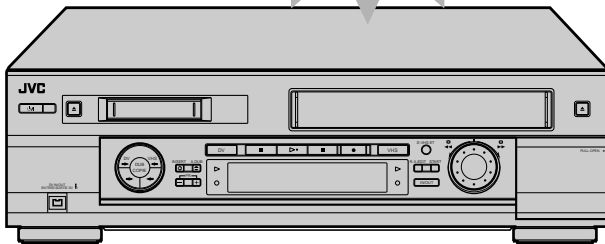


JVC

ENGLISH

Mini DV/S-VHS VIDEO CASSETTE RECORDER

HR-DVS2EU



G-CODE™ / SHOWVIEW™

Hi-Fi S VHS 625 Mini DV PAL

Super VHS ET

INSTRUCTIONS

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Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING

There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).

1. This recorder can also receive SECAM-B colour television signals for recording and playback.
2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.

IMPORTANT

- Please read the various precautions on page 2 and 3 before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.



- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
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 recorder.
- Cassettes marked "Mini DV" can be used with the DV deck of this recorder. The DV deck can play back and record only PAL signals.
- G-CODE is a trademark of Gemstar Development Corporation and is registered in the following countries: Australia, China, Hong Kong, Japan, South Korea, New Zealand and Taiwan.
SHOWVIEW is a trademark of Gemstar Development Corporation and is registered in the following countries: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Russia, Slovakia, South Africa, Spain, Sweden, and Switzerland. The G-CODE/SHOWVIEW system is manufactured under license from Gemstar Development Corporation.
G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature. However, for simplicity, only the term SHOWVIEW will be used. If you use G-CODE system, follow the same steps listed for the SHOWVIEW system.

The STANDBY/ON $\cup/1$ button does not completely shut off mains power from the unit, but switches operating current on and off. " \cup " shows electrical power standby and " 1 " shows ON.

Video tapes recorded with this video recorder in the LP/EP (Long Play/Extended Play) mode cannot be played back on a single-speed video recorder.

When the equipment is installed in a cabinet or a shelf, make sure that it has sufficient space on all sides to allow for ventilation (10 cm or more on both sides, on top and at the rear.)

When discarding batteries, environmental problems must be considered and the local rules or laws governing the disposal of these batteries must be followed strictly.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. DO NOT place the recorder...

- ... in an environment prone to extreme temperatures or humidity.
- ... in direct sunlight.
- ... in a dusty environment.
- ... in an environment where strong magnetic fields are generated.
- ... on a surface that is unstable or subject to vibration.

2. DO NOT block the recorder's ventilation openings or holes.

(If the ventilation openings or holes are blocked by a newspaper or cloth, etc., the heat may not be able to get out.)

3. DO NOT place heavy objects on the recorder or remote control.

4. DO NOT place anything which might spill on top of the recorder or remote control.

(If water or liquid is allowed to enter this equipment, fire or electric shock may be caused.)

5. DO NOT expose the apparatus to dripping or splashing.

6. DO NOT use this equipment in a bathroom or places with water. Also DO NOT place any containers filled with water or liquids (such as cosmetics or medicines, flower vases, potted plants, cups, etc.) on top of this unit.

7. DO NOT place any naked flame sources, such as lighted candles, on the apparatus.

8. AVOID violent shocks to the recorder during transport.

MOISTURE CONDENSATION

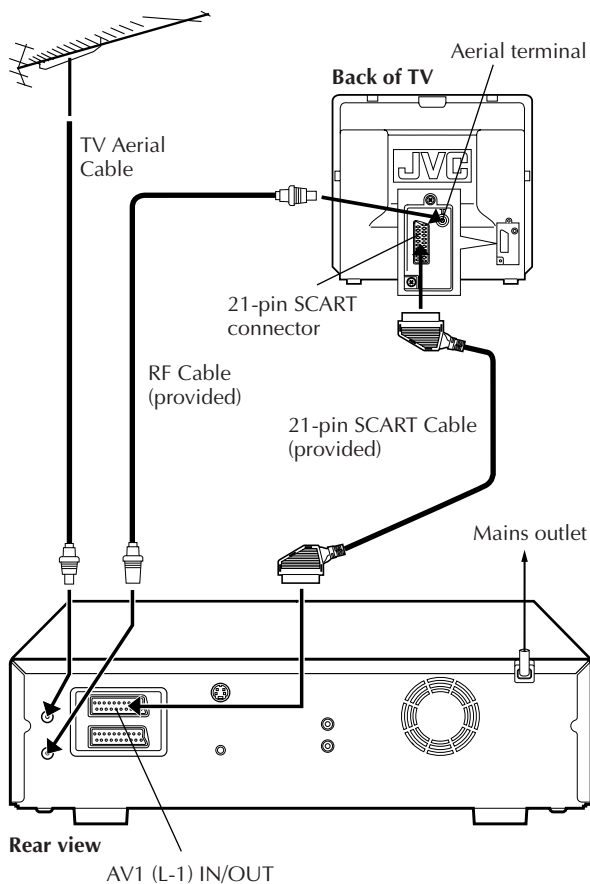
Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

NOTE:

The fan on the rear panel may run although the recorder is turned off in the following cases, for example:

- in timer standby mode, several hours before the VPS/PDC recording starts.
- if you connect a decoder or satellite receiver to the AV2 (L-2) IN/DECODER connector and "L-2 SELECT" is set to "DECODER" or "SAT".
- if "JUST CLOCK" is set to "ON".

Basic Connection



Rear view

AV1 (L-1) IN/OUT

ATTENTION:

Your TV must have a 21-pin AV input connector (SCART) for the connection to the recorder.

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

1 CHECK CONTENTS

Make sure the package contains all of the accessories listed in "Specifications" (☞ pg. 86).

2 SITUATE RECORDER

Place the recorder on a stable, horizontal surface.


3 CONNECT RECORDER TO TV

- Disconnect the TV aerial cable from the TV.
- Connect the TV aerial cable to the ANTENNA IN jack on the rear panel of the recorder.
- Connect the provided RF cable between the ANTENNA OUT jack on the rear panel of the recorder and the TV's aerial terminal.
- Connect the provided SCART cable between the AV1 (L-1) IN/OUT socket on the rear panel of the recorder and the TV's 21-pin SCART connector.

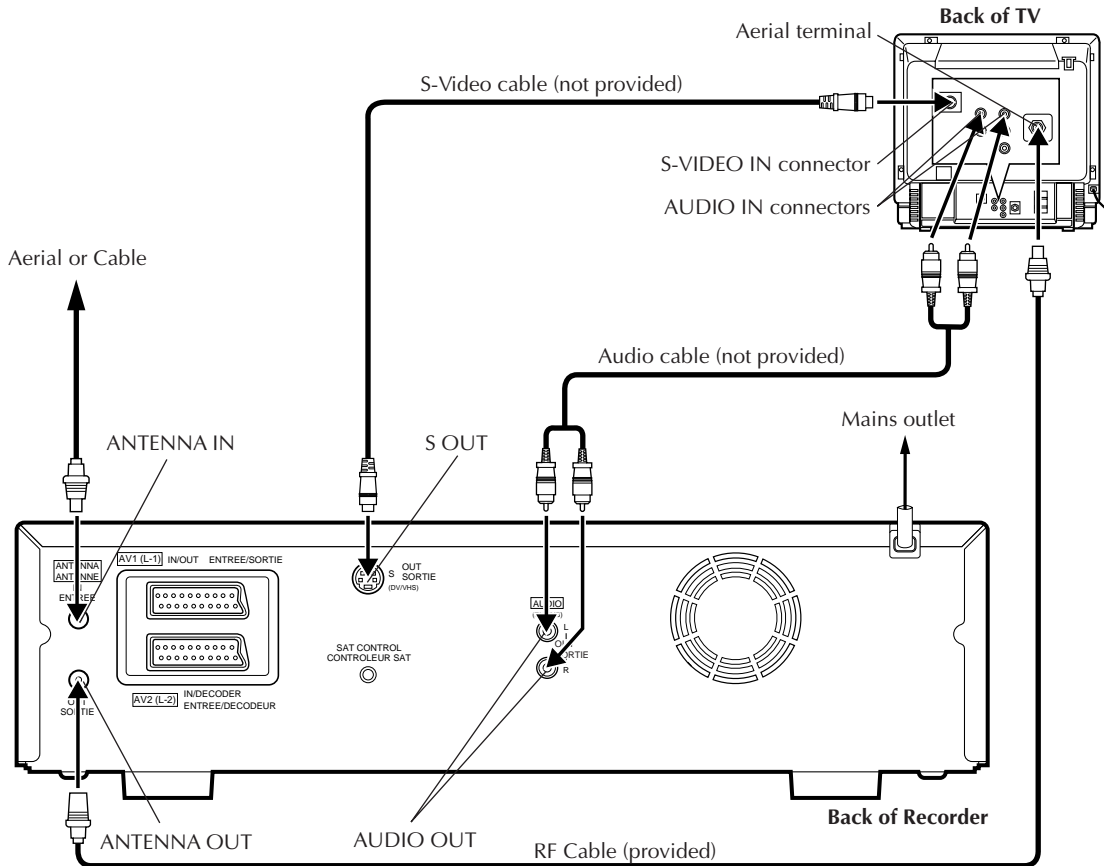
- The AV1 (L-1) IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set "L-1 OUTPUT" to "S-VIDEO" after the connection and the initial settings are completed (☞ pg. 58). You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)
- Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.
- For switching the TV's mode, refer to the instruction manual of your television.
- To obtain high-quality S-VHS pictures, you can also use the S-VIDEO Connection described on page 5.

4 CONNECT RECORDER TO MAINS

Connect the provided mains power cord between the mains power inlet on the rear panel of the recorder and a mains outlet.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the  button on the recorder/remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

S-VIDEO Connection



- To Connect to A TV With S-VIDEO/AUDIO IN Connectors . . .

1 CONNECT RECORDER TO TV

- Connect the aerial, recorder and TV as per "Basic Connection" (☞ pg. 4).
- Connect the recorder's S OUT connector to the TV's S-VIDEO IN connector.
- Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

2 CONNECT RECORDER TO MAINS

Connect the provided mains power cord between the mains power inlet on the rear panel of the recorder and a mains outlet.

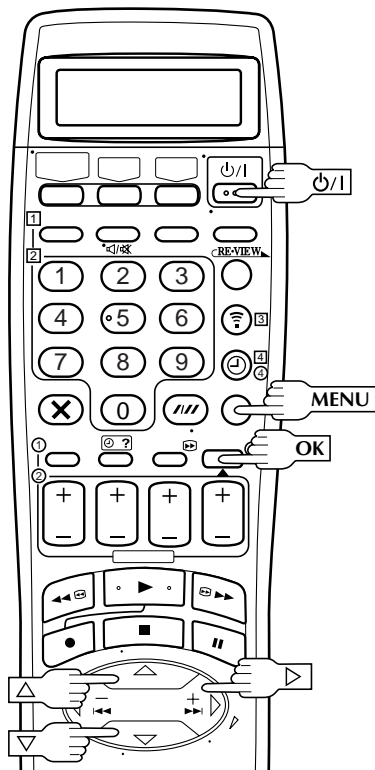
NOTES:

- You can obtain high-quality S-VHS pictures.
- If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (☞ pg. 63)
- To operate the recorder with your TV using the S-VIDEO connection, set your TV to the AV mode.
- For switching the TV's mode, refer to the instruction manual of your television.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the ψ /I button on the recorder/remote control is pressed for the first time to power on the recorder; go to page 6 to perform Auto Set Up.

Auto Set Up

Auto Channel Set/Auto Clock Set/Auto Guide Program Number Set



International Telephone Country Code

BELGIUM	: 32	NORGE	: 47
ČESKÁ REPUBLIKA	: 42	ÖSTERREICH	: 43
DANMARK	: 45	POLSKA	: 48
DEUTSCHLAND	: 49	PORTUGAL	: 351
ESPAÑA	: 34	SUISSE	: 41
GREECE	: 30	SUOMI	: 358
ITALIA	: 39	SVERIGE	: 46
MAGYARORSZÁG	: 36	OTHER WESTERN EUROPE	: --
NEDERLAND	: 31	OTHER EASTERN EUROPE	: EE

ATTENTION

Once you have performed Auto Set Up, even if the recorder's memory backup has expired, all the stored stations and their Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. You only need to set the clock. (pg. 76)

If you have moved to a different area, perform each setting as required.

- Tuner setting (pg. 68)
- Clock setting (pg. 76)

If a new station starts broadcasting in your area, perform tuner setting (pg. 68).

When the P/I button on the recorder/remote control is pressed for the first time to power on the recorder after you plug the mains power cord into a mains outlet, the Country Set display will appear on the TV screen and the recorder's front display panel. By simply selecting your country*, the Auto Set Up function sets the tuner channels, clock** and Guide Program numbers automatically.

* If you live in Belgium (BELGIUM) or Switzerland (SUISSE), you also need to select your language.

** If you live in Hungary (MAGYARORSZÁG), Czech Republic (ČESKÁ REPUBLIKA), Poland (POLSKA) or other countries in Eastern Europe (OTHER EASTERN EUROPE), set the clock manually.

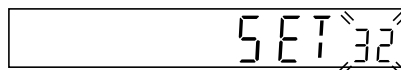
You can refer to the front display panel and/or the on-screen display to perform this procedure.

Before starting, make sure of the following:

- The TV aerial cable should be connected to the recorder.
- The recorder's mains power cord should be connected to a mains outlet.
- If you want to use the on-screen display, the TV should be set to its AV mode.

1 TURN ON THE RECORDER

Press P/I on the recorder or remote control. The Country Set display appears on the front display panel and/or on the screen.



BELGIUM
 ČESKÁ REPUBLIKA
 DANMARK
 DEUTSCHLAND
 ESPAÑA
 GREECE
 ITALIA
 MAGYARORSZÁG
 NEXT PAGE
 [▲▼] → [OK]
 [MENU] : EXIT

2 SELECT COUNTRY

If you are referring to the front display panel

Press Δ/∇ to select your international telephone country code of your country referring to the chart in the left column.

(Ex.) DEUTSCHLAND is selected



If you are referring to the on-screen display

Press Δ/∇ to move the highlight bar (pointer) to your country's name.

BELGIUM
 ČESKÁ REPUBLIKA
 DANMARK
 DEUTSCHLAND
 ESPAÑA
 GREECE
 ITALIA
 MAGYARORSZÁG
 NEXT PAGE
 [▲▼] → [OK]
 [MENU] : EXIT

NOTE:

If you have selected BELGIUM (32) or SUISSE (41), go to step 3. If you have selected MAGYARORSZÁG (36), ČESKÁ REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE), press **OK**. The Clock Set screen will appear. Set the clock manually (pg. 76 – 77), then go to step 4. If you have selected any other country name (code), go to step 4.

3

SELECT LANGUAGE

Press **OK**. The Language Set display appears on the front display panel and/or on the screen.

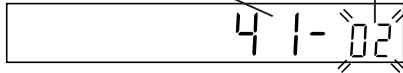
If you are referring to the front display panel

Press $\Delta \nabla$ to select your language code.

Language Code			
ENGLISH	: 01	NEDERLANDS	: 06
DEUTSCH	: 02	SVENSKA	: 07
FRANCAIS	: 03	NORSK	: 08
ITALIANO	: 04	SUOMI	: 09
CASTELLANO	: 05	DANSK	: 10

(Ex.) DEUTSCH is selected for SUISSE

International telephone country code Language code



If you are referring to the on-screen display

Press $\Delta \nabla$ to move the highlight bar (pointer) to the language of your choice.



(Ex.) DEUTSCH is selected.

4

PERFORM AUTO SET UP

Press **OK**.

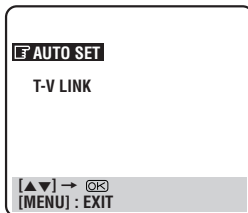
If you are referring to the front display panel

Press $\Delta \nabla$ to select "Auto" and press **OK** or \triangleright .



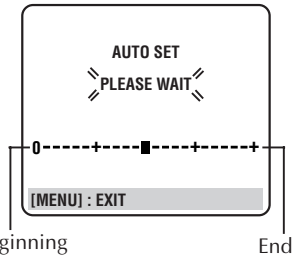
If you are referring to the on-screen display

Press $\Delta \nabla$ to move the highlight bar (pointer) to "AUTO SET" and press **OK** or \triangleright .



"Auto" blinks on the display panel; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(CH)1" or "-:--" as illustrated on page 9.

- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the "■" mark on the screen moves from left to right. When the Auto Set Up is completed, "SCAN COMPLETED" appears for about 5 seconds, then the normal screen appears.



- When you have connected the video recorder to a TV offering T-V Link via a 21-pin SCART cable (pg. 4) and the TV is turned on, the recorder automatically performs the Preset Download (pg. 8) even if you select "Auto" for Auto Set Up function.

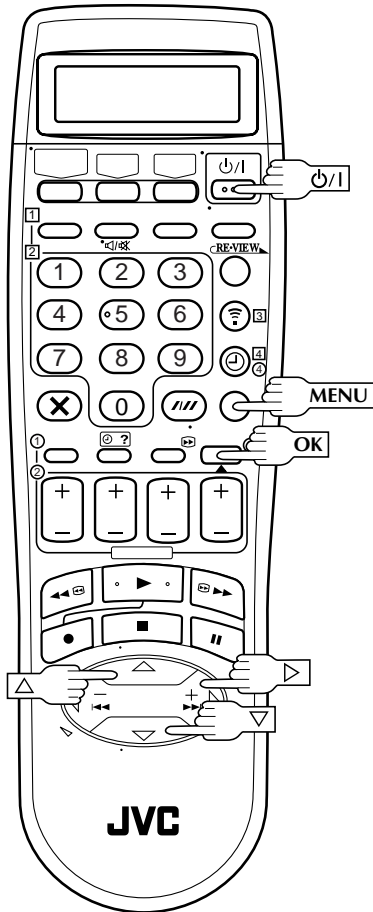
NOTES:

- Auto channel set function takes place first; it assigns automatically all receivable stations in your area.
- Auto clock set function sets the clock automatically by reading the clock setting data from a station transmitting a PDC signal while auto channel set is being performed.
- During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets the SHOWVIEW system assigned Guide Program number for those stations according to the broadcast area.
- In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.
- If there is a power cut, or if you press \odot/I or **MENU** while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and try again from step 1.
- Auto clock may not function properly depending on the reception condition.
- If no sound accompanies the picture or the audio sounds unnatural on some channels that have been stored by Auto Set Up, the TV system setting for those channels may be incorrect. Select the appropriate TV system for those channels (pg. 71, "INFORMATION").

Preset Download

You can use this function only with the TV offering T-V Link, etc.*

* Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NexTVView Link via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.



When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 4), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (☞ pg. 6). After downloading is completed, the recorder sets the clock and Guide Program number automatically. For details, refer to the instruction manual for your TV.

Perform steps 1 to 3 of "Auto Set Up" on page 6 and 7 before continuing.

PERFORM PRESET DOWNLOAD

Press **OK**.

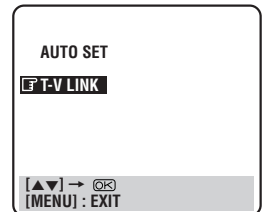
If you are referring to the front display panel

Press $\Delta \nabla$ to select "CH --" and press **OK** or \triangleright .



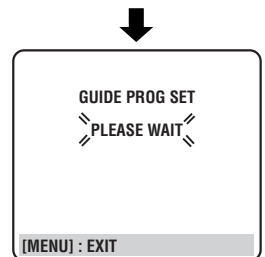
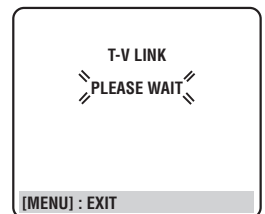
If you are referring to the on-screen display

Press $\Delta \nabla$ to move the highlight bar (pointer) to "T-V LINK" and press **OK** or \triangleright .



Preset position on the display panel increases from "CH1"; do NOT press any button on the recorder or remote control until the display panel shows clock time, "(CH)1" or "--:--" as illustrated on page 9.

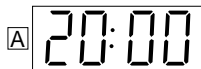
- If you are using the on-screen display, the T-V LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set. When Preset Download is completed, "COMPLETED" appears for about 5 seconds, then the normal screen appears.
- If you press any button on the recorder or remote control while downloading is in progress, it will be interrupted.



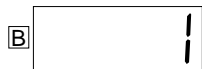
NOTES:

- In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.
- If there is a power cut, or if you press P/I or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.
- Auto clock may not function properly depending on the reception condition.
- When you perform T-V LINK function, be sure to use fully-wired 21-pin SCART cable.
- On this recorder, the characters available for station's name (ID) are A-Z, 0-9, -, *, + and (space). Some downloaded station's name may differ from those of your TV (☞ pg. 73).

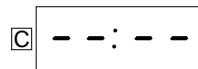
Results of Auto Set Up/Presets Download appear on the front display panel



When both auto channel set and auto clock set have been completed successfully the correct current time will be displayed after the **OK** button is pressed in step 4 on page 7 or in step 1 on page 8.



When auto channel set has been completed successfully but auto clock set has not, "1" (channel position) will be displayed after the **OK** button is pressed in step 4 on page 7 or in step 1 on page 8.



When neither auto channel set nor auto clock set has been completed successfully, "--:--" will be displayed.

You can check if the Guide Program numbers have been set correctly when you perform the **SHOWVIEW** Timer Programming (☞ pg. 34); if the correct channel position number is displayed in step 4, this confirms that the Guide Program number for the **SHOWVIEW** number you enter in step 3 has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

- 1 Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **PR** button(s).
 - If station names (ID — ☞ pg. 74) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
 - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 70 – 75.

B If auto channel set has succeeded but auto clock set has not:

- 1 Turn on the TV and select its AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **PR** button(s).
 - If station names (ID — ☞ pg. 74) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
 - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 70 – 75.
- 2 Perform "Clock Set" on page 76.

C If both auto channel set and auto clock set have failed:

- 1 Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.
 - The Country Set display appears on the front display panel and/or on the screen; perform steps 2 – 4 on pages 6 – 7 again or perform the procedure on page 8.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using the **SHOWVIEW** system, the recorder will record a TV programme of a different station. When programming the timer using the **SHOWVIEW** system, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (☞ pg. 34, "SHOWVIEW Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ☞ "Delete A Channel" on page 71.

INFORMATION

Language for the on-screen display

Auto Set Up also selects the language automatically for the on-screen display depending on the Country setting you have made in step 2 on page 6 (unless you have selected **BELGIUM** or **SUISSE**), as shown below.

SUOMI	→	SUOMI	DANMARK	→	DANSK	NEDERLAND	→	NEDERLANDS
PORTUGAL	→	ENGLISH	ÖSTERREICH	→	DEUTSCH	GREECE	→	ENGLISH
DEUTSCHLAND	→	DEUTSCH	ČESKÁ REPUBLIKA	→	ENGLISH	OTHER WESTERN EUROPE	→	ENGLISH
POLSKA	→	ENGLISH	ITALIA	→	ITALIANO	OTHER EASTERN EUROPE	→	ENGLISH
NORGE	→	NORSK	MAGYARORSZÁG	→	ENGLISH			
SVERIGE	→	SVENSKA	ESPAÑA	→	CASTELLANO			

If you want to change the language setting manually, ☞ "Language" on page 10.

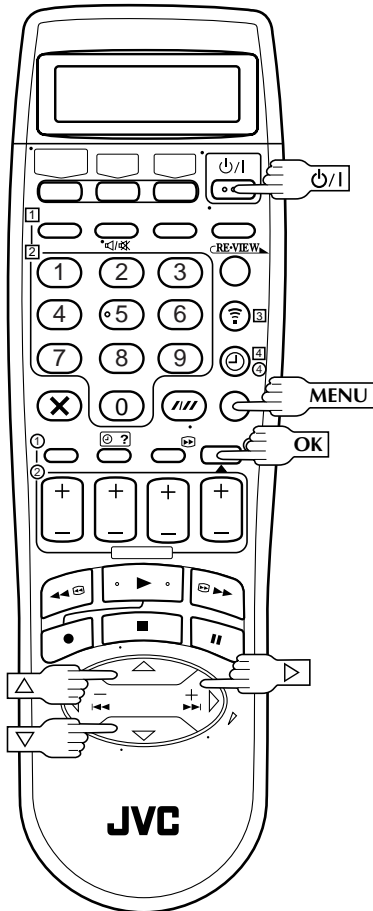
Just Clock

Your recorder is equipped with the Just Clock function which provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal. If you want to take advantage of this function, simply set it to "ON".

☞ "Just Clock" on page 76.

Language

Turn on the TV and select the AV mode.



This recorder offers you the choice to view on-screen messages in 10 different languages. Though Auto Set Up selects the language automatically (pg. 9), you can change the language setting manually using this procedure as required.

1 TURN ON THE RECORDER

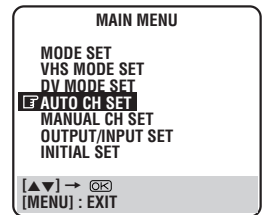
Press \mathcal{P}/I .

2 ACCESS MAIN MENU

Press **MENU**.

3 ACCESS COUNTRY SET SCREEN

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



4 SELECT COUNTRY

Press Δ/∇ to move the highlight bar (pointer) to your country's name, then press **OK** or \triangleright .

5 SELECT LANGUAGE

Press Δ/∇ to move the highlight bar (pointer) to the language of your choice.

- You do not have to press **OK**; pressing **OK** enters Auto Set/T-V LINK screen.

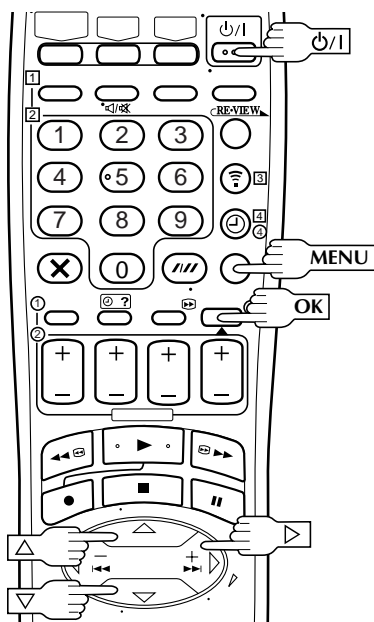


6 RETURN TO NORMAL SCREEN

Press **MENU**.

On-Screen Displays

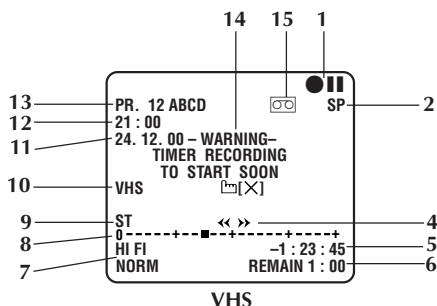
Turn on the TV and select the AV mode.



NOTES:

- When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.
- During playback, the operation mode indicators may be disturbed depending on the type of tape being used.

The superimposed indication on the TV screen tells you what the recorder is doing.



- 1- Operation mode indicators
- 2- Tape speed SP/LP/EP
- 3- Sound mode indicator (DV) (☞ pg. 25)
- 4- Tape direction (VHS)
Time code (DV) (☞ pg. 24)
- 5- Counter display (VHS)
- 6- Tape remaining time indicator (VHS) (☞ pg. 29)
- 7- Audio mode display (☞ pg. 24, 25)
- 8- Tape position indicator (VHS) (☞ pg. 24)
- 9- Type of Broadcast (☞ pg. 31)

You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF. Messages appear in the selected language (☞ pg. 9 or 10).

1 TURN ON THE RECORDER

Press **⏻/I**.

2 ACCESS MAIN MENU SCREEN

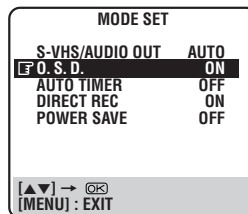
Press **MENU**.

3 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing **△▽**, then press **OK** or **▷**.

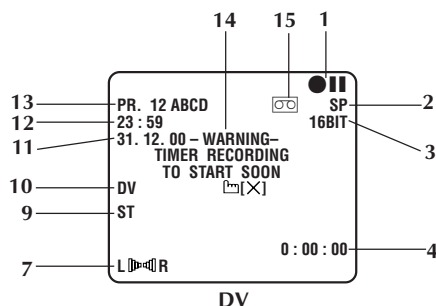
4 ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step 5. If you don't want the displays to appear, press **△▽** to move the highlight bar (pointer) to "O.S.D." and press **OK** or **▷** to set "O.S.D." to "OFF".



5 RETURN TO NORMAL SCREEN

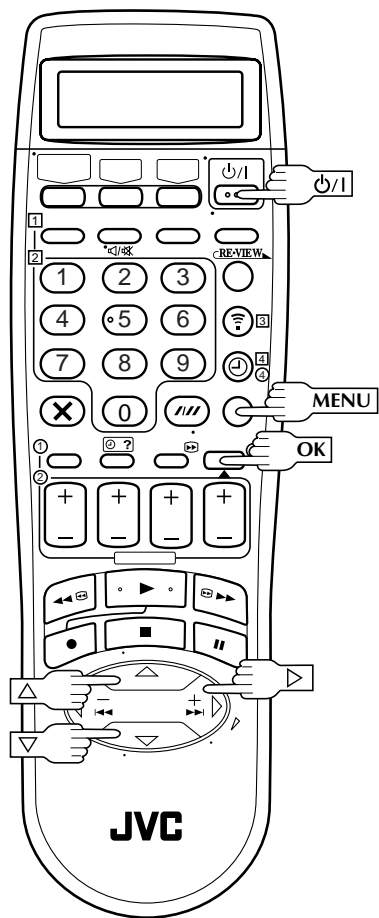
Press **MENU**.



- 10- VHS/DV indicator
- 11- Current day/month/year
- 12- Clock display
- 13- Channel position number and station name/Aux. indicator (L-1, L-2, F-1 or SAT*)
* When "L-2 SELECT" is set to "SAT" (☞ pg. 58), "SAT" appears instead of "L-2".
- 14- Timer warning display (☞ pg. 35, 37)
- 15- Cassette loaded mark

Power Save Mode

Turn on the TV and select the AV mode.



You can reduce the power consumption while the recorder is turned off.

1 TURN ON THE RECORDER

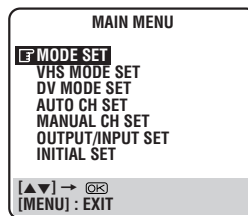
Press **Power**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

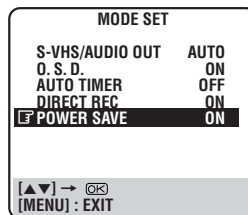
3 ACCESS MODE SET SCREEN

Press **Up/Down** to move the highlight bar (pointer) to "MODE SET", then press **OK** or **Right**.



4 SELECT POWER SAVE MODE

Press **Up/Down** to move the highlight bar (pointer) to "POWER SAVE", then press **OK** or **Right** to set to "ON".



5 RETURN TO NORMAL SCREEN

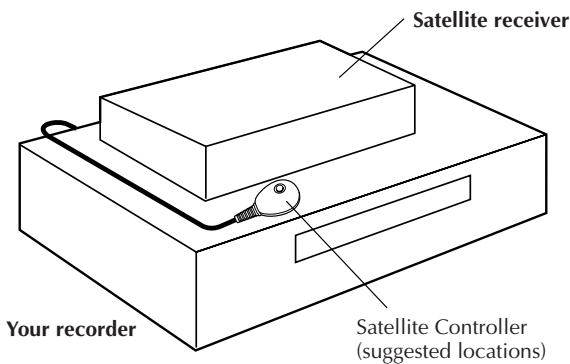
Press **MENU**.

NOTES:

- During Power Save, the display panel will be turned off.
- The Just Clock function (pg. 76) does not work while the Power Save mode is engaged.
- While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.
- Power Save does not work when ...
 - ... the recorder is in the Timer mode.
 - ... the recorder's power is turned off after timer-recording (or Instant Timer Recording).
 - ... "L-2 SELECT" is set to "DECODER" or "SAT" (pg. 58).

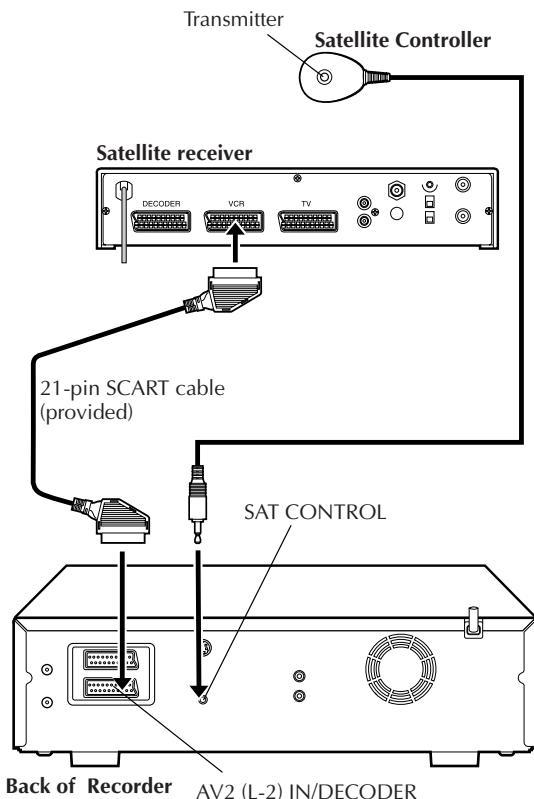
Satellite Receiver Control Setting

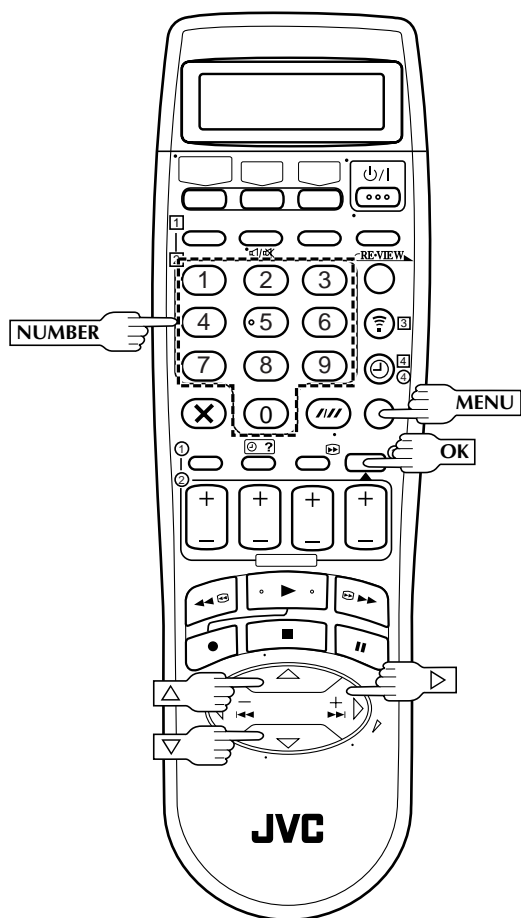
The following procedure is required if you receive satellite channels through a satellite receiver. Approximately 20 seconds before the SHOWVIEW timer programming (pg. 34) or Express timer programming (pg. 36) starts, the recorder sets its input mode to "L-2" and automatically switches the satellite receiver's channels using the provided Satellite Controller.



Installing Satellite Controller

- 1 **SITUATE SATELLITE CONTROLLER**
Place the Satellite Controller so that the path between its transmitter and the satellite receiver's remote sensor is unobstructed.
- 2 **ATTACH SATELLITE CONTROLLER**
Fix securely using the adhesive strip attached on the back of the Satellite Controller.
- 3 **MAKE CONNECTIONS**
Be sure to connect the recorder's AV2 (L-2) IN/DECODER connector to the satellite receiver's 21-pin SCART connector.
NOTE:
When connecting your satellite receiver, refer to its instruction manual.
- 4 **CONNECT SATELLITE CONTROLLER TO RECORDER**
Connect the Satellite Controller to the SAT CONTROL connector on the rear panel.





Setting satellite receiver's brand and channel

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

Turn on the TV and select the AV mode.

1 TURN ON SATELLITE RECEIVER

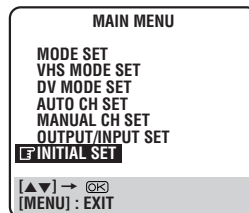
Turn on the satellite receiver's power.

2 ACCESS MAIN MENU SCREEN ON RECORDER

Press **MENU**.

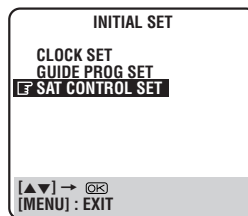
3 ACCESS INITIAL SET SCREEN

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



4 ACCESS SAT CONTROL SET SCREEN

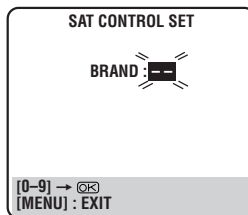
Press Δ / ∇ to move the highlight bar (pointer) to "SAT CONTROL SET", then press **OK** or \triangleright .

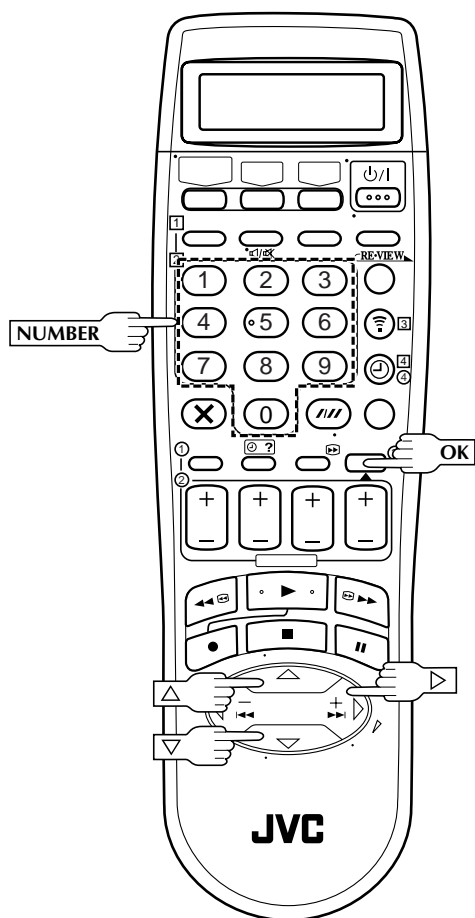


5 ENTER SATELLITE RECEIVER'S BRAND

Press the appropriate **NUMBER** keys to enter the brand code from the list on page 15, then press **OK**.

- If the brand code you entered is invalid, the code field will be reset. Enter the correct brand code again.
- If the recorder is in playback or recording mode, you cannot set the brand code.

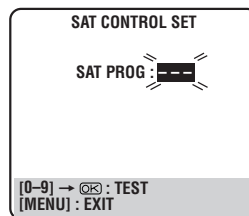




6 SELECT SATELLITE RECEIVER'S CHANNEL FOR TESTING

Press the appropriate **NUMBER** keys to enter one of the channel positions on the satellite receiver, then press **OK**.

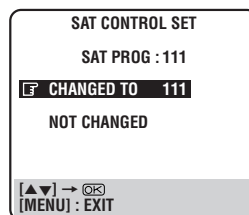
- You can select the channel position between 1 to 999.
- After pressing **OK**, the recorder enters the Test mode.



7 CHECK RESULT OF TEST

If the satellite receiver's channel number has been changed to the same channel as you set in step 6...

Press $\Delta \nabla$ to move the highlight bar (pointer) to "CHANGED TO ...", then press **OK** or \triangleright to finish the Sat Control Set mode.



If the satellite receiver's channel number has not been changed correctly...

Press $\Delta \nabla$ to move the highlight bar (pointer) to "NOT CHANGED", then press **OK** or \triangleright . Then perform the procedure again from step 5.

NOTES:

- The Satellite Controller may not work with all types of satellite receiver.
- For some satellite receivers, you need to set its channel input mode to 2-digit.
- If your satellite receiver has more than two channel mode, be sure to set to "All Channel Mode". For details, refer to the instruction manual of the satellite receiver.
- When selecting the satellite receiver's channel (step 6), signals from the remote control may interfere with signals transmitted from the Satellite Controller. In this case, move the remote control as close to the recorder's infrared beam receiving window as possible.

SATELLITE RECEIVER BRAND	CODE
JVC	73
AMSTRAD	60, 61, 62, 63, 91
CANAL +	81
D-BOX	85
ECHOSTAR	78
ECHOSTAR (VIA DIGITAL)	82
FINLUX	68
FORCE	89
GALAXIS	69, 88
GRUNDIG	64, 65
HIRSCHMANN	64
ITT NOKIA	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASCOM	92
MASPRO	70
NOKIA	87
PACE	67, 86, 91
PANASONIC	74
PHILIPS	66, 84
PHONOTREND	69
RFT	69
SAGEM	83
SALORA	68
SKYMASTER	69
TPS	83
TRIAx	90
WISI	64

T-V Link Functions

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (☞ pg. 4), the following functions are available. You can use these functions only with the TV offering T-V Link, etc.*

For details, refer to the instruction manual for your TV.

* Compatible with TVs offering T-V Link, EasyLink, Megalogic, SMARTLINK, Q-Link, DATA LOGIC or NexTVView LINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.

NexTVView Link

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.

For details, refer to the instruction manual for your TV.

TV Auto Power On

You can turn on the TV and set it to video mode automatically whenever you play a tape.

For details, refer to the instruction manual for your TV.

NOTE:

"TV Auto Power On" of T-V LINK functions is not possible with the DV deck.

VCR Auto Standby

You can use your TV's remote control to turn off the recorder. For details, refer to the instruction manual for your TV.

Direct Rec

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

Follow the procedure below to use this function.

1 TURN ON THE RECORDER

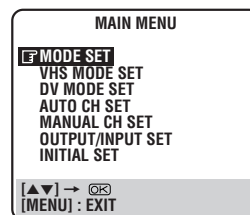
Press **⏻/I**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

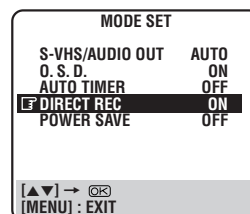
3 ACCESS MODE SET SCREEN

Press **△▽** to move the highlight bar (pointer) to "MODE SET", then press **OK** or **▷**.



4 SELECT DIRECT REC MODE

Press **△▽** to move the highlight bar (pointer) to "DIRECT REC", then press **OK** or **▷** to set to "ON".



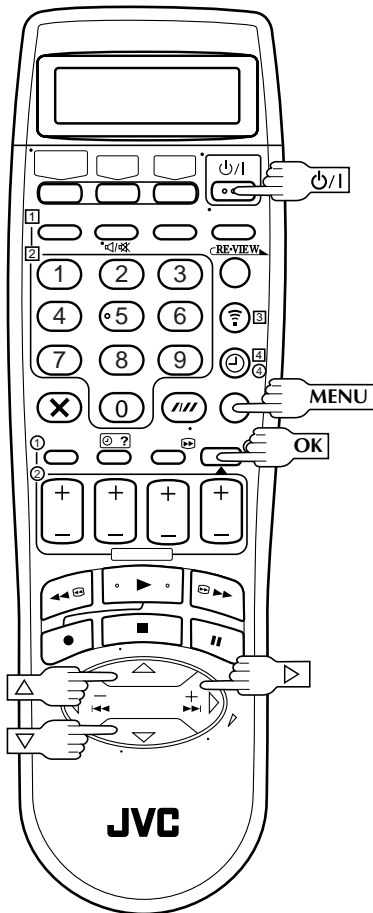
5 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- If "DIRECT REC" is set to "OFF", the **RECORD** button functions as described in "Basic Recording" (☞ pg. 26, 27).
- During the Direct Rec, "—" appears on the display panel.
- When you perform T-V LINK functions, be sure to use the fully-wired 21-pin SCART cable.
- Retake function does not work during Direct Rec (☞ pg. 29).

Colour System Set (VHS Deck Only)



You can play back PAL, NTSC and MESECAM tapes, or record PAL and SECAM* signals on this recorder. Follow the procedure below to select the appropriate colour system.

* SECAM signals will be recorded as MESECAM on this recorder; MESECAM is the designation for tapes with SECAM signals that have been recorded on a MESECAM-compatible PAL video cassette recorder.

1 TURN ON THE RECORDER

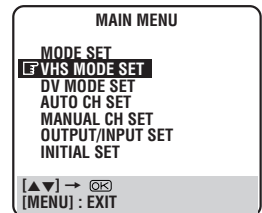
Press ψ/I .

2 ACCESS MAIN MENU SCREEN

Press MENU.

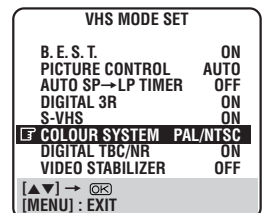
3 ACCESS VHS MODE SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "VHS MODE SET", then press OK or \triangleright .



4 SELECT COLOUR SYSTEM MODE

Press $\Delta \nabla$ to move the highlight bar (pointer) to "COLOUR SYSTEM", then press OK or \triangleright to select the appropriate colour system.



- a- PAL/NTSC: To record PAL signals, or play back a PAL or NTSC tape.
- b- MESECAM: To record SECAM signals, or play back a MESECAM tape.

- It is not possible to record in S-VHS if "MESECAM" is selected. The recording mode is forced to change to VHS.
- If "MESECAM" is selected when the tape speed is set to EP mode, the tape speed will be forced to change to LP mode.
- It is not possible to select EP mode if "MESECAM" is selected.

5 RETURN TO NORMAL SCREEN

Press MENU.

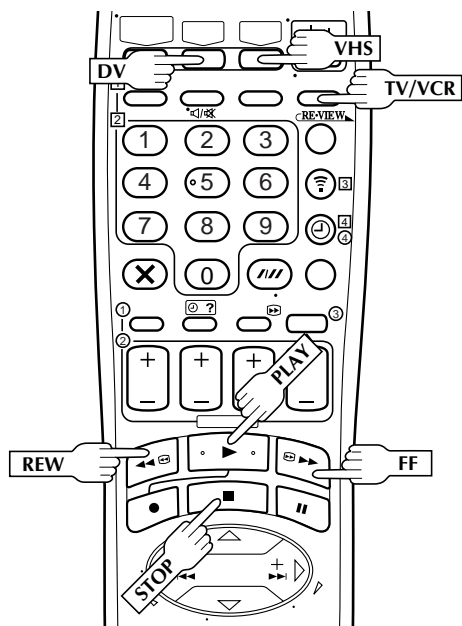
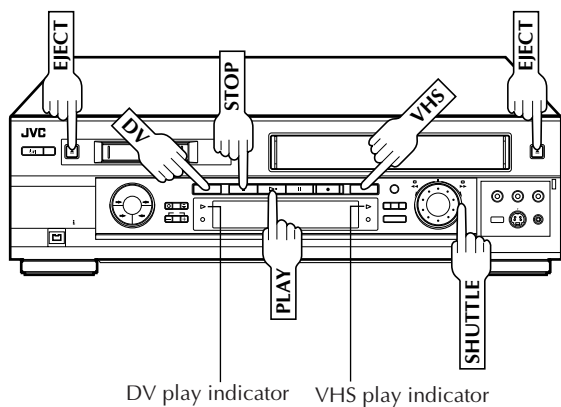
NOTES:

About NTSC Playback

- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter and tape remaining time readings will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.
- Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.

Basic Playback

Turn on the TV and select the AV mode.



Usable cassettes

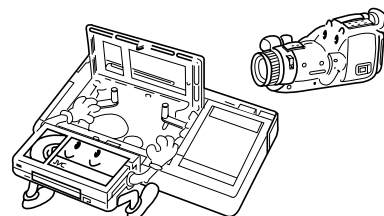
VHS deck

- Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- The VHS deck of this video recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes*, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.

* 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 recorder.

DV deck

Only cassettes marked **Mini DV** can be used with the DV deck.



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 recorder. Do not apply too much pressure when inserting.

• VHS deck

The recorder power comes on automatically.

The counter is reset to 0:00:00.

DV deck

First turn on the recorder and load the cassette.

If the recorder is turned off, the recorder's power does not come on when a Mini DV cassette is inserted.

• VHS deck

If the record safety tab has been removed, playback begins automatically.

DV deck

If the erase protection switch is set to "SAVE", playback begins automatically. It takes about 15 seconds until the playback picture appears. Also make sure the VCR indicator appears on the front display panel. If not, press **TV/VCR** on the remote control to turn on the VCR indicator.

2 SELECT DECK

Press **VHS** or **DV**.

3 FIND PROGRAMME START POINT

If the tape is advanced past the start point, press **REW** or turn the **SHUTTLE** ring to the left. To go forward, press **FF** or turn the **SHUTTLE** ring to the right.

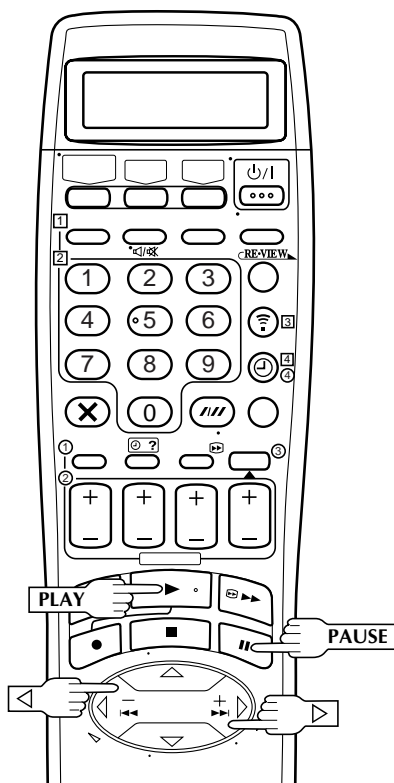
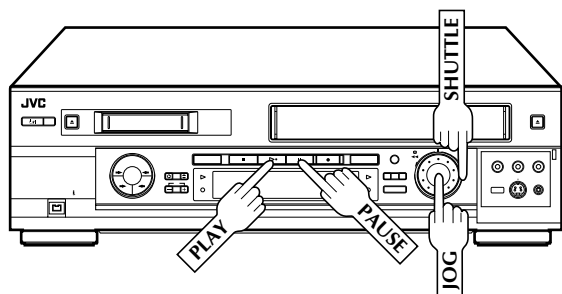
4 START PLAYBACK

Press **PLAY**. The VHS or DV play indicator (▷) lights. "BEST" appears blinking in the recorder's display panel during automatic tracking. (VHS deck only pg. 32)

5 STOP PLAYBACK

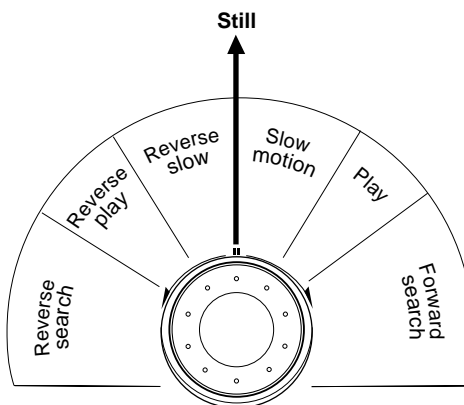
Press **STOP**. The VHS or DV play indicator (▷) goes off. Then press **EJECT** on the VHS or DV deck to remove the cassette.

Playback Features



ATTENTION (VHS Deck Only)

- Picture may not appear during high-speed search with an LP/EP-recorded tape.
- In the high-speed search, still, slow motion or frame by frame playback mode, the picture will be distorted, and there will be a loss of colour.
- Noise may appear or the picture may appear distorted with an EP-recorded tape during still, slow motion, frame-by-frame playback or variable-speed search.
- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.



NOTES:

- Refer to the **SHUTTLE** ring illustration above as you read the following procedures.
- When using the **JOG** dial during playback on the DV deck, turn the **JOG** dial slowly.

Still Picture/Frame-By-Frame Playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

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**.

OR

Press < or >. (VHS deck only)

To resume normal playback, press **PLAY**.

Slow Motion

1 ACTIVATE SLOW-MOTION PLAYBACK

During still picture, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration above).

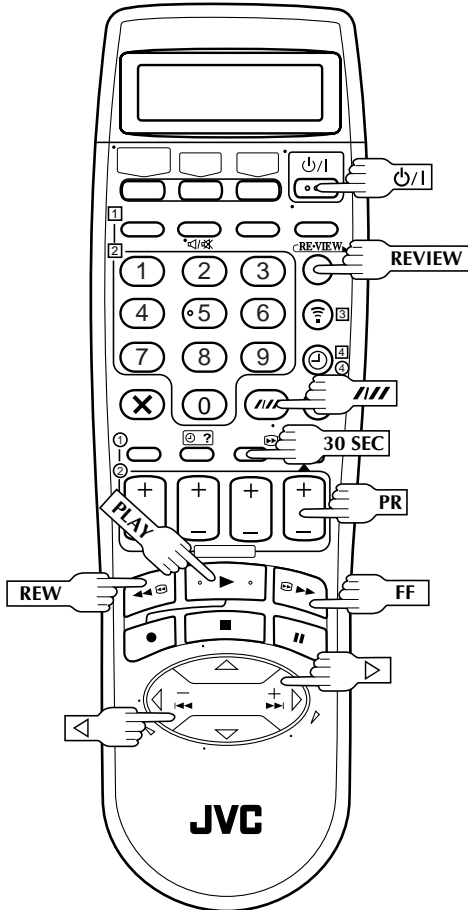
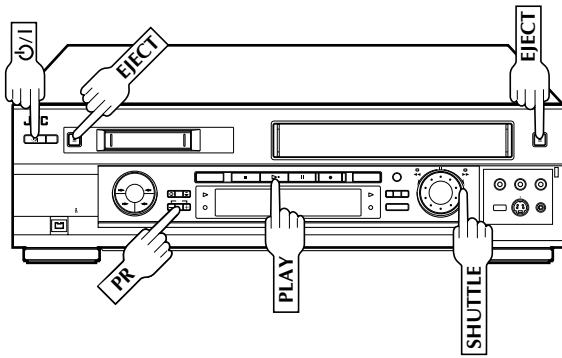
OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture. (VHS deck only)

OR

During still picture, press and hold < or >. Release to return to still picture. (VHS deck only)

To resume normal playback, press **PLAY**.



Clean the video heads using a dry cleaning cassette (TCL-2UX for the VHS deck/ M-DV12CLAU for the DV deck) when:

- "USE CLEANING CASSETTE" appears on the screen (only with "O.S.D." set to "ON" (pg. 11)).

OR

VHS Deck

- Rough, poor picture appears while a tape is played back.
- The picture is unclear or no picture appears.

DV Deck

- No picture during playback.
- Blocks of noise appear during playback.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

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** resumes still picture playback.

OR

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

To resume normal playback, press **PLAY**.

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

1 ACTIVATE VARIABLE-SPEED SEARCH

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 (refer to the illustration on page 19).

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**.

Skip Search (VHS Deck Only)

1 SKIP OVER UNWANTED SECTIONS

During playback, press **30 SEC** 1 to 4 times. Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

NOTE:

To resume normal playback during a Skip Search, press **PLAY**.

Instant ReView (VHS Deck Only)

Simply by pressing a single button, the recorder power comes on, rewinds, and begins playback of the last timer-recorded programme. If you have several programmes recorded, you can easily access any of them.

NOTE:

Before starting, make sure that the recorder is off and that the Timer mode is disengaged.

1 ACTIVATE INSTANT REVIEW

Press **REVIEW**. The recorder power comes on and the recorder searches for the index code indicating the start of the last timer-recorded programme. Once it's found, playback begins automatically.

- The front display panel tells you how many programmes have been timer-recorded. If you have, for example, 3 programmes, "REVIEW" and "3" appear and blink. To watch the first of the 3 programmes, press **REVIEW** three times. The recorder searches and begins playback automatically. You can access a programme as far as 9 index codes away from the current tape position.

NOTE:

Instant ReView is not possible while the recorder is in the Timer mode.

Next Function Memory

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

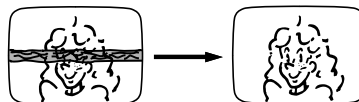
- a- For Automatic Start Of Playback After Tape Rewind . . .
... press **REW**, then press **PLAY** within 2 seconds.
- b- For Automatic Power Off After Tape Rewind . . .
... press **REW**, then press **⏻/I** within 2 seconds.
- c- For Automatic Cassette Ejection After Tape Rewind . . .
... press **REW**, then press **EJECT** within 2 seconds.

NOTE:

The Automatic Power Off of the Next Function Memory does not work if the Auto Timer is set to "ON". If the Auto Timer is set to "ON", the recorder directly goes into the Timer-Standby mode at the same time when the **⏻/I** button is pressed for the Automatic Power Off.

Manual Tracking (VHS Deck Only)

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



1 OVERRIDE AUTOMATIC TRACKING

Press **///** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **PR +** or **-** to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **///** on the remote to re-engage automatic tracking.

NOTE:

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

Repeat Playback (VHS Deck Only)

Your video recorder 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 display panel blinks slowly.
- The tape plays 100 times automatically, and then stops.

3 STOP PLAYBACK

Press **STOP** at any time to stop playback.

NOTES:

- Pressing **PLAY**, **REW**, **FF** or **PAUSE** also stops Repeat Playback.
- Repeat playback is not possible with a cassette recorded in EP mode.

Index Search (VHS Deck Only)

Your recorder 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.



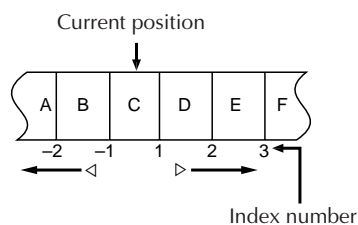
NOTE:

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

1 ACTIVATE INDEX SEARCH

Press ◀ or ▶ (◀◀ or ▶▶). "◀◀ 1" or "▶▶ 1" is displayed on 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.
Ex.: 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.

Video Stabilizer (VHS Deck Only)

You can automatically correct vertical vibrations in the picture when playing back unstable recordings made on another recorder.

* The default setting is "OFF".

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Move the highlight bar (pointer) to "VHS MODE SET" by pressing Δ▽, then press **OK** or ▶.

3 SELECT VIDEO STABILIZER SET MODE

Move the highlight bar (pointer) to "VIDEO STABILIZER" by pressing Δ▽, then press **OK** or ▶ to set to "ON".

VHS MODE SET	
B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP→LP TIMER	OFF
DIGITAL 3R	ON
S-VHS	ON
COLOUR SYSTEM	PAL/NTSC
DIGITAL TBC/NR	OFF
VIDEO STABILIZER	ON
[▲▼] → [OK]	
[MENU] : EXIT	

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- When you finish viewing a tape, be sure to set this function to "OFF".
- Regardless of the setting, this function has no effect during recording and during special effects playback.
- The on-screen display may jitter vertically when this function is set to "ON".
- To watch recordings with close-caption, set this function to "OFF".
- Video Stabilizer and Digital TBC/NR cannot be used at the same time. If you activate Digital TBC/NR when "VIDEO STABILIZER" is set to "ON", Video Stabilizer will be automatically turned "OFF".

Digital 3R (VHS Deck Only)

Digital 3R picture system applies edge correction to the luminance signal to enhance detail.

- 1 **ACCESS MAIN MENU SCREEN**
Press **MENU**.
- 2 **ACCESS VHS MODE SET SCREEN**
Move the highlight bar (pointer) to "VHS MODE SET" by pressing Δ / ∇ , then press **OK** or \triangleright .

MAIN MENU	
MODE SET	
VHS MODE SET	
DV MODE SET	
AUTO CH SET	
MANUAL CH SET	
OUTPUT/INPUT SET	
INITIAL SET	
[Δ / ∇] \rightarrow [OK]	
[MENU] : EXIT	
- 3 **SELECT DIGITAL 3R SET MODE**
Move the highlight bar (pointer) to "DIGITAL 3R" by pressing Δ / ∇ , then press **OK** or \triangleright to set to "ON".

VHS MODE SET	
B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP \rightarrow LP TIMER	OFF
DIGITAL 3R	ON
S-VHS	ON
COLOUR SYSTEM	PAL/NTSC
DIGITAL TBC/NR	ON
VIDEO STABILIZER	OFF
[Δ / ∇] \rightarrow [OK]	
[MENU] : EXIT	
- 4 **RETURN TO NORMAL SCREEN**
Press **MENU**.

NOTES:

- Normally it is recommendable to keep "DIGITAL 3R" set to "ON".
- Depending on the type of tape being used, picture quality may be better with "DIGITAL 3R" set to "OFF".

Digital TBC/NR (VHS Deck Only)

Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.

The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.

* The default setting is "ON".

We recommend that you use the Digital TBC feature when...

... playing back a tape recorded on a camcorder.

... playing back a tape repeatedly used.

... using this video recorder as the player for editing.

- 1 **ACCESS MAIN MENU SCREEN**
Press **MENU**.
- 2 **ACCESS VHS MODE SET SCREEN**
Move the highlight bar (pointer) to "VHS MODE SET" by pressing Δ / ∇ , then press **OK** or \triangleright .
- 3 **SELECT DIGITAL TBC/NR SET MODE**
Move the highlight bar (pointer) to "DIGITAL TBC/NR" by pressing Δ / ∇ , then press **OK** or \triangleright to set to "ON".

VHS MODE SET	
B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP \rightarrow LP TIMER	ON
DIGITAL 3R	OFF
S-VHS	ON
COLOUR SYSTEM	PAL/NTSC
DIGITAL TBC/NR	ON
VIDEO STABILIZER	OFF
[Δ / ∇] \rightarrow [OK]	
[MENU] : EXIT	
- 4 **RETURN TO NORMAL SCREEN**
Press **MENU**.

NOTES:

- If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with "DIGITAL TBC/NR" set to "OFF".
- When "DIGITAL TBC/NR" is set to "ON", if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, set "DIGITAL TBC/NR" to "OFF".
- When playing back a MESECAM tape, Digital TBC/NR does not function even though "DIGITAL TBC/NR" is set to "ON".

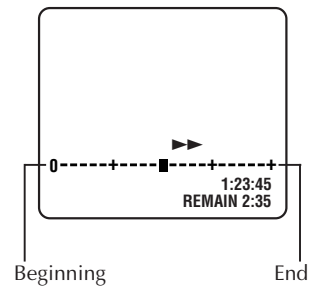
Tape Position Indicator (VHS Deck)

The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.

"O.S.D." (☞ pg. 11) must be set to "ON", or the indicator will not appear.

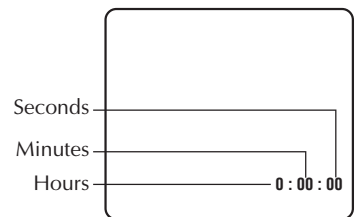
NOTE:

Depending on the type of tape used, there may be times when the indication is not correct.



Time Code (DV Deck)

During recording, a time code is recorded on the tape. This time code is used to confirm the position on the tape when playing or editing a tape. To perform Random Assemble Editing (☞ pg. 48), time code is necessary.



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 making a recording in a blank portion of a tape, the time codes will start from "0:00:00" 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 circumstances, you should play the tape and confirm where a scene ends, and then begin recording from there:

- When starting to record in the middle of a tape on which a recording has already been made.
- When you have made a recording on a tape, then played that recording back 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.

Soundtrack Selection (VHS Deck)

The VHS recording deck 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 **AUDIO** on the remote control changes the soundtrack being played back as follows:

TRACK	USE
On-Screen Display	
HI FI L [L] R	For Hi-Fi stereo tapes
HI FI L [L]	For main audio of Bilingual tapes
HI FI [R]	For sub audio of Bilingual tapes
NORM	For audio-dubbed tapes
HI FI NORM	For audio-dubbed tapes

NOTES:

- "HI FI L [L] R" 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.
- For instructions on recording stereo and bilingual programmes, refer to page 31.
- "O.S.D." must be set to "ON" or the on-screen displays will not appear (☞ pg. 11).

Soundtrack Selection (DV Deck)

The DV recording deck is capable of recording two soundtracks (L and R) and will play back the one you select.

During Playback

Pressing **AUDIO** on the remote control changes the soundtrack being played back as follows:

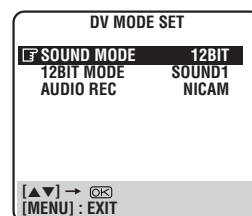
TRACK	USE
On-Screen Display	
L [] R	For stereo or Bilingual tapes
L []	For main audio of Bilingual tapes
[] R	For sub audio of Bilingual tapes

Sound Mode Selection (DV Deck)

- 1 Press **MENU** to access the Main Menu screen.
- 2 Move the highlight bar (pointer) to "DV MODE SET" by pressing $\Delta\nabla$, then press **OK** or \triangleright .
- 3 Move the highlight bar (pointer) to "SOUND MODE" by pressing $\Delta\nabla$, then press **OK** or \triangleright to select "12BIT" or "16BIT".
- 4 Press **MENU** to return to the normal screen.

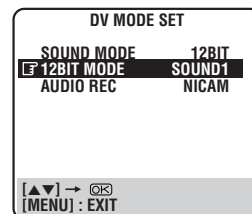
NOTE:

Set "SOUND MODE" to "12BIT" at the original recording on a Mini DV tape, if you wish to perform Audio Dubbing later.



12BIT Mode Setting (Audio-dubbed Mini DV Tape)

- 1 Press **MENU** to access the Main Menu screen.
- 2 Move the highlight bar (pointer) to "DV MODE SET" by pressing $\Delta\nabla$, then press **OK** or \triangleright .
- 3 Move the highlight bar (pointer) to "12BIT MODE" by pressing $\Delta\nabla$, then press **OK** or \triangleright to select "SOUND1", "SOUND2" or "FULL SOUND".
- 4 Press **MENU** to return to the normal screen.



12BIT MODE	SOUND YOU HEAR
SOUND1	Original recorded sound
SOUND2	Audio-dubbed sound
FULL SOUND	Original recorded sound and Audio-dubbed sound

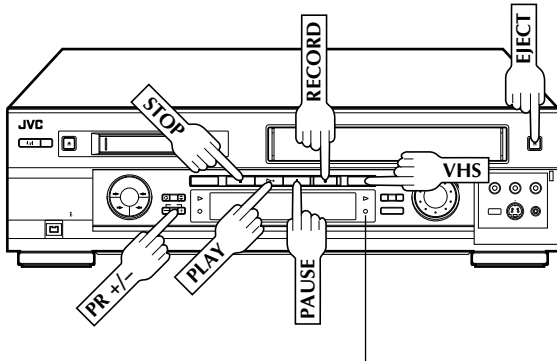
NOTES:

When "12BIT MODE" is set to "FULL SOUND":

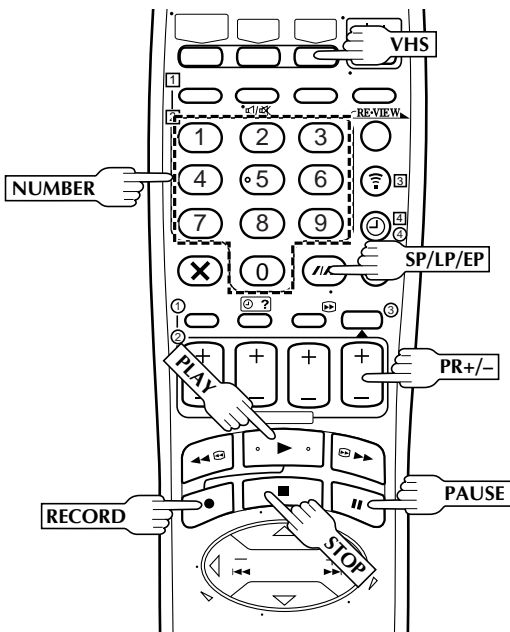
- For bilingual tapes, both the main and sub audio will be audible.
- To select just the main audio or just the sub audio of Bilingual tapes, set "12BIT MODE" to "SOUND1".

Basic Recording

Turn on the TV and select the AV mode.



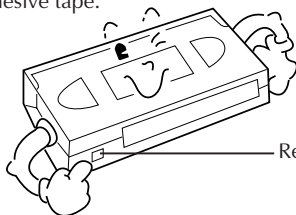
VHS record indicator



Accidental erasure prevention

VHS/S-VHS

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



Record safety tab

VHS Deck

1 LOAD A CASSETTE

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

- The recorder power comes on automatically. The counter is reset to 0:00:00.

2 SELECT VHS DECK

Press **VHS**.

3 CHOOSE A PROGRAMME

Press **PR +/-** or the **NUMBER** keys to select the channel you wish to record.

4 SET TAPE SPEED

Press **SP/LP/EP (//)**. Check the SP/LP/EP indicator on the recorder display panel to confirm the selected tape speed.

- In EP mode, the recording time is extended three times.
- If you record a programme in EP mode on this recorder, it is recommended that you play back the EP-recorded tape on this recorder.
- It is not possible to select EP mode if "COLOUR SYSTEM" is set to "MESECAM". (☞ pg. 17)

5 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder. The VHS record indicator (○) lights.

B.E.S.T. takes place at the beginning of both the first SP and the first LP (or EP) recording after inserting the cassette (☞ pg. 32).

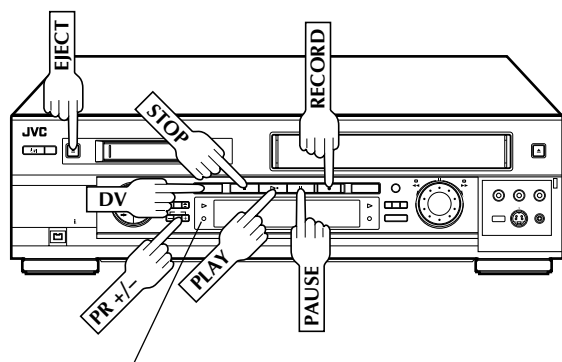
If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (☞ pg. 16).

6 PAUSE/RESUME RECORDING

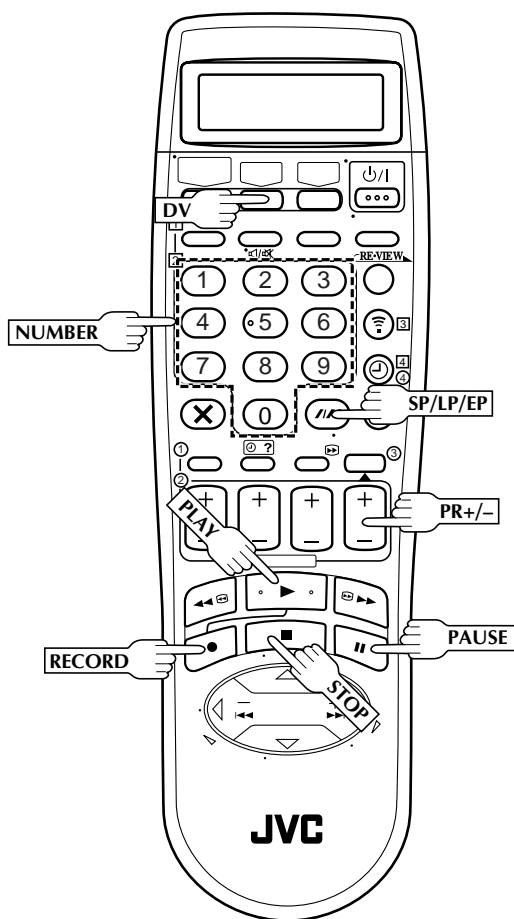
Press **PAUSE**. Press **PLAY** to resume recording.

7 STOP RECORDING

Press **STOP**. The VHS record indicator (○) goes off. Then press **EJECT** on the VHS deck to remove the cassette.



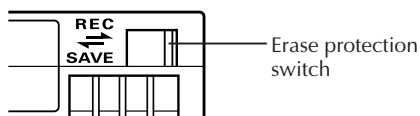
DV record indicator



Accidental erasure prevention

Mini DV

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".



DV Deck

1 LOAD A CASSETTE

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

- Turn on the recorder before loading a cassette.


2 SELECT DV DECK

Press **DV**.

3 CHOOSE A PROGRAMME


Press **PR +/-** or the **NUMBER** keys to select the channel you wish to record.

4 SET TAPE SPEED

Press **SP/LP/EP** (). Check the SP/LP indicator on the recorder display panel to confirm the selected tape speed.

5 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder. The DV record indicator (○) lights.

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded ( pg. 16).

6 PAUSE/RESUME RECORDING

Press **PAUSE**. Press **PLAY** to resume recording.

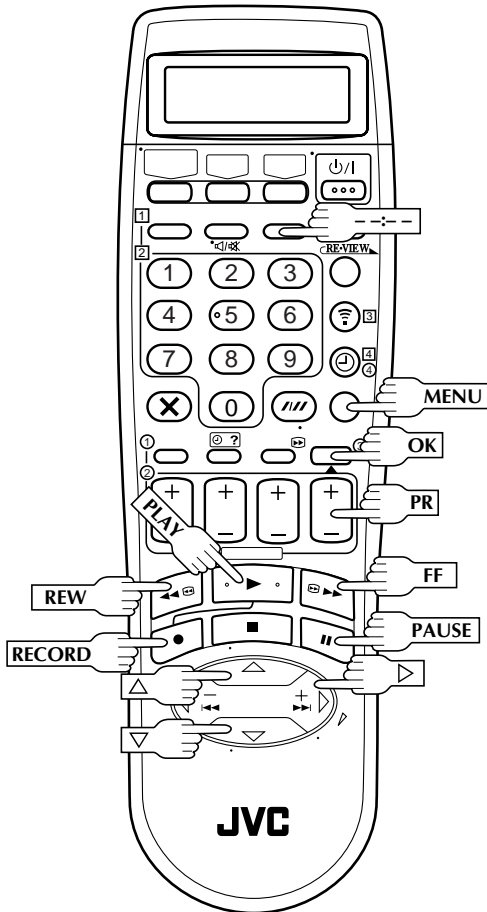
7 STOP RECORDING

Press **STOP**. The DV record indicator (○) goes off. Then press **EJECT** on the DV deck to remove the cassette.

NOTES:

- It is not possible to record a TV programme on both the VHS deck and the DV deck simultaneously. In addition, it is not possible to record simultaneously from the same external input.
- When you record a tape on the DV deck with the recording speed set to "LP", we recommend that you play that tape back on this deck. Digital video recorder from other manufacturers may not be able to play the tape properly.

Recording Features



Record One Programme While Watching Another

1 SELECT CHANNEL TO WATCH

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 programme selected with the TV's channel controls appears on the TV screen while the one selected with the recorder's **PR** buttons is recorded on the tape.
- If a decoder is connected to the recorder (see pg. 62), you can select a scrambled channel as well with the TV channel controls.

Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 6 hours (VHS) or to 120 minutes (DV) (selectable in 30-min. increments), and shuts the recorder off after recording is finished.

1 START RECORDING

Press **RECORD** on the recorder.

2 ENGAGE ITR MODE

Press **RECORD** again. "0:30" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

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

NOTES:

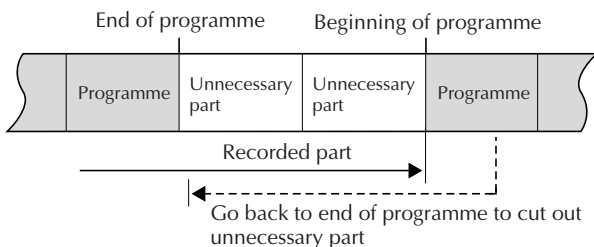
- You can only perform ITR using the **RECORD** button on the recorder's front panel.
- You can play a tape on one deck while using the other deck for Instant Timer Recording. However, remember that the deck will turn itself off when the Instant Timer Recording ends.

Recording Resume Function

If there is a power outage during recording (or Instant Timer Recording or timer recording), the recording will resume automatically when power is restored to the recorder unless the recorder's memory backup has expired.

Retake (VHS Deck Only)

You can cut out unnecessary parts of a TV programme while you're recording it.



1 ENGAGE RECORD-PAUSE MODE

Press **PAUSE** during recording.

2 LOCATE START POINT

Turn the **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 recorder returns to the Record-Pause mode.

3 RESUME RECORDING

Press **PLAY** when you wish to resume recording.

NOTES:

- Retake function does not work during Direct Rec (pg. 16).
- Noise may appear when Retake function is used at the part that is recorded in EP mode.

Tape Remaining Time (VHS Deck Only)

1 DISPLAY REMAINING TIME

Press **--:--** until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "▲" displayed.
- By pressing the **--:--** button, you can change the display to show the counter reading (VHS deck only), time code (DV deck only), channel position*, clock time or tape remaining time (VHS deck only).

* channel position is not displayed during playback.

NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "--:--" may sometimes appear, or the display may blink on occasion.

Super VHS (S-VHS), Super VHS ET (S-VHS ET) and VHS (VHS Deck Only)

Your recorder can record in S-VHS (Super VHS), S-VHS ET or VHS.

To record in S-VHS:

Perform the steps **1 – 4** below to set "S-VHS" to "ON".

Then, insert a cassette marked "S-VHS". The S-VHS indicator lights up on the front display panel.

The S-VHS recording mode is selected.

To record in S-VHS ET on a VHS cassette:

See "Super VHS ET (S-VHS ET)" on page 30.

To record in VHS:

Insert a cassette marked "VHS".

Press **S-VHS ET** on the recorder. You can check the current setting ("S-VHS ET : ON" or "S-VHS ET : OFF") if "O.S.D." is set to "ON" (pg. 11). If "S-VHS ET : ON" appears on the TV screen, press **S-VHS ET** again in about 5 seconds to set it to "OFF".

The VHS recording mode is automatically selected regardless of the "S-VHS" mode setting.

To record in VHS on an S-VHS cassette:

Insert the cassette marked "S-VHS". The S-VHS indicator will light on the display panel.

Then, perform the steps **1 – 4** below to set the "S-VHS" to "OFF". The S-VHS indicator goes off.

The VHS recording mode will be selected.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Move the highlight bar (pointer) to "VHS MODE SET" by pressing **Δ∇**, then press **OK** or **▷**.

3 SELECT S-VHS MODE

Move the highlight (pointer) to "S-VHS" by pressing **Δ∇**, then press **OK** or **▷** to select "ON" or "OFF".

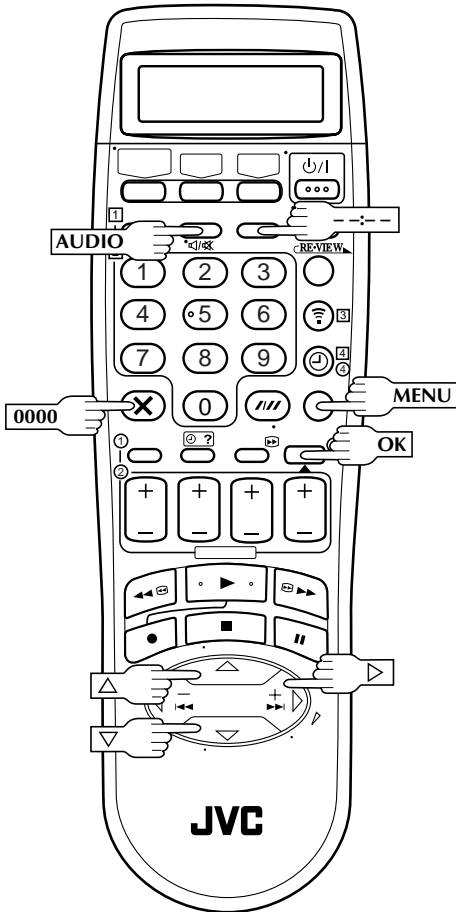
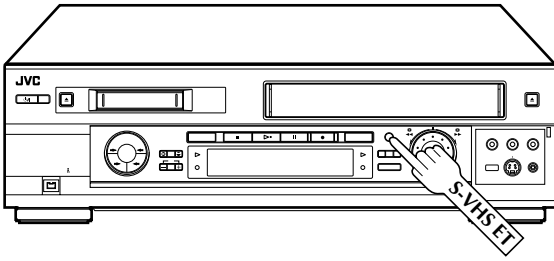
VHS MODE SET	
B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP→LP TIMER	OFF
DIGITAL 3R	ON
S-VHS	ON
COLOUR SYSTEM	PAL/NTSC
DIGITAL TBC/NR	ON
VIDEO STABILIZER	OFF
[▲∇] → [OK]	
[MENU] : EXIT	

4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

When playing back a tape that has been recorded in S-VHS, the S-VHS indicator lights on the display panel regardless of the "S-VHS" mode setting.



Super VHS ET (S-VHS ET) — Recording on VHS cas- settes with S-VHS quality (VHS Deck Only)

You can record in SP mode on VHS tapes with S-VHS picture quality. Tapes recorded using this function can be played back on a recorder equipped with the S-VHS ET function.

- You can activate the S-VHS ET function only before you start recording on a VHS cassette.
- Before recording, make sure that "B.E.S.T." is set to "ON". (☞ pg. 32)

1 ENGAGE S-VHS ET MODE

Press **S-VHS ET** on the recorder. You can check the current setting ("S-VHS ET : ON" or "S-VHS ET : OFF") if "O.S.D." is set to "ON" (☞ pg. 11). If "S-VHS ET : OFF" appears on the TV screen, press **S-VHS ET** again in about 5 seconds to set it to "ON".

- The S-VHS indicator lights up on the front display panel.

NOTES:

- You cannot activate the S-VHS ET function ...
 - ... while recording is in progress.
 - ... while timer-recording or Instant Timer Recording (☞ pg. 28) is in progress.
 - ... while B.E.S.T. (☞ pg. 32) is in progress.
- S-VHS ET function does not work ...
 - ... with S-VHS cassettes.
 - ... with recordings in LP/EP mode.
- To keep the highest quality recording and playback pictures over a long period of time, S-VHS recording on S-VHS cassettes is recommended.
- Use of high grade tapes is essential for S-VHS ET recordings. On some tapes, picture quality will not improve even if the S-VHS ET function is used. Check the recording quality before you start important recordings.
- You can play back a tape recorded using the S-VHS ET function on most of S-VHS recorders and of VHS recorders equipped with SQPB (S-VHS QUASI PLAYBACK) function. (Notice some recorders are not compatible with the S-VHS ET function.)
- While playing back a tape recorded using the S-VHS ET function on some recorders, noise may appear. (If playback picture becomes blurred or interrupted, use a cleaning cassette.)
- In the high-speed search, still, slow motion or frame-by-frame playback modes (☞ pg. 19, 20), noise may appear. If these modes are performed frequently on a tape recorded with the S-VHS ET function, the tape may be damaged and the picture may be deteriorated.

Elapsed Recording Time Indication (VHS Deck Only)

You can check the exact time of a recording.

1

SET COUNTER DISPLAY

Press **-- --** until a counter reading appears on the display panel.

2

RESET COUNTER

Press **0000** before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Receiving Stereo And Bilingual Programmes

Your recorder is equipped with a Sound-Multiplex decoder (A2) and a Digital stereo sound decoder (NICAM) making reception of stereo and bilingual broadcasts possible.

When the channel is changed, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
A2 Stereo	ST
A2 Bilingual	BIL.
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL. NICAM
NICAM Monaural	NICAM

- To listen to a stereo programme, press **AUDIO** until "HIFI L [] R" appears on the screen.
- To listen to a bilingual programme, press **AUDIO** until "HIFI L []" or "HIFI [] R" appears on the screen.
- To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** until "NORM" appears on the screen.

NOTE:

"O.S.D." must be set to "ON" or the on-screen displays will not appear (pg. 11).

To Record Stereo And Bilingual Programmes (A2)

- VHS deck**
Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound).
Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.
- DV deck**
Stereo programmes are automatically recorded in stereo on the audio track.
Bilingual programmes are automatically recorded in bilingual on the audio track.

To Record NICAM Stereo And Bilingual Programmes (Only For The Users In Eastern Europe)

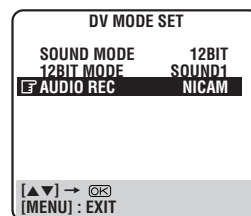
- VHS deck**
The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.
- DV deck** (See "AUDIO REC Mode Setting" below.)

NOTES:

- If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.
- Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (pg. 24, 25).

AUDIO REC Mode Setting

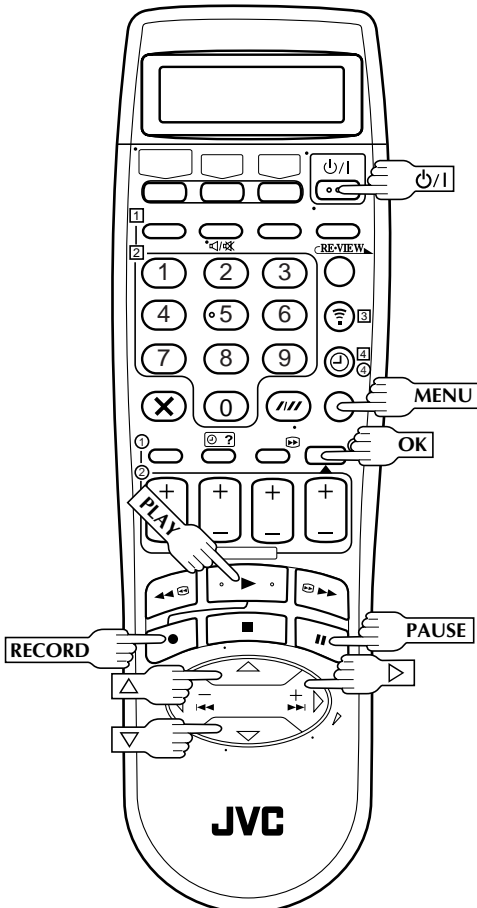
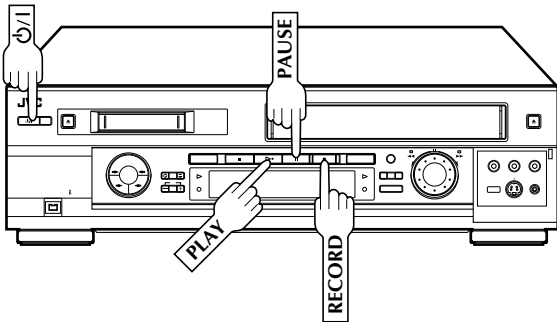
- Press **MENU** to access the Main Menu screen.
- Move the highlight bar (pointer) to "DV MODE SET" by pressing **Δ∇**, then press **OK** or **▷**.
- Move the highlight bar (pointer) to "AUDIO REC" by pressing **Δ∇**, then press **OK** or **▷** to select "NICAM" or "MONO".
- Press **MENU** to return to the normal screen.



- When "AUDIO REC" is set to "NICAM", the NICAM audio programme will be recorded on the audio track.
- When "AUDIO REC" is set to "MONO", the Standard (monaural) audio program will be recorded on the audio track.

B.E.S.T. Picture System (VHS Deck Only)

Turn on the TV and select the AV mode.



The B.E.S.T. (Biconditional Equalized Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest-possible recording and playback pictures. The default setting for both recording and playback is "ON".

Preparation

1 TURN ON THE RECORDER

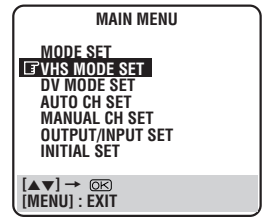
Press P/1.

2 ACCESS MAIN MENU SCREEN

Press MENU.

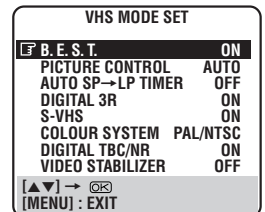
3 ACCESS VHS MODE SET SCREEN

Press Δ / ∇ to move the highlight bar (pointer) to "VHS MODE SET", then press OK or \triangleright .



4 SELECT B.E.S.T. MODE

Press Δ / ∇ to move the highlight bar (pointer) to "B.E.S.T.", then press OK or \triangleright to set to "ON" or "OFF".



5 RETURN TO NORMAL SCREEN

Press MENU.

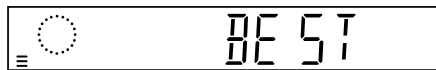
Recording

1

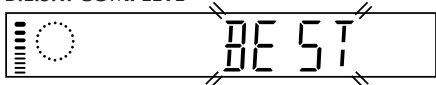
START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.

DURING B.E.S.T.



B.E.S.T. COMPLETE



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

NOTES:

- The B.E.S.T. system works for both SP and LP (or 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 recording, the B.E.S.T. system works before recording is initiated.
- Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.
- Pressing the recorder's **RECORD** button while "BEST" is displayed does not start Instant Timer Recording (pg. 28).

ATTENTION

Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:

- 1) Press and hold **PAUSE** and press **RECORD** to engage the **RECORD PAUSE** mode.
 - The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters **RECORD PAUSE**.
- 2) Press **PLAY** to start recording.
 - If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step 4 on page 32.

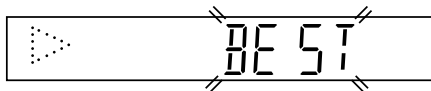
Playback

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

1

START PLAYBACK

Press **PLAY**.



- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "BEST" appears blinking on the recorder's display panel.

NOTES:

- When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.
- When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps 1 through 5 on page 32.
- "BEST" only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.

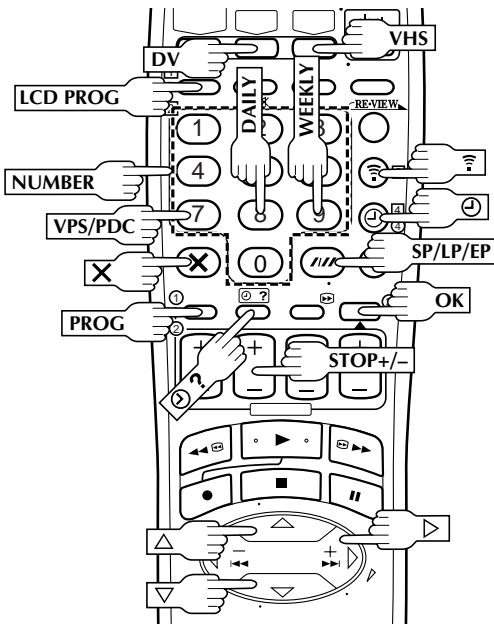
G-CODE™ / SHOWVIEW™ Timer Programming

Before performing the SHOWVIEW Timer Programming:

- Make sure that the recorder's built-in clock is set properly.
- Select the recording deck by pressing **VHS** or **DV**.
- Insert a VHS (or S-VHS) cassette with the safety tab in place, or a Mini DV cassette with the erase protection switch set to "REC".
- Turn on the TV and select the AV mode.

INFORMATION

G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature, but only the term SHOWVIEW system will be used. If you use the G-CODE system, follow the same instructions listed for the SHOWVIEW system.



You can use the remote control with LCD panel to enter the SHOWVIEW number.

1

SELECT DECK

Press **VHS** or **DV**.

2

ACCESS SHOWVIEW DISPLAY

Press **LCD PROG**.

The LCD panel looks like this:

3

ENTER SHOWVIEW NUMBER

Press the **NUMBER** keys to enter the **SHOWVIEW** number of a programme you wish to record, then press **?**.

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

The **SHOWVIEW** number you enter appears on the LCD panel:

12345678

Then go to step 4 below.

With the SHOWVIEW system, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognize.

Perform step 1 in the left column.

2

ACCESS SHOWVIEW SCREEN

Press **PROG**.

SHOWVIEW

[0 - 9] → SHOWVIEW
[+/-] : EXPRESS PROGRAMING
[PROG] : EXIT

The front display panel looks like this:

3

ENTER SHOWVIEW NUMBER

Press the **NUMBER** keys to enter the **SHOWVIEW** number of a programme you wish to record, then press **OK**.

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

SHOWVIEW

12345678

[0 - 9] → OK
[X] : DELETE
[PROG] : EXIT

The **SHOWVIEW** number you enter appears on the front display panel:

1234

The display panel can show only a 4-digit number.

4

ACCESS SHOWVIEW PROGRAM SCREEN

The **SHOWVIEW** Program screen appears (if you're just starting out, "P1" appears).

The display panel shows the programme start time. Pressing **?** changes the display to the programme stop time, then the date and channel position.

VHS - P1 -	
SHOWVIEW	123456789
START	STOP
21:00	→ 22:00
SP VPS/PDC OFF	
DATE	TV PROG
25.12	1
	ARD
OK	

SP ▶ 21:00 P1

IMPORTANT

Make sure the channel position number you wish to record is displayed; if not, see "SHOWVIEW System Setup" on page 67 and set the Guide Program number for that SHOWVIEW number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press X and input a valid SHOWVIEW number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION – Regarding Guide Program Number Set" in the right column.

SET TAPE SPEED

Press **SP/LP/EP (///)** to set the tape speed.

- It is not possible to select EP mode if "COLOUR SYSTEM" is set to "MESECAM". (☞ pg. 17) (VHS deck only)

SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".

If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF.

☞ "VPS/PDC Recording" on page 37.

RETURN TO NORMAL SCREEN

Press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears. If "PROGRAM OVERLAPPED" appears on the TV screen and "Err" on the front display panel, see page 39.

- Repeat steps 1 – 7 for each additional programme.

ENGAGE RECORDER'S TIMER MODE

Press **⊖ (TIMER)**. The recorder turns off automatically and **⊖** appears on the display panel.

- To disengage the timer, press **⊕ (TIMER)** again.

5

6

7

8

NOTES:

- To Change The Stop Time press **STOP +/-** in step 4. You can compensate for anticipated programme schedule delays this way.
- To Timer-Record Weekly Or Daily Serials in step 4, press **WEEKLY** (NUMBER key "9") for weekly serials or **DAILY** (NUMBER key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.
- You can programme the VHS deck and the DV deck to timer-record as many as 6 programmes each. If you try to programme each deck to record a seventh, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 38).
- It is not possible to timer-record a TV programme with a SHOWVIEW number which starts with "0".
- It is not possible to timer-record the same programme on both the VHS deck and the DV deck simultaneously.
- If the times that are programmed for recording on the DV deck and on the VHS deck overlap, the earlier start time takes precedence. If the start times are the same, the VHS deck takes precedence.

Satellite Receiver Users

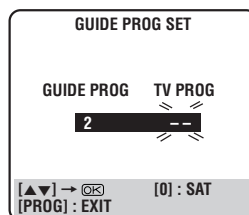
To timer-record a satellite broadcast using the SHOWVIEW system:

- 1 Perform "Satellite Receiver Control Setting" (☞ pg. 13).
- 2 Perform steps 1 – 8. In step 4, the display panel shows "L2" for the preset position. In step 6, you cannot set "VPS/PDC" to "ON".
- 3 Leave the satellite receiver's power on.

ATTENTION**Regarding Guide Program Number Set**

"GUIDE PROG SET" appears after performing step 3 if the Guide Program number for the SHOWVIEW number you entered has not been set.

- If you want to set the Guide Program number for the satellite broadcast station, press the **NUMBER** key "0" to change "TV PROG" to "SAT". Press **Δ∇** to input the channel position number on which your recorder or satellite receiver receives that station, then press **OK** or **▷** to set the Guide Program Number. The SHOWVIEW Program screen appears.



(Ex.) To timer-record a ZDF programme with the SHOWVIEW system.

* If your recorder receives ZDF on the channel position 2, press **OK** or **▷** after entering "2".

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on screen to tell you that the recording is to start in 5 minutes.

– WARNING –
TIMER RECORDING
TO START SOON
[X]

NOTES:

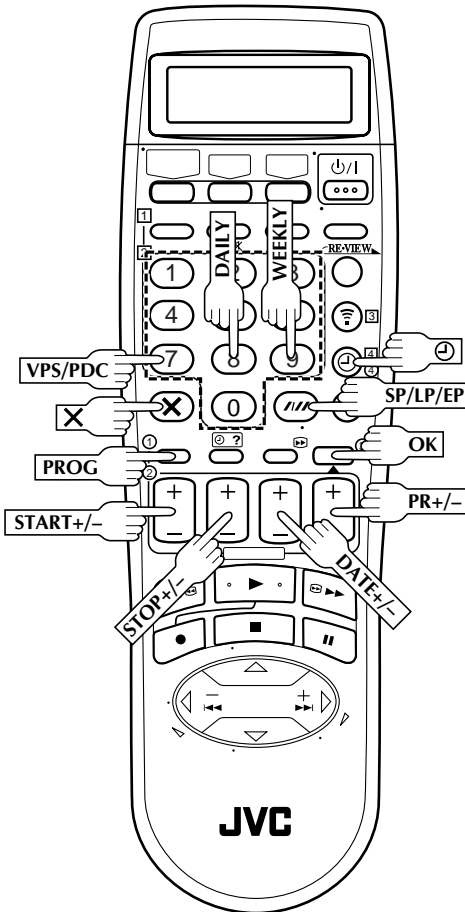
- The warning only appears if you're not in the Timer mode at that time.
- If this recorder is being used as the player for tape dubbing, the warning screen is recorded on the tape in the other video recorder.

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press X.

Express Timer Programming

Before performing Express Timer Programming:

- Make sure that the recorder's built-in clock is set properly.
- Select the recording deck by pressing **VHS** or **DV**.
- Insert a VHS (or S-VHS) cassette with the safety tab in place, or a Mini DV cassette with the erase protection switch set to "REC".
- Turn on the TV and select the AV mode.



1

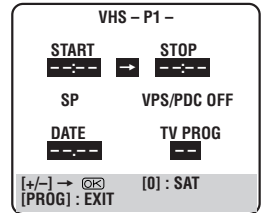
ACCESS SHOWVIEW SCREEN

Press **PROG**.

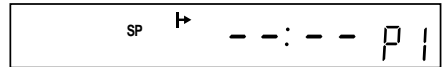
2

ACCESS PROGRAMME SCREEN

Press **START +/-**. (If you're just starting out, "P1" appears.)



The front display panel looks like this:

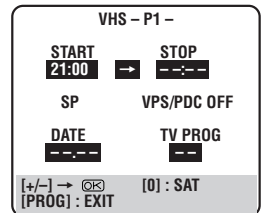


3

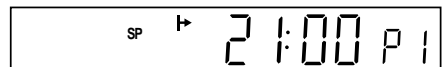
ENTER PROGRAMME START TIME

Press **START +/-** to enter the time you want recording to start.

- Press and hold **START +/-** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.



The front display panel looks like this:



4

ENTER PROGRAMME STOP TIME

Press **STOP +/-** to enter the time you want recording to stop.

- Press and hold **STOP +/-** to move in 30-minute increments, or press and release repeatedly to move 1 minute at a time.

5

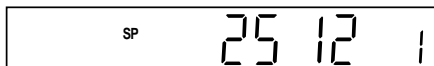
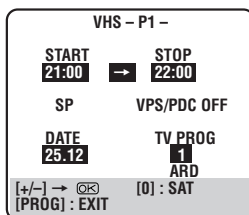
ENTER PROGRAMME DATE

Press **DATE +/-**. (The current date appears on screen. The date you enter appears in its place.)

6

ENTER CHANNEL POSITION

Press **PR +/-**.



Satellite Receiver Users

To timer-record a satellite broadcast using Express Timer Programming:

- 1 Perform "Satellite Receiver Control Setting" (☞ pg. 13).
- 2 Perform steps 1 – 10. In step 6, press the **NUMBER** key "0" to change "TV PROG" to "SAT". The display panel shows "L2" for the preset position. Then press **PR +/-** to enter the preset position for the satellite broadcast. In step 8, you cannot set "VPS/PDC" to "ON".
- 3 Leave the satellite receiver's power on.

7

SET TAPE SPEED

Press **SP/LP/EP (///)** to set the tape speed.

- It is not possible to select EP mode if "COLOUR SYSTEM" is set to "MESECAM". (☞ pg. 17) (VHS deck only)

8

SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".

If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, VPS/PDC is set to ON. If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, VPS/PDC is set to OFF. ☞ "VPS/PDC Recording" in the right column.

9

RETURN TO NORMAL SCREEN

After confirming all information is correct, press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears. If "PROGRAM OVERLAPPED" appears on the TV screen and "Err" on the front display panel, see page 39.

- Repeat steps 1 – 9 for each additional programme.

10

ENGAGE RECORDER'S TIMER MODE

Press **⊖ (TIMER)**. The recorder turns off automatically and **⊖** appears on the display panel.

- To disengage the timer, press **⊖ (TIMER)** again.

To Timer-Record Weekly Or Daily Serials . . .

. . . anytime during steps 2 through 9, press **WEEKLY** (NUMBER key "9") for weekly serials or **DAILY** (NUMBER key "8") for daily serials (Monday – Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.

NOTE:

You can programme the VHS deck and the DV deck to timer-record as many as 6 programmes each. If you try to programme each deck to record a seventh, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (☞ pg. 38).

VPS/PDC Recording

Now available from some TV stations, PDC (Programme Delivery Control) and VPS (Video Programme System) are service designed to assure safe, accurate timer recording. With this system, special code signals are transmitted together with the audio/video signals. These code signals control your video recorder and have precedence over the advertised times you may have preset into the timer. This means that your recorder will start and stop recording when the preset TV programmes actually start and end — even if the broadcast time of a preset TV programme is changed.

NOTES:

- When you use Express Timer Programming, set the start time (VPS or PDC time) exactly as advertised in the TV listing. A different time than advertised will result in no recording.
- VPS/PDC recording is also possible when a satellite receiver or a cable system is connected to AV2 (L-2) IN/DECODER on your recorder.
- VPS/PDC recording is also possible via the AV1 (L-1) IN/OUT connector.

How to check if the station being received transmits a VPS/PDC signal (VHS deck only)

- 1 Press **--** until the channel position appears on the display panel.
- 2 Hold down **START+** for about 5 seconds.
 - "VPS/PDC" appears blinking on the display panel. If a VPS/PDC signal is detected from the station, "VPS/PDC" will stop blinking. If no VPS/PDC signal is detected from the station, "VPS/PDC" will blink at a slower rate.
- 3 Press **--** or **START+** again to return to normal display.

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on screen to tell you that the recording is to start in 5 minutes.

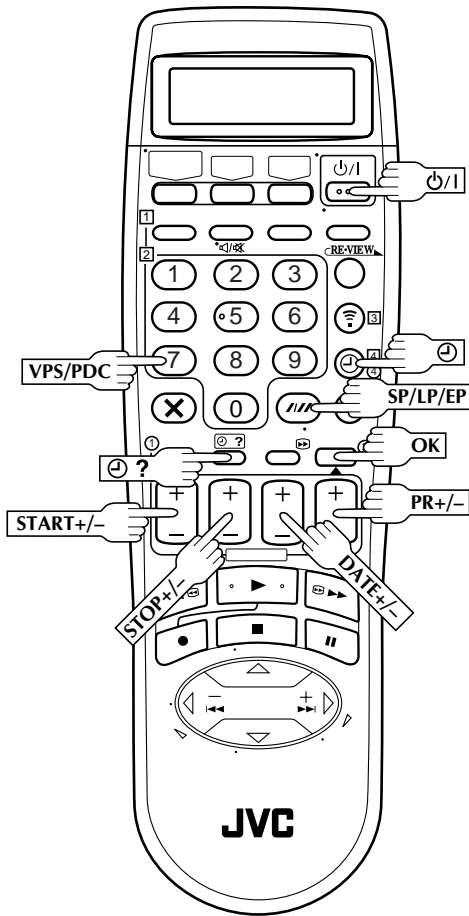
- WARNING -
TIMER RECORDING
TO START SOON
⊖ [X]

NOTES:

- The warning only appears if you're not in the Timer mode at that time.
- If this recorder is being used as the player for tape dubbing, the warning screen is recorded on the tape in the other video recorder.

The warning blinks for the entire 5 minutes leading up to the start of timer recording. To clear the display, press **X**.

Check, Cancel And Replace Programmes



1 DISENGAGE TIMER MODE

Press **⏻** (TIMER), then press **⏻**/I.

2 ACCESS PROGRAM CHECK SCREEN/DISPLAY

Press **⊙ ?**.

- The programme check screen or display appears for the deck (VHS or DV) being selected.

VHS			
	START	STOP	CH DATE
1	8:00	10:00	3 24.12
2	10:00	10:45	2 25.12
3	11:30	13:00	1 25.12
4			
5			
6			

[⊙ ?] : NEXT

P 1 P 6

3 ACCESS PROGRAM SCREEN/DISPLAY

Press **⊙ ?** again to check more information. Each time you press **⊙ ?**, the next programme's information appears.

VHS - P1 -			
START	8:00	STOP	10:00
SP		VPS/PDC	OFF
DATE	24.12	TV PROG	3
		WDR	

[⊙ ?] : NEXT

SP 8:00 P 1

- The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and the channel position.

To cancel or replace a programme...

4 CANCEL OR REPLACE A PROGRAMME

Press **X** to cancel a programme. To replace a programme, press the appropriate button: **START+/-**, **STOP+/-**, **DATE+/-**, **PR+/-**, **VPS/PDC**, **SP/LP/EP** (///).

5 RETURN TO NORMAL SCREEN/DISPLAY

Press **⊙ ?** as many times as necessary. If there are still some programmes remaining, go on to step 6.

6 RETURN TO TIMER MODE

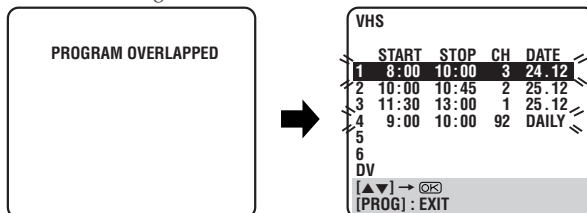
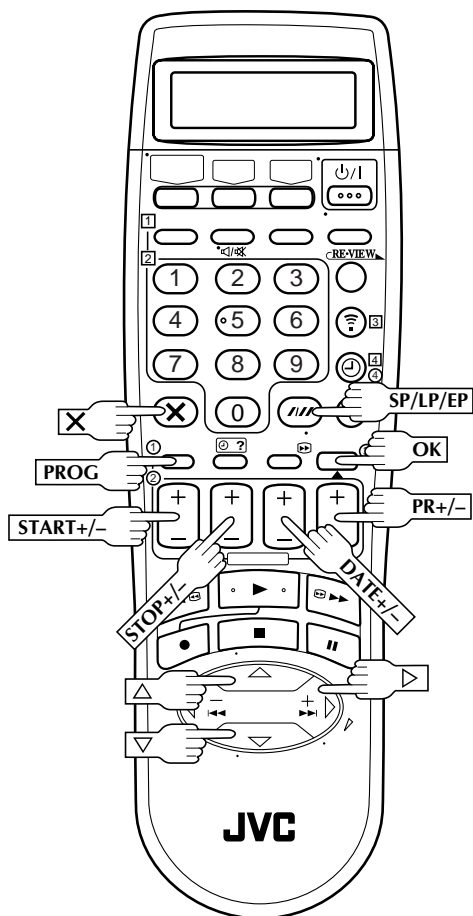
Press **⊙** (TIMER).

NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode pg. 12) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

When programmes overlap each other

If "PROGRAM OVERLAPPED" appears, you have another programme overlapping the programme you have just made. The Program Check screen appears and conflicting programmes will start blinking.



EX. Programme 1 (you have just made) and Programme 4 overlap each other on the VHS deck.

1 CONFIRM OVERLAPPING PROGRAMMES

Overlapping programmes blink on the screen.

2 SELECT PROGRAMME TO MODIFY

Press Δ / ∇ , then press **OK** or \triangleright .

- You can only select one of the overlapping programmes.

NOTE:

If you do not mind this overlap, press **PROG** to finish the timer programme setting. The programme with the lower programme number will be recorded and the other one will not be recorded correctly. If no changes are made for approximately 1 minute, the recorder will return to the normal screen.

3 CANCEL OR CHANGE PROGRAMME SETTING

To cancel a programme, press **X** when the Program screen you do not want is shown. "PROGRAM COMPLETED" appears on the TV screen for about 5 seconds, then normal screen appears.

To change a programme, press the appropriate button: **START+/-**, **STOP+/-**, **DATE +/-**, **PR +/-**, **VPS/PDC** and/or **SP/LP/EP (///)** when the Program screen on which you want to make changes is shown, then press **OK**. "PROGRAM COMPLETED" appears on the TV screen for about 5 seconds, then normal screen appears.

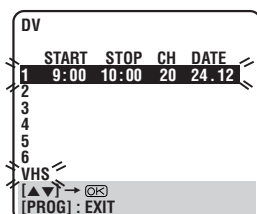
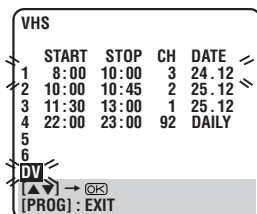
NOTE:

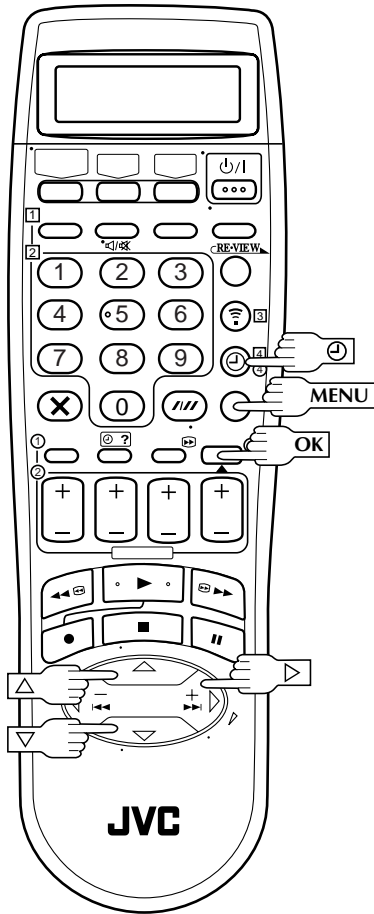
If the overlap is not yet solved or another overlap occurs with the timer programme setting after making the last correction on a programme, the conflicting programmes will be shown on the Program Check screen again. Repeat the above steps again until the overlap is solved.

ATTENTION

If the programme you have just made and "DV" are blinking, there is a conflicting programme on the DV deck.

- Press Δ / ∇ to move the highlight bar to "DV", then press **OK** or \triangleright . DV Programme Check screen appears.
- Cancel or change programme setting as described in step 2 and 3 in the right column.





Auto Timer

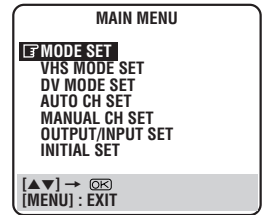
When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

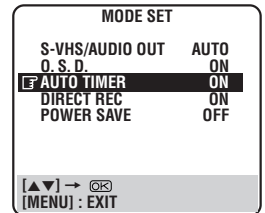
2 ACCESS MODE SET SCREEN

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



3 SELECT MODE

Press Δ / ∇ to move the highlight bar (pointer) to "AUTO TIMER", then press **OK** or \triangleright to select either "ON" or "OFF".



4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTE:

For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press \ominus (**TIMER**).

Auto SP→LP Timer (VHS Deck Only)

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example . . .

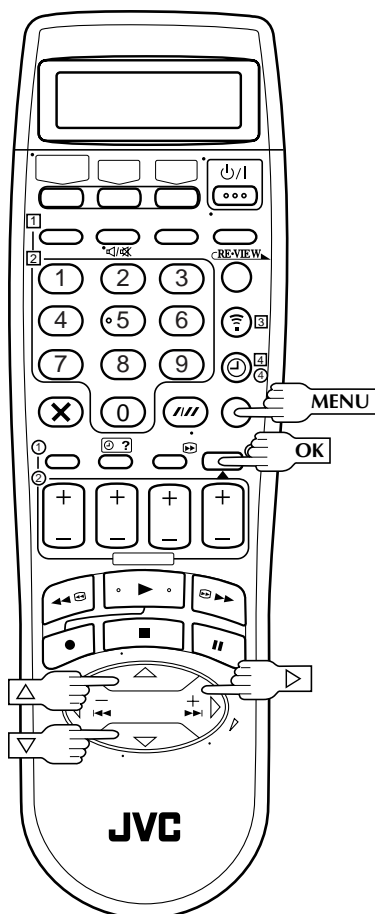
Recording a programme of 210 minutes in length onto a 180-minute tape

Approximately 150 minutes Approximately 60 minutes

SP mode	LP mode
---------	---------

Total 210 minutes

Make sure you set "AUTO SP→LP TIMER" to "ON" at the VHS Mode Set screen before the timer-recording starts.



1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "VHS MODE SET", then press **OK** or \triangleright .

3 SELECT MODE

Press $\Delta \nabla$ to move the highlight bar (pointer) to "AUTO SP→LP TIMER", then press **OK** or \triangleright to select "ON".

VHS MODE SET	
B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP→LP TIMER	ON
DIGITAL 3R	ON
S-VHS	ON
COLOUR SYSTEM	PAL/NTSC
DIGITAL TBC/NR	ON
VIDEO STABILIZER	OFF
[$\Delta \nabla$] → [OK]	
[MENU] : EXIT	

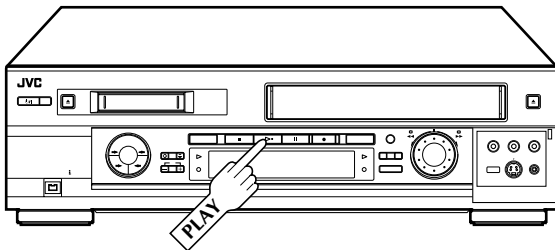
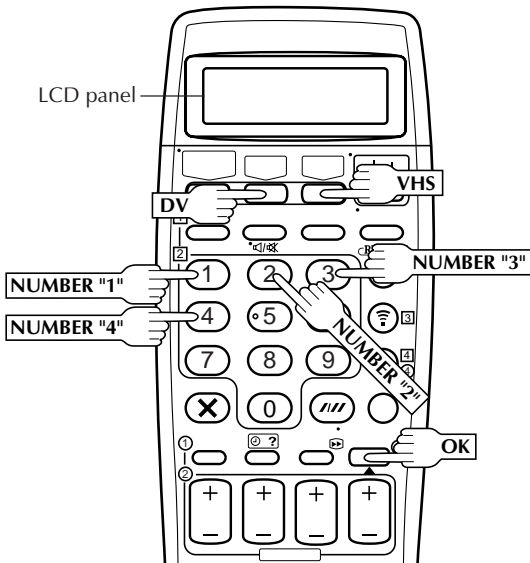
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP→LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.
- In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.
- There may be some noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.
- The Auto SP→LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.
- If you perform timer recording with both VPS/PDC and the Auto SP→LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.

Remote Control Functions



Remote A/B/C/D Code Switching

The remote control is capable of controlling four JVC video recorders independently. Each of recorders can respond to one of four codes (A, B, C or D). The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B, C or D code signals.

On Remote Control

1 DISPLAY CODE

Hold down **VHS** or **DV** on the remote control over 2 seconds. The code currently set blinks on the LCD panel.

2 CHANGE REMOTE CONTROL'S CODE

Press the **NUMBER** key "1" for A, "2" for B, "3" for C, or "4" for D.

3 SET REMOTE CONTROL'S CODE

Press **OK** to set the code.

On Recorder

1 DISPLAY CODE

Press **PLAY** on the recorder over 5 seconds while the recorder is turned off. The code currently set appears on the front display panel.

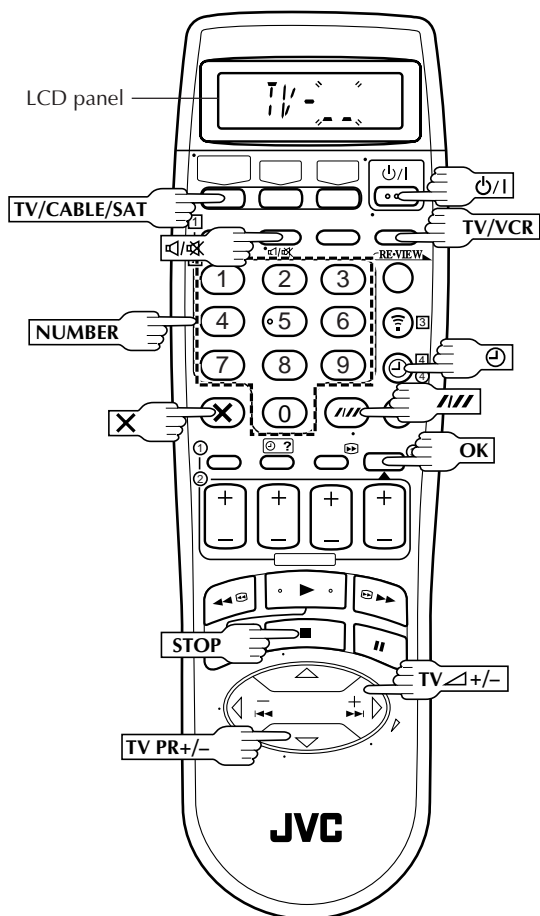
- If the code displayed on the front display panel is different from the code set on the remote control, go to step 2.

2 CHANGE RECORDER'S CODE

Press any key on the remote control. The code currently set on the remote control will be applied to the recorder.

NOTE:

During Power Save, it is impossible to change the remote control's code.



Control Your TV Using Additional Buttons

Use the **NUMBER** keys, and the **///** button, **X** button or **⊖** button to select the TV's channel.

- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the **///** button corresponds to the 1-digit/2-digit entry switching button (often labelled **-/-**) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the **X** button corresponds to the 10 + button, and the **⊖** button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

TV Multi-Brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

1

SET TV BRAND CODE

Press **TV/CABLE/SAT** to switch the display to "TV" and keep pressing the button down until "TV-__" appears. Enter your TV's brand code using the **NUMBER** keys, then press **OK**. (Refer to the chart below.) Press **⏻/I** on the recorder's remote control to turn on the TV and try operations (see step 2).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's batteries.
- Some brands of TV have more than one code. If the TV does not function with one code, try entering another.

2

OPERATE TV

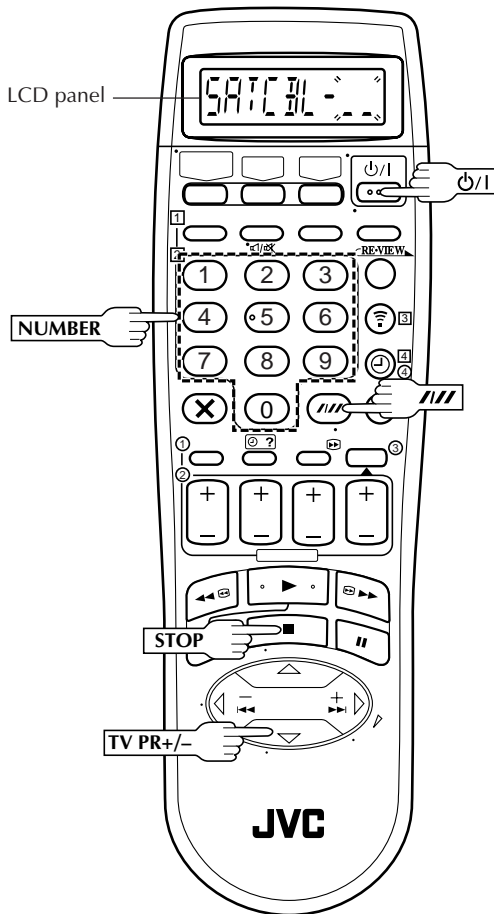
First, press **TV/CABLE/SAT** to switch the display to "TV". Then press the corresponding button: **⏻/I**, **TV PR +/-**, **TV/VCR**, **TV** **⏻/+/-** (Volume), **⏻/⏻** (Muting), **NUMBER** keys.

- To return the remote to video recorder control, press **VHS** or **DV**.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, *it may not work with your TV, or in some instances, may have limited function capability.*

TV BRAND NAME	CODE
JVC	01, 23, 24, 25
AIWA	36
BEIJING	22
CCE	02
CHANGHONG	34
DAEWOO	37
FERGUSON	27
FINLUX	30
FUNAI	32
GRADIENTE	20
GRUNDIG	19
HITACHI	10
ITT	28
JINXING	38
KONKA	40
LG/GOLDSTAR	18
MITSUBISHI	03
MIVAR	29
NEC	20
NOBLEX	22
NOKIA	31
PANASONIC	11
PEONY	34, 38, 39
PHILCO	10
PHILIPS	02
SAMSUNG	12, 33, 34, 35
SANYO	16
SHARP	06
SONY	07
TCL	41
THOMSON	26
TOSHIBA	14



Satellite Receiver Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite receiver set. In addition to JVC satellite receivers, other manufacturer's satellite receivers can also be controlled.

SET SATELLITE RECEIVER BRAND CODE

1

Press **TV/CABLE/SAT** to switch the display to "CABLE SAT" and keep pressing the button down until "SATCBL-__" appears. Enter your satellite receiver's brand code using the **NUMBER** keys, then press **OK**. (Refer to the chart in the left column.)

Press **TV/C** on the recorder's remote control to turn on the satellite receiver and try operations (➡ step 2).

- Once you have set the remote control to operate the satellite receiver, you don't have to repeat this step until you replace your remote control's batteries.
- Some brands of satellite receiver have more than one code. If the satellite receiver does not function with one code, try entering another.

OPERATE SATELLITE RECEIVER

2

First, press **TV/CABLE/SAT** to switch the display to "CABLE SAT". Then press the corresponding button: **TV PR +/-**, **NUMBER** keys.

- For some brands of satellite receiver, you must press **///** after having pressed the **NUMBER** keys.
- The **NUMBER** keys may not function with some satellite receivers.
- To return the remote to video recorder control, press **VHS** or **DV**.

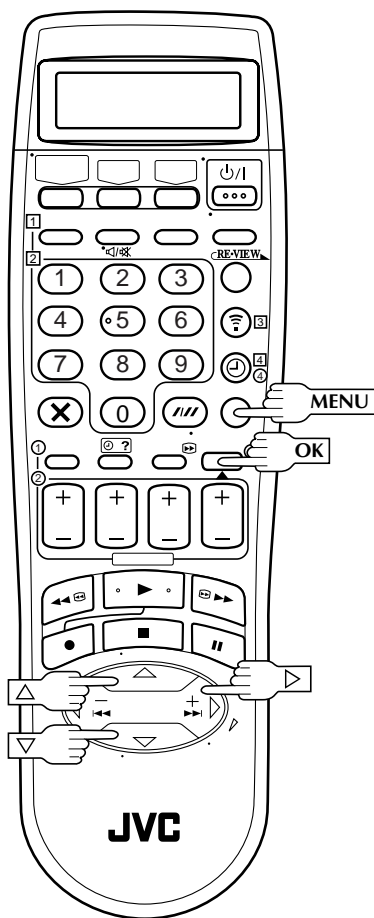
IMPORTANT

Although the provided remote control unit is compatible with JVC satellite receivers, as well as many other models, it may not work with your satellite receiver, or in some instances, may have limited function capability.

SATELLITE RECEIVER BRAND	CODE
JVC	73
AMSTRAD	60, 61, 62, 63, 91
CANAL +	81
D-BOX	85
ECHOSTAR	78
ECHOSTAR (VIA DIGITAL)	82
FINLUX	68
FORCE	89
GALAXIS	69, 88
GRUNDIG	64, 65
HIRSCHMANN	64
ITT NOKIA	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASCOM	92
MASPRO	70
NOKIA	87
PACE	67, 86, 91
PANASONIC	74
PHILIPS	66, 84
PHONOTREND	69
RFT	69
SAGEM	83
SALORA	68
SKYMASTER	69
TPS	83
TRIAX	90
WISI	64

Preparation For Editing (VHS Deck Only)

Turn on the TV and select the AV mode.



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.

- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

Press **MENU**.

2 ACCESS VHS MODE SET SCREEN

Move the highlighted bar (pointer) to "VHS MODE SET" by pressing Δ / ∇ , then press **OK** or \triangleright .

3 SELECT PICTURE CONTROL SET MODE

Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing Δ / ∇ , then press **OK** or \triangleright to select the desired mode.

VHS MODE SET	
B. E. S. T.	ON
PICTURE CONTROL	AUTO
AUTO SP-→LP TIMER	OFF
DIGITAL 3R	ON
S-VHS	ON
COLOUR SYSTEM	PAL/NTSC
DIGITAL TBC/NR	ON
VIDEO STABILIZER	OFF
[▲▼] → [OK]	
[MENU] : EXIT	

AUTO: Provides optimised picture benefits of B.E.S.T. Picture System. Normally select "AUTO".

EDIT: Minimizes picture degradation during editing (recording and playback).

SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.

SHARP: Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.

NOTES:

- When you select "EDIT", "SOFT" or "SHARP", the selected mode will not change until you select again.
- When you select "EDIT" to dub tapes, be sure to select "AUTO" after you finish dubbing the tapes.

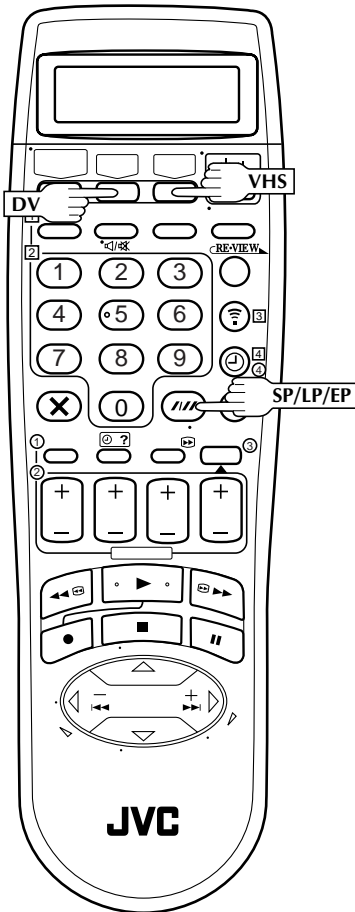
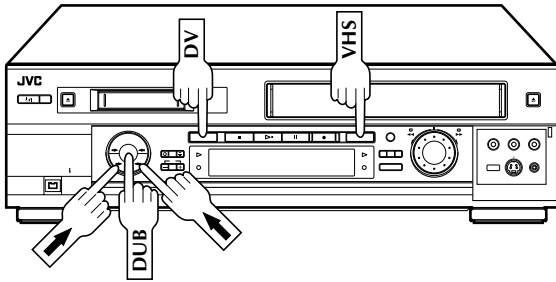
4 RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

- When "B.E.S.T." is "OFF", "PICTURE CONTROL" switches automatically from "AUTO" to "NORM".
- Select "EDIT" when you are dubbing tapes. Refer to page 52.

Tape Dubbing



Dubbing An Entire Cassette

Because this recorder includes both a VHS deck and a DV deck, you can easily use it for dubbing without connecting any other equipment.

LOAD CASSETTES

1 Insert a VHS (or S-VHS) cassette and a Mini DV cassette.

SELECT DUBBING DIRECTION

2 Press → when you want playback on the DV deck and recording on the VHS deck. The dubbing direction (DV →) indicator lights.

OR

Press ← when you want playback on the VHS deck and recording on the DV deck. The dubbing direction (← VHS) indicator lights.

SET TAPE SPEED

3 Press **VHS** or **DV** for the recording deck, then press **SP/LP/EP** (///).

- "DV → VHS" or "DV ← VHS" appears on the TV screen if "O.S.D." is set to "ON". (pg. 11)

START DUBBING

4 Press **DUB** for two seconds.

Dubbing from DV to VHS:

DV play indicator (▷) and VHS record indicator (○) light.

Dubbing from VHS to DV:

VHS play indicator (▷) and DV record indicator (○) light.

- If the tapes have not been rewound, both decks rewind automatically. The recording deck goes into Record-Pause mode, and the playback deck goes into Pause mode.

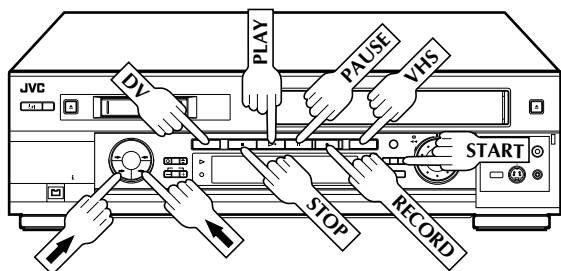
When both decks have finished rewinding, dubbing begins automatically.

After dubbing is completed, the decks rewind both tapes automatically and eject them. The recorder then shuts off.

NOTES:

- If you set the dubbing direction incorrectly, you could erase an important recording that you wanted to copy. We recommend conducting a test with unimportant cassettes first.
- On the cassette that you are playing (i.e., recording from) we recommend either setting the erase protection switch to "SAVE" (if the cassette is a Mini DV cassette), or breaking off the record safety tab (if the cassette is a VHS cassette).
- It is impossible to view a satellite broadcast or a scrambled broadcast when the recorder is in the dubbing mode.
- If you start dubbing a tape from a tape with a copy protection signal, the tapes will be automatically ejected from the DV and VHS deck, and the recorder will turn off.
- To cancel the dubbing mode, press **PR +/-** so that the dubbing direction indicator (DV → or ← VHS) goes off.

Normal Dubbing



NOTES:

- There may be a discrepancy of several seconds between where you intend editing to start, and where it actually starts.
- The on-screen display during the operation or dubbing is not recorded.
- When dubbing from the VHS deck to the DV deck, also set "SOUND MODE" to the appropriate mode (☞ pg. 25).
- It is impossible to view a satellite broadcast or a scrambled broadcast when the recorder is in the dubbing mode.
- To cancel the dubbing mode, press **PR +/-** so that the dubbing direction indicator (DV → or ← VHS) goes off.

When dubbing from the DV deck to the VHS deck:

- When dubbing a Mini DV tape that was produced by audio dubbing, you need to set "12BIT MODE" to the appropriate mode before playing the tape (☞ pg. 25).

You can dub selected scenes on a tape, starting and stopping wherever you wish.

LOAD CASSETTES

Insert a VHS (or S-VHS) cassette and a Mini DV cassette.

SELECT DUBBING DIRECTION

Press → when you want playback on the DV deck and recording on the VHS deck. The dubbing direction (DV →) indicator lights.

OR

Press ← when you want playback on the VHS deck and recording on the DV deck. The dubbing direction (← VHS) indicator lights.

SET TAPE SPEED

Press **VHS** or **DV** for the recording deck, then press **SP/LP/EP (///)**.

- "DV → VHS" or "DV ← VHS" appears on the TV screen if "O.S.D." is set to "ON". (☞ pg. 11)

LOCATE START POINT

For the playing deck:

Press **VHS** or **DV** to select the playing deck. Press **PLAY** to start playback of the tape in the playing deck, and press **PAUSE** to pause playback when you find the point where you want to start dubbing.

For the recording deck:

Press **VHS** or **DV** to select the recording deck. Press and hold **PAUSE** and press **RECORD** so that the recording deck enters the Record-Pause mode.

START DUBBING

Press **START**.

Dubbing from DV to VHS:

DV play indicator (▷) and VHS record indicator (○) light.

Dubbing from VHS to DV:

VHS play indicator (▷) and DV record indicator (○) light.

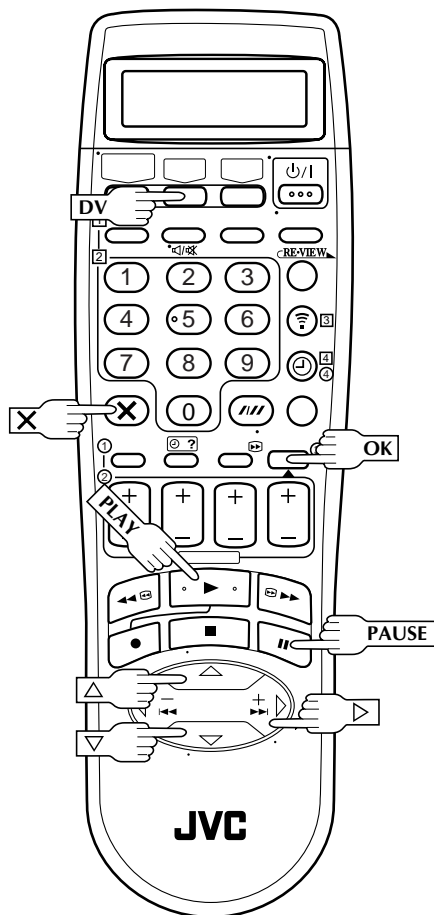
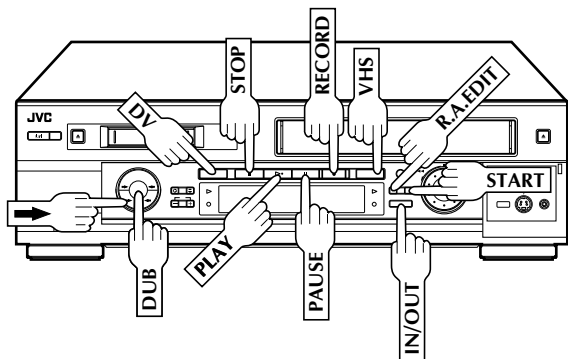
PAUSE DUBBING

Press **START**.

END DUBBING

Press **STOP**. Then press **VHS** or **DV** to select the playing deck and press **STOP**.

Random Assemble Editing



64-program Editing Memory (8 programmes x 8 scenes)

By using the Random Assemble Editing function, you can select up to 8 scenes from a previously recorded Mini DV cassette and automatically dub them onto a VHS cassette.

Random Assemble Editing is possible only when dubbing from the DV deck to the VHS deck.

1 LOAD CASSETTES

Insert a VHS (or S-VHS) cassette and a Mini DV cassette.

2 SELECT DV DECK

Press **DV**.

3 ACCESS R.A. EDIT SCREEN

Press **R.A. EDIT**. R.A. EDIT screen will appear.

4 SELECT PROGRAMME

Press Δ / ∇ to move the highlight bar (pointer) to the programme number you want to edit, then press **OK** or \triangleright .

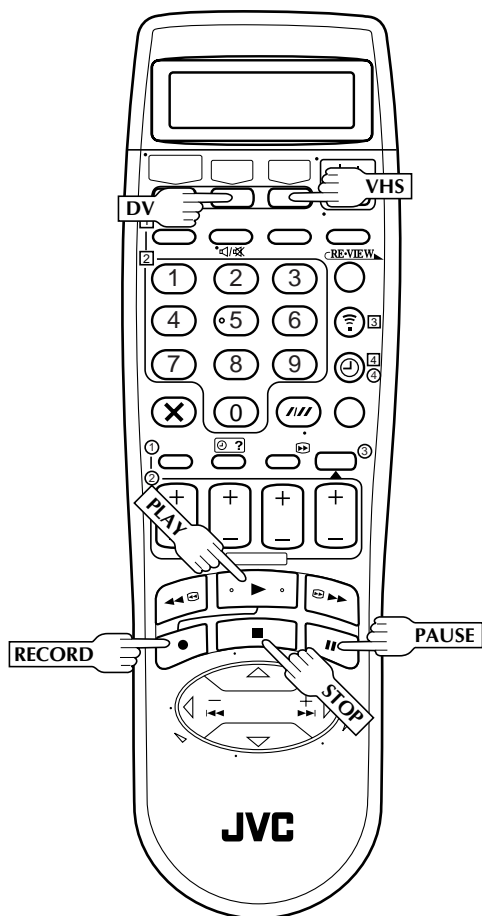
- To remove a programme from the R.A. EDIT screen, select the programme number, then press **X** for more than 2 seconds.

DV → VHS	
P1	---/---/---/---
P2	---/---/---/---
P3	---/---/---/---
P4	---/---/---/---
P5	---/---/---/---
P6	---/---/---/---
P7	---/---/---/---
P8	---/---/---/---
[+/-] → START	
[R. A. EDIT] : EXIT	

5 LOCATE EDIT-IN POINT

Press **PLAY** to start playback and find the point from where you want the edited scene to begin, then press **PAUSE**. Then press **IN/OUT**. The edit-in point appears on the screen.

P1	IN	OUT
1	---:---:→	
2		→
3		→
4		→
5		→
6		→
7		→
8		→
	TC	---:---:---
	TOTAL	---:---:---



NOTES:

- When Random Assemble Editing doesn't work, press → of the **DUB** button, then perform Random Assemble Editing again.
- To cancel the registered scene, press X. Each time X is pressed, the latest registered scene is erased.
- When the source tape has more than 2 identical time codes (see pg. 24), the recorder may not find the edit-in point you chose and a malfunction may occur.
- When choosing a scene, set edit-in and edit-out points so that there's a relatively large difference between them.
- If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.
- If there are blank portions before or after the edit-in and edit-out points, a blue-backed screen may be included in the edited version.
- Since time codes register time only as accurately as seconds, the time code total time may not match the total programme time exactly.
- To quit Random Assemble Editing while it is still in progress, press **R.A.EDIT** again to return to the R.A.EDIT screen. Press **R.A.EDIT** once more to return to the normal screen.
- To use Random Assemble Editing consecutively for two or more programmes, press **START** for each programme. When dubbing from another Mini DV cassette, swap the Mini DV cassettes first, and then press **START**.

6 LOCATE EDIT-OUT POINT

Press **PLAY** to start playback. Find the point where you want the edited scene to end, then press **PAUSE**. Then, press **IN/OUT**. The edit-out point appears on the screen.

P1	IN	OUT
1	0:31:02	0:54:00
2		→
3		→
4		→
5		→
6		→
7		→
8		→
TC		0:00:10
TOTAL		0:22:58

7 REGISTER ADDITIONAL SCENES

Repeat steps 5 and 6.

- To change previously registered points, press X. The registered points disappear, one at a time, from the most recently registered point.

8 PREPARE SOURCE TAPE

Rewind the tape in the DV deck to the beginning of the scene you want to edit.

9 ENGAGE VHS DECK TO RECORD-PAUSE MODE

Press **VHS**, then press and hold **PAUSE** and press **RECORD** so that the VHS deck enters the Record-Pause mode.

10 START EDITING

Press **START**.

- When dubbing is complete, the DV deck enters the Pause mode, and the VHS deck enters its Record-Pause mode.

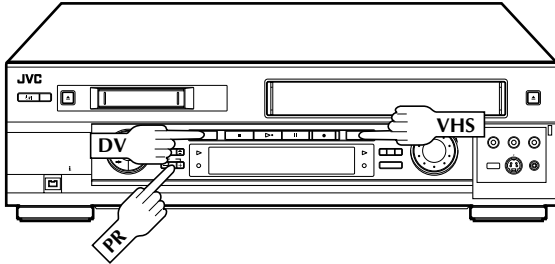
11 STOP EDITING

Press **STOP**. The VHS deck stops recording. Press **DV**, then press **STOP**. The DV deck stops playback.

12 RETURN TO NORMAL SCREEN

Press **R.A.EDIT**.

Edit From A Camcorder



NOTES:

- All necessary cables can be obtained from your dealer.
- You can also use another video recorder as the player instead of a camcorder.
- When you select "EDIT" to dub tapes in step 4, be sure to select "AUTO" (or "NORM" when "B.E.S.T." is set to "OFF") after you finish dubbing the tapes.
- When you are editing through the DV IN/OUT connector, the recorder will stop if the player begins playing a blank portion of tape or the signal is interrupted.

You can use a camcorder as the source player and your video recorder as the recorder.
You can perform digital dubbing if you connect a device such as a camcorder which has a DV output/input connector. Because the signals are digital, there is no loss of video or audio quality as a result of editing.

MAKE CONNECTIONS

- 1 **A** If the camcorder has no S-VIDEO output connector...
... connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/VIDEO input connectors.
- B** If the camcorder has an S-VIDEO output connector...
... connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.
- C** If the camcorder has a DV OUT/IN connector...
... connect the camcorder's DV OUT/IN connector to the recorder's DV IN/OUT connector.

- When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.
- When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

SELECT RECORDING DECK

Press **VHS** or **DV**.

SET RECORDER'S INPUT MODE

Press **PR** on the recorder to select "F-1".

- When using the VHS deck as the recording deck, set "VHS F-1 INPUT" to "VIDEO" for the AUDIO/VIDEO input connectors, or "S-VIDEO" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used (☞ pg. 59).

SET EDIT MODE (VHS DECK ONLY)

See "Picture Control" on page 45.

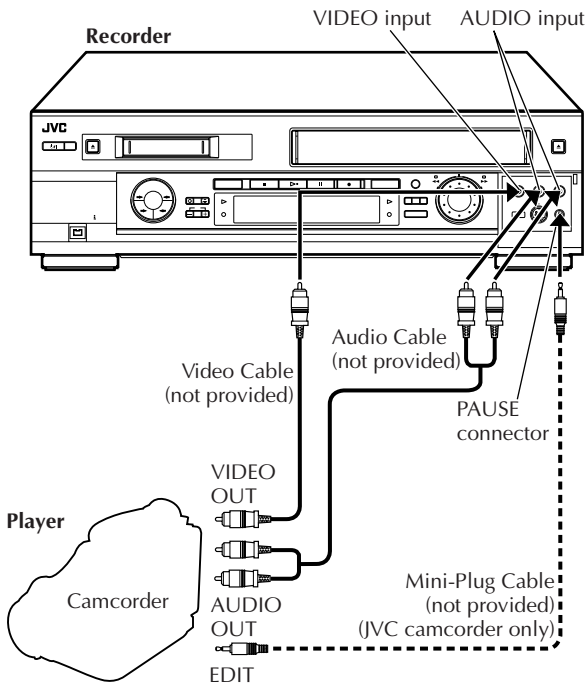
START CAMCORDER

Engage its Play mode.

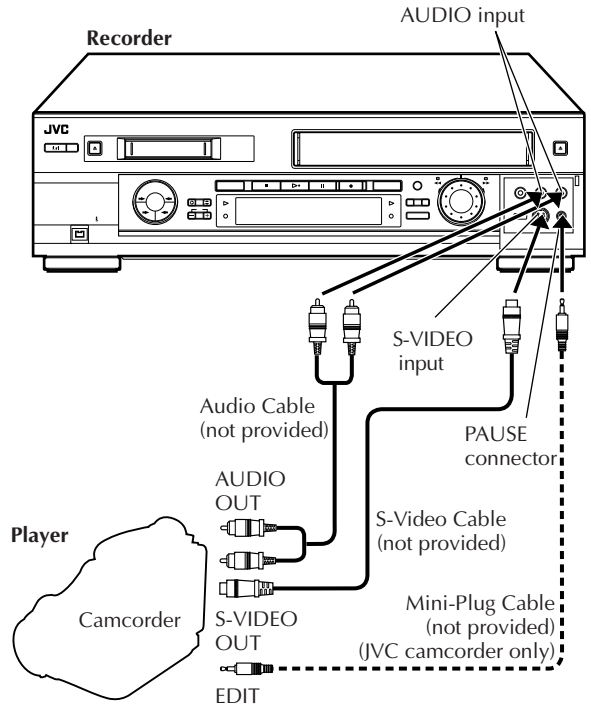
START RECORDER

Engage its Record mode.

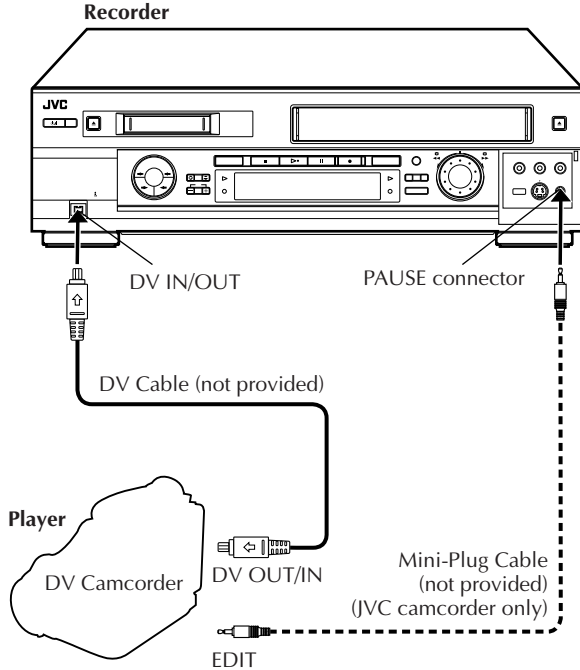
A If the camcorder has no S-VIDEO output connector...



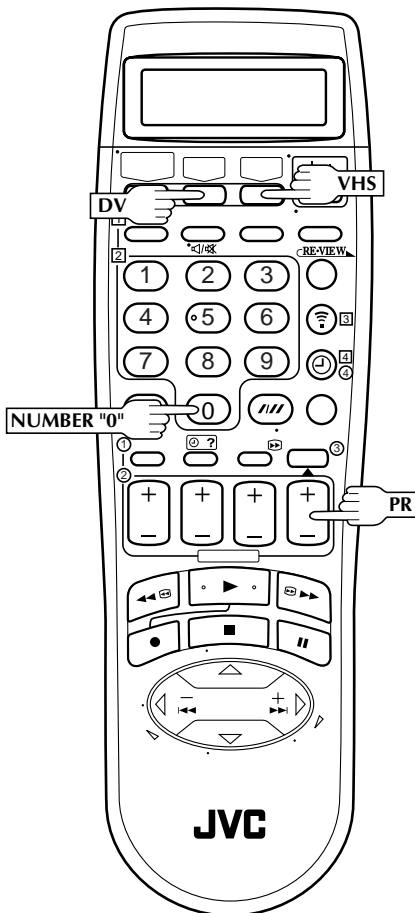
B If the camcorder has an S-VIDEO output connector...



C If the camcorder has a DV OUT/IN connector...



Edit To Or From Another Video Recorder



You can use your video recorder as the source player or as the recording deck.

1

MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 53.

- A** *When Using Your Video Recorder As The Source Player ...*
... connect its AV1 (L-1) IN/OUT connector to the recording deck.
- B** *When Using Your Video Recorder As The Recording Deck ...*
... connect its AV2 (L-2) IN/DECODER or AV1 (L-1) IN/OUT connector to the source player.
- C** *If Another Recorder Is Compatible With The Y/C Signal ...*
... connect your recorder's AV1 (L-1) IN/OUT connector to another recorder.

With **C** connection ...

- When using your recorder as the recording deck, set "L-1 INPUT" to "S-VIDEO" and "L-2 SELECT" to "A/V" (☞ pg. 58).
- When using your recorder as the source player, set "L-1 OUTPUT" to "S-VIDEO" (☞ pg. 58).

2

SELECT DECK

Press **VHS** or **DV**.

- When using your recorder as the source player, set "S-VHS/AUDIO OUT" to "VHS" or "DV", depending on the deck being selected (☞ pg. 59).

3

SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "0" and/or **PR** to select "L-1" for the AV1 (L-1) IN/OUT connector, or "L-2" for the AV2 (L-2) IN/DECODER connector, depending on the connector being used.

- When using the AV2 (L-2) IN/DECODER connector, make sure "L-2 SELECT" is set to "A/V" (☞ pg. 58).

4

SET EDIT MODE (VHS DECK ONLY)

See "Picture Control" on page 45.

5

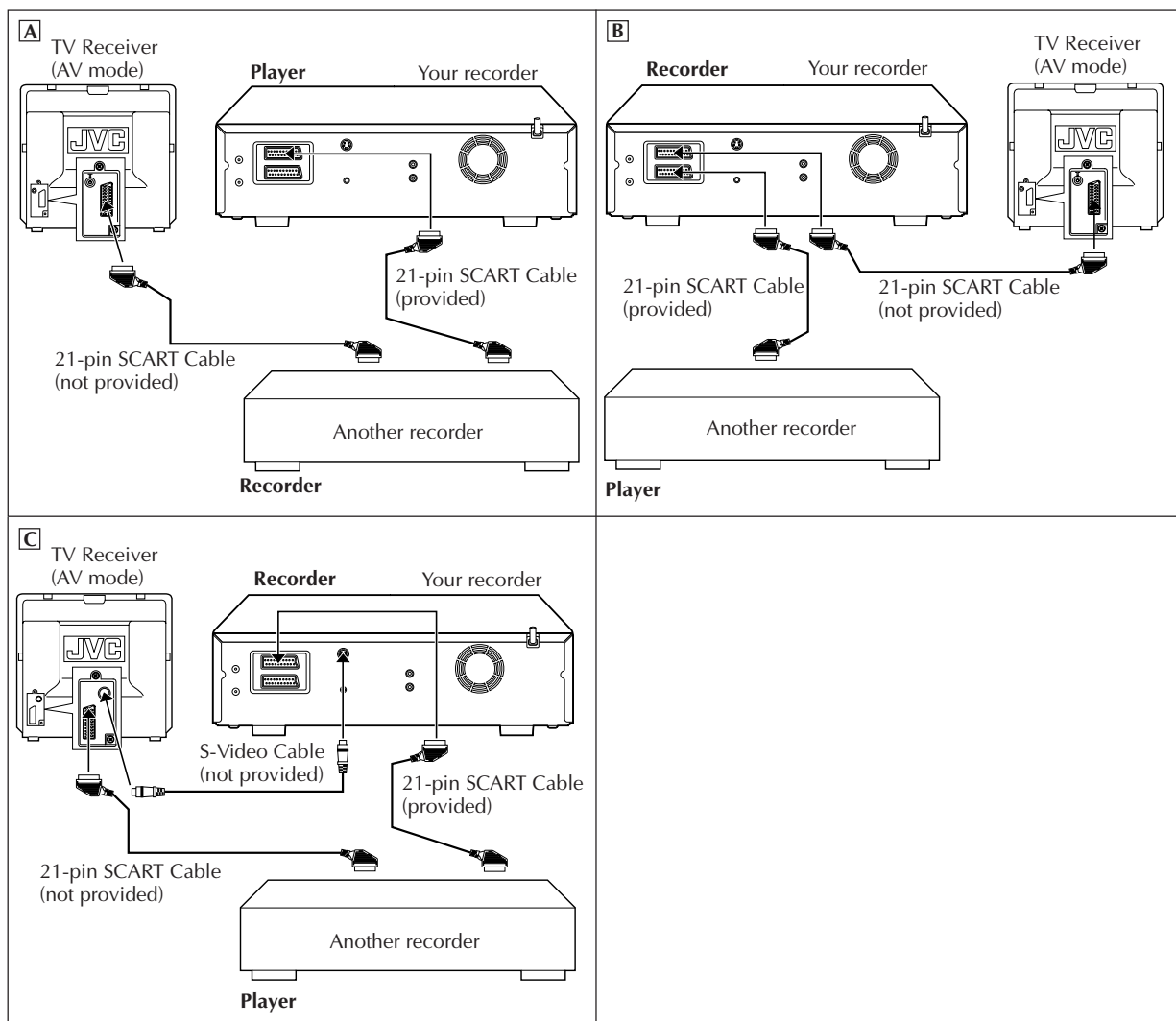
START SOURCE PLAYER

Engage its Play mode.

6

START RECORDING DECK

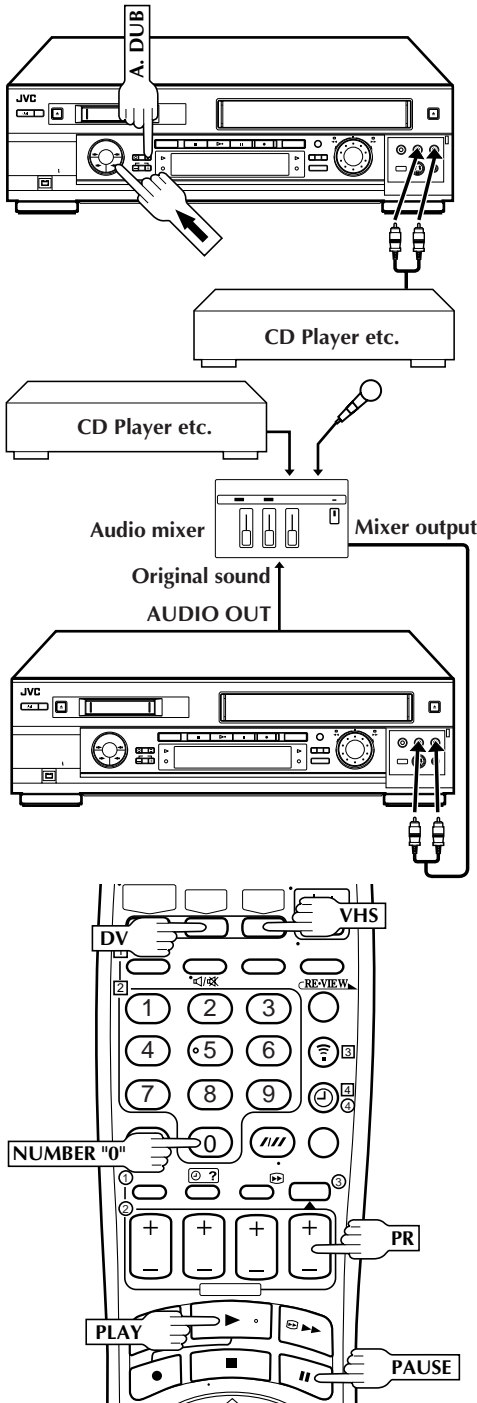
Engage its Record mode.



NOTES:

- All necessary cables can be obtained from your dealer.
- For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.
- When you select EDIT to dub tapes in step 4, be sure to select AUTO (or NORM when B.E.S.T. is set to OFF) after you finish dubbing the tapes.
- When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (☞ pg. 11).
- If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO and AUDIO input/output connectors.
 - When Using Your Video Recorder As The Source Player ...
 - ... connect its rear panel S OUT and AUDIO output connectors to the recording deck's S-Video and Audio input connectors.
 - When Using Your Video Recorder As The Recording Deck ...
 - ... connect its front panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors.
 - Then, set the recorder's input mode to "F-1" and set "VHS F-1 INPUT" to "S-VIDEO". (☞ pg. 59)

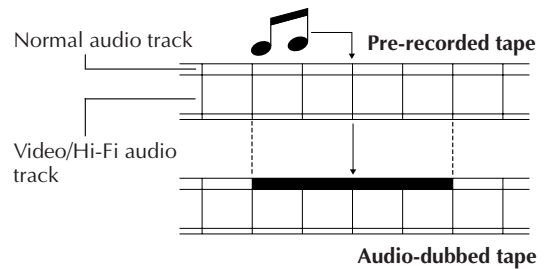
Audio Dubbing



VHS Audio Dubbing

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.

Audio dubbing is not possible with a cassette recorded in EP mode.



DV Audio Dubbing

This function lets you record new audio, without erasing the original audio, on a DV tape that was recorded with "SOUND MODE" set to "12BIT" (see pg. 25). You can then play back audio that you recorded by connecting other audio or video equipment to this recorder.

You cannot perform audio dubbing on a tape that was recorded with "SOUND MODE" set to "16BIT", on a tape that was recorded at the "LP" speed, or on a blank tape.

MAKE CONNECTIONS

1 Connect an audio component to the AUDIO L + R connectors on the recorder's front panel.

- When connecting monaural equipment, use only the recorder's AUDIO L connector.

SELECT RECORDING DECK

2 Press **VHS** or **DV**.

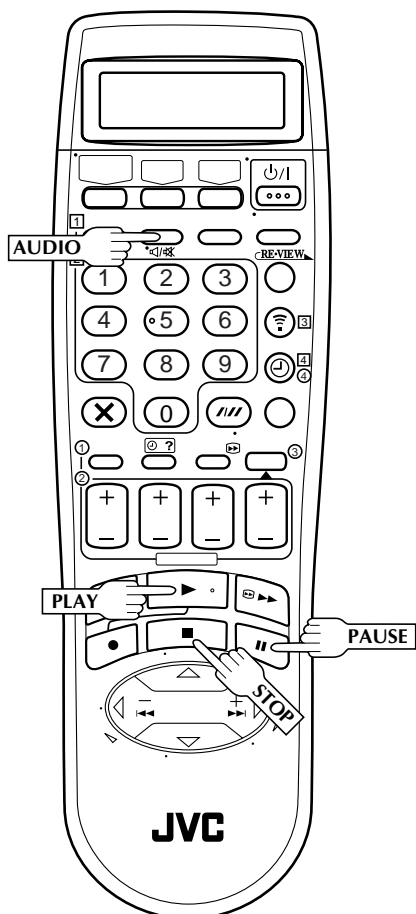
- When using the DV deck as the recording deck, press ← so that the audio signals from the AUDIO L + R input connectors can be recorded. The dubbing direction (← VHS) indicator lights.

SET INPUT MODE

3 Press **NUMBER** key "0" and/or **PR** so that "F-1" appears in place of a channel number.

LOCATE START POINT

4 Press **PLAY** to start playback of the tape in your recorder, and press **PAUSE** when you find the point where you want to start dubbing.



5 ENGAGE AUDIO DUBBING

Press **A. DUB.**

- Your recorder enters the Audio Dubbing Pause mode. ("0" blinks, "▶" and "■" light up on the front display panel.)
- To perform audio dubbing with audio mixing, press **AUDIO** on the remote control to select "HIFI L [▶▶] R" or "L [▶▶] R" at this point. When using the DV deck as the recording deck, also make sure that "12BIT MODE" is set to "SOUND1" (☞ pg. 25).
* Audio dubbing with audio mixing is not possible if you're using a monaural audio component, or if you don't have an audio mixer.

6 START DUBBING

Engage the audio component's Play mode, then press **PLAY** to start the tape in your recorder. Audio dubbing begins at this point.

- When monitoring the audio-dubbed sound on the DV deck, set "12BIT MODE" to "SOUND2". (☞ pg. 25)
- "0" blinks and "▶" is displayed on the front display panel.
- To stop dubbing temporarily, press **PAUSE**. Press **PLAY** to resume dubbing.

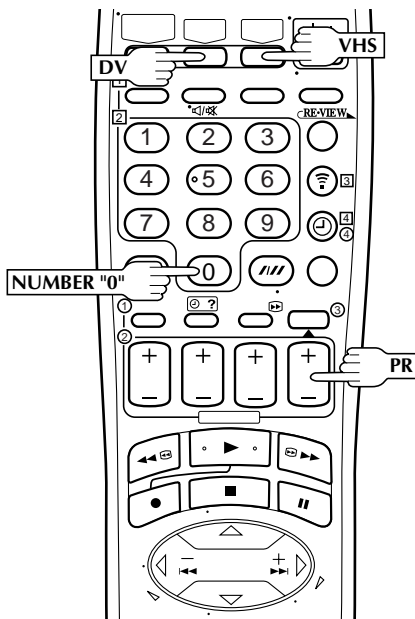
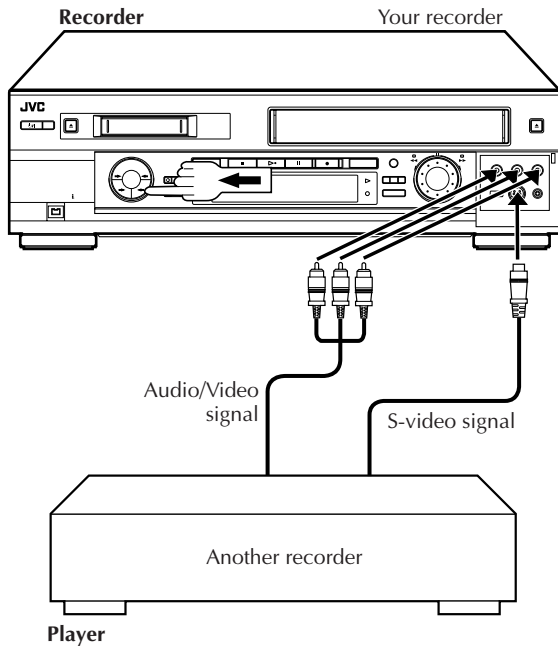
7 END AUDIO DUBBING

Press **STOP** to stop the tape in your recorder, and engage the audio component's Stop mode.

NOTES:

- Once the Audio Dubbing starts, you can not use the other deck.
- When monitoring the sound during Audio Dubbing, the normal soundtrack is automatically selected. If you wish to hear the mixed sound (Hi-Fi + Normal soundtracks), press **AUDIO** on the remote control to select "HIFI NORM" (VHS deck only ☞ pg. 24).
- Audio dubbing stops automatically when the counter reaches "0:00:00", and the recorder enters the Play mode (VHS deck only). Check the counter reading before dubbing.
- Audio dubbing is also possible using the rear panel AV1 (L-1) IN/OUT or AV2 (L-2) IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step 3.
- Audio dubbing cannot be performed on a VHS/S-VHS cassette that has had its record safety tab removed, or on a Mini DV cassette that has had its erase protection switch set to "SAVE".
- When playing back an audio-dubbed tape on the VHS deck, press **AUDIO** on the remote control to select the soundtrack you wish to hear (☞ pg. 24). When playing back an audio-dubbed Mini DV tape on the DV deck, set "12BIT MODE" to "SOUND2" (☞ pg. 25).
- Audio dubbing is not possible using the DV IN/OUT connector.

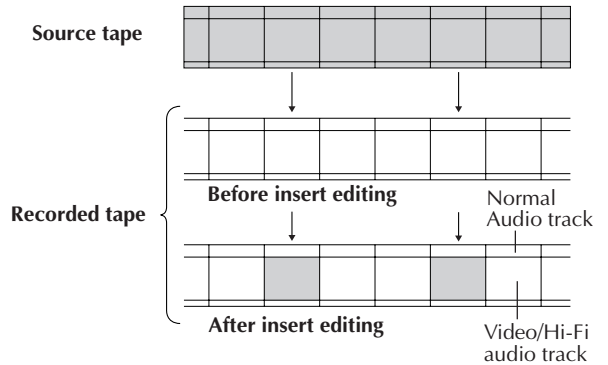
Insert Editing



VHS Insert Editing

Insert Editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously. Use your video recorder as the recorder.

Insert editing is not possible with a cassette recorded in EP mode.



DV Insert Editing (SP Mode Only)

The picture is replaced with new one, while the audio soundtrack remains unchanged. Use your video recorder as the recorder.

1 MAKE CONNECTIONS

Connect the player's VIDEO OUT or S-VIDEO OUT and AUDIO OUT connectors to your recorder's VIDEO or S-VIDEO and AUDIO input connectors on the front panel.

2 SELECT RECORDING DECK

Press **VHS** or **DV**.

- When using the DV deck as the recording deck, press ← so that the video and audio signals from the VIDEO/S-VIDEO and AUDIO L + R input connectors can be recorded. The dubbing direction (← VHS) indicator lights.

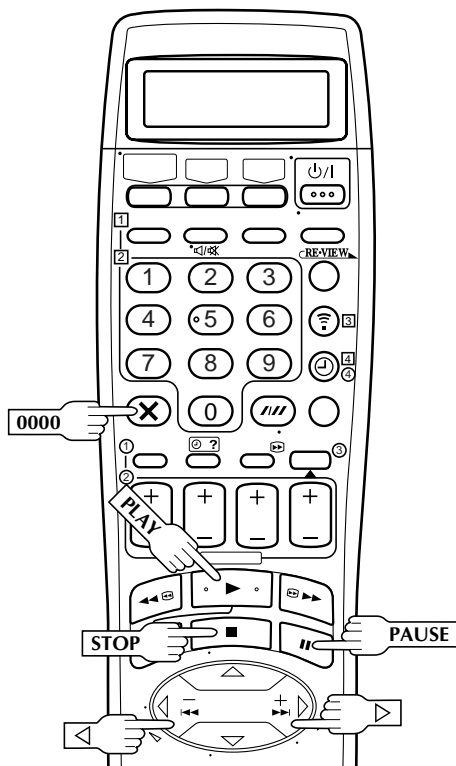
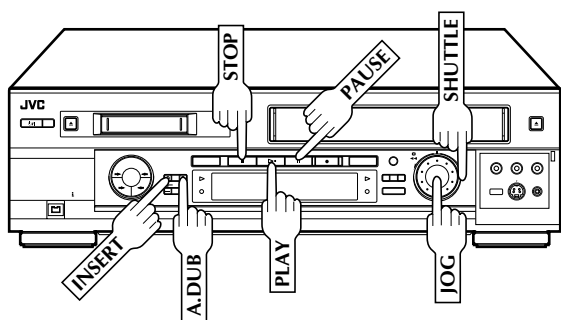
3 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **PR** to select "F-1".

- When using the VHS deck as the recording deck, set "VHS F-1 INPUT" to "VIDEO" for the AUDIO/VIDEO input connectors, or "S-VIDEO" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used (☞ pg. 59).

NOTE:

Insert Editing is not possible with a Mini DV tape recorded in LP mode.



NOTES:

- Once the Insert Editing starts, you can not use the other deck.
- All necessary cables can be obtained from your dealer.
- Insert Editing cannot be performed on a VHS/S-VHS cassette that has had its record safety tab removed, or on a Mini DV cassette that has had its erase protection switch set to "SAVE".
- When Insert Editing is performed on a tape that has been recorded on another video recorder, the inserted portion may appear distorted.
- In Insert Editing, the recording speed (SP/LP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point. (VHS deck only)
- A small portion of the recording which precedes an insert edit may be erased.
- Insert Editing is also possible using the rear panel AV1 (L-1) IN/OUT or AV2 (L-2) IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step 3.
- Insert Editing is not possible using the DV IN/OUT connector.

4

LOCATE END POINT (VHS DECK ONLY)

Load the recording cassette into your recorder, and play it back to determine the edit-out point (the end of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial, or pressing <L> and **PAUSE**.

5

RESET THE COUNTER (VHS DECK ONLY)

Press **0000** to change the counter display to "0:00:00".

6

LOCATE START POINT

Determine the edit-in point (the beginning of the segment to be replaced) using the **SHUTTLE** ring or the **JOG** dial or pressing <R> and **PAUSE**.

- Be sure to engage the Still mode at the edit-in point.

7

ENGAGE INSERT EDITING

Press **INSERT**.

- Your recorder enters the Insert-Pause mode. ("⊙", "▶") and "⊙" light up on the front display panel.)
- The TV screen changes from the still picture to the input source you are going to record.

8

START EDITING

Load the source cassette and play back the segment that is to be inserted. When you reach the start of the section of the source tape that you wish to insert, press **PLAY** to start the tape in your recorder; Insert Editing begins at this point.

- "⊙" and "▶" are displayed on the front display panel.

9

END INSERT EDITING

VHS deck

At counter "0:00:00", Insert Editing will stop automatically while the tape continues running in the Play mode. If you wish to stop Insert Editing before the specified edit-out point, press **0000**.

DV deck

Press **STOP** to stop the tape in the DV deck.

FOR AV INSERT EDITING (VHS DECK ONLY)

If you want to replace the picture, Hi-Fi audio soundtrack and normal audio soundtrack all at the same time...

... In step 7 above, after you press **INSERT**, press **A. DUB** also. ("⊙" and "▶" blink and "⊙" lights up on the front display panel.)

L-1 OUTPUT/INPUT Setting

The AV1 (L-1) IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). Set "L-1 OUTPUT" and "L-1 INPUT" to the appropriate mode depending on the type of appliance connected to the recorder's AV1 (L-1) IN/OUT connector.

- 1 Press **MENU** to access the Main Menu screen.
- 2 Press $\Delta\nabla$ to move the highlight bar (pointer) to "OUTPUT/INPUT SET", then press **OK** or \triangleright .
- 3 Press $\Delta\nabla$ to move the highlight bar (pointer) to "L-1 OUTPUT" or "L-1 INPUT".

4 For "L-1 OUTPUT"

Press **OK** or \triangleright to select "VIDEO" or "S-VIDEO".

a-VIDEO : If a connected appliance's input is compatible only with regular video signals, set to "VIDEO".

b-S-VIDEO : If a connected appliance's input is compatible with Y/C signals, set to "S-VIDEO". You can obtain higher-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

For "L-1 INPUT"

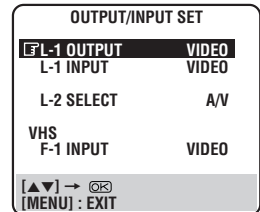
Press **OK** or \triangleright to select "VIDEO" or "S-VIDEO".

a-VIDEO : If a connected appliance's output is compatible only with regular video signals, set to "VIDEO".

b-S-VIDEO : If a connected appliance's output is compatible with Y/C signals, set to "S-VIDEO". You can obtain higher-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

- 5 Press **MENU** to return to normal screen.

- If "L-1 OUTPUT" is set to "S-VIDEO", it is impossible to set "L-1 INPUT" to "S-VIDEO".
- If "L-2 SELECT" is set to "DECODER", it is impossible to set "L-1 INPUT" to "S-VIDEO".



L-2 SELECT Setting

Set "L-2 SELECT" to the appropriate mode depending on the type of unit connected to the recorder's AV2 (L-2) IN/DECODER connector.

- 1 Press **MENU** to access the Main Menu screen.
- 2 Press $\Delta\nabla$ to move the highlight bar (pointer) to "OUTPUT/INPUT SET", then press **OK** or \triangleright .
- 3 Press $\Delta\nabla$ to move the highlight bar (pointer) to "L-2 SELECT".
- 4 Press **OK** or \triangleright to select "A/V", "DECODER" or "SAT".

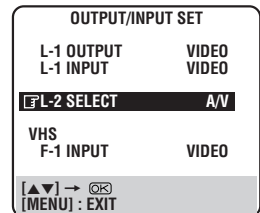
a-A/V : To use this recorder as the recording deck with the player connected to the AV2 (L-2) IN/DECODER connector, or to use the satellite receiver connected to the AV2 (L-2) IN/DECODER connector.

b-DECODER : To use a decoder connected to the AV2 (L-2) IN/DECODER connector.

c-SAT : To view a satellite programme with the TV set while the recorder is turned off. (☞ pg. 60)

- 5 Press **MENU** to return to normal screen.

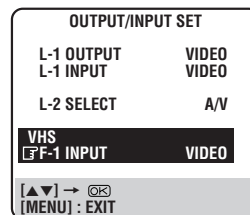
- If you have a satellite receiver or a decoder connected to the AV2 (L-2) IN/DECODER connector, be sure to set "L-2 SELECT" back to appropriate mode after editing.
- If you are not connecting a satellite receiver or a decoder to the AV2 (L-2) IN/DECODER connector, leave "L-2 SELECT" set to "A/V".
- The default setting is "A/V"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "A/V" will be automatically selected when the power is restored to the recorder. If you are using a satellite receiver or a decoder, be sure to set "L-2 SELECT" back to appropriate mode.
- When "L-2 SELECT" is set to "SAT", "SAT" appears on TV screen or front display panel instead of "L-2" or "L2".
- If "L-1 OUTPUT" is set to "S-VIDEO", it is impossible to set "L-2 SELECT" to "DECODER".



VHS F-1 INPUT Setting

Set "VHS F-1 INPUT" to the appropriate mode depending on the connector (VIDEO or S-VIDEO input connector) being used on the front panel.

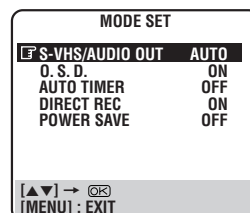
- 1 Press **MENU** to access the Main Menu screen.
- 2 Press $\Delta\nabla$ to move the highlight bar (pointer) to "OUTPUT/INPUT SET", then press **OK** or \triangleright .
- 3 Press $\Delta\nabla$ to move the highlight bar (pointer) to "VHS F-1 INPUT".
- 4 Press **OK** or \triangleright to select "VIDEO" or "S-VIDEO".
 - a-VIDEO : If a connected device's output is compatible only with regular video signals, set "VHS F-1 INPUT" to "VIDEO".
 - b-S-VIDEO : If a connected device's output is compatible with Y/C signals, set "VHS F-1 INPUT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)
- 5 Press **MENU** to return to normal screen.



S-VHS/AUDIO OUT Setting

Set "S-VHS/AUDIO OUT" to the appropriate mode depending on the selection of the playing deck (VHS or DV) for editing.

- 1 Press **MENU** to access the Main Menu screen.
- 2 Press $\Delta\nabla$ to move the highlight bar (pointer) to "MODE SET", then press **OK** or \triangleright .
- 3 Press $\Delta\nabla$ to move the highlight bar (pointer) to "S-VHS/AUDIO OUT".
- 4 Press **OK** or \triangleright to select "AUTO", "VHS" or "DV".
 - a-AUTO : The recorder outputs the signals from the deck being used automatically. The on-screen display is also output.
 - b-VHS : The recorder outputs only the signals from the VHS deck. The on-screen display is not output.
 - c-DV : The recorder outputs only the signals from the DV deck. The on-screen display is not output.
- 5 Press **MENU** to return to normal screen.



Connection To A Satellite Receiver

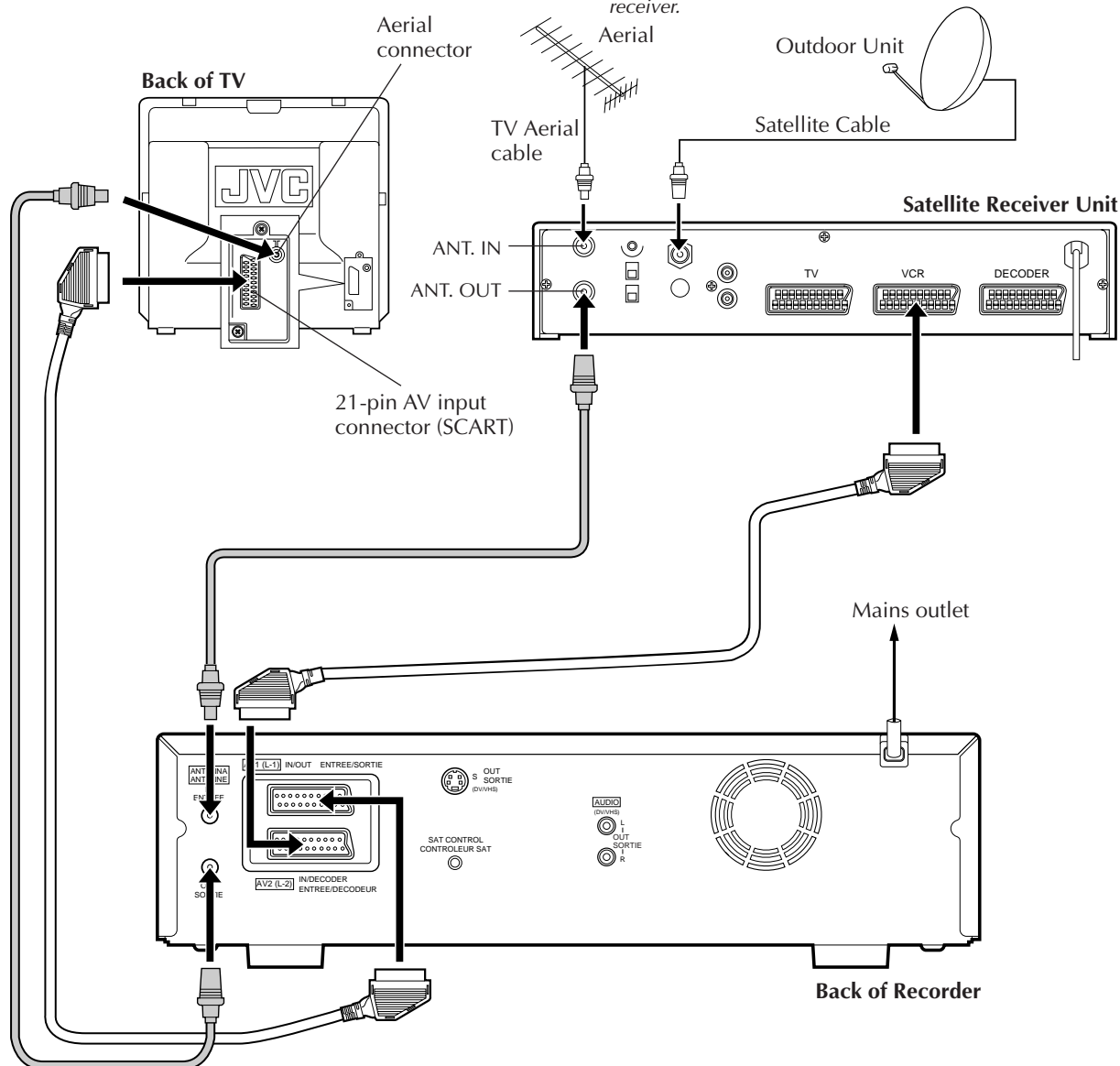
Simple Connections

*This is an example of simple connection if your TV has **one 21-pin AV input (SCART) connector**.*

Connect the satellite receiver to the AV2 (L-2) IN/DECODER connector, then connect the AV1 (L-1) IN/OUT connector to the TV's connector.

NOTES:

- Set "L-2 SELECT" to "A/V". (☞ pg. 58)
- To record a programme via the satellite receiver, select L-2 mode by pressing **NUMBER** keys and/or **PR** so that "L-2" appears on the display panel.
- For details, refer to the instruction manual for the satellite receiver.



IMPORTANT

When you set "L-2 SELECT" to "SAT" (☞ pg. 58), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, in Stop mode, recording or turned off. When the recorder is in Stop mode or recording, press **TV/VCR** on the remote control to turn off the VCR indicator on the display panel.

- When the recorder is turned off, only a composite signal is output from the recorder to TV.
- If you turn on the recorder when the satellite receiver's power is off, nothing appears on the TV screen. In this case, turn on the satellite receiver, or set the TV to its TV mode, or press **TV/VCR** on the remote control to set the recorder to the video mode.

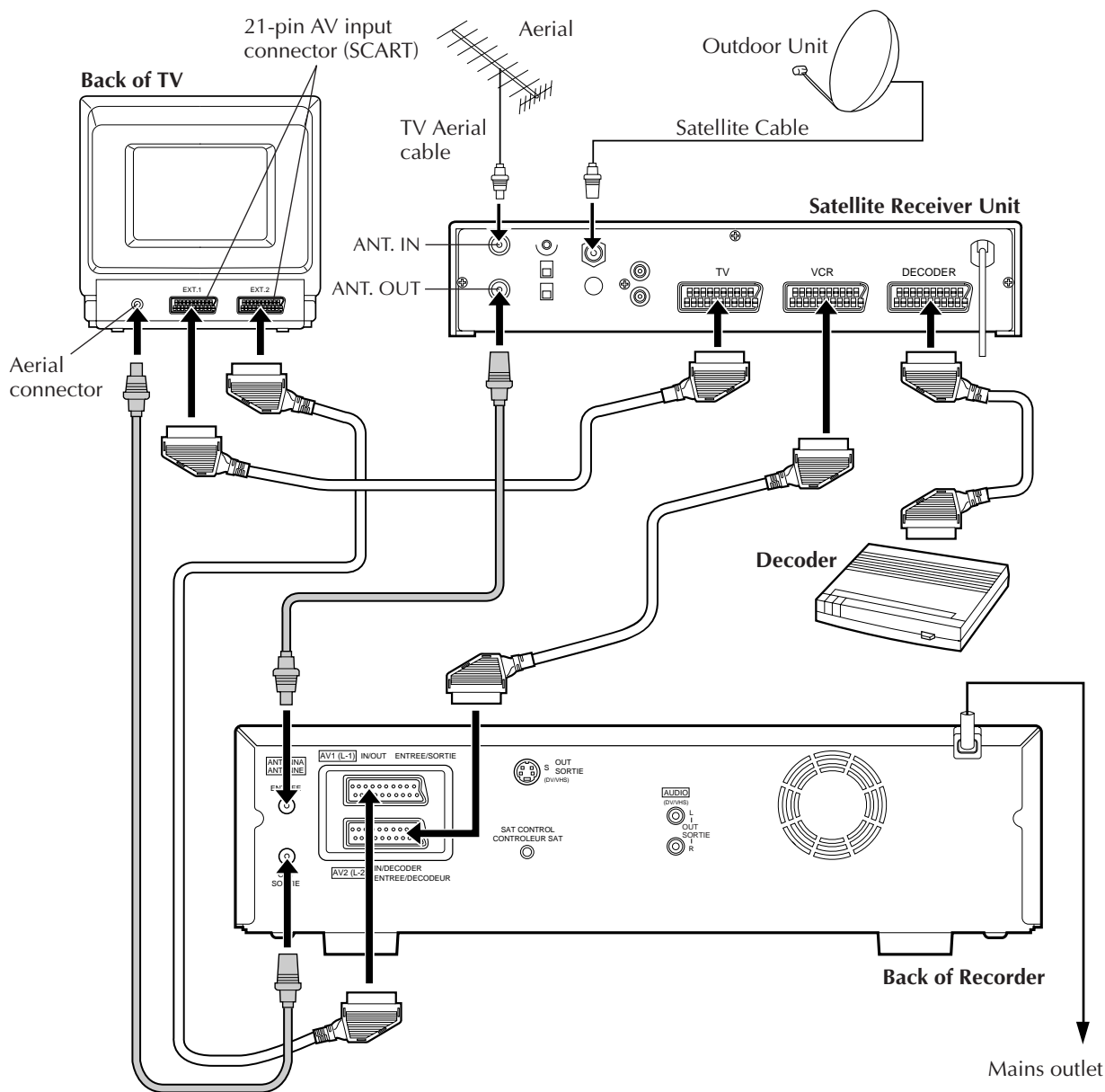
Perfect Connections

This is an example of recommended connection if your TV has two 21-pin AV input (SCART) connectors.

Connect the decoder to the satellite receiver's connector if you have a decoder, AV1 (L-1) IN/OUT connector to TV's connector, and AV2 (L-2) IN/DECODER connector to the satellite receiver's connector. Then connect the satellite receiver and TV.

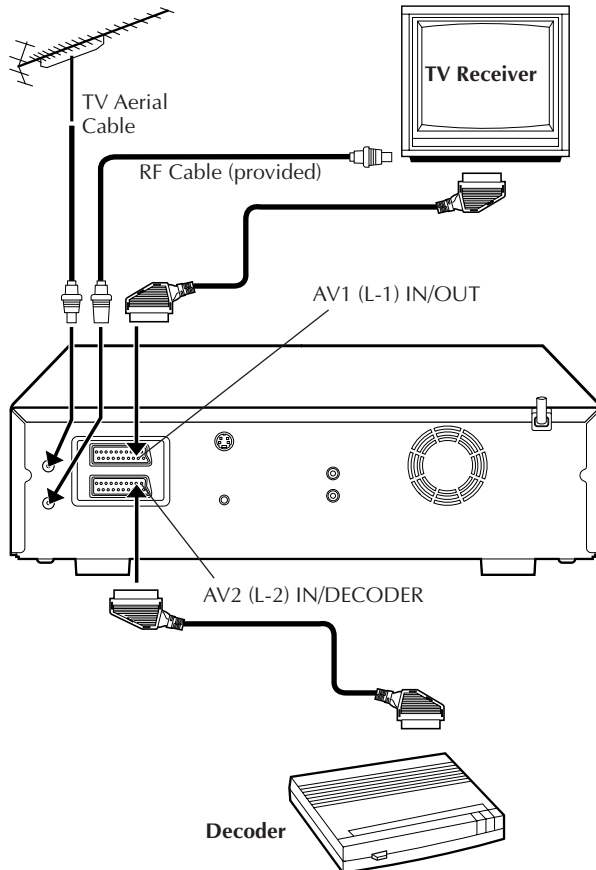
NOTES:

- Set "L-2 SELECT" to "A/V". (☞ pg. 58)
- To record a programme via the satellite receiver, select L-2 mode by pressing **NUMBER** keys and/or **PR** so that "L-2" appears on the display panel.
- To receive a scrambled broadcast, descramble the signal with the satellite receiver.
- For details, refer to the instruction manual for the satellite receiver and decoder.



Connecting/ Using A Decoder

The AV2 (L-2) IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.



1 SELECT INPUT MODE

Set "L-2 SELECT" to "DECODER". (☞ pg. 58)

2 CONNECT DECODER

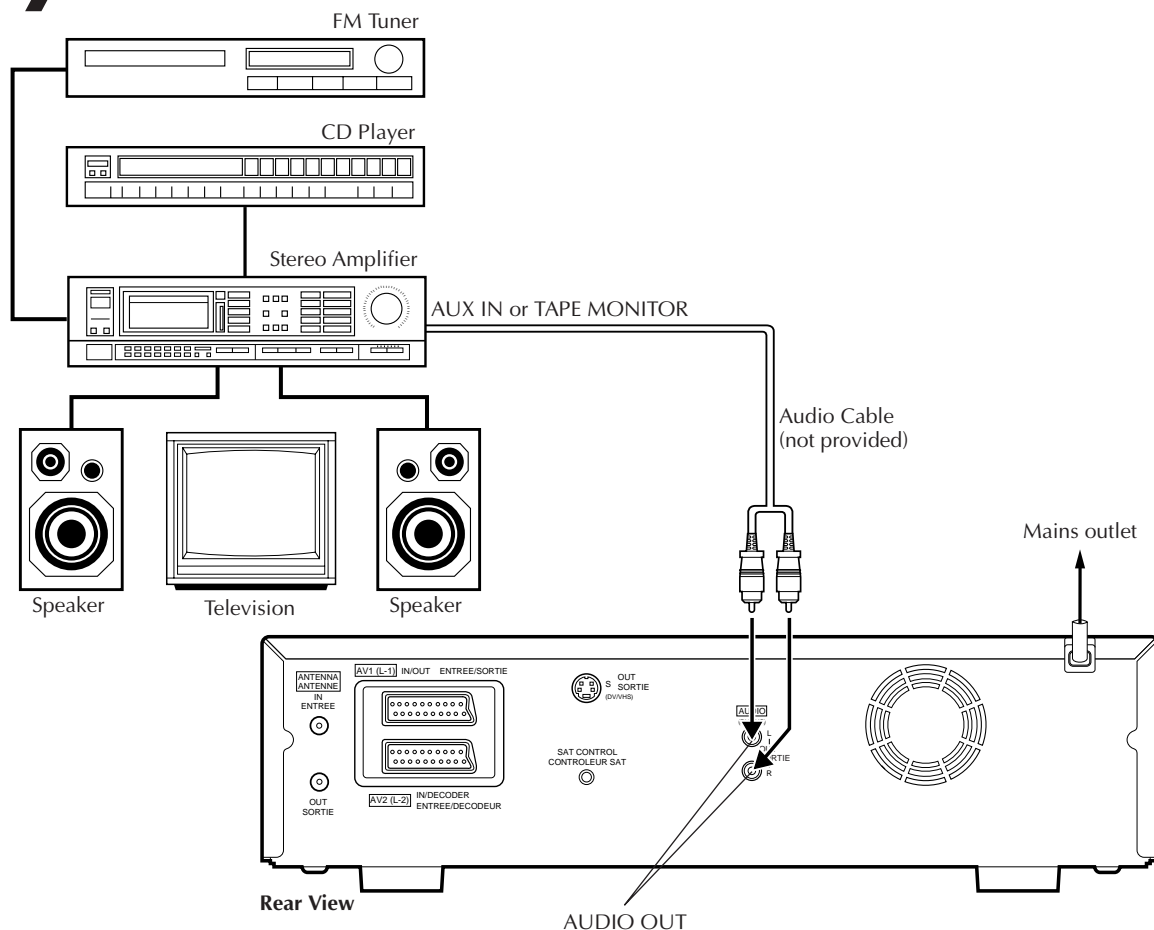
Connect your recorder's AV2 (L-2) IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.

3 SET TUNER

Perform the procedure as described in "When Receiving A Scrambled Broadcast" on page 71.

Connecting/ Using A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.



1 MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

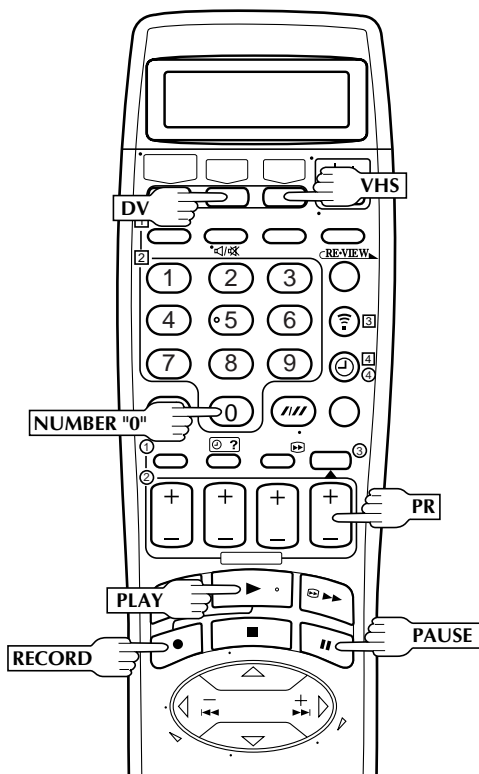
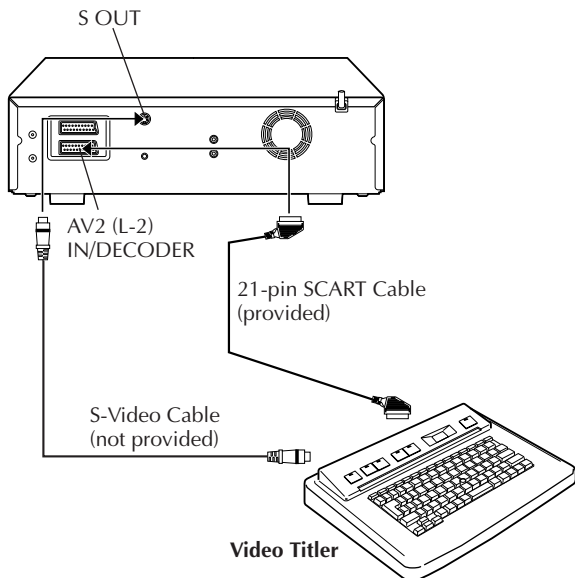
NOTES:

- When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.
- If stereo or bilingual TV broadcasts are receivable in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.
- When listening to sound through the connected stereo system, turn the TV's volume down completely.

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Connecting To A Video Titler



When you edit from the DV deck to the VHS deck (or from the VHS deck to the DV deck), you can enter a title to a scene by connecting a video titler.

1 MAKE CONNECTIONS

Connect the recorder and the video titler as shown in the illustration in the left column.

2 PREPARE PLAYING DECK

Insert a cassette for playback and make the title you want to display.

- When using the DV deck as the source player, set "S-VHS/AUDIO OUT" to "DV" (☞ pg. 59).
When using the VHS deck as the source player, set "S-VHS/AUDIO OUT" to "VHS" (☞ pg. 59).
- For details of making a title, refer to the instruction manual for the video titler.

3 PREPARE RECORDING DECK

Insert a cassette for recording and press **DV** or **VHS** for the recording deck.
To set recording deck's input mode, press **NUMBER** key "0" and /or **PR** to select "L-2".

- Set "L-2 SELECT" to "A/V" (☞ pg. 58).

4 LOCATE START POINT

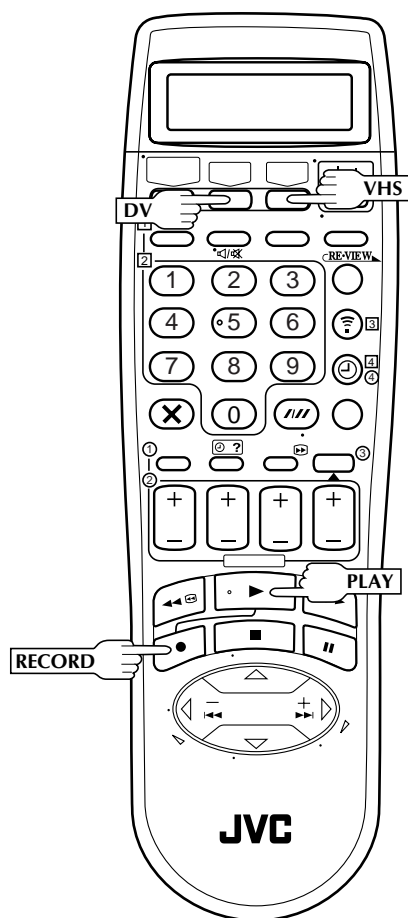
Press **DV** or **VHS** for the playing deck.
Press **PLAY** to start playback and find the beginning of the scene you want to edit, then press **PAUSE**.

5 PREPARE VIDEO TITLER

Prepare the video titler so that the title can be displayed.

6 ENGAGE RECORD-PAUSE MODE

Press **DV** or **VHS** for the recording deck, then press and hold **PAUSE** and press **RECORD** so that the recording deck enters its Record-Pause mode.



7 START PLAYBACK

Press **DV** or **VHS** for the playing deck, then press **PLAY**.

8 START RECORDING

Press **DV** or **VHS** for the recording deck, then press **RECORD** at the point from where you want to start recording.

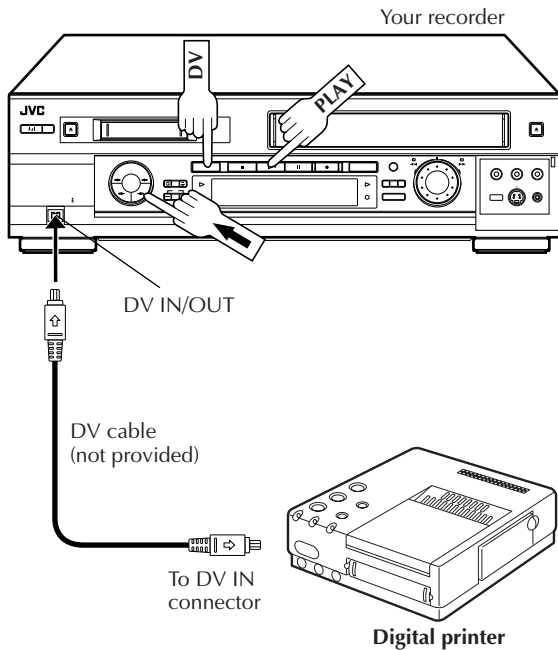
9 ENTER TITLE

Enter a title at the point where you want the title to be displayed.

NOTES:

- For the operation of the video titler, refer to its instruction manual.
- If the playing deck is left in the Pause mode, it will automatically go into Stop mode for the protection of the video tape and the video head. The duration of the Pause mode is 3 minutes for the DV deck and 5 minutes for the VHS deck.
- If the recording deck is left in the Record-Pause mode, it will automatically go into Stop mode for the protection of the video tape and the video head. The duration of the Record-Pause mode is 3 minutes for the DV deck and 5 minutes for the VHS deck.

Connecting To A Printer



You can make printouts of video images by connecting the GV-DT1/GV-DT3 Digital Printer (sold separately) to the DV IN/OUT connector.

1 MAKE CONNECTIONS

Connect the printer's DV IN connector to the recorder's DV IN/OUT connector.

2 SELECT DECK

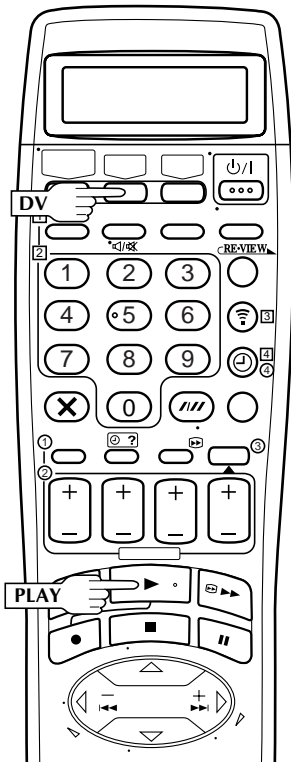
Press **DV**.

- When you use the VHS deck . . .
 . . . Press ← beside the **DUB** button. The dubbing direction (← VHS) indicator lights.

3 START PLAYBACK

Press **PLAY**.

- The image being displayed on the TV screen is output to the digital printer. Any on-screen displays are not output.



G-CODE™ / SHOWVIEW™ System Setup

INFORMATION

G-CODE and SHOWVIEW are different trademarks used to represent the same easy recording feature, but only the term SHOWVIEW system will be used. If you use the G-CODE system, follow the same instructions listed for the SHOWVIEW system.

IMPORTANT

Normally, Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 68) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- When timer-programming with the SHOWVIEW system, the channel position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up, Preset Download or Auto Channel Set has taken place.
 - Set the Guide Program Number for that station manually.
- When you wish to timer-record a satellite programme with the SHOWVIEW system.
 - Set the Guide Program Numbers for all satellite broadcasts received on your satellite receiver.

Turn on the TV and select the AV mode.

Guide Program Number Set

1

ACCESS MAIN MENU SCREEN

Press **MENU**.

2

ACCESS INITIAL SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "INITIAL SET", then press **OK** or \triangleright .

3

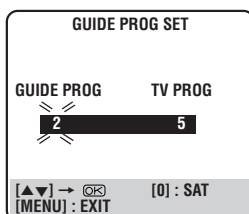
ACCESS GUIDE PROG SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "GUIDE PROG SET", then press **OK** or \triangleright .

4

ENTER GUIDE PROG NUMBER

Press $\Delta \nabla$ to enter the Guide Program number for the desired station as shown in the TV listings. Then press **OK** or \triangleright .

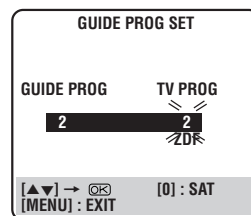


(Ex.) When inputting the Guide Program number 2 for ZDF.

5

ENTER RECEIVING CHANNEL POSITION NUMBER

Press the **NUMBER** key "0" to select "TV PROG" or "SAT". Then press $\Delta \nabla$ to input the number of the preset position on which the Guide Program number's broadcast is received by the recorder or the satellite receiver. Then press **OK** or \triangleright .



(Ex.) If ZDF is received on channel position 2.

- To timer-record a satellite programme with the SHOWVIEW system, you need to install the provided Satellite Controller and perform the procedure described in "Satellite Receiver Control Setting" (☞ pg. 13).
- Repeat steps 4 and 5 as necessary.

6

RETURN TO NORMAL SCREEN

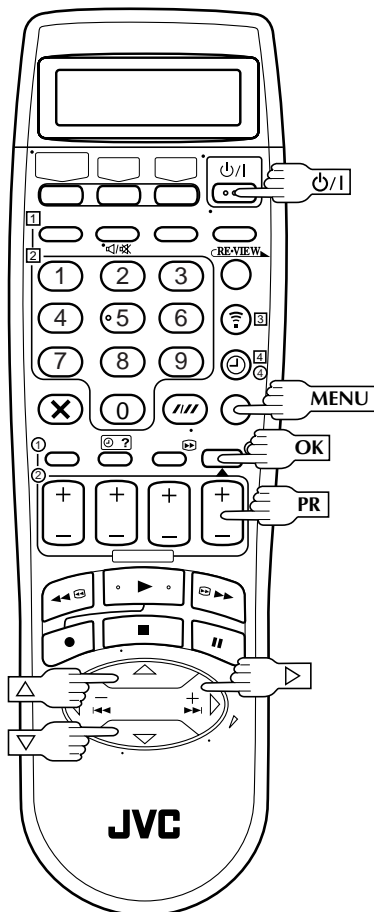
Press **MENU**.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for the SHOWVIEW timer recording. The Guide Program numbers can be found in most TV listings.

Tuner Set

Turn on the TV and select the AV mode.



IMPORTANT

Perform the following steps only if —

- Auto Channel Set has not been set correctly by Auto Set Up function or by Preset Download (pg. 6, 8).
- you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorize all necessary stations in channel positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the **PR** buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

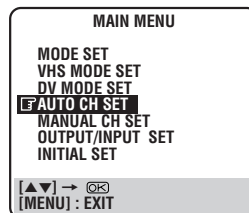
Press **power**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

3 ACCESS AUTO CH SET SCREEN

Press **up/down** to move the highlight bar (pointer) to "AUTO CH SET", then press **OK** or **right**.

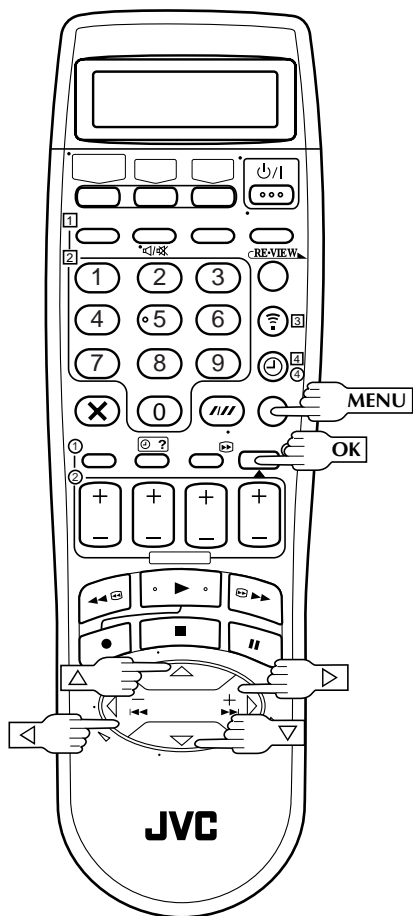


4 SELECT COUNTRY

Press **up/down** to move the highlight bar (pointer) to your country's name, then press **OK** or **right**.

5 SELECT LANGUAGE

Press **up/down** to move the highlight bar (pointer) to the language of your choice.

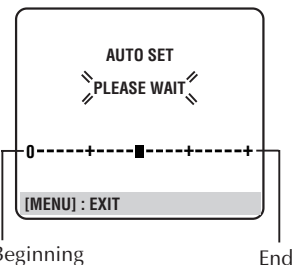


6

PERFORM AUTO CHANNEL SET

Press **OK** twice.

- You can set up the recorder's tuner also by Preset Download (☞ pg. 8).
- The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations.



As Auto Channel Set progresses, the "■" mark on the screen moves from left to right. Wait until the screen as shown in step 7 appears.

7

VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, the Confirmation screen

PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	C08	SKYT	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C65	RAI1	11	C23	OSF
05	C31	BBC1	12	---	---
06	C32	BBC2	13	---	---
07	C33	3SAT	14	---	---

looking like the one to the right appears. The stations your recorder located appear on a Confirmation screen — channel positions (PR), channels (CH) and station names (ID — ☞ pg. 74). The blueback screen and the programme currently being broadcast by the blinking station appear alternately for 8 seconds each. To view the next page, use the $\Delta \nabla < >$ button on the remote control.

C: Cable

- The stations located in the selected country appear at the top of the list.
- The Guide Program numbers will also be set automatically during Auto Channel Set.

8

RETURN TO NORMAL SCREEN

Press **MENU**.

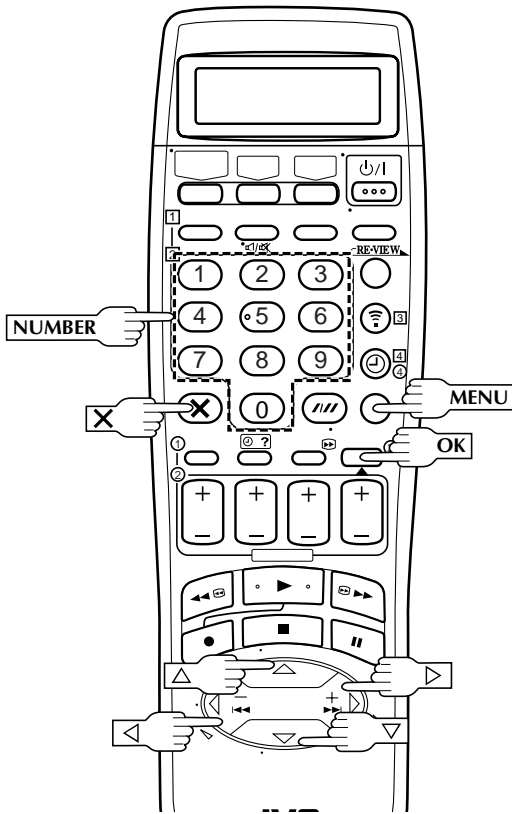
- Using the Confirmation screen, you can skip or add channel positions, enter station names and perform other operations. Refer to pages 70 – 75 for the procedures.
- Depending on reception conditions, the stations may not be stored in order, and the station names may not be stored correctly.
- For information on scrambled broadcasts, refer to page 71.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using the SHOWVIEW system, the recorder will record a TV programme of a different station. When programming the timer using the SHOWVIEW system, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (☞ pg. 34, "SHOWVIEW Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ☞ "Delete A Channel" on page 71.

NOTES:

- Fine tuning is performed automatically during Auto Channel Set. If you want to perform it manually, refer to page 75.
- If you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED -NO SIGNAL-" appears on the screen in step 7. When this happens, make sure of the aerial connection and press **OK**; Auto Channel Set will take place again.
- If no sound accompanies the picture or the audio sounds unnatural on some channels that have been stored by Auto Set Up, the TV system setting for those channels may be incorrect. Select the appropriate TV system for those channels (☞ pg. 71, "INFORMATION")



Storing Channels Manually

Store channels that were not stored during Auto Set Up (pg. 6), Preset Download (pg. 8) or Auto Channel Set (pg. 68).

- 1** **ACCESS MAIN MENU**
Press **MENU**.
- 2** **ACCESS CONFIRMATION SCREEN**
Press $\Delta \nabla$ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or \triangleright . The Confirmation screen appears.
- 3** **SELECT POSITION**
Press $\Delta \nabla \triangleleft \triangleright$ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.

(Ex.) To store in position 12.

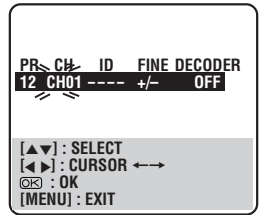
PR	CH	ID	PR	CH	ID
01	25	ARD	08	C26	E-SP
02	CDB	SKY1	09	55	WEST
03	10	ZDF	10	C24	SAT1
04	C65	RAI1	11	C23	OSF
05	C31	BBC1	12	---	---
06	C32	BBC2	13	---	---
07	C33	3SAT	14	---	---

$\left[\begin{array}{l} \uparrow \downarrow \triangleleft \triangleright \\ \rightarrow \text{OK} : \text{EDIT} \\ \rightarrow \text{X} : \text{DELETE} \\ \text{[MENU]} : \text{EXIT} \end{array} \right]$

The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

4 SELECT BAND

Press $\Delta \nabla$ to change the band between CH (regular) and CC (cable), then press \triangleright .



The blueback screen and the programme currently being broadcast by the selected channel appear alternately for 8 seconds each.

5 INPUT CHANNEL

Press the **NUMBER** keys to input the channel number you want to store.

- Input "0" before any single number entries.
- To input the registered station name (ID - pg. 74), press \triangleright until "----" (ID setting) begins blinking, then press $\Delta \nabla$.
- For fine tuning adjustment, press \triangleright until "+/-" begins blinking, then press $\Delta \nabla$. While tuning, "+" or "-" appears.
- When storing a channel that sends scrambled broadcasts, press \triangleright until "OFF" (Decoder setting) blinks, then press $\Delta \nabla$ to set "DECODER" to "ON" ("OFF" is the default setting).
- When "L-2 SELECT" is set to "A/V" or "SAT", the "DECODER" setting cannot be changed (pg. 58).

6 ENTER NEW CHANNEL INFORMATION

Press **OK** and the Confirmation screen appears.

- Repeat steps 3 through 6 as necessary.

7 CLOSE CONFIRMATION SCREEN

Press **MENU**.

- To change positions, see "Change Station Channel Position" (pg. 71).
- If you wish to set station names other than the ones registered in your recorder, "Set Stations (B)" on page 73.

ATTENTION

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with the SHOWVIEW system in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. "ATTENTION - Regarding Guide Program Number Set" on page 35. Or perform "Guide Program Number Set" (pg. 67).

Delete A Channel

Perform steps 1 and 2 of "Storing Channels Manually" on page 70 to access the Confirmation screen before continuing.

- 1** **SELECT ITEM**
Press $\Delta \nabla \triangleleft \triangleright$ until the item you want to delete begins blinking.
- 2** **DELETE CHANNEL**
Press X.
 - The item directly beneath the cancelled one moves up one line.
 - Repeat steps 1 and 2 as necessary.
- 3** **CLOSE CONFIRMATION SCREEN**
Press MENU.

Change Station Channel Position

Perform steps 1 and 2 of "Storing Channels Manually" on page 70 to access the Confirmation screen before continuing.

- 1** **SELECT ITEM**
Press $\Delta \nabla \triangleleft \triangleright$ until the item you want to move begins blinking. Then press OK and the station name (ID) and its channel (CH) number begin blinking.
 - 2** **SELECT NEW POSITION**
Press $\Delta \nabla \triangleleft \triangleright$ to move the station to the new channel position, then press OK.
Example: If you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.
- | PR | CH | ID | PR | CH | ID | PR | CH | ID | PR | CH | ID |
|----|-----|------|----|------|------|----|-----|------|----|------|------|
| 01 | 25 | ARD | 08 | C26 | E-SP | 01 | 25 | ARD | 08 | C26 | E-SP |
| 02 | C08 | SKY1 | 09 | 55 | WEST | 02 | C65 | RAI1 | 09 | 55 | WEST |
| 03 | 10 | ZDF | 10 | C24 | SAT1 | 03 | C08 | SKY1 | 10 | C24 | SAT1 |
| 04 | C65 | RAI1 | 11 | C23 | OSF | 04 | 10 | ZDF | 11 | C23 | OSF |
| 05 | C31 | BBC1 | 12 | C25 | ESPN | 05 | C31 | BBC1 | 12 | C25 | ESPN |
| 06 | C32 | BBC2 | 13 | ---- | ---- | 06 | C32 | BBC2 | 13 | ---- | ---- |
| 07 | C33 | 3SAT | 14 | ---- | ---- | 07 | C33 | 3SAT | 14 | ---- | ---- |
- [$\Delta \nabla \triangleleft \triangleright$]: MOVE
 [X]: MANUAL CH SET
 [MENU]: EXIT

[$\Delta \nabla \triangleleft \triangleright$]: MOVE → [X]
 [MENU]: EXIT
- Repeat steps 1 and 2 as necessary.
- 3** **CLOSE CONFIRMATION SCREEN**
Press MENU.

When Receiving A Scrambled Broadcast

- 1** **SELECT DECODER MODE**
Set "L-2 SELECT" to "DECODER" (☞ pg. 58).
- 2** **ACCESS CONFIRMATION SCREEN**
Perform steps 1 and 2 of "Storing Channel Manually" on page 70.
- 3** **SELECT POSITION**
Press $\Delta \nabla \triangleleft \triangleright$ to select the channel position broadcasting scrambled programmes, then press OK twice.
- 4** **CHANGE DECODER SETTING**
Press \triangleright until "OFF" (decoder setting) begins blinking, and set it to "ON" by pressing $\Delta \nabla$.
- 5** **RETURN TO CONFIRMATION SCREEN**
Press OK.
 - Repeat steps 3 through 5 as necessary.
- 6** **CLOSE CONFIRMATION SCREEN**
Press MENU.

INFORMATION

If you live in Eastern Europe, "TV SYSTEM" setting appears instead of "DECODER" setting on the Manual Channel Set screen. When you can see the picture but can hear no audio, select appropriate TV system (D/K or B/G). Normally, TV programmes are broadcasted as follows.

For Eastern Europe : D/K

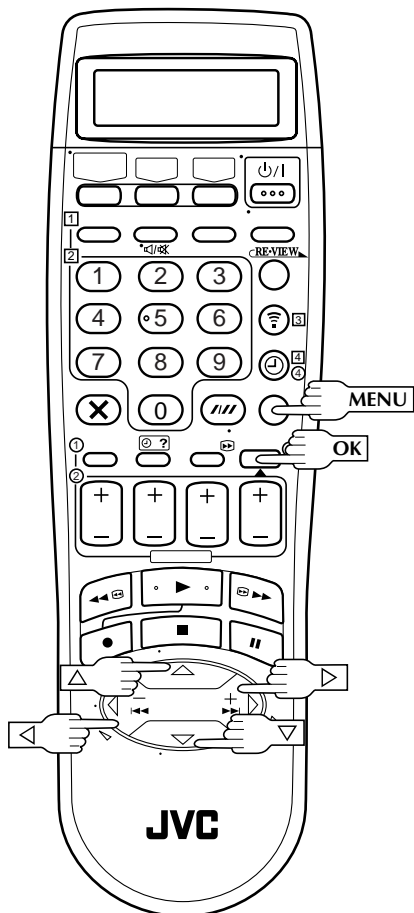
For Western Europe : B/G

- 1 Select a country in Eastern Europe in step 4 on page 68.
- 2 Press \triangleright until the TV system (D/K or B/G) blinking on the Manual Channel Set screen in step 4 on page 70.
- 3 Press $\Delta \nabla$ to select appropriate TV system (D/K or B/G).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps 1 and 2 of "Storing Channels Manually" on page 70 to access the Confirmation screen before continuing.



1 SELECT ITEM

Press $\Delta \nabla \triangleleft \triangleright$ until the item you want begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3 SELECT NEW STATION

Press \triangleright until the station name (ID) begins blinking, then press $\Delta \nabla$ until the new station's name (ID) you want to store begins blinking.

Registered station names (pg. 74) appear as you press $\Delta \nabla$.

```
PR CH ID FINE DECODER
06 CH45 ---- +/- OFF
```

```
[ $\Delta \nabla$ ]: CHANGE ID
[ $\triangleleft \triangleright$ ]: CURSOR  $\leftrightarrow$ 
[OK]: OK
[MENU]: EXIT
```

4 SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps 1 through 4 as necessary.

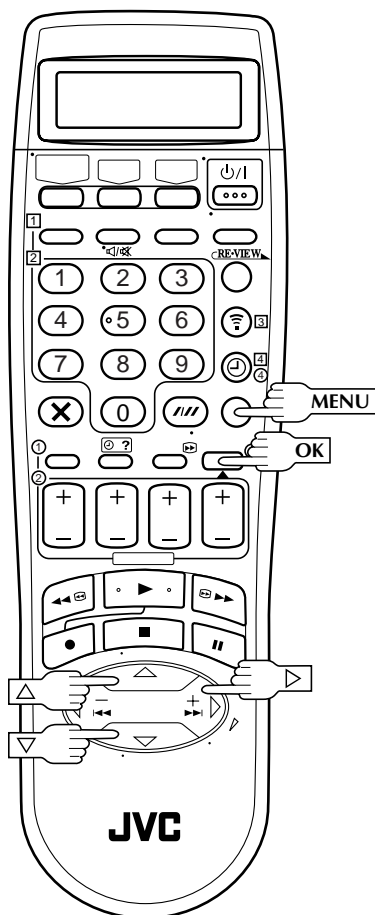
5 CLOSE CONFIRMATION SCREEN

Press **MENU**.

Set Stations (B)

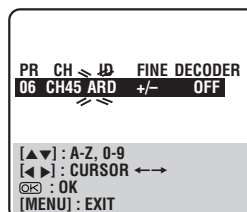
Set station names other than the ones registered in your recorder.

Perform steps 1 and 2 of "Storing Channels Manually" on page 70 to access the Confirmation screen and then perform step 1 and 2 of "Set Stations (A)" on page 72 before continuing.



1 SELECT STATION NAME CHARACTER

Press \triangleright until the first letter of the station name begins blinking.



2 ENTER NEW CHARACTER

Press $\triangle\nabla$ to cycle through the characters (A-Z, 0-9, -, *, +, $_$ (space)) and stop when the desired character is indicated, then press \triangleright to enter. Enter the remaining characters the same way (maximum of 4). After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press \triangleleft until the incorrect character begins blinking. Then enter the correct character by pressing $\triangle\nabla$.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

NOTE:

The characters available for the station name (ID) are A-Z, 0-9, -, *, +, $_$ (space) (maximum of 4).

TV Station And ID List

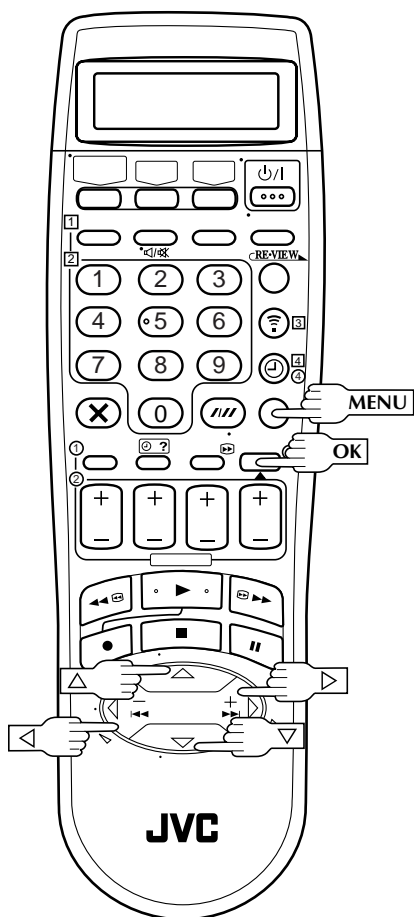
ID*	STATION NAME
1000	TV1000
3SAT	3SAT
ADLT	ADULT
ANT3	ANTENA3
ARD	ARD
ARTE	ARTE
BBC	BBC GROUP
BBC1	BBC1
BBC2	BBC2
BR3	BAYERN3
C+	CANAL PLUS
C1	PORTUGUSES
CAN5	CANALE5
CANV	KETNET CANVAS
CH4	CHANNEL4
CH5	CHANNEL5
CHLD	CHILD
CINE	CINEMA
CLUB	TELECLUB
CMT	CMT
CNN	CNN
CSUR	ANDALUCIA
DISC	DISCOVERY
DR	DR TV
DRS	DRS
DSF	DSF
ETB1	ETB1
ETB2	ETB2
EURO	EURONEWS
EUSP	EUROSPORTS
FEMM	FEMMAN
FILM	FILM
FNET	FILMNET
FR2	France2
FR3	France3
GALA	GALAVISION
HR3	HESSEN3
INFO	INFO-KANAL
ITA1	ITALIA1
ITA7	ITALIA7
ITV	ITV
JSTV	JSTV
KA2	KA2
KAB1	KABEL1
KAN2	KANAL2
LOCA	LOCAL
M6	M6
MBC	MBR
MCM	MCM
MDR	MDR
MOVE	MOVIE
MTV	MTV
MTV3	MTV3
N3	NORD3
N-TV	N-TV
NBC	NBC SUPER
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
NEWS	
NICK	NICKELODEON
NRK	NRK
NRK2	NRK2
ODE	ODEON
ORF1	ORF1

ID*	STATION NAME
ORF2	ORF2
ORF3	ORF3
OWL3	OWL3
PREM	PREMIERE
PRO7	PRO7
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RET4	RETE4
21	TELE21
RTBF	RTBF1 or 2
RTL	RTL
RTL2	RTL2
RTL4	RTL4
RTL5	RTL5
RTP	RTP
S4	SCHWEIZ4
SAT1	SAT1
SBS	SBS
SHOW	SHOW
SIC	SOCIEDADE
SKY	SKY CHANNEL
SKYN	SKY NEWS
SPRT	SPORT
SRTL	SUPER RTL
STAR	STAR-TV
SVT1	SVT1
SVT2	SVT2
SWR	SUEDWEST3
TCC	TCC
TELE	TELE
TEL5	TELE5
TF1	TF1
TM3	TM3
TMC	TELEMONTECARLO
TNT	TNT INT
TRT	TRT INT
TSI	TSI
TSR	TSR
TV1	BRTN TV1
TV2	TV2
TV3	TV3
TV4	TV4
TV5	TV5
TV6	TV6
TVE1	TVE1
TVE2	TVE2
TVG	TV GALICIA
TVI	TV INDEPENDENT
TVN	TV NORGE
VCR	VIDEO
VERO	VERONICA
VH-1	VH-1
VIVA	VIVA
VIV2	VIVA2
VMTV	VIDEO MUSIC
VOX	VOX
VT4	VT4
VTM	VTM
WDR1	West1
WDR3	West3
YLE1	YLE1
YLE2	YLE2
ZDF	ZDF
ZTV	ZTV

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen when the recorder is tuned to a different station.

Fine-Tuning Channels Already Stored

Perform steps 1 and 2 of "Storing Channels Manually" on page 70 to access the Confirmation screen before continuing.



1 SELECT CHANNEL TO FINE-TUNE

Press $\Delta \nabla \triangleleft \triangleright$ until the channel you want to tune begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice. The Manual Channel Set screen appears.

3 PERFORM TUNING

Press \triangleright until "+/-" begins blinking, then press $\Delta \nabla$ until the picture is its clearest. Then press **OK**.

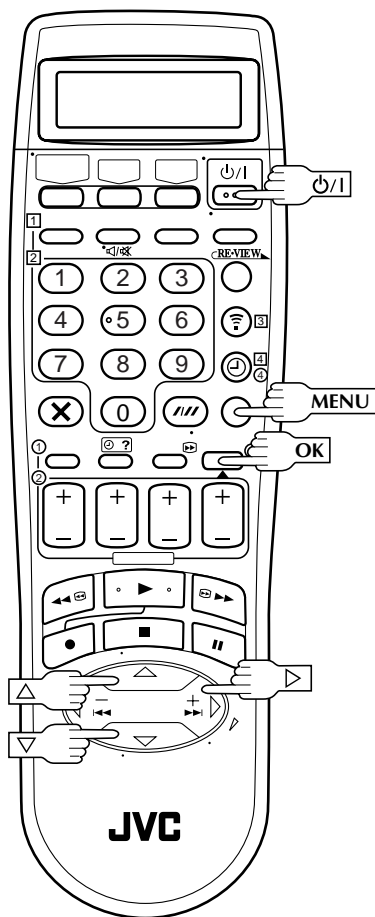
- The Confirmation screen appears.
- Repeat steps 1 through 3 as necessary.

4 CLOSE CONFIRMATION SCREEN

Press **MENU**.

Clock Set

Turn on the TV and select the AV mode.



Just Clock

The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.

The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "OFF"). Press **OK** until the Just Clock setting begins blinking, then press $\Delta\nabla$ to change the setting.

IMPORTANT: If you turn off Just Clock, the accuracy of your recorder's built-in clock may be reduced, which could adversely effect timer recording. We recommend you to keep Just Clock on. In cases where the clock setting data from a PDC signal is incorrect, however, you are advised to keep Just Clock set to "OFF".

IMPORTANT

If you performed Auto Set Up (☞ pg. 6), Preset Download (☞ pg. 8) or Auto Channel Set (☞ pg. 68), without ever having set the clock previously, the recorder's built-in clock is also set automatically.

Perform the following steps only if —

— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.

or

— the recorder's memory backup has expired.

or

— you want to change Just Clock setting (☞ "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press P/I .

2 ACCESS MAIN MENU SCREEN

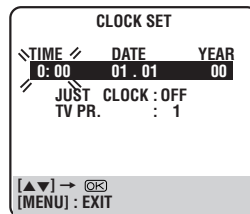
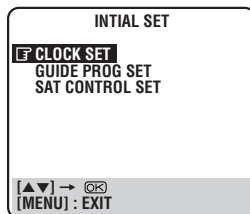
Press **MENU**.

3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing $\Delta\nabla$, then press **OK** or \triangleright .

4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing $\Delta\nabla$, then press **OK** or \triangleright . The Clock Set screen appears.



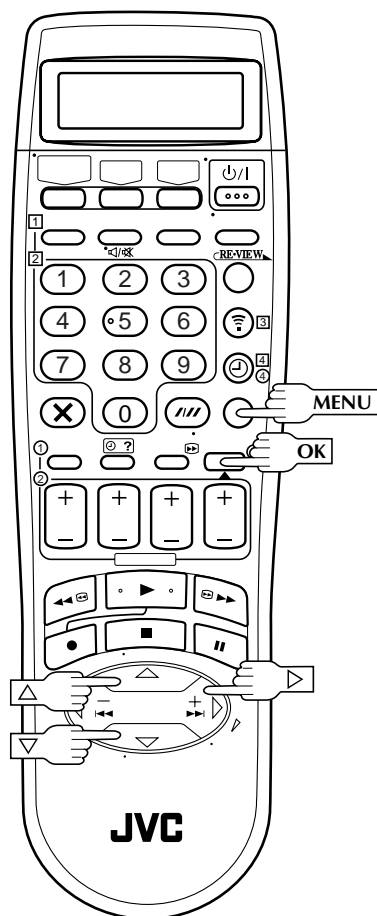
NOTE:

When you have selected MAGYARORSZÁG (36), ČESKÁ REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE) for the country setting (☞ pg. 6, 10), you cannot use Just Clock function. Skip steps 6 and 7 on page 77.

5 SET DATE AND TIME

Press $\Delta\nabla$ to set the time, then press **OK** or \triangleright . The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold $\Delta\nabla$ to change the time by 30 minutes.
- When you set the date, press and hold $\Delta\nabla$ to change the date by 15 days.



6 SET JUST CLOCK

The default setting is "OFF". Set as desired by pressing $\Delta \nabla$, then press **OK** or \triangleright .

- For the Just clock function, see "Just Clock" on page 76.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE CHANNEL POSITION

The recorder is preset to receive clock setting and adjustment data from channel position 1. Press $\Delta \nabla$ to set the channel position to the number representing the station transmitting clock setting data, then press **OK** or \triangleright .

8 START CLOCK OPERATION

Press **MENU**.

NOTES:

- *Just Clock* (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.
- *Just Clock* is not effective when . . .
 - the recorder's power is on.
 - the recorder is in the *Timer* mode.
 - a difference of more than 3 minutes exists between the built-in clock's time and the actual time.
 - the recorder is in the *Power Save* mode (see pg. 12).
- If *Just Clock* is set to "ON", the recorder's clock is automatically adjusted at the start/end of *Summer Time*.
- *Just Clock* may not function properly depending on the reception condition.

Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	<ul style="list-style-type: none"> The mains power cord is disconnected. 	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	<ul style="list-style-type: none"> "⊖" is displayed on the display panel with Auto Timer set to "OFF". 	Press the ⊖ button to turn the "⊖" indicator off.
3. The remote control won't function.	<ul style="list-style-type: none"> The batteries are discharged. 	Replace the dead batteries with new ones.

TAPE TRANSPORT

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	<ul style="list-style-type: none"> "⏏" is displayed on the display panel. 	Press PLAY to turn the "⏏" indicator off.
2. The tape will not rewind or fast-forward.	<ul style="list-style-type: none"> The tape is already fully rewound or fast-forwarded. 	Check the cassette.

PLAYBACK

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	<ul style="list-style-type: none"> The TV receiver is not set to the AV mode. 	Set the TV to its AV mode.
2. Noise appears during visual search.	<ul style="list-style-type: none"> This is normal. 	
3. Noise appears during normal playback (VHS deck).	<ul style="list-style-type: none"> The automatic tracking mode is engaged. 	Try manual tracking. (☞ pg. 21)
4. The playback picture is blurred or interrupted while TV broadcasts are clear or "USE CLEANING CASSETTE" message appears on the screen.	<ul style="list-style-type: none"> The video heads may be dirty. 	Use a dry cleaning cassette (TCL-2UX for the VHS deck/M-DV12CLAU for the DV deck) or consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack (VHS deck).	<ul style="list-style-type: none"> Automatic tracking is engaged. 	Engage and adjust tracking manually. (☞ pg. 21)

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	<ul style="list-style-type: none"> VHS deck There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed. DV deck There is no cassette loaded, or the cassette loaded has had its erase protection switch set to "SAVE". 	<p>Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.</p> <p>Insert a cassette, or set the erase protection switch to "REC".</p>
2. TV broadcasts cannot be recorded.	<ul style="list-style-type: none"> "L-1", "L-2", "F-1" or "SAT" has been selected as the input mode. 	Set to the desired channel.
3. Tape-to-tape editing is not possible.	<ul style="list-style-type: none"> The source (another video recorder, camcorder) has not been properly connected. All necessary power switches have not been turned on. The input mode is not correct. 	<p>Confirm that the source is properly connected.</p> <p>Confirm that all units' power switches are turned on. Set the input mode to "L-1", "L-2" or "F-1".</p>
4. Camcorder recording is not possible.	<ul style="list-style-type: none"> The camcorder has not been properly connected. The input mode is not correct. 	<p>Confirm that the camcorder is properly connected. Set the input mode to "L-1", "L-2" or "F-1".</p>

RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
5. Audio dubbing is not possible.	<ul style="list-style-type: none"> • "SOUND MODE" on the DV Mode Set Menu had been set to "16BIT" at the original recording. • The tape speed had been set to LP (DV cassette) or EP (VHS/S-VHS cassette) at the original recording. 	<p>Set "SOUND MODE" to "12BIT" at the original recording (☞ pg. 25).</p> <p>Set the tape speed to SP (DV cassette) or SP/LP (VHS/S-VHS cassette) at the original recording.</p>
6. Monitoring the audio-dubbed sound is not possible during audio dubbing using the DV deck.	<ul style="list-style-type: none"> • This is normal. 	Monitor the sound using the connected devices.
7. The programmed memory of Random Assemble Editing is disappeared.	<ul style="list-style-type: none"> • The memory backup time has expired. 	Perform Random Assemble Editing again.
8. When performing Tape Dubbing, the beginning of the dubbing start point is not dubbed.	<ul style="list-style-type: none"> • This is normal. 	

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	<ul style="list-style-type: none"> • The clock and/or the timer have been set incorrectly. • The timer is not engaged. • Timer Recording may not work when the recorder's input mode is set to "F-1" for recording on the DV deck, because the recorder is waiting for the signals through DV IN/OUT (i.Link) connector. 	<p>Re-perform the clock and/or timer settings.</p> <p>Press \odot and confirm that "\odot" is displayed on the display panel. Set the channel position other than "F-1" before engaging to Timer-Standby mode.</p>
2. Timer programming is not possible.	<ul style="list-style-type: none"> • Timer recording is in progress. 	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. " \odot " and " \square " on the display panel won't stop blinking.	<ul style="list-style-type: none"> • The timer is engaged but there's no cassette loaded. 	<p>VHS deck Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.</p> <p>DV deck Load a cassette with the erase protection switch set to "REC".</p>
4. The cassette is automatically ejected, and " \odot " and " \square " on the display panel won't stop blinking.	<ul style="list-style-type: none"> • VHS deck The loaded cassette has had its Record Safety tab removed. • DV deck The loaded cassette has had its erase protection switch set to "SAVE". 	<p>Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.</p> <p>Remove the cassette and set the erase protection switch to "REC".</p>
5. " \odot " blinks for 10 seconds and the Timer mode is disengaged.	<ul style="list-style-type: none"> • \odot has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly. 	Check the programmed data and re-program as necessary, then press \odot again.
6. The cassette is automatically ejected, the power shuts off and " \odot " and " \square " won't stop blinking.	<ul style="list-style-type: none"> • The end of the tape was reached during timer recording. 	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme.
7. The SHOWVIEW system does not timer-record properly.	<ul style="list-style-type: none"> • The recorder's channel positions have been set incorrectly. 	Refer to "Guide Program Number Set" and re-perform the procedure (☞ pg. 67).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	<ul style="list-style-type: none"> ● The camcorder's microphone is too close to the TV. ● The TV's volume is too high. 	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	<ul style="list-style-type: none"> ● Those channels have been designated to be skipped. 	If you need the skipped channels, restore them (☞ pg. 70).
3. The channel cannot be changed.	<ul style="list-style-type: none"> ● Recording is in progress. 	Press PAUSE to pause the recording, change channels, then press PLAY to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	<ul style="list-style-type: none"> ● After the manual settings were made, Auto Channel Set was performed. 	Perform manual setting again.
5. No channels are stored in the recorder's memory.	<ul style="list-style-type: none"> ● The TV aerial cable was not connected to the recorder when Auto Set Up was performed. ● The fully-wired 21-pin SCART cable was not connected between TV and the recorder when Preset Download was performed. 	<p>Turn off the recorder once and connect the TV aerial cable to the recorder properly, then turn on the recorder again. The recorder will try Auto Set Up again (☞ pg. 6).</p> <p>Turn off the recorder once and connect the fully-wired 21-pin SCART cable to the recorder properly, then turn on the recorder again. Then perform Preset Download again (☞ pg. 8).</p>
6. The remote control won't operate the TV or satellite receiver.	<ul style="list-style-type: none"> ● The remote control brand setting is incorrect. 	Re-set the remote control to the correct brand (☞ pg. 43, 44).
7. No picture appears when you connect an appliance to DV IN/OUT connector.		Turn off the recorder or the connected appliance once, then turn it on again.

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?

A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?

A. No. It stops automatically after 5 minutes (VHS deck) or 3 minutes (DV deck) to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?

A. No, it is normal.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?

A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?

A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?

A. No. The video recorder goes to its Stop mode automatically after 5 minutes (VHS deck) or 3 minutes (DV deck) to protect the heads.

Q. What happens if the tape runs out during recording?

A. The video recorder automatically rewinds it to the beginning.

TIMER RECORDING

Q. "⊙" and "⊖" remain lit on the display panel. Is there a problem?

A. No. This is a normal condition for a timer recording in progress.

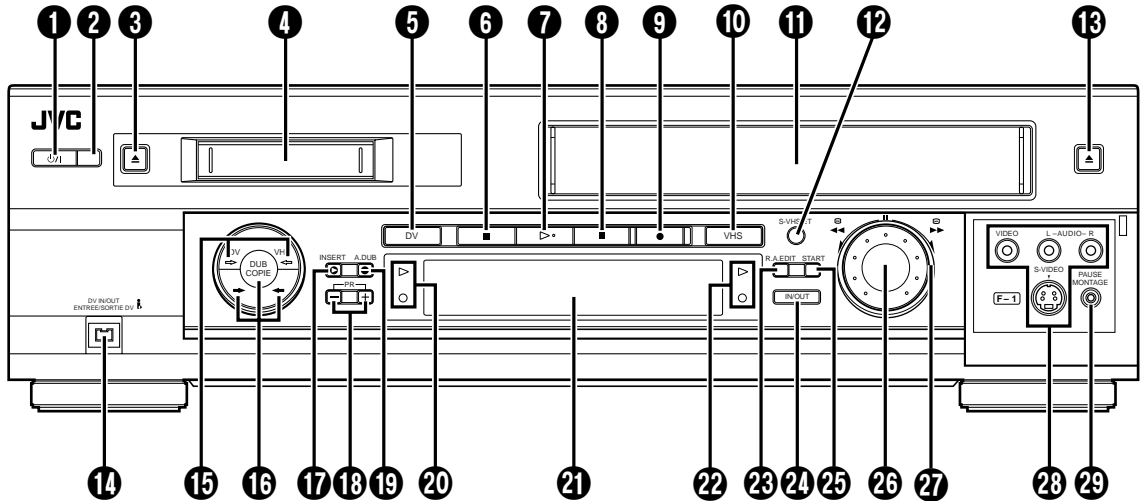
Q. Can I programme the timer while I'm watching a tape or a TV broadcast?

A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the programme or tape you're viewing can be heard.

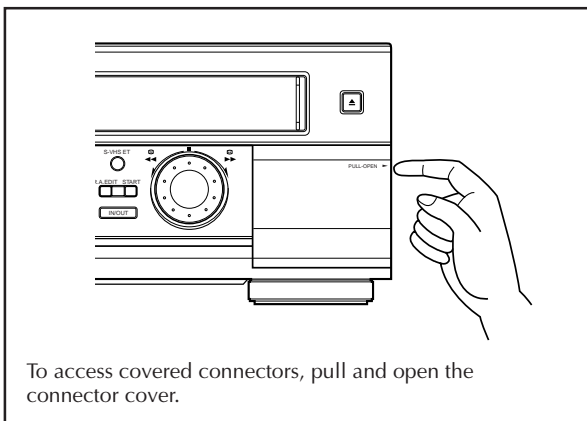
ATTENTION

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

FRONT VIEW

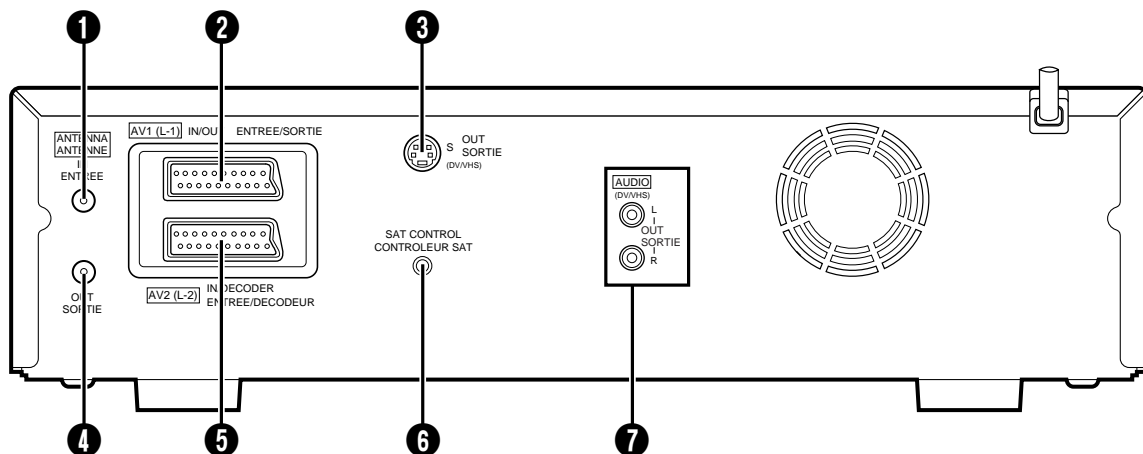


- ❶ STANDBY/ON $\text{\textcircled{I}}$ Button $\text{\textcircled{I}}$ pg. 6
- ❷ Infrared Beam Receiving Window $\text{\textcircled{I}}$
- ❸ DV EJECT Button $\text{\textcircled{I}}$ pg. 18
- ❹ Mini DV Cassette Loading Slot $\text{\textcircled{I}}$
- ❺ DV Button $\text{\textcircled{I}}$ pg. 18
- ❻ STOP Button $\text{\textcircled{I}}$ pg. 18
- ❼ PLAY Button $\text{\textcircled{I}}$ pg. 18
- ❽ PAUSE Button $\text{\textcircled{I}}$ pg. 19
- ❾ RECORD Button $\text{\textcircled{I}}$ pg. 26, 27
- ❿ VHS Button $\text{\textcircled{I}}$ pg. 18
- ⓫ VHS Cassette Loading Slot $\text{\textcircled{I}}$
- ⓬ S-VHS ET Button $\text{\textcircled{I}}$ pg. 29
- ⓭ VHS EJECT Button $\text{\textcircled{I}}$ pg. 18
- ⓮ DV IN/OUT connector (i.Link*) $\text{\textcircled{I}}$ pg. 50
*i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The $\text{\textcircled{I}}$ logo is used for products compliant with the i.Link standard.
- ⓯ Dubbing Direction (DV \rightarrow / \leftarrow VHS) Indicators $\text{\textcircled{I}}$ pg. 46
- ⓰ Dubbing (DUB) Button $\text{\textcircled{I}}$ pg. 46
- ⓱ Dubbing Direction (\rightarrow / \leftarrow) Buttons $\text{\textcircled{I}}$ pg. 46
- ⓲ INSERT Button $\text{\textcircled{I}}$ pg. 57
- ⓳ PR +/- Buttons $\text{\textcircled{I}}$ pg. 26
- ⓴ Audio Dubbing (A. DUB) Button $\text{\textcircled{I}}$ pg. 55
- ⓵ DV Play Indicator (\triangleright) $\text{\textcircled{I}}$ pg. 18
- ⓶ DV Record Indicator (\circ) $\text{\textcircled{I}}$ pg. 27
- ⓷ Display Panel $\text{\textcircled{I}}$ pg. 83
- ⓸ VHS Play Indicator (\triangleright) $\text{\textcircled{I}}$ pg. 18
- ⓹ VHS Record Indicator (\circ) $\text{\textcircled{I}}$ pg. 26
- ⓺ R.A.EDIT Button $\text{\textcircled{I}}$ pg. 48
- ⓻ IN/OUT Button $\text{\textcircled{I}}$ pg. 48
- ⓼ START Button $\text{\textcircled{I}}$ pg. 47, 49
- ⓽ JOG Dial $\text{\textcircled{I}}$ pg. 19
- ⓿ SHUTTLE Ring $\text{\textcircled{I}}$ pg. 18
- ⓾ S-VIDEO/VIDEO/AUDIO Input Connectors $\text{\textcircled{I}}$ pg. 50, 56
- ⓿ Remote PAUSE connector $\text{\textcircled{I}}$ pg. 50



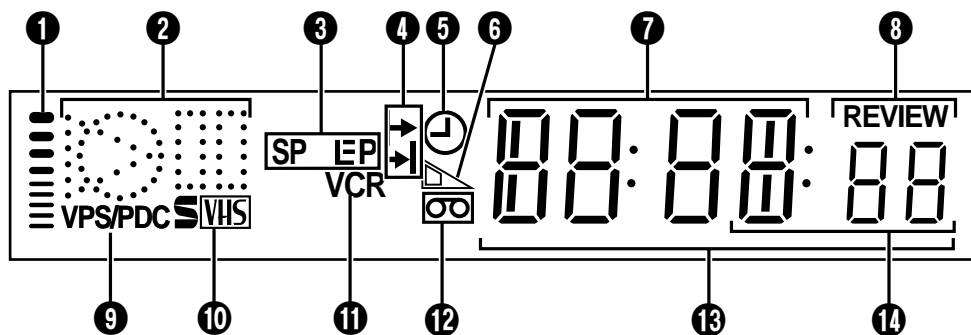
To access covered connectors, pull and open the connector cover.

REAR VIEW



- ❶ ANTENNA IN Connector ☞ pg. 4
- ❷ AV1 (L-1) IN/OUT Connector ☞ pg. 4, 52, 60 – 62
- ❸ S OUT Connector ☞ pg. 5
- ❹ ANTENNA OUT Connector ☞ pg. 4
- ❺ AV2 (L-2) IN/DECODER Connector ☞ pg. 52, 60 – 62
- ❻ SAT CONTROL Connector ☞ pg. 13
- ❼ AUDIO OUT (L/R) Connectors ☞ pg. 63

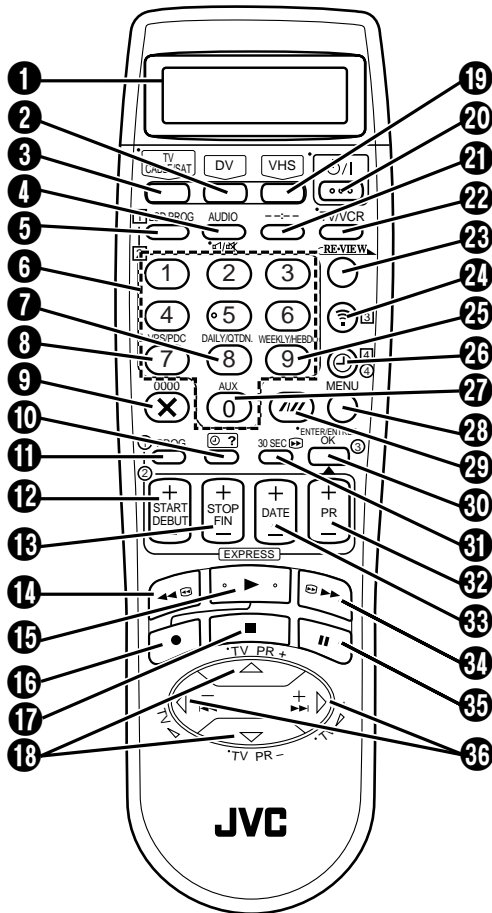
DISPLAY PANEL



- ❶ B.E.S.T. Picture System Display ☞ pg. 32
- ❷ Symbolic Mode Indicators
- ❸ Tape Speed Indicators ☞ pg. 26, 27
- ❹ Programme Time Indicators ☞ pg. 36
- ❺ "Timer" Indicator ☞ pg. 35, 37
- ❻ Tape Remaining Time Indicator ☞ pg. 29
- ❼ Channel/Clock Display ☞ pg. 9
- ❽ Instant REVIEW Indicator ☞ pg. 21
- ❹ VPS/PDC Indicator ☞ pg. 35, 37
- ❺ S-VHS Indicator ☞ pg. 29
- ❻ VCR Indicator ☞ pg. 60
- ❼ "Cassette Loaded" Mark
- ❽ Counter/Remain Display
- ❹ Mode Display (L-1, L-2, F-1 or SAT)

PLAY: FF/REW VARIABLE SEARCH:		STILL: SLOW:	
		RECORD:	
		RECORD PAUSE:	
AUDIO DUBBING:			
AUDIO DUBBING PAUSE:			
INSERT:			
INSERT PAUSE:			
AV INSERT:			
AV INSERT PAUSE:			

REMOTE CONTROL



Buttons with a small dot on the left side of the name can also be used to operate your TV. (pg. 43)

- ❶ LCD Panel (pg. 34, 85)
- ❷ DV Button (pg. 18)
- ❸ TV/CABLE/SAT Button (pg. 43, 44, 85)
- ❹ AUDIO Button (pg. 24, 25)
 (TV Muting) Button (pg. 43)
- ❺ LCD PROG Button (pg. 34)
- ❻ NUMBER Keys (pg. 26, 27, 34)
- ❼ DAILY Button (pg. 35, 37)
- ❽ VPS/PDC Button (pg. 35, 37)
- ❾ X Button (pg. 34, 38)
 0000 Button (pg. 31)
- ❿ ? Button (pg. 38)
- ⓫ PROG Button (pg. 34)
- ⓬ START +/- Button (pg. 36)
- ⓭ STOP +/- Button (pg. 36)
- ⓮ Rewind (REW) Button (pg. 18)
- ⓯ PLAY Button (pg. 18)
- ⓰ RECORD Button (pg. 26, 27)
- ⓱ STOP Button (pg. 18, 26, 27)
- ⓲ Δ▽ Button (pg. 6)
 TV PR +/- Button (pg. 43)
- ⓳ VHS Button (pg. 18)
- ⓴ STANDBY/ON ⏻ Button (pg. 6)
- ⓵ ---:-- Button (pg. 31)
- ⓶ TV/VCR Button (pg. 43)
- ⓷ REVIEW Button (pg. 21)
- ⓸ Transmit (pg. 34)
- ⓹ WEEKLY Button (pg. 35, 37)
- ⓺ ⊖ Button (pg. 35, 37)
- ⓻ AUX Button (pg. 52)
- ⓼ MENU Button (pg. 10)
- ⓽ /// (Auto Tracking) Button (pg. 21)
 SP/LP/EP Button (pg. 26, 27)
- ⓿ OK Button (pg. 7)
- ⓿ 30 SEC Button (pg. 20)
- ⓿ PR +/- Button (pg. 26, 27)
- ⓿ DATE +/- Button (pg. 36)
- ⓿ Fast Forward (FF) Button (pg. 18)
- ⓿ PAUSE Button (pg. 19)
- ⓿ <> Button (pg. 19)
 TV ∟ +/- Button (pg. 43)

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite receivers of JVC and other brands. (☞ pg. 43, 44)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

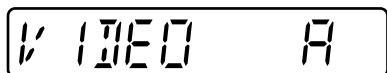
NOTES:

- When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.
- If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.

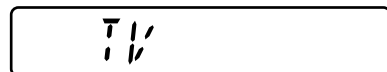
Remote Control LCD

The remote control can operate not only the video recorder but also some of your TV and satellite receiver's functions. The LCD indicates which of these (VIDEO, TV or CABLE/SAT) the remote control can currently operate. When you first purchase the remote control, or after you have just replaced the batteries, VIDEO A (A code) is selected.

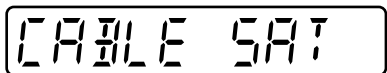
- 1 To operate your video recorder, first press **VHS** or **DV**.
To switch remote control's A/B/C/D code, refer to page 42.



- 2 To operate your TV, first press **TV/CABLE/SAT** until "TV" appears on the LCD (☞ pg. 43).



- 3 To operate your satellite receiver, first press **TV/CABLE/SAT** until "CABLE SAT" appears on the LCD (☞ pg. 44).



NOTES:

Even if "TV" is displayed on the LCD, the following operations can be performed without switching the mode.

- Basic operations for the recorder
After an operation is completed, "TV" reappears on the LCD.
- Express Timer Programming and the *SHOWVIEW* Timer Programming operations
To perform a TV operation again, switch to TV mode first.
- Accessing main menu
To perform a TV operation again, switch to TV mode first.

GENERAL

Power requirement	: AC 220 V – 240 V~, 50 Hz/60 Hz
Power consumption	
Power on	: 33 W
Power off	: 7.9 W
Temperature	
Operating	: 5°C to 40°C
Storage	: -20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	: 435 mm x 124 mm x 391 mm
Weight	: 6.9 kg
Input/Output	: 21-pin SCART connectors : IN/OUT x 1, IN/DECODER x 1 RCA connectors: VIDEO IN x 1, AUDIO IN x 1, AUDIO OUT x 1 S-Video connectors: IN x 1, OUT x 1 DV connector: IN/OUT x 1 (4-pin, IEEE1394 conformity, digital input/output)

VHS DECK VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	: DA4 (Double Azimuth) head helical scan system
Format	: S-VHS/VHS PAL standard
Signal-to-noise ratio	: 45 dB
Horizontal resolution	
(SP/LP)	: 250 lines (VHS) 400 lines (S-VHS)
(EP)	: 220 lines (VHS) 350 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Maximum recording time	
(SP)	: 240 min. with E-240 video cassette
(LP)	: 480 min. with E-240 video cassette
(EP)	: 720 min. with E-240 video cassette

DV DECK VIDEO/AUDIO

Signal system	: PAL-type colour signal, 625 lines 50 fields
Recording system	: Digital Component Recording
Format	: DV format (SD mode)
Cassette	: Mini DV Cassette
Maximum recording time	
(SP)	: 60 min. with M-DV60ME cassette
(LP)	: 90 min. with M-DV60ME cassette
Audio recording system	: PCM 48 kHz, 16 bit (2 ch)/ 32 kHz, 12 bit (4 ch)

TUNER/TIMER

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	: VHF 47 MHz – 89 MHz/ 104 MHz – 300 MHz/ 302 MHz – 470 MHz UHF 470 MHz – 862 MHz
Memory backup time	: Approx. 60 min.

ACCESSORIES

Provided accessories	: RF cable, 21-pin SCART cable, Satellite Controller RM-SD1, Infrared remote control unit, "R6" battery x 2
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Specifications shown are for SP mode unless otherwise specified.

E.& O.E. Design and specifications subject to change without notice.

Auto Set Up - referring to the display panel

The Auto Set Up function sets the tuner channels, clock and Guide Program numbers automatically.

BEFORE YOU START PLEASE MAKE SURE THAT:

- The TV aerial cable is connected to the ANTENNA IN jack on the rear panel of the video recorder.
- The video recorder's mains power cord is connected to a mains outlet.
- The video recorder is turned off.
- Load batteries into the remote control.

1 Press P/I (recorder/remote).



2 Press Δ/∇ (remote) to select the international telephone country code.

(Ex.) DEUTSCHLAND is selected.



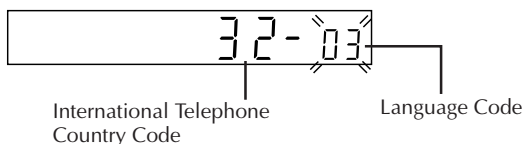
International Telephone Country Code

BELGIUM	: 32	NORGE	: 47
ČESKÁ REPUBLIKA	: 42	ÖSTERREICH	: 43
DANMARK	: 45	POLSKA	: 48
DEUTSCHLAND	: 49	PORTUGAL	: 351
ESPAÑA	: 34	SUISSE	: 41
GREECE	: 30	SUOMI	: 358
ITALIA	: 39	SVERIGE	: 46
MAGYARORSZÁG	: 36	OTHER WESTERN EUROPE	: --
NEDERLAND	: 31	OTHER EASTERN EUROPE	: EE

- If you have selected a country code other than 32 (BELGIUM) or 41 (SUISSE), go to step 3.
- If you have selected 36 (MAGYARORSZÁG), 42 (ČESKÁ REPUBLIKA), 48 (POLSKA) or EE (OTHER EASTERN EUROPE), press **OK**. Clock Set screen will appear. Set the clock manually (☞ pg. 76 – 77), then go to step 3.

- If you have selected 32 (BELGIUM) or 41 (SUISSE), press **OK** (remote) and select the language code by pressing Δ/∇ (remote), then go to step 3.

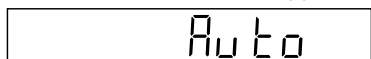
(Ex.) FRANCAIS is selected for BELGIUM



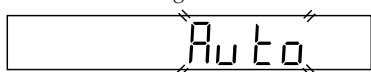
Language Code

ENGLISH	: 01	NEDERLANDS	: 06
DEUTSCH	: 02	SVENSKA	: 07
FRANCAIS	: 03	NORSK	: 08
ITALIANO	: 04	SUOMI	: 09
CASTELLANO	: 05	DANSK	: 10

3 Press **OK** (remote). "Auto" appears on the display panel.



4 Press **OK** (remote) to start Auto Set Up. Do NOT press any button on the video recorder or remote control during "Auto" is blinking.



- When you have connected the video recorder to a TV offering T-V Link via a 21-pin SCART cable (☞ pg. 4) and the TV is turned on, the recorder automatically performs the Preset Download (☞ pg. 8) even if you select "Auto" for Auto Set Up function.
- If "--:--" appears on the display panel, see page 9 of the instructions.

* Once you have performed Auto Set Up, even if the recorder's memory backup has expired, the recorder will not perform Auto Set Up again. Perform tuner setting (☞ pg. 68) and/or clock setting (☞ pg. 76) as required.

FOR MORE INFORMATION
SEE INSTRUCTIONS/P6

JVC

VICTOR COMPANY OF JAPAN, LIMITED