

- When the [SEARCH-] Button is pressed, images are played back in the reverse direction.
- When the [SEARCH+] Button is pressed, images are played back in the forward direction.

To Finish the Recording

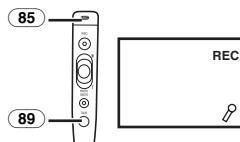
Set the [OFF/ON/MODE] Switch (49) to [OFF].

- For other notes concerning this item, see -58-.

To Add a Sound while Recording

With the supplied Free Style Remote Controller with Mic connected to the [REMOTE] Socket (30), you can add a narration while recording is in progress.

While the [TALK] Button (89) is pressed, the [REC] Indication is displayed and the sound is recorded from [MIC] (85).



- While the [TALK] Button is pressed, the built-in microphone does not operate.
- We recommend to keep the distance of approximately 10 cm between the [MIC] (85) and the mouth when recording.

Recording Yourself

By opening the LCD Monitor and rotating it frontward (to the lens side), you can let the subject in front of the Movie Camera monitor the shot while recording is in progress.



- When the LCD Monitor is opened, the Viewfinder is disabled automatically. However, when the LCD Monitor is rotated frontward, the image is also shown in the Viewfinder.
- If you prefer to have the image on the LCD Monitor to look like an image in a mirror, set [SELF REC] on the [OTHER FUNCTIONS1] Sub-Menu to [MIRROR]. Images are recorded normally and no left and right reversal occurs.
- If [MIRROR] is used during self-recording, only the basic indications, such as the Recording Indication (■) (Red) or (●), Recording Pause Indication (■) (Cyan) or (●■) and Remaining Battery Power Indication (■■■■), are displayed.

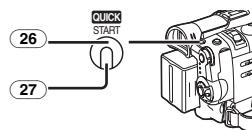
- If a general Warning/Alarm Indication (!) appears, return the LCD Monitor to the original position in order to check the specific content of the Warning/Alarm Indication.

Quick Start

By pressing the [QUICK START] Button (26), and the Movie Camera will be ready for recording in approximately 1.7 seconds after the Movie Camera is turned on.

1 Press the [QUICK START] Button (26).

- The Quick Start Recording Lamp (27) lights up.



2 Set the [OFF/ON/MODE] Switch (49) to [OFF].

- The Quick Start Recording Lamp remains lit.



3 Set the [OFF/ON/MODE] Switch (49) to [ON].

- The Movie Camera will be ready for recording in approximately 1.7 seconds.

To Cancel the Quick Start

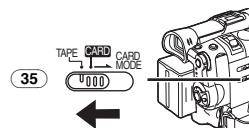
Keep the [QUICK START] Button pressed for approximately 2 seconds and make sure the Quick Start Recording Lamp is not lit.

- For other notes concerning this item, see -58-.

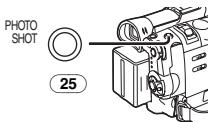
Photoshot

This Movie Camera can take approximately 7 seconds still pictures containing sound.

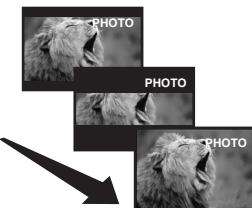
1 Set the [TAPE/CARD/CARD MODE] Selector (35) to [TAPE].



2 Press the [PHOTO SHOT] Button (25) in the Recording Pause Mode.



- The Movie Camera records a still picture for about 7 seconds and then switches back to the Recording Pause Mode.
- If you set [SHTR EFFECT] on the [OTHER FUNCTIONS1] Sub-Menu to [ON], you can add an image and a sound like releasing the shutter.



■ Progressive Photoshot

With the Progressive Photoshot Function, you can record still pictures with higher resolution than with the normal Photoshot Function.

- When [PROGRESSIVE] on the [CAMERA SETUP] Sub-Menu is set to [ON] or [AUTO], the [P] Indication is displayed. When the [P] Indication is displayed, press the [PHOTO SHOT] Button in the Recording Pause Mode.



- This function may not work with some function setups.

■ Continuous Photoshot

If you set [SHTR EFFECT] on the [OTHER FUNCTIONS1] Sub-Menu to [ON] and keep the [PHOTO SHOT] Button pressed, the Movie Camera will continuously record still pictures in approximately 0.7 seconds intervals until the button is released. (However, this does not operate when using Progressive Photoshot.)

- The screen blinks and, at the same time, a shutter clicking sound is recorded.

■ Digital Still Picture

When the [STILL] Button (14) is pressed, images become still pictures. When the button is pressed again, the Digital Still Picture Mode is cancelled.



- We recommend that you press the [STILL] Button first at the position where you wish to record the picture so as to enter the Digital Still Picture Mode and then press the [PHOTO SHOT] Button.

- For other notes concerning this item, see -58-.

Self-timer Recording

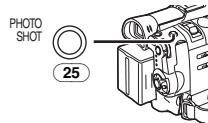
When you set the self-timer, the still pictures are automatically taken after 10 seconds, on the Tape and the Card.

1 Press the [SELF TIMER] Button (16).



- The [⌚] Indication appears.

2 Press the [PHOTO SHOT] Button (25).



- The Recording Lamp (41) and the [⌚] Indication flash and the Photoshot is activated after 10 seconds.

- You can also use the Card Continuous Photoshot. (-43-)

- For other notes concerning this item, see -59-.

Zoom In/Out Functions

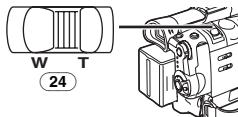
It gives special effects to the picture by recording objects close by or with wide-angle shot.

1 For wide-angle shots (zoom out):

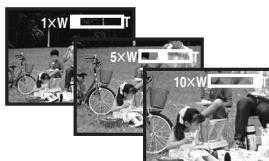
Push the [W/T] Lever (24) towards [W].

For close-ups (zoom in):

Push the [W/T] Lever towards [T].



- Zoom Magnification Indication is displayed for a few seconds.



■ To Take Close-up Shots of Small Subjects

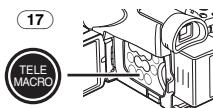
(Macro Close-up Function)

When the zoom magnification is 1×, the Movie Camera can focus on a subject that is as close as approximately 2 cm from the Lens. With this, small subjects like insects can be recorded.

■ To Use the Tele-Macro Function

With the zoom magnification of 10×, the Movie Camera can bring the subject into focus as close as approximately 40 cm from the Lens. Focusing only on the subject and bringing the background off the focus make the picture more impressive.

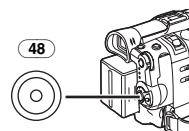
1 Press the [TELE MACRO] Button (17).



- The zoom magnification is fixed to 10× and the focusing onto the subject becomes available up to approximately 40 cm close.
- The [TELE MACRO] Indication appears.



2 Press the Recording Start/Stop Button (48).



To Cancel the Tele-Macro Function

Press the [TELE MACRO] Button.

■ To Use the Zoom Microphone Function

Along with the zooming operation, the microphone's directional angle and sensitivity are varied for recording sounds.

- Set [CAMERA FUNCTIONS] >> [RECORDING SETUP] >> [ZOOM MIC] >> [ON]. (The [Z.MIC] Indication is displayed.)

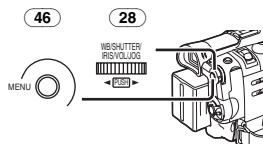


- For other notes concerning this item, see -59-.

Digital Zoom Function

This function is useful when you want to record close-up shots of subjects located beyond a normal zoom range of 1× to 10× magnification. With the Digital Zoom Function, you can select a magnification of 20× or even to 500×.

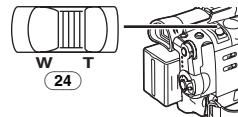
1 Set [CAMERA FUNCTIONS] >> [CAMERA SETUP] >> [D.ZOOM] >> [20×] or [500×].



- 20×: Digital zooming to 20×
- 500×: Digital zooming to 500×



2 Push the [W/T] Lever (24) towards [W] or towards [T] to zoom in or out.



To Cancel the Digital Zoom Function

Set [CAMERA FUNCTIONS] >> [CAMERA SETUP] >> [D.ZOOM] >> [OFF].

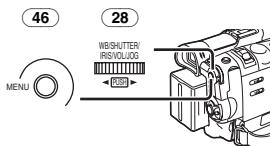
- For other notes concerning this item, see -59-.

Image Stabilizer Function

If the Movie Camera might be shaken while recording, the camera shake in the image can be corrected.

- If the Movie Camera shakes too much, this function may not be able to stabilize images.

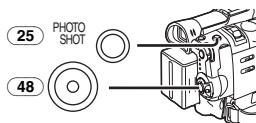
1 Set [CAMERA FUNCTIONS] >> [CAMERA SETUP] >> [SIS] >> [ON].



- The [SIS] Indication appears.



2 Press the Recording Start/Stop Button (48) or [PHOTO SHOT] Button (25) to start recording.

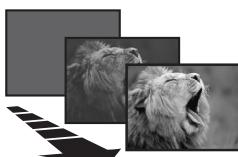
**To Cancel Image Stabilizer**

Set [CAMERA FUNCTIONS] >> [CAMERA SETUP] >> [SIS] >> [OFF].

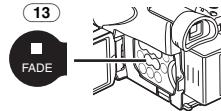
- For other notes concerning this item, see -59-.

Fade In/Out Functions**Fade In**

Fade In brings out images and sounds gradually from a black screen at the beginning of a scene.

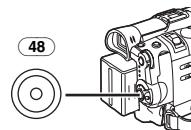


1 Keep pressing the [FADE] Button (13) during the Recording Pause Mode.



- The image fades out gradually.

2 When the image is completely gone, press the Recording Start/Stop Button (48) to start recording.



3 Release the [FADE] Button (13) about 3 seconds after starting recording.

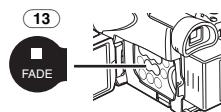
- The image reappears gradually.

Fade Out

Fade Out causes images and sounds to disappear gradually, leaving a black screen at the end of a scene.

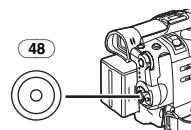


1 Keep pressing the [FADE] Button (13) while recording.



- The image fades out gradually.

2 When the image is completely gone, press the Recording Start/Stop Button (48) to stop recording.



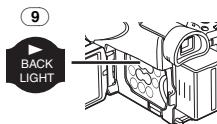
3 Release the [FADE] Button (13).

- The still picture cannot fade in or fade out.

Backlight Compensation Function

This prevents a recording subject from being recorded darker in backlight. (Backlight is the light that shines from behind a recording subject.)

1 Press the [BACK LIGHT] Button (9).



- The [FL] Indication flashes and then is displayed.
- The entire screen becomes brighter.



To Resume Normal Recording

Press the [BACK LIGHT] Button.

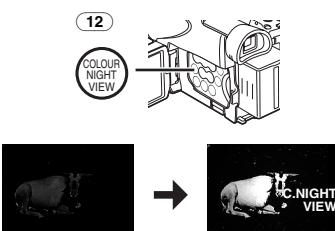
- For other notes concerning this item, see -59-.

Night View Functions

Colour Night View Function

This function allows you to record colour images brightly in a dark place without lighting the Video Flash.

1 Press the [COLOUR NIGHT VIEW] Button (12) until the [C.NIGHT VIEW] Indication appears.



0 Lux Night View Function

Using the LCD Monitor light, a dark scene of almost 0 lux can be recorded.

1 Press the [COLOUR NIGHT VIEW] Button (12) until the [0LUX NIGHT VIEW] Indication appears.



- The [REVERSE THE LCD MONITOR] Indication appears.

2 Rotate the LCD Monitor frontward (to the lens side).



- The screen becomes white and the Viewfinder turns on.
- The available range of the LCD Monitor light is within approximately 1 metre.

To Cancel the Night View Functions

Press the [COLOUR NIGHT VIEW] Button repeatedly until neither the [C.NIGHT VIEW] Indication nor the [0LUX NIGHT VIEW] Indication appears.

- For other notes concerning this item, see -59-.

Soft Skin Function

This enables you to record skin colours in a softer tone. In order to get the best result, avoid background colours similar to the skin colour of the subject. Otherwise, this may result in a softer background and also lacking detail.

1 Press the [SOFT SKIN] Button (18).



- The [SOFT SKIN] Indication appears.



- To obtain the best effect, we recommend to take the bust shot, so that the upper part from the breast of the subject can be framed in the screen.

To Cancel the Soft Skin Function

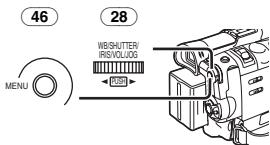
Press the [SOFT SKIN] Button.

Wind Noise Reduction Function

This function reduces the sound of a wind hitting the microphone when recording.

1 Set [CAMERA FUNCTIONS] >>

[RECORDING SETUP] >> [WIND CUT] >> [ON].



- The [WIND CUT] Indication appears.



To Cancel the Wind Noise Reduction Function

Set [CAMERA FUNCTIONS] >>
[RECORDING SETUP] >> [WIND CUT] >>
[OFF].

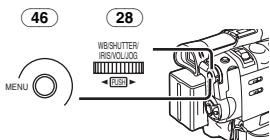
- For other notes concerning this item, see -60-.

Cinema Function

This function is for recording in a cinema-like screen.

1 Set [CAMERA FUNCTIONS] >>

[CAMERA SETUP] >> [CINEMA] >> [ON].



- Black bars appear at the top and bottom of the screen.



To Cancel the Cinema Mode

Set [CAMERA FUNCTIONS] >>
[CAMERA SETUP] >> [CINEMA] >> [OFF].

- For other notes concerning this item, see -60-.

Recording in Special Situations

(Programme AE)

You can select optimal automatic exposures under specific recording situations.

1 Set the [AUTO/MANUAL/FOCUS] Switch

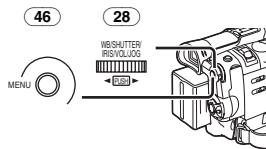
36 to [MANUAL].



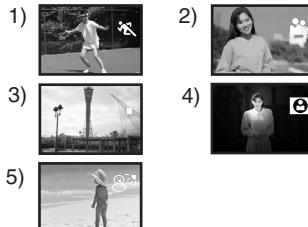
- The [MNL] Indication appears.

2 Set [CAMERA FUNCTIONS] >>

[CAMERA SETUP] >> [PROG.AE] >> a desired mode ([], [], [], [] or []).



- The Indication of the selected Mode appears.



1) [] Sports Mode

- For recording scenes involving quick movements, such as sports scenes.

2) [] Portrait Mode

- For bringing up people clearly from the background.

3) [] Low Light Mode

- For recording a dark scene brighter.

4) [] Spotlight Mode

- For recording a subject under spotlight in a party, theatre, etc.

5) [] Surf & Snow Mode

- For recording in a glaring surrounding, such as skiing grounds, beaches, etc.

To Cancel the Programme AE Function

Set the [AUTO/MANUAL/FOCUS] Switch to [AUTO]. Or, set the [PROG.AE] on the [CAMERA SETUP] Sub-menu to [OFF].

- For other notes concerning this item, see -60-.

Recording in Natural Colours

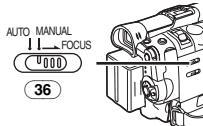
(White Balance)

Depending on the scene or light condition, the Automatic White Balance Adjustment Mode may not be able to bring out natural colours. In such a case, the white balance can be adjusted manually.

When the Movie Camera is turned on with the Lens Cap on, the Automatic White Balance Adjustment may not function properly. Please turn on the Movie Camera after removing the Lens Cap.

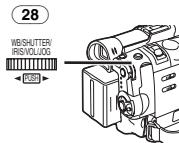
1 Set the [AUTO/MANUAL/FOCUS] Switch

(36) to [MANUAL].



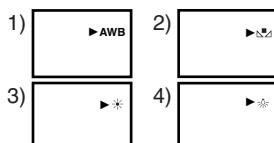
• The [MNL] Indication appears.

2 Press the [PUSH] Dial (28).



• The [AWB] Indication appears.

3 Turn the [PUSH] Dial (28) to set a desired White Balance Mode.



- 1) Automatic White Balance Adjustment [AWB]
- 2) The white balance setting that was previously set manually [
- 3) Outdoor Mode [
- 4) Indoor Mode (recording under incandescent lamp) [

To Resume Automatic Adjustment

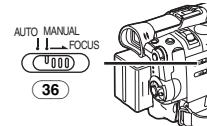
Turn the [PUSH] Dial until the [AWB] Indication appears. Or, set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

Adjusting White Balance Manually

White Balance Adjustment recognizes the colour of light and makes adjustment so that the white colour will become pure white. The Movie Camera determines the hue of light that it receives through the Lens and White Balance Sensor, thereby judging the recording condition, and selects the closest hue setting. This function is called Automatic White Balance Adjustment. For light outside the functional Auto White Balance Adjustment range, use the Manual White Balance Adjustment Mode.

1 Set the [AUTO/MANUAL/FOCUS] Switch

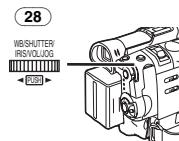
(36) to [MANUAL].



• The [MNL] Indication appears.

2 Point the Movie Camera at a full-screen white subject.

3 Press the [PUSH] Dial (28).



• The [AWB] Indication appears.

4 Turn the [PUSH] Dial (28) until the [] Indication is displayed.



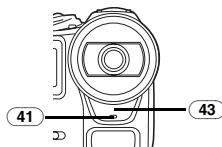
5 Keep pressing [PUSH] Dial (28) until the [] Indication stops flashing.

To Resume Automatic Adjustment

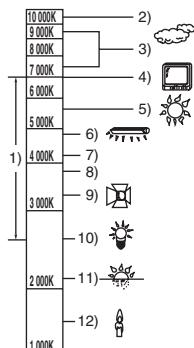
Turn the [PUSH] Dial until the [AWB] Indication is displayed. Or, set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

■ About White Balance Sensor

The White Balance Sensor (43) determines the nature of the light source during recording.



- Do not cover the White Balance Sensor with your hand during recording. Otherwise, White Balance will not function normally.
- The red light from the Recording Lamp (41) will be reflected off your hand or object, possibly causing the White Balance sensor to operate incorrectly and changing the colouring.



Outside of the effective range of Automatic White Balance Adjustment, the image will become reddish or bluish. Even within the effective range of Automatic White Balance Adjustment, the Automatic White Balance Adjustment may not function properly if there is more than one light source. In this case, adjust the White Balance.

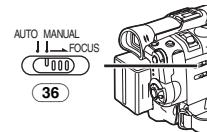
- 1) The effective range of Automatic White Balance Adjustment on this Movie Camera
- 2) Blue sky
- 3) Cloudy sky (Rain)
- 4) TV screen
- 5) Sunlight
- 6) White fluorescent lamp
- 7) 2 hours after sunrise or before sunset
- 8) 1 hour after sunrise or before sunset
- 9) Halogen light bulb
- 10) Incandescent light bulb
- 11) Sunrise or sunset
- 12) Candlelight

- For other notes concerning this item, see -60-.

Manual Shutter Speed Adjustment

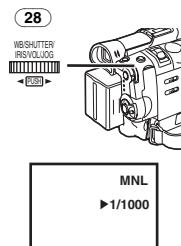
It is useful for recording fast-moving subjects.

- 1 Set the [AUTO/MANUAL/FOCUS] Switch (36) to [MANUAL].



- The [MNL] Indication appears.

- 2 Press the [PUSH] Dial (28) until the Shutter Speed Indication appears.



- 3 Turn the [PUSH] Dial (28) to adjust the shutter speed.

Range of Shutter Speed Adjustment

1/50–1/8000 s in Tape Mode

1/25–1/500 s in Card Mode

The standard shutter speed is 1/50 s.

Selecting a speed closer to [1/8000] causes the shutter speed to be faster.

To Resume Automatic Adjustment

Set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

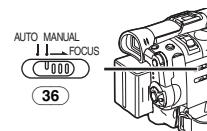
- For other notes concerning this item, see -60-.

Manual Iris Adjustment

(F Number)

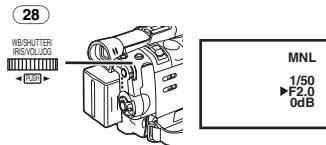
You can use this function when the screen is too bright or too dark.

- 1 Set the [AUTO/MANUAL/FOCUS] Switch (36) to [MANUAL].



- The [MNL] Indication appears.

2 Press the [PUSH] Dial (28) until the Iris Indication appears.



3 Turn the [PUSH] Dial (28) to adjust the iris.

Range of Iris Adjustment

CLOSE (Closed), F16, ..., F2.0,

OPEN (Opened) 0dB, ..., 18dB

When a value closer to [CLOSE] is selected, the image becomes darker.

When a value closer to [18dB] is selected, the image becomes brighter.

The value to which dB is attached indicates a Gain-up value. If this value is too large, the quality of the image deteriorates.

To Resume Automatic Adjustment

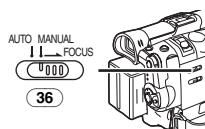
Set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

- For other notes concerning this item, see -60-.

Manual Focus Adjustment

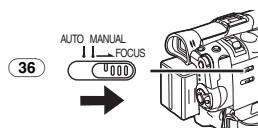
Focus can be adjusted manually for recording in a situation where auto focus may not function well.

1 Set the [AUTO/MANUAL/FOCUS] Switch (36) to [MANUAL].



- The [MNL] Indication appears.

2 Slide the [AUTO/MANUAL/FOCUS] Switch (36) to [FOCUS].



- The [MF] Indication (Manual Focus Mode) appears.



3 Turn the Focus Ring (21) to adjust the focus.



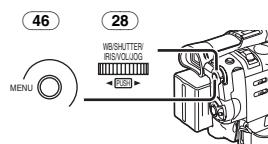
To Resume Automatic Adjustment

Set the [AUTO/MANUAL/FOCUS] Switch to [AUTO].

Using the Built-in Video Flash

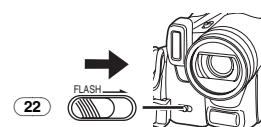
The Built-in Video Flash enables you to record still pictures in a dark place. The Video Flash lights twice to detect the surrounding luminosity and to light properly.

1 Set [CAMERA FUNCTIONS] >> [RECORDING SETUP] >> [FLASH] >> [ON] or [AUTO].



- If [AUTO] is selected, the Video Flash can be lighted if light is needed by sensing the surrounding luminosity.

2 Slide the [FLASH] Lever (22).



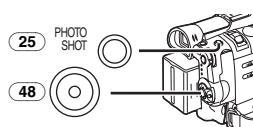
- The Video Flash pops up.

3 Press the [STILL] Button (14).



- Video Flash is lighted and the image becomes still.

4 Press the [PHOTO SHOT] Button (25) or Recording Start/Stop Button (48).



- Video Flash is not lighted when recording.

Adjusting Brightness of the Video Flash

Set [CAMERA FUNCTIONS] >> [RECORDING SETUP] >> [FLASH LEVEL] >> a desired Flash Level.

- Normally, set it to [NORMAL]. (The [ֆ] Indication appears).
- If the brightness is not enough in [NORMAL] setting, set it to [+] (the [ֆ+] Indication appears), if it is too much, set it to [-] (the [ֆ-] Indication appears).

To make the "Red Eye" phenomenon reduce

Set [CAMERA FUNCTIONS] >> [RECORDING SETUP] >> [RED EYE REDUCTION] >> [ON].

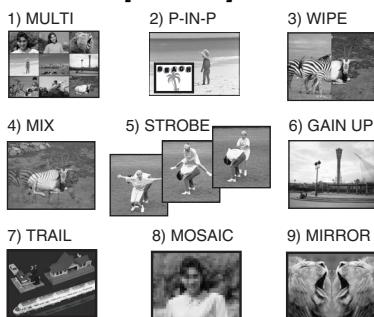
- The [ֆ] Indication appears.



- For other notes concerning this item, see -61-.

Digital Effect Functions

This Movie Camera is equipped with Digital Effect Functions that add special effects to the scene.

Digital Effects 1 [EFFECT1]

- 1) Multi-Picuture Mode [MULTI]
- 2) Picture-In-Picture Mode [P-IN-P]
- 3) Wipe Mode [WIPE]
- 4) Mix Mode [MIX]
- 5) Strobe Mode [STROBE]
 - It records images with a stroboscopic effect.
- 6) Gain-up Mode [GAIN UP]
 - It brightens images electronically.
 - Adjust focus manually when using this mode. (-.29-)
- 7) Trailing Effect Mode [TRAIL]
 - It records images with a trailing effect.
- 8) Mosaic Mode [MOSAIC]
 - It produces a mosaic-like image.
- 9) Mirror Mode [MIRROR]
 - The right half of an image becomes a mirror image of the left half.

Digital Effects 2 [EFFECT2]

- 10) NEGA
- 11) SEPIA



- 12) B/W



- 13) SOLARI

**10) Negative Mode [NEGA]**

- The colours of the recorded image are inverted as seen in a negative.

11) Sepia Mode [SEPIA]

- It records a scene with a brownish tint, like the colour of old pictures.

12) Black & White Mode [B/W]

- It records an image in black and white.

13) Solarisation Mode [SOLARI]

- It records an image with a painting-like effect.

To Select a Desired Digital Effect

Set [CAMERA FUNCTIONS] >> [DIGITAL EFFECT] >> [EFFECT1] or [EFFECT2] >> a desired Digital Effect.

To Cancel the Digital Effect

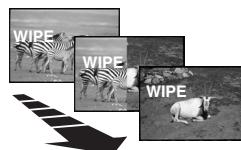
Set [CAMERA FUNCTIONS] >> [DIGITAL EFFECT] >> [EFFECT1] or [EFFECT2] >> [OFF].

- If the Movie Camera is turned off, the [EFFECT2] settings are cancelled.

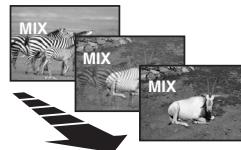
- For other notes concerning this item, see -61-.

■ Wipe Mode and Mix Mode**Wipe Mode:**

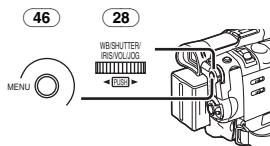
Like a curtain is being pulled, the still picture of the last recorded scene gradually changes to the moving image of a new scene.

**Mix Mode:**

While the moving image of a new scene fades in, the still image of the last recorded scene gradually fades out.

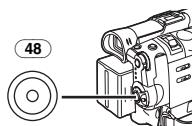


- 1 Set [CAMERA FUNCTIONS] >> [DIGITAL EFFECT] >> [EFFECT1] >> [WIPE] or [MIX].**



• The [WIPE] or [MIX] Indication appears.

- 2 Press the Recording Start/Stop Button 48 to start recording.**



- 3 Press the Recording Start/Stop Button 48 to pause the recording.**

• The last scene is stored in memory. The [WIPE] or [MIX] Indication changes to [WIPE] or [MIX].

- 4 Press the Recording Start/Stop Button 48 to restart the recording.**

• The last image of the previous scene gradually changes to the new scene.

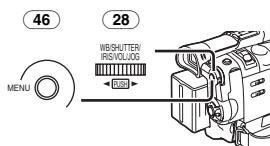
• For other notes concerning this item, see -61-.

■ Picture-in-Picture Mode

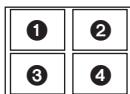


You can display a sub-screen (still picture) inside the screen.

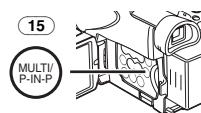
- 1 Set [CAMERA FUNCTIONS] >> [DIGITAL EFFECT] >> [EFFECT1] >> [P-IN-P].**



- 2 Set [CAMERA FUNCTIONS] >> [MULTI-PICTURES] >> [P-IN-P] >> a position (1, 2, 3, 4) where you want to insert a small still picture.**



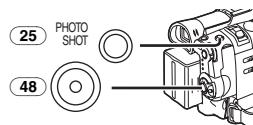
- 3 Aim the Movie Camera at the scene you want to capture and press the [P-IN-P] Button 15 to insert a small still picture.**



• A small still picture is displayed in a normal picture.

• If the [P-IN-P] Button is pressed again, the small still picture is cleared.

- 4 Press the Recording Start/Stop Button 48 or the [PHOTO SHOT] Button 25 to record on the Cassette.**



• For other notes concerning this item, see -61-.

■ Multi-Picture Mode

Strobe Multi-Picture Mode:



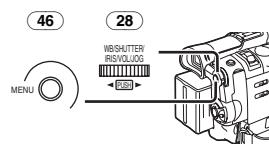
You can capture and record 9 consecutive small still pictures.

Manual Multi-Picture Mode:



You can manually capture and record 9 small still pictures.

- 1 Set [CAMERA FUNCTIONS] >> [DIGITAL EFFECT] >> [EFFECT1] >> [MULTI].**



**2 Set [CAMERA FUNCTIONS] >>
[MULTI-PICTURES] >> [SCAN MODE] >>
[STROBE] or [MANUAL].**

When [STROBE] is selected:

- Set the [SPEED] to a desired strobe speed.
At the [FAST] setting, 9 consecutive still pictures are captured within approximately 1 second, at [NORMAL] within approximately 2 seconds, and at [SLOW] within approximately 3 seconds.
- If you set [SWING] to [ON], the intervals at which the 9 still pictures are taken are longer at the beginning and end than in the middle of the swing strobe period, and it is useful for analyzing swing motion, etc. in sports.

When [MANUAL] is selected:

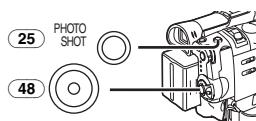
- You can select a desired scene one at a time up to 9 small pictures.

3 Press the [MULTI] Button (15).



- If [MANUAL] is selected, press the [MULTI] Button at each scene you want to capture.

4 Press the Recording Start/Stop Button (48) or the [PHOTO SHOT] Button (25) to record on the Cassette.



Deleting All the Captured Multi-Pictures

While 9 multi-pictures are displayed, press the [MULTI] Button.

- If [MANUAL] has been selected, press the [MULTI] Button after 9 pictures are displayed.

To Display the Multi-Pictures again

Press the [MULTI] Button for 1 second or longer.

To Delete Multi-Pictures One by One

(When pictures were captured in [MANUAL])

When the [MULTI] Button is pressed for 1 second or longer while the still pictures are displayed, the pictures captured last is deleted continuously.

- After still pictures are deleted one by one, they cannot be displayed again.

- For other notes concerning this item, see -61-.

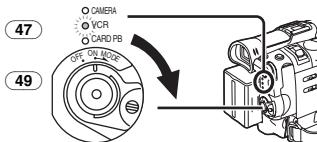
VCR Mode

Playing Back

The recorded scene can be played back immediately after the recording.

1 Rotate the [OFF/ON/MODE] Switch (49) and set the Movie Camera to the VCR Mode.

- The [VCR] Lamp (47) lights up.



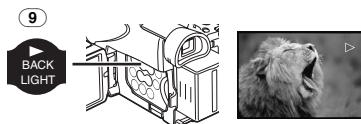
2 Press the [◀◀] Button (8) to rewind the tape.



- Rewind the tape to the point where you want to start playback.
- When the tape reaches the beginning, rewinding stops automatically.

3 Press the [▶] Button (9) to start playback.

- The [▶] Indication appears.



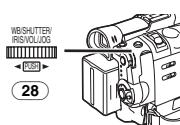
To Stop Playback

Press the [■] Button (13).



■ Adjusting the Sound Volume

Until the [VOLUME] Indication appears, keep pressing the [PUSH] Dial (28). Then, turn the [PUSH] Dial to adjust the volume. After the adjustment, press the [PUSH] Dial to make the [VOLUME] Indication disappear.



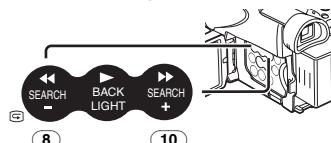
To adjust the volume with the Remote Controller, press the [T] or [W] Button to display the [VOLUME] Indication. Press the [T] Button to increase the volume or press the [W] Button to decrease the volume. The [VOLUME] Indication goes off a few seconds after the adjustment is finished.



- The sound volume cannot be adjusted using the Remote Controller in Playback Zoom Mode. (-36-)
- If a cassette recorded with a copyright protection signal is played back, the picture is distorted by mosaic-like patterns.
- For other notes concerning this item, see -62-.

Finding a Scene You Want to Play Back

■ Cue/Review Playback



If the [▶▶] Button (10) or [◀◀] Button (8) is pressed during Playback, it turns to Cue Playback (A) or Review Playback (B).



- If the Button is held continuously, it turns to Cue Playback or Review Playback until you release it.

■ Variable Speed Search Function

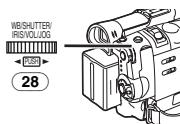
The speed of Cue Playback or Review Playback can be varied.

1 During playback, press the [▶] Button (9).

- The [1×▶] Indication appears.



2 Turn the [PUSH] Dial (28) to select a desired search speed.



The following 6 playback speeds are available for the Variable Speed Search Function in both the fast-forwarding and rewinding directions:

1/5x (slow playback in SP Mode only), 1/3x (slow playback in LP Mode only), 1x, 2x, 5x, 10x and 20x.

• This function can be done by pressing the [VAR. SEARCH] and cursor buttons ([\blacktriangleleft , \triangleright]) on the Remote Controller. (-9-)

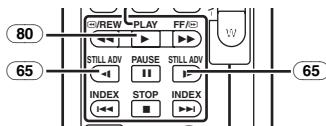
To Resume Normal Playback

Press the [\blacktriangleright] Button (9).

- During Cue or Review Playback, fast-moving images may show mosaic-pattern noise.
- The sound is muted during search.

Slow Motion Playback

This Movie Camera can play back at a slow speed.



1 Press the [\blacktriangleright] Button (80).

2 Press the [\blacktriangleleft] Button or [\triangleright] Button (65) on the Remote Controller.

- The [$\blacktriangleleft\triangleright$] or [$\triangleleft\triangleright$] Indication appears.



- When the [\blacktriangleleft] Button is pressed, Slow Motion Playback proceeds in the reverse direction.

When the [\triangleright] Button is pressed, Slow Motion Playback proceeds in the forward direction.

Scenes recorded in the SP Mode are played back at approximately 1/5th of the normal speed.

Scenes recorded in the LP Mode are played back at approximately 1/3rd of the normal speed.

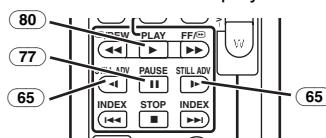
To Resume Normal Playback

Press the [\blacktriangleright] Button (80).

- If the Movie Camera is left in the Slow Playback Mode for more than 12 minutes, the Movie Camera switches to the Stop Mode to protect the video heads from excessive wear and tear.

Still Playback/Still Advance Playback

This Movie Camera is capable of still picture playback and frame-advance playback.



1 Press the [\blacktriangleright] Button (80).

2 Press the [\square] Button (77).

- The playback image stops in the Still Playback Mode.

3 Press the [\blacktriangleleft] Button or [\triangleright] Button (65) on the Remote Controller.

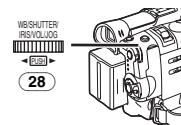
- With each pressing of the [\blacktriangleleft] Button, still pictures advance in the reverse direction. With each pressing of the [\triangleright] Button, still pictures advances in the forward direction. If either one of the buttons continues to be pressed, still pictures advance continuously 1 frame at a time until the button is released.

To Resume Normal Playback

Press the [\blacktriangleright] Button (80).

Jog Playback

By turning the Jog Dial ([PUSH] Dial) (28) of the Movie Camera in the Still Playback Mode, still pictures can be advanced one frame at a time in the forward or backward direction.



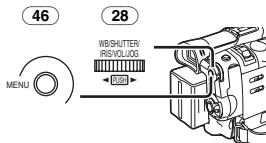
- If the Movie Camera is left in the Still Playback Mode for more than 6 minutes, the Movie Camera switches to the Stop Mode to protect the video heads from excessive wear and tear.

Finding the End of Recording

(Blank Search Function)

The Blank Search Function aids you locate the end of the recording on the Cassette quickly.

- 1 Set [VCR FUNCTIONS] >>
- [PLAYBACK FUNCTIONS] >>
- [BLANK SEARCH] >> [YES].



- The [BLANK] Indication appears during the Blank Search.
- Approximately 1 second before the last recorded scene, the Movie Camera switches to the Still Playback Mode.
- If there is no blank portion left on the Cassette, the Movie Camera stops at the end of the tape.

To Cancel Blank Search Before Completion

Press the [■] Button.

Index Search Functions

To facilitate searching of desired scene, this Movie Camera automatically records index signals during recording, as explained in the following.

Photoshot Index Signal

These signals are automatically recorded whenever still pictures are taken in Photoshot Mode. (-2-) Photoshot Index Signals are not recorded on still pictures recorded in Continuous Photoshot Mode.

Scene Index Signal

Scene Index Signals are automatically recorded when you start recording after inserting a Cassette.

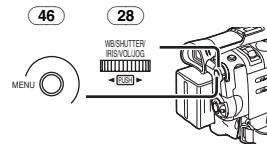
- If [SCENE INDEX] of [RECORDING SETUP] Sub-Menu on the [CAMERA FUNCTIONS] Main-Menu is set to [2HOUR], an index signal is recorded when recording is restarted after an elapse of 2 hours or longer. If it is set to [DAY], an index signal is recorded when recording is restarted after the date has changed since the last recording. (While the index signal is recorded, the [INDEX] Indication flashes for a few seconds.)



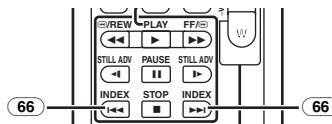
- If the Movie Camera is switched from the VCR Mode to Camera Mode or if the date and time is set before the start of recording, the index signal is not recorded.

Photoshot Index Search

- 1 Set [VCR FUNCTIONS] >>
- [PLAYBACK FUNCTIONS] >> [SEARCH] >> [PHOTO].



- 2 Press the [▶▶] Button or [◀◀] Button (66) on the Remote Controller.



- With each press of the corresponding button, still pictures recorded in Photoshot Mode are searched.
- Sounds are played back for approximately 4 seconds.

Scene Index Search

- 1 Set [VCR FUNCTIONS] >>
- [PLAYBACK FUNCTIONS] >> [SEARCH] >> [SCENE].

- 2 Press the [▶▶] Button or [◀◀] Button (66) on the Remote Controller.

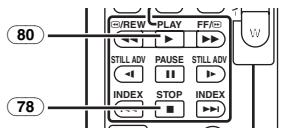
- When the corresponding button is pressed once, the [S 1] Indication appears, and searching of the subsequent scene marked with an index signal starts. Each time the button is pressed after the start of Scene Index Search, the indication changes from [S 2] to [S 9], and the beginning of the scene corresponding to the selected number will be searched.



- Up to 9 scene numbers can be selected.

Continuous Index Search

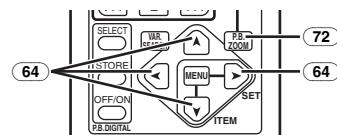
If the [▶▶] Button or the [◀◀] Button (66) is pressed for 2 seconds or longer, search can be continued at several-second intervals. (To cancel, press the [▶] Button (80) or the [■] Button (78).)



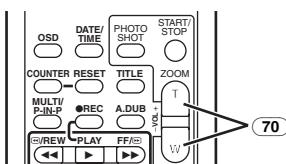
- For other notes concerning this item, see -62-.

Playback Zoom Function

A part of the image can be enlarged up to 10 times during playback.

1 During playback, press the [P.B. ZOOM] Button (72) on the Remote Controller.

- The centre of the image is enlarged to approximately 2 times.

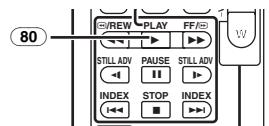
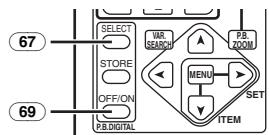
**To Change the Zoom Magnification****2 Change the magnification by pressing the [W] Button or [T] Button (70) on the Remote Controller.****To Change the Enlarging Area of an Image****3 Press the Arrow Button (▲, ▲, ▶, ▼) (64) on the Remote Controller that points to the area you want to enlarge.****To Cancel the Playback Zoom Function**

Press the [P.B. ZOOM] Button (72) on the Remote Controller.

- For other notes concerning this item, see -62-.

Playback Digital Effect Functions

During playback, special digital effects can be added to the recorded pictures. The same effects as those of Digital Effects 1 and 2, which are used during recording, are obtained.

1 Press the [▶] Button (80).**2 Press the [SELECT] Button (67) on the Remote Controller to select a desired digital effect.**

- When the [SELECT] Button is pressed repeatedly, the digital effect selection changes.
- The same setting can be done using [DIGITAL EFFECT] Sub-Menu on the [VCR FUNCTIONS] Main-Menu.

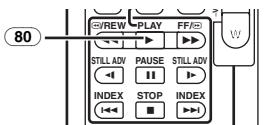
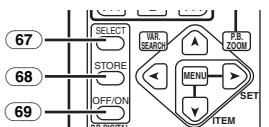
To suspend Playback Digital Effect Temporarily

Press the [OFF/ON] Button (69) to suspend or restart the digital effect. When the digital effect is paused temporarily, the selected effect's indication flashes.

To Cancel the Digital Effect

Press the [SELECT] Button (67) on the Remote Controller and clear the digital effect indication.

- For other notes concerning this item, see -62-.

■ Wipe Mode and Mix Mode**1 Press the [▶] Button (80).****2 Press the [SELECT] Button (67) on the Remote Controller and select [WIPE] or [MIX].**

3 Press the [STORE] Button (68) at the moment you want to save as a still picture.

- The [WIPE] or [MIX] Indication appears, and the image is saved.

4 Press the [OFF/ON] Button (69) in the scene in which you want to use the Wipe or Mix effect.

- The scene changes as a result of the Wipe or Mix effect.

- The Wipe Function and Mix Function can be used only from the Remote Controller during playback.

- If the [OFF/ON] Button (69) is pressed while Wipe or Mix is carried out, the effect will stop temporarily at that point. Pressing the [OFF/ON] Button (69) again will bring back the effect.

■ Playing back with Multi-Picture Mode

Strobe Multi-Picture Mode [STROBE]

You can capture 9 consecutive still pictures from playback video.

Manual Multi-Picture Mode [MANUAL]

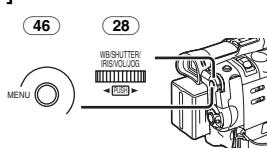
Selecting a desired still picture one at a time, you can capture 9 still pictures.

Index Multi-Picture Mode ([PHOTO], [SCENE])

You can capture 9 screens of pictures to which index signals have been attached.

1 Set [VCR FUNCTIONS] >>

[DIGITAL EFFECT] >> [EFFECT SELECT] >> [MULTI].



2 Set [VCR FUNCTIONS] >>

[MULTI-PICTURES] >> [SCAN MODE] >> [STROBE], [MANUAL], [PHOTO] or [SCENE].

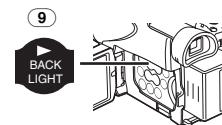
When [STROBE] is selected:

- Set the [SPEED] to a desired strobe speed.

At the [FAST] setting, 9 consecutive still pictures are captured within approximately 1 second, at [NORMAL] within approximately 2 seconds, and at [SLOW] within approximately 3 seconds.

- If you set [SWING] to [ON], the intervals at which the 9 still pictures are taken are longer at the beginning and end than in the middle of the swing strobe period, and it is useful for analyzing swing motion, etc. in sports.

3 Play back the tape.



4 Press the [MULTI] Button (15).



If [STROBE] is selected:

- 9 screens are automatically captured starting at the point which the Button is pressed.

If [MANUAL] is selected:

- Press the [MULTI] Button at each scene you want to capture. When 9 screens are captured, the tape will stop.

If [PHOTO] or [SCENE] is selected:

- From the point at which the [MULTI] Button is pressed, 9 screens of pictures to which index signals are attached are captured in the playback direction. After 9 screens are captured, the tape will stop, but if there are 8 or less pictures to be captured, the tape will stop at its end.

Deleting all the captured Multi pictures

While displaying the multi-pictures that have been captured, press the [MULTI] Button (15).

- If [MANUAL] has been selected, press the [MULTI] Button after 9 pictures are displayed.

To display the Multi-Pictures again

Press the [MULTI] Button (15) for 1 second or longer.

To Delete Multi pictures one by one

(When Pictures have been captured in Manual Mode)

When the [MULTI] Button (15) is pressed for 1 second or longer while the still pictures are displayed, the pictures captured last is deleted. If you continue to press the Button, the pictures are deleted consecutively.

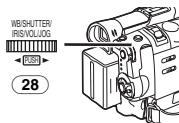
- After still pictures are deleted one by one, they cannot be displayed again.

To Cancel Capturing Pictures (When Pictures have been captured in Index Mode)

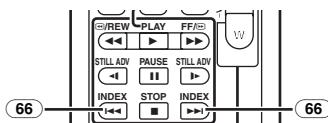
Press the [■] Button.

To Search the tape position of a desired picture among the playback pictures displayed on 9 screens

- 1 After displaying pictures in Multi-Picture Mode, turn the [PUSH] Dial (28) to select the image whose tape position you want to search.



- The selected picture is marked with a frame.
- 2 Press the [**[◀◀]** or [**[▶▶]**] Button (66) on the Remote Controller.



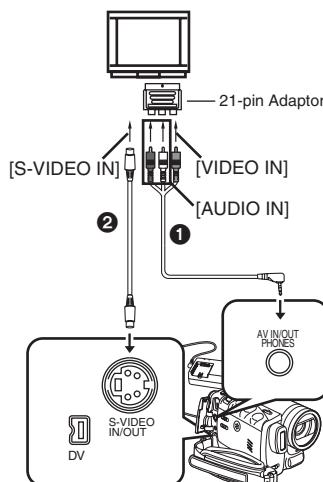
- A still picture playback takes place at the selected picture.
- For other notes concerning this item, see -62-.

Playing Back on Your TV

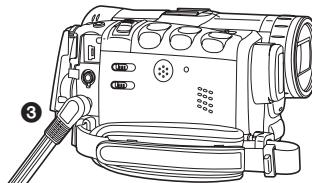
By connecting your Movie Camera with your TV, the recorded scenes can be viewed on your TV screen.

- Before connecting them, turn off the power of both the Movie Camera and TV.

1 Connect the [AV IN/OUT] Socket of the Movie Camera and the Video and Audio Input Sockets of the TV.



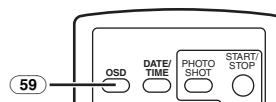
- Using the AV Cable ①, make a connection with the TV. If the TV has an S-Video Socket, connect the S-Video Cable ②, too.
- Plug the AV Cable as shown ③ so that the cord hangs down.



- When plugging the pin plug of the AV cable into the [AV IN/OUT] Socket, plug it in as far as it goes.

To Make the Indications Appear on the TV Screen

Press the [OSD] Button (59) on the Remote Controller.



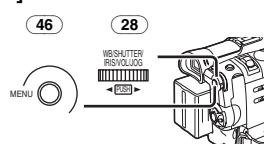
- If your TV is not equipped with AV Input Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.
- For other notes concerning this item, see -62-.

Audio Dubbing

You can add music or narration to the recorded Cassette.

- If the tape recorded in the [16bit] Mode is dubbed with the Audio Dubbing function, the original sound is erased. (If you wish to preserve the original sound, use the [12bit] Mode when recording.)
- Audio Dubbing cannot be performed on a recording done in LP Mode. (-19-)

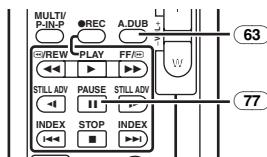
1 Set [VCR FUNCTIONS] >> [AV IN/OUT SETUP] >> [AV JACK] >> [IN/OUT].



2 Continuing the aforesaid setup, select [A.DUB INPUT] >> [MIC] or [AV IN].

- Set to [AV IN] when external device is used, and to [MIC] when an external or built-in microphone is used.

- 3 Press the [II] Button (77) on the Remote Controller where you want to add new sound.**



- 4 Press the [A.DUB] Button (63) on the Remote Controller.**

- 5 To start Audio Dubbing, press the [II] Button (77) on the Remote Controller.**

To Cancel Audio Dubbing

Press the [II] Button (77) on the Remote Controller.

The Movie Camera is in the Still Playback Mode again.

To Play Back the Sound Recorded by 12bit Audio Dubbing

Set [VCR FUNCTIONS] >>

[PLAYBACK FUNCTIONS] >> [12bit AUDIO] >> [ST2] or [MIX].

ST1: It plays back only the original sound.

ST2: It plays back only the sound added by Audio Dubbing.

MIX: It plays back both the original sound and the sound added by Audio Dubbing simultaneously.

To dub audio while listening to a pre-recorded sound

When pausing the audio dubbing, set the [12bit AUDIO] on the [PLAYBACK FUNCTIONS] Sub-Menu to [ST2] and you can check the pre-recorded sound.

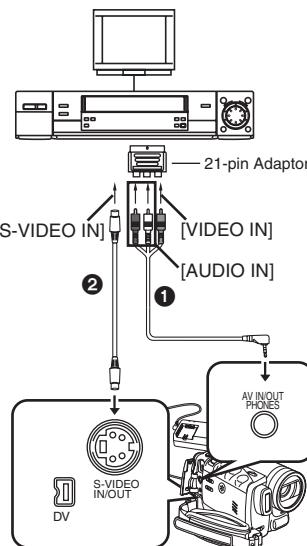
When a microphone is used for audio dubbing, use headphones to listen to the pre-recorded sound while dubbing the audio. (When using headphones, set [AV JACK] on the [AV IN/OUT SETUP] Sub-Menu to [OUT/PHONES].) When the line input is used, you can dub audio while listening to a pre-recorded sound from the speaker.

- For other notes concerning this item, see -62-.

Copying on an S-VHS (or a VHS) Cassette

(Dubbing)

After connecting the Movie Camera and the VCR as illustrated, start the following procedures.



① AV Cable

② S-Video Cable

- If your TV is not equipped with AV Input Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.
- Be sure to press the [OSD] Button (-9-) on the Remote Controller prior to copying so that no indications are visible. Otherwise, the displayed tape counter and function indications are also copied.

Movie Camera:

- 1 Insert the recorded Cassette.

VCR:

- 2 Insert an unrecorded Cassette with an erasure prevention tab.

- If various setups (such as external input, tape speed, etc.) are required, please refer to the operating instructions of your VCR.

Movie Camera:

- 3 Press the [▶] Button to start playback.

VCR:

- 4 Start recording.

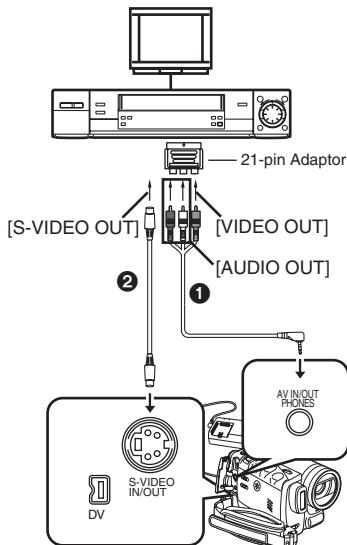
- 5 Press the Pause or Stop Button to stop recording.

Movie Camera:

- 6 Press the [■] Button to stop playback.

Recording the Contents of Other Equipment

After connecting the Movie Camera and the other equipment as illustrated, start the following procedures.



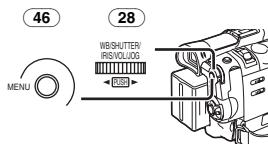
① AV Cable

② S-Video Cable

- If your TV is not equipped with AV Input Sockets, the 21-pin Adaptor (purchase separately) is necessary. Consult your dealer.

Movie Camera:

- 1 Set [VCR FUNCTIONS] >> [AV IN/OUT SETUP] >> [AV JACK] >> [IN/OUT].



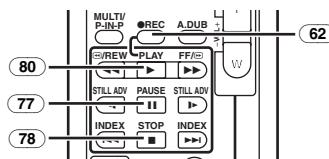
2 Insert an unrecorded Cassette.

Other Equipment:

- 3 Insert a recorded Cassette and start playback.

Movie Camera:

- 4 While pressing the [REC] Button (62), press the [▶] Button (80).



- 5 Press the [■] Button (77) or [■] Button (78) to stop recording.

Other Equipment:

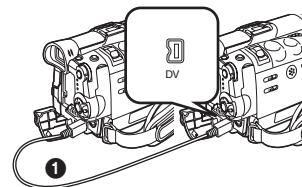
- 6 Press the Stop Button to stop playback.

- For other notes concerning this item, see -63-.

Using the DV Cable for Recording

(Digital Dubbing)

By connecting this Movie Camera with other digital video equipment that has a DV Input/Output Terminal using a DV Cable VW-CD1E (optional) ①, dubbing can be done in the digital format.

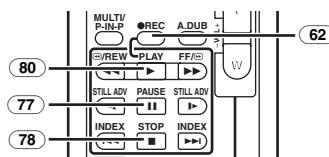


Player/Recorder:

- 1 Insert the Cassette and set to the VCR Mode.

Player:

- 2 Press the [▶] Button (80) to start playback.



Recorder:

- 3 While pressing the [REC] Button (62), press the [▶] Button (80).

- Recording starts.

To Stop Dubbing

Press the [■] Button (77) or the [■] Button (78).

- For other notes concerning this item, see -63-.