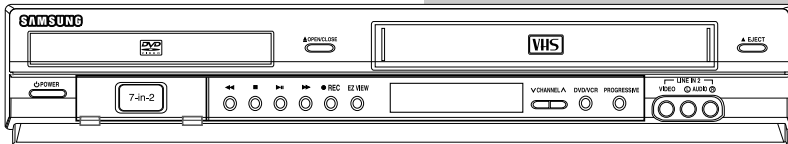


**SAMSUNG**

# *Instruction Manual*

## **DVD-V4800**



**DVD**  
VIDEO

**VHS**

**Hi-Fi**

[www.samsungusa.com](http://www.samsungusa.com)

## Safety Instructions

### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

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



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of fire or electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**Note to CATV system installer:** This reminder is provided to call CATV system installer's attention to Article 820-40 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part I) 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.

**Caution:** FCC regulations state that any unauthorized changes or modifications to this equipment may void the user's authority to operate it.

**Caution:** To prevent electric shock, match wide blade of plug to wide slot, fully insert.

**Attention:** Pour éviter les chocs électriques, introduire la lame le plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

**Important :** One Federal Court has held that unauthorized recording of copyrighted TV programs is an infringement of U.S. copyright laws.

Certain Canadian programs may be copyrighted and any unauthorized recording in whole or in part may be a violation of these rights.

**To prevent damage which may result in fire or electric shock hazard,  
do not expose this appliance to rain or moisture.**

### Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

# Table of Contents

◆ <b>Safety</b>		
Important Safety Instructions	2	
◆ <b>Welcome</b>		
Feature Summary	4	
Disc Type and Characteristics	4	
◆ <b>1 - System Overview</b>		
Unpack	5	
Front Panel Overview	6	
Rear Panel	6	
Front Panel Display	7	
Insert Batteries into Remote	7	
◆ <b>2 - Getting Started</b>		
Basic Connections/Auto Setup	7	
◆ <b>3 - Advanced Connections</b>		
Using the TV Buttons on the Remote Control	8	
Stereo Connections	8	
S-Video/Component Video Connections (for DVD)	9	
Monitor TV Connections	9	
Connecting Other Video Equipment	10	
◆ <b>4 - DVD Sound Setup</b>		
A/V Receiver Connections	10	
◆ <b>5 - Basic Operation</b>		
Deck Control Buttons	11	
Basic DVD Operation	11	
Basic VCR Operation	11	
Basic TV Tuner Operations	12	
◆ <b>6 - System Setup</b>		
On-Screen Menu Navigation	12	
Menu Language	12	
Manual Clock Set	13	
Tuner Band Setting	13	
RF Output Channel	14	
Auto Channel Memory	14	
Channel Add/Delete	15	
Front Panel Dimmer	15	
Auto Power Off	16	
◆ <b>7 - DVD Setup</b>		
Disc Menu Language	16	
Audio Language	17	
Subtitle Language	17	
Digital Output	18	
DTS	18	
Dynamic Compression	19	
PCM Down Sampling	19	
TV Aspect Ratio	20	
Black Level	20	
Alt Video Out	21	
Parental	21	
◆ <b>8 - DVD Operations</b>		
Special Playback Features	22	
Disc Menu Navigation	23	
EZ View	23	
Title/Chapter/Time Selection	24	
Angle View	25	
Subtitle	25	
A to B Repeat	26	
Repeat Chapter/Title	26	
Audio	27	
Bookmarks	27	
Function (DVD)	28	
◆ <b>9 - VCR Playback</b>		
Special VCR Playback Features	28	
Tracking	29	
Auto Play	29	
S-VHS Playback	29	
Variable Search System	30	
◆ <b>10 - VCR Recording</b>		
Basic Recording	30	
Special Recording Features	31	
One-Touch Recording (OTR)	31	
Record Speed	32	
◆ <b>11 - Timer Recording</b>		
How to Set a Timer Recording	32	
Function (VCR)	33	
◆ <b>12 - Advanced Functions.</b>		
How to insert a Memory Card	33	
Clips Menu for MP3/WMA/JPEG	34	
Folder Selection	34	
MP3/WMA Play	35	
JPEG Playback	36	
Program Play & Random Play	37	
◆ <b>Appendix - Help</b>		
Technical Specifications	38	

## Feature Summary

### DVD-VCR Features

- Perfect compatibility to play back DVDs, Audio CDs, MP3, WMA discs, VCD, SVCD, JPEG FILES CDs, or VHS Tapes.
- Enjoy a DVD movie while recording a TV show to the VCR.
- Auto Setup instantly finds the time and runs channel search.
- RF inputs and outputs for all kinds of TVs available.
- Composite, S-Video, and Component Video outputs.
- Universal remote provides the full operation on DVD-VCR.
- On-Screen Program (English/French/Spanish).

### DVD Features

- 10-bit video digital to analog converter and 27MHz advanced digital filter.
- Playback of 96KHz/24-bit sources.
- 7 in 2 slot to support 7 types of memory cards : MMC, SD, Smart Media Card, Compact Flash, Micro Drive, Memory Stick and Memory Stick-Pro.
- Play back MP3-CDs.

### VCR Features

- Hi-Fi Stereo VCR.
- Superior slow motion and stop action (with 4 heads).
- Playback of S-VHS tapes with a better than standard resolution.
- INTRO Scan, Zero Return, and END Search.
- 7-event/1 month timer recording.
- Time remaining counter, real time counter.

### Note

\* Discs which cannot be played with this player.









- DVD-ROM      • DVD-RAM
- CDI            • CDV
- HD layer of super Audio CD
- CDGs play audio only, not graphics.

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

- DVD-R            • CD-RW
- DVD+RW, -RW • CD-ROM

## Disc Type and Characteristics

### Disc Markings

	• Play Region Number
	• NTSC broadcast system in U.S.A, Canada, Korea, Japan, etc.
	• Dolby Digital disc
	• Stereo disc
	• Digital Audio disc
	• DTS disc
	• MP3 disc
	• WMA disc




### Play Region Number

Both the DVD player and the discs are coded by region. These regional codes must match in order for the disc to play. If the codes do not match, the disc will not play.

**The Region Number for this player is described on the rear panel of the player.**

### Progressive Scan





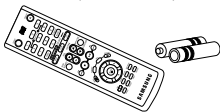
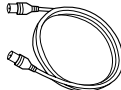
'CONSUMERS SHOULD NOTE THAT NOT ALL HIGH DEFINITION TELEVISION SETS ARE FULLY COMPATIBLE WITH THIS PRODUCT AND MAY CAUSE ARTIFACTS TO BE DISPLAYED IN THE PICTURE. IN CASE OF 525 PROGRESSIVE SCAN PICTURE PROBLEMS, IT IS RECOMMENDED THAT THE USER SWITCH THE CONNECTION TO THE 'STANDARD DEFINITION' OUTPUT. IF THERE ARE QUESTIONS REGARDING OUR TV SET COMPATIBILITY WITH THIS MODEL 525p DVD PLAYER, PLEASE CONTACT OUR CUSTOMER SERVICE CENTER.'

Disc Types (Logos)	Recording Types	Disc Size	Max. Playing Time	Characteristics
<b>DVD</b> 	Audio + Video	12 Cm	Single-sided 240 min. Double-sided 480 min.	<ul style="list-style-type: none"> <li>DVD contains excellent sound and video due to Dolby Digital and MPEG-2 system.</li> <li>Various screen and audio functions can be easily selected through the on-screen menu.</li> </ul>
		8 Cm	Single-sided 80 min. Double-sided 160 min.	
<b>VIDEO-CD</b> 	Audio + Video	12 Cm	74 min.	<ul style="list-style-type: none"> <li>Video with CD sound, VHS quality &amp; MPEG-1 compression technology.</li> </ul>
		8 Cm	20 min.	
<b>AUDIO-CD</b> 	Audio	12 Cm	74 min.	<ul style="list-style-type: none"> <li>An LP is recorded as an analog signal with more distortion. CD is recorded as a Digital Signal with better audio quality, less distortion and less deterioration of audio quality over time.</li> </ul>
		8 Cm	20 min.	

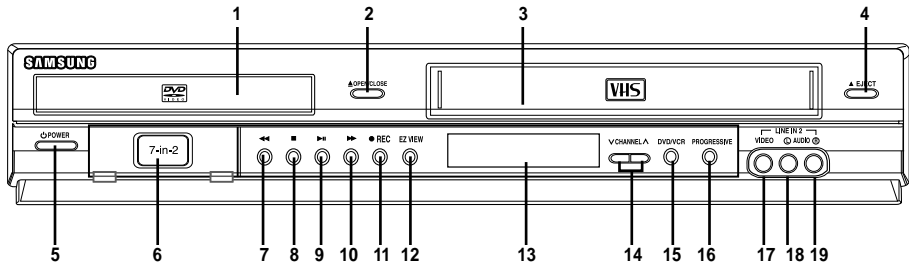
\* It may not be to play CD-R,CD-RW and DVD-R in all cases due to the type of disc or condition of the recording.

## Unpack

When you unpack the DVD-VCR, please check the following list of items is included in the packing case.

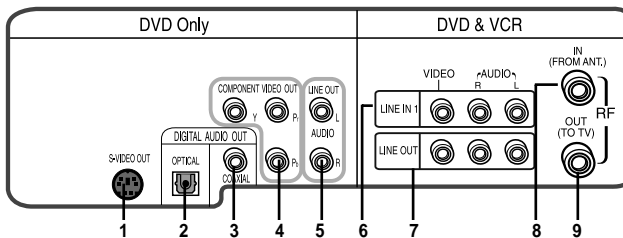
DVD-VCR 	Registration Card (AD68-00078A) 	User's Guide (AK68-00353A) 
RCA cable for Audio/Video connection (AC97-01746A) 	Remote Control (AK59-00008X) & 1.5V "AAA" Batteries- 2EA (AC43-12002H) 	RF (Radio Frequency) Antenna Cable (AC39-42001J) 

## Front Panel Overview



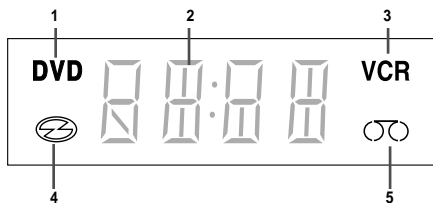
- |    |                  |    |                           |
|----|------------------|----|---------------------------|
| 1  | DVD DECK         | 11 | RECORD                    |
| 2  | DVD OPEN/CLOSE   | 12 | EZ VIEW                   |
| 3  | VCR DECK         | 13 | FRONT PANEL DISPLAY       |
| 4  | VCR EJECT        | 14 | CHANNEL $\wedge$ / $\vee$ |
| 5  | POWER            | 15 | DVD-VCR SELECT            |
| 6  | MULTI CARD INPUT | 16 | PROGRESSIVE               |
| 7  | REWIND/REV       | 17 | COMPOSITE VIDEO JACK      |
| 8  | STOP             | 18 | LEFT AUDIO JACK           |
| 9  | PLAY/PAUSE       | 19 | RIGHT AUDIO JACK          |
| 10 | FAST-FORWARD/FWD |    |                           |

## Rear Panel



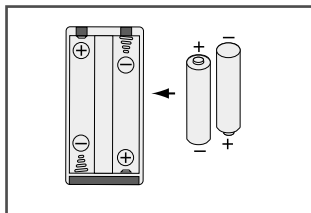
- |   |                                                |   |                            |
|---|------------------------------------------------|---|----------------------------|
| 1 | S-VIDEO OUT                                    | 6 | LINE IN 1                  |
| 2 | DIGITAL AUDIO OUT(OPTICAL)                     | 7 | LINE OUT TO TV (COMPOSITE) |
| 3 | DIGITAL AUDIO OUT(COAXIAL)                     | 8 | RF ANTENNA INPUT           |
| 4 | COMPONENT VIDEO OUT                            | 9 | RF OUT TO TV               |
| 5 | AUDIO LINE OUT TO TV<br>(S-VIDEO OR COMPONENT) |   |                            |

## Front Panel Display



- 1 When the light is on, DVD is operating.
- 2 The time, counter position, remaining time or current deck status is indicated.
- 3 VCR is activated.
- 4 DVD or CD media is loaded.
- 5 VHS videotape is loaded.

## Insert Batteries into Remote



- Remove the battery cover on the remote
- Insert two 1.5V "AAA" batteries as shown, making sure of the correct polarities(+/-)
- Slide the cover back onto remote.

## Basic Connections/Auto Setup

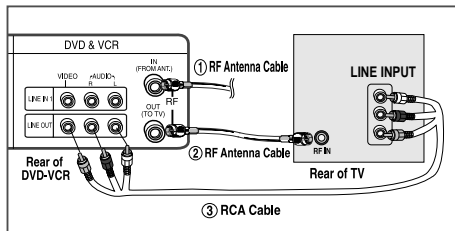
You will need to connect the DVD-VCR to a TV and run Auto Setup. The Auto Setup will automatically search for channels and then set your DVD-VCR's internal clock.

### NOTES:

- See page 8 for Advanced Connections.
- Standard RF or Line connection between your TV and DVD-VCR are required to run DVD-VCR setup menu, even if you connect S-Video or Component Video Output for a better picture quality.



- 1 Connect the RF Antenna Cable ① to your DVD-VCR. Connect an external indoor/outdoor antenna or wall outlet antenna cable to the Ant-In jack on the rear panel.



- 2 Connect your DVD-VCR to a TV

### RF Connection

Using the RF antenna cable②, connect the OUT jack (TO TV) on the rear panel of your DVD-VCR to your TV's Antenna Input.

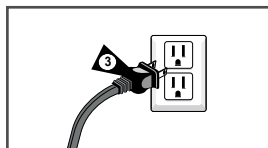
### Line Connection

Using an RCA-type audio/video cable③ (red, white, yellow), connect the LINE OUT jacks on the rear panel of your DVD-VCR to your TV's Line In jacks. Use the three cables as follows: red for right audio, white for left audio, and yellow for video.

NOTE: If your TV is equipped with RCA jacks, it is better to use the Line Connection method.

- 3 Plug In

Your DVD-VCR's power should be plugged into a standard 120V/60Hz wall outlet. Avoid pressing any buttons on the remote control or on the unit during an Auto Setup. While your DVD-VCR is running an Auto Setup, "AUTO" will blink. When Auto Setup is complete, the current time will be displayed on the front panel display. In case Auto Clock set fails to locate a channel to set the clock, you should set the clock manually. See page 13.



- 4 Turn On your DVD-VCR  
Turn on the power by pressing the POWER button on the remote control or on the front panel of the unit.
- 5 Turn On your TV  
Turn on the TV by pressing the POWER button on the TV remote control.
- 6 Set the TV to Line (Only for line connection)  
Set your TV to its Line Input.

## Using the TV Buttons on the Remote Control

Your VCR remote control will work with Samsung televisions and compatible brands.

To determine whether your television is compatible, follow the instructions below.

- 1 Switch your television on.
- 2 Point the remote control towards the television.
- 3 Hold down the TV button and enter the two-figure code corresponding to the brand of your television, by pressing the appropriate numeric buttons.

Brand	Codes	Brand	Codes
SAMSUNG	01, 14, 15, 23	LOEWE	28
SHARP	02, 16, 22	ZENITH	17
SONY	03	LG	06, 08, 18
RCA	07, 29	MAGNAVOX	04
TOSHIBA	09	EMERSON	21
PANASONIC	12, 24	SANYO	05, 20
HITACHI	10	DAEWOO	19
NEWSAN	27	NOBLEX	25
		TELEFUNKEN	26

**Result:** If your television is compatible with the remote control, it will switch off. It is now programmed to operate with the remote control.

- If several codes are indicated for your television brand, try each one in turn until you find one that works.

You can then control the television using the following buttons.

Button	Function
POWER	Used to switch the television on and off.
INPUT SEL.	Used to select an external source.
VOL + or –	Used to adjust the volume of the television.
CH (V or ^)	Used to select the required channel.
TV MUTE	Used to toggle the sound on and off.

- The various functions will not necessarily work on all televisions. If you encounter problems, operate the television directly.

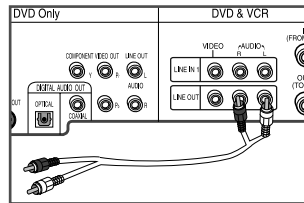
## Stereo Connections

You can connect your DVD-VCR to your home stereo system or stereo TV and enjoy stereo sound when watching a movie or TV.

### 1 Connect DVD-VCR to Stereo

Using RCA cables, connect the Line Out Left and Right Audio jacks on the rear panel of the DVD-VCR to the Aux Input on your stereo receiver.

Connect the Video Output also in case you are using a stereo TV.



### 2 Set Stereo to Auxiliary Mode

Set your stereo receiver or TV to either "Aux" or "Tape" regardless of which line input you are using for your particular device.

### 3 Play a Tape

Insert a DVD or Hi-Fi stereo videotape into your DVD-VCR. Be sure to adjust the volume on your stereo receiver or TV. Audio will be heard through your stereo speakers

- If there is no stereo sound even after you have inserted a Hi-Fi stereo videotape, press the AUDIO button until "Hi-Fi" appears on the on-screen display.



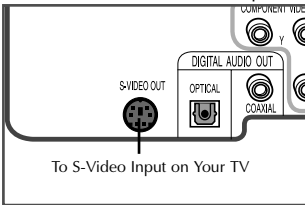
## S-Video/Component Video Connections (for DVD)

Use the S-Video or Component Video connection method only for the DVD. The VCR can still be viewed through the RF or line inputs.

To activate your alternative (S-Video or Component) video selection, follow the "Alt Video Out" instructions on page 21. Keep in mind that you can choose either S-Video or Component only, but not both. A superior video quality can be obtained when watching a DVD on your DVD-VCR if your TV is equipped with S-Video or Component video inputs.

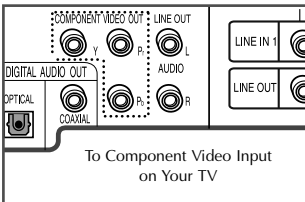
### 1 When using a S-Video cable

Connect the S-VIDEO OUT on the rear panel of your DVD-VCR to the S-Video Input on your TV.



### 2 When using a Component video cable

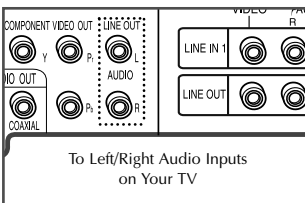
connect the COMPONENT VIDEO OUT (Y, Pb, Pr) on the rear panel of your DVD-VCR to the Component Video Input on your TV.



### 3 Connect Audio Out (DVD only)

Using RCA audio cables, connect the LEFT/RIGHT Line Out jacks on the rear panel of your DVD-VCR to the LEFT/RIGHT Audio Line In jacks on your TV.

- When connecting your DVD-VCR to a TV with the S-Video or Component Video Output, make sure that you must, use these Line Out jacks to obtain audio.
- To activate your connection, see "Alt Video Out" on page 21.



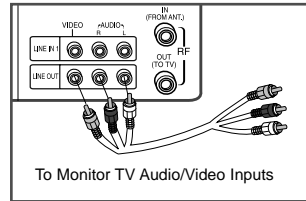
## Monitor TV Connections

Monitor-style televisions offer improved sound and picture over regular televisions because they receive the audio and video signals directly from the DVD-VCR through the line inputs.

**NOTE:** A monitor television is not the same as a computer monitor.

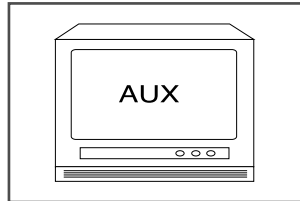
### 1 Connect DVD-VCR to Monitor TV

Connect RCA cables from the Audio/Video Line Out jacks on the rear panel of the DVD-VCR to the Audio/Video Line Inputs of your monitor TV.



### 2 Set TV to Auxiliary Mode

Set your monitor TV to "Aux," "Video," or "Line." Refer to your monitor television owner's manual for the correct setting.



## Connecting Other Video Equipment

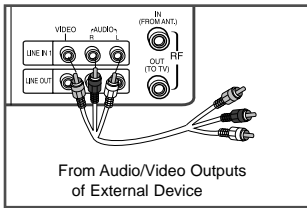
You can connect a wide variety of audio/video equipment to your DVD-VCR, including:

- An additional VCR
- Laser Disc Player
- DVD Player
- Camcorder
- Satellite Receiver
- Video Game

Since all of these devices use essentially the same connections, they will be described together.

### 1 Connect Device to DVD-VCR

Connect RCA cables from the Audio and Video Line Outputs of your external device to the Line1 (rear panel inputs) or Line2 (front panel inputs)



### 2 Play Device

Play your external device, then press the INPUT SEL. button until the playback from Line1 (rear panel inputs) or Line2 (front panel inputs) appears on your TV screen.

### 3 Record Device

Press Record on the Front panel and Remote Control.

### 4 Timer Record From Device

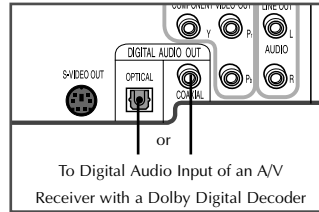
Select Line1 (L1) or Line2 (L2) as your record source in the Timer Record menu. (See page 32)  
All other Timer Record settings should be set in the usual manner.

## A/V Receiver Connections

To take full advantage of the movie theater experience that DVD offers, you may want to connect your DVD-VCR to a complete Surround Sound system, including an A/V Receiver and six Surround Sound speakers.

Before You Begin...

- If your A/V receiver is equipped with a Dolby Digital Decoder, you have the option to bypass the DVD-VCR's built-in Dolby Digital Decoder. Use the Digital Audio Out connection below.



### 1 Digital Audio Out

Connect a digital coaxial cable or an optical cable from the Digital Audio Out jack on the rear panel of the DVD-VCR to the corresponding Digital Audio Input jack on your A/V Receiver:

- Optical
- Coaxial
- Use whichever connection is available on your A/V Receiver.

## Deck Control Buttons

The DVD-VCR uses one set of controls to operate both decks. The following buttons are helpful in successfully controlling each deck.

- 1 POWER Button**  
Press the POWER button on the remote control or front panel to turn on the DVD-VCR.
- 2 DVD Button**  
Press the DVD button on the remote control or DVD-VCR button on the front panel when you want to control the DVD deck.
  - The DVD indicator will light on the Front Panel Display to show that the DVD deck is selected.
- 3 VCR Button**  
Press the VCR button on the remote control or DVD-VCR button on the front panel when you want to control the VCR deck.
  - The VCR indicator will light on the Front Panel Display to show that the VHS deck is selected.
- 4 INPUT SEL. Button**  
Press the INPUT SEL. button on the remote control repeatedly to cycle through all of your input sources, including the Tuner(Ch##), Line 1 (rear AV input), and Line 2 (front AV input).
  - Input selection is only available when the VCR deck is selected.

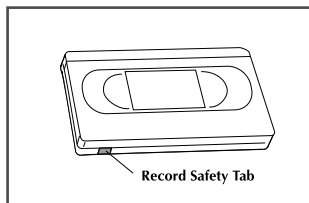
## Basic DVD Operation

Follow the instructions below to playback a DVD.

- 1 Open the Disc Tray**  
Press the OPEN/CLOSE button on your remote control or on the front panel of the unit to turn on the power and open the disc tray.
- 2 Insert a Disc**  
Put a disc in the center of the tray, with the label-printed side facing up.
- 3 Close the Disc Tray**  
Press the OPEN/CLOSE button on your remote control or on the front panel of the unit to close the disc tray.
- 4 Play a DVD**  
Press the ►II(PLAY/PAUSE) button on your remote control or on the front panel of the unit.
  - Most discs will start to playback as soon as the tray closes.
  - If a DVD has a MENU, the menu may pop up on TV screen.
- 5 Additional DVD Options**
  - See pages 16 ~ 21 for advanced DVD Setup options.
  - See page 22 for special DVD Playback features.

## Basic VCR Operation

To play a standard VHS videotape, just insert it into the VCR deck and press the PLAY button. You can turn on the Auto Play to enable the VCR deck to play automatically when you insert a videotape that is missing the Record Safety Tab. See page 29.



- 1 Insert VHS Tape**  
Insert a standard VHS videotape into the VCR deck.
  - When a videotape is inserted, power will turn on automatically.
- 2 Play Tape**  
Press the ►II(PLAY/PAUSE) button on the remote control or on the front panel of the unit. The videotape will begin to play automatically if it is missing the Record Safety Tab and Auto Play is turned on. See page 29.
- 3 Stop Playback**  
Press the ■(STOP) button on the remote control or on the front panel of the unit.
- 4 Additional VCR Options**
  - See page 28 for special VCR Playback features.
  - See pages 30~32 for VCR Recording features.
  - See page 32 for Timer Recording features.

## Basic TV Tuner Operations

When watching TV using the DVD-VCR's built-in TV tuner, use the buttons below.

### 1 TV/VCR

Press this button to switch between your TV's tuner and the VCR's internal tuner.

- Use this button when you want to watch TV while in recording mode.

### 2 Channel UP/DOWN

Use these buttons to move to the previous or the next channel.

### 3 0-9 Buttons

Use these buttons to select the desired channel directly.

### 4 100 + Buttons

Press this button to tune channels 100 and above. First, press the 100+ button, then use the numeric buttons(0-9) to enter the remaining digits of the channel number desired.

- To activate this button, select Cable TV mode during tuner band setting. (See page 13)

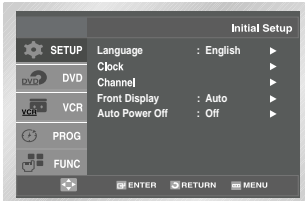
### 5 INFO. Button

Press this button to display the current channel in VCR mode.

- This button also works and provides disc information in DVD mode.

## On-Screen Menu Navigation

The on-screen menus allow you to enable or disable various functions on your DVD-VCR. Use the following buttons to open and navigate through the on-screen menus.



### 1 MENU Button

Press this button while the DVD is in Stop or Play mode to open the on-screen MAIN MENU.

### 2 UP/DOWN and LEFT/RIGHT

Use these buttons to move the selection bar UP/DOWN and LEFT/RIGHT to cycle through the menu options.

### 3 ENTER Button

Press this button to confirm any new settings.

### 4 RETURN Button

Press this button to return to the last MENU screen displayed or to exit the on-screen MENU all together.

## Menu Language

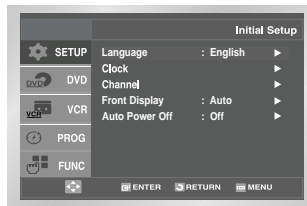
To change the on-screen MENU language to English, French or Spanish, follow these steps.

### 1 Open "MENU"

Press the MENU button while the DVD is in Stop or Play mode.

### 2 Select "SETUP"

Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.



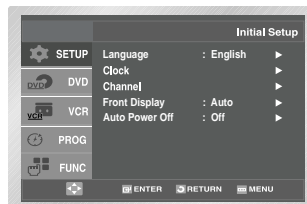
### 3 Select "Language"

Use the UP/DOWN buttons to highlight "Language" then press the ENTER button.



### 4 Set menu Language

Place the selection bar next to your desired Language, then press the ENTER button.

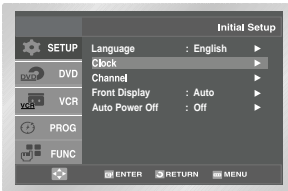


## Manual Clock Set

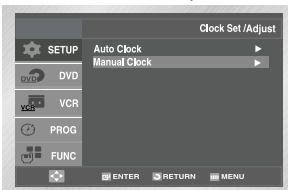
If Auto Setup fails to set the DVD-VCR's internal clock by locating a local TV station, follow these steps to set the date and time manually.

**NOTE:** For accurate Timer Recording, your DVD-VCR's internal clock must be set correctly.

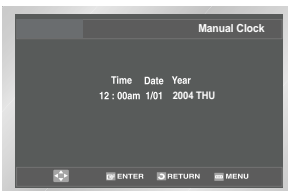
- 1 **Open "MENU"**  
Press the MENU button while the DVD is in Stop or Play mode.
- 2 **Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.
- 3 **Select "Clock"**  
Use the UP/DOWN buttons to highlight "Clock" then press the ENTER button.



- 4 **Select "Manual Clock"**  
Move the highlight to "Manual Clock", then press the ENTER button.
  - The Clock Set/Adjust menu will change as shown.



- 5 **Set the Clock**  
Use the LEFT/RIGHT buttons to select each of the following options, then use the UP/DOWN buttons to set each option:
  - **Hour** – Set the hour
  - **Minute** – Set the minute.
  - **Month** – Set the month.
  - **Day** – Set the day.
  - **Year** – Set the year



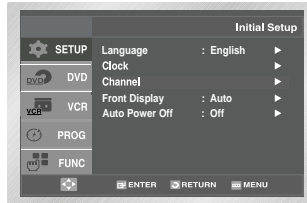
- 6 **Confirm Settings**  
Press the ENTER or RETURN button to confirm your clock settings and to return to the Clock Set/Adjust.
  - Press the RETURN button three times to exit the menu.

## Tuner Band Setting

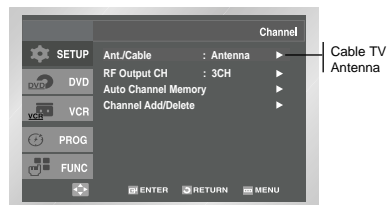
This feature allows you to manually set the DVD-VCR's tuner band to Antenna or Cable, whichever you connected to the Antenna In jack during initial setup.

- Use this setting only if Auto Setup detected the incorrect tuner band, i.e. channels are coming in on the wrong channel numbers.

- 1 **Open "MENU"**  
With the DVD in Stop or Play mode, press the MENU button.
- 2 **Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.
- 3 **Select "Channel"**  
Using the UP/DOWN buttons, move the selection bar to "Channel", then press ENTER to select.



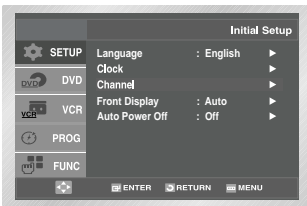
- 4 **Select "Ant./Cable"**  
Move the selection arrow to "Ant./Cable" then press RIGHT button to select from the following options:
  - Antenna - Select this if the DVD-VCR is connected to an indoor or outdoor VHF/UHF antenna.
  - Cable TV - Select this if the DVD-VCR is connected to Cable TV.



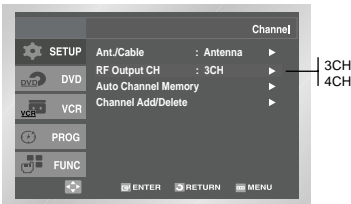
## RF Output Channel

Use this feature if DVD-VCR is connected to TV using RF antenna cable.

- 1 Open "MENU"**  
With the DVD in Stop or Play mode, press the MENU button.
- 2 Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "Setup" then press ENTER to select.
- 3 Select "Channel"**  
Using the UP/DOWN buttons, move the selection bar to "Channel," then press ENTER to select.



- 4 Select "RF Output CH"**  
Move the selection bar to "RF Output CH", then press right to change.

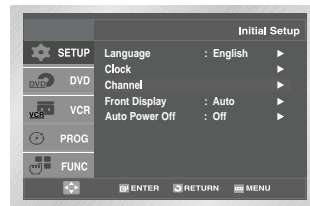


- 5 Change "RF Output CH"**  
A message will appear on your TV. Then press ENTER to change.
- 6 Change "TV Channel"**  
A message will appear on your TV. When the message disappears, change your TV to channel 3 or 4 to match the RF output channel of the player.

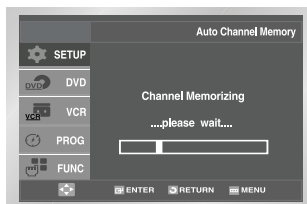
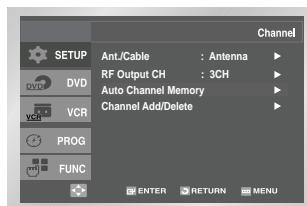
## Auto Channel Memory

Auto Channel Memory will automatically seek and store all active channels in your area.

- 1 Open "MENU"**  
With the DVD in Stop or Play mode, press the MENU button.
- 2 Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.
- 3 Select "Channel"**  
Using the UP/DOWN buttons, move the selection bar to "Channel", then press ENTER to select.



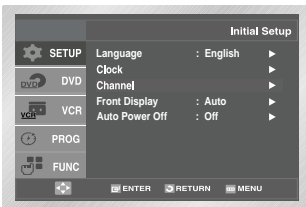
- 4 Run "Auto channel memory"**  
Move the selection arrow to "Auto Channel Memory," then press ENTER to select.
  - The DVD-VCR will automatically search for all available channels in the selected Tuner Band. This procedure may take a few minutes to complete.
  - When finished, the lowest channel found will be displayed.



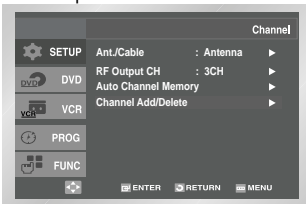
## Channel Add/Delete

Use this feature if Auto Channel Search missed a channel that you would like to add or delete.

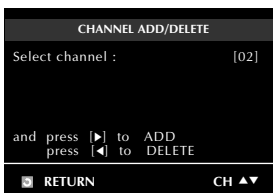
- 1 Open "MENU"**  
With the DVD in Stop or Play mode, press the MENU button.
- 2 Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.
- 3 Select "Channel"**  
Using the UP/DOWN buttons, move the selection bar to "Channel", then press ENTER to select.



- 4 Select "Channel Add/Delete"**  
Move the selection bar to "Channel Add/Delete," then press ENTER to select.



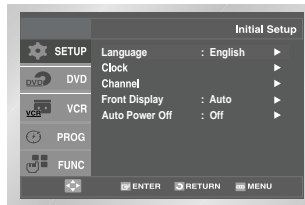
- 5 Select Channel to Add/Delete**  
Use the CH ▲/ ▼ buttons to tune in the channel number you wish to add or delete.
- 6 Select "Channel Add/Delete"**  
Press RIGHT button to add or press left button to delete the channel from your channel list.
  - Repeat steps 4 and 5 to add or delete additional channels.



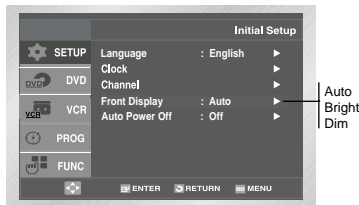
## Front Panel Dimmer

You can set the Front Panel Display to be bright all the time, dim all the time, dim during power off.

- 1 Open "MENU"**  
With the DVD in Stop or Play mode, press the MENU button.
- 2 Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.

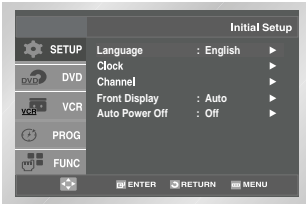


- 3 Set "Front Display"**  
Move the selection bar to "Front Display," then press RIGHT button to select from the following options:
  - Auto – Front Panel Display will dim automatically during power off.
  - Bright – Front Panel Display will be bright all the time.
  - Dim – Front Panel Display will be dim all the time.

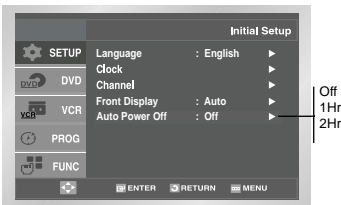


## Auto Power Off

- 1 **Open "MENU"**  
With the DVD in Stop or Play mode, press the MENU button.
- 2 **Select "SETUP"**  
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.



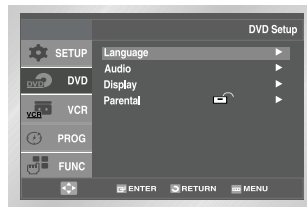
- 3 **Set "Auto Power Off"**  
Move the selection bar to "Auto Power Off", then press RIGHT button to select from following options:
  - Off – Auto power off is disabled.
  - 1Hr – DVD-VCR will auto shut off 1 hour after the last button is pressed.
  - 2Hr – DVD-VCR will auto shut off 2 hours after the last button is pressed.



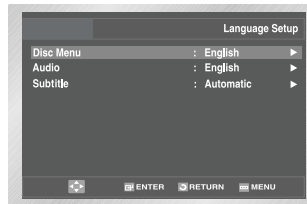
## Disc Menu Language

*To set the Disc Menu Language to your preferred language, follow these steps. If your preferred language is available on a DVD, your Disc Menu Language will automatically be set to the language you choose.*

- 1 **Open "MENU"**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select "DVD"**  
Use the UP/DOWN buttons to highlight "DVD", then press the ENTER button.
- 3 **Select "Language"**  
Move the selection bar to "Language" then press ENTER to select.



- 4 **Select "Disc Menu"**  
Highlight "Disc Menu", then press the ENTER button.



- 5 **Set "Disc Menu Language" Preference**  
Highlight your preferred language for disc menus, then press the ENTER button.





## Audio Language

To set the Audio Language to your preferred language, follow these steps. If your preferred language is available on a DVD, your Audio Language will automatically be set to the language you choose.

- 1 **Open “MENU”**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select “DVD”**  
Use the UP/DOWN buttons to highlight “DVD” then press the ENTER button.
- 3 **Select “Language”**  
Move the selection bar to “Language” then press ENTER to select.



- 4 **Select “Audio”**  
Highlight “Audio,” then press the ENTER button.



- 5 **Set “Audio Language” Preference**  
Highlight your preferred language for audio soundtracks, then press the ENTER button.



## Subtitle Language

To set the Subtitle Language to your preferred language, follow these steps. If your preferred language is available on a DVD, your Subtitle Language will automatically be set to the language you choose.

- 1 **Open “MENU”**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select “DVD”**  
Use the UP/DOWN buttons to highlight “DVD” then press the ENTER button.
- 3 **Select “Language”**  
Move the selection bar to “Language” then press ENTER to select.



- 4 **Select “Subtitle”**  
Highlight “Subtitle”, then press the ENTER button.



- 5 **Set “Subtitle Language” Preference**  
Highlight your preferred language for subtitles, then press the ENTER button.

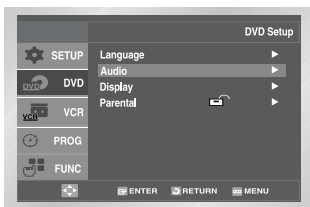


## Digital Output

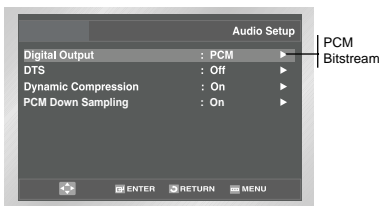
If your A/V receiver is equipped with a Dolby Digital decoder, your DVD-VCR can output Dolby Digital 5.1 sound, but you **MUST** enable this feature in the menu system to prevent damage to your speakers.

**NOTE:** Select “Bitstream” **ONLY** if you have connected a Dolby Digital-equipped A/V receiver to the Digital Output (coaxial) on the DVD-VCR rear panel.

- 1 **Open “MENU”**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select “DVD”**  
Use the UP/DOWN buttons to highlight “DVD” then press the ENTER button.
- 3 **Select “Audio”**  
Highlight “Audio”, then press the ENTER button.



- 4 **Set “Digital Output”**  
Highlight “Digital Output” then press the RIGHT button to select one of the following options:
  - PCM – To use your DVD with an A/V receiver without a Dolby Digital decoder.
  - Bitstream – To use your DVD with an A/V receiver with a Dolby Digital decoder.



## DTS

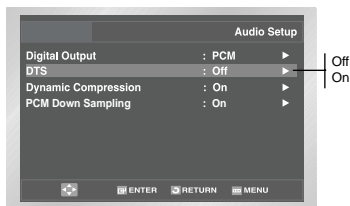
If your A/V receiver is equipped with a DTS decoder, your DVD-VCR can output DTS digital sound, but you **MUST** enable this feature in the menu system.

**NOTE:** Select “On” **ONLY** if you have connected a DTS-equipped A/V receiver to the Digital audio Out (coaxial) on the DVD-VCR rear panel.

- 1 **Open “MENU”**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select “DVD”**  
Use the UP/DOWN buttons to highlight “DVD” then press the ENTER button.
- 3 **Select “Audio”**  
Highlight “Audio”, then press the ENTER button.



- 4 **Set “DTS”**  
Highlight “DTS” then press the RIGHT button to select one of the following options:
  - Off – To use your DVD with an A/V receiver NOT equipped with a DTS decoder.
  - On – To use your DVD with an A/V receiver equipped with a DTS decoder



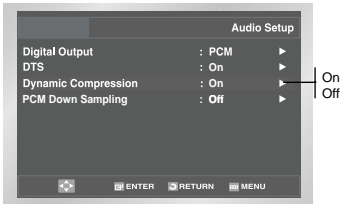
## Dynamic Compression

*Dynamic Compression restrains the dynamic range of sounds, i.e. the difference between the loud and quiet passages of a DVD audio track.*

- 1 **Open “MENU”**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select “DVD”**  
Use the UP/DOWN buttons to highlight “DVD” then press the ENTER button.
- 3 **Select “Audio”**  
Highlight “Audio”, then press the ENTER button.



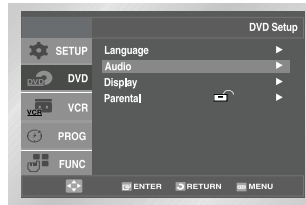
- 4 **Set “Dynamic Compression”**  
Highlight “Dynamic Compression”, then press the RIGHT button to select one of the following options:
  - On – This will compress the total dynamic range of the DVD audio, making quiet passages in the audio signal louder and loud passages softer.
  - Off – This will preserve the original dynamic range.



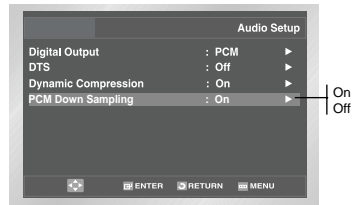
## PCM Down Sampling

*If your amplifier is not capable of reproducing a 96kHz signal, PCM downsampling should be set to on.*

- 1 **Open “MENU”**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select “DVD”**  
Use the UP/DOWN buttons to highlight “DVD” then press the ENTER button.
- 3 **Select “Audio”**  
Highlight “Audio”, then press the ENTER button.



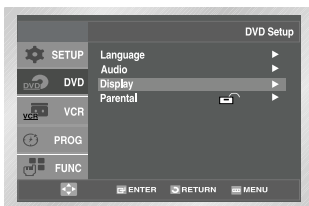
- 4 **Set “PCM Down Sampling”**  
Highlight “PCM Down Sampling”, then press the RIGHT button to select one of the following options:
  - On – When a 96K audio disc is played, 96K will be downsampled to 48K and outputted.
  - Off – When a 96K disc is played, 96K will be outputted.



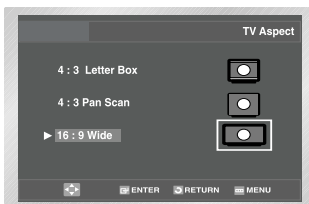
## TV Aspect Ratio

Set the aspect ratio (length x width) of your TV screen so the DVD player will display movies at the appropriate size for your television. Choose from standard, letterbox, or widescreen format.

- 1 **Open "MENU"**  
Press the MENU button while the DVD is in Stop mode.
- 2 **Select "DVD"**  
Use the UP/DOWN buttons to highlight "DVD" then press the ENTER button.
- 3 **Select "Display"**  
Highlight "Display", then press the ENTER button.



- 4 **Set "TV Aspect"**  
Highlight "TV Aspect" then press the RIGHT button to select one of the following options:
  - Widescreen - This method allows you to view the full 16:9 picture on a widescreen television.
  - Letterbox - This method displays the full width of the widescreen movie on a standard 4:3 television. As a result, black bars will appear at the top and bottom of the screen.
  - Pan-Scan - The familiar way of watching DVD and VHS movies, this method selectively crops (by panning and scanning to keep the most important part of the picture visible) wide screen movies to fit a standard 4:3 television screen.



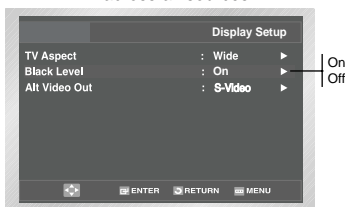
## Black Level

The Black Level feature adjusts the reference level of black in the video signal to one of two choices:

- Off - Standard NTSC black level. Yields consistent contrast through all sources.
  - On - Enhanced black level, for increased contrast during DVD playback.
- 1 **Open "MENU"**  
Press the MENU button while the DVD is in Stop mode.
  - 2 **Select "DVD"**  
Use the UP/DOWN buttons to highlight "DVD" then press the ENTER button.
  - 3 **Select "Display"**  
Highlight "Display", then press the ENTER button.



- 4 **Set "Black Level"**  
Highlight "Black Level," then press the RIGHT button to select one of the following options:
  - On - This will enhance the Black Level for increased brightness/contrast when viewing DVDs.
  - Off - This is the Standard NTSC reference Black Level for consistent brightness/contrast across all sources.



## Alt Video Out

The "Alt Video Out" option must be set in the on-screen menu if you have connected your DVD-VCR to a TV using the S-VIDEO OUT or COMPONENT VIDEO OUT jacks.

- Use the S-Video or Component Video connection method only for the DVD player. The tuner and VCR can still be viewed through the RF or line outputs.

## Alt Video Out

### 1 Open "MENU"

Press the MENU button while the DVD is in Stop mode.

### 2 Select "DVD"

Use the UP/DOWN buttons to highlight "DVD," then press the ENTER button.

### 3 Select "Display"

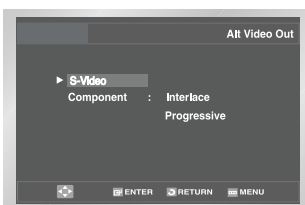
Highlight "Display", then press the ENTER button.



### 4 Set "Alt Video Out"

Highlight "Alt Video Out," then press the RIGHT button to select one of the following options:

- S-Video - Select this if you are using the S-Video OUT jack on the rear panel to connect to a TV.
- Component - Select this if you are using the COMPONENT VIDEO OUT jacks on the rear panel to connect to a Progressive(480p) or Interlaced (480i) TV.
- See your TV owner's manual to determine what type of TV you have.
  - Interlace : Interlaced Scan mode will work.
  - Progressive : Progressive Scan mode will work, and Video and S-Video will not work.
- Press the PROGRESSIVE button on the front panel in stop mode if you have a Progressive scan TV only. Otherwise, the picture will be disturbed.



## Parental

*Rating Control is a password protected system that allows you to block playback of DVDs based on their content. The system uses an eight level rating system.*

- If you try to play a DVD that exceeds the selected rating, an error message will appear.
- Not all discs are rated.

### 1 Open "MENU"

Press the MENU button while the DVD is in Stop mode.

### 2 Select "DVD"

Use the UP/DOWN buttons to highlight "DVD " then press the ENTER button.

### 3 Select "Parental"

Highlight "Parental", then press the ENTER button.



### 4 Select "Use Password"

Press the RIGHT button to select one of the following options:

- No - No password is necessary to view a DVD or to change the Rating Level. No additional settings are necessary.
- Yes - A password is necessary to view a DVD and to view the Rating Level. The menu will change as shown.

#### NOTES:

- The first time "Use Password" is set to "No," you will be prompted to enter a new password.
- If the "Enter Password" screen appears, then "Use Password" has already been set to "Yes." Please skip to Step 6.
- There is no default password.

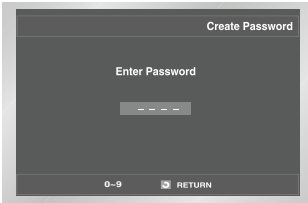


## Parental

### 5 Enter Password

Use the numeric buttons (0-9) on the remote control to enter the 4-digit password.

- Write your password down, and keep it in a safe place in case you need to change your settings later.



### 6 Select "Rating Level"

Move the selection bar to "Rating Level," then press ENTER to select.



### 7 Change Rating Level

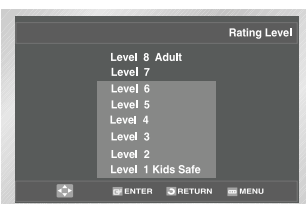
Use the UP/DOWN buttons to select one of the following ratings:

- Level 8 Adult
- Level 7
- Level 6
- Level 5
- Level 4
- Level 3
- Level 2
- Level 1 Kids Safe

All ratings above the level you select will also be blocked, e.g., if you select Level 6, then Levels 7 and 8 will also be blocked.

Press Enter to confirm your selection.

- If you forgot your password, press power on from a cold start with no disc in the unit. Press the REW and F.F buttons simultaneously on the front panel for 5 seconds. The "Reset Ok" message will appear. Press the POWER button.



## Special Playback Features

*During DVD/CD playback you can select from the following special playback options. To resume normal playback, press the ►II(PLAY/PAUSE) button.*

### 1 PAUSE

Press the ►II(PLAY/PAUSE) button on the remote control during playback.

- The picture will pause and the audio will mute.
- To resume playback, press the ►II(PLAY/PAUSE) button.
- If the player is left in Pause mode for 5 minutes, it will stop automatically.

### 2 Frame Advance (Step)

While in PAUSE mode, press the F.ADV/SKIP button on the remote control to advance one frame at a time.

- Audio is muted during Frame Advance mode.
- Press ►II(PLAY/PAUSE) to resume normal playback.

NOTE: Frame Advance operates only in the forward direction.

### 3 Skip Forward/Back

While a CD or DVD disc is in Play mode, press the SKIP FORWARD/BACK (►I / I◀◀) buttons on the remote control or front panel to jump forward and backward through disc chapters/tracks.

- Skip Forward will jump to the next chapter/track.
- Skip Back will jump to the beginning of the current chapter/track.
- Press Skip Back again to jump to the beginning of the previous chapter/track.

### Search Forward/Back

While a disc is in Play mode, press and hold the FORWARD/BACK (►► / ◀◀) buttons on the remote control or front panel to visually search forward/backward at 2X - 8X - 32X - 128X speed. Press ►II(PLAY/PAUSE) button to resume normal speed.

NOTE: CD search speed - 2X, 4X, 8X

### 4 Slow Motion

During playback, press the ►II(PLAY/PAUSE) button to pause the image. Press and hold the Search FORWARD (►►) to play in slow motion at variable speeds.

- Press and hold the FORWARD(►►) button on the remote and front panel to increase the speed from normal playback to 1/8, 1/4 or 1/2 speed.
- Audio is muted during slow motion playback.
- Press the ►II(PLAY/PAUSE) button to resume normal playback.

NOTE: • Slow function is not available for CD.

- Slow motion operates only in the forward direction

## Special Playback Features

### 5 Stop/Resume

- Press the STOP button once to stop playback. To resume the DVD/CD from the point where the disc stopped, press the ►II (PLAY/PAUSE) button.
- Press the ■ (STOP) button twice to completely stop playback. The next time you press ►II (PLAY/PAUSE), the disc will start over from the beginning.

## Disc Menu Navigation

Many DVDs feature their own menu systems, where you can select Titles, Chapters, Audio Tracks, Subtitles, and special disc features, such as movie trailers, and information on the cast. Use these buttons to make selections in the Disc menus.

### 1 DISC Menu

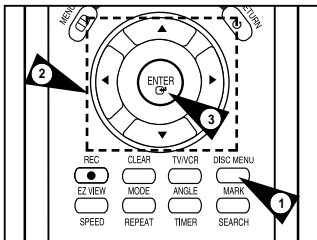
Press to access the DVD's Disc menu, if applicable.

### 2 Press UP/DOWN and LEFT/RIGHT to navigate through DVD's Disc menu options.

- Press UP/DOWN and LEFT/RIGHT to highlight menu choices.

### 3 ENTER Button

Press to make your selections in the Disc menu.



## EZ View

### 1 Press the EZ VIEW button on the front panel.

- The screen size changes when the button is pressed repeatedly.
- The screen zoom mode operates differently depending on the screen setting in the initial setup menu.
- To ensure correct operation of the EZ VIEW button, you should set the correct aspect ratio in the initial setup. (See the page 20)

### 2 If you are using a 16:9 TV

#### - For 16:9 aspect ratio discs

##### • Wide Screen

Displays the content of the DVD title in 16:9 aspect ratio.

##### • Screen Fit

The top and bottom of the screen are cut off. When playing a 2.35:1 aspect ratio disc, the black bars at the top and bottom of the screen will disappear. The picture will look vertically stretched. (Depending on the type of disc, the black bars may not disappear completely.)

##### • Zoom Fit

The top, bottom, left and right of the screen are cut off and the central portion of the screen is enlarged.



#### - For 4:3 aspect ratio discs

##### • Normal Wide

Displays the content of the DVD title in 16:9 aspect ratio.

The picture will look horizontally stretched.

## EZ View

- **Screen Fit**

The top and bottom of the screen are cut off and the full screen appears. The picture will look vertically stretched.

- **Zoom Fit**

The top, bottom, left and right of the screen are cut off and the central portion of the screen is enlarged.

- **Vertical Fit**

When a 4:3 DVD is viewed on a 16:9 TV, black bars will appear at the left and right of the screen in order to prevent the picture from looking horizontally stretched.

### 3 If you are using a 4:3 TV

- **For 16:9 aspect ratio discs**

- **4:3 Letter Box**

Displays the content of the DVD title in 16:9 aspect ratio.

The black bars will appear at the top and bottom of the screen.

- **4:3 Pan Scan**

The left and right of the screen are cut off and displays the central portion of the 16:9 screen.

- **Screen Fit**

The top and bottom of the screen are cut off and the full screen appears. The picture will look vertically stretched.

- **Zoom Fit**

When a 4:3 DVD is viewed on a 16:9 TV, black bars will appear at the left and right of the screen in order to prevent the picture from looking horizontally stretched.

- **For 4:3 aspect ratio discs**

- **Normal Screen**

Displays the content of the DVD title in 4:3 aspect ratio.

- **Screen Fit**

The top and bottom of the screen are cut off and the full screen appears. The picture would look vertically stretched.

- **Zoom Fit**

The top, bottom, left and right of the screen are cut off and the central portion of the screen is enlarged.

➤ This function may behave differently depending on the type of disc.

## Title/Chapter/Time Selection

*To view the current Title, Chapter/Track, and counter position, press the INFO. button during playback. The Information screen can also be used to quickly choose a title, chapter/track, or playing time.*

### 1 View the Display

During DVD/VCD/CD playback, press the INFO. button on the remote control.

### 2 Select title

Use the UP/DOWN and LEFT/RIGHT buttons or numeric buttons to select Title, then press the ENTER buttons to change among all available titles on the disc.



### 3 Select Chapter or Track

Use the UP/DOWN and LEFT/RIGHT buttons or numeric buttons to select Chapter or Track, then press the ENTER button to change among all available Chapters/Tracks on the disc.



### 4 Select Counter Position


Use the UP/DOWN button to select the counter position indicator, then use the numeric buttons (0-9) to enter the desired counter position in the format H:MM:SS (H = Hours, M = Minutes, S = Seconds). Then press the ENTER button to enter the desired counter position.








## Title/Chapter/Time Selection


- To make the screen disappear, press the INFO button again.

 **Title** To access the desired title when there is more than one in the disc. For example, if there is more than one movie on a DVD, each movie will be identified.

 **Chapter** Most DVD discs are recorded in chapters so that you can quickly find a specific passage.

 **Time** Allows playback of the film from a desired time. You must enter the starting time as a reference.

 **Audio** Refers to the language of the film soundtrack. In the example, the soundtrack is played in English 5.1CH. A DVD disc can have up to eight different soundtracks.

 **Subtitle** Refers to the subtitle languages available in the disc. You will be able to choose the subtitles language or, if you prefer, turn them off from the screen. A DVD disc can have up to 32 different subtitles.

- *When in VCD 2.0 mode (MENU ON), this function dose not work. Use the DISC MENU button in VCD 2.0 mode to select MENU ON or OFF.*

## Angle View



*Some DVD Movies provide you with various camera angle views on the same scene while they are playing. To activate the feature press the ANGLE Button.*

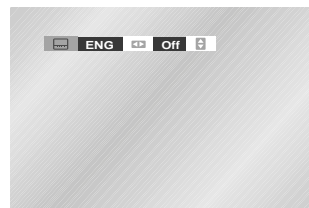
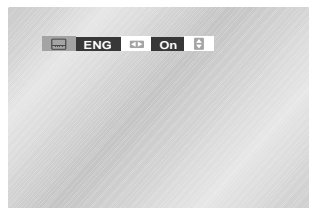
- 1 Check for the Angle Icon**  
If the DVD contains a Multi Angle function, the Angle icon will appear at upper right hand of the screen.
- 2 View Angle Menu Options**  
When the Angle Icon comes up on the screen press the ANGLE button to see the Angle menu.
- 3 Select an Angle option**  
Press the ◀/ ▶ buttons to select a camera angle you wish to see.



## Subtitle

*Some DVDs provide subtitles in one or more languages. You can use the SUBTITLE button to quickly view and change settings.*

- 1 Open Subtitle Menu**  
During playback, press the SUBTITLE button.
- 2 Set Subtitle Language**  
Use the LEFT/RIGHT buttons to select from the available subtitle languages.
  - Subtitle languages are represented by abbreviations.
- 3 Activate Subtitles**  
Use the UP/DOWN buttons to turn On or Off subtitles.
  - The default is "On".
  - To make the screen disappear, press the SUBTITLE button again.



## A to B Repeat

*A to B Repeat feature enables you to repeat the designated section on a DVD, VCD or CD. To activate, mark where to start(A) and where to end(B) of the section you want to watch.*

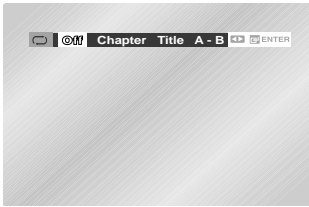
### 1 Select A-B Repeat Function

Press the REPEAT button while in Play mode, then use the Left/Right buttons to select A-B Repeat.

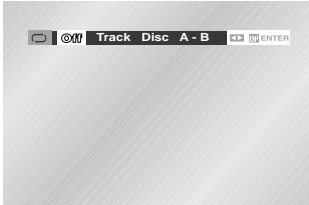
- When you select A-B Repeat, "A-" will be highlighted.

NOTE: The menu will display "Track" in place of "Chapter" if you are playing a CD.

DVD



VCD/CD



### 2 Mark the Starting Point

Press the ENTER button at the beginning of the segment you want to repeat (Point A).

- Once you select Point "A", "B" will be highlighted.

NOTE: The minimum A -B Repeat time is 5 seconds.

### 3 Mark the Ending Point

Press the ENTER button again at the end of the segment you want to repeat (Point B).

- The segment will begin repeating in a continuous loop.

### 4 Cancel A-B Repeat

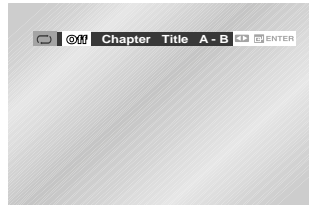
Press the REPEAT button to open the Repeat Menu, use the LEFT/RIGHT buttons to highlight "Off," then press the ENTER button.

➤ *When in VCD 2.0 mode (MENU ON), this function dose not work.*

## Repeat Chapter/Title

*You can repeat a single chapter or a complete title.*

DVD



### 1 Open Repeat Menu

Press the REPEAT button while in Play mode to open the Repeat menu.

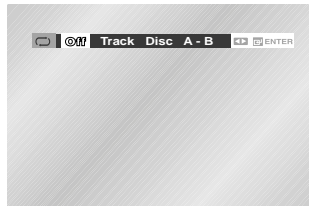
- The current Repeat mode will be highlighted.

### 2 Select "Chapter / Title"

Use the LEFT/RIGHT buttons to select "Chapter/ Title". Then press the ENTER button to repeat the current Chapter/ Title

*The menu will display "Track/Disc" in place of "Chapter/Title" if you are playing a VCD/CD*

VCD/CD



### 1 Open Repeat Menu

Press the REPEAT button while in Play mode to open the Repeat menu.

- The current Repeat mode will be highlighted.

### 2 Repeat Track

Use the LEFT/RIGHT buttons to select "Track/ Disc". Then press the ENTER button to repeat the current Track/ Disc.

## Audio

Multiple audio language setup options, such as Dolby Digital 5.1, Dolby Pro Logic, or LPCM 2 Channel audio, are available on some DVDs. You can use the AUDIO button to quickly view and select the options available on a disc.

### 1 Open the Audio Menu

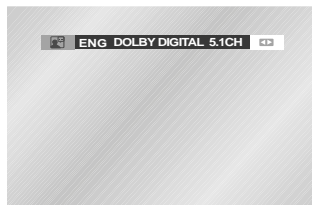
During playback, press the AUDIO button on the remote control.

### 2 Select DVD Audio Track

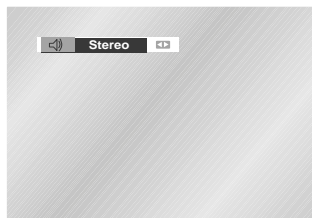
Use the LEFT/RIGHT buttons to select the desired audio language setup on the DVD.

- Languages are represented by abbreviations, e.g. "ENG" for "English."

#### DVD



#### VCD/CD



## Bookmarks

Up to three Bookmarks can be inserted for a given DVD or VCD allowing you to quickly jump to your favorite scene.

### 1 Open Bookmark Menu

During playback, press the MARK button on the remote control.

The "MARK" header will be displayed on the screen.

### 2 Select Bookmark Placeholder

Use the LEFT/RIGHT buttons to move to one of the three bookmark placeholders (- - -).

- The selected placeholder will be highlighted.

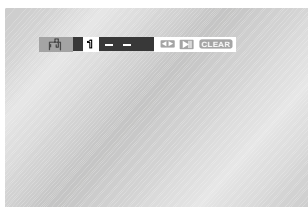
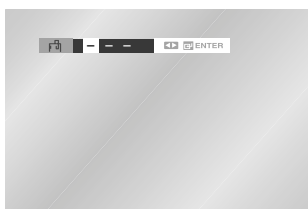
### 3 Set the Bookmark

Keep on playing the DVD up to the scene you want to bookmark, then press the ENTER button. The placeholder (- - -) will change to a number (1, 2 or 3).

- You may continue to set up to three bookmarks.
- Press the MARK button when complete.
- Depending on the disc, the bookmark function may not work.

### 4 Play Bookmark

- During playback, press the MARK button on the remote control.
- Use the LEFT/RIGHT buttons to move to a previously set bookmark.
- Press the ►|| (PLAY/PAUSE) button to play the bookmark.
- Press the CLEAR button to cancel the bookmark.
- Press the MARK button again to exit the Bookmark menu.



➤ When in VCD 2.0 mode (MENU ON), this function dose not work.

## Function (DVD)

Use this feature to check your DVD.

### 1 Open "MENU"

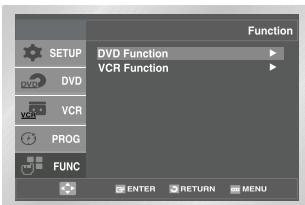
With the DVD in Play mode, press the MENU button.

### 2 Select "FUNCTION"

Use the UP/DOWN buttons to highlight "FUNCTION" then press the ENTER button.

### 3 Select "DVD Function"

Using the UP/DOWN buttons to highlight "DVD Function" then press ENTER to select.



### 4 Select "Title Menu"

Highlight "Title Menu", then press the ENTER button.

#### - Disc Menu

Highlight "Disc Menu", then press the ENTER button.

#### - Information

Highlight "Information", then press the ENTER button.

#### - Zoom

Highlight "Zoom", then press the ENTER button.

#### - Bookmark

Highlight "Bookmark", then press the ENTER button.

#### - Repeat

Highlight "Repeat", then press the ENTER button.

#### - EZ View

Highlight "EZ View", then press the ENTER button.



## Special VCR Playback Features

While a videotape is playing, you can enjoy a variety of special playback features, including Still, Frame Advance, Skip, Repeat, and more. Press the Play button again to resume normal playback.

### 1 Pause

In Play mode, press ►II (PLAY/PAUSE) to still a single frame.

### 2 Frame Advance

In the pause mode, press F.ADV/SKIP to advance to the next frame.

### 3 Fps/Review

In Play mode, press FORWARD (►►) or REWIND (◄◄) to Cue/Review at two speeds:

- Picture Search — Press and release to advance the tape forward or backward at 5 times normal speed.
- Jet Search — Press and hold to advance the tape forward or backward at 7 times normal speed.

### 4 Skip

In Play mode, press F.ADV/SKIP to cue ahead exactly 30 seconds. Press F.ADV/SKIP repeatedly up to 4 times to cue ahead 2 minutes.

### 5 Repeat

- In Play mode, press Repeat to review the last 5 seconds of tape (SP mode).
- In Play mode, press Repeat to review the last 15 seconds of tape (SLP mode).

### 6 Shuttle

In Play mode, Shuttle >> gradually increases the cue speed: Double Speed playback - Picture Search - Jet Search. Shuttle << gradually slows down speed: Slow mode - Still mode - Reverse Picture Search - Reverse Jet Search.



Press the INFO. button to see the current status of the VCR deck, as well as the tape counter position and record speed.

## Tracking

The Tracking adjustment removes the white lines that sometimes appear during playback because of slight differences in recording decks. The TRK button will automatically align the recorded tracks with the playback heads to solve this problem. You may also set tracking manually.

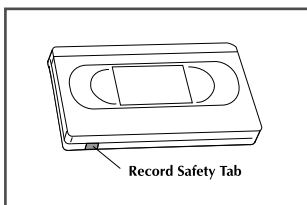
### 1 Adjust Tracking Manually

During playback, press the CH/TRK  $\wedge$  /  $\vee$  buttons to remove white lines from the picture.

## Auto Play

If you want your videotapes to play automatically when you insert them, turn on Auto Play.

**NOTE:** Only tapes that are missing the Record Safety Tab will play automatically when inserted.



### 1 Open the "MENU"

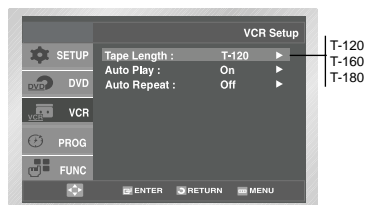
With the VCR in Stop or Play mode, press the MENU button.

### 2 Select "VCR"

Using the UP/DOWN buttons, move the selection bar to "VCR" then press ENTER to select.

### 3 Select "Tape Length"

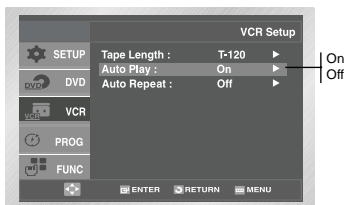
Press the RIGHT button to select the Tape Length. This information is usually printed on the tape box. The menu cycles through: T-120, T-160 or T-180. Once the type of cassette is set, the VCR can display the amount of time remaining on the tape when you press the INFO. button.



### 4 Select "Auto Play"

Move the selection bar to "Auto Play," then press right button to select from the following options:

- On - The VCR will automatically begin playing a video tape when it is inserted, as long as the safety tab of the cassette has been removed.
- Off - Auto play is disabled.



### 5 Select "Auto Repeat"

Move the selection bar to "Auto Repeat". It sets the VCR to play a tape repeatedly [unless a tape control is activated (stop, fast forward or rewind)].



## S-VHS Playback

The DVD-VCR allows you to playback high quality S-VHS tapes.

### 1 Insert a S-VHS Tape

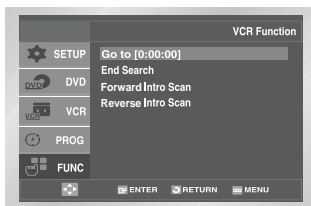
Insert an S-VHS tape into the VCR deck.

### 2 Start Playback

Press  $\blacktriangleright$ II (PLAY/PAUSE) on the remote control to begin playback of the S-VHS tape.

## Variable Search System

When a program is recorded, the starting point is given an Index mark for easy location. However, the VHS Index Search System (VISS) cannot recognize index marks made by old VCRs. If the VCR has trouble finding a mark, it is probably because the cassette was recorded on a VCR without VISS. If you want to index two programs in a row, set your VCR to stop, then start recording each program.



### Go to [0:00:00] stop

Use this feature when you want to search for [0:00:00] counter position on a cassette. Press the CLEAR button at the point where you want to set the counter to [0:00:00].

1. Press the SEARCH button to display the search screen.
2. Use the UP/DOWN buttons to select Go to [0:00:00] and press ENTER or RIGHT button.
3. The VCR will rewind or fast forward, searching for the [0:00:00] counter position, and then automatically stop at that position.

### End search

Use this feature when you want to search for a blank position to record a program.

1. Press the SEARCH button to display the search screen.
2. Use the UP/DOWN buttons to select End Search and press ENTER or RIGHT button.
3. The VCR will fast forward, searching for a blank position and then automatically stop at that position.

### Intro Scan(Forward/Reverse)

Use this feature when you don't know exactly where a recorded program is located on a cassette tape.

1. Press the SEARCH button to display the search screen.
2. Use the UP/DOWN buttons to select Forward/Reverse Intro Scan and press ENTER or RIGHT button.
3. When an index mark is found, DVD – VCR will playback the tape for 5 seconds, after which it will continue searching for next index mark.
4. If you want to watch from a particular index, simply press ►II.

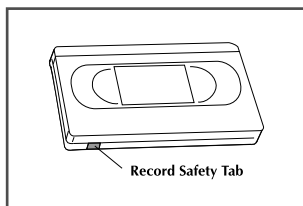
## Basic Recording

You can record a TV show in progress by inserting a blank tape and pressing the ●(REC) button. You can even add time in 30-minute increments up to 4 hours by pressing the ●(REC) button repeatedly; see page 31.

**NOTE:** Be sure your videotape has a Record Safety Tab. If the tab is missing, you can cover the opening with a small piece of tape. **Warning:** Do not cover this opening unless you are sure you want to record over the tape.

Before You Begin...

- Power on the DVD-VCR
- Power on the TV



### 1 Insert Tape

- Insert a blank VHS tape into the VCR deck.
- Make sure the tape is long enough to record the entire program.  
To change the Recording Speed, see page 32.

### 2 Select a Channel to Record

Use the 0–9 buttons or the Channel UP/DOWN arrow buttons to select the desired channel, or press the INPUT SEL. button to select Line 1 or 2 if recording from an external device connected to the front or rear Line inputs, respectively.

### 3 Start Recording

Press the ●(REC) button on the remote control or front panel.

### 4 Pause/Resume Recording

Press the ►II(PLAY/PAUSE) button.  
Press ●(REC) again to resume.

### 5 Stop Recording

Press the ■(STOP) button.  
For options while recording is in progress, see "Special Recording Features".

➤ Recording from the DVD player to the VCR is not possible.

## Special Recording Features

*While a recording is in progress, you can watch a different channel, a DVD, or add recording time in 30-minute increments.*

### 1 To watch a different channel

Make sure that you connect the DVD-VCR to the TV using an RF cable.

- During recording, Press the TV/VCR button on the remote control. Press the TV button to control TV and select a different channel.

### 2 To Watch a DVD

Insert a DVD in the DVD deck and press ►|| (PLAY/PAUSE). The output will automatically change to the DVD.

### 3 To Add Recording Time

See One-Touch Recording (OTR) on the following.

## One-Touch Recording (OTR)

*One-Touch Recording (OTR) allows you to add recording time in 30-minute increments up to 4 hours at the touch of a button.*

### 1 Start Recording

Follow the instructions on page 30 to begin recording.

### 2 Activate OTR

While in Record mode, press the ●(REC) button again to activate One-Touch Recording (OTR).

- Record length 0:30 appears on the On-Screen Display and the DVD-VCR will record for exactly 30 minutes.



### 3 Add Recording Time

Continue pressing ●(REC) to add recording time in 30 minute increments up to 4 hours.

- The DVD-VCR stops recording automatically when the time has elapsed. And DVD-VCR will be Automatically turned off when the OTR finished.



## Record Speed

You can slow down the recording speed from SP to SLP in order to fit six hours of programming on a T-120 tape.

### 1 Start Recording

Follow the Basic Recording instructions on page 30.

### 2 Set Record Speed

Press the SPEED button on the remote control to set the Record Speed to one of the following options:

- SP – Standard Play, for best quality.
- SLP – Super Long Play, for maximum recording time (3 times SP).

NOTE: The selected Record Speed will appear on the front panel display and on-screen display.

### Maximum Recording Time - SP vs. SLP

Tape Length	SP (Standard Play)	SLP (Super Long Play)
T-120	2 hrs	6 hrs
T-160	2hrs 40 mins	8 hrs
T-180	3 hrs	9 hrs

## How to Set a Timer Recording

Insert a blank videotape into the VCR deck. Be sure to leave the Record Safety Tab intact.

With the Timer Recording function, you can program up to 7 events at a time to record up to a month in advance.

To Begin Setting the Timer Recording,

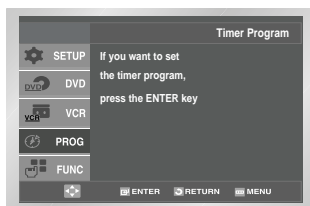
- Turn on your DVD-VCR, and
- Turn on your TV.

### 1 Open "MENU"

Press the MENU button or the TIMER button while the VCR is in Stop or Play mode.

### 2 Select "Program"

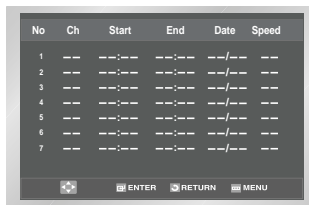
Use the UP/DOWN buttons to highlight "PROGRAM" then press the ENTER button.



## How to Set a Timer Recording

### 3 Select Channel Number

Use the Right and UP/DOWN buttons to set the channel. Press the RIGHT button to move to the next setting.



### 4 Set "Time/Date/Speed"

Repeat Step 3 above to set start time, end time, date and record speed. Date can be set for one time, daily or weekly recording. See below.

### 5 Save "Timer Recording"

Press the RETURN button to finish setting the timer recording. Stop the VCR or turn the power off. Then the VCR will automatically turn on and begin recording at the time you set. To stop the timer recording, press the POWER button or press the ■ (STOP) button twice.

### Auto Speed Select

If the length of the videotape is not long enough for a timer recording in the SP mode, set the recording tape speed to "AUTO". Recording will start in the SP mode. If the length is not long enough, the tape speed will automatically change from SP mode to SLP mode.

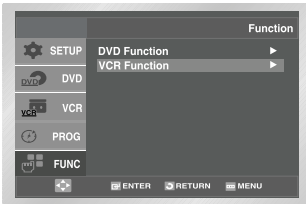
### Daily/Weekly Date Programming

Weekly [Sun's~Sat's]: Use this to record TV programs on the same channel at the same time every week. Daily [MO - FR] : Use this to record TV programs on the same channel at the same time every day Monday through Friday.



## Function (VCR)

- 1 **Open "MENU"**  
In the DVD in Stop or Play mode, press the MENU button.
- 2 **Select "FUNCTION"**  
Use the UP/DOWN buttons to highlight "FUNCTION" then press the ENTER button.
- 3 **Select "VCR Function"**  
Using the UP/DOWN buttons to highlight "VCR Function" then press ENTER to select.



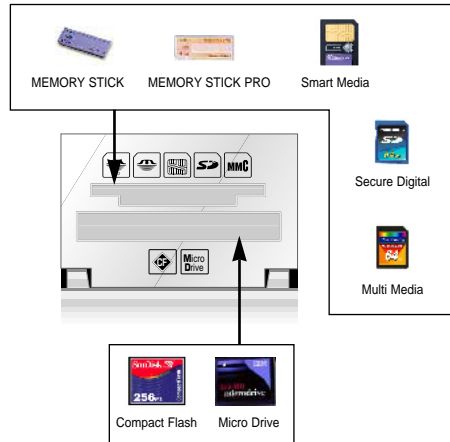
- 4 **Select "Go to [0: 00: 00]"**  
Highlight "Go to [0: 00: 00]", then press the ENTER button.
  - **End Search**  
Highlight "End Search", then press the ENTER button.
  - **Forward Intro Scan**  
Highlight "Forward Intro Scan", then press the ENTER button.
  - **Reverse Intro Scan**  
Highlight "Reverse Intro Scan", then press the ENTER button.



## How to insert a Memory Card

### This unit accepts 7 different types of Memory Cards

Insert the Memory Card correctly with the label facing up, otherwise it may not work.



This device supports 7 types of memory cards : Memory Stick, Memory Stick Pro, SD Card, MMC and Smart Media Card through upper slot and Compact Flash, Micro Drive through below slot.

In case that cards are inserted in two slots, the Compact Flash or Micro Drive in the below slot has a priority. However if memory stick is inserted in upper slot, these may not work.

### Note




- Memory Cards over 2GB use FAT 32, which may be not compatible with this unit.
- If it is not fully inserted, the "Memory Card" will not work.
- If you remove the "Memory Card" during Memory Card operation, the recorded data may become corrupted. It is better to remove it after pressing DVD/M.CARD button to return to DVD/CD Mode.








## Clips Menu for MP3/WMA/JPEG

1. Open the disc tray.
2. Place the disc on the tray.
  - Place the disc with the labeled side up.
3. Close the tray.
  - The tray closes and you should get a screen that looks like the one below.



Parent Folder, Current Folder and Peer Folders      Folders and Files in Current Folder

-  : Name of currently playing file.
-  : Current Playback Time.
-  : Current Playback Mode : There are 4 modes, toggled by the REPEAT button. (During playing a song)
  - Off : Normal Playback
  - Track : Repeats the current track.
  - Folder : Repeats the current folder.
  - Random : Files in the disc will be played in random order.

-  : MP3 file icon.
-  : JPEG file icon.
-  : WMA file icon.
-  : Folder icon.
-  : Current Folder icon.
-  : Disc Mode (  : Memory Card Mode)

## Folder Selection

The folder can only be selected in the Stop mode.

### • To select the Parent Folder

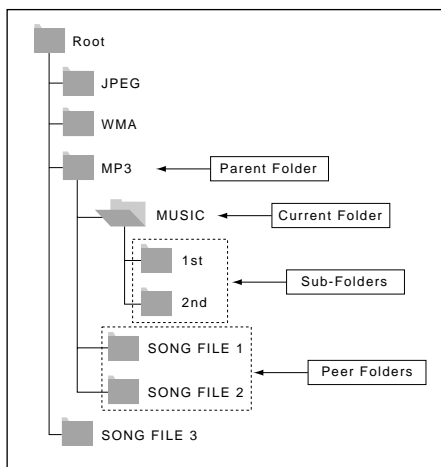
Press the RETURN button to go to parent folder, or use the UP/DOWN buttons to select “..” and press ENTER to go to the parent folder.

### • To select the Peer Folder

Use the LEFT/RIGHT buttons to highlight left window. Use the UP/DOWN buttons to select the desired folder, then press ENTER.

### • To select the Sub-Folder

Use the LEFT/RIGHT buttons to highlight right window. Use the UP/DOWN buttons to select the desired folder, then press ENTER.



## MP3/WMA Play

### When playing a CD-R

1. Open the disc tray.
2. Place the disc on the tray.
  - Place the disc with the labeled side up.
3. Close the tray.
  - The tray closes and you should get a screen that looks like the one below.

### When playing a Memory Card

1. Insert a Memory Card.
2. Press the DVD/M.CARD button on the remote.

### MP3/WMA Play Function

1. Select the desired folder. (See page 34 to select the folder)
2. Use the UP/DOWN or LEFT/RIGHT buttons to select a song file.
3. Press ENTER to begin playback of the song file.



### Repeat/Random playback

Press the REPEAT button to change playback mode. There are 4 modes including Off, Track, Folder and Random.

- Off : Normal Playback
- Track : Repeats the current song file.
- Folder : Repeats the song files which have the same extension in the current folder.
- Random : Song files which have the same extension will be played in random order.

\* To resume normal play, press the CLEAR button.

### Note

- DVD/CD cannot be played in the Memory Card mode. If you push the DVD/M.CARD or OPEN button in M.CARD mode, the system will automatically enter the DVD/CD mode.
- Depending on the recording method, some MP3 CD-Rs may not be replayed.
- When pushing the DVD/M.CARD button to play disc again, the player doesn't remember where you stopped.
- It is impossible to write MP3 or JPEG files to a Memory Card in this unit as it is read only.
- Only MP3/WMA Format files with the ".mp3 and .wma" extensions can be played.

## MP3/WMA Play

### CD-R / Memory Card MP3/WMA file

When you record MP3/WMA files on the CD-R/Memory Card, please refer to the following.

- Your MP3 or WMA files should be ISO 9660 or JOLIET format.

ISO 9660 format and Joliet MP3 or WMA files are compatible with Microsoft's DOS and Windows, and with Apple's Mac.

This format is the most widely used.

- Only Memory Card with FAT16 format can be played.

- Memory Card over 2GB use FAT32, which may be not compatible with this unit.

- When naming your MP3 or WMA files, do not exceed 8 characters, and enter ".mp3, .wma" as the file extension.

General name format of: Title.mp3 or Title.wma. When composing your title, make sure that you use 8 characters or less, have no spaces in the name, and avoid the use of special characters including: (.,/,=,+).

- Use a decompression transfer rate of at least 128 Kbps when recording MP3 files.

Sound quality with MP3 files basically depends on the rate of compression/decompression you choose. Getting CD audio sound requires an analog/digital sampling rate, that is conversion to MP3 format, of at least 128 Kbps and up to 160 Kbps. However, choosing higher rates, like 192 Kbps or more, only rarely give better sound quality. Conversely, files with decompression rates below 128 Kbps will not be played properly.

- Do not try recording copyright protected MP3 files.

Certain "secured" files are encrypted and code protected to prevent illegal copying. These files are of the following types: Windows MediaTM (registered trade mark of Microsoft Inc) and SDMITM (registered trade mark of The SDMI Foundation). You cannot copy such files.

- **Important:** The above recommendations cannot be taken as a guarantee that the DVD player will play MP3 recordings, or as an assurance of sound quality. You should note that certain technologies and methods for MP3 file recording on CD-Rs prevent optimal playback of these files on your DVD player (degraded sound quality and in some cases, inability of the player to read the files).

- This unit can play a maximum of 3000 files and 300 folders per disc.


## JPEG Playback

### When playing a CD-R / Memory Card / Picture CD

1. Select the desired folder. (See page 34 to select the folder)
2. Use the UP/DOWN buttons to select a Picture file in clips menu and then press the ENTER button. You should get a screen that looks like the one below.





- Use the INFO button on the remote control to select the menu you want to view and then press the ENTER button.

-  : Returns to the Album Screen.

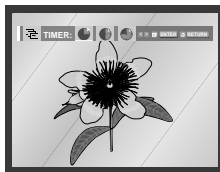
- To see the next 6 pictures, press the  button.


- To see the previous 6 pictures, press the  button.


-  : Each time the ENTER button is pressed, the picture rotates 90 degrees clockwise.


-  : Each time the ENTER button is pressed, the picture is enlarged up to 4X. (Normal → 2X → 4X → 2X → Normal)

-  : The unit enters slide show mode.



-  : When this icon is selected and ENTER is pressed, the pictures change automatically with about 6 seconds interval.

-  : The pictures change automatically with about 12 seconds interval.

-  : The pictures change automatically with about 18 seconds interval.

\*Depending on the file size, each interval between images may take longer or shorter than the manual suggests.

## JPEG Playback

### Note

- If no buttons on the remote control pressed for 10 seconds, the menu will disappear. Press the INFO button on the remote control to display the menu again.
- Press the STOP button to return to the clips menu.
- When playing a Kodak Picture CD, the unit displays the Photo directly, not the clips menu.
- Every time you push the DVD/M.CARD button, the system enters the Memory Card mode and the DVD/CD mode in turn.
  - Memory Card mode : Plays the Memory Card
  - DVD/CD Mode : Plays the CD-R & Picture CD

### CD-R / Memory Card / Picture CD JPEG

- Only files with the ".jpg" and ".JPG" extensions can be played.
- If the disc is not closed, it will take longer to start playing and not all of the recorded files may be played.
- Only CD-R discs with JPEG files in ISO 9660 or Joliet format can be played.
- Memory Card over 2GB use FAT32, which may be not compatible with this unit.
- The name of the JPEG file may not be longer than 8 characters and should contain no blank spaces or special characters (. / = +).
- Only a consecutively written multisession disc can be played. If there is a blank segment in the multisession disc, the disc can be played only up to the blank segment.
- A maximum of 500 images can be stored on a single CD.
- Kodak Picture CDs are recommended.
- When playing a Kodak Picture CD, only the JPEG files in the pictures folder can be played.
- Kodak Picture CD : The JPEG files in the pictures folder can be played automatically.
- Konica Picture CD : If you want to see the Picture, select the JPEG files in the clips menu.
- Fuji Picture CD : If you want to see the Picture, select the JPEG files in the clips menu.
- QSS Picture CD : The unit cannot play QSS Picture CD.
- If a number of files in 1 Disc are over 3000, only 3000 JPEG file can be played.
- If a number of folders in 1 Disc are over 300, only JPEG files in 300 folders can be played.

## Program Play & Random Play

You can listen to songs randomly or in the desired sequence.

Up to 20 tracks can be programmed.

This function is available only with Audio CDs.

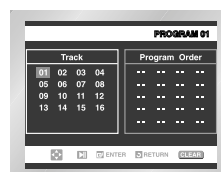
Before You Begin...

- Set the channel to "3" or use the TV/VIDEO button on the TV to select the input source.
- Press the DVD button on the remote control to switch to DVD mode.

- 1 In STOP mode, press the REPEAT button.
  - The Playback Sequence menu will appear.
- 2 Use ◀, ▶ buttons to select PROGRAM, and then press the ENTER button.
  - The Selective Play screen will appear.
    - Select <RANDOM> and press the ENTER button to play tracks in random order.



- 3 Use ▲, ▼ or ◀, ▶ buttons to select the desired track (CD), and then press the ENTER button.
  - The selected track will be added to the Program order.
  - Press the CLEAR button. The track added last will be deleted from the Program order.



- 4 To finish programming and start playback, press the ►|| button.
    - Tracks will play in the order they are added.
- 
- If the disc tray is opened during programming, Program Play will be canceled.
  - Program Play can be set only when the CD is in STOP mode.

### To Cancel Programming

- Press the REPEAT or RETURN button. The program will not be saved and the program screen will disappear.

### To Cancel Program Play

- During playback or in Stop mode, press the CLEAR button.

## Technical Specifications

<b>Inputs</b>	AUDIO	2 Stereo audio inputs, RCA Connector, -8dbm, 47K $\Omega$ , front and rear
	VIDEO	2 Composite video inputs, RCA Connector, 75 $\Omega$ , 1Vp-p
	RF	Antenna or CATV Input, F-Connector, 75 $\Omega$
<b>Outputs</b>	AUDIO	1 Stereo audio outputs, RCA Connector, -8dbm, 1.5K $\Omega$
	AUDIO (DVD only)	2 Digital audio output (1 coaxial, 1 Optical) 1 pair Stereo audio outputs
	VIDEO	1 Composite video output, RCA Connector, 75 $\Omega$ , 1Vp-p
	VIDEO (DVD only)	1 S-Video output, S-Connector, 75 $\Omega$ , Y=1.0Vp-p, C=0.286Vp-p
		1 Component video output, 75 $\Omega$ , Y=1.0Vp-p, Pb=0.7Vp-p, Pr=0.7Vp-p
<b>VCR</b>	RF	Channel 3 or 4
	VIDEO SYSTEM	1/2-inch VHS system, 4 rotary head helical scanning; FM azimuth luminance;chrominance: converted sub system phase shift
	AUDIO TRACK	Normal: 1 track; Hi-Fi: 2 track
	PLAY/RECORD TIME	T-180 tape: SP 3 hours, SLP 9 hours
	FF/REW TIME	T-120 tape: <2 minutes
	HEADS	Video: DA 4 rotary Audio: 2 rotary heads (Hi-Fi); 1 stationary head (Linear) Control: 1 stationary head Erase: 1 full track, 1 audio track
	WOW & FLUTTER	Less than 0.005% (Hi-Fi)
	FREQ. RESPONSE	20-20,000 Hz (Hi-Fi)
<b>DVD</b>	DISC COMPATIBILITY	CD, CD-R, CD-R/W DVD-Video, CD-Digital Audio (5" and 3.5"), VCD, MP3/WMA files on CD-ROM
	FREQ. RESPONSE	96/48 kHz Sampling: 4 Hz-22kHz
	S/N RATIO	110 dB
	DYNAMIC RANGE	96 dB
	THD	0.003 %
<b>SYSTEM</b>	POWER REQUIREMENT	120V AC, 60Hz, 25watts
	ENVIRONMENT	41-104°F (5-40°C); 10%-75% humidity
	WEIGHT	13.8 lbs.

# SAMSUNG COMBINATION DVD & VCR

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This SAMSUNG brand product, as supplied and distributed by Samsung Electronics America, Inc. (SAMSUNG) and delivered new, in the original carton to the original consumer purchaser, is warranted by SAMSUNG against manufacturing defects in materials and workmanship for a limited warranty period of:

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This limited warranty begins on the original date of purchase, and is valid only on products purchased and used in the United States. To receive warranty service, the purchaser must contact SAMSUNG for problem determination and service procedures. Warranty service can only be performed by a SAMSUNG authorized service center. The original dated bill of sale must be presented upon request as proof of purchase to SAMSUNG or SAMSUNG's authorized service center. Transportation of the product to and from the service center is the responsibility of the purchaser.

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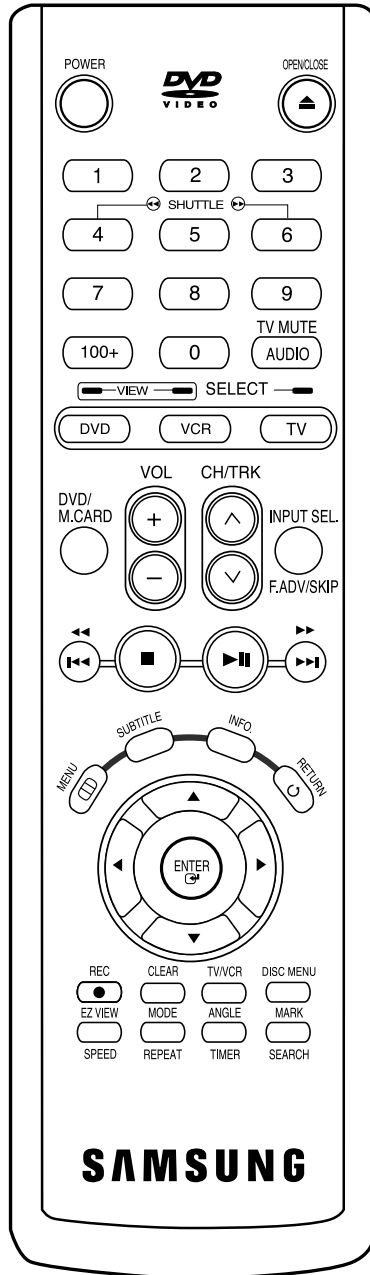
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**1-800-SAMSUNG (1-800-726-7864)** and [www.SAMSUNGUSA.com](http://www.SAMSUNGUSA.com)

## Remote Control Overview





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