

# Panasonic®

## DVD/VCR DECK Operating Instructions

Model No. **AG-VP320**



Professional / Industrial Video



Connections and Initial Setup Procedures are on pages 12 to 17.



### MULTI FORMAT PLAYBACK



\* Ability to play back may depend on recording conditions.



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.

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



LSQT0966 A



Initial Setup

Basic Operation

VCR Operation

DVD Operation

For Information

# 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 a power source indicated on the unit or in this manual. If necessary, have your Electric Utility Service Company or Video Products Dealer verify the power source in your home.
- 2 POLARIZED OR GROUNDING PLUG**  
As a safety feature, this product comes with either a polarized power cord plug (one blade is wider than the other), or a three-wire grounding type plug.

#### **POLARIZED PLUG CAUTION:**

This plug will only fit into an outlet one way. If you cannot fully insert the plug, try reversing it. If it still will not fit, have an electrician install the proper wall outlet. Do not defeat the safety feature by tampering with the plug.

#### **GROUNDING PLUG CAUTION:**

This plug will only fit into a three-hole grounding outlet. If necessary, have an electrician install the proper outlet. Do not defeat the safety feature by tampering with the plug.

- 3 POWER CORD**  
Make sure power cords are routed so that they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. If an extension cord is used, make sure it also has either a polarized or grounded plug and that the cords can be securely connected. Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified service technician. Overloaded outlets and extension cords are fire hazards and should be avoided.

- 4 DO NOT BLOCK VENTILATION HOLES**  
Ventilation openings in the cabinet release heat generated during operation. If they are blocked, heat build-up inside the unit can cause failures that may result in a fire hazard or heat damage to cassettes or discs.

For protection, follow these rules:

- Never cover ventilation slots or the unit while in use, or operate the unit when placed on a bed, sofa, rug, or other soft surface.
- Avoid built-in installation, such as a book case or rack, unless proper ventilation is provided.

- 5 PLACEMENT: AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES**  
Do not place the unit over or near heater or radiator, in direct sunlight, inside closed vehicles, in high temperature [over 104 °F (40 °C)], or in over 75 % humidity. If the unit is suddenly moved from a cold place to a warm one, moisture may condense in the unit and on the tape causing damage. Never subject the 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**

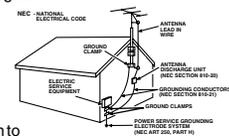
- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
- An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
- Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.



### OUTDOOR ANTENNA INSTALLATION

- 1 SAFE ANTENNA AND CABLE CONNECTION**  
If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built up static charges and voltage surges.

Section 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code) provides information with respect to 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**

An outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.

### USING THE UNIT

If the unit has been in storage or moved to a new location, refer first to the INSTALLATION section of these safeguards.

- 1 KEEP THE UNIT AWAY FROM WATER OR MOISTURE OF ANY KIND.**
- 2 IF EQUIPMENT IS EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT,** unplug the unit and have it inspected by a qualified service technician before use.

- 3 DURING AN ELECTRICAL STORM**

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

- 4 WHEN THE UNIT IS PLUGGED IN**

- Never expose the unit to rain or water. **DO NOT OPERATE** if liquid has been spilled into the unit. Immediately unplug the unit, and have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
- Never drop or push any object through openings in the unit. Some internal parts carry hazardous voltages and contact can cause electric shock or fire hazard.  
Do not put any foreign object on the disc tray.
- Avoid placing the unit directly above or below your TV set as this may cause electrical interference. Keep all magnets away from electronic equipment.

- 5 USING ACCESSORIES**

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

- 6 CLEANING THE UNIT**

Unplug the unit. Then, 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 the 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.

### SERVICE

- 1 DO NOT SERVICE THIS PRODUCT YOURSELF**

If, after carefully following the detailed operating instructions, this product does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual. Unplug the unit and contact a qualified service technician.

- 2 IF REPLACEMENT PARTS ARE REQUIRED**

Make sure the service technician uses only parts specified by the manufacturer, or those having the same safety characteristics as the original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.

- 3 HAVE THE SERVICE TECHNICIAN PERFORM A SAFETY CHECK**

After any service or repairs to the unit, request the service technician to conduct a thorough safety check as described in the manufacturer's service literature to ensure that the unit is in safe operating condition.

# 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, 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.



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.

### CAUTION:

UNIT IS A CLASS I LASER PRODUCT.  
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 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)

## FCC NOTE:

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. The user may find the booklet, "Something About Interference" available from FCC local regional offices helpful.

### FCC Caution:

To assure continued compliance, (example- use only shielded interface cables when connecting to other devices.) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## Region Management Information:

This DECK 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 DECK, this DECK cannot play this disc.

- The Region number for this DECK is "1".
- The Player will play DVD-Video marked with labels containing "1" or "ALL".

### Example:



# Before Using

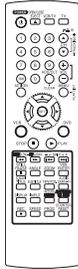
## Congratulations

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

- Date of Purchase \_\_\_\_\_
- Dealer Purchased From \_\_\_\_\_
- Dealer Address \_\_\_\_\_
- Dealer Phone No. \_\_\_\_\_
- Model No. **AG-VP320**
- Serial No. \_\_\_\_\_

## Accessories

- Remote Control EUR7724KF0R
- Batteries 2 "AA"



- RF Coaxial Cable LSJA0418



## Loading the Batteries

- 1) Open cover.
- 2) Insert batteries as marked.
- 3) Close cover.

- Battery replacement caution**
  - Do not mix old and new batteries.
  - Do not mix alkaline with manganese batteries.

## Record/ Playback Time

Only use tapes with the **VHS** mark in this DECK.

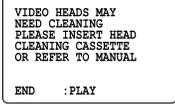
Tape Speed Setting	Type of Video Cassette		
	T120	T160	T180
SP (Standard Play)	2 Hours	2 Hours 40 Minutes	3 Hours
SLP (Super Long Play)	6 Hours	8 Hours	9 Hours

## Head Cleaning

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

### Video Head Clog Sensor

During playback, this screen appears if clogging is detected.



To remove screen, press **PLAY** on the remote or **DECK**.

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

## Cleaning DECK

Use a soft cloth or dusting attachment of a vacuum cleaner to remove dust from the ventilation holes on the back sides and bottom of the cabinet.

Plastic surfaces are easily scratched and can be marred by alcohol and various solvents. Avoid excessive use of oil-based furniture polishes since the materials used in the cabinet will accumulate more dust. We recommend using a non-abrasive, antistatic cleaner and polisher.

## Features for a Quality Picture (VCR)

### Digital Auto Picture

Automatically controls the video output signal for less noise depending on the tape condition.

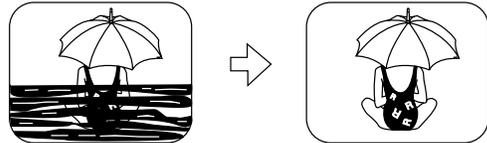
### Digital Auto Tracking

Continuously analyzes the signal and adjusts for optimum picture quality.

### Manual Tracking Control (to reduce picture noise)

Use during Playback and Slow Motion mode to reduce picture noise.

Press **CH (TRACKING) ▲/▼** on the remote control or on **DECK** until the picture clears up. To return to Auto Tracking, press **POWER** off, then on again a few seconds later.



### V-Lock Control (to reduce picture jitter)

In Still mode, **CH (TRACKING) ▲/▼** operate as a V-Lock control.

# Table of Contents

## Initial Setup (Connection)

### DVD / VCR

Important Safeguards and Precautions .....	2, 3
Before Using .....	4
DECK & Cassette Information .....	6, 7
Location of Controls .....	8 ~ 10
On Screen Displays / Light-up Indicators .....	11
Connections .....	12 ~ 15
Initial Setup for Basic Connections (Ready to Play) .....	16, 17

## Basic Operation

### VCR

Reset Language, Channels, Clock, VCR's Output Channel .....	18, 19
Playback/ Record on a Tape .....	20, 21

### DVD

Basic DVD Operation .....	22, 23
---------------------------	--------

## VCR Operation

Timer Recording .....	24, 25
MTS Broadcast/ VHS Hi-Fi Stereo System .....	26, 27
Multi-Brand Control Feature .....	28, 29
Tape Operation (Search System) .....	30 ~ 32
Special VCR Features .....	33, 34
Copying Your Tapes (Dubbing) .....	35

## DVD Operation

Disc Operation .....	36 ~ 41
DVD-RAM Operation (DVD-RAM only) .....	42, 43
DVD Operation using On-Screen Displays .....	44 ~ 48
MP3/JPEG Playback Operation .....	49 ~ 51
Settings for DVD Operation .....	52 ~ 55
Language Code List .....	56

## For Your Information

Warning and Instruction Displays .....	57
Before Requesting Service .....	58, 59
Index .....	60, 61
Memo .....	62, 63

Initial Setup

Basic Operation

VCR Operation

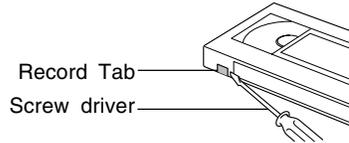
DVD Operation

For Information

# DECK & Cassette Information

## Prevent Accidental Tape Erasure

Break off the tab to prevent recording.



## Disc formats supported by this DECK

DECK can play back discs bearing any of the following marks:

Logo	Disc type
	DVD-RAM (Version 1.1 of the Video Recording Format a unified video recording standard)
	DVD (DVD-Video)
	DVD-R (DVD-Video formatted discs [finalized])
	Video CD
	CD (CD-DA)
	CD-R/CD-RW • CD-DA format • MP3/JPEG file and finalized.*

[Discs Played 8 cm (3") or 12 cm (5")]

\* A process that allows play on compatible equipment.

### Discs which cannot be played

- DVD with Region No. other than "1" or "ALL"
- PAL discs, DVD-ROM, DVD-Audio, DVD-RW, DVD+R, DVD+RW, CD-ROM, CDV, CD-G, CVD, SVCD, SACD, CD-TEXT, Divx Video Disc, Photo-CD and MPEG4 Video Disc

### Notes

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

## DVD-RAM discs

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

Type	<ul style="list-style-type: none"> <li>• Non-cartridge discs</li> <li>• Discs that can be removed from their cartridges (TYPE 2 and 4)</li> </ul>
Capacity	<ul style="list-style-type: none"> <li>• 12 cm (5") 9.4 GB (double-sided) and 4.7 GB (single-sided)</li> <li>• 8 cm (3") 2.8 GB (double-sided)</li> </ul>

- 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.

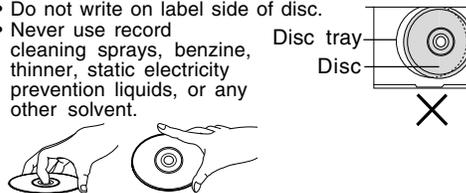


- Some parts of the disc, for example where one program ends and another begins, may not play smoothly.

## Disc Handling

### Handling precautions

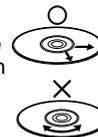
- Sticking a label on the disc may impair DVD-R playback.
- Do not attach sticker to discs. (Do not use discs with exposed adhesive from tape or left over peeled-off stickers.)
- Only hold disc by edges as shown below. Fingerprints, dirt and scratches can cause skipping and distortion.
- Do not write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



- Do not try to close disc tray when disc is not properly placed.

### 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 the DVD-RAM disc cleaner available. 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 could be damaged if stored or left in areas:

- exposed to direct sunlight.
- that are humid or dusty.
- near heat (i.e. heater, radiator, etc.).

## Specifications

<b>Power Source:</b>	120 V AC, 60 Hz
<b>Power Consumption:</b>	<u>Power On:</u> Approx. 22 watts, <u>Power Off:</u> Approx. 0.9 watts
<b>Video Signal:</b>	EIA Standard NTSC color
<b>Video Recording System:</b>	4 rotary heads helical scanning system
<b>Audio Track:</b>	1 track (Normal), 2 channel (Hi-Fi Audio Sound)
<b>Tuner</b>	
<b>Broadcast Channels:</b>	VHF 2 ~ 13, UHF 14 ~ 69
<b>CABLE Channels:</b>	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
<b>Input/Output Terminal:</b>	Audio/Video Line Input/Output, RF Input/Output
<b>Input Terminal:</b>	Audio/Video Line Input (Front)
<b>Output Terminal:</b>	S-Video Output (DVD only), Component Video Output (DVD only) Audio Output 2 (L), (R)
<b>Operating Temperature:</b>	5 °C ~ 40 °C (41 °F ~ 104 °F)
<b>Operating Humidity:</b>	10 % ~ 75 %
<b>Weight:</b>	3.7 kg (8.2 lbs.)
<b>Dimensions:</b>	430 (W) × 93 (H) × 255 (D) mm 16-15/16" (W) × 3-11/16" (H) × 10-1/16" (D) inch
<b>Discs Played</b>	
<b>(1) DVD-Video Disc</b>	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)
<b>DVD-RAM Disc</b>	12 cm (5") 9.4 GB (double-sided) and 4.7 GB (single-sided) 8 cm (3") 2.8 GB (double-sided)
<b>(2) Compact Disc</b> (CD-DA, Video CD) (CD-R/CD-RW, MP3, JPEG)	12 cm (5") disc 8 cm (3") disc
<b>Digital Audio Output:</b>	Digital Optical Connector
<b>Pickup:</b>	Wavelength : 655 nm (DVD), 790 nm (Video CD/CD) Laser power : CLASS II

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

## Definition of Terms (DVD)

<b>Angle:</b>	Some DVD discs feature scenes simultaneously shot from different angles. The ANGLE button can be used to view the scene from different angles.
<b>Chapter Number:</b>	Titles are subdivided into numbered sections. You can quickly search for a favorite scene using these numbers.
<b>DVD:</b>	A high-density optical disc on which high-quality pictures and sound have been digitally recorded. DVD incorporates video compression technology (MPEG II) and high-density recording technology which allow entire movies to be recorded with incredible playback quality.
<b>Playback Control:</b>	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.
<b>Subtitles:</b>	Written dialogue which appears at the bottom of the screen.
<b>Time Number:</b>	The elapsed play time from the start of a disc or title. Use to quickly find scenes. (May not work with some discs.)
<b>Title Number:</b>	For DVD discs with two or more titles, the title is numbered as title 1, title 2, etc.
<b>Track Number:</b>	Numbers assigned to tracks on Video CDs and CDs to allow specific tracks to be quickly located.
<b>Video CD:</b>	CD containing picture and sound with same quality level as video tape. This DECK also supports Video CDs with playback control (version 2.0).

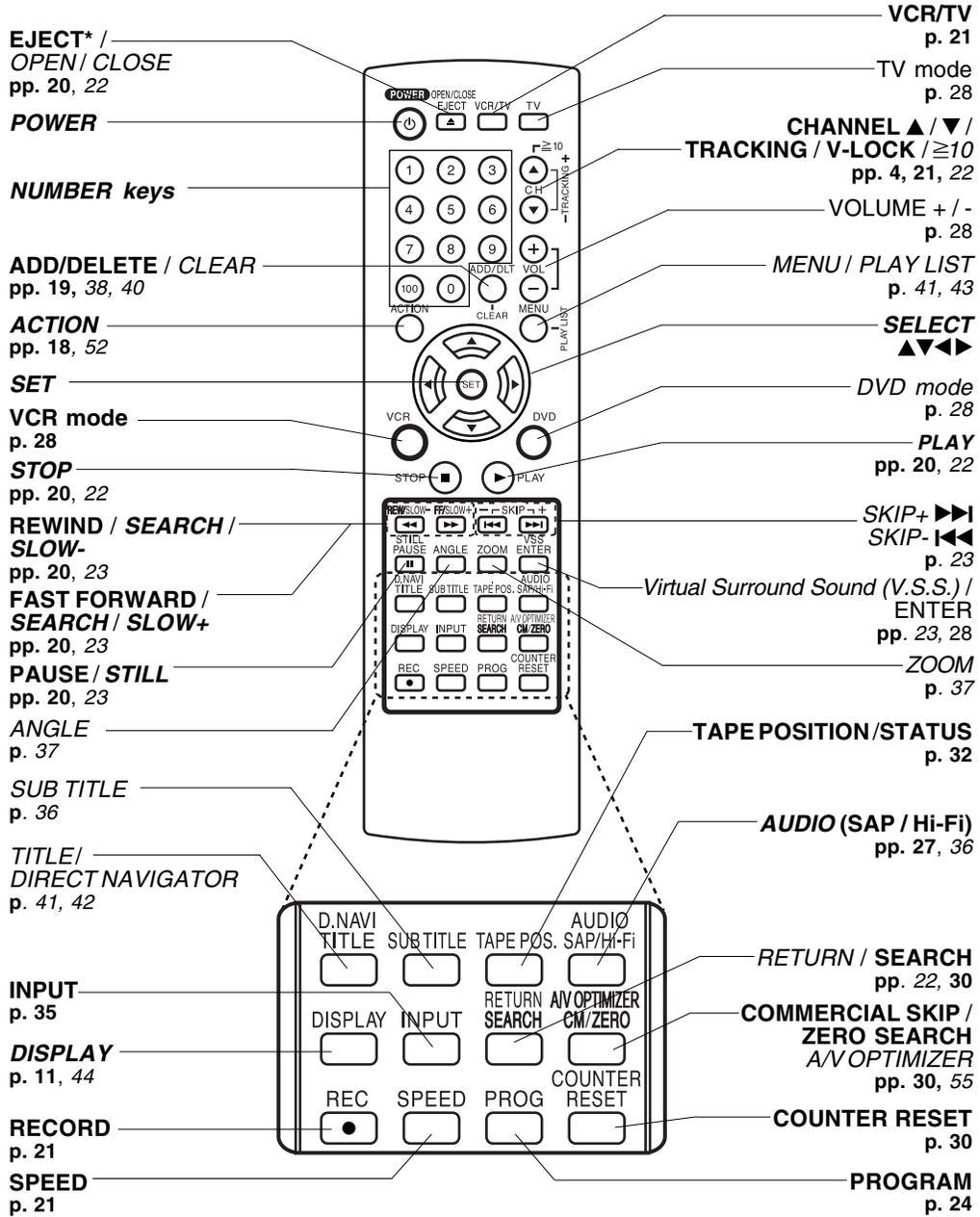
U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; 5,315,448; and 6,516,132.

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.

# Location of Controls

## Remote Control

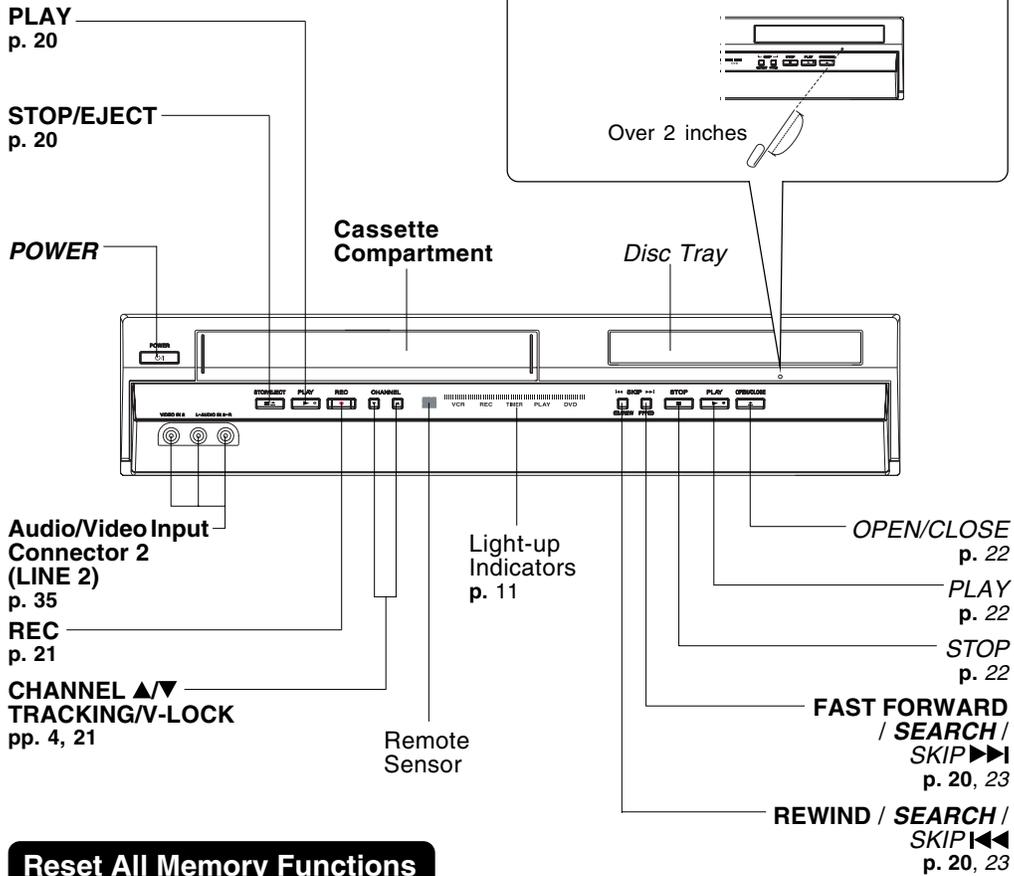
**Bold:** VCR Function / **Bold Italic:** VCR and DVD Functions  
*Italic:* DVD Function / Normal: Others



\*EJECT button: When this button is pressed in 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.

## Front View of DECK

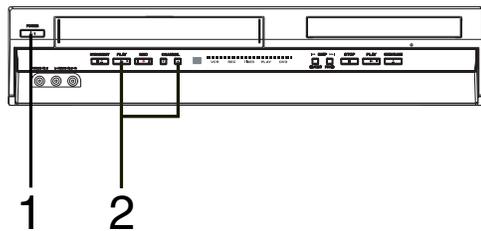
**Bold:** VCR Function  
*Italic:* DVD Function  
***Bold Italic:*** VCR and DVD Functions  
 Normal: Others



Initial Setup

## Reset All Memory Functions

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



- 1 Turn DECK Power on.
- 2 Press and hold both **VCR PLAY** and **CHANNEL ▲** on the DECK for more than 5 seconds.
  - The power shuts off.
- 3 Perform "Initial Setup (Ready to Play)" on page 16.

# Location of Controls (continued)

## Rear View of DECK

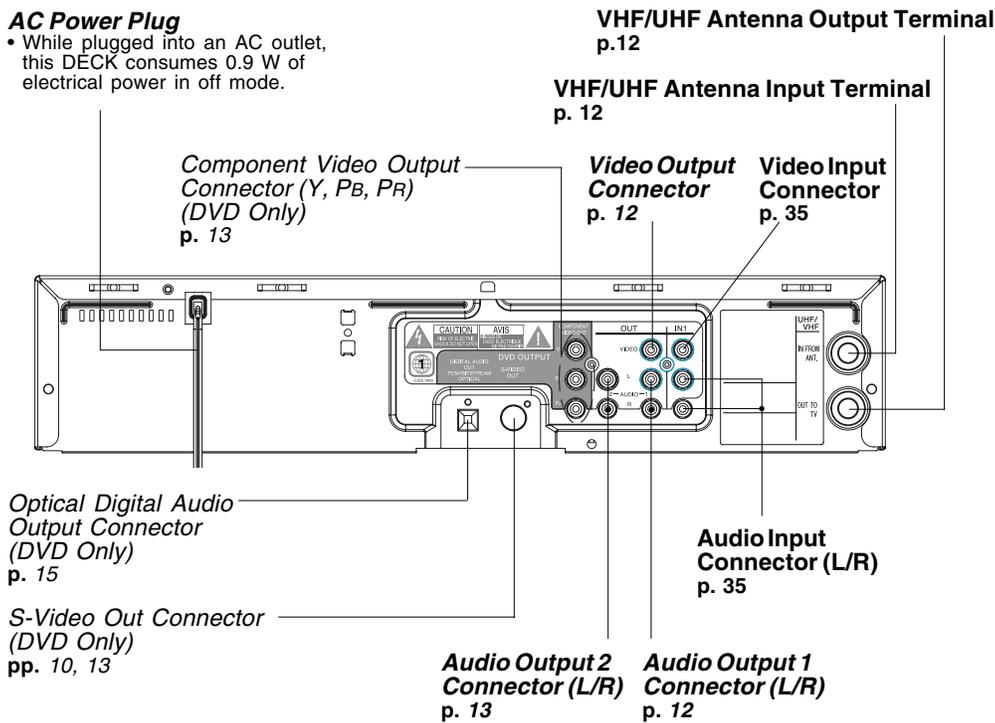
**Bold:** VCR Function

*Italic:* DVD Function

**Bold Italic:** VCR and DVD Functions

### AC Power Plug

- While plugged into an AC outlet, this DECK consumes 0.9 W of electrical power in off mode.



The following table shows the status of the output jacks when in VCR or DVD mode.

	<b>Video Output Audio Out 1 Audio Out 2</b>	<i>Component Video Output</i>	<i>S-VIDEO OUT</i>	<b>VHF/UHF Antenna Out</b>
<b>VCR</b>	YES	N/A	N/A	YES
<b>DVD</b>	YES	YES		YES

**Note** • PROG functions on the remote are not available when using Component Video Output and S-VIDEO OUT. Please set TV to either RF INPUT or VIDEO INPUT, and then press PROG.

**To enjoy PROGRESSIVE SCAN video**

- Connect *Component Video Output* to the component video input terminals of a television. (See p. 13.)
- When PROGRESSIVE OUT is set to "ON" in the DVD Main Menu (p. 55), a Progressive Scan signal is output from the *Component Video Output Connector*.

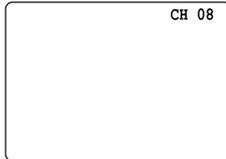
**Notes**

- The screen may shift off-center when using progressive output. Please adjust the screen position if this occurs. (Refer to your TV manual.)
- If the television is not progressive compatible, a progressive scan picture is not available. Connect the Video Output or S-Video Output connector (see p. 12, 13) and set PROGRESSIVE OUT to "OFF" in the DVD Main Menu. (See p. 55.)

# On Screen Displays / Light-up Indicators

## On Screen Displays (VCR)

### Function & Channel Displays



When a function button is pressed, e.g. PLAY, or you change channels, and also if a cassette is inserted, a 5-second display appears.

### Blank Tape/ No Signal Indications

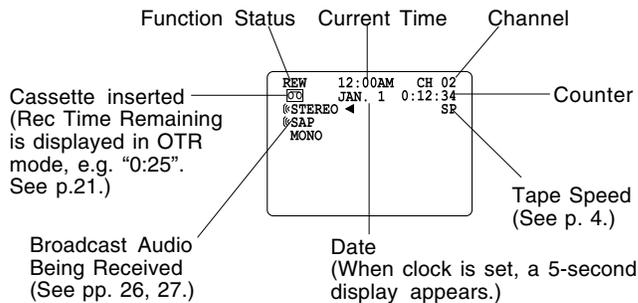
Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with Weak Signal Display Feature (p. 33) set to OFF, the TV screen will turn solid blue.

### VCR Status & Clock Displays

To display or remove screen shown at right, → press DISPLAY.

#### Note

- For on Screen Displays in DVD mode, see p. 44.

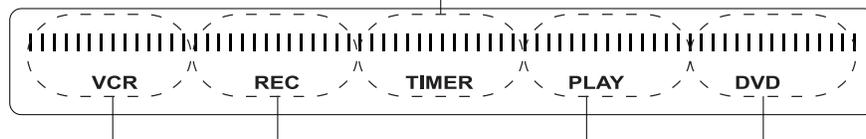


## Light-up Indicators

Light-up indicators allow easy confirmation of current DECK function status.

### Timer Indicator

Lights up when DECK is set for Timer Recording, or when One Touch Recording (OTR) is used. Flashes when Timer Recording is set, but a tape has not been inserted into DECK and when a power interruption occurs during Timer Programming.



**VCR mode Indicator**  
Lights when output selection is VCR mode. Flashes in Auto Clock Set or Channel Auto Set.

**VCR REC Indicator**  
Lights up during recording. Flashes in Rec. Pause mode.

**PLAY Indicator**  
Lights during playback in either VCR mode or DVD mode. Flashes in Still, Frame by Frame, or Slow mode.

**DVD mode Indicator**  
Lights when output selection is DVD mode.

### <Light-up combination example>

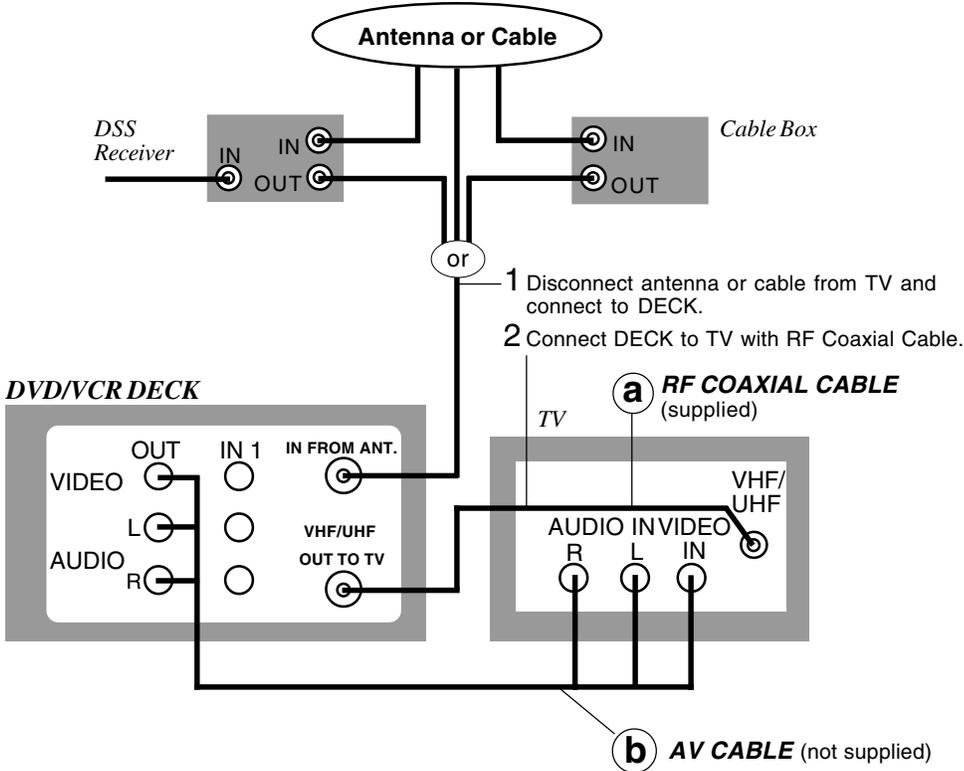
Light-up Indicator	Function Status
VCR + PLAY	VCR playback in progress [See p. 20]
VCR + REC	VCR recording in progress [See p. 21]
VCR + TIMER	VCR timer setting in progress [See pp. 24, 25]
VCR + TIMER + REC	VCR Timer Recording in progress [See pp. 24, 25]
DVD + PLAY	DVD playback in progress [See pp. 22, 23]
VCR → REC → TIMER → PLAY	VCR fast forward in progress [See p. 20]
PLAY → TIMER → REC → VCR	VCR rewind in progress [See p. 20]

# Connections

## Basic Connections

- If your TV has **AUDIO and VIDEO IN** terminals, connect them to **DECK** for higher quality picture and sound.
- You can enjoy stereo sound even if your TV is not stereo by connecting a stereo amplifier to **DECK**.
- Connect **DECK** and **TV** with an RF Coaxial Cable (a) (supplied) or an AV Cable (b) (not supplied) as shown in the figure below.

■ DSS Receiver → DECK → TV    ■ DECK → TV    ■ Cable Box → DECK → TV



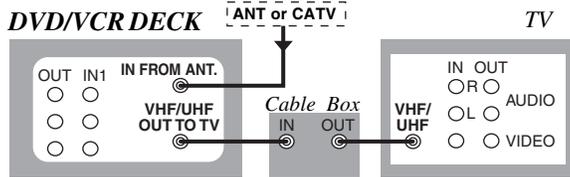
### ⚠ CAUTION

When using "Nut type" RF coaxial cables, tighten with fingers only. Overtightening may damage terminals.

**Note to CABLE system installer**  
 This reminder is provided to call the CABLE system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical Code in Canada) 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.

## Other Connections

### With a Cable Box (DECK → Cable Box → TV)



#### You Can

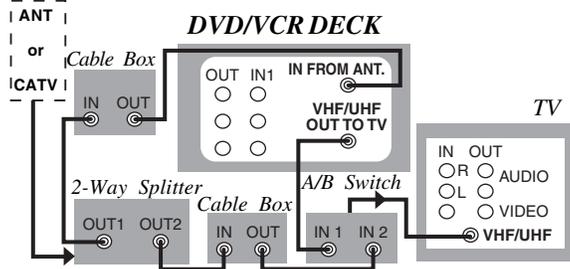
- view any (including scrambled) channel.
- use Remote Control to select channels without using Multi-brand control feature.

#### You Cannot

- record scrambled channels.

Initial Setup

### Connect With Two Cable Boxes



#### You Can

- record and view both scrambled and unscrambled channels if additional equipment is added. This connection requires: two converter boxes, an A/B switch, and a 2-way splitter.

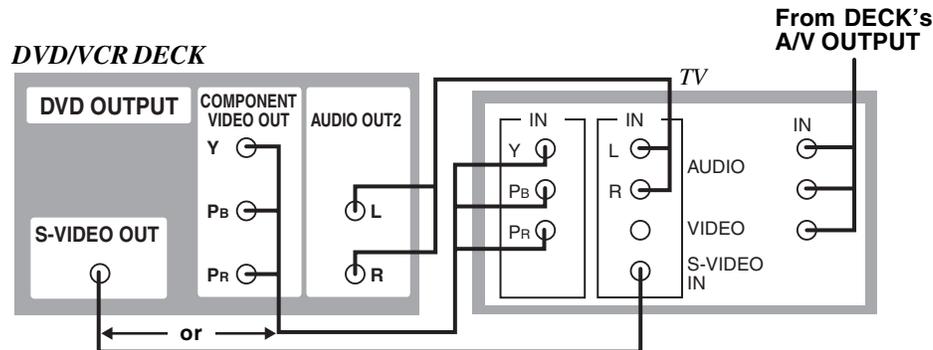
#### You Cannot

- view a channel both scrambled and unscrambled than the one selected for any type of recording.
- set a Timer recording of a channel unless you select it on the Cable Box.

## Connections For DVD Only (enjoying higher picture quality)

- Connect AUDIO OUT2 (L, R) to the AUDIO IN (L, R) of the TV. (audio input for COMPONENT or S-VIDEO mode).
- If your TV has COMPONENT VIDEO INPUT, connect to COMPONENT VIDEO OUT. If your TV does not have COMPONENT VIDEO INPUT but has S-VIDEO INPUT, connect to S-VIDEO OUT.
- When in DVD mode, set your TV to either COMPONENT VIDEO IN or S-VIDEO IN.

- Notes**
- You can watch DVDs through the S-VIDEO or COMPONENT VIDEO, VHF/UHF OUT TO TV, and VIDEO OUT connections to your TV. The VCR and TUNER pictures are available only from the VIDEO OUT and VHF/UHF OUT TO TV connections to your TV.
  - PROG functions on the remote are not available when using S-VIDEO OUT and COMPONENT Video Output. Please set TV to either RF INPUT or VIDEO INPUT, and then press PROG.
  - TV must have capability to accept and display a progressive scan signal to use PROGRESSIVE mode. Consult your TV operating instructions.



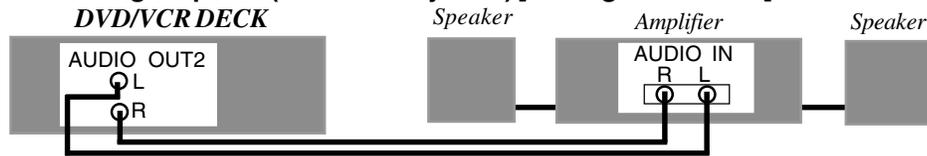
# Connections (continued)

## Audio Connections

### ✓ Ready Checklist

- Turn down the volume, then turn DECK, as well as other equipment to be connected, off before proceeding with connection.
- Do not block ventilation holes of any of the equipment and arrange them so that air can circulate freely.
- Read through the instructions before connecting other equipment.
- Ensure that you observe the color coding when connecting audio and video cables.

### ■ Connecting Amplifier (2ch stereo system) [Analog connection]



### Enjoying digital audio output from the digital audio output connector

#### Notes on audio output from the optical digital audio output connector

Disc	Sound recording format	Optical digital audio output from connector
DVD-Video	Dolby Digital	Dolby Digital bitstream (1 - 5.1 ch) or PCM (48 kHz sampling/16 bit only)*1
	Linear PCM (48/96 kHz 16/20/24 bit)	Linear PCM (2 ch) (48 kHz sampling/16 bit only)*2
	DTS	Bitstream or PCM (48 kHz sampling/16 bit only)*1
DVD-RAM	Dolby Digital	Dolby Digital bitstream (1 - 5.1 ch) or PCM (48 kHz sampling/16 bit only)
	Linear PCM(48 kHz/16 bit)	Linear PCM (2 ch)
Video CD	MPEG1	PCM (44.1 kHz sampling)
CD	Linear PCM	Linear PCM (44.1 kHz sampling)
MP3	MP3	PCM (It depends on the MP3 file)

\*1 The type of audio output from the connector can be selected by the Settings for DVD Operation. (See p. 53.)

\*2 When "LPCM(DVD)" is set to OFF in the DVD Main Menu, only 48 kHz sampling/16 bit is output. When set to ON, sampling of sound quality greater than 48 kHz/16 bit is reduced to 48 kHz/16 bit. (See page 53.)

#### 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 US. 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.

## ■ Connecting Amplifier (5.1 ch Surround system) [Digital connection]

DECK → Dolby Digital Decoder → Amplifier → Speaker

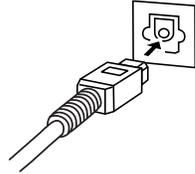
or

DECK → DTS (Digital Theater Systems) Decoder → Amplifier → Speaker

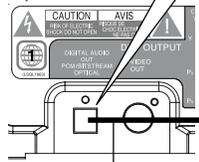
When DVDs recorded in Dolby Digital or DTS are played, Dolby Digital bitstream or DTS bitstream is output from the DECK OPTICAL digital audio output connector. When DECK is connected to a Dolby Digital decoder or DTS decoder, you can enjoy theater-quality audio in your home. [An optical digital audio cable (optional) is required when an optional Dolby Digital decoder or DTS decoder is used.]

### Notes on connecting an optical digital audio cable (optional)

- Remove the attached cap, and firmly connect the cable to the connector.



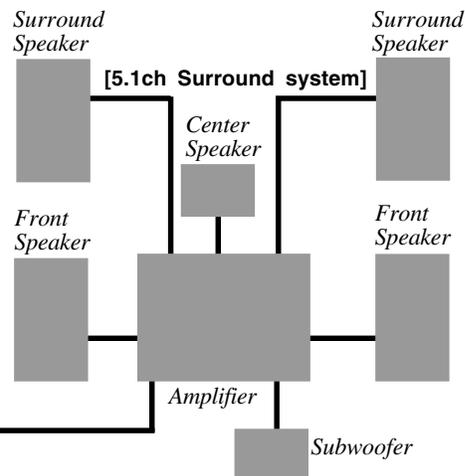
DVD/VCR DECK  
(Rear)



Optical Digital  
Audio Cable  
(optional)

Decoder with Dolby  
Digital/DTS  
processing (optional)

To Optical  
Digital Audio  
Input Connector



### Caution for optical digital audio output connector:

- 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" at "Dolby Digital" and "PCM" at "dts" in Settings for DVD Operation "Audio Output" (see p. 53). Otherwise, any attempt to play DVDs may cause such a high level of noise that it may be harmful to your ears and damage your speakers.
- When a Dolby Digital/DTS decoder is connected, please select "Bitstream" at "dts" or "Dolby Digital" in Settings for DVD Operation "Audio Output". If "PCM" is selected, there will be stereo sound. (See p. 53.)
- Video CDs and CDs can be played as usual.

### Note

- Some DTS decoders which do not support DVD-DTS interface may not work properly with DECK.

# Initial Setup for Basic Connections (Ready to Play)

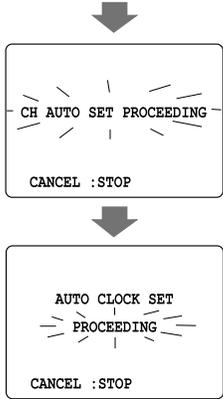
## Before doing Initial Setup

- 1 Turn TV on.
- 2 See connections **a** RF Coaxial Cable Connection and **b** AV Cable Connection on page 12.  
<RF Coaxial Cable Connection>  
⇒ Set TV to **channel 3**.  
<AV Cable Connection>  
⇒ Set TV to **VIDEO**.
- 3 [DECK → TV]
  - Go to "Initial Setup (Ready to Play)." (See below.)[Cable Box → DECK → TV], [DSS → DECK → TV]
  - Turn on Cable Box and set it to your Public Broadcasting Station (PBS) channel in your time zone.
  - If you use a DSS Receiver, it must be turned off.

## Initial Setup (Ready to Play)

- 1 Press VCR on remote for VCR mode.
- 2 Plug DECK Power Cord into AC wall outlet. DECK comes on and auto channel and clock set starts.
  - If screen below does not appear, check DECK - TV connection and, if TV is tuned to channel 3, try switching it to channel 4.
  - To change VCR's output channel, please see "VCR's Output Channel" on page 19.

Plug VCR Power plug into an AC wall outlet.



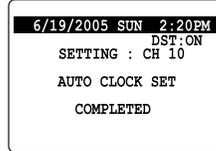
### Notes

- Function buttons are void during Initial Setup.
- To eject a tape during Auto Set, press EJECT on remote or STOP/EJECT twice on DECK. Then make settings manually. (See p. 18.)
- If Auto Clock Set takes more than 30 minutes, press STOP and perform settings manually. (See p. 18.)

*Continued on next page...*

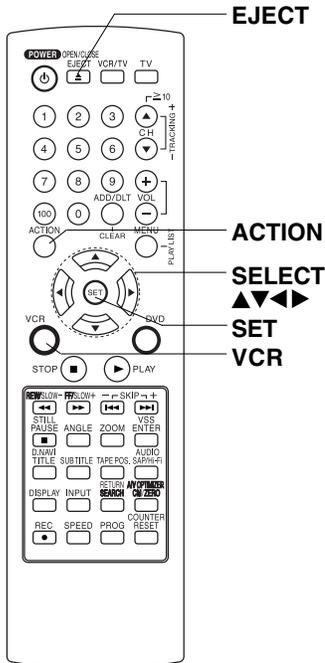
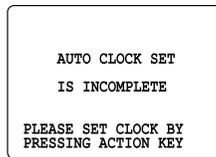
**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

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



Initial Setup

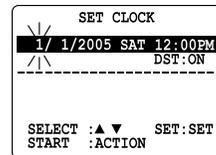
If "AUTO CLOCK SET IS INCOMPLETE" appears, manually set clock (below).



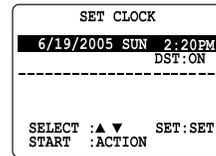
**Manual Clock Set**

If Auto Clock Set was incomplete.

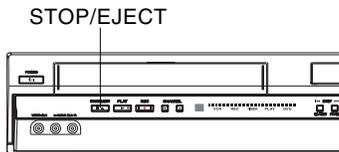
**1 Press ACTION\* on remote to display CLOCK screen.**



**2 Press ▲▼ to select the month and SET to set. In the same manner, select and set the date, year, time, and DST (Daylight Saving Time).**

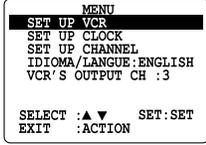


**3 Press ACTION to start clock and exit.**



# Reset Language, Channels, Clock,

1

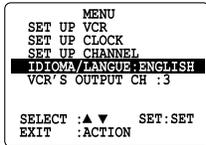


Press **ACTION\*** to display MENU.

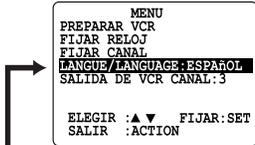
• PROGRAM functions are not available when using COMPONENT Video Output and S-VIDEO OUT. Please set TV to either RF INPUT or VIDEO INPUT, and then press PROGRAM.

## 2 ■ Language

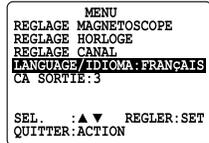
1) Press **▲▼** to select language item.



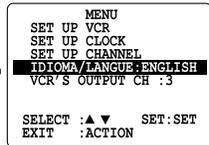
2) Press **SET** repeatedly to change language item as shown below.



For Spanish



For French

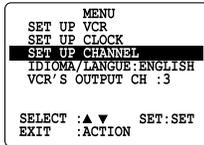


For English

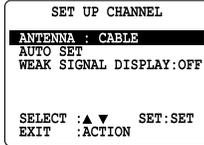
3) Press **ACTION** to exit.

## ■ Channels

1) Press **▲▼** to select "SET UP CHANNEL," and press **SET**.

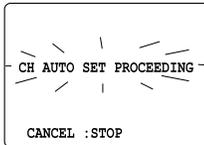


2) Press **▲▼** to select "ANTENNA," then press **SET** to set your antenna system ("TV" or "CABLE.")



3) Press **▲▼** to select "AUTO SET," then press **SET**.

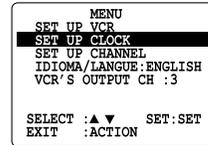
• If you use a Cable Box, set it to the PBS channel in your time zone.



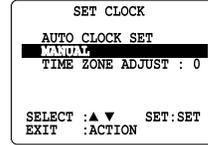
• After Channel Auto Set is finished, Auto Clock Set will be performed.

## ■ Clock

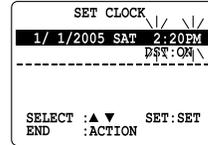
1) Press **▲▼** to select "SET CLOCK," and press **SET**.



2) Press **▲▼** to select "MANUAL," and press **SET**. (For Auto Clock Set, select "AUTO CLOCK SET.")



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



3) Press **▲▼** and **◀** to select, then set the date, time, and DST (Daylight Saving Time).

4) Press **ACTION** to start Clock and exit this mode.

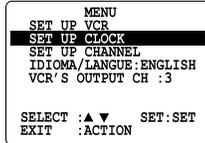
# VCR's Output Channel

**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

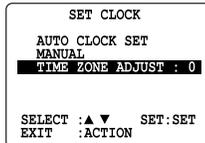
## ■ Time Zone Adjust

(Only when Auto Clock is set.)

- 1) Press **▲▼** to select "SET CLOCK," and press **SET**.



- 2) Press **▲▼** to select "TIME ZONE ADJUST,"

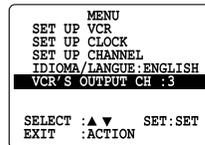


and press **SET** to subtract or add hour(s) as necessary.

- 3) Press **ACTION**.
  - "TIME ZONE ADJUST" returns to "0" if clock is set manually.

## ■ VCR's Output Channel

- 1) Press **▲▼** to select "VCR'S OUTPUT CH.," and press **SET**.



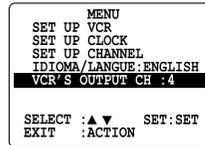
- 2) Press **SET**.

IF YOU PRESS ACTION KEY, VCR'S OUTPUT CH SWITCHES TO CH 4.

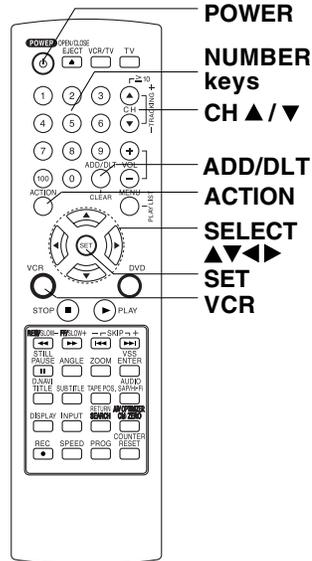
- 3) Press **ACTION**.

PLEASE TUNE YOUR TV TO CH 4.

↓ After 3 seconds



- To Make Corrections, repeat steps 1) ~ 3).



Basic Operation

## Add or Delete a Channel

To add channel:  
Select channel with **NUMBER** keys and press **ADD/HLT**.

CHANNEL 08 ADDED

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

CHANNEL 08 DELETED

## DST (Daylight Saving Time)

DECK auto adjusts clock for DST. (p. 17.)

**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.
- Keep these time changes in mind when programming DECK for timer recordings.

# Playback/ Record on a Tape

## ✓ Ready Checklist

- All connections are made. (pp. 12 ~ 15)
  - TV and DECK are plugged in.
  - TV is on and tuned to CH 3, 4, or VIDEO.
  - Remote is in VCR mode. (Press VCR.)
- (→ The VCR mode Light-up Indicator lights on DECK.)

### Playback a Tape

#### 1 Insert a tape.

- DECK power comes on. If Auto VCR/TV (see p. 34) is set to "OFF," press VCR/TV on the remote for VCR mode.

#### 2 Press PLAY\* to play a tape.

- If tape has no rec. tab (p. 6), auto play begins.
- The PLAY Light-up Indicator lights on DECK.

### Special Features During Play

#### ■ Forward/Reverse Scene Search

- Press FF/SLOW+ or REW/SLOW-.
- Press PLAY to release.

After search has begun, each additional press of FF/SLOW+ or REW/SLOW- changes speed as shown below.

- [SP] : Approx. 5x ↔ Approx. 7x
- [SLP] : Approx. 11x ↔ Approx. 21x

#### Notes

- Picture interruption may occur with some TVs.
- FF and REW search speed may vary depending on current tape position.
- After 10 minutes in search mode, VCR returns to Play mode to protect the tape and the video heads.

#### ■ Still (Freeze) Picture

- Press PAUSE/STILL.
- Press PLAY to release.

#### ■ Frame by Frame Picture

- Press PAUSE/STILL in Still mode.
- Press PLAY to release.

#### ■ Slow Motion Picture

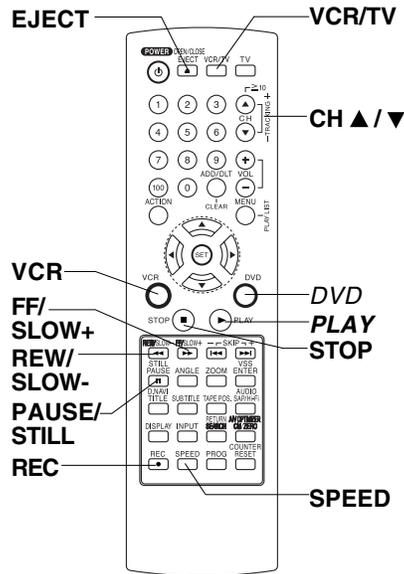
- Press FF/SLOW+ (increase speed) or REW/SLOW- (decrease speed) in Still mode.
- Press PLAY to release.

#### 3 Press STOP to stop a tape.

- Press REW/SLOW- or FF/SLOW+ in Stop mode to rewind or fast forward a tape.
- Press EJECT on remote, or STOP/EJECT on DECK to eject a tape.

#### S-VHS Quasi Playback (SQPB)

- Tapes recorded in S-VHS can easily be played back using the same procedure as with VHS tapes.
- This VCR automatically distinguishes between S-VHS and VHS tapes and plays them back.
- Picture quality will be normal VHS, not S-VHS and picture noise may occur. (Color loss or picture disruption during Search, Pause, etc. is normal.)
- S-VHS recording is not possible.

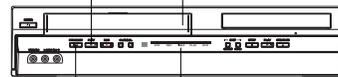


#### Notes

- These features work best in SP or SLP mode.
- The sound will be muted.
- To reduce picture noise, see "Manual Tracking Control" on page 4.
- After 3 minutes in Still or Slow mode, VCR stops to protect the tape and the video heads.

#### Playback using DECK buttons

- 2 Press PLAY. 1 Insert a tape.



Light-up Indicators

- Press STOP/EJECT to stop and/ or eject a tape.

**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

**Record on a Tape**

**1 Insert a tape with a record tab** (p. 6).  
 • DECK power comes on. If Auto VCR/TV (see p. 34) is set to "OFF," press VCR/TV on the remote for VCR mode.

**2 Press CH ▲▼, or NUMBER keys** to select the channel.  
 • If channel number is over 100, first press 100 key then the other 2 digits.  
 • For "LINE" input, see p. 35.

**3 Press SPEED** to select the record speed (p. 4).  
 SP = Standard Play  
 SLP = Super Long Play

**4 Press REC** to start recording.  
 (The VCR REC Light-up Indicator lights on DECK.)  
 • To edit out unwanted scenes, **press PAUSE/STILL** to pause, and again to resume recording.  
 • You cannot view another channel during recording.

**5 Press STOP** to stop recording.

- **One Touch Recording** (recording in progress),  
 → **press REC** repeatedly to set the recording length (30 min. ~ 4 hours) (see right).  
 • DECK shuts off after the preset record length.
- **Record one station, watch another,**  
 → **press VCR/TV** on the remote (change to TV mode),  
 → select channels at TV (recording continues).
- **Select Channels at DECK**  
 (In Stop or Rec. Pause mode)  
 → **press VCR/TV** on the remote (change to TV mode),  
 → select channels at DECK.
- **Play a disc while recording a tape.**  
 → insert a disc during recording,  
 → **press DVD**, and then **press PLAY**.

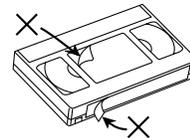
**Notes**

- **It is not possible to record from DVD/ Video CD/ CD to VHS tape using DECK.**
- **Watching one channel and recording another is not possible when using Cable Box or DSS Receiver.**
- After 5 minutes in Pause mode, DECK stops to protect a tape and video heads.

This video recorder, equipped with HQ (High Quality) system, is compatible with existing VHS equipment. Only use tapes with the **VHS** mark. Only tapes tested and inspected for use in 2, 4, 6, and 8 hour machines are recommended.

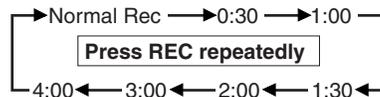
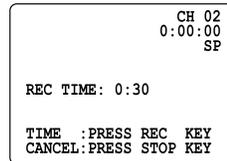
**Note**

Remove loose or peeling labels from tapes to prevent tape jam.



Basic Operation

**<One Touch Recording screen>**



**Record using DECK buttons**

4 Press REC to start recording. 1 Insert a tape.

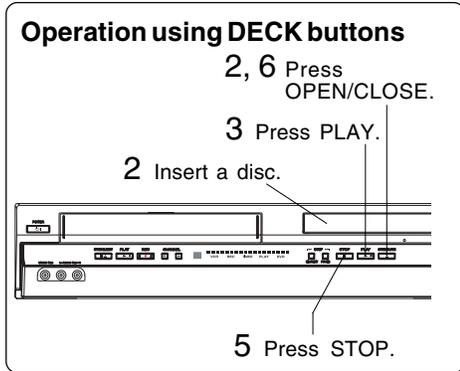
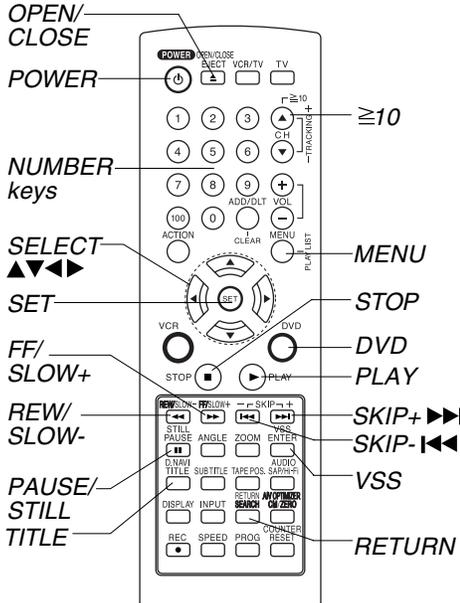
2 Select Channel. Indicators Light-up Indicators

■ Press STOP/EJECT to stop.

# Basic DVD Operation

## ✓ Ready Checklist

- All connections are made. (pp. 12 ~ 15)
- DECK is plugged in.
- If DECK is connected to an audio amplifier, turn the stereo system's power on.



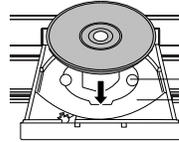
\*1 Interactive DVD...  
May include multiple camera angles, stories, etc.

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

**1 Press DVD** to select DVD mode.

- The DVD mode Light-up Indicator lights on DECK.
- If a disc is already inserted, go to step 3. (Depending on the disc, playback may start automatically.)

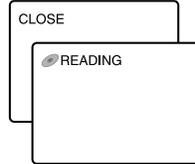
**2 Press OPEN/CLOSE**\*, and then place a disc into the disc tray.



- Hold disc by its edges only (p. 6) with printed side up and use guides to place into tray.
- Use **1** 8 cm (3") or **2** 12 cm (5") disc.

DVD-RAM → see p. 42

**3 Press PLAY** to start playing. Disc tray closes automatically.



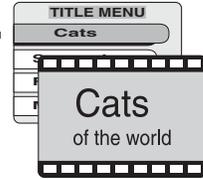
- The PLAY Light-up Indicator lights on DECK.
- You may also close tray by pressing **OPEN/CLOSE**.
- Data reading time differs with each disc.



If an interactive DVD\*<sup>1</sup> or a Video CD with playback control\*<sup>2</sup> is used and TITLE MENU appears, go to step 4.

**4** Press **▲▼▶◀** or **NUMBER keys** (see below) to select title, and 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.

<Input 1 digit number 1 : 1  
Example> 2 digit number 12 : ≥10 → 1 → 2

**Press SKIP+ ▶▶ or SKIP- ◀◀ to go to next or previous menu screen.**

- SKIP function not available with all discs.
- Please refer to disc jacket for operation information.

**To return to menu (play stops)**  
Press **TITLE**, **MENU**, or **RETURN**. (DVD)  
Press **RETURN**. (Video CD)

**5 Press STOP** to stop playing.

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

**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

### ■ Forward/Reverse Scene Search

Press **FF/SLOW+** or **REW/SLOW-** during play. Press **PLAY** to release.

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

### ■ Forward/Reverse Chapter/Track Skip

Press **SKIP+ ►►** or **SKIP- ◄◄** during play. Each press skips a chapter (DVD), track (Video CD/CD) or Program/Play List/Marker (DVD-RAM).

[DVD / Video CD / CD]

- Pressing **SKIP- ◄◄** once midway through a chapter/track returns to the 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



Reverse Skip ◀ | ▶ Forward Skip

[DVD-RAM]

- Pressing **SKIP- ◄◄** once midway through a program/play list returns to the start of that program/play list. Each additional press skips back one program/play list.

Current playback position Marker



Reverse Skip ◀ | ▶ Forward Skip

### ■ Still Picture or Pause

Press **PAUSE/STILL** during play.

Press **PLAY** to release.

- **DVD/Video CD** : DECK will enter still picture mode.
- **CD** : DECK will enter pause mode.

### ■ Frame by Frame Picture (DVD/Video CD)

Press **PAUSE/STILL** in still mode.

Press **PLAY** to release.

- Each press advances picture one frame.
- Hold button down for consecutive frame advance.
- Whether pictures are advanced by "FRAME" or "FIELD" is selected automatically. (See p. 54.)

### ■ Slow Motion Picture (DVD/Video CD)

Press **FF/SLOW+** or **REW/SLOW-** in still mode.

Press **PLAY** to release.

- 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.

## Auto-Power Off Function

Power turns off after DECK has been in Stop mode (DVD) for about 5 minutes.

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

## V.S.S. (Virtual Surround Sound)

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.

Press **VSS** in DVD mode.

- The Surround sound effect can be changed by pressing **VSS** repeatedly as shown by the figure below.



### Notes

- Surround sound effect is available in DVD mode only.
- 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.
- Sound will only come from the two front speakers if V.S.S. is on.

## Resume Function

DECK memorizes the point where **STOP** is pressed (**STOP ►** is flashing 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.

- **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.

## Enjoy Video CDs featuring playback control without using menus (Video CDs only)

1. Do steps 1-4 (previous page).  
When menu appears, press **STOP**.
2. Press **NUMBER keys** 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 will be displayed.

Now, go to step 4 (previous page).

### Notes

- 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 **DECK 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.



**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

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

**1** Press **PROG**  
to display Program List.

**2** Press **▲▼**  
to select number.

P	DT	START	STOP	CH	SPD
1	13	2:00p	3:20p	02	SLP
2	14	7:00p	7:30p	10	SP
3	--	--	--	--	--
4	--	--	--	--	--

▼

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

### To cancel a Timer Recording in progress...

Hold down **STOP** in VCR mode for a few seconds to cancel the Timer Recording.  
(The **TIMER** Light-up Indicator goes out on **DECK**.)

- Any future daily or weekly recording will be performed as programmed.

**3** To Replace program...

P	DT	START	STOP	CH	SPD
1	13	2:00p	3:20p	02	SLP
2	14	7:00p	7:30p	10	SP
3	--	--	--	--	--
4	--	--	--	--	--

▼

Repeat Step 2 (p. 24) to set new programs.

SELECT:▲▼ SET:SET  
EXIT :PROG

or

To Clear program...

P	DT	START	STOP	CH	SPD
1	--	--	--	--	--
2	14	7:00p	7:30p	10	SP
3	--	--	--	--	--
4	--	--	--	--	--

▼

Press **ADD/DLT**.

SELECT:▲▼ SET:SET  
END :PROG

**4** Press **PROG**  
to end the programming.

### Notes

- If you are using a Cable Box, the VCR's channel for Timer Recording must be set to the Cable Box input channel and Cable Box must be manually set to the desired channel. Cable Box power must be left on.
- 2 minutes before Timer Recording is performed, "PLEASE PREPARE FOR TIMER REC" appears and **TIMER** Light-up Indicator flashes.  
Be sure a cassette with record tab is loaded and **DECK** is in Stop mode.
- If a power interruption occurs while programming the timer, the timer program(s) may be canceled. If "TIMER PROGRAMS WERE LOST DUE TO POWER INTERRUPTION" appears on-screen, please re-enter the timer programs.
- If the start time for Timer Recording comes up during recording and playing back, Timer Recording will not be performed.

### Important notes when using DSS Receiver

- When recording programs via DSS Receiver, DSS Receiver must be left on.
- When recording programs via an antenna or cable, DSS Receiver must be turned off.

# MTS Broadcast/ VHS Hi-Fi Stereo System

## Connection

- Make the Audio/Video Connection as shown on pp. 12 ~ 15.
- You can use TV connected to a Stereo amplifier and speakers instead of Stereo TV.

## Receivable Broadcast Types

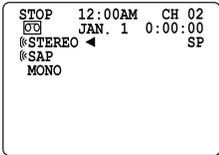
The following are possible audio broadcast types and on-screen displays.

The signal being received is indicated with a “Ⓢ” mark while the selected audio mode is indicated with an arrow.

To display the broadcast signal being received, → **press DISPLAY\***.

### MTS Stereo and SAP broadcast

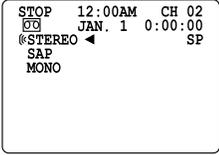
Multi-channel Television Sound Stereo (main language) and Secondary Audio Program (sub language) broadcasts are being received simultaneously. Select STEREO or SAP audio mode.



### MTS Stereo broadcast

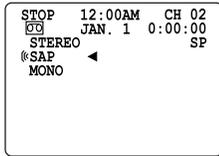
Multi-channel Television Sound Stereo broadcast. Select STEREO audio mode.

- If stereo broadcast is weak and display flickers, select MONO audio mode for possible better results.



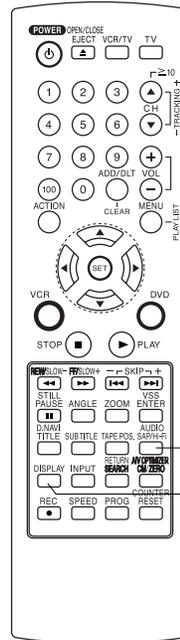
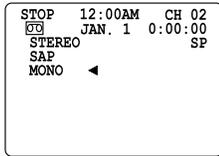
### SAP broadcast

Secondary Audio Program (sub language) broadcast. Select SAP audio mode for the sub language.



### MONO broadcast

Normal monaural sound broadcast.



**AUDIO (SAP/Hi-Fi)**  
**DISPLAY**

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

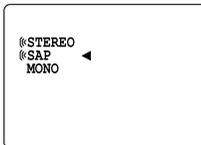
**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

## Audio Mode for Recording

**1** Press **AUDIO (SAP/Hi-Fi)** to display audio mode.

(Display disappears after 5 seconds.)

**2**



Press **AUDIO (SAP/Hi-Fi)** repeatedly to select desired mode.

- Refer to "Receivable Broadcast Types" on p. 26.
- Arrow indicates selection.

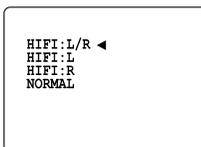
**3** Make a recording. See p. 21.

## Audio Mode for Playback

**1** Start playback. See p. 20.

**2** Press **AUDIO (SAP/Hi-Fi)** to display audio mode.

**3**



Press **AUDIO (SAP/Hi-Fi)** repeatedly to select desired mode.

- Arrow indicates selection.

- Select "HIFI (L/R)" or "HIFI (L)" or "HIFI (R)" to listen to stereo recordings in stereo sound. Select "NORMAL" for monaural sound.
- Display disappears after 5 seconds.

### Notes

- Only tapes recorded in Hi-Fi stereo will playback with true stereo sound. Standard stereo tapes will playback in monaural sound.
- To listen to Hi-Fi stereo playback, the DECK AUDIO (L/R) jacks must be connected to a stereo TV or an external stereo amplifier and speakers. (See pp. 12, 14.)
- If tracking is adjusted during playback, Hi-Fi audio may revert to normal audio.
- Hi-Fi and normal audio playback volume level may differ.

# Multi-Brand Control Feature

## Multi-Brand Control Setup

The Remote Control can be set to control certain Televisions.

**1** Find your TV Brand Code Number on the following page.

**2** Set up for TV control,  
 -> hold down TV button,  
 -> enter code with NUMBER keys.

**3** Confirm code entry,  
 -> press POWER to turn selected unit on or off.  
 • See table below for controllable functions in each mode.

- Notes**
- Repeat setup after remote battery replacement.
  - Remote will not control every TV made by the manufacturer listed. If you get no response, your particular unit cannot be controlled. There are NO additional codes for the products listed. If your product is not listed, then the remote is not compatible with that product.

## Using Multi-Brand Control

After remote is set up, you can select VCR, DVD, or TV for the desired function.

Press VCR, DVD, or TV on the remote.  
 (Table below shows available remote buttons for each mode.)

Unit Mode	DVD/VCR	TV
DVD VCR	All	VOL +/-
TV	<b>EJECT/OPEN/CLOSE*</b> , <b>DISPLAY</b> , <b>PLAY</b> , <b>STOP</b> , <b>FF/SLOW+</b> , <b>REW/SLOW-</b> , <b>VCR/TV</b> , <b>PAUSE/STILL</b> , <b>SKIP</b> , <b>AUDIO</b> , <b>CM/ZERO</b> , <b>SPEED</b> , <b>REC</b> , <b>TAPE POSITION</b> , <b>PAGE</b> , <b>COUNTER RESET</b>	POWER, INPUT, NUMBER keys, ENTER, CH ▲/▼, VOL +/-

\* **Bold** : VCR Function      **Bold Italic** : VCR and DVD Functions  
*Italic* : DVD Function      Normal : TV

**Notes**

- Not all functions listed may be controllable.
- In TV mode, it may be necessary to press ENTER after pressing NUMBER keys for channel selection.



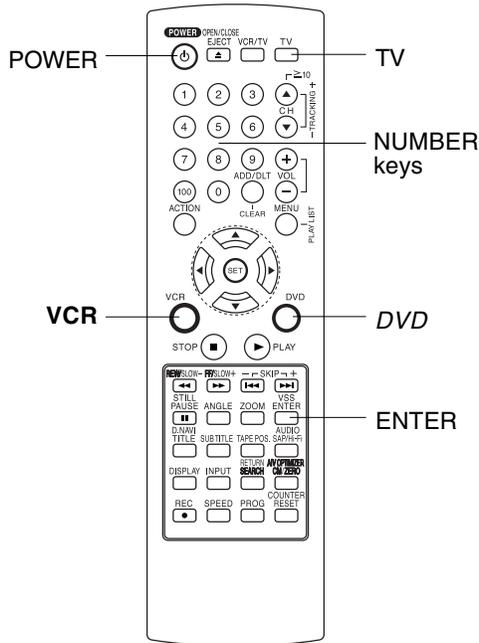
### TV Brand Code Numbers

Panasonic .....	01, 02	Toshiba .....	09
Quasar .....	01, 02	Sanyo .....	10
RCA .....	03	Fisher .....	10
GE .....	03	JVC .....	11
Zenith .....	04	Hitachi .....	12
Magnavox .....	05	Mitsubishi .....	07, 13
Sylvania .....	05	Samsung .....	14
Sharp .....	06, 07	Gold Star .....	15, 16, 17
Sony .....	08		

### Important Notes

- Some manufacturers use several codes for one brand. If the first code entered fails, try the next one listed.
- Some Televisions require you to turn on the power manually.

VCR Operation



# Tape Operation

## Search System

For each recording, an invisible index mark is placed on the tape. A program index and information are also included for timer recordings. These marks are used to access or scan recordings.

### Index Search

**1**

INDEX SEARCH

ENTER INDEX NUMBER :1  
USING 1-9 KEYS

FORWARD SEARCH :FF  
REVERSE SEARCH :REW

EXIT :SEARCH

**Press SEARCH\*** to display SEARCH in Stop or Play mode, and then **press NUMBER** keys to select recording number.

- To calculate number, see below.

**Press FF/SLOW+ or REW/SLOW-** on the remote to start search.

**2**

INDEX SEARCH

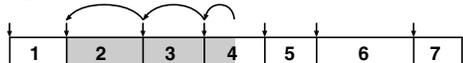
FORWARD SEARCH :FF  
REVERSE SEARCH :REW

Play begins at search end. To search forward or back 1 index, **press FF/SLOW+ or REW/SLOW-** on the remote while screen at left is displayed (10 sec.).

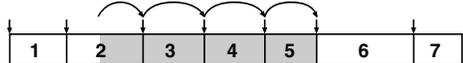
- To cancel, **press PLAY or STOP.**

#### ■ To Calculate Index Number

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



**Example 2:**  
To go to rec. 6 from rec. 2, enter 4 and press FF.



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.

## Zero Search

To quickly return to a specified tape location.

**1** Press **DISPLAY** during play to display Counter.

**2**

PLAY 12:00AM 0:00:00  
SP

**Press COUNTER RESET** on remote at desired position to reset to "0:00:00".

**3** Continue to record, playback etc.

**4** Press **STOP**.

**5**

REW 12:30AM CH 02  
0:30:30 SP

**Press CM/ZERO in Stop mode** to start Zero Search.



STOP 12:31AM CH 02  
0:00:00 SP

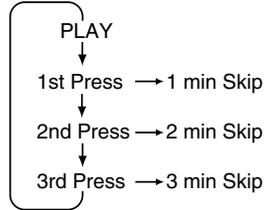
- DECK will go into FF or REW mode and stop at the last point the Counter was set to 0:00:00.

## Commercial Skip

DECK fast forwards (skips) over 1, 2, or 3 minutes of recorded tape as desired.

**1** Press **CM/ZERO in Play mode.**

- The skip time can be changed by pressing CM/ZERO repeatedly as shown by the figure below.



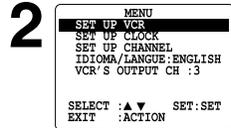
- No indication appears on-screen.

**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

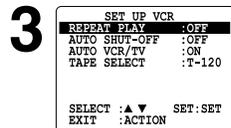
## Repeat Play

Set to playback a recording over and over.

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



Press **▲▼** to select "SET UP VCR," and press **SET**.



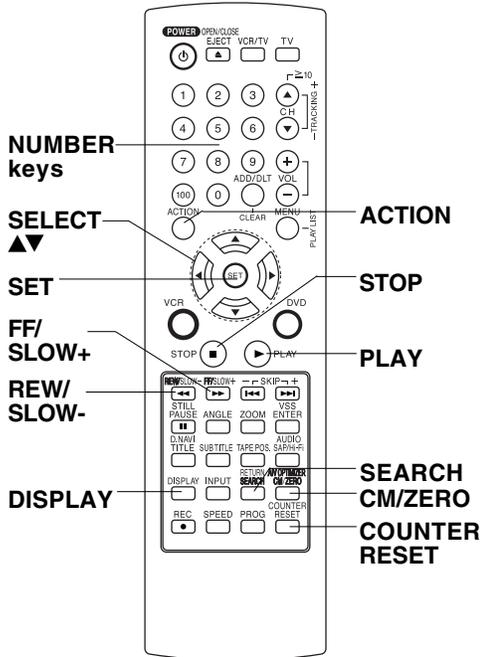
Press **▲▼** to select "REPEAT PLAY," and press **SET** to set "ON" or "OFF."

- Playback repeats at tape end or if unrecorded portion over 30 sec. is detected.

**4** Press **ACTION** to return to normal screen.

### Note

- For repeat play in DVD mode, see page 47.



## Auto Operation Functions

### ■ Auto Play

Insert a tape → Power comes on, → Play starts if there is no record tab (see p. 6).

### ■ Auto Rewind

Play Fast Forward } → Tape end → Rewind → Stop

### ■ Play Auto Eject

(Repeat Play must be off)  
 Play → Tape end → Rewind → Stop  
 → Tape ejects  
 (If there is no record tab or some timer programs are set.)

VCR Operation

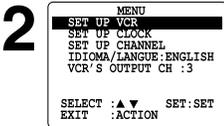
# Tape Operation (continued)

## Tape Select

Select your tape length so the tape position and amount of tape remaining are properly displayed. (See "Tape Position Display" section below.)

**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

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



Press **▲▼** to select "SET UP VCR," and press **SET**.



Press **▲▼** to select "TAPE SELECT," and press **SET** to set "T-120," "T-160" or "T-180."

- Select "T-120" for tapes 120 minutes or less, "T-160" if 140 or 160 minutes, and "T-180" if 180 minutes.

**4** Press **ACTION** to return to normal screen.

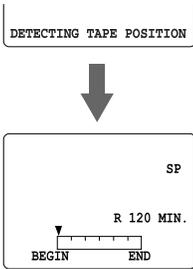
## Tape Position Display

To find out the present tape position and amount of tape remaining.

Tape position is displayed incorrectly in the following cases:

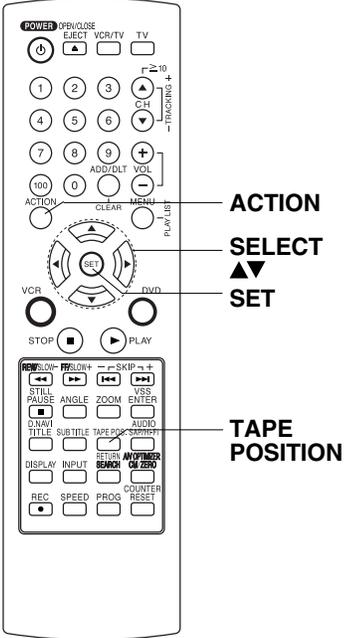
- If VHS-C type cassettes, tapes under 30 minutes, tapes over 180 minutes, or incompatible tapes are used.
- If the correct tape length is not selected. (See "Tape Select" section above.)

**1** Press **TAPE POSITION** to detect current tape position.



- "DETECTING TAPE POSITION" only appears the first time a cassette is inserted and it takes several seconds for correct indication to appear.
- The present tape position indication and amount of tape remaining (according to tape speed) are displayed. Tape remaining time display may not be precise.

**2** Press **TAPE POSITION** (or wait 5 seconds) to return to normal screen.

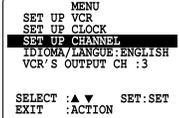


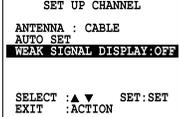
# Special VCR Features

## Weak Signal Display Feature

When "ON," picture is displayed regardless of signal strength.

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

**2**  Press **▲▼** to select "SET UP CHANNEL," and press **SET**.

**3**  Press **▲▼** to select "WEAK SIGNAL DISPLAY," and press **SET** to set "ON" or "OFF."

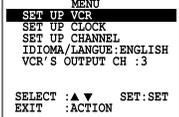
- ON: Picture is displayed regardless of signal condition, and may not always be clearly visible.
- OFF: Screen turns solid blue when signal is weak or non-existent.
- Selecting ON has no effect on connected equipment with blue back feature.

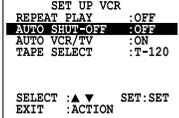
**4** Press **ACTION** to return to normal screen.

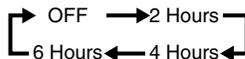
## Auto Shut-Off Feature

The power shuts off at a preset time.

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

**2**  Press **▲▼** to select "SET UP VCR," and press **SET**.

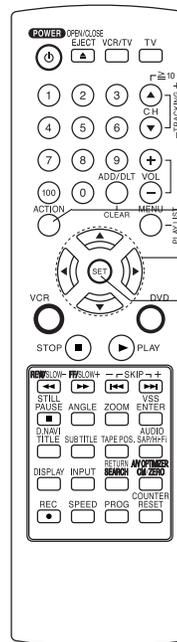
**3**  Press **▲▼** to select "AUTO SHUT-OFF." Press **SET** repeatedly to change shut-off time as shown below.



**4** Press **ACTION** to return to normal screen.

### Note

- The shut-off countdown will not function during Play or Record.



**ACTION**  
**SELECT**  
**▲▼**  
**SET**

VCR Operation

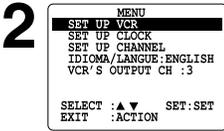
# Special VCR Features (continued)

## VCR/TV Selection Feature

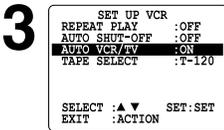
The VCR/TV selection can be set to auto or manual.

**\*Important:** If a remote control button does not work when pressed, press the VCR button on the remote and try the button again.

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



Press **▲▼** to select "SET UP VCR," and press **SET**.



Press **▲▼** to select "AUTO VCR/TV," and press **SET** to set "ON" or "OFF."

- OFF(Manual): You select "VCR" or "TV" mode using the VCR/TV button on the remote.
- ON(Auto): "VCR" mode is automatically set when VCR is turned on, or in Play mode.

**4** Press **ACTION** to return to normal screen.

**Note**

- For more on VCR/TV selection, see "Record one station, watch another" and "Select channels on DECK" sections (see p. 21).

## VCR Lock Feature

When set to ON, all operations are prohibited. (Except for timer record, tape eject, channel change, and power on/off.) Useful for households with small children.

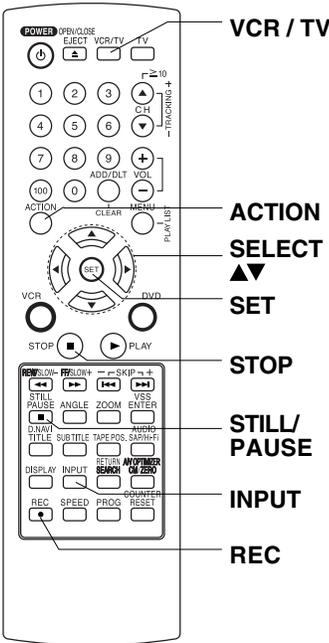


**To turn on,** hold down REC on the DECK in Stop mode with no tape inserted for 7 sec. (Please ignore the NO CASSETTE warning.)



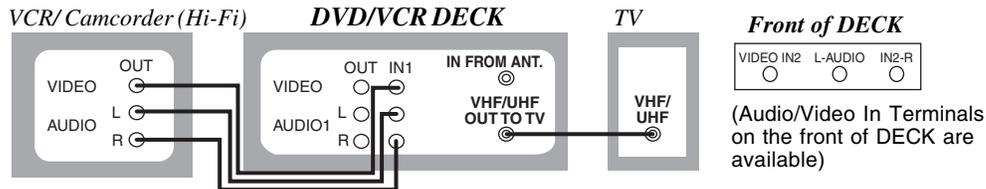
**To turn off,** repeat above.

- VCR Lock cancels in 24 hours.



# Copying Your Tapes (Dubbing)

## Connection



- ① Connect VIDEO OUT terminal on Playing VCR to VIDEO IN terminal on DECK. To monitor the dubbing, also connect TV as shown.
- ② Connect "L" and "R" AUDIO OUT terminals on Playing VCR to "L" and "R" AUDIO IN terminals on DECK.

In place of Playing VCR, you can use other equipment, such as a Camcorder. Simply connect the unit's Audio/Video outputs to DECK.

### Playing (Source) VCR

### Recording (Editing) DECK

- |   |   |
|---|---|
| <p><b>1</b> Insert a pre-recorded tape.</p>   | <p>Insert a blank tape with record tab.</p>   |
| <p><b>2</b> _____</p>   | <p><b>Press INPUT</b> to set DECK Input mode to LINE for Video Input. (See "Selecting the Input Mode" below.)</p> |
| <p><b>3</b> <b>Press PLAY</b>, then <b>PAUSE</b> immediately to enter PLAY/PAUSE mode.</p>                                | <p><b>Press REC</b>, then <b>STILL/PAUSE</b> immediately to enter REC/PAUSE mode.</p>                             |
| <p>_____ <b>The operation of steps 4 and 5 must be done on the playing and recording VCRs at the same time.</b> _____</p> |   |
| <p><b>4</b> <b>Press PLAY</b> to start dubbing. Playing VCR starts playback.</p>  | <p><b>Press STILL/PAUSE</b> to start dubbing. DECK starts recording.</p>  |
| <p><b>5</b> <b>Press STOP</b> to stop dubbing.</p>  | <p><b>Press STOP</b> to stop dubbing.</p>   |

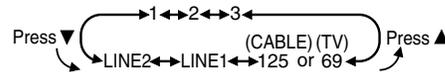
#### ■ To Monitor Dubbing on TV

- 1 Turn TV on and tune to the Recording VCR channel (CH 3 or CH 4).
- 2 If Auto VCR/TV (see p. 34) is set to "OFF," press VCR/TV on the remote for VCR mode.

**Note** • Dubbing tapes protected with Copy Guard will result in poor quality recordings.

#### ■ Selecting the Input Mode

- Method 1: **Press INPUT** repeatedly.  
Channel Number → LINE1 → LINE2
- Method 2: **Press CH ▲/▼**.  
Display will change as below.



- LINE1: For rear audio/video connection.
- LINE2: For front audio/video connection.

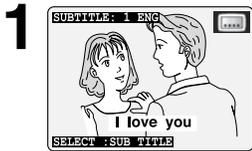
#### Caution:

- **Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.**
- **Please note that some tapes cannot be dubbed on DECK. Also, it is not possible to dub DVD/ Video CD/ CD to VHS tapes using DECK.**
- **When Ⓞ appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.**

# Disc Operation

## Subtitle Language (DVD only)

You can select a different subtitle language (if offered) than the one set at the Settings for DVD Operation. (See p. 52.)



**1** Press **SUB TITLE\*** in Play mode to display the subtitle selection on-screen.

- Display disappears after 5 seconds.



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

Subtitle language being played back (see chart, right).

### Notes

- If after several presses of the button the language does not change, language selection is not offered on the disc.
- 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.
- With DVD-RAM, the subtitle can only be set to ON/OFF. The subtitle language cannot be selected.
- Subtitles may not change to the selected language immediately.

## Audio Soundtrack Language (DVD only)

You can change the audio soundtrack language, selected at the Settings for DVD Operation, to a different language if available. (See p. 52.)

(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 of the audio stream currently being played back is displayed. (See page 53.)



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

Audio soundtrack language being played back (see chart, above right).

## ✓ Ready Checklist

- Please read "Basic DVD Operation" on page 22.

### [Subtitle language] [Audio sound track language]

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

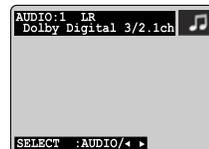
- Change the No. by pressing **▲▼**, and press **SET**.

### [Audio attribute 1 type, sampling frequency, bit No. of the disc (see p. 53.)]

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

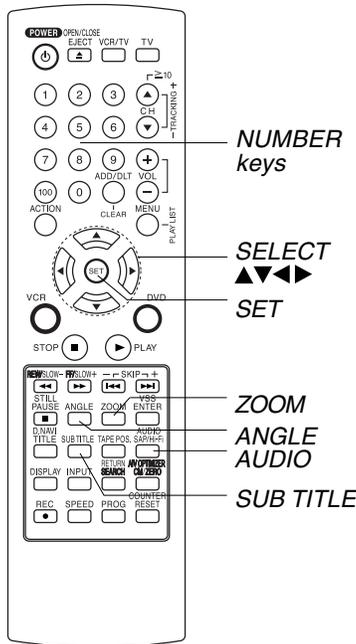
### Notes

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



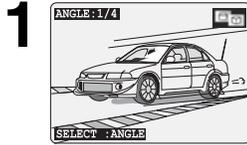
**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

When  appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.

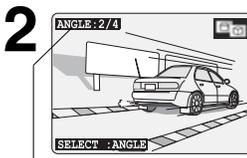


## Multiple Angle Viewing (DVD only)

DVDs may contain scenes shot from multiple camera angles allowing the same scene to be viewed at 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.  
 • Display disappears after 5 seconds.



**2** Press **ANGLE** repeatedly, **▲▼**, or **NUMBER** keys to select desired angle.

Number of angle being played back.

### Note

- This function not available with DVD-RAM.

## Vocal Selection for Karaoke Discs (DVD/Video CD)

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



**2** Press **◀▶** to select VOCAL and press **AUDIO** or **▲▼** to select as shown below.

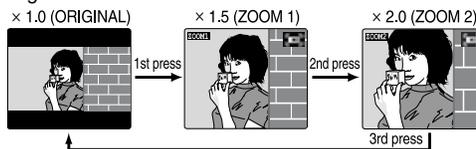
- DVD Karaoke (1 vocal): VOCAL ON → VOCAL OFF
- DVD Karaoke (2 vocals): VOCAL V1 → VOCAL V2 → VOCAL V1 + V2 → VOCAL OFF
- Video CD: LR → L → R

## Picture Zoom (DVD only)

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

Press **ZOOM** repeatedly to change display as follows.

- You can enlarge the center portion of the image to one of 2 magnifications.



- Use the **▲**, **▼**, **◀** and **▶** buttons to move the position up, down, left and right.

### Notes

- The subtitle cannot be enlarged or moved.
- The picture zoom feature does not work with a Video CD.
- 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.

DVD Operation

# Disc Operation (continued)

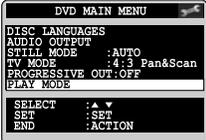
## ✓ Ready Checklist

- DECK is in DVD mode, press DVD.
- Video CD or CD is inserted.

## Program Play (Video CD/CD only)

You can program specific tracks and order of play.

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

**2**  Press **▲▼** to select "PLAY MODE," and press **SET** to display.

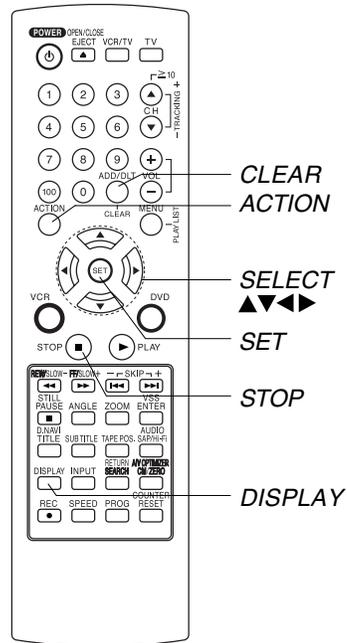
**3**  Press **▲▼** to select "PROGRAM PLAY," and press **SET** to display.

**4**  Press **▲▼◀▶** to select a track number (Track numbers on disc are displayed.), and press **SET**.

- Repeat step 4 to select another track.
- The selected track is added on the right side.

**5**  Press **▲▼◀▶** to select "START," and press **SET** to start play of programs in the sequence selected.

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



**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

### 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.)

## Program Repeat Play (Video CD/CD only)

**1** Do operation steps 1 through 5 on the previous page.

**2** Press *DISPLAY* to display Disc Information screen.

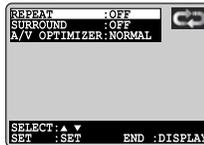
(Disc Information Screen)



**3** Press *DISPLAY* to display DECK Information screen.

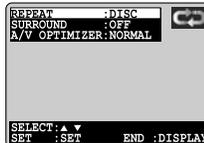
**4** Press *SET* to enter Select mode.

(DECK Information Screen)



**5** Press ▲▼ to select “DISC.”

(DECK Information Screen)



**6** Press *SET* to set mode.  
Cursor moves to “REPEAT.”  
To cancel, select “REPEAT : OFF” in step 5, then press *SET*.

# Disc Operation (continued)

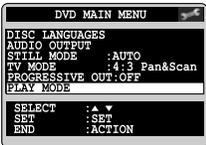
## Random Play (Video CD/CD only)

Tracks are played in a random order.

## Ready Checklist

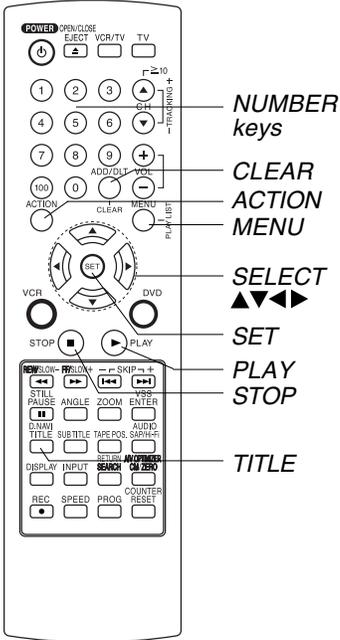
DECK is in DVD mode, press DVD.

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

**2**  Press **▲▼** to select "PLAY MODE," and press **SET** to display.

**3**  Press **▲▼** to select "RANDOM PLAY," and press **SET** to begin random play.

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



**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

### Title Menu (DVD only)

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 the title screen.

<Example>

**2**



**Press  $\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$  or *NUMBER* keys**  
to select a title, and  
**press *SET* or *PLAY***  
to start playing.

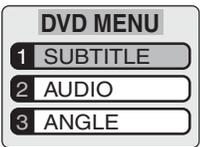
- "Pressing *SET* or *PLAY*" is not necessary when using *NUMBER* keys.

<Example>

### DVD Menu (DVD only)

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 procedure for using the menu.

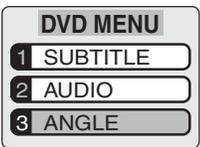
**1**



**Press *MENU***  
in Play mode to display  
DVD MENU.

<Example>

**2**



**Press  $\blacktriangle\blacktriangledown\blacktriangleleft\blacktriangleright$  or *NUMBER* keys**  
to select an item, and  
**press *SET* or *PLAY***  
to perform.

- Pressing *SET* or *PLAY* is not necessary when using *NUMBER* keys.

<Example>

**Repeat step 2 if there is more than one menu.**

# DVD-RAM Operation (DVD-RAM only)

You can enjoy playing your personally recorded/edited DVD-RAM discs on this DECK.

**Note**

- This DECK was designed for playback only. DVD-RAM recording is not possible.

## Play a DVD-RAM

- 1 Do steps 1 ~ 3 on page 22.**

  - Play begins from the first program title recorded on the DVD-RAM.
- 2 Press *D.NAVI*\* or *PLAY LIST*** to display Direct Navigator or Play List menu for easy title or scene selection.

  - See below for “Direct Navigator” or next page for “Play List information”.
- 3 Press *STOP*** to stop playing.
- 4 Press *OPEN/CLOSE*** to eject the disc.

## Direct Navigator

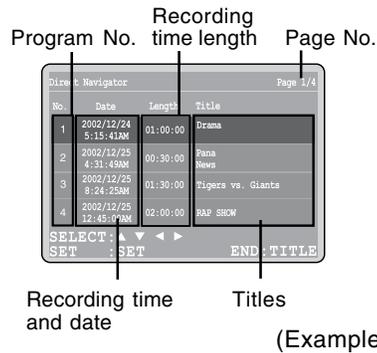
If the DVD-RAM features Direct Navigator, a list of recorded titles is displayed. Simply select a title number and start playback. (Operation can vary with disc used.)

- 1 Press *D.NAVI*** in Play/Stop mode to display the Direct Navigator menu.
- 2 Press *◀▶*** to select a page and **press *▲▼*** to select a title (Program No.). Then, **press *SET*** or ***PLAY*** to start playing.

  - “Pressing SET or PLAY” is not necessary when using NUMBER keys.

**Using NUMBER keys starts playing automatically.**  
The number of available titles varies with each disc.

<Input 1 digit number 1 : 1  
Example> 2 digit number 12 : ≥10 → 1 → 2
- 3 Press *D.NAVI*** to clear Direct navigator menu.



**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

## Play List

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 **PLAY LIST** in Play/Stop mode to display the Play List menu.

**2** Press **◀▶** to select a page and press **▲▼** to select a title (Play List No.). Then, press **SET** or **PLAY** to start playing.

- “Pressing SET or PLAY” is not necessary when using NUMBER keys.

**Using NUMBER keys starts playing automatically.** The number of available titles varies with each disc.

<Input 1 digit number 1 : 1

Example> 2 digit number 12 :  $\geq 10 \rightarrow 1 \rightarrow 2$

**3** Press **PLAY LIST** to clear Play List menu.

Play List No. Established time length Page No.

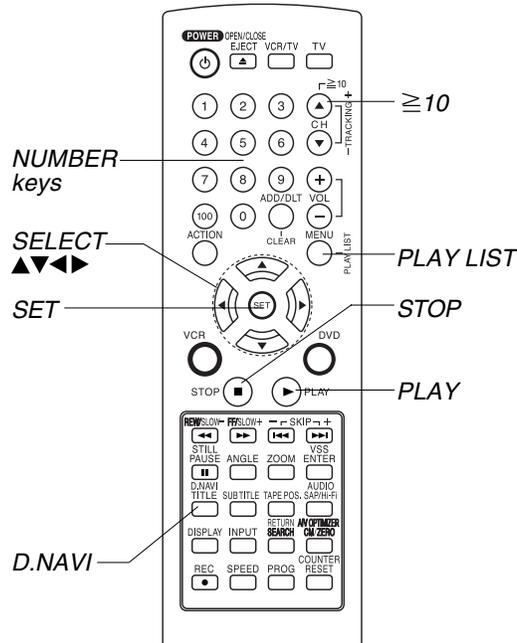
No	Date	Length	Title
1	2002/12/24 5:15:41PM	00:01:00	Movie Picture Playback
2	2002/12/25 4:31:49PM	00:03:12	Still Picture Playback
3	2002/12/25 8:24:25PM	00:15:01	Hybrid Playback
4	2002/12/25 12:45:07PM	00:03:00	Partial Playback

SELECT : ▲▼◀▶ EN : MENU

Recording time and date

Titles

(Example)



DVD Operation

### Notes

- Titles of Direct Navigator and Play List cannot be changed using this DECK.
- 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, Direct Navigator and Play List display will not appear even if TITLE or MENU is pressed.
- When  $\odot$  appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.

# DVD Operation using On-Screen Displays

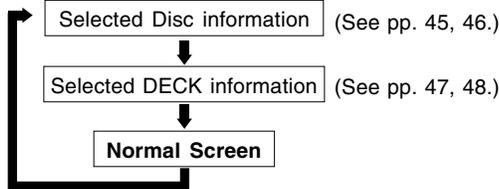
When **DISPLAY** is pressed, On-Screen Displays show disc information (title/chapter/track number, elapsed playing time) and DECK information (repeat play, play mode).

## ✓ Ready Checklist

- DECK is in DVD mode, press DVD.

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

- Each press of **DISPLAY** changes the on-screen display as follows. (Refer to pp. 44 ~ 48.)



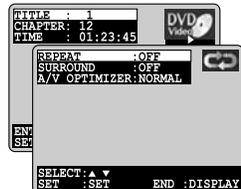
### Note

- DISPLAY** button does not function while main menu of DVD, title menu of DVD, Direct Navigator or Play List is displayed.

**2** Press **▲▼** to select an item, and press **SET**.

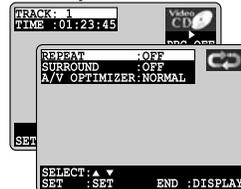
**3** Press **▲▼** or **NUMBER** keys to select the setting, and press **SET**.

#### <Example of DVD-Video>



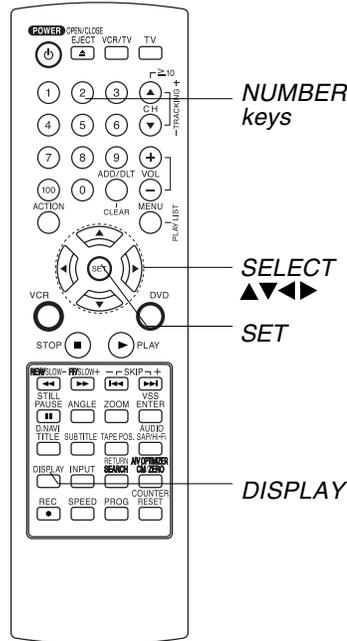
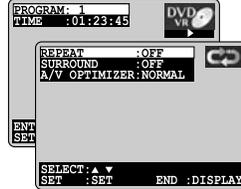
- When numbers are displayed (e.g. title number), **NUMBER** keys are also available.
- If the number entered is not on the disc, the entry will have no effect. Re-enter the correct number.
- For more details, refer to the disc operation information.

#### <Example of Video CD>



To return to normal screen, press **DISPLAY** repeatedly.

#### <Example of DVD-RAM>



### Notes

- When **DISPLAY** button is pressed during playback of a Video CD with Playback control, **NUMBER** keys are not available on the displayed screen. In this case, press **DISPLAY** again to remove the displayed screen.
- When appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.

**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

## Detailed Descriptions of each On-Screen Display

### ■ Disc information screen (for DVD-Video)

#### 1. TITLE No.

Go directly to a preset title number.

- Select "TITLE", and press **SET**.
- Change the No. by pressing **▲▼** or **NUMBER keys**, and press **SET**.

#### 2. CHAPTER No.

Go directly to a preset chapter number.

- Select "CHAPTER", and press **SET**.
- Change the No. by pressing **▲▼** or **NUMBER keys**, and press **SET**.
- This function does not work with some discs.

#### 3. Elapsed playing time

The screen may be changed by selecting the elapsed time.

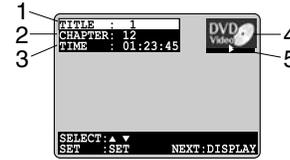
- Select the elapsed playing time ("xx:xx:xx"), and press **SET**.
- Change the elapsed time by pressing **NUMBER keys**.  
Enter time starting with seconds.  
If the time entered is not on the disc, the entry will have no effect.  
Re-enter the correct time.  
e.g., press 0 → 1 → 2 → 3 → 4 → 5 → SET for "01 : 23 : 45".  
press 3 → 0 → SET for "00 : 00 : 30".
- This function does not work with some discs.

#### 4. Disc currently being played

The type of disc currently inserted is displayed.

#### 5. Operating mode

The current operation is displayed.



### ■ Disc information screen (for Video CD/ CD)

#### A. TRACK No.

Go directly to a preset track number.

- Select "TRACK", and press **SET**.
- Change the No. by pressing **▲▼** or **NUMBER keys**, and press **SET**.

#### B. Elapsed playing time

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

#### C. Disc currently being played

The type of disc currently inserted is displayed.

#### D. Operating mode

The current operation is displayed.

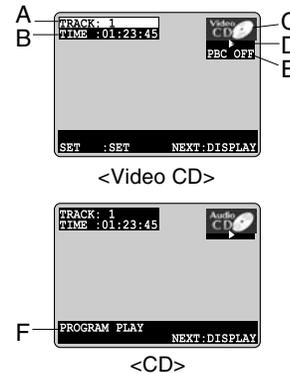
#### E. Playback control ON/OFF

PBC ON	Video CD menu play is displayed.
PBC OFF	Video CD menu play is not displayed.

#### F. Play mode (See p. 38, 40.)

When Play mode is set (p. 38, 40), the mode name is displayed.

PROGRAM PLAY	program play
RANDOM PLAY	random play
---	normal play



**Note** • Track No. and the elapsed playing time are not displayed during play started from menu of Video CDs with playback control.

# DVD Operation using On-Screen Displays (continued)

## ■ Disc information screen (for DVD-RAM)

### 1. Direct Navigation (PROGRAM) or PLAY LIST No.

Go directly to a preset title number.

- Select "PROGRAM" or "PLAY LIST", and press **SET**.
- Change the No. by pressing **▲▼** or **NUMBER** keys, and press **SET**.

### 2. Elapsed playing time

The screen may be changed by selecting the elapsed time.

- Select the elapsed playing time ("xx:xx:xx"), and press **SET**.
- Change the elapsed time by pressing **NUMBER** keys.

Enter time starting with seconds.

If the time entered is not on the disc, the entry will have no effect.  
Re-enter the correct time.  
e.g., press 0 → 1 → 2 → 3 → 4 → 5 → SET for "01 : 23 : 45".  
press 3 → 0 → SET for "00 : 00 : 30".

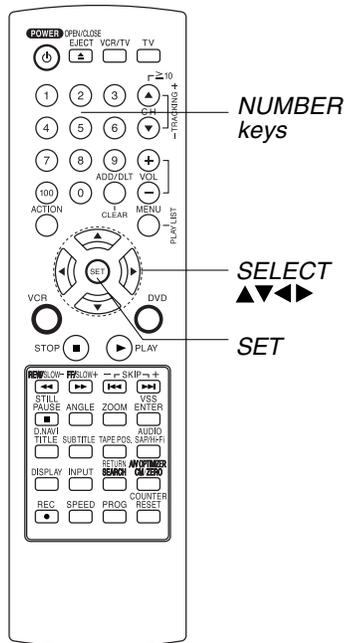
- This function does not work with some discs.

### 3. Disc currently being played

The type of disc currently inserted is displayed.

### 4. Operating mode

The current operation is displayed.



**Note** • When  appears on the screen while a button is being operated, it means that the corresponding operation is prohibited by DECK or the disc.

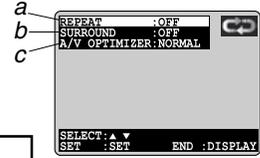
**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

■ **DECK information screen (for DECK)**

**a. Repeat Play mode** (see p. 48)

Repeat play mode can be selected.

- Select "REPEAT", and press **SET**.
- Change the desired mode during play by pressing **▲▼**, and press **SET**.

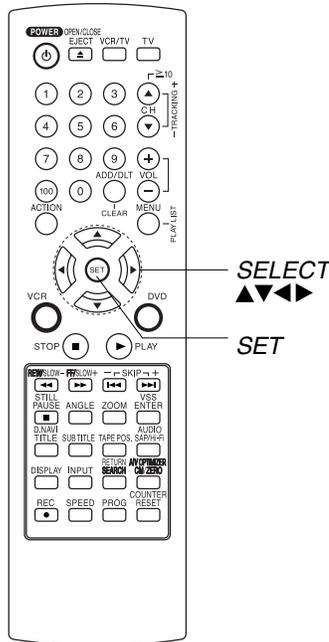


		Repeat Play mode		
DVD-Video		CHAPTER	TITLE	OFF (NORMAL)
DVD-RAM	(PROGRAM)	PROGRAM	DISC	OFF (NORMAL)
	(PLAYLIST)	PLAY LIST	ALL PLAY LISTS	OFF (NORMAL)
Video CD/CD		TRACK	DISC	OFF (NORMAL)

**b. SURROUND** (see p. 23)

**c. A/V OPTIMIZER** (see p. 55)

**Note** • For repeat play in VCR mode, see p. 31.



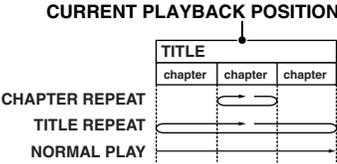
DVD Operation

# DVD Operation using On-Screen Displays (continued)

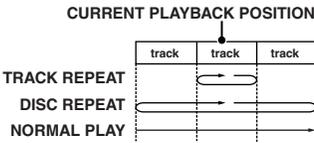
**For your reference**

Repeat Play mode example (see p. 47)

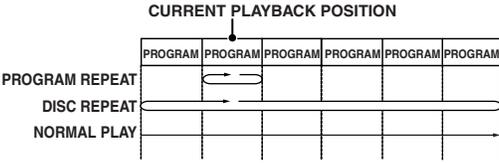
• CHAPTER/TITLE REPEAT PLAY (DVD-Video)



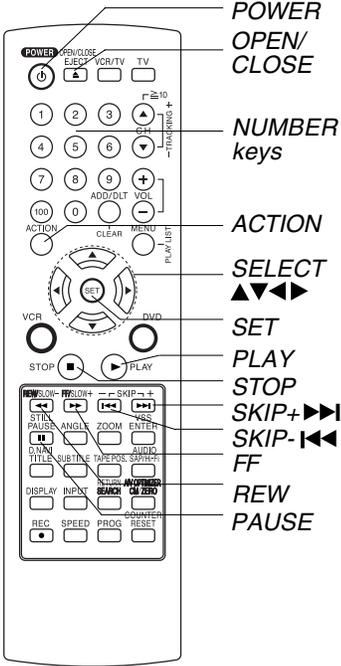
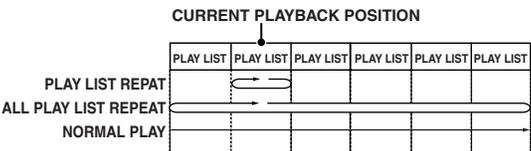
• TRACK/DISC REPEAT PLAY (Video CD/CD)



• PROGRAM/DISC REPEAT PLAY (DVD-RAM [PROGRAM])



• PLAY LIST/ALL PLAY LIST REPEAT PLAY (DVD-RAM [PLAY LIST])



**Note** • For repeat play in VCR mode, see p. 31.

**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

# MP3/JPEG Playback Operation

This unit can play MP3/JPEG format CD-R or CD-RW recorded for personal use on a PC, etc. Some discs may not play due to the condition of the recording.

**1** Press **POWER\*** on the remote or **DECK**.

**2** Press **OPEN/CLOSE**, then place an MP3/JPEG disc into the disc tray. Press **OPEN/CLOSE** to close.

- 3**
- MP3/JPEG MENU is displayed.
  - Playback starts automatically (except JPEG files).
  - CD directory is displayed.

**<Example>**

**Function Status**

**Folder area**  
(Current folder appears green.)

PLAY 00:00:12	
ROOT	END_WALTZ
TECHNO	DD_CUBIC
POPS	NOCTURNE
JAZZ	NORN
PLAY MODE: NORMAL	

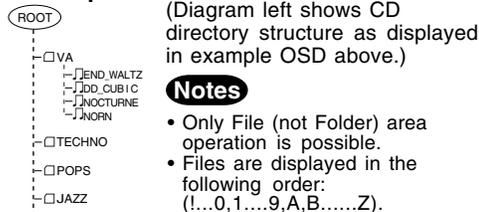
**PLAY MODE**

**Parent folder**

**File area**  
(Selected file/folder is highlighted. Titles are displayed up to 11 characters.)

MP3 file	JPEG file
Folder	Parent folder

**<Example>**



**Notes**

- Only File (not Folder) area operation is possible.
- Files are displayed in the following order: (!...0,1.....9,A,B.....Z).

- 4**
- 1) Press **▲▼** to select an MP3 file (MP3 icon).  
➔ MP3 Playback (see right)
  - 2) Press **▲▼** to select a JPEG file (JPEG icon).  
➔ JPEG Playback (see p. 50)
  - 3) Press **SKIP+ ►►►** (next) or **SKIP- ◄◄◄** (previous) to skip a file/folder page (7 files) in the File area.
- **Select folder** (During STOP mode)
    - 1) Press **▲▼** to select a folder (Folder icon).
    - 2) Press **SET** to display files/folders contained in the folder.
  - **Select parent folder** (During STOP mode)
    - 1) Press **▲▼** to select a folder (Parent folder icon).
    - 2) Press **SET** to make changes to the previous directory display.

**5** Press **ACTION** to return to the DVD MAIN MENU. (➔ Press **ACTION** again to return to the MP3/JPEG MENU.)

## MP3 Playback

Do steps 1~3 at left.

**a** Press **▲▼** to select an MP3 file (MP3 icon). (During STOP mode)

**b** Press **SET** or **PLAY** to start playback.

■ **Forward/Reverse Search**  
Press **FF/SLOW+** or **REW/SLOW-** during play. Press **PLAY** to release.

- Search speed, slow at first, increases with each additional press of the button up to 5 levels.

■ **Forward/Reverse Track Skip**  
Press **SKIP+ ►►►** or **SKIP- ◄◄◄** during play. Each press skips a track.

- If pressed within first 3 seconds of playback, skips to the previous track. If over 3 seconds, returns to top of track. (**SKIP- ◄◄◄** only.)
- Put DECK in Stop mode before performing folder/file selection (see step 4.)

■ **Pause**  
Press **PAUSE** during play. Press **PLAY** to release.

**c** Press **STOP** to stop play.

**d** Press **OPEN/CLOSE** to eject the disc. The MP3/JPEG MENU is closed automatically.

**Note**

- Copyright protected files and files containing errors cannot be played back. The DECK skips to the next file.

■ **Select PLAY MODE [MP3 Playback]** (During STOP mode)  
Press **◄►** to select the desired PLAY MODE (see below).

**[PLAY MODE]**

<p><b>NORMAL:</b> All MP3 files are selected and played back one time only.</p>
<p><b>SINGLE REPEAT:</b> The selected MP3 file is played back repeatedly.</p>
<p><b>FOLDER REPEAT:</b> The MP3 files contained in the selected folder are played back repeatedly. However, folders below the selected folder are not played back.</p>
<p><b>DISC REPEAT:</b> All MP3 files are played back repeatedly.</p>

DVD Operation

# MP3/JPEG Playback Operation (continued)

## JPEG Playback

You can play back JPEG images.  
**Displayable Image Size:** 32x32~7680x7680 pixels

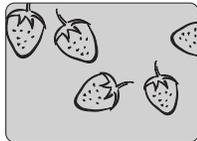
**Note** • Some JPEG format may not be played back.

Do steps 1~3 on page 49.

**1** Press **▲▼** to select a JPEG file (📷).

**2** Press **SET** or **PLAY**.  
 Selected JPEG file is displayed.

[JPEG Playback Screen]



<Example>

- Returned on the MP3/JPEG MENU  
 ⇒ Press **STOP**. (See p. 49)
- Next/Previous Search  
 ⇒ Press **SKIP+** ▶▶| or **SKIP-** |◀◀.
- Start Slide-show ⇒ Press **FF/SLOW+** or **REW/SLOW-**. (below)
- Enlarging an image ⇒ Press **ZOOM**. (P. 51)
- Rotating an image ⇒ Press **ANGLE**. (P. 51)

**3** Press **STOP** to return to the MP3/JPEG MENU.

## JPEG Slide-show

(During JPEG Playback.)

JPEG files are displayed automatically (about every 3 seconds) as a slide-show.

**1** Press **FF/SLOW+** or **REW/SLOW-**.

<Example>

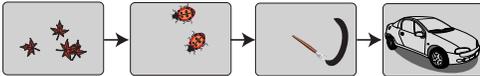


Image changes every 3 seconds.

- Cancel slide show  
 ⇒ Press **STOP** to return the MP3/JPEG MENU. (See p. 49)
- Still picture  
 ⇒ Press **STILL** (only SLIDE).  
 ⇒ Press **PLAY** to release.
- Forward/Reverse File Skip  
 ⇒ Press **SKIP+** ▶▶| or **SKIP-** |◀◀.  
 Each press skips a file.

**2** Press **ACTION** to return to the DVD MAIN MENU.

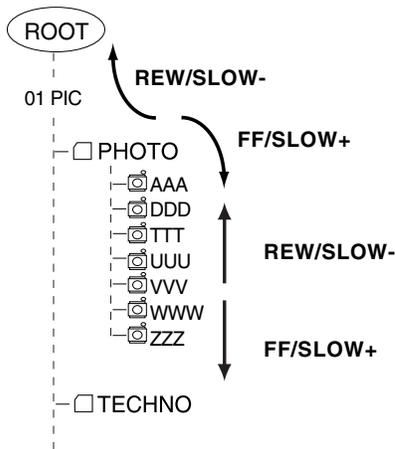
- Select **PLAY MODE [JPEG Slide-show]** (During STOP mode)  
 Press **◀▶** to select the desired PLAY MODE (See below).

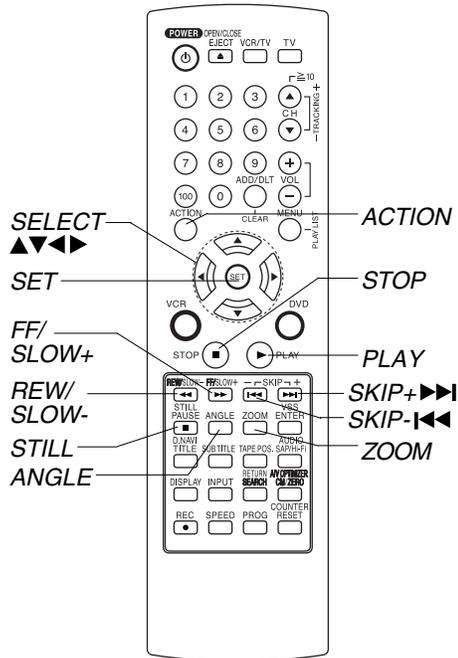
### [PLAY MODE]

<b>NORMAL:</b> All JPEG files are selected and played back one time only.
<b>SINGLE REPEAT:</b> The selected JPEG file is played back repeatedly.
<b>FOLDER REPEAT:</b> The JPEG files contained in the selected folder are played back repeatedly. However, folders below the selected folder are not played back.
<b>DISC REPEAT:</b> All JPEG files are played back repeatedly.

<Example>

Operation can be done when files are in order, such as in the diagram below.





## JPEG Zoom

**(During JPEG Playback.)**

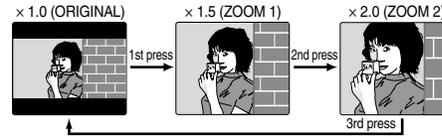
You can enlarge specific portions of a JPEG picture and select the zoom ratio using the ZOOM button on the remote during JPEG Playback screen.

**Set Zoom size.**

Press ZOOM repeatedly to change display as follows.

➔ Press STOP to return the MP3/JPEG MENU.

- You can enlarge the center portion of the image to one of 2 magnifications.
- Operation can be done during Rotation (below).



- Use the ▲, ▼, ◀ and ▶ buttons to move the position up, down, left and right. (Position cannot be changed on x1.0 ORIGINAL images.)

## JPEG Rotation

**(During JPEG Playback.)**

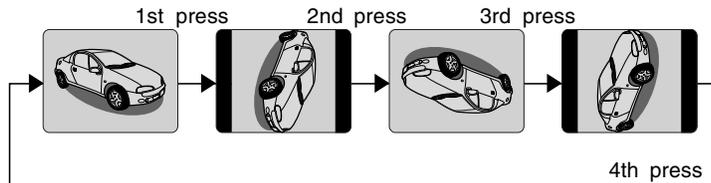
You can rotate a JPEG picture using the ANGLE button on the remote during JPEG Playback screen. (The JPEG picture will be rotated 90° clockwise.)

**Set rotation.**

Press ANGLE repeatedly to change display as below.

➔ Press STOP to return the MP3/JPEG MENU.

- Operation can be done during Zoom (above).
- The vertical/horizontal ratio of rotated JPEG images may vary when they are displayed.



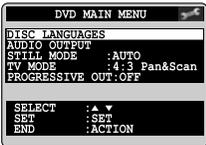
DVD Operation

MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

**MP3**  
PLAYBACK

# Settings for DVD Operation

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

**2**  Press **▲▼** to select an item, and press **SET**.

**DISC LANGUAGES** (See below)  
All languages offered on the disc can be set. If a language not offered is set, the original disc language will be selected.

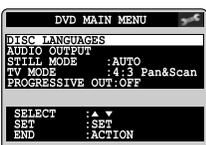
**AUDIO OUTPUT** (See p. 53.)  
You can set the audio output that comes from the digital audio output terminal.

**STILL MODE** (See p. 54.)  
To select "FIELD" (Field still) or "FRAME" (Frame still) to prevent jitter or make small text or fine patterns clearly visible in a still picture. When "AUTO" is set, "FIELD" or "FRAME" is selected automatically.

**TV MODE** (See p. 54.)  
To select whether the video material for a wide-screen will be played back in the Pan & Scan style, Letterbox style or 16 : 9 style.

## Disc Languages (DVD only)

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

**3**  Press **▲▼** to select "DISC LANGUAGES," and press **SET** to display screen.

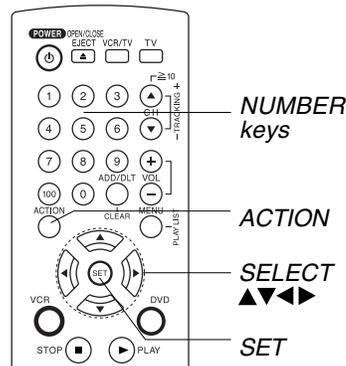
**4**  Press **▲▼** to select an item, and press **SET** repeatedly for desired language. (Please refer right.)

**5** Press **ACTION** to redisplay DVD MAIN MENU and go to step 2 to setup another item.  
Or, press **ACTION** twice to exit.

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

### Ready Checklist

DECK is in DVD mode, press DVD.



### "AUDIO" selections

(Factory preset: English)  
To select the audio soundtrack language.  
**English/Spanish/French/Japanese**  
**Original:** Original disc language  
**OTHER 0000:** Other language selection\*1

### "SUBTITLE" selections

(Factory preset: AUTO)  
To select the subtitle language.  
**AUTO:** Same language 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 0000:** Other language selection\*1

### "MENUS" selections

(factory preset: English)  
To select the language used in title menus or DVD menus.  
**English/Spanish/French/Japanese**  
**OTHER 0000:** Other language selection\*1

**To enter OTHER \*\*\*\* code number,**  
**Press NUMBER keys** (Please refer to language codes on p. 56).

To make corrections, press **◀** repeatedly to delete language code number, and correct.

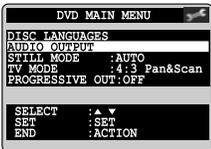
\*1 If the selected language is not offered, the original disc language is selected.

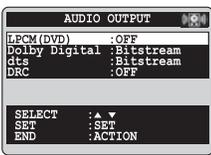
**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

## Audio Output (DVD only)

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

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

**2**  Press **▲▼** to select "AUDIO OUTPUT," and press **SET** to display screen.

**3**  Press **▲▼** to select an item, and press **SET** repeatedly for output. (See below.)

### ■ "LPCM (DVD)" selections

**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 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" selections

**Bitstream:** Dolby Digital bitstream (1 ch - 5.1 ch) is output. (Factory preset)

**PCM:** When you have connected an amplifier that doesn't have a built-in Dolby Digital decoder.

### ■ "dts" selections

**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)" selections

**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].

**4** Press **ACTION** to redisplay DVD MAIN MENU and go to step 2 to setup another item.

Or, press **ACTION** twice to exit.

## ✓ Ready Checklist

DECK is in DVD mode, press DVD.

Type of amplifier to be connected	Recommended setting		
	LPCM (DVD)	Dolby Digital	DTS
No amplifier is connected	---	---	---
AV amplifier (with digital audio input connector) without Dolby Digital/DTS decoder	PCM	PCM <sup>*1</sup>	PCM <sup>*1</sup>
AV amplifier including Dolby Digital/DTS decoder	PCM	Bitstream	PCM
AV amplifier including Dolby Digital/DTS decoder	PCM	Bitstream <sup>*2</sup>	Bitstream <sup>*2</sup>

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

\*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.

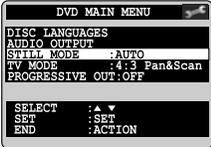
\*2 When a dts decoder is connected, please select "Bitstream" in "dts." When a Dolby Digital decoder is connected, please select "Bitstream" in "Dolby Digital." If "PCM" is selected, there will be stereo sound.

# Settings for DVD Operation (continued)

## Still Mode (DVD only)

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

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

**2**  Press **▲▼** to select "STILL MODE," and press **SET** repeatedly for mode. (See below.)

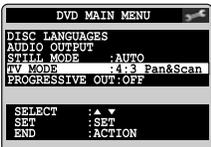
- AUTO:** "FIELD" (Field still) or "FRAME" (Frame still) is automatically selected during the still mode. (Factory preset)
- FIELD:** "FIELD" (Field still) is always selected. This setting will reduce jitter when compared with "AUTO" on some discs.
- FRAME:** "FRAME" (Frame still) is always selected. Some texts and fine patterns will be seen clearly when compared with "AUTO" on some discs.

**3** Press **ACTION** to exit this mode.

## TV Mode (DVD only)

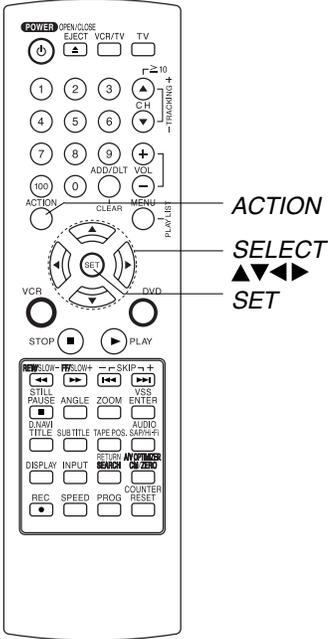
Set the screen display style for wide-screen video material playback.

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

**2**  Press **▲▼** to select "TV MODE," and press **SET** repeatedly for mode. (See below.)

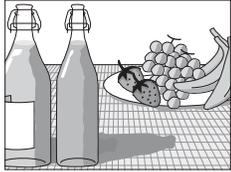
- 4:3 Pan & Scan (Factory preset) :** Wide-screen video data is played in Pan & Scan style (left and right of screen is trimmed.)
  - Video data not formatted in Pan & Scan will play in letterbox style.
- 4:3 Letterbox :** Wide-screen video data is played in Letterbox style (top and bottom of screen has black margin).
- 16:9 :** Set "16:9" when using Wide-screen TV.

**3** Press **ACTION** to exit this mode.

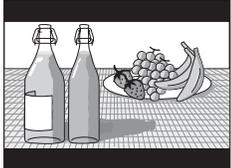


### Example

- Pan & Scan (Factory preset)



- Letterbox



**\*Important:** If a remote control button does not work when pressed, press the DVD button on the remote and try the button again.

## PROGRESSIVE OUT

Sets the Component Video Output Connector (p. 10, 13) to output the Progressive scan signal.

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



**2** Press **▲▼** to select "PROGRESSIVE OUT," and press **SET** repeatedly for mode. (See below.)

**OFF:** Progressive scan signal is not output.  
**ON:** Progressive scan signal is output from the Component Video Output Connector.

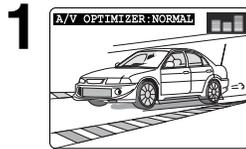
**3** Press **ACTION** to exit this mode.

## Notes

- If the television is not progressive compatible, a progressive scan picture is not available. Connect the Video Output or S-Video Output connector (see p. 12, 13) and set PROGRESSIVE OUT to "OFF".
- CONSUMERS SHOULD NOTE THAT NOT ALL HIGH DEFINITION TELEVISION SETS ARE FULLY COMPATIBLE WITH THIS PRODUCT AND MAY CAUSE ARTIFACTS TO BE DISPLAYED IN THE PICTURE. IN CASE OF 525 PROGRESSIVE SCAN PICTURE PROBLEMS, IT IS RECOMMENDED TO SET PROGRESSIVE OUT TO "OFF". IF THERE ARE QUESTIONS REGARDING YOUR TV SET COMPATIBILITY WITH THIS MODEL 525p DVD/VCR DECK, PLEASE CONTACT OUR CUSTOMER SERVICE CENTER.

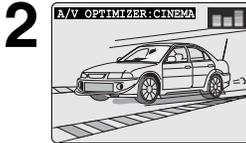
## A/V OPTIMIZER

You can set to preset audio/video effects as desired.

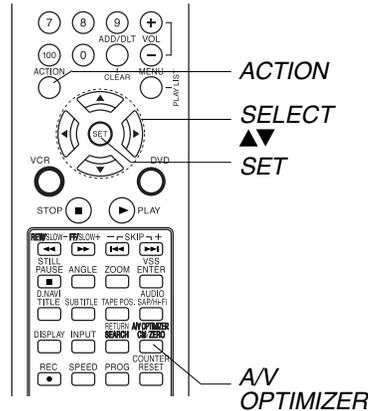


**1** Press **A/V OPTIMIZER** in Play mode to display the A/V OPTIMIZER selection on-screen.

- Display disappears after 5 seconds.



**2** Press **A/V OPTIMIZER** to select the desired mode below.



DVD Operation

The video/audio effect of each mode is listed below.

Mode	Video	Audio
NORMAL	Standard video	Standard audio
CINEMA	Bright areas are subdued.	Enhances high/low range for dynamic sound.
DRAMA	Standard video	Reduces high/low range so dialog and vocals can be heard clearly.
ACTION	Brightness and sharpness are enhanced.	Enhances high/low range for dynamic sound.

## Note

- With some discs, the audio/video effect may not be obtained, and the audio/video effects may not work well.

# Language Code List

Enter the appropriate code number for the initial settings “AUDIO”, “SUBTITLE” and/or “MENUS” (see p. 52).

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

# 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 and the Clock is not set...	24
PLEASE PREPARE FOR TIMER REC	If the DECK is not in Stop mode, or cassette is not inserted, or cassette has no record tab, or tape is at its end 2 minutes before a Timer Recording is about to begin...	24 25
CHECK CASSETTE RECORD TAB	If you press REC on the remote control or DECK, and a cassette is inserted with no record tab...	6
NO CASSETTE	If you press PLAY, FF, REW, or REC on the remote control or DECK without a cassette inserted...	20 21
TO CANCEL TIMER REC HOLD DOWN STOP KEY FOR APPROX 3 SEC	If you press STOP or POWER during a Timer Recording... (visible in VCR mode only)	25
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...	4
PLEASE CHECK THE DISC, AND FOR STAINS OR SCRATCHES ON DISC	If you press PLAY, and DECK reads data from a stained or scratched disc in DVD mode.	6
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 DECK.	3
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 installed with label side up.	6
CANNOT PLAY THIS FILE	This file format cannot be played. (Appears during MP3/JPEG file playback)	49

For Information

# Before Requesting Service

Check the following points if you are having trouble with your DECK.

Power	Solution
No power...	<ul style="list-style-type: none"> <li>• Completely insert Power Plug into an AC outlet.</li> <li>• Press POWER button on.</li> <li>• Make sure power source is active.</li> </ul>
Power turns itself off...	<ul style="list-style-type: none"> <li>• Auto power-off (shutoff) occurs after about 5 min. in DVD mode with no operation, or if there is no broadcast signal in TV or Playback mode.</li> <li>• Turn the power back on. (pp. 23, 33)</li> </ul>
Recording & Playback	Solution
TV program cannot be recorded...	<ul style="list-style-type: none"> <li>• Check connections between DECK, external antenna, and TV.</li> <li>• Check channel selections.</li> <li>• Make sure your antenna system (CABLE or TV) is correctly set. (Channels [p. 18])</li> <li>• Make sure cassette record tab is intact. (p. 6)</li> </ul>
Timer recording cannot be performed...	<ul style="list-style-type: none"> <li>• Confirm that clock is set to current time and date.</li> <li>• Make sure Cable/DSS box (if used) is left on and tuned to channel to be recorded.</li> <li>• Set recording start/stop times correctly. (p. 24)</li> <li>• Timer recording may not be performed or continued if a power interruption occurs before or during a Timer Recording, even after power is restored.</li> </ul>
There is no playback picture, or the playback picture is noisy or contains streaks...	<ul style="list-style-type: none"> <li>• Select channel 3 or 4 on TV to match VCR output channel (3 or 4) (p. 16) or select LINE.</li> <li>• Set VCR/TV selector to "VCR."</li> <li>• Adjust TRACKING control in either direction. (p. 4)</li> <li>• Try Head Cleaning. (p. 4)</li> </ul>
During special effects playback picture may contain some vertical jitter when using a TV with an Automatic Vertical Hold Control...	<ul style="list-style-type: none"> <li>• Set TV's Vertical Hold Control to MANUAL, then adjust.</li> </ul>
DECK cannot be controlled...	<ul style="list-style-type: none"> <li>• Make sure DECK power is on.</li> <li>• Check Remote batteries.</li> <li>• Make sure Remote is in proper mode. (p. 28)</li> <li>• Make sure Timer Recording is not in progress.</li> </ul>
Remote Control	Solution
DECK cannot be remote controlled...	<ul style="list-style-type: none"> <li>• Make sure DECK power is on.</li> <li>• Make sure Remote is in VCR mode.</li> <li>• Aim Remote Control directly at remote sensor on DECK. (p.9)</li> <li>• Avoid any object blocking signal path.</li> <li>• Check Remote batteries. (p. 4)</li> <li>• Exposing DECK remote sensor to direct fluorescent or outdoor light may cause signal interference.</li> </ul>
PROG buttons do not respond...	<ul style="list-style-type: none"> <li>• PROG functions are not available in COMPONENT Video Output and S-VIDEO OUT. Set TV to either RF IN or VIDEO IN. (p. 10)</li> <li>• Check Remote batteries. (p. 4)</li> <li>• Press VCR or DVD button for DVD/VCR mode. (p. 28)</li> </ul>



DVD/ Video CD/ CD	Solution
Play fails to start even when PLAY is pressed...	<ul style="list-style-type: none"> <li>This DECK cannot play discs other than DVDs, Video CDs and CDs.</li> <li>The disc may be dirty and require cleaning.</li> </ul>
Picture is distorted during rapid advance or rapid reverse...	<ul style="list-style-type: none"> <li>The picture will be somewhat distorted at times: this is normal.</li> </ul>
No Forward/Reverse Scene Search play...	<ul style="list-style-type: none"> <li>Some discs may have sections which prohibit Forward/Reverse Scene Search. (p. 23)</li> </ul>
Audio soundtrack and/or subtitle language is not the one selected at the initial settings...	<ul style="list-style-type: none"> <li>If the audio soundtrack and/or subtitle language selected at DVD initial settings does not exist on the disc, it will not be accessible.</li> </ul>
No subtitles...	<ul style="list-style-type: none"> <li>Subtitles appear only when available on disc.</li> <li>"OFF" is selected at the changing subtitle language. Select "ON" at the "Subtitle Languages" section (p. 36) to display the subtitles.</li> </ul>
Alternative audio soundtrack (or subtitle) language cannot be selected...	<ul style="list-style-type: none"> <li>Alternative language cannot be selected with discs which do not contain more than one language.</li> <li>For some discs, alternative language cannot be selected with the AUDIO or SUB TITLE button. Try selecting it from the DVD MAIN MENU if available.</li> </ul>
Angle cannot be changed...	<ul style="list-style-type: none"> <li>This function is dependent on software availability. Even if disc has multiple angles, they may be recorded for specific scenes only. (p. 37)</li> </ul>
Miscellaneous	Solution
Programs cannot be viewed on TV...	<ul style="list-style-type: none"> <li>Make sure TV is tuned to VCR's output channel (3 or 4).</li> <li>Check connections between DECK, external antenna, and TV.</li> <li>Set VCR/TV selector to "TV." (p. 21)</li> <li>Make sure proper signal source is selected.</li> <li>If the television is not progressive compatible, a progressive scan picture is not available. Connect the Video Output or S-Video Output connector (pp. 12, 13) and set PROGRESSIVE OUT to "OFF" in the DVD Main Menu. (p. 55)</li> </ul>
Video cassette cannot be inserted...	<ul style="list-style-type: none"> <li>Insert the cassette with window side up; record tab facing you.</li> </ul>
Video cassette ejects when a recording is started or the power is turned off for timer recording...	<ul style="list-style-type: none"> <li>Make sure cassette record tab is intact. (p. 6)</li> </ul>
In Stop mode, the motor (CYLINDER) continues to rotate...	<ul style="list-style-type: none"> <li>To enable Quick play mechanism, the cylinder will rotate for about 3 minutes. This reduces response time from Stop to Play mode.</li> </ul>
The disc cannot be removed..	<ul style="list-style-type: none"> <li>First, unplug DECK. Then, prepare a rigid wire (e.g. an extended paper clip) and, applying moderate force, insert it straight into the hole at the base of the tray. The tray will eject a little. Now, pull the tray all the way out and remove the disc. (p. 9)</li> </ul>

For Information

# Index

## DECK & VCR

### A

- ACTION button ..... 8, 18
- Accessories ..... 4
- ADD/DELETE button  
(Add or Delete a Channel) ..... 8, 19
- Audio Broadcast types  
(Stereo/SAP/Mono) ..... 26
- Audio Mode (Playback, Recording) ..... 27
- Auto Operation Functions ..... 31
- Auto Shut-Off ..... 33

### B

- Batteries ..... 4

### C

- Channel ("SET UP CHANNEL") ..... 18
- Channel Up/Down,  
Tracking/V-Lock Button ..... 4, 8
- Clock ("SET CLOCK") ..... 18
- CM/ZERO SEARCH button ..... 8, 30
- Commercial Skip ..... 30
- Connections ..... 12 ~ 15
- Copy Your Tapes (Dubbing) ..... 35
- COUNTER RESET button ..... 8, 30

### D

- DISPLAY button ..... 8, 11
- DST (Daylight Saving Time) ..... 19

### E

- EJECT button ..... 8, 20
- ENTER button  
(For tuning TV Channel) ..... 8, 28

### F

- FAST FORWARD/SLOW+ button ..... 8, 20

### H

- Head Cleaning ..... 4

### I

- Index Search ..... 30
- Initial Setup (Ready to Play) ..... 16, 17
- INPUT button ..... 8, 35

### L

- Light-up Indicators ..... 11
- Location of Controls  
(Remote, DECK) ..... 8 ~ 10

### M

- Multi-Brand Control ..... 28, 29

### O

- On-Screen Displays (VCR) ..... 11
- One Touch Recording ..... 21

### P

- PLAY button (Playback a Tape) ..... 8, 20
- POWER button ..... 8
- PROG button (PROGRAM) ..... 8, 24
- Program Clear, Review, Replace ..... 25

### Q

- Quality Picture ..... 4

### R

- REC button (Record on a Tape) ..... 8, 21
- Record Tab ..... 6
- Remote Sensor ..... 9
- Repeat Play ..... 31
- Reset All Memory Functions ..... 9
- REWIND/SLOW- button ..... 8, 20

### S

- SAP/Hi-Fi ..... 27
- SEARCH button ..... 8, 30
- Specifications ..... 7
- SPEED button ..... 8, 21
- Still (Freeze) Picture ..... 20
- STILL/PAUSE button (Still Picture) ..... 8, 20
- STOP button ..... 8, 20

### T

- Tape Position, Tape Status ..... 32
- Tape Select ..... 32
- Timer Recording ..... 24
- Trouble Shooting ..... 58, 59
- TV mode button ..... 8, 28

### V

- VCR mode button ..... 8, 28
- VCR/TV button ..... 8, 21
- VCR/TV Selection Feature ..... 34
- VOLUME +/- button (TV Volume) ..... 8, 28

### W

- Warning and Instruction Displays ..... 57
- Weak Signal Display ..... 33

**DVD**

**A**

- ACTION button ..... 8, 52
- ANGLE button  
(Multiple Angle Viewing) ..... 8, 37, 51
- AUDIO button  
(Audio Soundtrack Language) ..... 8, 36
- Audio Output  
(For Selecting Audio Output) ..... 53
- Auto-Power Off Function ..... 23
- A/V OPTIMIZER ..... 55

**C**

- CLEAR button ..... 8, 38, 40
- Component Video Output ..... 10, 13

**D**

- Direct Navigator ..... 42
- Disc Languages ..... 52
- DISPLAY button  
(“On-Screen Display”) ..... 8, 44
- DTS ..... 14
- DVD Menu ..... 41
- DVD mode button ..... 8, 28
- DVD-RAM (DVD-VR) ..... 42, 43

**F**

- Frame by Frame Picture ..... 23
- Forward/Reverse Chapter/Track Skip .... 23
- Forward/Reverse Scene Search ..... 23

**J**

- JPEG ..... 49 ~ 51

**K**

- Karaoke  
(Vocal Selection for Karaoke Discs) .... 37

**L**

- Language Code List ..... 56

**M**

- MENU button  
(To display DVD Menu) ..... 8, 41
- MP3 ..... 49
- Multiple Angle Viewing ..... 37

**O**

- OPEN/CLOSE button ..... 8, 22
- Optical Digital Audio Output ..... 10, 15

**P**

- PLAY button (Play a Disc) ..... 8, 22
- Play List ..... 43
- Program Play (For Video CD/ CD) ..... 38
- Progressive Scan ..... 10, 13, 55

**R**

- Random Play (For Video CD/ CD) ..... 40
- Repeat Play ..... 47, 48
- Resume Function ..... 23
- RETURN button ..... 8, 22
- Rotation ..... 51

**S**

- SKIP+ ►►I or SKIP- I◄◄ button  
(Forward/Reverse Chapter/Track) .... 8, 23
- Slide-show ..... 50
- SLOW+/SLOW- button  
(Slow Motion Picture) ..... 8, 23
- STILL/PAUSE button  
(Still Picture or Pause) ..... 8, 23
- Still Mode  
(For selecting “FIELD” or “FRAME”) .... 54
- STOP button ..... 8, 22
- SUB TITLE button  
(For selecting Subtitle Language) .... 8, 36
- S-Video Out ..... 10, 13

**T**

- TITLE button (Title Menu) ..... 8, 41
- TV Mode  
(For selecting the screen display style) 54

**V**

- Video CD ..... 23
- V.S.S. (Virtual Surround Sound) ..... 8, 23

**Z**

- ZOOM button (Picture Zoom) ..... 8, 37, 51

For Information

# Memo

# Memo

For Information

# Panasonic<sup>®</sup>

---

**Panasonic Broadcast & Television Systems Company**

Unit of Panasonic Corporation of North America

[www.panasonic.com/broadcast](http://www.panasonic.com/broadcast)

**Executive Office:**

1 Panasonic Way 4E-7, Secaucus, NJ 07094  
(201) 348-5300

**EASTERN ZONE (including Southeast):**

1 Panasonic Way 4E-7, Secaucus, NJ 07094  
(201) 348-7196

**WESTERN ZONE (including Southwest):**

3330 Cahuenga Blvd W., Los Angeles, CA 90068  
(323) 436-3608

**Government Sales:**

(201) 348-5300 (Eastern U.S.), (323) 436-3608 (Western U.S.)

**Panasonic Canada Inc.**

5770 Ambler Drive, Mississauga, Ontario L4W 2T3  
(905) 624-5010

**Panasonic Sales Company**

**Division of Panasonic Puerto Rico, Inc.**

Ave. 65 de infantería. Km. 9.5 San Gabriel Industrial Park, Carolina, PR 00985  
(787) 750-4300

Printed in Indonesia  
LSQT0966 A  
S0505-0