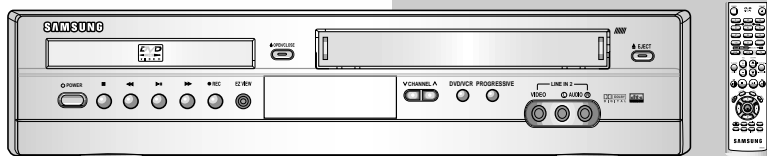




Instruction Manual

DVD-V3300





DVD
VIDEO

VHS **Hi-Fi**

www.samsungusa.com

Safety Instructions

<p>CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN</p>		<p>This symbol indicates high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.</p>
<p>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.</p>		<p>This symbol alerts you that important literature concerning operation and maintenance has been included with this product.</p>

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

- Read Instructions**-All the safety and operating instructions should be read before the product is operated.
- Retain Instructions**-The safety and operating instructions should be retained for future reference.
- Heed Warnings**-All warnings on the product and in the operating instructions should be adhered to.
- Follow Instructions**-All operating and using instructions should be followed.
- Cleaning**-Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Attachments**-Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- Water and Moisture**-Do not use this product near water-for example near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- Accessories**-Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Any mounting of the product should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.
- A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



Safety Instructions

- Ventilation**-Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- Power Sources**-This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
- Grounding or Polarization**-This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- Alternate Warnings**-This product is equipped with a three-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
- Power-Cord Protection**-Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
- Outdoor Antenna Grounding**-If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70 provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
- Lightning**-For added protection for this product during a lightning storm or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- Power Lines**-An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- Overloading**-Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- Object and Liquid Entry**-Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- Servicing**-Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- Damage Requiring Service**-Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power-supply cord or plug is damaged.
 - If liquid has been spilled or objects have fallen into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - If the product has been dropped or damaged in any way.
 - When the product exhibits a distinct change in performance-this indicates a need for service.
- Replacement Parts**-When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- Safety check**-Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
- Heat**-The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
- Wall or Ceiling Mounting** The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

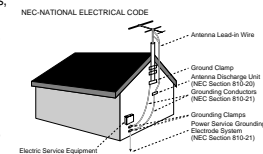


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Feature Summary

DVD+VCR Features

- Perfect compatibility to play back DVDs, audio CDs, MP3 discs 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.
- DTS digital output for DTS-enhanced DVDs.
- Playback 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
 - CD-ROM • CDV
 - CDI
 - 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



Unpack

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

DVD+VCR 		User's Guide (AK68-00164A) 	
RCA cable for Audio/Video connection 	RF (Radio Frequency) Antenna Cable 	Remote Control 	1.5V "AAA" Batteries- 2EA 

Disc Type and Characteristics

This DVD player is capable of playing the following types of discs with the corresponding logos:

Disc Types (Logos)	Recording Types	Disc Size	Max. Playing Time	Characteristics
	Audio + Video	5"	Single-sided 240 min. Double-sided 480 min.	<ul style="list-style-type: none"> DVD contains excellent sound and video due to Dolby Digital and MPEG-2 system. Various screen and audio functions can be easily selected through the on-screen menu.
		3 1/2"	Single-sided 80 min. Double-sided 160 min.	
	Audio	5"	74 min.	<ul style="list-style-type: none"> CD is recorded as a Digital Signal with better audio quality, less distortion and less deterioration of audio quality over time.
		3 1/2"	20 min.	

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

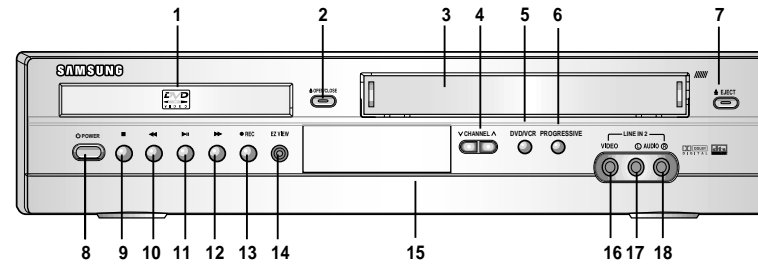


• MP3 disc

Play Region Number

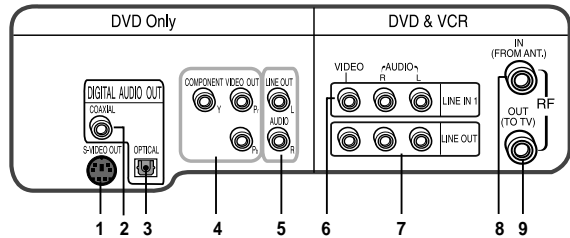
Both the DVD player and the discs are coded by region. These regional codes must match in order for the disc to play. If the codes do not match, the disc will not play. **The Region Number for this player is described on the rear panel of the player.**

Front Panel Overview



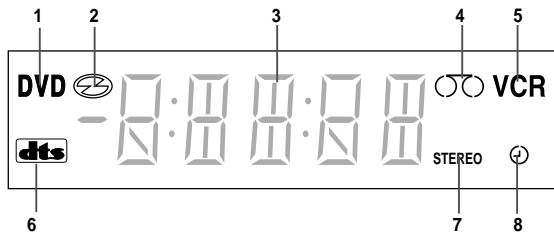
- | | |
|------------------|-----------------------------------|
| 1 DVD DECK | 12 FAST-FORWARD/FWD |
| 2 DVD OPEN/CLOSE | 13 RECORD |
| 3 VCR DECK | 14 EZ VIEW |
| 4 CHANNEL √ / ^ | 15 FRONT PANEL DISPLAY |
| 5 DVD-VCR SELECT | 16 LINE IN 2 COMPOSITE VIDEO JACK |
| 6 PROGRESSIVE | 17 LINE IN 2 LEFT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

Rear Panel



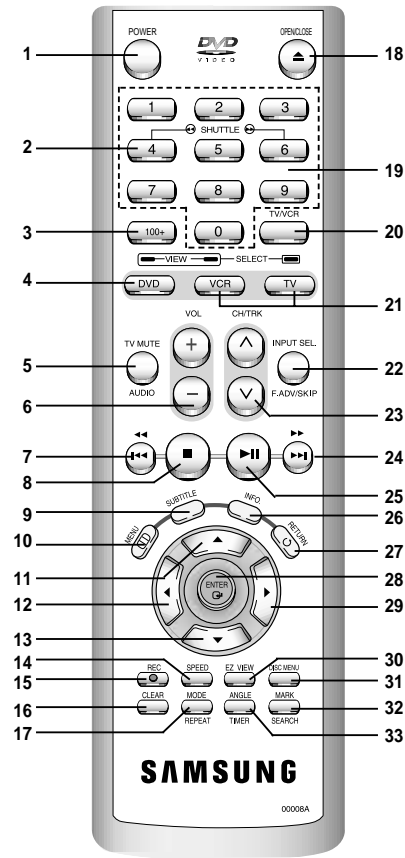
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|--|------------------------------|
| 1 S-VIDEO OUT | 6 LINE IN 1 |
| 2 DIGITAL AUDIO OUT(COAXIAL) | 7 LINE OUT TO TV (COMPOSITE) |
| 3 DIGITAL AUDIO OUT(OPTICAL) | 8 RF ANTENNA INPUT |
| 4 COMPONENT VIDEO OUT | 9 RF OUT TO TV |
| 5 AUDIO LINE OUT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

Front Panel Display



- | | |
|---|--|
| 1 When the light is on, DVD is operating. | 6 A DVD with a DTS soundtrack is loaded. |
| 2 DVD or CD media is loaded. | 7 The Hi-Fi track of a VHS videotape is playing
(The current TV program or video is broadcast in Stereo.) |
| 3 The time, counter position, time remaining or current deck status is indicated. | 8 Timer Recording is in progress.
It also blinks when you pause VCR. |
| 4 VHS videotape is loaded. | |
| 5 VCR is activated. | |

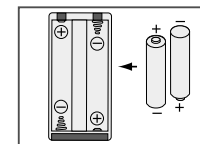
Remote Control Overview



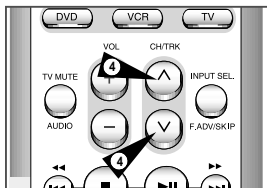
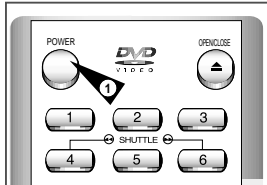
- | | |
|-------------------|-------------------|
| 1 POWER | 18 OPEN/CLOSE |
| 2 SHUTTLE <</> | 19 0-9 |
| 3 100+ | 20 TV/VCR |
| 4 DVD | 21 VCR, TV SELECT |
| 5 TV MUTE, AUDIO | 22 INPUT SEL. |
| 6 VOLUME +/- | 23 F.ADV/SKIP |
| 7 REWIND | 24 CHANNEL ^/V |
| 8 SKIP BACK | 25 TRACKING ^/V |
| 9 STOP | 26 FAST-FORWARD |
| 10 SUBTITLE | 27 SKIP NEXT |
| 11 MENU | 28 PLAY/PAUSE |
| 12 UP | 29 INFO. |
| 13 LEFT | 30 RETURN |
| 14 DOWN | 31 ENTER |
| 15 SPEED | 32 RIGHT |
| 16 RECORD | 33 EZ VIEW |
| 17 CLEAR | 34 DISC MENU |
| 18 REPEAT | 35 MARK |
| 19 OPEN/CLOSE | 36 SEARCH |
| 20 0-9 | 37 ANGLE |
| 21 TV/VCR | 38 TIMER |
| 22 VCR, TV SELECT | |
| 23 INPUT SEL. | |
| 24 F.ADV/SKIP | |
| 25 CHANNEL ^/V | |
| 26 TRACKING ^/V | |
| 27 FAST-FORWARD | |
| 28 SKIP NEXT | |
| 29 PLAY/PAUSE | |
| 30 INFO. | |
| 31 RETURN | |
| 32 ENTER | |
| 33 RIGHT | |
| 34 EZ VIEW | |
| 35 DISC MENU | |
| 36 MARK | |
| 37 SEARCH | |
| 38 ANGLE | |
| 39 TIMER | |

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.



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
JVC	11	DAEWOO	19
HITACHI	10	NOBLEX	25
MITSUBISHI	13	TELEFUNKEN	26
NEWSAN	27		

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.

When you change the batteries in the remote control, you must reprogram the code, following the same procedure.

You can then control the television using the following buttons.

Button	Function
POWER ①	Used to switch the television on and off.
INPUT SEL. ②	Used to select an external source.
VOL + or - ③	Used to adjust the volume of the television.
CH (V or ^) ④	Used to select the required channel.
MUTE ⑤	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.

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.

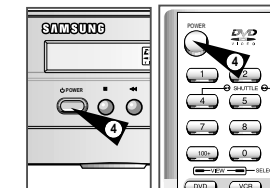
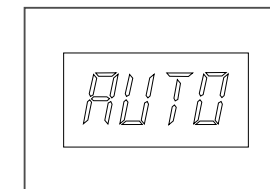
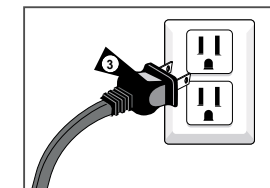
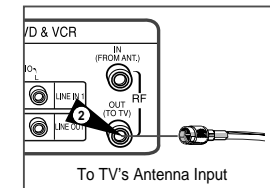
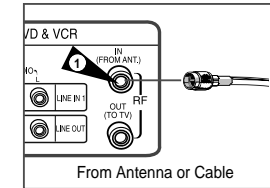
NOTES:

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

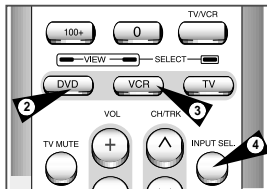
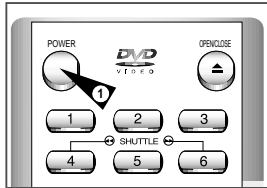


- 1 **Connect the RF Antenna Cable to your DVD-VCR**
Connect an external indoor/outdoor antenna or wall outlet antenna cable to the Ant-In jack on the rear panel.
- 2 **Connect your DVD-VCR to a TV**
Choose one of the following methods:
RF Connection
Using the supplied RF antenna cable, connect the OUT jack (TO TV) on the back panel of your DVD-VCR to your TV's Antenna Input.
Line Connection
Using an RCA-type audio/video cable (red, white, yellow), connect the LINE OUT jacks on the back 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. In case Auto Clock set fails to locate a channel to set the clock, you should set the clock manually. See page 18.

- 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.
- 6 **Set the TV to Channel 3, 4 or Line**
The same channel you selected in Step 2 above must be used. If you are using the Line Connection method, set your TV to its Line Input.



Deck Control Buttons



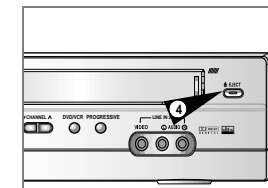
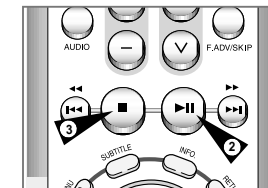
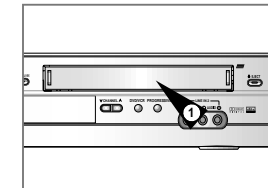
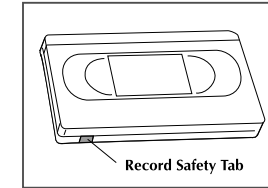
The DVD-VCR uses one set of controls to operate both decks. The following buttons are helpful in successfully controlling each deck.

- POWER Button**
Press the POWER button on the remote control or front panel to turn on the DVD-VCR.
- DVD Button**
Press the DVD button on the remote control or 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.
- VCR Button**
Press the VCR button on the remote control or 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.
- INPUT SEL. Button**
Press the INPUT SEL. button 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 select is only available when the VCR deck is selected.

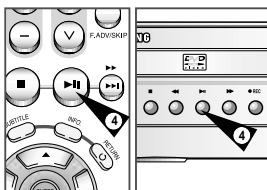
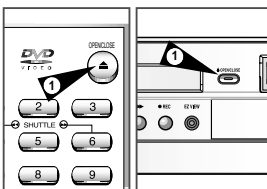
Basic VCR Operation

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 53.

- Insert VHS Tape**
Insert a standard VHS videotape into the VCR deck.
 - When a videotape is inserted, power will turn on automatically.
- Play Tape**
Press the ►|| (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 53
- Stop Playback**
Press the ■ (STOP) button on the remote control or on the front panel of the unit.
- Eject Tape**
Press the OPEN/CLOSE button on the remote control or the EJECT button on the front panel of the unit.
- Additional VCR Options**
 - See pages 52–54 for special VCR Playback features.
 - See pages 55–57 for VCR Recording features.
 - See page 58 for Timer Recording features.



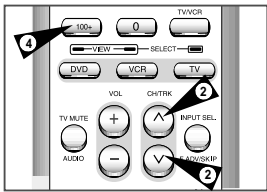
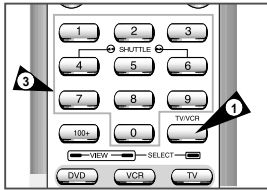
Basic DVD Operation



Follow the instructions below to playback a DVD.

- 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.
- Insert a Disc**
Put a disc in the center of the tray, with the label-printed side facing up.
- 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.
- Play a DVD**
Press the 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.
- Additional DVD Options**
 - See pages 25 – 35 for advanced DVD Setup options.
 - See pages 36 – 51 for special DVD Playback features.

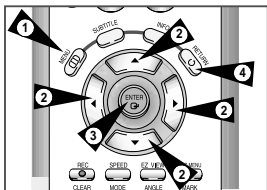
Basic TV Tuner Operations



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

- TV/VCR**
Press this button to switch between your TV's tuner and the VCR's internal tuner.
 - You don't need to press the TV/VCR button in vcr mode.
- Channel Up/Down**
Use these buttons to move to the previous or the next channel.
- 0-9 Buttons**
Use these buttons to select the desired channel directly.
- 100+ Button**
Press this button to tune to 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.
 - This button is activated only in Cable TV Mode.
- INFO. Button**
Press this button to display the current channel.
 - This also works in DVD and VCR mode.

On-Screen Menu Navigation



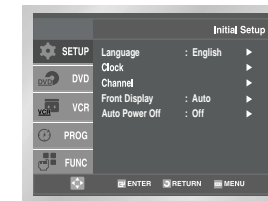
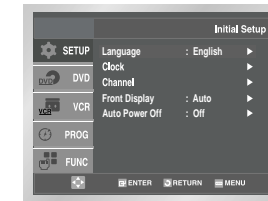
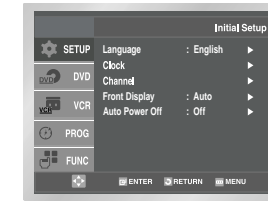
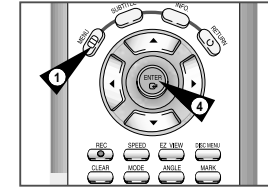
The on-screen menus allow you to enable or disable various functions on your DVD-VCR. Use the following buttons to open and navigate through the on-screen menus.

- MENU Button**
Press this button while the DVD is in Stop or Play mode to open the on-screen MAIN MENU.
- Up/Down and Left/Right**
Use these buttons to move the selection bar up, down, left and right to cycle through the menu options.
- ENTER Button**
Press this button to confirm any new settings.
- RETURN Button**
Press this button to return to the last MENU screen displayed or to exit the on-screen MENU all together.

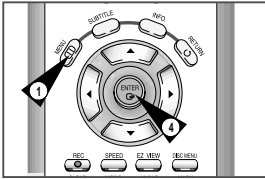
Menu Language

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

- Open "MENU"**
Press the MENU button while the DVD is in Stop or Play mode.
- Select "SETUP"**
Using the UP/DOWN buttons, move the selection bar to "SETUP" then press ENTER to select.
- Select "Language"**
Use the UP/DOWN buttons to highlight "Language" then press the ENTER button.
- Set menu Language**
Place the selection bar next to your desired Language, then press the ENTER button.



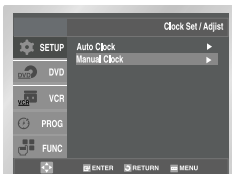
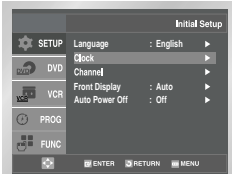
Manual Clock Set



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 RETURN button to confirm your clock settings and to return to the Setup Menu.
 - Press the RETURN button again to exit.

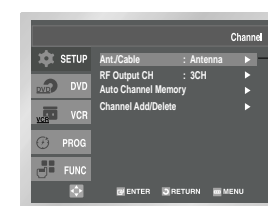
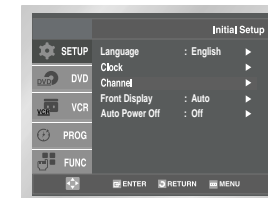
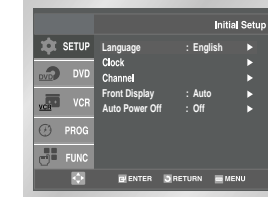
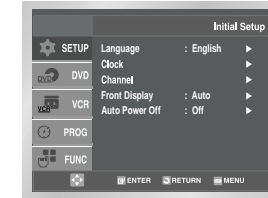
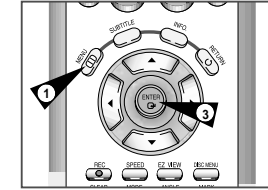


Tuner Band Setting

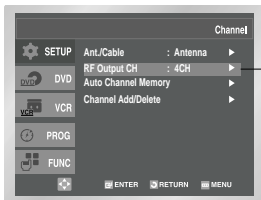
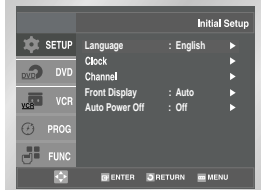
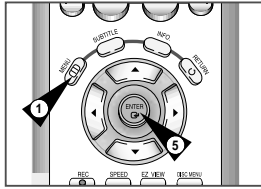
This feature allows you to manually set the DVD-VCR's tuner band to Antenna or Cable, whichever you connected to the Antenna In jack during initial setup.

• 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 to select from the following options:
 - Antenna - Indicates that the DVD-VCR is connected to an indoor or outdoor VHF/UHF antenna.
 - Cable TV - Indicates that the DVD-VCR is connected to Cable TV.



RF Output Channel



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.

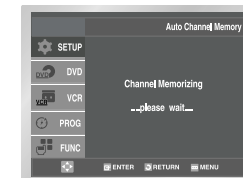
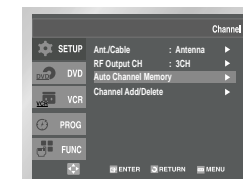
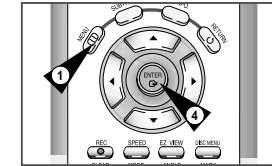
3 Select "Channel"

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

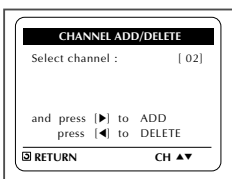
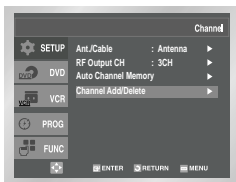
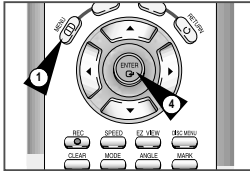
4 Run "Auto Channel Memory"

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



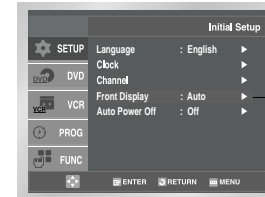
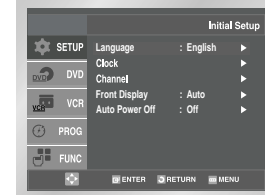
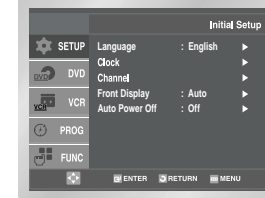
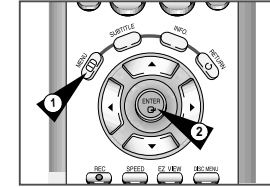
Use this feature if Auto Channel Search missed a channel that you would like to add, or added a channel you wish to remove.

- 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 remove.
- 6 **Select "Channel Add/Delete"**
Press right to add or press left to remove the channel from your channel list.
 - Repeat steps 4 and 5 to add or remove additional channels.

Front Panel Dimmer

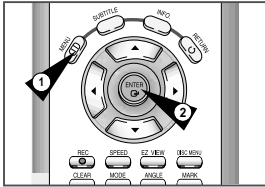
You can set the Front Panel Display to be bright all the time, dim all the time, dim during power off.

- 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 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.

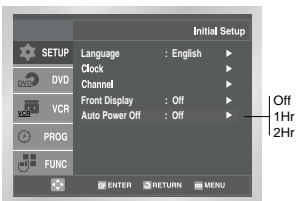
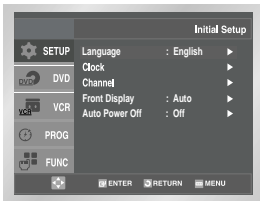


Auto
Bright
Dim

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 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.

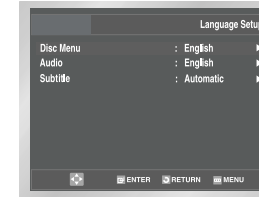


Off
1Hr
2Hr

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.



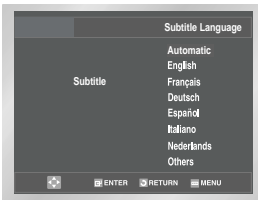
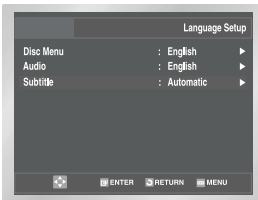
Audio Language

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.

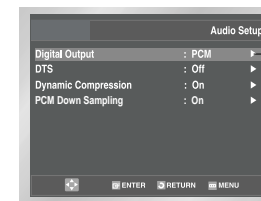
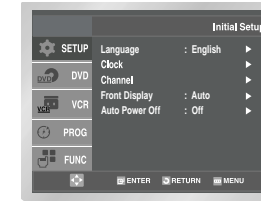
- 1 **Open "MENU"**
Press the MENU button while the DVD is in Stop mode.
- 2 **Select "DVD"**
Use the UP/DOWN buttons to highlight "DVD" then press the ENTER button.
- 3 **Select "Language"**
Move the selection bar to "Language" then press ENTER to select.
- 4 **Select "Subtitle"**
Highlight "Subtitle",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

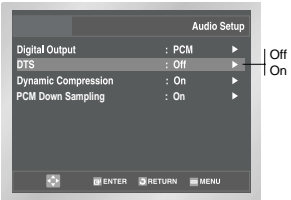
NOTE: Select "Bitstream" ONLY if you have connected a Dolby Digital-equipped A/V receiver to the Digital Output (optical or coaxial) on the DVD-VCR back panel.

- 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/TV with an A/V receiver without a Dolby Digital decoder.
 - Bitstream – To use your DVD/TV with an A/V receiver with a Dolby Digital decoder.



PCM
Bitstream

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.

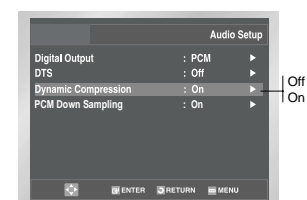
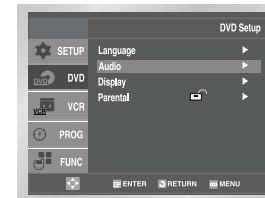
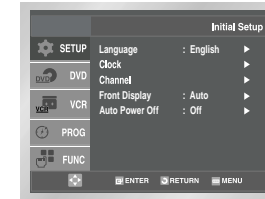
NOTE: Select "On" ONLY if you have connected a DTS-equipped A/V receiver to the DIGITAL AUDIO OUT (optical or coaxial) on the DVD-VCR back panel.

- 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/TV with an A/V receiver NOT equipped with a DTS decoder.
 - On - To use your DVD/TV with an A/V receiver equipped with a DTS decoder.

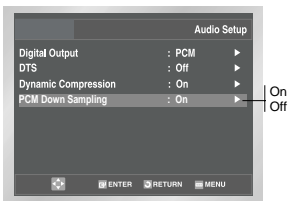
Dynamic Compression

Dynamic Compression restrains the dynamic range of sound, 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



On
Off

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.

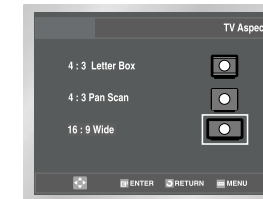
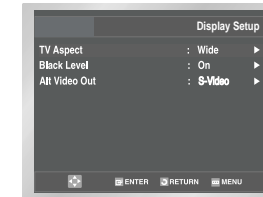
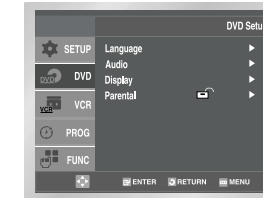
3 Select "Display"

Highlight "Display", then press the ENTER button.

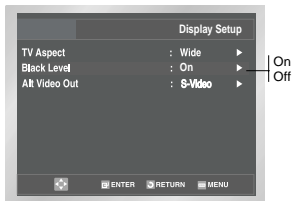
4 Set "TV Aspect"

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.

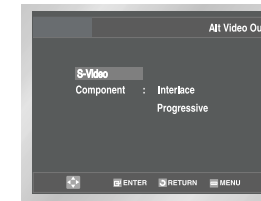
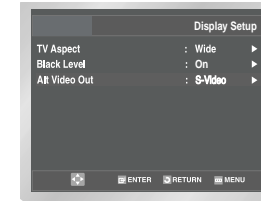
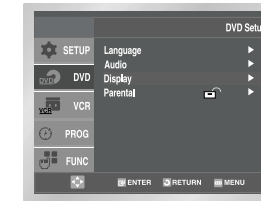
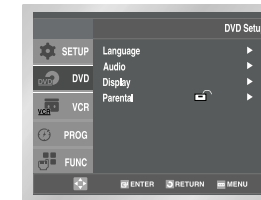
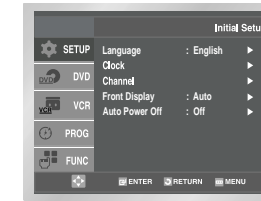
- 1 Open "MENU"**
Press the MENU button while the DVD is in Stop mode.
- 2 Select "DVD"**
Use the UP/DOWN buttons to highlight "DVD" then press the ENTER button.
- 3 Select "Display"**
Highlight "Display", then press the ENTER button.
- 4 Set "Black Level"**
Highlight "Black Level," then press the RIGHT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

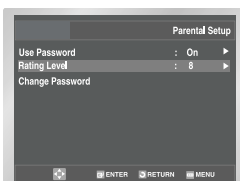
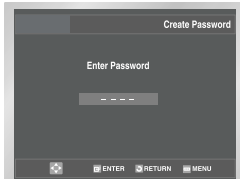
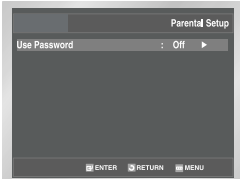
The **"Alt Video Out"** option must be set in the on-screen menu if you have connected your DVD-VCR to a TV using the **S-VIDEO OUT** or **COMPONENT VIDEO OUT** jacks.

- 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.

- 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 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"

Highlight "Use Password," then press the RIGHT button to select one of the following options:

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

NOTES:

- The first time "Require Password" is set to "Yes," you will be prompted to enter a new password.
- If the "Enter Password" screen appears, then "Require Password" has already been set to "Yes." Please skip to Step 5.
- There no Default Password.

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 it 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
- 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 block 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 and the DVD-VCR will go to the "Auto Setup" mode. (See page 13)

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.

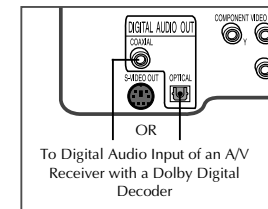
Before You Begin...

- 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.

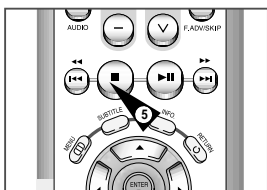
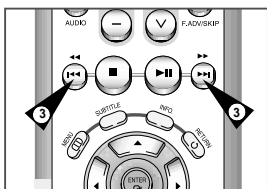
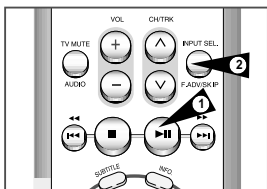
1 Digital Audio Out

Connect EITHER an optical cable OR a digital coaxial cable from the DIGITAL AUDIO OUT jacks on the back panel of the DVD-VCR to their corresponding Digital Audio Input jacks on your A/V Receiver:

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



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 Still**
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 Still 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 (►► / ◀◀) 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 - 4X - 8X - 16X - 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 Still 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 or decrease 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.

- 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.

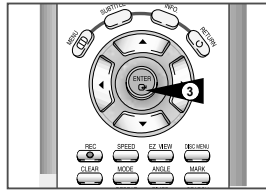
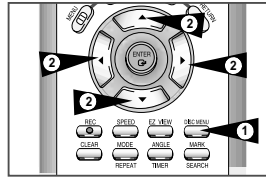
Disc Menu Navigation

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.

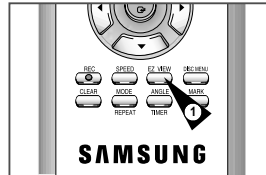
- 2** Press **▲**, **▼** or **◀**, **▶** to navigate through DVD's Disc menu options.
 - Press up, down, left and right to highlight menu choices.

- 3 ENTER Button**
Press to make your selections in the Disc menu.



EZ View

- 1 Press the EZ VIEW button.**
 - 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 31)



- 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.



EZ View

- 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.
- **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 DVD playback. The Information screen can also be used to quickly choose a title, chapter/track, or playing time.

1 View the Display

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

2 Select title

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


3 Select Chapter or Track


Use the UP/DOWN and LEFT/RIGHT 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 and LEFT/RIGHT buttons 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.


➤ 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.

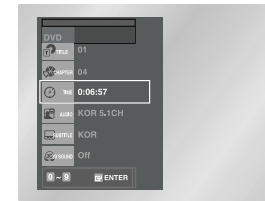
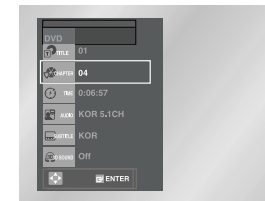
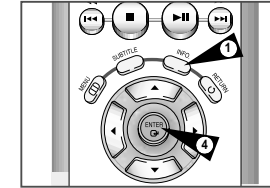
 **Chapter**
Most DVD discs are recorded in chapters so that you can quickly find a specific passage.

 **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.

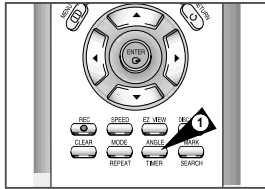
 **3D Sound**
A surround sound effect is generated using only two front speakers.



• The "TITLE" followed by seconds.

• The "CHAP" followed by seconds.

Angle View



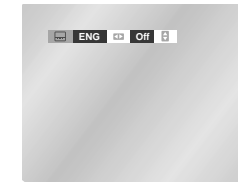
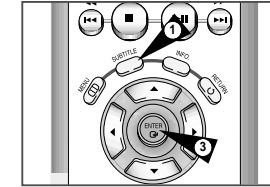
Some DVD Movies provide you with various camera angle views on the same scene while they are playing. To activate the feature press the ANGLE Button.

- 1 Check for the Angle Icon**
Press the Angle button, you'll see the Angle Icon when watching a DVD with multi Angles available.
- 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 LEFT/RIGHT 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".
 - Press the ENTER button to confirm your selection.

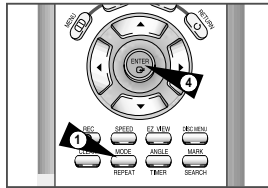


Digest Play

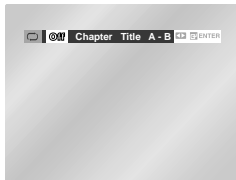
- 1 DIGEST Bu**
During playba
 - You'll see chapters o
 - When each chapter wi
- 2 Set DIGEST**
Press the up/down button to sele
 - Up to 9 win time. Press 9.

- ◆ You desir
- ◆ 'DIC use.

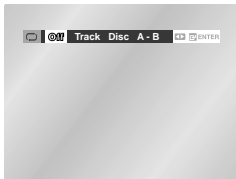
A to B Repeat



DVD



CD



A to B Repeat feature enables you to repeat the designated section on a DVD 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 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.

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.

Repeat Chapter/Title

You can repeat a single chapter or a complete title.

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"

Use the LEFT/RIGHT buttons to select "Chapter".

- When you select Chapter Repeat, "Chapter" will be highlighted.

3 Repeat Chapter

Press the ENTER button to repeat the current chapter or track.

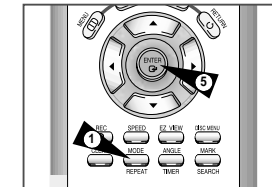
4 Select "Title"

Use the LEFT/RIGHT buttons to select "Title".

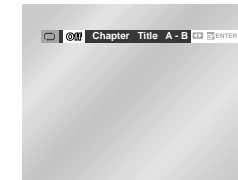
- When you select Title Repeat, "Title" will be highlighted.

5 Repeat Title

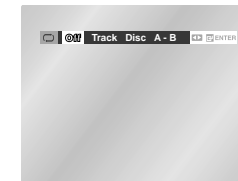
Press the ENTER button to repeat the title.



DVD



CD



Audio

Multiple language/audio 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

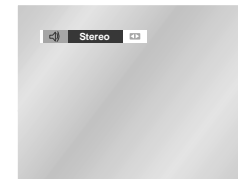
Use the LEFT/RIGHT buttons to select the desired language/audio setup on the DVD.

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

DVD

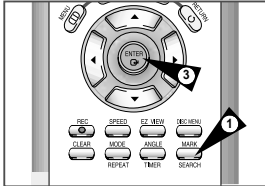


CD



Bookmarks

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



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.

MP3/WMA Play

When an MP3/WMA Disc is inserted into the DVD player, the first song file of the first folder plays.

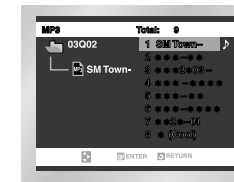
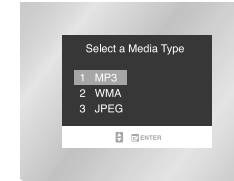
- If more than two file extensions are present, select the media of your choice.
- To change the currently playing media, press the STOP (■) button twice and then press the DISC MENU button.
- If no button on the remote controller is pressed for 60 seconds, the menu will disappear and the selected item will be played.

MP3/WMA Play Function

- When the first song file is playing, the music folder menu will appear on the right side of the screen. Up to 8 music folders can be displayed at a time. If you have more than 8 folders on a disc, press the LEFT/RIGHT buttons to bring them up on the screen.
- Use the UP/DOWN buttons to select the desired music folder, then press ENTER. Use the UP/DOWN buttons again to select a song file. Press ENTER to begin playback of the song file.

Program/Random playback

- With the MP3 in Stop mode, press the MODE button to switch between the RANDOM and PROGRAM modes. See page 47 for more information on these modes.
 - Press the REPEAT button to hear only music continuously and press it once again to release.
 - PROGRAM/RANDOM playback cannot be used if the disc contains more than two types of file extensions.



MP3/WMA Play

CD-R MP3/WMA discs

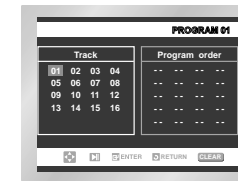
When playing CD-R/MP3 or WMA discs, please follow all the recommendations for CD-R above, plus the comments below:

- **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. These two formats are the most widely used.
- **When naming your MP3 or WMA files do not exceed 8 characters, and place ".mp3" or ".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 audio CD quality 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.
- **Use a decompression transfer rate of at least 64Kbps when recording WMA files.**
Sound quality with WMA files basically depends on the rate of compression/decompression you choose. Getting audio CD quality sound requires an analog/digital sampling rate, that is conversion to WMA format, of at least 64Kbps and up to 192Kbps. Conversely, files with decompression rates below 64Kbps or over 192Kbps 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 Media™ (registered trade mark of Microsoft Inc) and SDMI™ (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 500 files and 300 folders per disc.

Program Play & Random Play

Program Play (CD/MP3/WMA)

1. With the MP3 in Stop mode, press the MODE button.
2. Use the LEFT/RIGHT buttons to select PROGRAM. Press the ENTER button.
3. Use the LEFT/ RIGHT/ UP/ DOWN buttons to select the first track to add to the program. Press the ENTER button. The selection numbers appear in the Program Order box.
4. Press the PLAY/PAUSE (▶/||) button.
The disc will be played in programmed order.



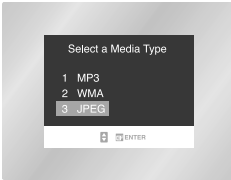
Random Play (CD/MP3/WMA)

1. With the MP3 in Stop mode, press the MODE button.
2. Use the LEFT/ RIGHT buttons to select RANDOM. Press the ENTER button.
The disc will be played in random order.



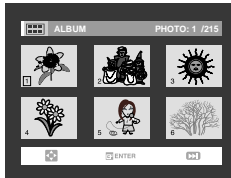
- Depending on the disc, the Program and Random Play functions may not work.
- To resume normal play, press the CLEAR button.
- PROGRAM/RANDOM playback cannot be used if the disc contains more than two types of file extensions.
- This unit can support a maximum of 99 programmed order.

Picture CD Playback



- Select JPEG in the menu to view a Photo CD.
- To change the currently playing media, press the STOP (■) button twice and then press the DISC MENU button.
- If no button on the remote controller is pressed for 60 seconds, the menu will disappear and the selected item will be played.

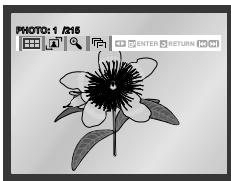
1. Open the disc tray.
2. Load the disc on the tray.
- Load the disc with the labeled side up.
3. Close the tray.
- The tray closes and you should get a screen that looks like the one below.



- Use the Up/Down or Left/Right buttons on the remote controller to select the picture you want to view and then press the ENTER button. (Press the PLAY/PAUSE (▶/||) button if you want to play it in the Slide Show mode.)

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

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



- : Return to the Album Screen.

- : 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.

*Press the RETURN button to return to the album screen.

*Before the Slide Show can begin, the picture interval must be set.

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

- : The pictures change automatically with about a 12 second interval.

- : The pictures change automatically with about a 18 second interval.

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

Picture CD Playback

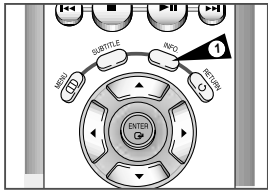
CD-R JPEG Discs

- 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.
- 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.
- Only Kodak Picture CDs can be played.
- When playing a Kodak Picture CD, only the JPEG files in the pictures folder can be played.
- Picture discs other than Kodak Picture CD may take longer to start playing or may not play at all.
- If a number of files in 1 Disc is over 500, only 500 JPEG file can be played.
- If a number of folders in 1 Disc is over 300, only JPEG files in 300 folders can be played.



- Press the RETURN button to return to the album screen.
- Press the RETURN button to return to the slide show.
- If no buttons on the remote controller pressed for 10 seconds, the menu will disappear.
Press the Up/Down or Left/Right buttons on the remote controller to display the menu again.

3D Sound



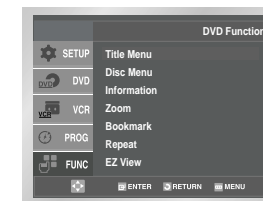
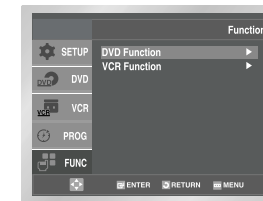
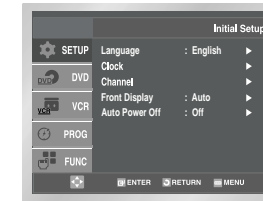
The 3D Sound function is a sound enhancement mode that lets you enjoy virtual surround sound with only two speakers.

- 1 **Press the "INFO." button**
During playback, press the "INFO." button on the remote control.
- 2 **Set 3D Sound**
Use the UP/DOWN buttons to select "3D Sound" item.
- 3 Use the LEFT/RIGHT buttons to confirm your selection.
-ON : A surround sound effect is generated using only two front speakers.
-Off : This function will not work.
- 4 To make the screen disappear, press the "INFO." button again.

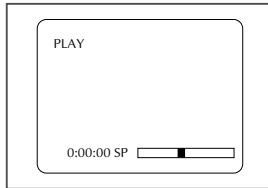
Function (DVD)

Use this feature to check your DVD.

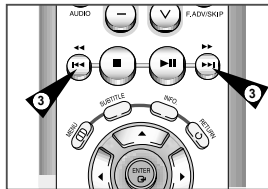
- 1 **Open "MENU"**
With the DVD in Play mode, press the MENU button.
- 2 **Select "FUNCTION"**
Use the UP/DOWN buttons to highlight "FUNCTION" then press the ENTER button.
- 3 **Select "DVD Function"**
Using the UP/DOWN buttons to highlight "DVD Function" then press ENTER to select.
- 4 **Select "Title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



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



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 Still**
From Play mode, press Play/Pause to still a single frame.
- 2 Frame Advance**
From still mode, press F.ADV/SKIP to advance to the next frame.
- 3 Cue/Review**
From Play mode, press F.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**
From Play mode, press F.ADV/SKIP to cue ahead exactly 30 seconds. Press Skip repeatedly up to 4 times to cue ahead 2 minutes.
- 5 Repeat**
 - From Play mode, press Repeat to review the last 5 seconds of tape (SP mode).
 - From Play mode, press Repeat to review the last 15 seconds of tape (SLP mode).
- 6 Shuttle**
From Play mode, Shuttle >> gradually increases the cue speed from Double-Speed playback to Picture Search to Jet Search. Shuttle << gradually slows down the tape, then goes into Slow mode, Still mode, Reverse Picture Search and Reverse Jet Search.

Tracking



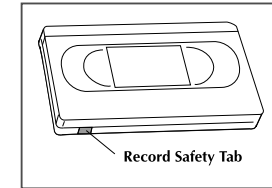
The Tracking adjustment removes the white lines that sometimes appear during playback because of slight differences in recording decks. The TRK button will automatically align the recorded tracks with the playback heads to solve this problem. You may also set tracking manually.

- 1 Adjust Tracking Manually**
During playback, press the CH/TRK ▲ or CH/TRK ▼ buttons to remove white lines from the picture.

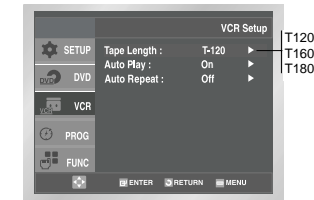
Auto Play

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 DVD 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 video cassette length. This information is usually printed on the tape box. The menu cycles through: T120, T160 or T180. 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 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" sets the VCR to play a tape repeatedly [unless a tape control is activated (stop, fast forward or rewind)].

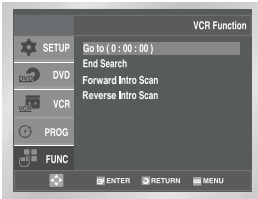


S-VHS Playback

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 Play/Pause on the remote control to begin playback of the S-VHS tape.

Variable Search System



Press the **SEARCH** button to display the search screen in the stop mode. 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. Pause has no effect on index marks.

1 Go to 0:00:00 stop

Use this feature when you want to search for the 0:00:00 counter position on a cassette. Press the **CLEAR** button at the point on the tape where you want to set the counter to 0:00:00. While a cassette is stopped, press the **ENTER** button. The VCR will rewind or fast forward, searching for the 0:00:00 counter position, and then automatically stop at that position.

2 End search

Use this feature when you want to search for a blank position to record a program on a cassette. While a cassette is stopped, press **ENTER** button. The VCR will fast forward, searching for a blank position, and then automatically stop at that position. If the VCR reaches the end of the tape during end search, the tape will be ejected.

3 Scan and play

Use scan and play when you don't know exactly where a program is located on a cassette tape.

- Forward Intro Scan

Highlight "Forward Intro Scan", then press the **ENTER** button.

- Reverse Intro Scan

Highlight "Reverse Intro Scan", then press the **ENTER** button.

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 57.

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**
- **Set the TV to channel 3 or 4.**

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 57.

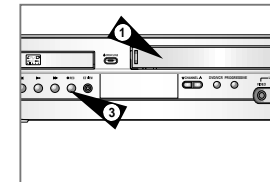
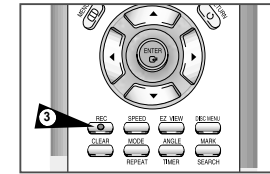
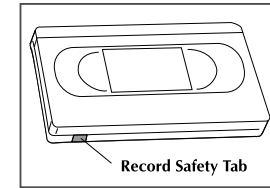
2 Select a Channel to Record

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.

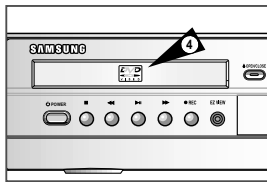
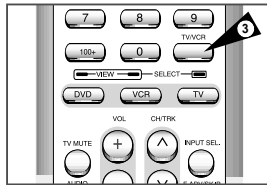
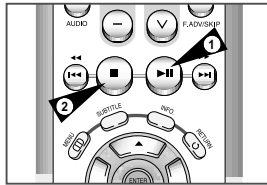
3 Start Recording

Press the **REC** button on the remote control or front panel. For options while recording is in progress, see "Special Recording Features" on the next page.

➤ 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, watch a DVD, or add recording time in 30-minute increments.

1 Pause/Resume Recording

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

2 Stop Recording

Press the STOP button.

3 Watch a Different Channel

Press the TV/VCR button on the remote to switch to your TV tuner, then select a different channel on your television.

4 To Watch a DVD

Insert a DVD in the DVD deck and press Play. The output will automatically change to the DVD.

5 Add Recording Time

See One-Touch Recording (OTR) on the next page.

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 55 to begin recording.

2 Activate OTR

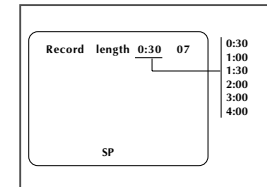
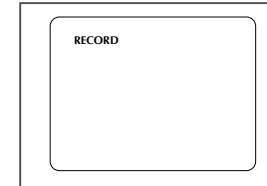
While in Record mode, press the REC button again to activate One-Touch Recording (OTR).

- 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 55.

2 Set Record Speed

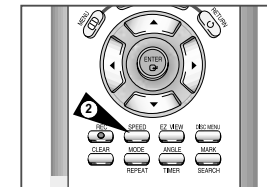
Press the SPEED button on the remote control to set the Record Speed to one of the following options:

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

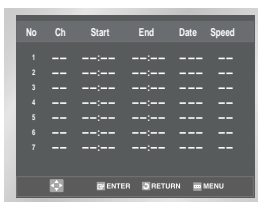
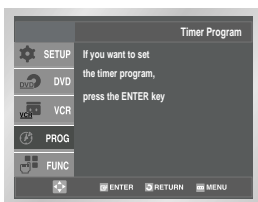
NOTE: The selected Record Speed will appear on the front panel display and on-screen display.

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. Set the TV to channel 3 or 4.

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 DVD is in Stop or Play mode.

2 Select "Program"

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

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. The timer indicator light will come on the VCR. 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 two times.

6 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.

7 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"

With 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

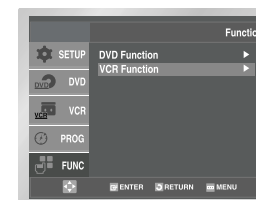
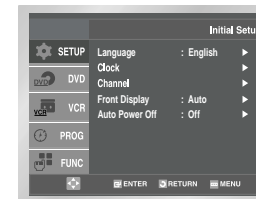
Highlight "End Search", then press the ENTER button.

- Forward Intro Scan

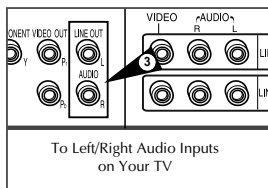
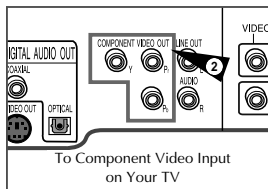
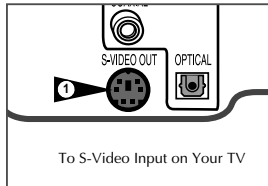
Highlight "Forward Intro Scan", then press the ENTER button.

- Reverse Intro Scan

Highlight "Reverse Intro Scan", then press the ENTER button.



S-Video/Component Video Connections (for DVD)



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 inputs.

To activate your alternative (S-Video or Component) video selection, follow the "Alt Video Out" instructions on page 33. 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 Connect S-VIDEO OUT to TV

Using an S-Video cable, connect the S-VIDEO OUT on the back panel of your DVD-VCR to the S-Video Input on your TV.

2 Connect Component Video Out to TV

Using a component video cable, connect the COMPONENT VIDEO OUT (Y, Pb, Pr) on the back 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 back 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 use these Line Out jacks.
- To activate your connection, see "Alt Video Out" on page 33.

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 back panel of the DVD-VCR to the Auxiliary Inputs on your stereo receiver. Connect the Video Output also in case you are using a stereo TV.

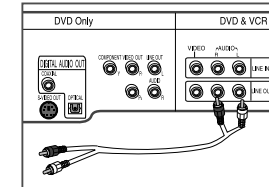
2 Set Stereo to Auxiliary Mode

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

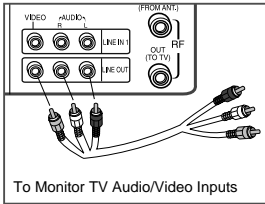
3 Play a Tape

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

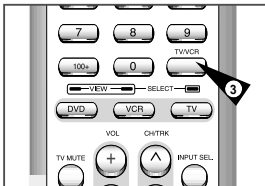
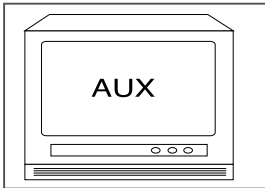
- If there is no stereo sound even after you have inserted a Hi-Fi stereo videotape, press the Audio button until "Hi-Fi" appears on the on-screen display.



Monitor TV Connections



To Monitor TV Audio/Video Inputs



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 VCR to Monitor TV

Connect RCA cables from the Audio/Video Line Out jacks on the back 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.

3 Connection is Complete

NOTE: With this connection, the TV/VCR button has no effect. It is as if the TV/VCR button were always set to VCR.

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 Audio and Video Line Inputs on the front or back panel of the DVD-VCR.

2 Watch Device

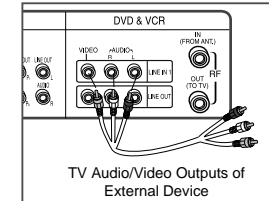
Play your external device, then press the INPUT SEL. button until the playback from LINE1 (rear panel inputs) or LINE2 (front panel inputs) appears on your TV screen.

3 Record Device

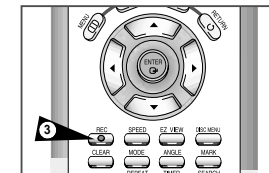
First, play your external device. Next, press the INPUT SEL. button until the playback from LINE1 (rear panel inputs) or LINE2 (front panel inputs) appears on your TV screen. Then press Record on the VCR deck.

4 Timer Record From Device

Select LINE1 (L1) or LINE2 (L2) as your record source in the Timer Record menu. All other Timer Record settings should be set in the usual manner.



TV Audio/Video Outputs of External Device



Technical Specifications

Inputs	AUDIO	2 Stereo audio inputs, RCA Connector, -8dbm, 47K Ω , front and rear
	VIDEO	2 Composite video inputs, RCA Connector, 75 Ω , 1Vp-p
	RF	Antenna or CATV Input, F-Connector, 75 Ω
Outputs	AUDIO	1 Stereo audio outputs, RCA Connector, -8dbm, 1.5K Ω
	AUDIO (DVD only)	2 Digital audio outputs (1 optical, 1 coaxial) 1 Stereo audio outputs
	VIDEO	1 Composite video output, RCA Connector, 75 Ω , 1Vp-p
	VIDEO (DVD only)	1 S-Video output, S-Connector, 75 Ω , Y=1.0Vp-p, C=0.286Vp-p 1 Component video output, 75 Ω , Y=1.0Vp-p, Pb=0.7Vp-p, Pr=0.7Vp-p
VCR	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)	
DVD	DISC COMPATIBILITY	CD, CD-R, CD-R/W DVD-Video, CD-Digital Audio (5" and 3.5"), MP3 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 %
SYSTEM	POWER REQUIREMENT	120V AC, 60 Hz, 25 watts
	ENVIRONMENT	41-104 F (5-40 C); 10%-75% humidity
	WEIGHT	13.8 lbs.



Samsung Limited Warranty

Samsung Electronics Canada Inc. (SECA), warrants that this product is free from defective material and workmanship.

SECA further warrants that if this product fails to operate properly within the specified warranty period and the failure is due to improper workmanship or defective material SECA will repair or replace the product at its option.

All warranty repairs must be performed by a SECA authorized service centre. (The name and address of the location nearest you can be obtained by calling toll free **1-800-268-1620** or visiting our web site at **www.samsung.ca**)

Labour
one (1) year (carry-in)

Parts
one (1) year

On carry-in models, transportation to and from the service centre is the customer's responsibility.

The original dated sales receipt must be retained by the customer and is the only acceptable proof of purchase. It must be presented to the authorized service centre at the time service is requested.

Exclusions

This warranty does not cover damage due to accident, fire flood and/or other acts of God; misuse, incorrect line voltage, improper installation, improper or unauthorized repairs, commercial use, or damage that occurs in shipping. Exterior and interior finish, lamps and glass are not covered under this warranty. Customer adjustments which are explained in the instruction manual are not covered under the terms of this warranty. This warranty will automatically be voided for any unit found with a missing or altered serial number. This warranty is valid only on products purchased and used in Canada.

SAMSUNG ELECTRONICS CANADA, INC.

HEADQUARTERS

SAMSUNG ELECTRONICS CANADA, INC.
7037 FINANCIAL DRIVE MISSISSAUGA, ONTARIO L5N 6R3 CANADA
MADE IN KOREA
TEL: 1-905-542-3535
www.samsung.ca

CUSTOMER SERVICE

7037 Financial Drive Mississauga, Ontario L5N 6R3 Canada
1-800-SAMSUNG (1-800-726-7864)

