD MAIN MENU
DISC LANGUAGES
AUDIO OUTPUT
STILL MODE      :AUTO
TV MODE         :4:3 Pan&Scan
PLAY MODE

SELECT      :▲ ▼
SET         :SET
END         :ACTION
```
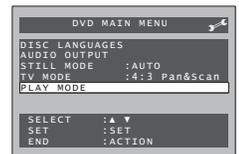
6 Press ▲ ▼ to select "RANDOM PLAY."

7 Press SET to begin random play.

```
         PLAY MODE
PROGRAM PLAY
RANDOM PLAY



SELECT      :▲ ▼
SET         :SET
END         :ACTION
```

To cancel, press STOP during play, then press CLEAR.

DVD Volume Adjust

DVD-V

Some DVDs are recorded at lower than average volume levels. For these DVDs, this unit can be set so that the average volume is increased automatically.

1 **Press ACTION to display MAIN MENU.**

2 **Press ▲ ▼ ◄ ► to select "TV."**

3 **Press SET to display SET UP TV screen.**

```
         MAIN MENU

  ⊙        📁        ⬯
  DVD      LOCK   LANGUAGE
  📺       2:30     5 3 1
  TV       CLOCK     CH

SELECT:▲ ▼ ◄ ►   SET:SET
END    :ACTION
```
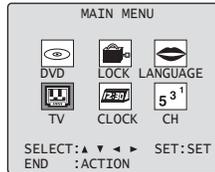
4 **Press ▲ ▼ to select "DVD VOL ADJUST."**

5 **Press SET to set the level (0, +1, or +2).**

```
         SET UP TV

CAPTION
INPUT SELECT    :TUNER
SET UP VIDEO/AUDIO
DVD VOL ADJUST  :+2


SELECT:▲ ▼        SET:SET
END    :ACTION
```
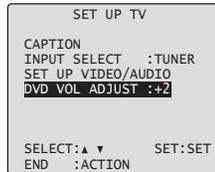
6 **Press ACTION twice to return to the normal screen.**

Note:
• DVD Volume Adjust works only when sound is in Dolby Digital.

V.S.S. (Virtual Surround Sound)

DVD-V   CD   RAM

Enjoy a surround-like effect if you are using two front speakers only. The effect is broadened and sound seems to come from virtual speakers on either side if the disc has surround signals recorded on it.

1 **Press VSS in Disc mode.**
   • The Surround sound effects can be changed by pressing VSS repeatedly as shown in the figure below.

Default

```
SURROUND:OFF
SURROUND:1
SURROUND:2
SURROUND:3
```
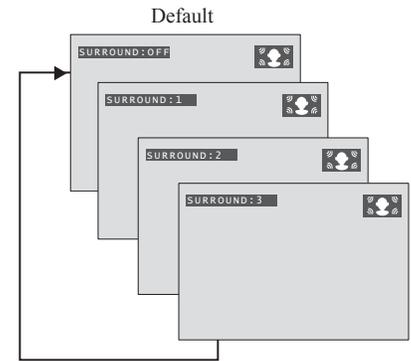
Notes:
• Turn off the surround effects on the other equipment.
• V.S.S. will not work, or will have less effect, with some discs.
• Turn V.S.S. off if it causes distortion.

Multiple Angle Viewing

DVD-V

DVDs may contain scenes shot from multiple camera angles allowing the same scene to be viewed from different angles. You can view these angles, if available, using the ANGLE button.

1 **Press ANGLE in Play mode to display the angle selection on-screen.**


```
ANGLE:1/2
SELECT :ANGLE
```
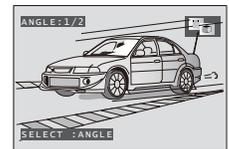
2 **Press ANGLE repeatedly, ▲ ▼, or NUMBER keys to select the desired angle.**
   • Display disappears after 5 seconds.

Number of angle being played back.


```
ANGLE:2/2
SELECT :ANGLE
```
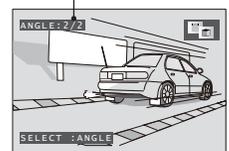
Notes:
• This function not available with DVD-RAM.
• ANGLE Indicator lights up on the unit when a scene recorded from different angles is detected.
• The angle number can be set beforehand so that the angle is switched whenever ANGLE Indicator lights up.

Disc Operation

47

Settings for DVD Operation

6 Press ▲ ▼ to select an item.

7 Press SET repeatedly for desired language.

```
            DISC LANGUAGES      CC
AUDIO       :English
SUBTITLE    :AUTO
MENUS       :English


SELECT      :▲ ▼
SET         :SET
END         :ACTION
```

■ AUDIO

To select the audio soundtrack language.
(Factory preset: English)

English/Spanish/French/Japanese
Original: Original disc language
Other **** :Other language selection*[1]

■ SUBTITLE

To select the subtitle language.
(Factory preset: AUTO)

AUTO: Same language as selected for "AUDIO"
• If language set for "AUDIO" is used in playback, subtitles will not appear.
• If another language is used during playback, the subtitles will appear in the language selected at "AUDIO" setup.

English/Spanish/French/Japanese
Other **** :Other language selection*[1]

■ MENUS

To select the language used in title menus or DVD menus.
(Factory preset: English)

English/Spanish/French/Japanese
Other **** :Other language selection*[1]

*[1] If the selected language is not offered, the original disc language is selected.

To enter OTHER **** code number,
Press NUMBER keys (Please refer to next page).
To make corrections, press ◄ repeatedly to delete language code number, and correct.

• Once initial settings are done, they remain in memory (even after the power is off) until changed. This means the unit will always operate under the same conditions (especially DVDs) each time.

---

8 Press ACTION twice to exit this mode.

Disc Languages

DVD-V

To select and set the language of the audio soundtrack, subtitles, or title/DVD menus for all discs to be played.

1 Press ACTION in Stop mode to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "DVD."

3 Press SET to display DVD MAIN MENU.

```
            MAIN MENU

    DVD       LOCK    LANGUAGE

    TV        CLOCK     CH

SELECT:▲ ▼ ◄ ►      SET:SET
END    :ACTION
```
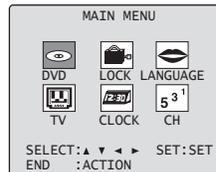
4 Press ▲ ▼ to select "DISC LANGUAGES."

5 Press SET to display DISC LANGUAGES screen.

```
         DVD MAIN MENU
DISC LANGUAGES
AUDIO OUTPUT
STILL MODE      :AUTO
TV MODE         :4:3 Pan&Scan

SELECT      :▲ ▼
SET         :SET
END         :ACTION
```

- When ⊘ appears on the screen while a button is being pressed, it means that the corresponding operation is prohibited by the unit or the disc.

Language Code List

Language	Code	Language	Code	Language	Code
Abkhazian	6566	Hindi	7273	Scots Gaelic	7168
Afar	6565	Hungarian	7285	Serbian	8382
Afrikaans	6570	Icelandic	7383	Serbo-Croatian	8372
Albanian	8381	Indonesian	7378	Shona	8378
Ameharic	6577	Interlingua	7365	Sindhi	8368
Arabic	6582	Irish	7165	Singhalese	8373
Armenian	7289	Italian	7384	Slovak	8375
Assamese	6583	Japanese	7465	Slovenian	8376
Aymara	6588	Javanese	7487	Somali	8379
Azerbaijani	6590	Kannada	7578	Spanish	6983
Bashkir	6665	Kashmiri	7583	Sundanese	8385
Basque	6985	Kazakh	7575	Swahili	8387
Bengali;Bangla	6678	Kirghiz	7589	Swedish	8386
Bhutani	6890	Korean	7579	Tagalog	8476
Bihari	6672	Kurdish	7585	Tajik	8471
Breton	6682	Laotian	7679	Tamil	8465
Bulgarian	6671	Latin	7665	Tatar	8484
Burmese	7789	Latvian, Lettish	7686	Telugu	8469
Byelorussian	6669	Lingala	7678	Thai	8472
Cambodian	7577	Lithuanian	7684	Tibetan	6679
Catalan	6765	Macedonian	7775	Tigrinya	8473
Chinese	9072	Malagasy	7771	Tonga	8479
Corsican	6779	Malay	7783	Turkish	8482
Croatian	7282	Malayalam	7776	Turkmen	8475
Czech	6783	Maltese	7784	Twi	8487
Danish	6865	Maori	7773	Ukrainian	8575
Dutch	7876	Marathi	7782	Urdu	8582
English	6978	Moldavian	7779	Uzbek	8590
Esperanto	6979	Mongolian	7778	Vietnamese	8673
Estonian	6984	Nauru	7865	Volapük	8679
Faroese	7079	Nepali	7869	Welsh	6789
Fiji	7074	Norwegian	7879	Wolof	8779
Finnish	7073	Oriya	7982	Xhosa	8872
French	7082	Pashto, Pushto	8083	Yiddish	7473
Frisian	7089	Persian	7065	Yoruba	8979
Galician	7176	Polish	8076	Zulu	9085
Georgian	7565	Portuguese	8084		
German	6869	Punjabi	8065		
Greek	6976	Quechua	8185		
Greenlandic	7576	Rhaeto-Romance	8277		
Guarani	7178	Romanian	8279		
Gujarati	7185	Russian	8285		
Hausa	7265	Samoan	8377		
Hebrew	7387	Sanskrit	8365		

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Selecting AUDIO OUTPUT

DVD-V

Select the digital output to be output from the optical digital audio output connector of the unit.

1 Press ACTION in Stop mode to display MAIN MENU.

2 Press ▲ ▼ ◄ ► to select "DVD."

3 Press SET to display DVD MAIN MENU.

```
        MAIN MENU

  ⬒        📁        ◇
  DVD     LOCK    LANGUAGE
  📺      🕧       5 3¹
  TV     CLOCK      CH

SELECT:▲ ▼ ◄ ►   SET:SET
END   :ACTION
```
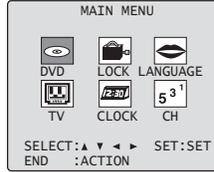
4 Press ▲ ▼ to select "AUDIO OUTPUT."

5 Press SET to display AUDIO OUTPUT screen.

```
        DVD MAIN MENU          🔧
DISC LANGUAGES
AUDIO OUTPUT
STILL MODE      :AUTO
TV MODE         :4:3 Pan&Scan

SELECT     :▲ ▼
SET        :SET
END        :ACTION
```

6 Press ▲ ▼ to select an item.

7 Press SET repeatedly for desired output.

```
        AUDIO OUTPUT          📀
LPCM(DVD)      :OFF
Dolby Digital :Bitstream
dts           :Bitstream
DRC           :OFF

SELECT     :▲ ▼
SET        :SET
END        :ACTION
```
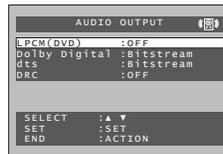
■ LPCM (DVD)
OFF:
Linear PCM of less than 48 kHz/16 bit is output. When playing DVDs recorded in linear PCM of over 48 kHz/20 bit, no digital audio is output. (Factory preset)
PCM:
When playing DVDs recorded in linear PCM of 48 kHz/20 bit/24 bit or more, digital audio converted to 44.1 kHz/16 bit or 48 kHz/16 bit is output.
(Digital output of PCM audio is restricted to 48 kHz/16 bit or below for copyright protection.)

■ Dolby Digital
Bitstream:
Dolby Digital bitstream (1ch-5.1ch) is output. (Factory preset)
PCM:
When you have connected an amplifier that doesn't have a built-in Dolby Digital decoder.

■ dts selection
Bitstream:
dts bitstream is output. (Factory preset)
PCM:
When you have connected an amplifier that doesn't have a built-in dts decoder.

■ DRC (Dynamic Range Compression)

OFF:
Normal audio range is selected. (Factory preset)
ON:
For dynamic sound even at low volume. This is useful for late-night listening. [Dolby Digital DVDs only].

Type of amplifier to be connected	Recommended setting		
	LPCM (DVD)	Dolby Digital	dts
No amplifier is connected			
AV amplifier without Dolby Digital/dts decoder	PCM	PCM*1	PCM*1
AV amplifier including Dolby Digital decoder	PCM	Bitstream*3	PCM
AV amplifier including Dolby Digital/dts decoder	PCM	Bitstream*3	Bitstream*2

*1 When connecting an amplifier (with an optical digital input connector) which does not contain the Dolby Digital or dts decoder, be sure to select "PCM." If "Bitstream" is selected, starting DVD play may cause such a high level of noise as to be harmful to your ears and damage the speakers.

*2 When a dts decoder is connected, please select "Bitstream" in "dts." If "PCM" is selected, there will be stereo sound.

*3 When a Dolby Digital decoder is connected, please select "Bitstream" in "Dolby Digital." If "PCM" is selected, there will be stereo sound.

Note:
• Make settings according to amplifier connected to optical audio output as shown in above table.

8 Press ACTION to redisplay DVD MAIN MENU and go to step 4 to set up another item. Or, press ACTION three times to exit.

Selecting STILL MODE

DVD-V

Set to reduce jitter in a displayed still picture or a motion picture.

1 **Press ACTION in Stop mode to display MAIN MENU.**

2 **Press ▲ ▼ ◄ ► to select "DVD."**

3 **Press SET to display DVD MAIN MENU.**

```
             MAIN MENU

        DVD    LOCK  LANGUAGE

        TV    CLOCK    CH

    SELECT:▲ ▼ ◄ ►   SET:SET
    END    :ACTION
```
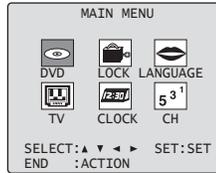
4 **Press ▲ ▼ to select "STILL MODE."**

5 **Press SET repeatedly for mode.**

```
        DVD MAIN MENU

    DISC LANGUAGES
    AUDIO OUTPUT
    STILL MODE      :AUTO
    TV MODE         :4:3 Pan&Scan

    SELECT    :▲ ▼
    SET       :SET
    END       :ACTION
```

■ **AUTO:**
"FIELD" (Field still) or "FRAME" (Frame still) is automatically selected during still mode. (Factory preset)

■ **Field:**
"FIELD" (Field still) is always selected. This setting will reduce jitter when compared with "AUTO" on some discs.

■ **Frame:**
"FRAME" (Frame still) is always selected. Some texts and fine patterns will be seen clearly when compared with "AUTO" on some discs.

6 **Press ACTION twice to exit this mode.**

Selecting TV MODE

DVD-V

Set the screen display style for widescreen video material playback.

1 **Press ACTION in Stop mode to display MAIN MENU.**

2 **Press ▲ ▼ ◄ ► to select "DVD."**

3 **Press SET to display DVD MAIN MENU.**

```
             MAIN MENU

        DVD    LOCK  LANGUAGE

        TV    CLOCK    CH

    SELECT:▲ ▼ ◄ ►   SET:SET
    END    :ACTION
```
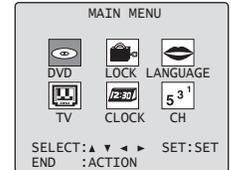
4 **Press ▲ ▼ to select "TV MODE."**

5 **Press SET repeatedly for mode.**

```
        DVD MAIN MENU

    DISC LANGUAGES
    AUDIO OUTPUT
    STILL MODE      :AUTO
    TV MODE         :4:3 Pan&Scan

    SELECT    :▲ ▼
    SET       :SET
    END       :ACTION
```

■ **4:3 Pan & Scan:**
Widescreen video data is played in Pan & Scan style (left and right of screen are trimmed.)
• Video data not formatted in Pan & Scan will play in letterbox style.

(Factory preset)

■ **4:3 Letterbox:**
Widescreen video data is played in Letterbox style (top and bottom of screen display a black margin).

6 **Press ACTION twice to exit this mode.**

Disc Operation

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Warning and Instruction Displays

These displays will alert you to a missed operation or provide further instructions.

OSD	CAUTION	Page
PLEASE SET CLOCK BY PRESSING ACTION KEY	If you attempt to set or review a Timer Recording or set the On-Timer and the Clock is not set...	14
CHECK CASSETTE RECORD TAB	If you press REC, and a cassette is inserted with no record tab...	6, 24
TO CANCEL TIMER REC HOLD DOWN STOP KEY FOR APPROX 3 SEC	If you press STOP during a Timer Recording...	26
NO CASSETTE	If you press PLAY, FF, REW, or REC without a cassette inserted...	24
PLEASE PREPARE FOR TIMER REC	If the unit is not in Stop mode, or cassette is not inserted, or cassette has no record tab, or tape is at its end two minutes before a Timer Recording is about to begin...	26
VIDEO HEADS MAY NEED CLEANING PLEASE INSERT HEAD CLEANING CASSETTE OR REFER TO MANUAL END: PLAY	If head cleaning becomes necessary while playing back a tape...	6
VCR LOCK ACTIVATED	If you press a function button other than STOP/EJECT or POWER while the unit is in VCR Lock mode...	29
PLEASE CHECK THE DISC, AND FOR STAINS OR SCRATCHES ON DISC	If you press PLAY, or the unit reads data from a stained or scratched disc in DVD mode. Also, if the type of disc is other than DVD, CD or Video CD...	7
THIS DISC MAY NOT BE PLAYED IN YOUR REGION	Playback of a disc with different region number was attempted. Only discs marked region "1," "ALL," or those that include "1" are playable on this unit.	7
THIS TYPE OF DISC CANNOT BE PLAYED. PLEASE INSERT A DIFFERENT DISC	An unusable disc is inserted in the unit, or the disc is not inserted with label side up.	7

Glossary

Angle
Some DVD discs feature scenes simultaneously shot from different angles. The ANGLE button can be used to view the scene from different angles. (ANGLE Indicator lights up on the unit when a scene recorded from different angles is detected.)

Bitstream
This is the digital form of multi-channel audio data (e.g., 5.1 channel) before it is decoded into its various channels.

Chapter Number
Titles are subdivided into numbered sections. You can quickly search for a favorite scene using these numbers.

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

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 multichannel audio. A large amount of audio information can be recorded on one disc using this method.

Dolby Pro Logic
A surround system where a 4-channel audio track is recorded as 2 channels and then is restored to 4 channels for play. The surround channel is monaural and can reproduce up to 7 kHz.

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

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

DVD
A high-density optical disc on which high-quality pictures and sound have been digitally recorded. DVD incorporates new video compression technology (MPEG II) and high-density recording technology which allow entire movies to be recorded with incredible playback quality.

Film and video
DVD-Videos are recorded using either film or video. Usually, film is recorded at 24 frames per second, the rate movies are filmed at, while video is recorded at 30 frames per second.

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.

Linear PCM (pulse code modulation)
These are uncompressed digital signals, similar to those found on CDs.

Playback Control
With Video CD (version 2.0), scenes or information may be selected for viewing or listening from an interactive menu that appears on the TV screen.

Regional Code
This is a copyright protection measure unique to DVD-Video. There are 6 regional codes worldwide. In order to play a disc encoded with a regional code, the DVD player must be equipped with the same code.

Sampling bit number
This is the resolution shown in number of bits to determine how faithfully the sampled analog frequency was expressed at the time the signal was converted from analog to digital.

Sampling Frequency
This is the number of times sampling is performed in (1) second shown in Hz units at the time the signal is converted from analog to digital using the PCM method. The greater the number, the higher the sound quality.

Subtitles
Written dialogue which appears at the bottom of the screen.

Time Number
The elapsed play time from the start of a disc or title. Use to quickly find scenes. (May not work with some discs.)

Title Number
For DVD discs with two or more titles, the titles are numbered as title 1, title 2, etc.

Track Number
Numbers assigned to tracks on Video CDs and CDs to allow specific tracks to be quickly located.

Video CD
CD containing picture and sound with same quality level as video tape. This unit also supports Video CDs with playback control (version 2.0).

V.S.S. Feature
Virtual surround sound playback is possible even with only 2 speakers. For example, using this unit's built-in speakers, the 2 speakers of a connected stereo, etc., you can enjoy a surround sound effect. If the disc was recorded in Dolby Digital 5.1 ch, with just the two front L/R speakers, you will feel as if you are hearing sound from nonexistent speakers on both sides of you. This effect also works with Dolby Digital 2-channel discs.

Before Requesting Service

Check the following points once again if you are having trouble with your unit.

	PROBLEM	CORRECTION	Page
Power	No power…	Completely insert Power Plug into an AC outlet.	9
		Set POWER button to ON.	8-9
	Power turns itself off...	Auto power-off (shut off) occurs after about 5 min. in DVD mode with no operation, or if there is no broadcast signal in TV or Playback mode. Turn the power back on.	35, 37
Monitor	No picture or sound...	Make sure your antenna system (TV or CABLE) is correctly set.	10
		Completely insert Power Plug into an AC outlet.	9
		Set POWER button to ON.	8-9
	Poor picture with normal sound...	Adjust BRIGHTNESS, SHARPNESS, and PICTURE controls in the SET UP Video Adjustment.	22-23
	Poor sound with normal picture...	Adjust VOLUME control.	16
	Poor TV reception...	Adjust SHARPNESS and PICTURE controls in the SET UP Video Adjustment.	22-23
	No color or poor color...	Adjust TINT and COLOR controls in the SET UP Video Adjustment.	22-23
	Ghost (multiple) images...	Install a directional antenna.	10
	TV programs cannot be watched...	Make sure the selected channel is in unit's memory.	15
	Channel cannot be selected...	Only the channel being recorded can be viewed on this unit.	25
VCR	TV program cannot be recorded...	Make sure your antenna system (TV or CABLE) is correctly set.	10
		Make sure cassette record tab is intact.	6
	Timer recording cannot be performed…	Check that clock is set to current time and date.	35
		Make sure DSS/CABLE box (if used) is left on and tuned to channel to be recorded.	10
		Set recording Start/Stop times correctly.	26
		Timer recording may not be performed or continued if a power interruption of more than 1 minute occurs before or during a Timer Recording, even after power is restored.	
	No playback picture, or the playback picture is noisy or contains streaks...	Adjust TRACKING control in either direction.	29
		Try Head Cleaning.	6
	VCR cannot be controlled...	Make sure VCR LOCK is set to off.	29
Remote Control	Unit cannot be controlled...	Aim Remote directly at the remote sensor on the unit. Avoid any object blocking signal path.	9
		Inspect the remote batteries.	6
		Make sure VCR LOCK is set to off.	29
		Exposing unit remote sensor to direct fluorescent or outdoor light may cause signal interference.	9
	ACTION, PLAY, SELECT, SET POWER, etc. buttons cannot be selected...	Press TV/VCR for TV-VCR mode.	9
		Press DVD for DVD mode.	9
		Check remote batteries.	6
DVD/CD/Video CD	Play fails to start even when PLAY is pressed...	This unit cannot play discs other than DVDs, CDs and Video CDs.	6
		The disc may be dirty and require cleaning.	7
	Picture is distorted during rapid advance or rapid reverse...	The picture will be somewhat distorted at times; this is normal.	
	No Forward/Reverse search play...	Some discs may have sections which prohibit Forward/Reverse search.	37
	Audio soundtrack and/or subtitle language is not the one selected at the initial settings...	The audio soundtrack and/or subtitle language selected at DVD initial settings must exist on the disc.	38-39
	No subtitles...	Subtitles appear only when available on disc.	39
		Select "ON" at the "Subtitle language" section to display subtitles.	39
	Alternative audio soundtrack (or subtitle) language cannot be selected...	Alternative language cannot be selected with discs which do not contain more than one language.	38-39
		For some discs, alternative language cannot be selected with the AUDIO or SUB TITLE button. Try selecting it from the DVD menu if available.	38-39
	Angle cannot be changed...	This function is dependent on software availability. Even if disc has multiple angles, they may be recorded for specific scenes only (ANGLE Indicator on unit lights up).	47
Miscellaneous	Video cassette cannot be inserted...	Insert the cassette window side up, record tab facing you.	6
	Video cassette cannot be removed...	Completely insert Power Plug into an AC outlet.	9
	Eject does not function or insertion cannot be done...	Turn the POWER off and then on, and try ejecting or inserting the tape again.	
	Video cassette ejects when a recording is started, or the power is turned off for timer recording...	Make sure cassette record tab is intact.	6
	In Stop mode, the VCR motor (CYLINDER) continues to rotate...	To enable Quick Play mechanism, the VCR cylinder will rotate for about 3 minutes. This reduces response time from Stop to Play mode and from Play to Rewind Search mode.	

Specifications

Display	
Picture Tube	20 inch, measured diagonally pure flat Picture Tube

VCR	
Video Recording System	4 rotary heads helical scanning system
Audio Track	1 track (Normal) 2 channel (Hi-Fi Audio Sound)

Tuner		
Broadcast Channels		VHF 2 ~ 13, UHF 14 ~ 69
CABLE Channels		Midband A through I (14 ~ 22) Superband J through W (23 ~ 36) Hyperband AA ~ EEE (37 ~ 64) Lowband A-5 ~ A-1 (95 ~ 99) Special CABLE channel 5A (01) Ultraband 65 ~ 94, 100 ~ 125

General		
Power Source		120 V AC, 60 Hz
Power Consumption	Power On	Approx. 112 W
	Power Off	Approx. 0.8 W
Television System		EIA Standard NTSC color
Speaker		2 pieces 3 W
Operating Temperature		5 °C ~ 35 °C (41 °F ~ 95 °F)
Operating Humidity		10 % ~ 75 %
Weight		28 kg (61.7 lbs.)
Dimensions (W × H × D)		604 mm (23-3/4″) × 520 mm (20-1/2″) × 496 mm (19-1/2″)

Discs played	
DVD disc (DVD-Video, DVD-R)	12 cm (5″) single-sided, single-layer 12 cm (5″) single-sided, double-layer 12 cm (5″) double-sided, double-layer (one layer per side) 8 cm (3″) single-sided, single-layer 8 cm (3″) single-sided, double-layer 8 cm (3″) double-sided, double-layer (one layer per side)
DVD-RAM	12 cm (5″) 9.4 GB (double-sided) and 4.7 GB (single-sided) 8 cm (3″) 2.8 GB (double-sided)
Compact disc (CD-DA, Video CD, CD-R, CD-RW)	12 cm (5″) disc 8 cm (3″) disc

Digital audio output	
Optical digital output	Optical connector

Pickup	
Wavelength	655 nm (DVD) 790 nm (CD, Video CD) Laser power: CLASS II

Note:
• Designs and specifications are subject to change without notice.

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