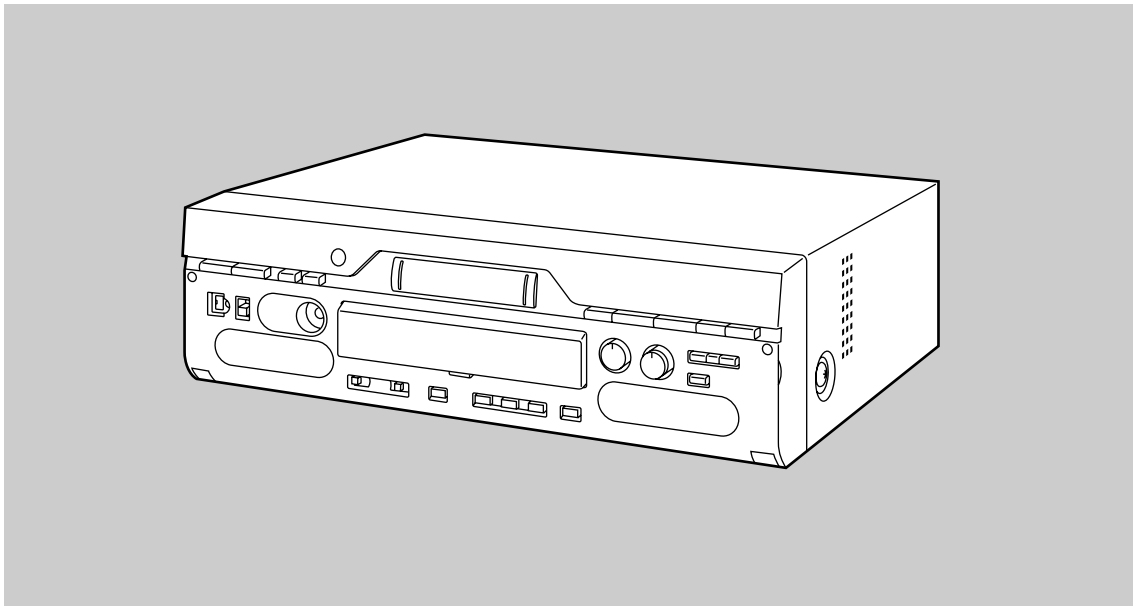


Operating Instructions

Mini **DV** NTSC

Digital Video Cassette Recorder

AG-**DV1000**P





Panasonic[®]

Before attempting to connect, operate or adjust this product, please read these instructions completely.

IMPORTANT

“Unauthorized recording of copyrighted television programs, video tapes and other materials may infringe the right of copyright owners and be contrary to copyright laws.”

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



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

CAUTION:

Do not install or place this unit in a bookcase, built-in cabinet or in another confined space in order to keep well ventilated condition. Ensure that curtains and any other materials do not obstruct the ventilation condition to prevent risk of electric shock or fire hazard due to overheating.

WARNING:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

CAUTION:

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER CHANGE OF SWITCH SETTING INSIDE THE UNIT TO QUALIFIED SERVICE PERSONNEL.

FCC Note:

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

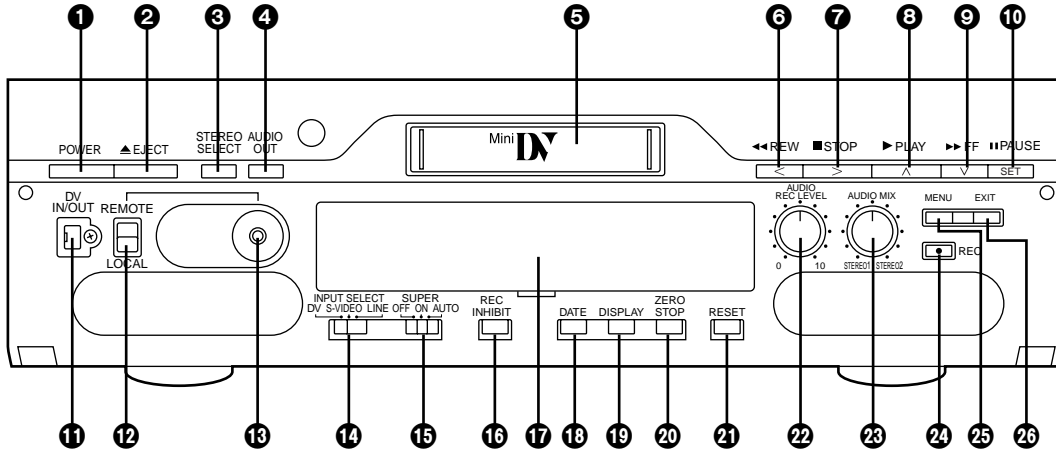
 indicates safety information.

- Do not insert fingers or any objects into the video cassette holder.
- Avoid operating or leaving the unit near strong magnetic fields. Be especially careful of large audio speakers.
- Avoid operating or storing the unit in an excessively hot, cold, or damp environment as this may result in damage both to the recorder and to the tape.
- Do not spray any cleaner or wax directly on the unit.
- If the unit is not going to be used for a length of time, protect it from dirt and dust.
- Do not leave a cassette in the recorder when not in use.
- Do not block the ventilation slots of the unit.
- Use this unit horizontally and do not place anything on the top panel.
- Cassette tape can be used only for one-side, one direction recording. Two-way or two-track recordings cannot be made.
- Cassette tape can be used for either Color or Black & White recording.
- Do not attempt to disassemble the recorder. There are no user serviceable parts inside.
- If any liquid spills inside the recorder, have the recorder examined for possible damage.
- Refer any needed servicing to authorized service personnel.

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Controls and Their Functions



FRONT

1 POWER

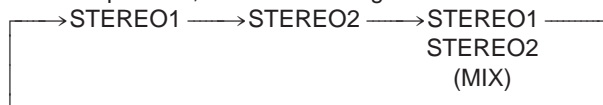
Press to switch the VTR from on to standby mode or vice versa.

2 EJECT

Press to eject the cassette tape.

3 STEREO SELECT

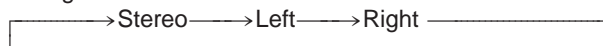
To select the audio track (STEREO1 audio and/or STEREO2 audio) on a tape which was recorded in the 12bit audio mode. During playback, each time the button is pressed, the sound changes as follows:



- The audio track cannot be selected during the playback of a tape recorded in the 16bit audio mode.
- When **INPUT SELECT** is set to DV and a 12bit audio mode input signal is being received, the audio track can be selected by **STEREO SELECT** at any time.

4 AUDIO OUT

To select the desired sound mode. When this button is pressed, the audio output mode changes as follows.



The Left(L) and Right(R) Indicators shown which sound mode is selected in the following way.

- Stereo: Both the L and R Indicators appear.
- Left: The L Indicator appears.
- Right: The R Indicator appears.

5 Cassette Compartment

Insert the mini DV cassette tape to here.

6 ◀◀ (REW)

In the stop mode:

To rewind the tape. "◀◀" is lighted while the tape is rewinding.

In the playback mode:

To search in the reverse direction for a scene.

- Tap **◀◀ (REW)** to lock the unit in the search reverse mode.
- Keep **◀◀ (REW)** depressed to search in the reverse direction.

In the pause mode:

- When pressed once: To advance one frame in the backward direction.
- When kept depressed: To advance continuously frame by frame in the reverse direction.

In the rewind mode:

To view the video.

In the menu display mode: To move the cursor.

7 ■ (STOP)

To stop playback or recording.

In the menu display mode: To move the cursor.

- The tape will be ejected when the STOP button is held down for 3 or more seconds.

8 ▶ (PLAY)

To start playback. "▶" is lighted during playback.

In the menu display mode: To move the cursor.

Controls and Their Functions

9 ►► (FF)

- In the stop mode: To fast forward the tape. "►►" is lighted while the tape is fast forwarding.
- In the playback mode: To search in the forward direction for a scene.
- Tap ►► (FF) to lock the unit in the search forward mode.
 - Keep ►► (FF) depressed to search in the forward direction for a scene.
- In the pause mode:
- When pressed once: To advance one frame in the forward direction.
 - When kept depressed: To advance continuously frame by frame in the forward direction.
- In the fast forward mode: To view the video.
- In the menu display mode: To move the cursor.

10 II (PAUSE)

- During playback:
- When pressed once: Still picture. "II" is lighted.
 - When pressed for 2 seconds or more: Slow playback. "II►" is lighted.
- During recording: To pause recording.
- In the menu display mode: To set the menu.

11 DV IN/OUT

To connect the DV cable to digital video equipment with IEEE 1394-1995 compatible DV terminal.

12 LOCAL/REMOTE

- Set this button to **REMOTE** when connecting a remote controller (model AG-A11, optional accessory).
- When the button has been set to **REMOTE**, the only buttons on the front panel which can be operated are LOCAL/REMOTE, INPUT SELECT and SUPER.

13 REMOTE

To connect the remote controller (model AG-A11, optional accessory).
A regular wireless remote controller cannot be used.

14 INPUT SELECT

To select the DV IN on the front panel, or S-VIDEO IN or LINE (VIDEO IN) on the rear panel.

15 SUPER

To set the OSD (On-Screen Display) on the monitor screen which is connected to OUTPUT1 or 2 on the rear panel.

- OFF: On-screen display does not appear.
ON: On-screen display appears.
AUTO: On-screen display appears for 5 seconds only when the VTR is operated.

16 REC INHIBIT

- When a cassette tape whose accidental erasure prevention tab has been set to the SAVE (open) position is inserted, this lamp lights to indicate that recording cannot be performed.
- When a cassette tape whose accidental erasure prevention tab has been set to the REC (closed) position is inserted, this lamp goes off to indicate that recording can be performed.

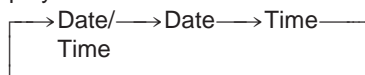
17 DISPLAY

- See page 6.
- No displays will appear while the power is off.

18 DATE

When pictures are recorded using a Panasonic Digital Video Camera, the date and time of the recording are automatically recorded onto the tape's sub code track and the information can be displayed on the monitor during playback.

- Each time the button is pressed, the details displayed are changed.
- "----" appears for all the displays when no playback picture appears on the screen or when the date and other data have not been recorded on the tape being played back.

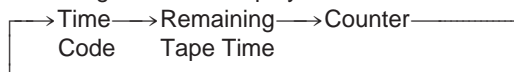


Note:

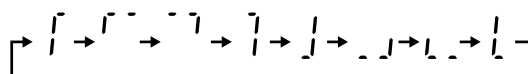
This unit cannot record the date (month/day/year) or the time data.

19 DISPLAY

To change the VTR display indication as follows:



- On the unrecorded sections of the tape, the display of the seconds on the tape counter appears as shown below. (The same kind of display may also appear when the video heads are dirty or when the tape is scratched.)



- The time code is displayed at all times when a cassette tape has been inserted.

Controls and Their Functions

20 ZERO STOP

For the zero stop function.

When this button is pressed while the tape counter is displayed, the tape is fast forwarded or rewound to the "0:00:00" position and then stopped.

21 RESET

To reset the tape counter (elapsed time) to "0:00:00".

- The tape counter is automatically reset to "0:00:00" when a video cassette is inserted.
- It is not possible to reset the Time code to "0h00m00s00f" using **RESET**.

22 AUDIO REC LEVEL

To adjust the audio recording level on the recording level indicator.

- Before adjusting the level, push the control so that it pops out.
- When **INPUT SELECT** is set to DV, the audio recording level cannot be adjusted.

23 AUDIO MIX

To adjust the balance between STEREO1 and STEREO2 for 12-bit audio tape playback.

24 REC

To start recording.

- Recording is not possible when the REC INHIBIT lamp is lighted.

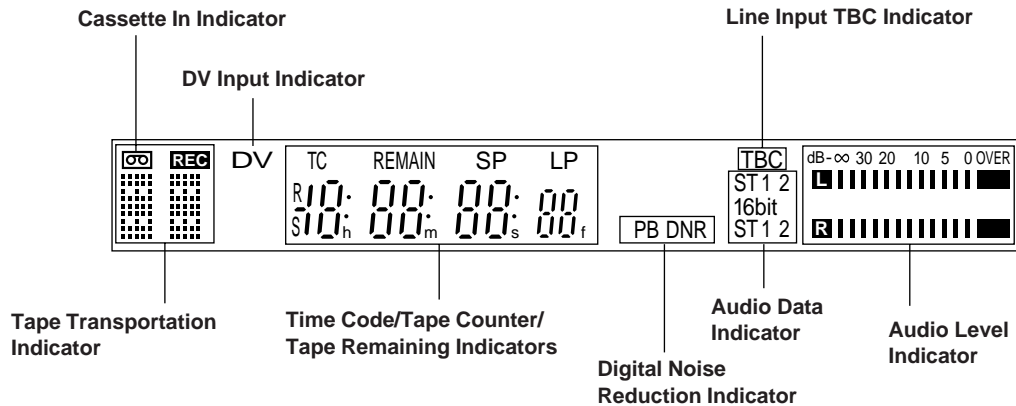
25 MENU

To make the On Screen Display Main Menu appear on the monitor screen.

26 EXIT

To make the On Screen Display Main Menu disappear from the monitor screen.

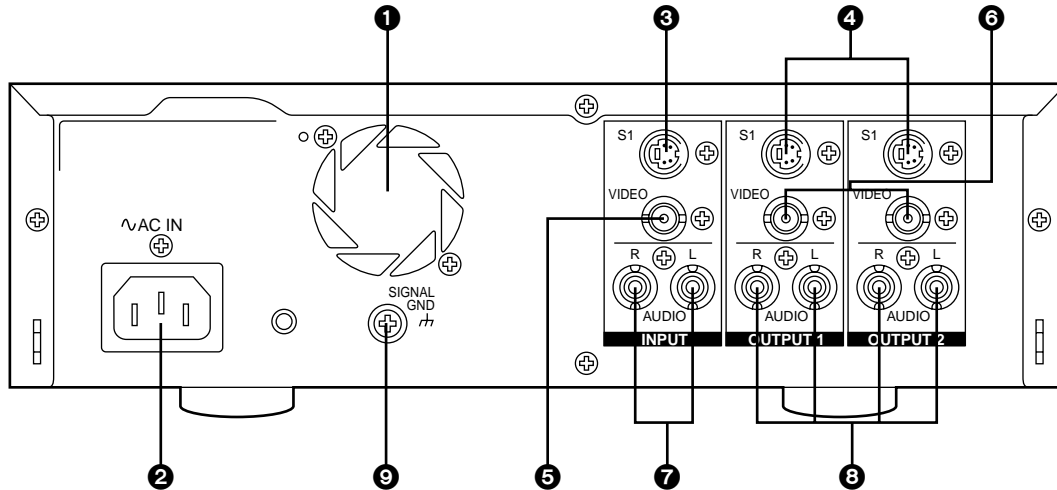
DISPLAY Section



Notes:

- The tape speed during fast forward, rewind and search is automatically regulated according to the remaining amount of tape. In these cases, the tape counter and the time code display may stop temporarily.
- No displays will appear while the power is off.

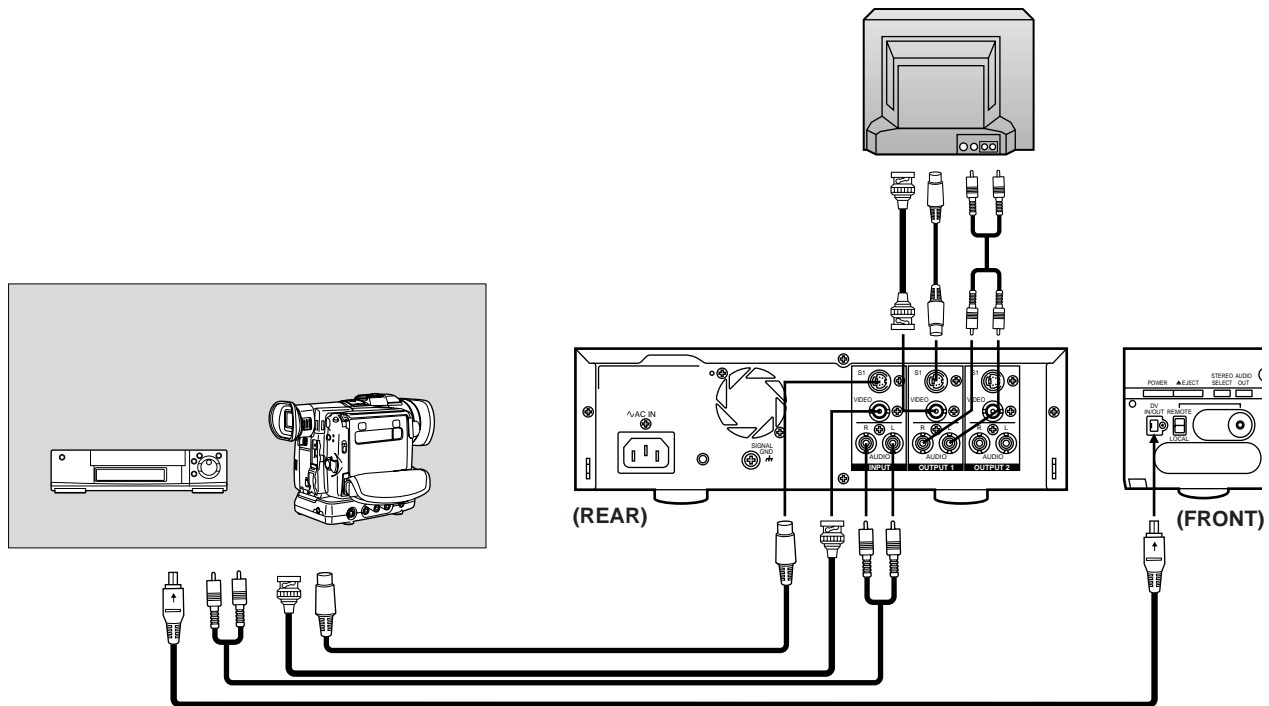
Controls and Their Functions



REAR

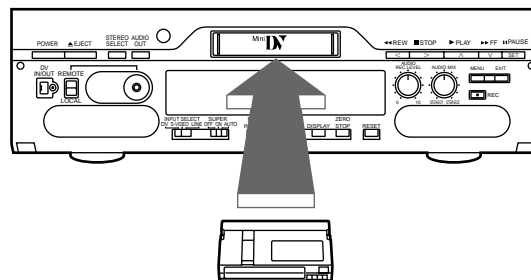
- 1 Fan for internal cooling**
- 2 AC IN~**
To connect to the power supply.
- 3 S-VIDEO IN (INPUT)**
To connect to another VTR that has an S-VIDEO output connector.
- 4 S-VIDEO OUT (OUTPUT 1/2)**
To connect to a monitor or to other device that has an S-VIDEO input connector.
- 5 VIDEO IN (INPUT)**
To connect the video cable (BNC) to the output connector of another device.
- 6 VIDEO OUT (OUTPUT 1/2)**
To connect the video cable (BNC) to the input connector of a monitor or other device.
- 7 AUDIO IN (INPUT)**
To connect the audio cable to the output jack of another device.
- 8 AUDIO OUT (OUTPUT 1/2)**
To connect the audio cable to the input jack of another device.
- 9 SIGNAL GND**
To connect the signal ground terminal on the connected component for noise reduction purposes. It is not a safety ground.

Connections



- Set **INPUT SELECT** on this unit so that DV, S-VIDEO or LINE (VIDEO IN) is selected.
- When using the BNC socket, use a BNC-PHONO conversion adapter (sold separately).
- When the DV input is selected, the DVCPRO format signal cannot be recorded correctly.

Inserting/Ejecting the cassette



Insert the cassette tape.

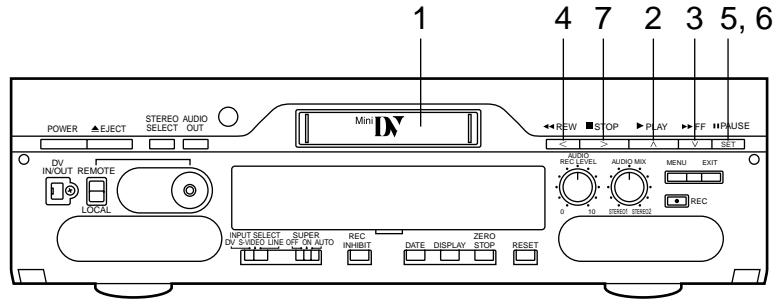
The unit is automatically turned ON, and the Cassette in indicator [Cassette] will appear.

- Slowly push the center of the cassette tape to insert it.
- When a cassette tape whose accidental erasure prevention tab has been set to the SAVE position is inserted, playback starts automatically.
- Use of cassette tapes bearing the Panasonic brand is recommended in order for full justice to be done to the performance of this unit.

Press EJECT.

- The cassette tape is pushed out half-way. Pull it straight out toward you and remove.
- The cassette tape can be ejected even when the VTR's power is off.
- The cassette tape cannot be ejected while recording is in progress.

Playback



Operations

Display Symbols

1 Insert a recorded cassette tape (page 8).



2 Press ► (PLAY) to start playback.



3 Tap ►► (FF) to lock the search forward mode.
• Press ► (PLAY) to change back to normal playback.
Keep ►► (FF) depressed to search forward.



4 Tap ◀◀ (REW) to lock the search reverse mode.
• Press ► (PLAY) to change back to normal playback.
Keep ◀◀ (REW) depressed to search backward.



5 Press PAUSE to view a still picture.
• Press ► (PLAY) or PAUSE to continue normal playback.



6 Keep PAUSE pressed for 2 seconds or more to view a slow motion picture.
• Press ► (PLAY) to continue normal playback.



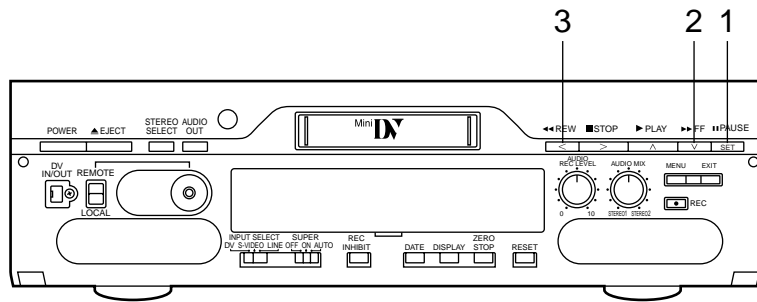
7 Press ■ (STOP) to stop the picture.

Note:

If you keep ►► (FF) or ◀◀ (REW) pressed in step 3 or 4, search playback is activated while the button is pressed, and operation returns to normal playback when the button is released.

Playback

Other Playback Functions



To Advance Still Image

- 1 Press **PAUSE** during playback.
- 2 Press **▶▶ (FF)** to advance one frame in the forward direction.
Keep **▶▶ (FF)** depressed to advance frames continuously in the forward direction.
- 3 Press **◀◀ (REW)** to advance one frame in the reverse direction.
Keep **◀◀ (REW)** depressed to advance frames continuously in the reverse direction.

Returning to a specific scene

While the counter display appears in the display area, the VTR will return the tape to a specific scene when **ZERO STOP** is pressed in the stop mode.

- The tape is fast forwarded or rewound until the counter display shows "0:00:00".
- This operation is not performed while a display other than the counter display appears in the display area.

To View the Video During Fast Forward or Rewind

Keep **▶▶ (FF)** pressed during fast forward.
Keep **◀◀ (REW)** pressed during rewind.

Automatic Playback

When a cassette with the opened record prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **▶ (PLAY)**.

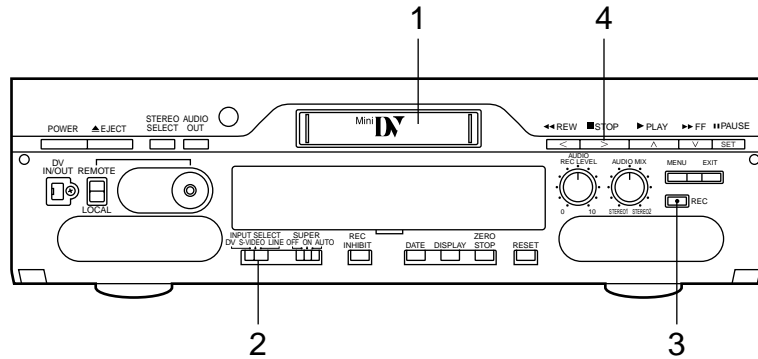
Automatic Rewinding

When the tape reaches the end during recording or playback, it will automatically be rewound to the beginning.

Note:

Cue, review or slow playback will be automatically canceled after 10 minutes, and still playback or still frame advance/reverse after 5 minutes.

Manual Recording



Operations

Display Symbols

- 1** Insert a video cassette with the closed record (“REC” side) prevention tab (page 8).
• If it has already been inserted, press **POWER** to turn the VTR on.



- 2** Set **INPUT SELECT** on this unit so that DV, S-VIDEO or LINE (VIDEO IN).
• Only DV Indicator will appear.



- 3** Press **REC** to start recording.



- 4** Press **■ (STOP)** to stop recording.

To Pause Recording

Press **PAUSE** during recording.
Press **REC** or **PAUSE** again to continue recording.



To Select the Desired Audio Mode

- 1 Press **MENU** and select **OPTION SETUP2**, and then press **SET**.
 - 2 Using **^** or **v**, select **AUDIO MODE** and press **SET**.
 - 3 Using **<** or **>**, select **12bit** or **16bit**, then press **SET**.
- For details, see on page 15.

Note:

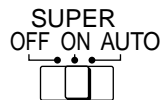
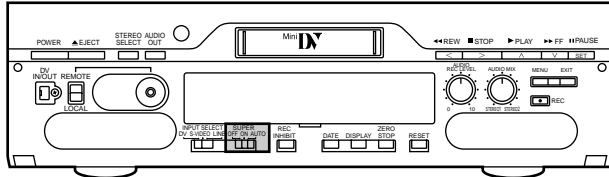
Tapes recorded using long mini-DV cassettes (80 min. in SP mode; 120 min. in LP mode) and tapes recorded in the LP mode cannot be played back or recorded on a DVCPRO or DVCPRO50 format VTR.

Settings Using the On Screen Display

The VTR indications shown on the monitor screen are known as the On Screen Display (OSD). This VTR allows many settings to be made at the OSD.

Preparation

- Turn on the VTR and monitor.



OSD Mode

Use the **SUPER** switch to perform the OSD settings. Set the OSD displays on the monitor screen which is connected to OUTPUT1 or 2.

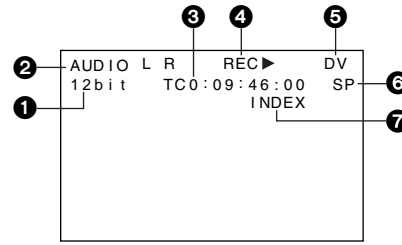
The OSD displays simultaneously appear or do not appear at OUTPUT1 and 2.

AUTO: The On Screen Display will appear on the monitor screen for a few seconds when you operate the VTR.

ON: The On Screen Display will always appear on the monitor screen when you perform the VTR.

OFF: The On Screen Display will not appear.

To use the On Screen Display:



1 Audio Data Indicator

2 Audio Output Mode Indicator

The Left (L) and Right (R) Indicators show which sound mode is selected with **AUDIO OUT** (see page 4).

Stereo: Both the AUDIO L and R Indicators appear.

Left: The AUDIO L Indicator appears.

Right: The AUDIO R Indicator appears.

3 Time code/Remaining tape time/Tape counter

Time code	TC 0:09:46:00
-----------	---------------

Remaining tape time	REMAIN 1:16
---------------------	-------------

Tape counter	-1:35.47
--------------	----------

4 Tape running display

Stop	
------	--

Playback	PLAY▶
----------	-------

Still Playback	STILL
----------------	-------

Fast Forward/Rewind	FF▶▶/REW◀◀
---------------------	------------

Cue/Review	CUE▶▶/REV◀◀
------------	-------------

Slow Playback	SLOW
---------------	------

Recording/Recording Pause	REC▶/REC PAU
---------------------------	--------------

5 External Input Indicator

6 Tape speed Indicator

7 Index Indicator

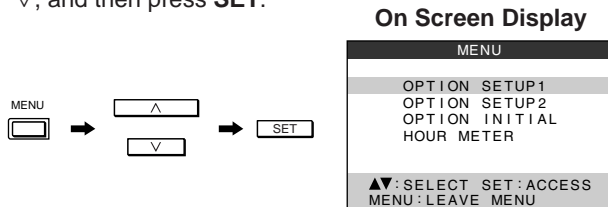
Notes:

- When the “**SUPER**” switch is set to **OFF**, the On Screen Display will not appear.
- On Screen Display is not displayed when the MENU screen is displayed.

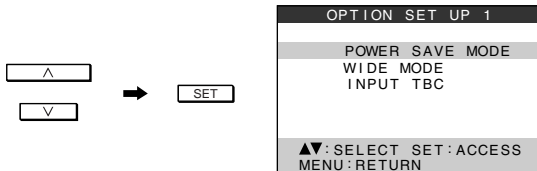
Settings Using the On Screen Display

POWER SAVE Mode

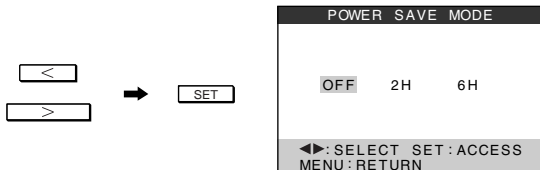
- 1 Press **MENU** and select **OPTION SETUP1** using \wedge or \vee , and then press **SET**.



- 2 Select **POWER SAVE MODE** using \wedge or \vee , and then press **SET**.



- 3 Select **OFF, 2H** or **6H** using $<$ or $>$, and then press **SET**.



- OFF: This setting does not conserve power when the VTR is off.
- 2H: The VTR turns off automatically if no operation is performed for approximately two hours.
- 6H: The VTR turns off automatically if no operation is performed for approximately six hours.

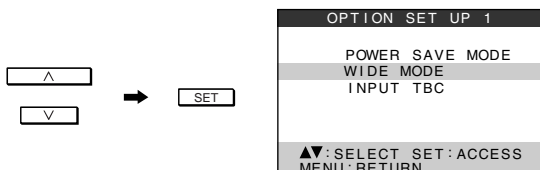
- 4 Press **EXIT** to exit the On Screen Display.

WIDE Mode

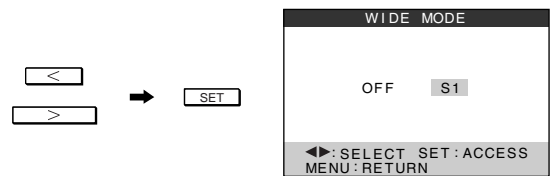
- 1 Press **MENU** and select **OPTION SETUP1** using \wedge or \vee , and then press **SET**.



- 2 Select **WIDE MODE** using \wedge or \vee , and then press **SET**.



- 3 Select **OFF** or **S1** using $<$ or $>$, and then press **SET**.

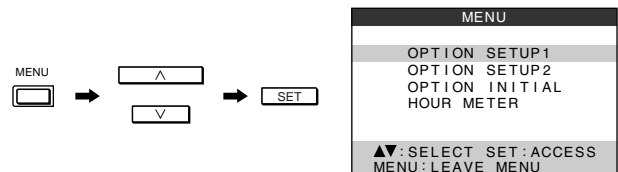


- OFF: Normal mode.
- S1: When the S-Video input socket on the monitor that is connected is an S1-Video socket. (If a wide mode video signal is sent to the monitor, the monitor screen size will automatically switch to wide mode.)

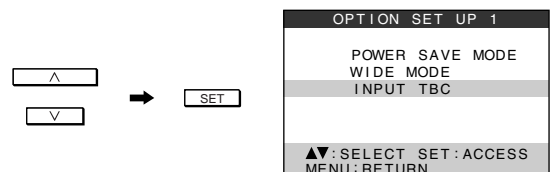
- 4 Press **EXIT** to exit the On Screen Display.

INPUT TBC Mode

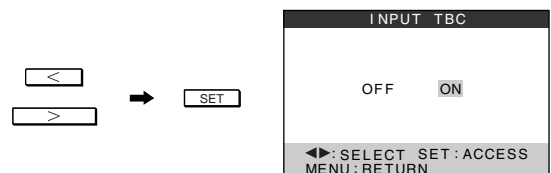
- 1 Press **MENU**, and select **OPTION SETUP1** using \wedge or \vee , and then press **SET**.



- 2 Select **INPUT TBC** using \wedge or \vee , and then press **SET**.



- 3 Select **ON** or **OFF** using $<$ or $>$, and then press **SET**.



- OFF: Set to this position when the dubbed images were disturbed at the ON position.
- ON: At this position, the subtle shaking and distortion of the pictures are suppressed when a cassette tape which was recorded using another camera or VTR is dubbed on this unit.

- 4 Press **EXIT** to exit the On Screen Display.

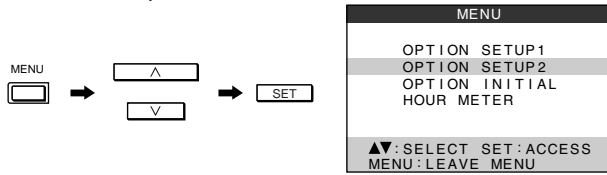
Note:

The INPUT TBC function does not work for signals from a DV input.

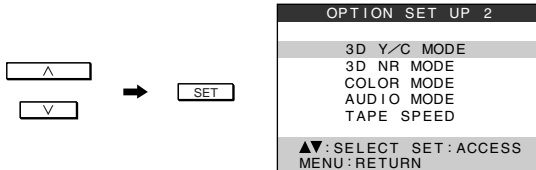
Settings Using the On Screen Display

3D Y/C Mode

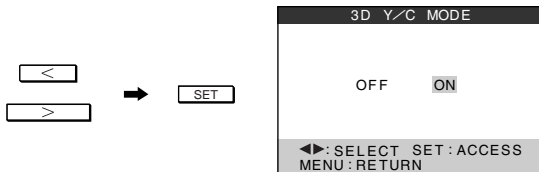
- 1 Press **MENU** and select **OPTION SETUP2** using \wedge or \vee , and then press **SET**.



- 2 Select **3D Y/C MODE** using \wedge or \vee , and then press **SET**.



- 3 Select **OFF** or **ON** using $<$ or $>$, and then press **SET**.



OFF: To reduce ghosting that occurs when playing back or recording a fast-moving video.
ON: To record with high quality.

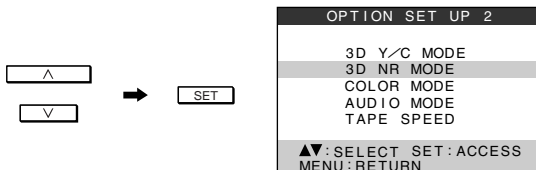
- 4 Press **EXIT** to exit the On Screen Display.

3D NR Mode

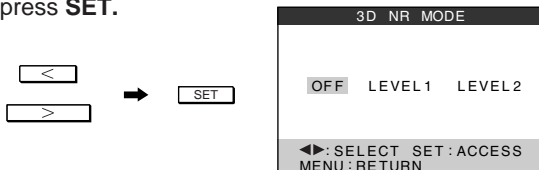
- 1 Press **MENU** and select **OPTION SETUP2** using \wedge or \vee , and then press **SET**.



- 2 Select **3D NR MODE** using \wedge or \vee , and then press **SET**.



- 3 Select **OFF**, **LEVEL1** or **LEVEL2** using $<$ or $>$, and then press **SET**.

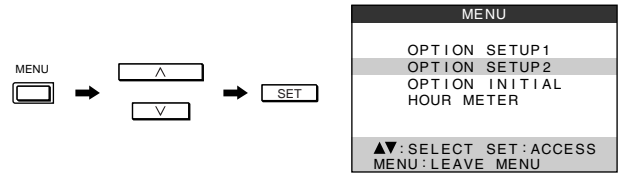


OFF: To use this VTR as the playback unit during editing.
LEVEL1: To get better picture quality during playback.
LEVEL2: When there is a lot of picture noise on the screen.

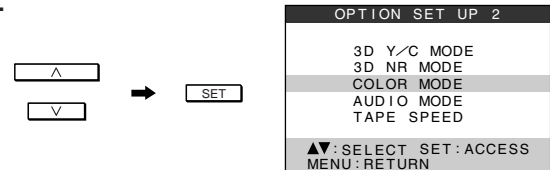
- 4 Press **MENU** to exit the On Screen Display.

COLOR Mode

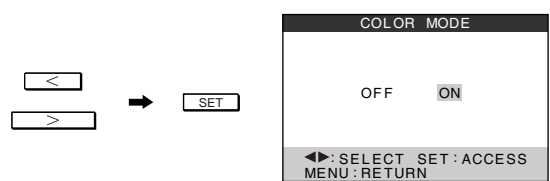
- 1 Press **MENU** and select **OPTION SETUP2** using \wedge or \vee , and then press **SET**.



- 2 Select **COLOR MODE** using \wedge or \vee , and then press **SET**.



- 3 Select **OFF** or **ON** using $<$ or $>$, and then press **SET**.



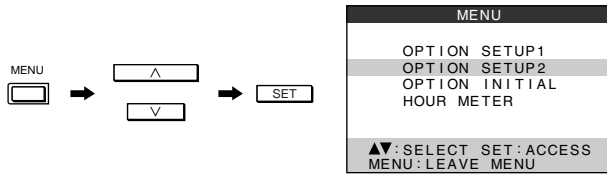
OFF: When performing recording and playback in black-and-white.
ON: When performing recording and playback in color.

- 4 Press **EXIT** to exit the On Screen Display.

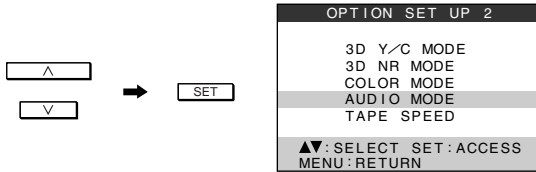
Settings Using the On Screen Display

AUDIO Mode

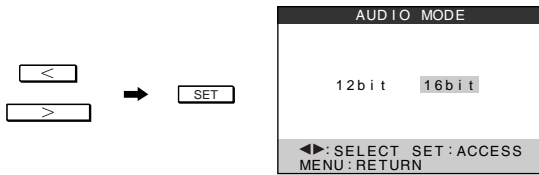
- 1 Press **MENU** and select **OPTION SETUP2** using \wedge or \vee , and then press **SET**.



- 2 Select **AUDIO MODE** using \wedge or \vee , and then press **SET**.



- 3 Select **12bit** or **16bit** using $<$ or $>$, and then press **SET**.

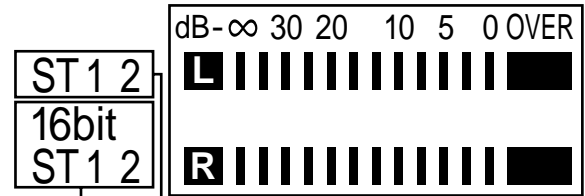
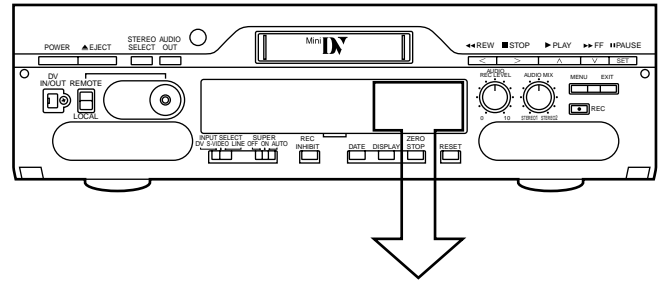


- 12bit: Divides the audio area into two stereo audio tracks, STEREO1 and STEREO2.
- If a recording is made in 12bit audio mode, the sound is recorded on STEREO1 only, and is not recorded on STEREO2.
- 16bit: Uses the entire audio area in order to record audio with greater quality.

- 4 Press **EXIT** to exit the On Screen Display.

- When DV has been selected as the INPUT SELECT setting, 12 bits or 16 bits—whichever number is in line with the signals sent to the DV connector—are automatically selected regardless of the AUDIO MODE setting.

Audio Displays on Unit's Display Area



Audio Monitor Display

ST1 display:

This lights when STEREO1 was selected while playback was underway.

ST2 display:

This lights when STEREO2 was selected while playback was underway.

When STEREO1+2 (MIX) audio is selected, STEREO2 appears on the display.

Audio Recording Data Display

16bit display:

This lights while a tape containing a 16-bit audio recording is being played back.

ST1 display:

This lights while a tape containing a 12-bit audio recording is being played back.

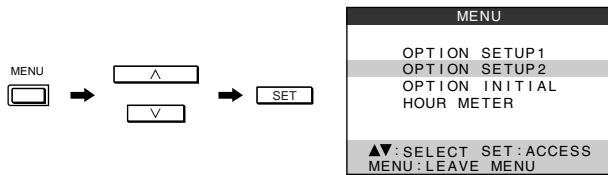
ST2 display:

This lights while a tape containing a 12-bit audio recording on the STEREO2 track is being played back.

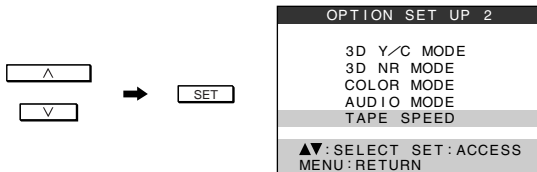
Settings Using the On Screen Display

TAPE SPEED

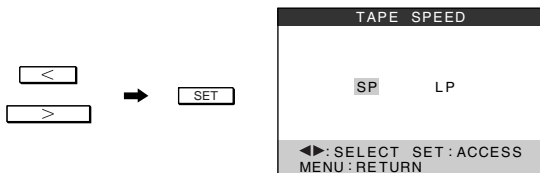
- 1 Press **MENU** and select **OPTION SETUP2** using \wedge or \vee , and then press **SET**.



- 2 Select **TAPE SPEED** using \wedge or \vee , and then press **SET**.



- 3 Select **SP** or **LP** using \lt or \gt , and then press **SET**.



SP: This is the position that is normally used.

LP: In this mode, the duration is 1.5 times longer than the SP mode.

- 4 Press **EXIT** to exit the On Screen Display.

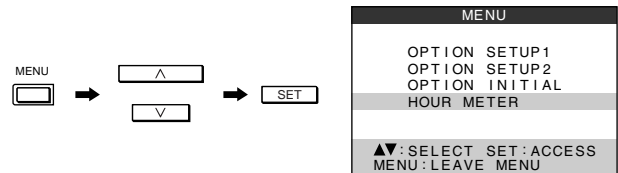
Note:

When a tape recorded in the LP mode is used, noise may be generated in the form of mosaic patterns or other problems may occur so that normal playback of the tape may not be possible in the following circumstances.

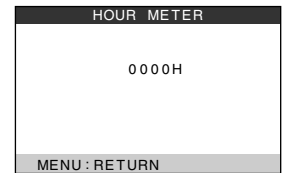
- When playing back a tape which was recorded using this unit, on another device
- When playing back a tape which was recorded on another device, on this unit
- When playing back a tape on another device without the LP mode
- DV tapes recorded in the LP mode cannot be played back in the DVCPRO or DVCPRO50 format.
- When playing back a tape in slow motion or frame by frame

HOUR METER

- 1 Press **MENU** and select **HOUR METER** using \wedge or \vee , and then press **SET**.
 - The hour meter appears.



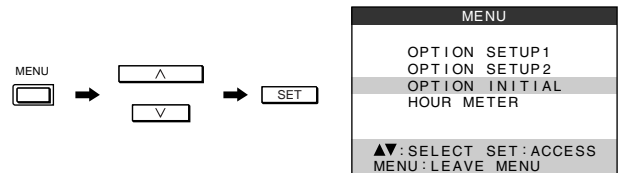
- 2 Press **EXIT** to exit the On Screen Display.



Initial Setting

If you want to return the VTR to the factory-preset condition, follow the procedure below.

- 1 Press **MENU** and select **OPTION INITIAL** using \lt or \gt , and then press **SET**.



- 2 Select **YES** using \lt or \gt , and then press **SET**.

To execute the initial setting:

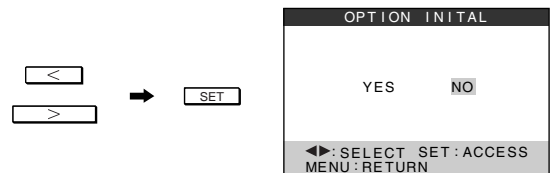
Select YES.

- The "INITIAL COMPLETED." message now appears at the bottom of the screen.

To cancel the initial setting:

Select NO.

- The previous screen is restored. (The VTR is not returned to the factory-preset condition.)



- 3 Press **EXIT** to exit the On Screen Display.

On Screen Display Messages

Before requesting service, check the following points once again.

The error message is indicated in brackets [].

[Please insert video tape.]

- ☞ **REC, PLAY (▶), FF (▶▶), REW (◀◀) or PAUSE (⏸)** is pressed when no cassette is in the VTR. Insert a video cassette.

[LOW RF]

- ☞ Are the video heads dirty?
Clean the video heads using the accessory Digital Video Head Cleaner.

[Recording not allowed. Check setting of the record-prevention tab.]

- ☞ Have you pressed **REC** while using a cassette tape whose accidental erasure prevention tab has been set to the **SAVE** (open) position?
Use a cassette tape whose accidental erasure prevention tab is set to the **REC (closed)** position.

Before Requesting Service

Before requesting service, check the following points once again.

Self Test Indication

This VTR has a self-diagnosis and display function. If the VTR detects trouble during installation or during use, the following indications automatically appear in the VTR display. Indications are displayed in the form of a single English letter plus two numbers such as [H01].

Display	Description
U10	Condensation has formed. Wait until this display clears.
U11	The video heads are dirty. Clean them.
H01	The cylinder does not start up properly or cylinder lock-up has been detected during regular rotation. (The cylinder and/or driver may be defective.)
H02	CAP FG is not activated at the down position (EJECT through REV). (The capstan and/or driver may be defective.)
F03	Mechanical lock-up has occurred during an operation other than unloading.
F04	Loading motor has locked up during the tape unloading operation. (The mode switch or tape loading mechanism is defective.)
F05	Something is wrong with the reel FG input during loading and/or unloading.
F06	Slot motor has locked up during the slot IN operation.
F07	Slot motor has locked up during the slot OUT operation.
F09	Communication is no longer possible between the timer microcomputer and syscon microcomputer.
F14	Down position has been detected while operation was being transferred to unloading in a mode other than EJECT.
H17	Supply reel lock-up has been detected during regular travel.
H18	Take-up reel lock-up has been detected during regular travel.
H19	Fan motor fails to work when the power is turned on.

VTR does not operate correctly

The symptom description is indicated in quotations “ ”.

“VTR display is not illuminated.”

- ☞ Press the power switch. No displays will appear while the power is off.
- ☞ Power cord is not connected. Reconnect power cord to VTR.

“VTR picture does not appear on monitor screen.”

- ☞ The connections are incorrect.
Check the connections with the monitor.

Playback does not operate correctly

The symptom description is indicated in quotations “ ”.

“The playback picture contains rectangular blocks of picture noise or the whole screen becomes black.”

- ☞ Video heads are clogged or worn. Use the Digital Video Head Cleaner supplied with the VTR. (See page 18.) If the picture is still not clear after using it, consult your dealer for further advice.

Recording does not operate correctly

The symptom description is indicated in quotations “ ”.

“ indication flashes whenever recording is attempted.”

- ☞ The record prevention tab on the cassette is open. Close the record prevention tab. (Slide it in the direction of the [REC] arrow.)

“Recordings cannot be made.”

- ☞ Does **INPUT SELECT** setting match the sockets that are actually connected?
- ☞ The connections are incorrect. Check that connections for external video and audio source are correct. See page 8.

Usage Precautions

Please read these precautions before operating this VTR.

Avoid Sudden Changes in Temperature

If the VTR is suddenly moved from a cold place to a warm place, condensation may form on the tape and inside the VTR. In this case, the “d” dew indicator will flash on and off and the VTR will not operate.

Dew May Form in the VTR if:

- The VTR is in a room where the heater has just been turned on.
- The VTR is in a room with steam or high humidity.
- The VTR is brought from cold surroundings into a heated room.
- The VTR is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.

When dew forms in the VTR, the “d” dew indicator on the display flashes on and off (The self test indicator “U10” will also appear in the VTR display.) and all the function buttons are made non-operational to protect the tape and the video heads. When the dew indicator flashes, wait until this indicator disappears.

- If dew forms inside the VTR while the VTR is off, it will turn on automatically and the dew indicator will flash on and off. As soon as the dew disappears, the VTR will turn itself off again.

Note:

Do not operate the VTR for at least 1 hour if any of the above conditions occur.

Video Head Clogging and Remedy

When the video heads (which contact the tape) are dirty, the playback picture contains mosaic-like patterns or the whole screen becomes black. If they become even more dirty, the recording performance deteriorates and in the worst case, recording may not be possible at all.

Causes of Dirty Video Heads

- A lot of dust in the air
- High-temperature and high-humidity environment
- Damaged tape
- Long-time use

Using the Mini-DV Format Digital Video Head Cleaner:

1. Insert the Head Cleaner into the VTR in the same way as a video cassette.
2. Press **PLAY** (▶), and after approximately 20 seconds press **STOP** (■). (Do not rewind the tape.)
3. Take out the Head Cleaner. Insert a video cassette, perform recording and then play it back to check the picture.
4. If the picture is still not clear, repeat above operation steps 1–3. (Do not use the Head Cleaner more than 3 times in succession.)

Notes:

- Do not rewind the tape in the Head Cleaner after every use. Rewind it only after the tape has reached its end, and then use it again in the same way from the beginning.
- If the video heads again become clogged with dirt soon after cleaning, this might be caused by a damaged tape. In this case, stop using that cassette immediately.
- Be careful not to clean the video heads too much. (Too much cleaning could cause excessive wear to the video heads. If the video heads get worn, the picture is not played back clearly even after cleaning.)
- If using the Head Cleaner does not clear the video head clogging, the VTR requires cleaning or repairing by a service center. Please consult with your dealer.
- This Video Head Cleaner is available from service centers.

Specifications

Power Source:	120 V AC 50–60 Hz
Power Consumption:	19 watts

Recording System:	Digital Video SD Format
Audio Recording System:	PCM Digital Recording; 16 bit (48 kHz/2ch), 12 bit (32 kHz/4ch)
Tape Speed:	SP; 18.812 mm/sec. LP; 12.555 mm/sec.
Tape Format:	Mini DV tape
Record/Playback Time:	Max. 120 min. with DVM80 and in the LP mode SP; 60 min. LP; 90 min. with DVM60 tape
FF/REW Time:	approx. 80 sec. with DVM60 tape

VIDEO

Television System:	EIA Standard (525 lines, 60 fields), NTSC color signal		
Video Recording System:	Digital Component		
Input Level:	VIDEO IN (BNC);	1.0 Vp-p,	75 ohm
	S-VIDEO IN;	Y; 1.0 Vp-p,	75 ohm
		C; 0.286 Vp-p,	75 ohm
Output Level:	VIDEO OUT (BNC);	1.0 Vp-p,	75 ohm
	S-VIDEO OUT;	Y; 1.0 Vp-p,	75 ohm
		C; 0.286 Vp-p,	75 ohm

AUDIO

Input Level:	AUDIO IN (Phono);	–10 dBV,	47 kohm
Output Level:	AUDIO OUT (Phono);	–10 dBV,	1 kohm (loaded impedance: 10 kohm)
Sampling Frequency:	32 kHz (4ch), 48 kHz (2ch)		
Quantization:	12 bit (32 kHz), 16 bit (48 kHz)		

Other Input/Output Connectors

Digital Interface:	DV Terminal (Compliant with IEEE1394, 4-pin)
Wired Remote:	AG-A11 (option)

Operating Temperature:	41°F–104°F (5°C–40°C)
Operating Humidity:	35%–80%
Weight:	5.5 lbs. (2.5 kg)
Dimensions:	11 ¹ / ₄ "(W)×3 ¹ / ₄ "(H)×8 ⁹ / ₁₆ "(D) [280 (W)×81 (H)×216 (D) mm]

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic

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Emergency after hour parts orders (800) 334-4881

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