

22 EN

INITIAL SETTINGS (cont.)

7 Access the Cable Box Brand Set screen.

Press **OK** or **▷**.

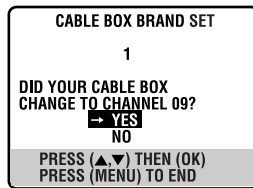
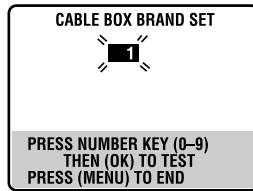
8 Enter the cable box's brand.

Press the appropriate **number keys** to enter the brand code from the following list, then press **OK** or **▷** and "CABLE BOX CONTROL IS ON" appears on the screen for about 5 seconds, then it returns to the normal screen.

If the cable box's channel changes to 9, setting is complete. Press **OK**.

If the cable box's channel does not change to 9;

- 1 Press **△▽** to move the highlight bar (arrow) to "NO", then press **OK** or **▷**.
- 2 Repeat step 8 until the cable box's channel changes to 9 by entering another code.
- 3 If the channel does not change after going through all the code numbers listed for your model of cable box, then try all the other numbers.



BRAND NAME	CODE
ARCHER	1, 5, 17
CABLETENNA	1, 17
CABLEVIEW	15, 16, 17, 21, 25
CITIZEN	15, 16, 17, 21, 25
CURTIS	2, 8
DIAMOND	1, 17
GC BRAND	15, 16, 17, 21, 25
GEMINI	15
GENERAL INSTRUMENTS	1, 4, 6, 11, 12, 15, 28
HAMLIN	10, 18, 23
JASCO	15
JERROLD	1, 4, 6, 11, 12, 15, 28
NOVAVISION	2, 8
OAK	7, 20
PANASONIC	13, 14
PULSER	15, 16, 17, 21, 25
RCA	13, 14
REGAL	10, 18, 23
REMBRANDT	1, 16, 17
SAMSUNG	5, 16, 24
SCIENTIFIC ATLANTA	2, 8
SIGMA	7, 20
SL MARX	5, 16, 17, 24, 25
SPRUCER	13, 14
STARGATE	5, 15, 16, 17, 21, 24, 25
TELEVIEW	5, 16, 24
TOCOM	1, 4, 16
UNIKA	1, 17
UNIVERSAL	16, 17, 25
VIDEOWAY	3, 9, 22
ZENITH	3, 9, 22

NOTES:

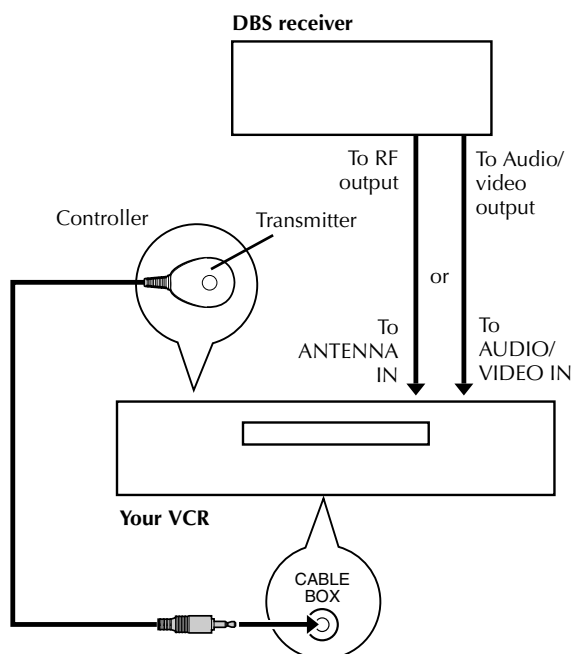
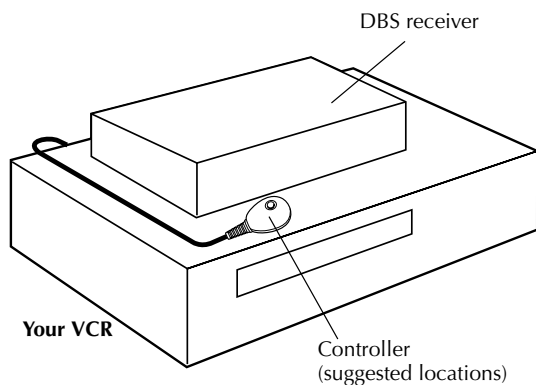
- The Controller may not work with all types of cable box.
- If your cable box does not respond to any code between 1 and 25, you cannot use the Controller to change cable box channels. In this case, make sure to leave the cable box turned on and tuned to the proper channel before the scheduled start time of timer recording.
Contact your cable company about the possibility of exchanging your current cable box with the one compatible with your VCR.
- The VCR can only change the cable box channel through the Controller during timer recording.
- If your cable box cannot be operated with a Remote (because it has no remote sensor), you cannot use the Controller to change its channels. Make sure to leave the cable box turned on and tuned to the proper channel before the scheduled start time of timer recording.
- If the VCR's memory backup expires because of a power failure, set the cable box output channel and brand again.
- **For customers in U.S.A.:** If you are unable to set the Controller, contact JVC toll free at 1-800-537-5722.

DBS Receiver Control Setting

Place the DBS (Direct Broadcast Satellite) receiver on top of the VCR. Attach the VCR's Controller to the top of the VCR with the Controller's transmitter pointed towards the DBS receiver's remote sensor.

ATTENTION:

The Controller can also control a cable box. If both a DBS receiver and a cable box are used, position the Controller so its signal reaches the remote sensors of both the DBS receiver and cable box.



The following procedure is required if you receive satellite channels through a DBS (Direct Broadcast Satellite) receiver. The Controller allows the VCR to automatically switch the DBS receiver's channel during timer recording.

NOTES:

- The VCR can automatically change the DBS receiver channels using the Controller when the VCR has been programmed using "Express Timer Programming" (pg. 46). Because satellite programming does not use PlusCode, the Controller cannot change the DBS receiver channels during "VCR Plus+ Timer Programming" (pg. 42).
- If a cable box is also used, it is recommended that you connect the DBS receiver to your VCR's audio/video input connectors and the cable box to your VCR's antenna input terminal.

Installing Controller

1 Situate the Controller.

Place the Controller so that the path between its transmitter and the DBS receiver's remote sensor is unobstructed.

2 Attach the Controller.

Fix securely using the adhesive strip attached on the back of the Controller.

3 Make connections.

If your DBS receiver does not have audio/video output connectors

Connect the RF output terminal on the DBS receiver to the ANTENNA IN connector on the rear of your VCR.

If your DBS receiver has audio/video output connectors

Connect an audio/video cable between the AUDIO/VIDEO IN connectors on the rear of the VCR and the audio/video output connectors on the DBS receiver.

NOTE:

When connecting your DBS receiver, refer to its instruction manual.

4 Connect the Controller to VCR.

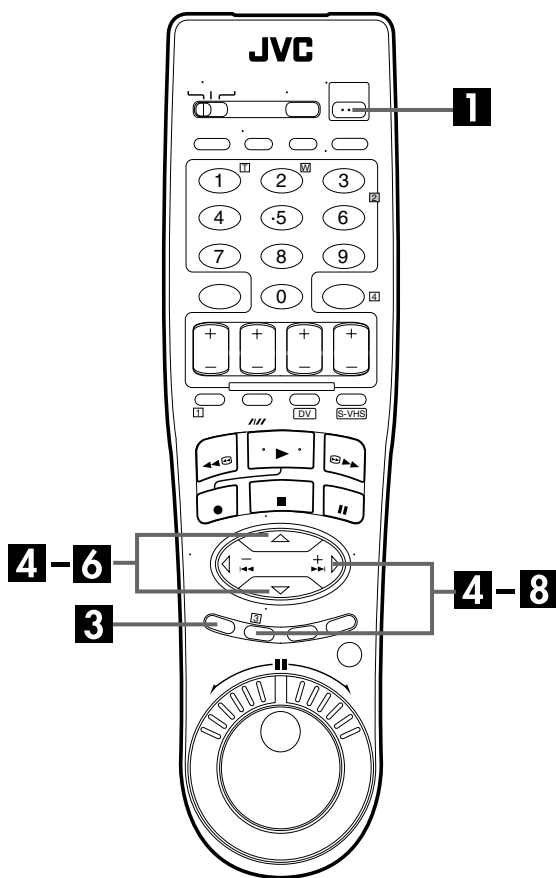
Connect the Controller to the CABLE BOX connector on the rear panel.

How to control the DBS receiver

This VCR has two separate methods to control your DBS receiver.

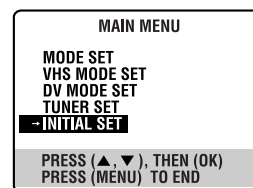
- The VCR's wireless Remote can control your DBS receiver. This eliminates the need for a separate DBS receiver's Remote.
- The VCR's Controller can also control your DBS receiver. This allows the VCR to change your DBS receiver's channel number during timer recording.

Each method must be set up separately. To set up the VCR's Remote, refer to page 69. To set up the Controller, go to page 24.



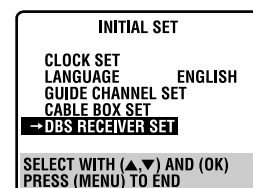
4 Access the Initial Set screen.

Press Δ / ∇ to move the highlight bar (arrow) to "INITIAL SET", then press **OK** or \triangleright .



5 Access the DBS Receiver Set screen.

Press Δ / ∇ to move the highlight bar (arrow) to "DBS RECEIVER SET", then press **OK** or \triangleright .



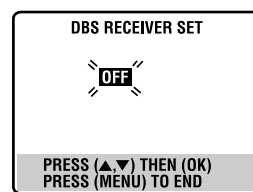
6 Select the DBS receiver's channel.

Your selection depends on how the DBS receiver is connected to your VCR.

If the DBS receiver is connected to your VCR's ANTENNA IN connector on the rear panel, press Δ / ∇ until the channel number representing the DBS receiver's output (CH3 or CH4) appears on the screen.

If the DBS receiver is connected to your VCR's AUDIO/VIDEO IN connectors on the rear panel, press Δ / ∇ until "ON L-1 (REAR)" appears on the screen.

If you do not use a DBS receiver, press Δ / ∇ until "OFF" appears on the screen.



Setting DBS receiver's brand and channel

After installation, set the DBS receiver's brand and channel correctly; otherwise, the Controller cannot work correctly.

Turn on the TV and select the AV mode.

1 Turn on the VCR.

Press **POWER**.

2 Turn on the DBS receiver.

Turn on the DBS receiver's power.

3 Access the Main Menu screen on the VCR.

Press **MENU**.

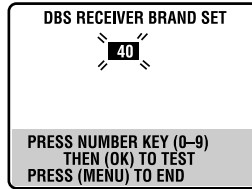
7 Access the DBS Receiver Brand Set screen.

Press **OK** or \triangleright .

8 Enter the DBS receiver's brand.

Press the appropriate **number keys** to enter the brand code from the following list, then press **OK** or \triangleright .

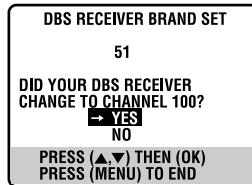
The program currently received through the DBS receiver appears for about 10 seconds.



BRAND NAME	CODE
JVC (DISH Network)	51
ECHOSTAR (DISH Network)	51
SONY (DSS)	41
RCA (DSS)	40

If the DBS receiver's channel changes to the channel listed below for your brand, setting is complete.

JVC → 100
 ECHOSTAR → 100
 SONY → 205
 RCA → 205



Press **OK** or \triangleright and "DBS RECEIVER CONTROL IS ON" appears on the screen for about 5 seconds, then it returns to the normal screen.

If the DBS receiver's channel does not change as shown above;

- 1 Press \triangle / ∇ to move the highlight bar (arrow) to "NO", then press **OK** or \triangleright .
- 2 Repeat step 8.

NOTES:

- The Controller may not work with all types of DBS receiver.
- If your DBS receiver does not respond to the code, you cannot use the Controller to change satellite channels. In this case, make sure to leave the DBS receiver turned on and tuned to the proper channel before the scheduled start time of timer recording.
- The VCR can only change the satellite channel through the Controller during timer recording.
- If your DBS receiver cannot be operated with a Remote (because it has no remote sensor), you cannot use the Controller to change its channels. Make sure to leave the DBS receiver turned on and tuned to the proper channel before the scheduled start time of timer recording.
- If the VCR's memory backup expires because of a power failure, set the cable box output channel and brand again.
- **For customers in U.S.A.:** If you are unable to set the Controller, contact JVC toll free at 1-800-537-5722.

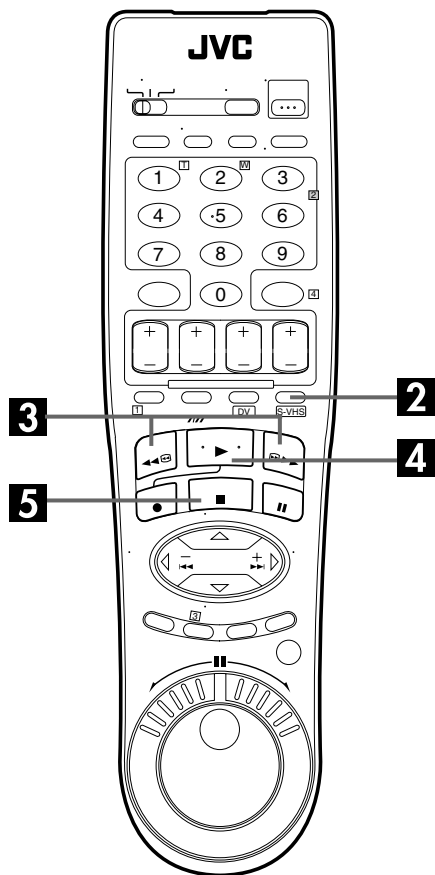
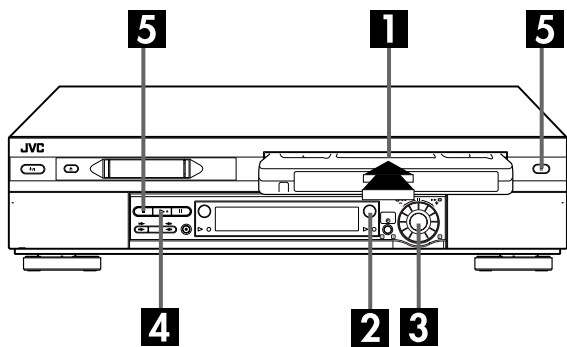
26 EN

PLAYBACK/RECORDING ON VHS DECK

Basic Playback

(VHS deck)

Turn on the TV and select the AV mode.



1 Load a cassette.

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the VCR.

- Do not apply too much pressure when inserting.
- The VCR's power comes on automatically.
- If the record safety tab has been removed, playback begins automatically.

2 Select the VHS deck.

Press **S-VHS**.

- The S-VHS button lights on the VCR.

3 Find the program start point.

If the tape is advanced past the start point, press **REW** (◀◀) or turn the **ADVANCED JOG** dial on the VCR to the left. To go forward, press **FF** (▶▶) or turn the **ADVANCED JOG** dial on the VCR to the right.

4 Start playback.

Press **PLAY** (▶). "VIDEO CALIBRATION" appears blinking on the TV screen during automatic tracking. (pg. 35)

- The VHS playback indicator lights on the VCR.

5 Stop playback.

Press **STOP** (■). Then press **EJECT** (▲) to remove the cassette.

- The VHS playback indicator turns off.

NOTE:

It is impossible to play back a tape on the VHS deck while the recording is in progress on the DV deck. When you start recording on the DV deck during playback on the VHS deck, playback stops on the VHS deck and recording continues on the DV deck.

Usable cassettes

Full-Size VHS

- T-30 (ST-30**)
- T-60 (ST-60**)
- T90
- T-120 (ST-120**)
- T-160 (ST-160**)
- ST-210**

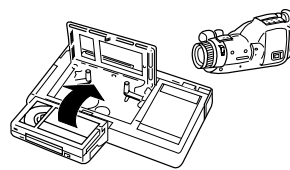
Compact VHS*

- TC-20 (ST-C20**)
- TC-30 (ST-C30**)
- TC-40 (ST-C40**)

* Compact VHS camcorder recordings can be played on this VCR. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.

**This VCR can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes¹⁾, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.

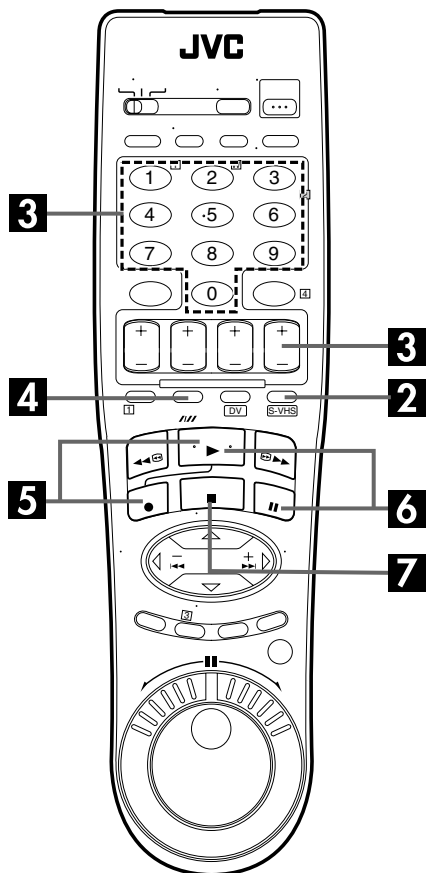
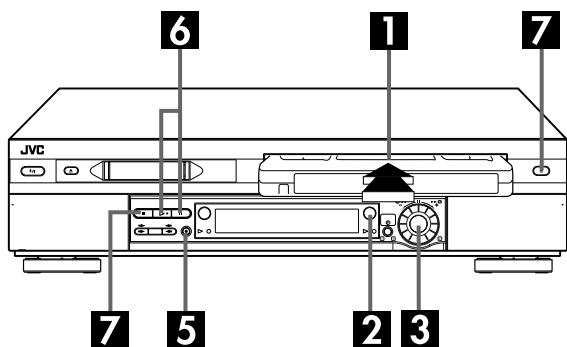
1)By using the S-VHS ET function, it is possible to record and play back with S-VHS picture quality on VHS cassettes with this VCR.



Basic Recording

(VHS deck)

Turn on the TV and select the AV mode.



1 Load a cassette.

Insert a VHS (or S-VHS) cassette with the record safety tab intact.

- The VCR's power comes on automatically.

2 Select the VHS deck.

Press **S-VHS**.

- The S-VHS button lights on the VCR.

3 Choose a program.

On the Remote

Press **CH +/-** or the **number keys**.

On the VCR

Push the **ADVANCED JOG** dial and turn it to the left or right to select the channel you wish to record.

4 Set the tape speed.

Press **SP/EP (///)**. Check the SP/EP indicator on the VCR's front display panel to confirm the selected tape speed.

5 Start recording.

Press and hold **REC (●)** and press **PLAY (▶)** on the Remote, or press **REC (●)** on the VCR.

- The VHS recording indicator lights on the VCR.

Video Calibration takes place at the beginning of both the first SP and the first EP recording after inserting the cassette. (☞ pg. 35)

6 Pause/Resume recording.

Press **PAUSE (||)**. Press **PLAY (▶)** to resume recording.

- You can select channel during the Record Pause mode.

7 Stop recording.

Press **STOP (■)**. Then press **EJECT (▲)** to remove the cassette.

- The VHS recording indicator turns off.

NOTE:

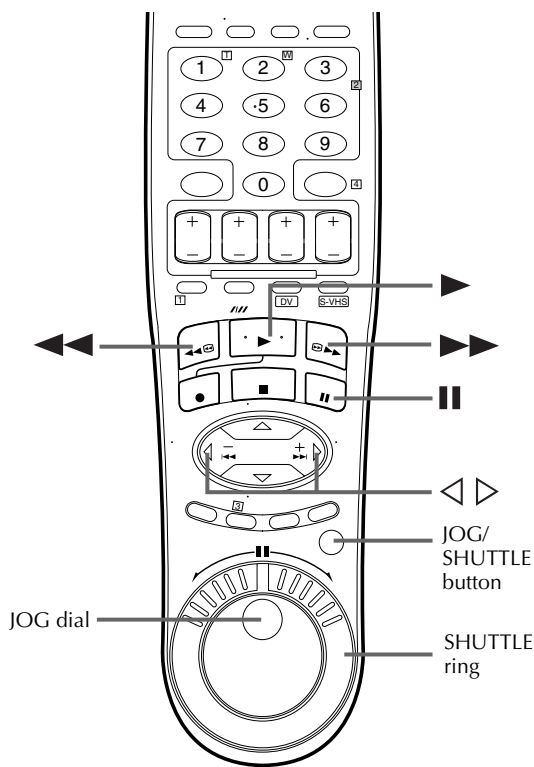
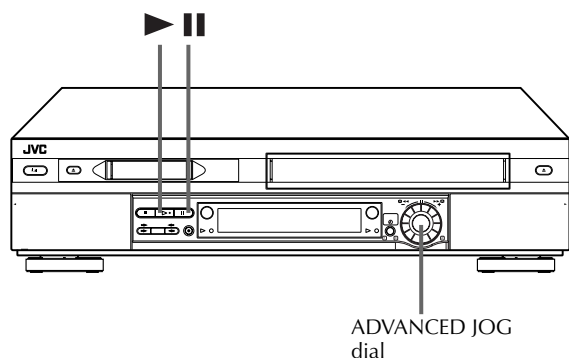
It is not possible to record a TV program on both the VHS deck and the DV deck simultaneously. However, it is possible to record simultaneously from the same external input. Set the input mode to "L-1", "L-2" or "F-1" depending on the connectors being used.

28_{EN}

PLAYBACK/RECORDING ON VHS DECK (cont.)

Playback Features

(VHS deck)



Clean the video heads using a dry cleaning cassette — TCL-2 — when:

- Rough, poor picture appears while a tape is played back.
- The picture is unclear or no picture appears.
- "USE CLEANING CASSETTE" appears on the screen (only with "SUPERIMPOSE" set to "ON" (pg. 71)). "U:01" appears on the front display panel.

Still Picture/Frame-By-Frame Playback (On the VCR)

1 Pause during playback.

Push the **ADVANCED JOG** dial.

OR

Press **PAUSE (II)**.

2 Activate frame-by-frame playback.

Turn the **ADVANCED JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE (II)** to advance a still picture.

NOTE:

Still picture playback stops automatically after 5 minutes to protect the heads.

To resume normal playback, press **PLAY (▶)** or push the **ADVANCED JOG** dial.

Slow Motion (On the VCR)

During playback, turn the **ADVANCED JOG** dial one click to the left for forward slow motion. To play in reverse slow motion, continue to turn the **ADVANCED JOG** dial to the left after selecting all the forward direction slow motion modes.

OR

During still picture, press and hold **PAUSE (II)** for more than 2 seconds, then release. Press **PAUSE (II)** and release again to return to still picture.

NOTES:

- During slow motion, some noise may appear on the TV screen. Press **CH+/-** on the Remote to eliminate the noise. However, the VCR will return to the default setting once a power failure occurs.
- Slow motion playback stops automatically after 5 minutes to protect the heads.

High-Speed (Turbo) Search (On the VCR)

During playback, turn the **ADVANCED JOG** dial quickly to the left or right.

Variable Speed Search (On the VCR)

During playback, turn the **ADVANCED JOG** dial to the right for forward variable-speed search, or to the left for reverse variable-speed search.

To resume normal playback, press **PLAY (▶)**.

Still Picture/Frame-By-Frame Playback (On the Remote)

1 Pause during playback.

Press **PAUSE** (II).

2 Activate frame-by-frame playback.

Press **JOG/SHUTTLE** so that the button lights up. Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE** (II) to advance a still picture.

OR

Press ◀ for reverse frame-by-frame playback or ▶ for forward frame-by-frame playback.

NOTE:

Still picture playback stops automatically after 5 minutes to protect the heads.

Slow Motion (On the Remote)

Press **JOG/SHUTTLE** so that the button lights up. During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion. Release to return to still picture.

OR

During still picture, press and hold **PAUSE** (II) for more than 2 seconds, then release. Press **PAUSE** (II) and release again to return to still picture.

OR

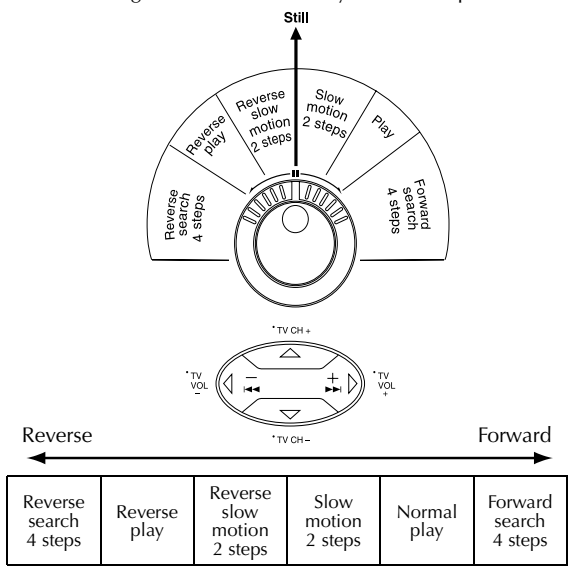
During still picture, press and hold ◀ or ▶. Release to return to still picture.

NOTES:

- During slow motion, some noise may appear on the TV screen. Press **CH+/-** to eliminate the noise. However, the VCR will return to the default setting once a power failure occurs.
- Slow motion playback stops automatically after 5 minutes to protect the heads.

To resume normal playback, press **PLAY** (▶).

You can also use the Remote's **JOG** dial/**SHUTTLE** ring for the operations. First press the **JOG/SHUTTLE** button on the Remote so that the button lights up before use. Refer to the **SHUTTLE** ring illustration below as you read the procedures.



High-Speed (Turbo) Search (On the Remote)

Press **JOG/SHUTTLE** so that the button lights up. During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** ring resumes still picture playback.

OR

During playback or still, press **FF** (▶▶) for forward high-speed search, or **REW** (◀◀) for reverse high-speed search.

NOTE:

For short searches, press and hold **FF** (▶▶) or **REW** (◀◀) for over 2 seconds during playback or still picture. When released, normal playback resumes.

Variable Speed Search (On the Remote)

Press **JOG/SHUTTLE** so that the button lights up. During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search.

OR

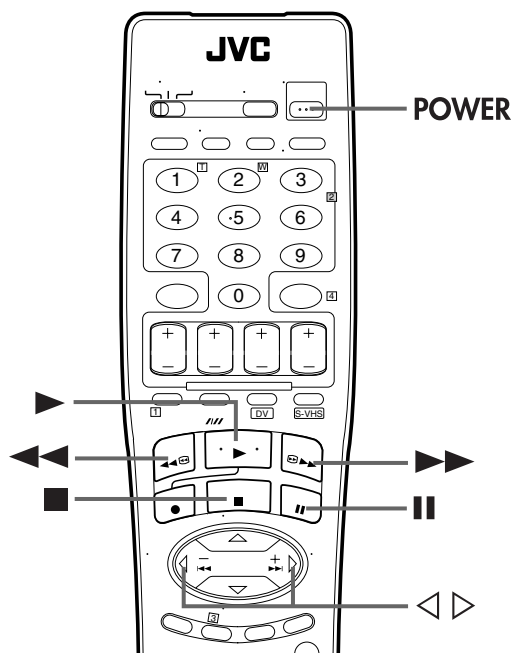
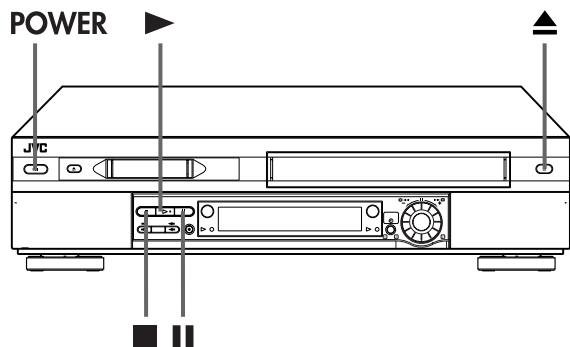
During playback, press ◀ or ▶.

- The more times you press, the faster the playback picture moves.
- To decrease speed, press the button for the opposite direction.

To resume normal playback, press **PLAY** (▶).

30 EN

PLAYBACK/RECORDING ON VHS DECK (cont.)



Repeat Playback

Your VCR can automatically play back the whole tape 100 times repeatedly.

1 Start playback.

Press **PLAY** (▶).

2 Activate Repeat Playback.

Press **PLAY** (▶) and hold for over 5 seconds, then release.

- The Play indicator (▶) on the front display panel blinks slowly.
- After playing back a tape 100 times, the VCR stops automatically.

3 Stop Repeat Playback.

Press **STOP** (■) at any time.

- Pressing **PLAY** (▶), **REW** (◀◀), **FF** (▶▶) or **PAUSE** (||) also stops Repeat Playback.

Index Search

Your VCR automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.



NOTE:

Before starting, make sure the VCR is in the Stop mode.

Activate Index Search.

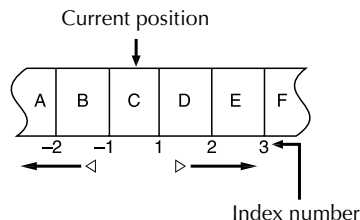
Press ◀ or ▶ (◀◀ or ▶▶). "INDEX -1" or "INDEX 1" is displayed on the TV screen and search begins in the corresponding direction.

- To access index codes 2 through 9, press ◀ or ▶ repeatedly until the correct index number is displayed.

Example:

To locate the beginning of B from the current position, press ◀ twice.

To locate the beginning of D from the current position, press ▶ once.



- When the specified index code is located, playback begins automatically.

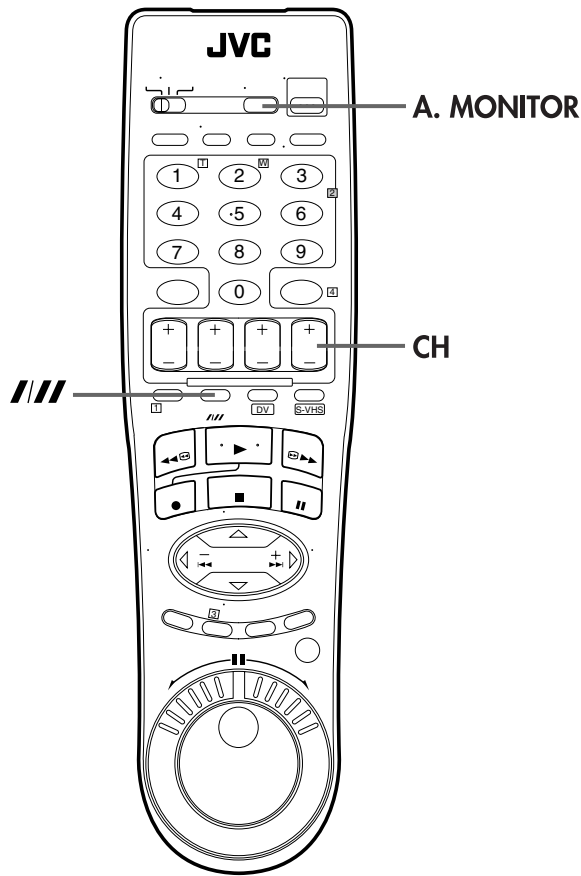
Next Function Memory

The Next Function Memory "tells" the VCR what to do after rewinding. Before continuing, make sure the VCR is in the Stop mode.

- a- For Automatic Start Of Playback
Press **REW** (◀◀), then press **PLAY** (▶) within 2 seconds.
- b- For Automatic Power Off
Press **REW** (◀◀), then press **POWER** within 2 seconds.
- c- For Automatic Cassette Ejection After Tape Rewind
Press **REW** (◀◀), then press **EJECT** (▲) within 2 seconds.

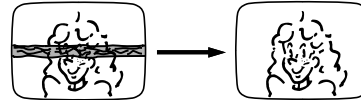
NOTE:

The Automatic Power Off does not work if "AUTO TIMER" is set to "ON" (☞ pg. 71) and if any timer programming has been made. If "AUTO TIMER" is set to "ON", the VCR directly goes into the Timer-Standby mode at the same time when the **POWER** is pressed for the Automatic Power Off.



Manual Tracking

Your VCR is equipped with automatic tracking control. During playback, you can override this and adjust the tracking manually by pressing the **CH** buttons.



1 Override automatic tracking.

Press **///** on the Remote.

2 Adjust the tracking manually.

Press **CH +** or **-**.

- Press **///** again to return to automatic tracking.

NOTE:

When a new tape is inserted, the VCR enters the automatic tracking mode automatically.

Soundtrack Selection

Your VCR is capable of recording three soundtracks (HI-FI L, HI-FI R and NORM) and will play back the one you select.

During Playback

Pressing **A. MONITOR** changes the soundtrack as follows:

- You can also select the soundtrack on the VHS MODE SET screen. (☞ pg. 75, "AUDIO MONITOR")

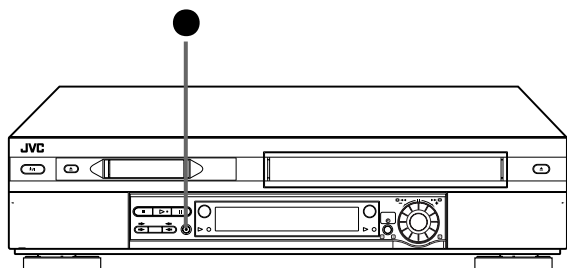
TRACK	USE
On-Screen Display	
H I-F I	Hi-Fi sound is played back
H I-F I L	Sound on the left Hi-Fi channel is played back
H I-F I R	Sound on the right Hi-Fi channel is played back
NORM	Sound on the normal track is played back
NORM H I-F I	Both sounds on the Hi-Fi track and normal track are mixed and played back

NOTES:

- "HI-FI" should normally be selected. In this mode, Hi-Fi stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.
- "SUPERIMPOSE" must be set to "ON" or the on-screen displays will not appear (☞ pg. 71).

Recording Features

(VHS deck)

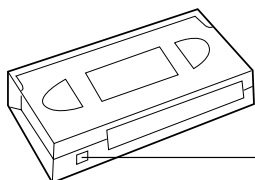


Recording Resume Function

If there is a power outage during recording, Instant Timer Recording (in the right column) or timer recording (pg. 42, 46, 48), the recording will resume automatically when power is restored to the VCR unless the VCR's memory backup has expired.

Accidental erasure prevention

To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



Record safety tab

Record One Program While Watching Another

Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.

- The program selected with the TV's channel controls appears on the TV screen, while the one selected with the VCR's CH buttons is recorded on the tape.

Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 6 hours (selectable in 30-min. increments), and shuts the VCR off after recording is finished.

1 Start recording.

Press **REC** (●) on the VCR.

2 Engage the ITR mode.

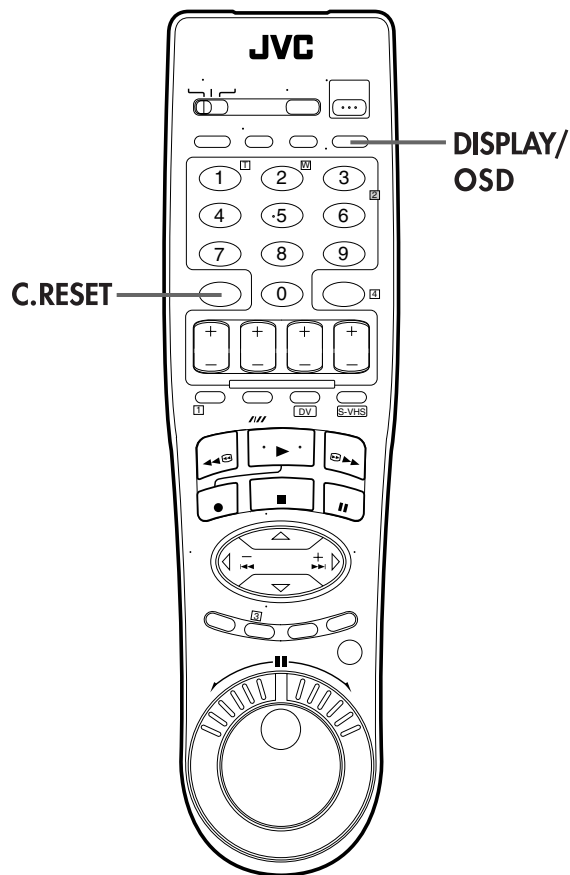
Press **REC** (●) again. "●" blinks and "0:30" appears on the front display panel.

3 Set the recording duration.

If you want to record for more than 30 minutes, press **REC** (●) to extend the time. Each press extends recording time by 30 minutes.

NOTES:

- You can only perform ITR using the **REC** (●) button on the VCR's front panel.
- You can play back a tape on DV deck while using the VHS deck for Instant Timer Recording. However, remember that the VCR will turn itself off when the Instant Timer Recording ends.



Elapsed Recording Time Indication

1 Set the counter display.

Press **DISPLAY/OSD** until a counter reading appears on the front display panel.

2 Reset the counter.

Press **C.RESET** before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs. You can check the exact time of a recording or playback.

Tape Remaining Time

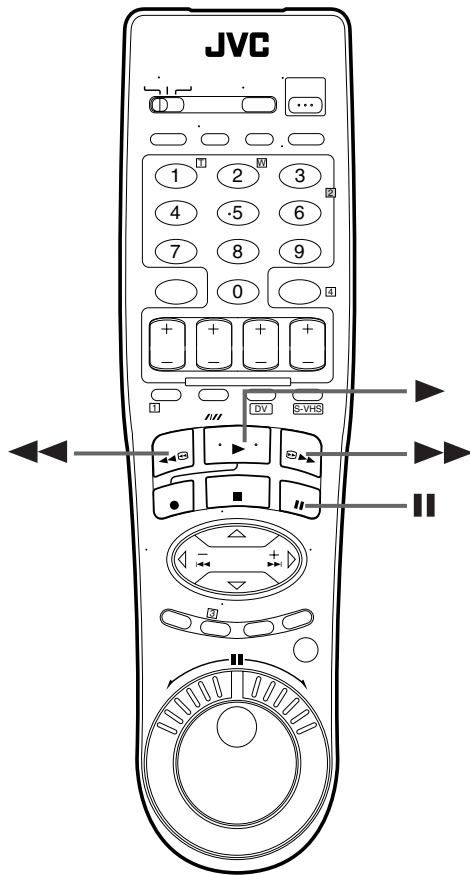
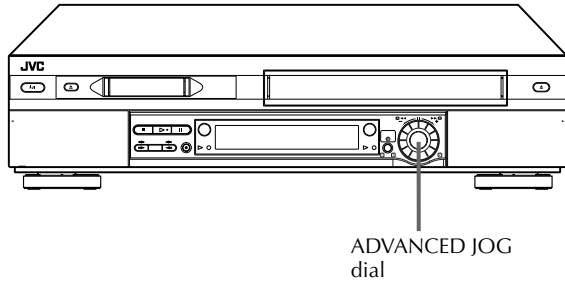
Press **DISPLAY/OSD** until the time remaining on the tape appears on the front display panel.

- The front display panel shows the tape remaining time with "▲" displayed.
- By pressing the **DISPLAY/OSD** button, you can change the display to show the counter reading, tape remaining time, channel position* or clock time.

* Channel position is not displayed during playback.

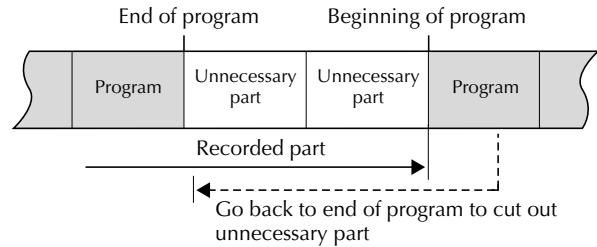
NOTES:

- When you press **DISPLAY/OSD**, the on-screen display appears (see pg. 10) on the TV screen for 5 seconds, then the displays other than the counter disappear. To clear the counter display, press **DISPLAY/OSD**.
- Depending on the type of tape being used, the tape remaining time reading may not appear right away, or is not correct. "--:--" may sometimes appear, or the display may blink on occasion.



Retake

You can cut out unnecessary parts of a TV program while you are recording it.



1 Engage the Record-Pause mode.

Press **PAUSE** (II) during recording.

2 Locate the start point.

Turn the **ADVANCED JOG** dial to the left or right (or hold down **REW** (◀◀) or **FF** (▶▶)) and release it when you reach the point where you want to resume recording.

- Your VCR returns to the Record-Pause mode.

3 Resume recording.

Press **PLAY** (▶) when you wish to resume recording.

Second Audio Recording

This VCR's built-in MTS decoder enables reception of Multichannel TV Sound broadcast. To record a SAP program received, set "2ND AUDIO RECORD" to "ON". (☞ pg. 71)

NOTES:

When the channel is changed on the VCR;

- The "STEREO" indicator appears on the screen for about 5 seconds if the program is a stereo broadcast.
- The "SAP" indicator appears on the screen for about 5 seconds if the program is a SAP broadcast.
- Both indicators appear when a stereo program is accompanied by SAP sound.

Active Video Calibration

(VHS deck)

Active Video Calibration checks the condition of the tape in use during playback and recording, and compensates to provide the highest-possible playback and recording pictures. You can set "VIDEO CALIBRATION" to "ON" or "OFF" to your preference (ⓘ pg. 73).

Playback

The VCR assesses the quality of the tape once you initiate playback.

- The VCR adjusts the playback picture quality based on the quality of the tape in use.
- Video Calibration is active during automatic tracking. The Video Calibration screen appears blinking on the TV screen.



NOTES:

- When watching a tape recorded with "VIDEO CALIBRATION" set to "ON", it is recommended that you leave VIDEO CALIBRATION on during playback as well.
- When watching a rental tape or one recorded on another VCR, or when using this VCR as the player for editing, set VIDEO CALIBRATION to your preference (ⓘ pg. 73).
- The Video Calibration screen only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the Video Calibration function is operative.

Recording

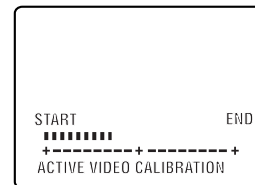
The VCR assesses the quality of the tape once you initiate recording.

- The VCR spends approximately 7 seconds assessing the condition of the tape, then begins recording.

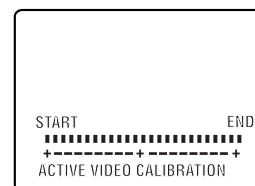
NOTES:

- The Video Calibration works for both SP and EP modes only after a tape has been inserted and the Record mode is first initiated. It does not work during recording.
- In the case of timer recordings, the Video Calibration works before recording is initiated.
- Once the cassette is ejected, the Video Calibration data is cancelled. The next time the cassette is used for recording, Video Calibration is re-performed.

DURING VIDEO CALIBRATION



VIDEO CALIBRATION COMPLETE



ATTENTION

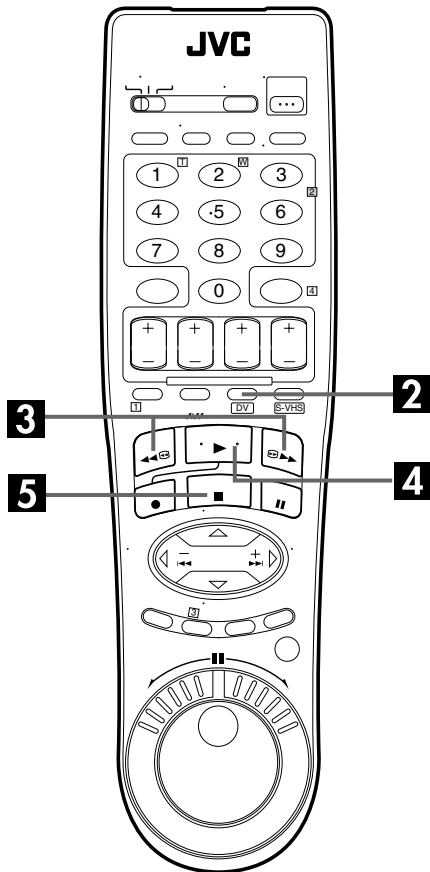
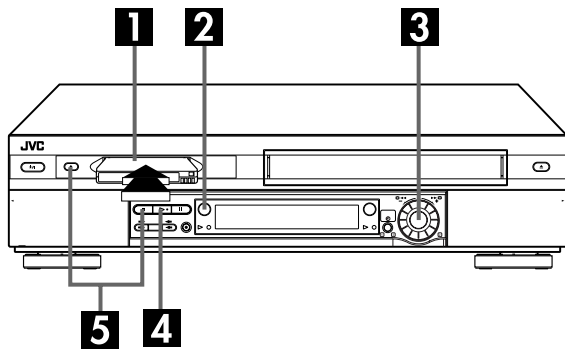
Since the Video Calibration works before recording actually starts, there is a delay of approximately 7 seconds after **REC** (●) and **PLAY** (▶) on the Remote are pressed, or **REC** (●) on the VCR is pressed. To make sure you record the desired scene or program in its entirety, first perform the following steps:

- 1 Press and hold **PAUSE** (||) and press **REC** (●) to engage the Record Pause mode.
 - The VCR then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters Record Pause mode.
 - 2 Press **PLAY** (▶) to start recording.
- If you want to bypass the Video Calibration and begin recording immediately, set "VIDEO CALIBRATION" to "OFF" (ⓘ pg. 73).

Basic Playback

(DV deck)

Turn on the TV and select the AV mode.



1 Load a cassette.

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the VCR.

- Do not apply too much pressure when inserting.
- The VCR's power comes on automatically.
- If the erase protection switch is set to "SAVE", playback begins automatically. It takes about 15 seconds until the playback picture appears.

2 Select the DV deck.

Press **DV**.

- The DV button lights on the VCR.

3 Find the program start point.

If the tape is advanced past the start point, press **REW** (◀◀) or turn the **ADVANCED JOG** dial to the left. To go forward, press **FF** (▶▶) or turn the **ADVANCED JOG** dial to the right.

4 Start playback.

Press **PLAY** (▶).

- The DV playback indicator lights on the VCR.

5 Stop playback.

Press **STOP** (■). Then press **EJECT** (▲) to remove the cassette.

- The DV playback indicator turns off.

Usable cassettes

Only cassettes marked **Mini DV_{NTSC}** can be used with the DV deck.

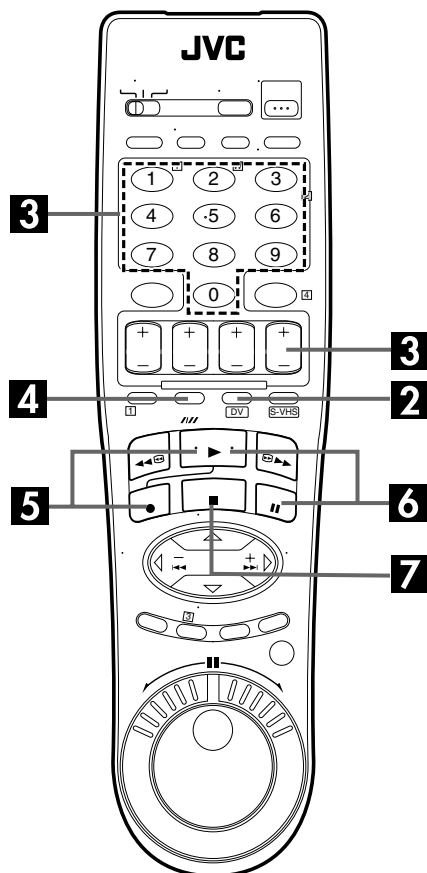
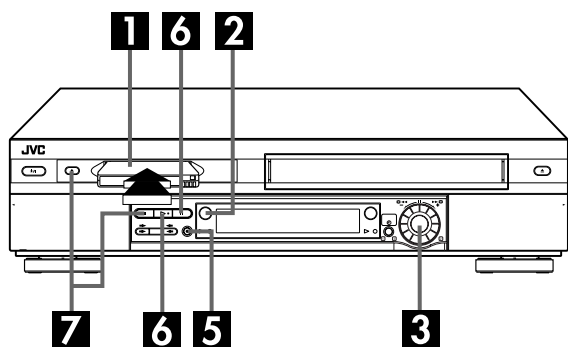
NOTE:

When you record a tape on the DV deck with the recording speed set to "LP", it is recommended to play back the tape on this DV deck. Digital video recorder from other manufacturers may not be able to play back the tape properly.

Basic Recording

(DV deck)

Turn on the TV and select the AV mode.



1 Load a cassette.

Insert a Mini DV cassette with the erase protection switch set to "REC".

- The VCR's power comes on automatically.

2 Select the DV deck.

Press **DV**.

- The DV button lights on the VCR.

3 Choose a program.

On the Remote

Press **CH +/-** or the **number keys**.

On the VCR

Push the **ADVANCED JOG** dial and turn it to the left or right to select the channel you wish to record.

4 Set the tape speed.

Press **SP/LP (//)**. Check the SP/LP indicator on the VCR's front display panel to confirm the selected tape speed.

5 Start recording.

Press and hold **REC (●)** and press **PLAY (▶)** on the Remote, or press **REC (●)** on the VCR.

- The DV recording indicator lights on the VCR.

6 Pause/Resume recording.

Press **PAUSE (||)**. Press **PLAY (▶)** to resume recording.

- You can select channel during the Record Pause mode.

7 Stop recording.

Press **STOP (■)**. Then press **EJECT (▲)** to remove the cassette.

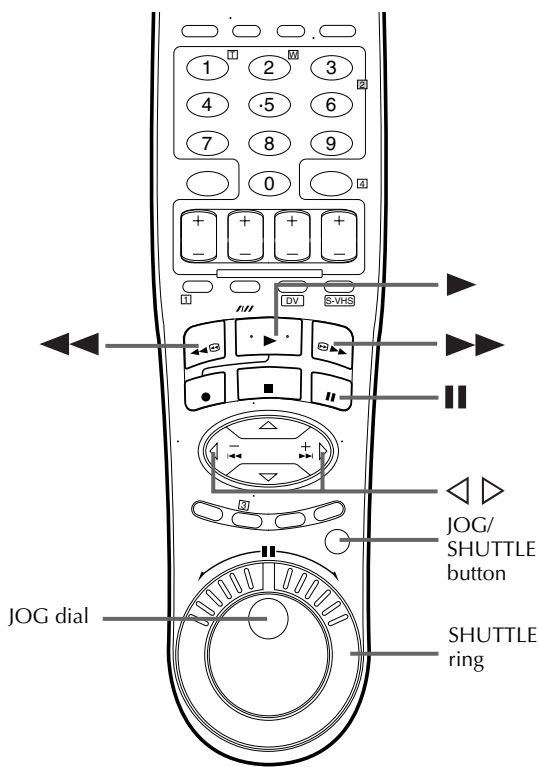
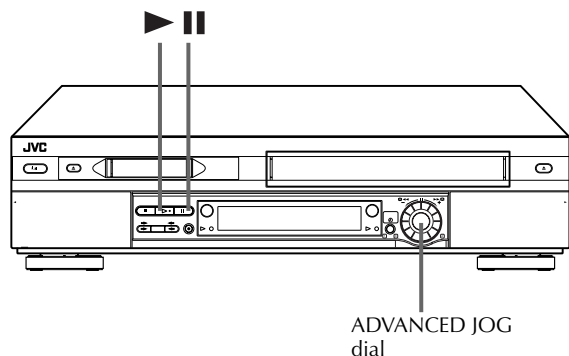
- The DV recording indicator turns off.

NOTES:

- It is not possible to record a TV program on both the VHS deck and the DV deck simultaneously. However, it is possible to record simultaneously from the same external input. Set the input mode to "L-1", "L-2" or "F-1" depending on the connectors being used.
- When you record a tape on the DV deck with the recording speed set to "LP", it is recommended to play back the tape on this DV deck. Digital video recorder from other manufacturers may not be able to play back the tape properly.

Playback Features

(DV deck)



ATTENTION

Picture may appear distorted during variable speed search.

Clean the video heads using a dry cleaning cassette — M-DV12CL — when:

- No picture during playback.
- Blocks of noise appear during playback.
- "USE CLEANING CASSETTE" appears on the screen (only with "SUPERIMPOSE" set to "ON" (pg. 71)).

Still Picture/Frame-By-Frame Playback (On the VCR)

1 Pause during playback.

Push the ADVANCED JOG dial.

OR

Press PAUSE (II).

2 Activate frame-by-frame playback.

Turn the ADVANCED JOG dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press PAUSE (II) to advance a still picture.

NOTE:

Still picture playback stops automatically after 3 minutes to protect the heads.

To resume normal playback, press PLAY (▶) or push the ADVANCED JOG dial.

Slow Motion (On the VCR)

During playback, turn the ADVANCED JOG dial one click to the left for forward slow motion. To play in reverse slow motion, continue to turn the ADVANCED JOG dial to the left.

OR

During still picture, press and hold PAUSE (II) for more than 2 seconds, then release. Press PAUSE (II) and release again to return to still picture.

NOTE:

Forward slow motion playback stops automatically after 1 minute, reverse slow motion playback after 30 seconds to protect the heads.

High-Speed (Turbo) Search (On the VCR)

During playback, turn the ADVANCED JOG dial quickly to the left or right.

Variable Speed Search (On the VCR)

During playback, turn the ADVANCED JOG dial to the right for forward variable-speed search, or to the left for reverse variable-speed search.

To resume normal playback, press PLAY (▶).

Still Picture/Frame-By-Frame Playback (On the Remote)

1 Pause during playback.

Press **PAUSE (II)**.

2 Activate frame-by-frame playback.

Press **JOG/SHUTTLE** so that the button lights up. Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

OR

Press **PAUSE (II)** to advance a still picture.

OR

Press **◀** for reverse frame-by-frame playback or **▶** for forward frame-by-frame playback.

NOTE:

Still picture playback stops automatically after 3 minutes to protect the heads.

Slow Motion (On the Remote)

Press **JOG/SHUTTLE** so that the button lights up. During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion. Release to return to still picture.

OR

During still picture, press and hold **PAUSE (II)** for more than 2 seconds, then release. Press **PAUSE (II)** and release again to return to still picture.

OR

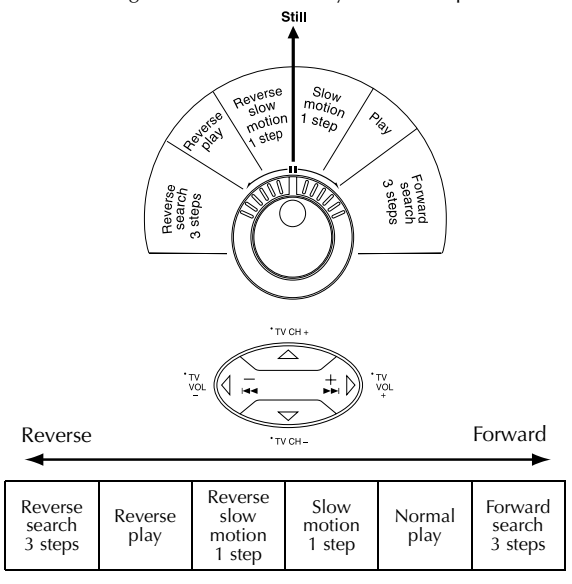
During still picture, press and hold **◀** or **▶**. Release to return to still picture.

NOTE:

Forward slow motion playback stops automatically after 1 minute, reverse slow motion playback after 30 seconds to protect the heads.

To resume normal playback, press **PLAY (▶)**.

You can also use the Remote's **JOG** dial/**SHUTTLE** ring for the operations. First press the **JOG/SHUTTLE** button on the Remote so that the button lights up before use. Refer to the **SHUTTLE** ring illustration below as you read the procedures.



High-Speed (Turbo) Search (On the Remote)

Press **JOG/SHUTTLE** so that the button lights up. During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** ring resumes still picture playback.

OR

During playback or still, press **FF (▶▶)** for forward high-speed search, or **REW (◀◀)** for reverse high-speed search.

NOTE:

For short searches, press and hold **FF (▶▶)** or **REW (◀◀)** for over 2 seconds during playback or still picture. When released, normal playback resumes.

Variable Speed Search (On the Remote)

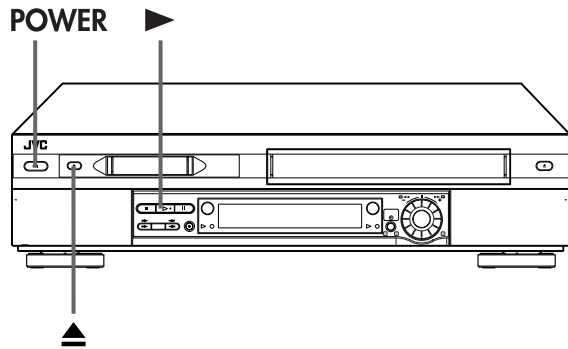
Press **JOG/SHUTTLE** so that the button lights up. During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search.

OR

During playback, press **◀** or **▶**.

- The more times you press, the faster the playback picture moves.
- To decrease speed, press the button for the opposite direction.

To resume normal playback, press **PLAY (▶)**.



Next Function Memory

The Next Function Memory "tells" the VCR what to do after rewinding. Before continuing, make sure the VCR is in the Stop mode.

- a- For Automatic Start Of Playback
Press **REW** (◀◀), then press **PLAY** (▶) within 2 seconds.
- b- For Automatic Power Off
Press **REW** (◀◀), then press **POWER** within 2 seconds.
- c- For Automatic Cassette Ejection After Tape Rewind
Press **REW** (◀◀), then press **EJECT** (▲) within 2 seconds.

NOTE:

The Automatic Power Off does not work if "AUTO TIMER" is set to "ON" (☞ pg. 71) and if any timer programming has been made. If "AUTO TIMER" is set to "ON", the VCR directly goes into the Timer-Standby mode at the same time when the **POWER** is pressed for the Automatic Power Off.

Soundtrack Selection

Your VCR is capable of recording two soundtracks (L and R) and will play back the one you select.

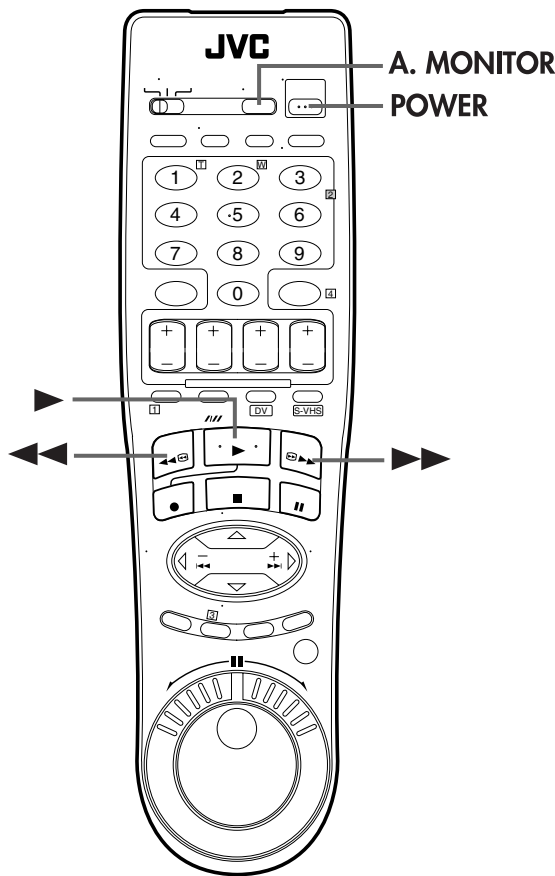
During Playback

Pressing **A. MONITOR** changes the soundtrack as follows:

TRACK	USE
On-Screen Display	
L+R	Both sounds on the left channel and the right channel are mixed and played back
L	Sound on the left channel is played back
R	Sound on the right channel is played back

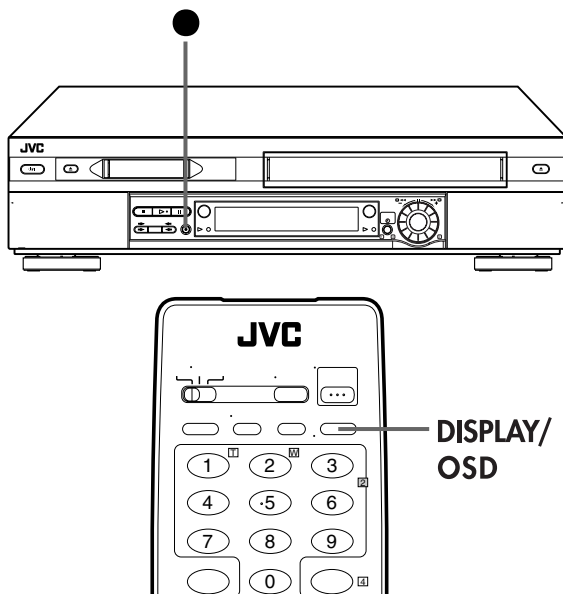
NOTE:

"SUPERIMPOSE" must be set to "ON" or the on-screen displays will not appear (☞ pg. 71).



Recording Features

(DV deck)

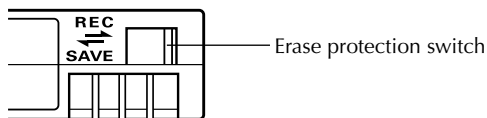


Recording Resume Function

If there is a power outage during recording, Instant Timer Recording (in the right column) or timer recording (pg. 42, 46, 48), the recording will resume automatically when power is restored to the VCR unless the VCR's memory backup has expired.

Accidental erasure prevention

To prevent accidental recording on a recorded cassette, set its erase protection switch to "SAVE". To record on it later, set the switch to "REC".



Second Audio Recording

This VCR's built-in MTS decoder enables reception of Multichannel TV Sound broadcast. To record a SAP program received, set "2ND AUDIO RECORD" to "ON". (pg. 71)

NOTES:

- When the channel is changed on the VCR;
- The "STEREO" indicator appears on the screen for about 5 seconds if the program is a stereo broadcast.
- The "SAP" indicator appears on the screen for about 5 seconds if the program is a SAP broadcast.
- Both indicators appear when a stereo program is accompanied by SAP sound.

Record One Program While Watching Another

Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.

- The program selected with the TV's channel controls appears on the TV screen, while the one selected with the VCR's CH buttons is recorded on the tape.

Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 2 hours (selectable in 30-min. increments), and shuts the VCR off after recording is finished.

1 Start recording.

Press **REC** (●) on the VCR.

2 Engage the ITR mode.

Press **REC** (●) again. "●" blinks and "0:30" appears on the front display panel.

3 Set the recording duration.

If you want to record for more than 30 minutes, press **REC** (●) to extend the time. Each press extends recording time by 30 minutes.

NOTE:

You can only perform ITR using the **REC** (●) button on the VCR's front panel.

Time Code

During recording, a time code is recorded on the tape. This time code is used to confirm the position on the tape when playing back or editing a tape. To perform Random Assemble Editing (pg. 64), time code is necessary.

Press **DISPLAY/OSD** until the time code on the tape appears on the front display panel.

- By pressing the **DISPLAY/OSD** button, you can change the display to show the time code, channel position*, clock time.
 - * Channel position is not displayed during playback.
- If "TIME CODE" is set to "ON" (pg. 76), the time code always appears on the TV screen while the DV deck is being selected. (pg. 11)

NOTES:

The presence of a blank (unrecorded) portion in the middle of a tape can result in misoperation.

A "blank portion" of a tape is a section where nothing is recorded on the tape. If you start recording in a blank portion of a tape, the time codes will start from "0:00:00:00" again. If identical time codes are recorded in two different places on a tape, Random Assemble Editing and other similar functions might not operate properly.

In the following cases, you should play back the tape and confirm where a scene ends, and then begin recording from there:

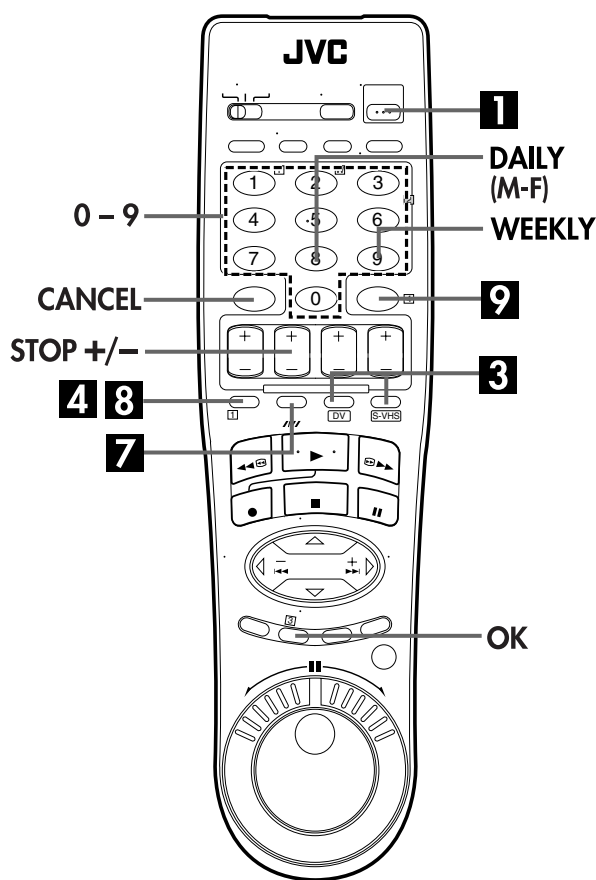
- When starting recording in the middle of a tape on which a recording has already been made.
- When you finish recording on a tape, then played back that recording in order to check it, and now wish to continue recording.
- When you lost power or the batteries died while you were recording with a camcorder.

VCR Plus+® Timer Programming

With the VCR Plus+ system, timer programming is greatly simplified because each TV program has a corresponding code number which your VCR is able to recognize.

Before performing the VCR Plus+ Timer Programming:

- Make sure that the VCR's built-in clock is set properly.
- Turn on the TV and select the AV mode.



1 Turn on the VCR.

Press **POWER**.

2 Load a cassette.

Insert a VHS (or S-VHS) cassette with the record safety tab intact.

OR

Insert a Mini DV cassette with the erase protection switch set to "REC".

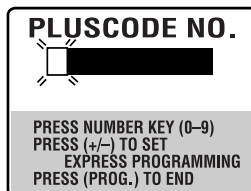
3 Select the deck.

Press **S-VHS** or **DV**.

4 Access the PlusCode No. screen.

Press **PROG.**

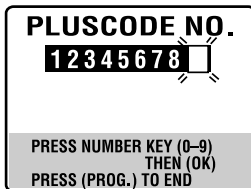
- The clock must be set to access the PlusCode No. screen. If you have not set the clock, the Main Menu screen appears after an error message is displayed. Refer to "Plug & Play Set" (pg. 14) or "Clock Set" (pg. 16).



5 Enter the PlusCode number.

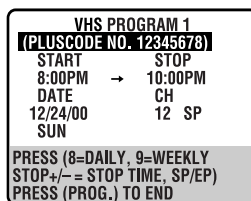
Press the **number keys** to enter the PlusCode number of a program you wish to record. Then press **OK**.

- If you make a mistake, press **CANCEL** and input the correct number.



6 Access the VCR Plus+ Program screen.

The VCR Plus+ Program screen appears (if you're just starting out and you have selected the VHS deck, "VHS PROGRAM 1" appears).



IMPORTANT

Make sure the channel position number you wish to record is displayed; if not, see "Changing VCR Plus+ Setting" on page 44 and set the Guide Channel number correctly.

- If the number you entered is invalid, "ERROR" appears on the TV screen. Press **CANCEL** and input a valid PlusCode number.
- If the "GUIDE CHANNEL SET" screen appears, see "ATTENTION" on page 43.