

## Recording still images on a "Memory Stick" in CAMERA mode

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If you leave your camcorder for five or more minutes after setting the POWER switch to OFF (CHG)

Your camcorder returns to the default setting (auto).

You cannot shoot images with the flash during the following operations:

- Wide mode
- Fader
- Digital effect
- Picture effect
- Super NightShot
- Color Slow Shutter
- END SEARCH
- MEMORY MIX
- Recording

The flash does not fire even if you select auto (no indicator) and  (auto red-eye reduction) during the following operations:

- Exposure
- NightShot
- Spotlight of PROGRAM AE
- Sunset & moon of PROGRAM AE
- Landscape of PROGRAM AE
- Flexible Spot Meter

## Recording still images on a "Memory Stick" in CAMERA mode

### Self-timer recording

You can record still images with the self-timer. You can also use the Remote Commander for this operation.

#### Before operation

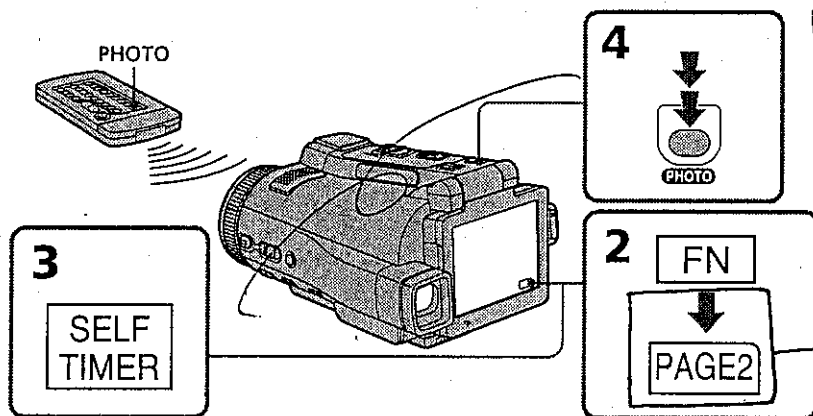
Insert a "Memory Stick" into your camcorder.

- (1) Set the POWER switch to CAMERA.
- (2) Press FN ~~and go to PAGE2~~ *to display PAGE1*
- (3) Press SELFTIMER.

The  (self-timer) indicator appears on the LCD screen.

- (4) Press PHOTO deeper.

The self-timer starts counting down from 10 with a beep. In the last two seconds of the countdown, the beep gets faster, then the recording starts automatically.



#### To cancel self-timer recording

Press SELFTIMER so that the  (self-timer) indicator disappears from the LCD screen while your camcorder is in the standby mode. You cannot cancel the self-timer recording using the Remote Commander.

#### Note

The self-timer recording is automatically canceled when:

- Self-timer recording is finished.
- The POWER switch is set to OFF (CHG) or VCR.

#### During recording to the tape

You cannot use self-timer recording.

## Adjusting the white balance manually

You can manually adjust and set the white balance. This adjustment makes white subjects look white and allows more natural color balance. Normally white balance is automatically adjusted.

- (1) Set the POWER switch to CAMERA or MEMORY.
- (2) Press FN to display PAGE1.
- (3) Press MENU, then select WHT BAL in  in the menu settings to select a desired white balance mode (p. ●●).

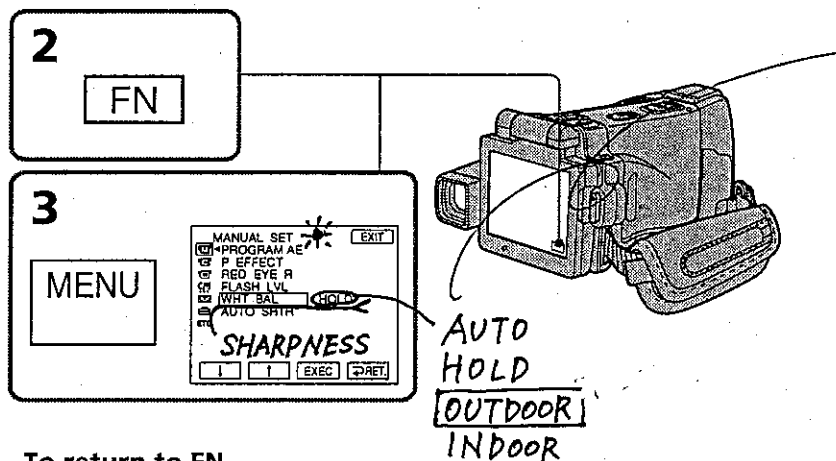
**HOLD :** Recording a single-colored subject or background

(  ) **OUTDOOR :**

- Recording a sunset/sunrise, just after sunset, just before sunrise, neon signs, or fireworks
- Under a color matching fluorescent lamp

(  ) **INDOOR :**

- *daylight* When lighting conditions change quickly
- In too bright places such as photography studios
- Under sodium lamps or mercury lamps



**To return to FN**

Press EXIT.

**To return to the automatic white balance mode**

Set WHT BAL to AUTO in the menu settings.

## Adjusting the white balance manually

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If the picture is being taken in a studio lit by TV lighting

We recommend that you record in the  INDOOR mode.

When you record under fluorescent lighting

Select AUTO or HOLD.

Your camcorder may not adjust the white balance correctly in the  INDOOR mode.

In the AUTO mode

Point your camcorder at the white subject for about 10 seconds after setting the POWER switch to CAMERA to get better adjustment when:

- You take out the battery for replacement.
- You bring your camcorder from indoors to outdoors holding the exposure, or vice versa.

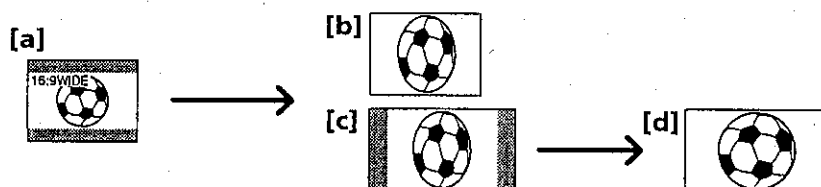
In the HOLD mode

Set the white balance to AUTO and reset to HOLD after a few seconds when:

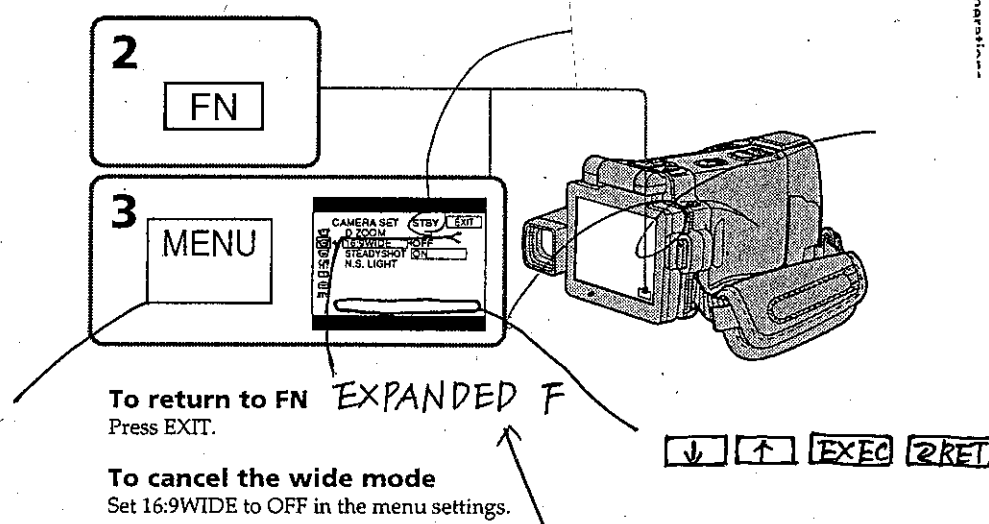
- You change the PROGRAM AE mode.
- You bring your camcorder from indoors to outdoors, or vice versa.

## Using the wide mode

You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9WIDE). Black bands appear on the LCD screen during recording in 16:9WIDE mode [a]. The picture during playing back on a normal TV [b] or a wide-screen TV [c] are compressed in the widthwise direction. If you set the screen mode of the wide-screen TV to the full mode, you can watch pictures of normal images [d].



- (1) Set the POWER switch to CAMERA.
- (2) Press FN to display PAGE1.
- (3) Press MENU, then set 16:9WIDE in **16** to ON in the menu settings (p. ●●).



## Using the wide mode

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In the wide mode, you cannot select the following functions:

- Recording still images
- OLD MOVIE
- BOUNCE

### During recording

You cannot select or cancel the wide mode. When you cancel the wide mode, set your camcorder to the recording standby mode and then set 16:9WIDE to OFF in the menu settings.

### Connection for a TV

Pictures recorded in the 16:9WIDE mode automatically appear on the TV screen at full size when:

- You connect your camcorder to a TV that is compatible with the video ID (ID-1/ID-2) system.
- You connect your camcorder to the S video jack on the TV.

### ID-1 system

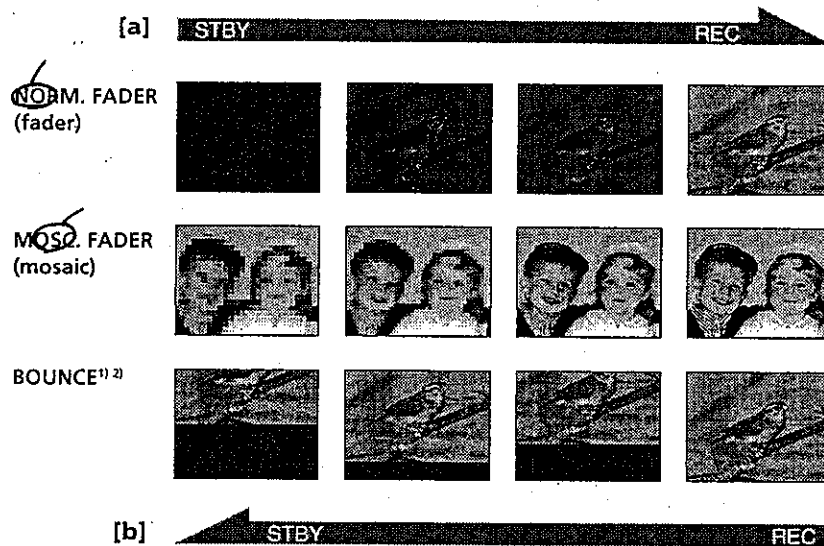
The ID-1 system sends aspect ratio (screen horizontal/vertical ratio) information (16:9, 4:3, or letter box) with video signals.

### ID-2 system

The ID-2 system sends a copyright protection signal with ID-1 signals inserted between video signals when you connect your camcorder to other equipment using an A/V connecting cable.

## Using the fader function

You can fade in or out to give your recording a professional appearance.



Advanced Recording Operations

### MONOTONE

When fading in, the picture gradually changes from black-and-white to color.  
When fading out, the picture gradually changes from color to black-and-white.

<sup>1)</sup> You can use the BOUNCE function when D ZOOM is set to OFF in the menu settings.

<sup>2)</sup> Fade in only

## Using the fader function

### (1) When fading in [a]

In the recording standby mode, press FADER until the desired fader indicator flashes.

### When fading out [b]

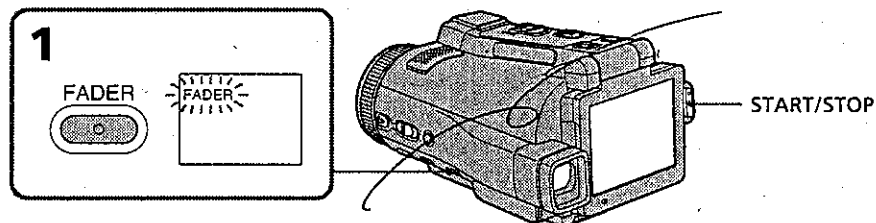
In the recording mode, press FADER until the desired fader indicator flashes. The indicator changes as follows:

→ FADER → M. FADER → BOUNCE → MONOTONE → (no indicator)

The last selected fader is indicated first of all.

### (2) Press START/STOP. The fader indicator stops flashing, then lights up.

After the fade in/out is carried out, the fader indicator goes off and your camcorder automatically returns to the normal mode.



## To cancel the fader function

Before pressing START/STOP, press FADER until the indicator disappears.

### Note

You cannot use the following functions while using the fader function. Also, you cannot use the fader function while using the following functions:

- Digital effect
- Super NightShot
- Color Slow Shutter
- Recording still images

While using the BOUNCE function, you cannot use the following functions:

- Exposure
- Flexible Spot Meter
- Focus
- Zoom
- Picture effect

## Using the fader function

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### Note on the BOUNCE function

You cannot select the BOUNCE function in the following mode or functions:

- D ZOOM is activated in the menu settings.
- Wide mode
- Picture effect
- PROGRAM AE

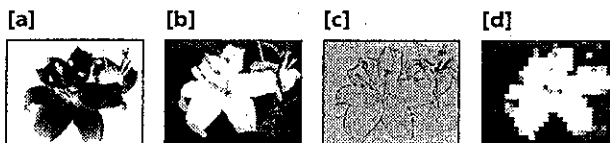
### When the POWER switch is set to MEMORY

You cannot use the fader function.

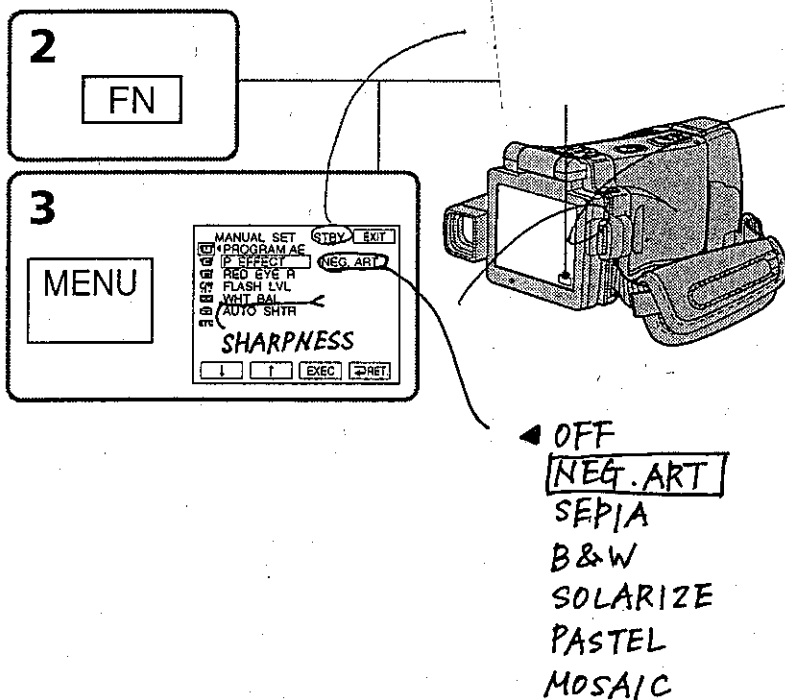
## Using special effects – Picture effect

You can digitally process images to obtain special effects like those in films or on the TV.

- NEG. ART [a]: The color and brightness of the picture are reversed.  
 SEPIA: The picture appears in sepia.  
 B&W: The picture appears in monochrome (black-and-white).  
 SOLARIZE [b]: The picture looks like as illustration with strong contrast.  
 PASTEL [c]: The picture looks like a pale pastel drawing.  
 MOSAIC [d]: The picture appears mosaic-patterned.



- (1) Set the POWER switch to CAMERA.
- (2) Press FN to display PAGE1.
- (3) Press MENU, then select P EFFECT in **[M]** in the menu settings to select a desired picture effect mode (p. ●●).



## Using special effects – Picture effect

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To return to FN

Press EXIT.

*After step 3, press EXIT*

To turn the picture effect function off

Select OFF in P EFFECT in the menu settings.

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While using the picture effect function, you cannot use following functions:

- OLD MOVIE
- BOUNCE
- Recording still images

When you set the POWER switch to OFF (CHG)

The picture effect is automatically canceled.

Advanced Recording Operations

## Using special effects – Digital effect

You can add special effects to recorded pictures using the various digital functions. The sound is recorded normally.

### STILL

You can record a still image so that it is superimposed on a moving picture.

### FLASH (FLASH MOTION)

You can record still images successively at regular intervals.

### LUMI. (LUMINANCE KEY)

You can swap the brighter area in a still image with a moving picture.

### TRAIL

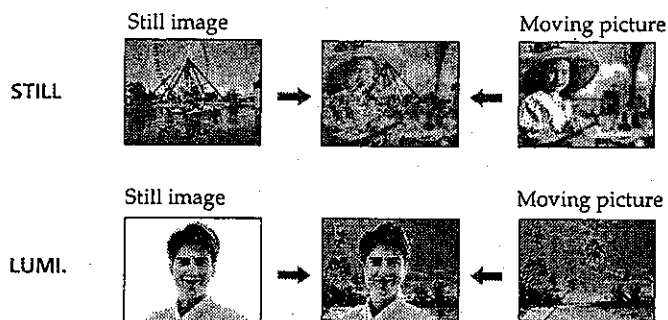
You can record a picture so that an incidental image like a trail is left.

### SLOW SHTR (SLOW SHUTTER)

You can slow down the shutter speed. The slow shutter mode is good for recording dark pictures more brightly.

### OLD MOVIE

You can add an old movie type atmosphere to pictures. Your camcorder automatically sets the wide mode to ON, the picture effect to SEPIA, and the appropriate shutter speed.



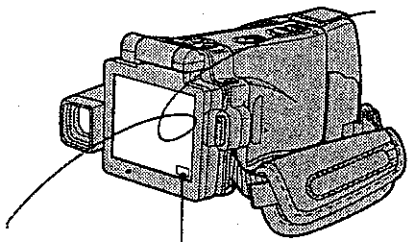
## Using special effects - Digital effect

- (1) Set the POWER switch to CAMERA.
- (2) Press FN and go to PAGE2.
- (3) Press DIG EFFT. The DIG EFFT screen appears.
- (4) Press a desired digital effect mode. In the STILL and LUMI. modes, the still image is stored in memory.
- (5) Press -/+ to adjust the effect.

### Items to adjust

|           |                                                                                              |
|-----------|----------------------------------------------------------------------------------------------|
| STILL     | The rate of the still image you want to superimpose on the moving picture                    |
| FLASH     | The interval of frame by frame playback                                                      |
| LUMI.     | The color scheme of the area in the still image which is to be swapped with a moving picture |
| TRAIL     | The vanishing time of the incidental image                                                   |
| SLOW SHTR | Shutter speed. The larger the shutter speed number, the slower the shutter speed.            |
| OLD MOVIE | No adjustment necessary                                                                      |

- (6) Press  $\Rightarrow$  OK. The display returns to PAGE2.



### 3-6

DIG EFFT

DIG EFFT  
 $\Rightarrow$  OFF  $\Rightarrow$  OK

DIG EFFT  
 $\Rightarrow$  OFF  $\Rightarrow$  OK

SLOW SHTR

OLD MOVIE

STILL

FLASH

LUMI.

TRAIL

The bar appears when setting following digital effect modes: STILL, FLASH, LUMI, TRAIL.

2

FN

↓

PAGE2

### To return to FN

Press **EXIT**.

*After step 6, press EXIT.*

### To cancel the digital effect

Press  $\Rightarrow$  OFF. The display returns to PAGE2.

## Using special effects – Digital effect

### Notes

- The following functions do not work during digital effect:
  - Fader
  - Super NightShot
  - Color Slow Shutter
  - Recording still images
- The PROGRAM AE function does not work in the slow shutter mode.
- The following functions do not work in the OLD MOVIE mode:
  - Wide mode
  - Picture effect
  - PROGRAM AE

**When you set the POWER switch to OFF (CHG)**

The digital effect will be automatically canceled.

**When recording in the slow shutter mode**

Auto focus may not be effective. Focus manually using a tripod.

### Shutter speed

| Shutter speed number | Shutter speed |
|----------------------|---------------|
| SLOW SHTR 1          | 1/30          |
| SLOW SHTR 2          | 1/15          |
| SLOW SHTR 3          | 1/8           |
| SLOW SHTR 4          | 1/4           |

## Using the PROGRAM AE

You can select PROGRAM AE (Auto Exposure) mode to suit your specific shooting requirements.

### SPOTLIGHT (Spotlight)

This mode prevents people's faces, for example, from appearing excessively white when shooting subjects lit by strong light in the theater.

### PORTRAIT (Soft portrait)

This mode brings out the subject while creating a soft background for subjects such as people or flowers.

### SPORTS (Sports lesson)

This mode minimizes shake on fast-moving subjects such as in tennis or golf.

### BEACH&SKI (Beach & ski)

This mode prevents people's faces from appearing dark in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

### SUNSETMOON (Sunset & moon)

This mode allows you to maintain atmosphere when you are recording sunsets, general night views, fireworks displays and neon signs.

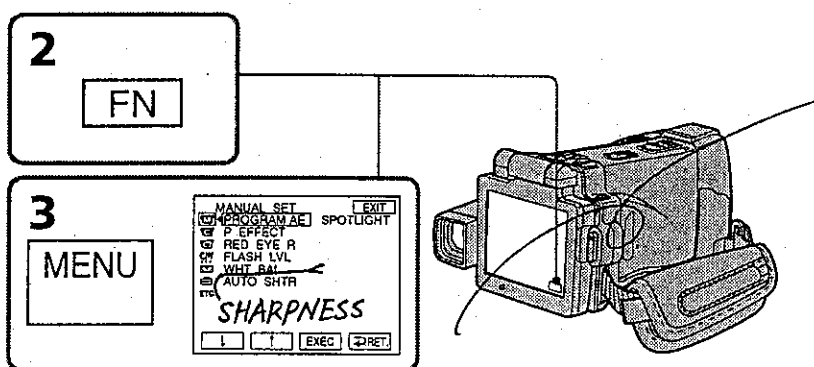
### LANDSCAPE (Landscape)

This mode is for when you are record distant subjects such as mountains. Also it prevents your camcorder from focusing on glass or metal mesh in windows when you are recording a subject behind glass or a screen.



## Using the PROGRAM AE

- (1) Set the POWER switch to CAMERA or MEMORY.
- (2) Press FN to display PAGE1.
- (3) Press MENU, then select PROGRAM AE in  in the menu settings to select a desired mode (p. ●●).



### To return to FN

Press EXIT. *After step 3, press EXIT.*

### To turn the PROGRAM AE off

Select AUTO in PROGRAM AE in the menu settings.

### Notes

- Because your camcorder is set to focus only on subjects in the middle to far distance, you cannot take close-ups in the following modes:
  - Spotlight
  - Sports lesson
  - Beach & ski
- Your camcorder is set to focus only on distant subjects in the following modes:
  - Sunset & moon
  - Landscape
- The following functions do not work in PROGRAM AE:
  - Color Slow Shutter
  - Slow shutter
  - OLD MOVIE
  - BOUNCE
- The PROGRAM AE does not work in the following cases (The indicator flashes):
  - NightShot
  - NightFraming
  - To record images on a "Memory Stick" using the MEMORY MIX.
- When you set the POWER switch to MEMORY, sports lesson does not work. (The indicator flashes.)

## Using the PROGRAM AE

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While WHT BAL is set to AUTO in the menu settings  
The white balance is adjusted even if the PROGRAM AE is selected.

You can adjust the following functions while using the PROGRAM AE:

- Exposure
- Flexible Spot Meter

If you record under a discharge tube such as a fluorescent lamp, sodium lamp or mercury lamp

Flickering or changes in color may occur in the following modes. If this happens, turn the PROGRAM AE off:

- Soft portrait
- Sports lesson

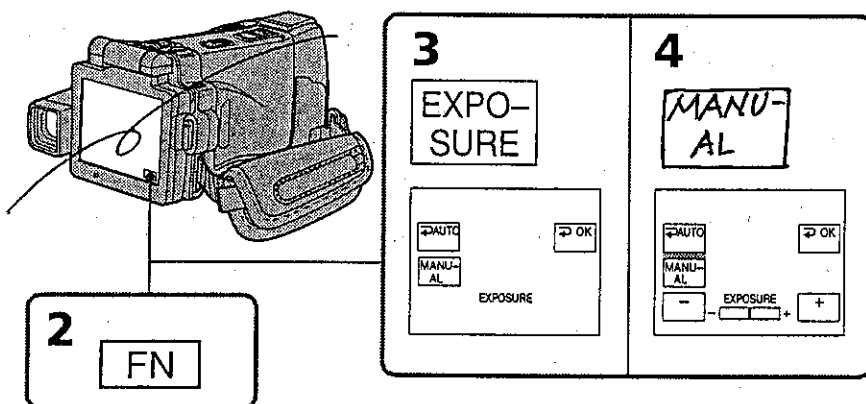
## Adjusting the exposure manually

You can adjust and set the exposure. Normally the exposure is automatically adjusted. Adjust the exposure manually in the following cases:

- The subject is backlit
- To shoot a bright subject against a background
- To record dark pictures (e.g. night scenes) faithfully

*To make a fine exposure adjustment*

- (1) Set the POWER switch to CAMERA or MEMORY.
- (2) Press FN to display PAGE1.
- (3) Press EXPOSURE. The EXPOSURE screen appears.
- (4) Press MANUAL.
- (5) Adjust the exposure using -/+.
- : To dim
- + : To brighten
- (6) Press  $\Rightarrow$  OK. The display returns to PAGE1.



**To return to FN**  
Press EXIT after step 6.

**To return to the automatic exposure mode**  
Press  $\Rightarrow$  AUTO in step 5. The display returns to PAGE1.

### Note

When you adjust the exposure manually, the following functions do not work:

- Color Slow Shutter
- Backlight

**Your camcorder automatically returns to the automatic exposure mode:**

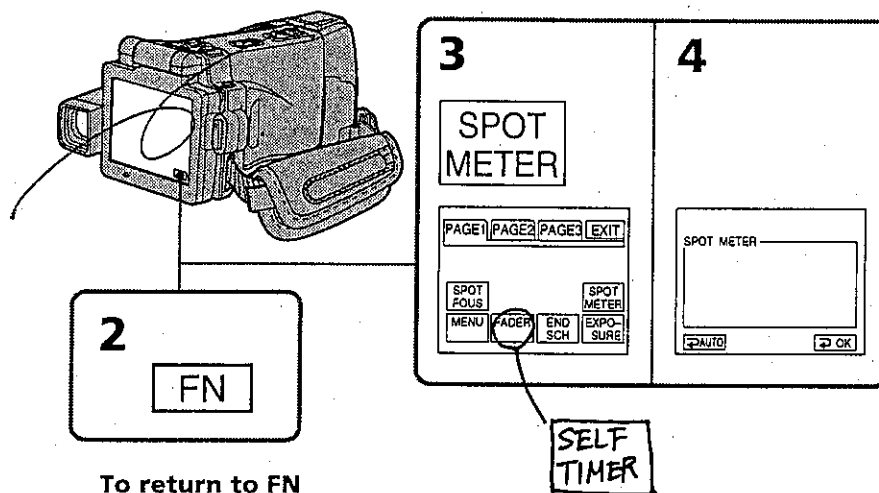
- If you change the PROGRAM AE mode.
- NightShot
- NightFraming

## Using the spot light-metering mode – Flexible Spot Meter

You can take a picture with the appropriate exposure automatically for just the point you want to focus on and with its exposure fixed. Use the Flexible Spot Meter mode in the following cases:

- The subject is backlit.
- When there is strong contrast between the subject and background such as with a subject that is on stage and lighted by a spotlight.

- (1) Set the POWER switch to CAMERA or MEMORY.
- (2) Press FN to display PAGE1.
- (3) Press SPOT METER. The SPOT METER screen appears.
- (4) Press the desired area in the frame on the LCD screen.  
The SPOT METER indicator flashes on the LCD screen. The exposure of the point you selected is adjusted.
- (5) Press  $\Rightarrow$  OK. The display returns to PAGE1.



**To return to FN**  
Press EXIT after step 5.

**To return to the automatic exposure mode**  
Press  $\Rightarrow$  AUTO in step 3. The display returns to PAGE1.

### Note

The following functions do not work during the Flexible Spot Meter:

- Color Slow Shutter
- Backlight
- Exposure

Your camcorder automatically returns from the Flexible ~~Spot~~ Meter to the automatic exposure:

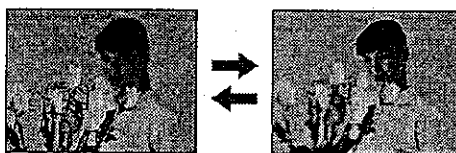
- If you change the PROGRAM AE mode.
- NightShot
- NightFraming

Spot

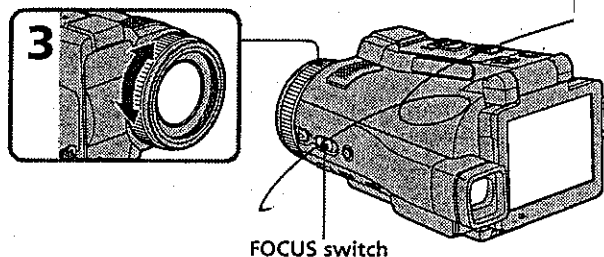
## Focusing manually

You can gain better results by manually adjusting the focus in the following cases. Normally, focus is automatically adjusted.

- The autofocus mode is not effective when shooting:
  - Subjects through glass coated with water droplets
  - Horizontal stripes
  - Subjects with little contrast with backgrounds such as walls or the sky
- When you want to change the focus from a subject in the foreground to a subject in the background
- Shooting a stationary subject when using a tripod



- (1) Set the POWER switch to CAMERA or MEMORY.
- (2) Set FOCUS to MANUAL. The  indicator appears.  
If you set EXPANDED F to ON in the menu settings (p. ••) when in MEMORY mode, the image is enlarged to twice the size and the focal distance information is displayed. Adjustment is completed, the image returns to its original size.
- (3) Turn the focus ring to sharpen focus.



**To return to the autofocus mode**  
Set FOCUS to AUTO.

## Focusing manually

### To focus precisely

It is easier to focus on the subject if you adjust the zoom to shoot at the "W" (wide-angle) position after focusing at the "T" (telephoto) position.

### When you shoot close to the subject

Focus at the end of the "W" (wide-angle) position.

### changes as follows:

-  when recording a distant subject
-  when the subject is too close to focus on

Focal distance information is displayed for about three seconds on the LCD screen in the following cases:

- When switching the focus adjustment mode from autofocus to manual
- When turning the focus ring

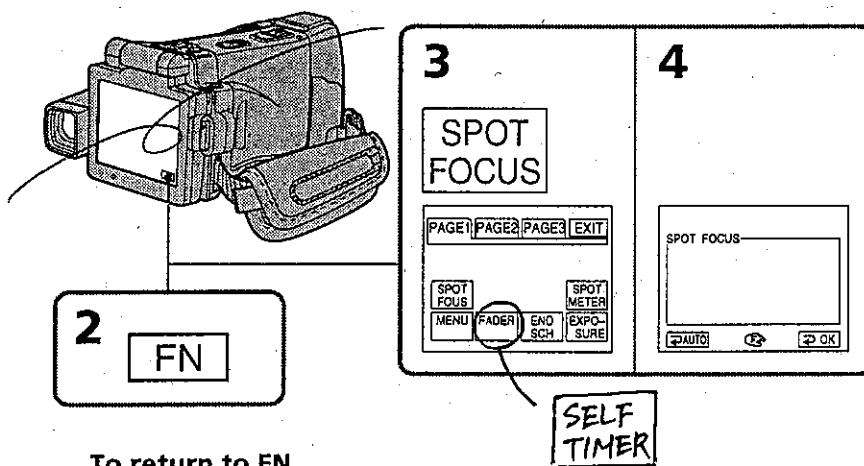
### Focal distance information

- This information aids focusing if it is not easy to focus on the subject, for example, when recording in the dark. Use this information as a rough guide to get a sharp focus.
- You cannot get correct information if you have attached a conversion lens (optional) to your camcorder.

## Using the spot focus mode – Spot Focus

You can take a picture with the appropriate focus automatically for just the point you want to focus on and with its focus fixed.

- (1) Set the POWER switch to CAMERA or MEMORY.
- (2) Press FN to display PAGE1.
- (3) Press SPOT FOCUS. The SPOT FOCUS screen appears.
- (4) Press the desired area in the frame on the LCD screen.  
The SPOT FOCUS indicator flashes on the LCD screen. When the focus of the point you selected is adjusted, the  indicator appears.
- (5) Press  OK to return to PAGE1.



**To return to FN**  
Press EXIT after step 5.

**To return to the autofocus mode**  
Press  AUTO in step 4. The display returns to PAGE1.

### Note

When adjusting Spot Focus, the following modes do not work:

- Fader
- PROGRAM AE
- Exposure
- Backlight

### Focal distance information

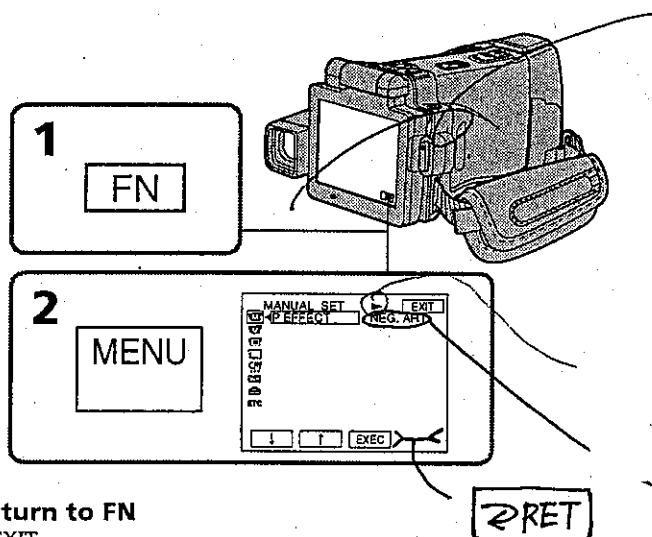
It is not displayed on the screen.

— Advanced Playback Operations —

## Playing back a tape with picture effects

During playback, you can process a scene using the picture effect functions: NEG. ART, SEPIA, B&W and SOLARIZE.

- (1) Set the POWER switch to VCR. In the playback or playback pause mode, press FN to display PAGE1.
  - (2) Press MENU, then select P EFFECT in  in the menu settings to select a desired picture effect mode (p. ●●).
- See page ●● for details of each picture effect function.



**To return to FN**  
Press EXIT.

**To cancel the picture effect function**  
Set P EFFECT to OFF in the menu settings.

### Notes

- You cannot process externally input scenes using the picture effect function.
- You cannot record images on a tape on your camcorder while you are processing the image using the picture effect function. However, you can record images on a "Memory Stick" (p. ●●, ●●), or on a VCR using your camcorder as a player.

### Pictures processed by the picture effect function

Pictures processed by the picture effect function are not output through the i.LINK (MICROMV Interface).

When you set the POWER switch to OFF (CHG) or stop playing back  
The picture effect function is automatically canceled.

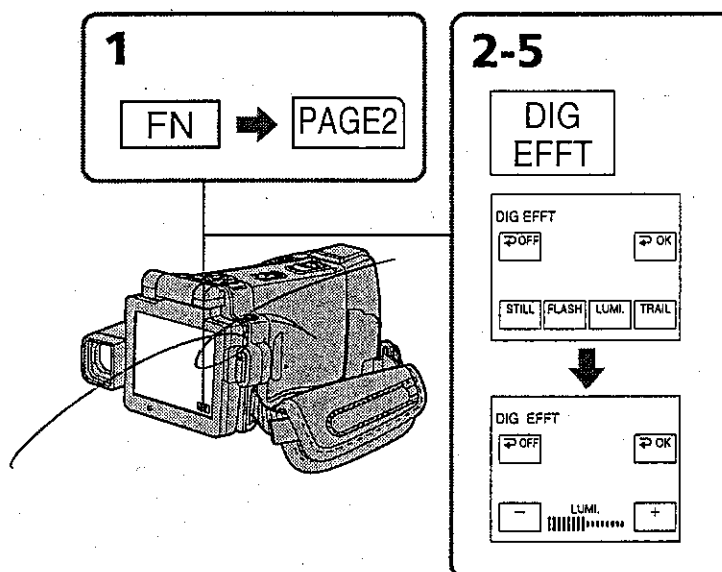
Advanced Playback Operati

◀ OFF  
NEG. ART  
SEPIA  
B&W  
SOLARIZE

## Playing back a tape with digital effects

During playback, you can process a scene using the digital effect functions: STILL, FLASH, LUMI. and TRAIL.

- (1) Set the POWER switch to VCR. In the playback or playback pause mode, press FN and go to PAGE2.
- (2) Press DIG EFFT. The DIG EFFT screen appears.
- (3) Select a desired digital effect mode. In the STILL or LUMI. mode, the picture that you select the mode is stored in memory as a still image.
- (4) Press -/+ to adjust the effect. See page •• for details.
- (5) Press  $\Rightarrow$  OK. The display returns to PAGE2.



### To return to FN

Press EXIT after step 5.

### To cancel the digital effect function

Press  $\Rightarrow$  OFF in step 2. The display returns to PAGE2.

### Notes

- You cannot process externally input scenes using the digital effect function.
- You cannot record images on a tape on your camcorder while you are processing the image using the digital effect function. However, you can record images on a "Memory Stick" (p. ••, ••), or on a VCR using your camcorder as a player.

### Pictures processed by the digital effect function

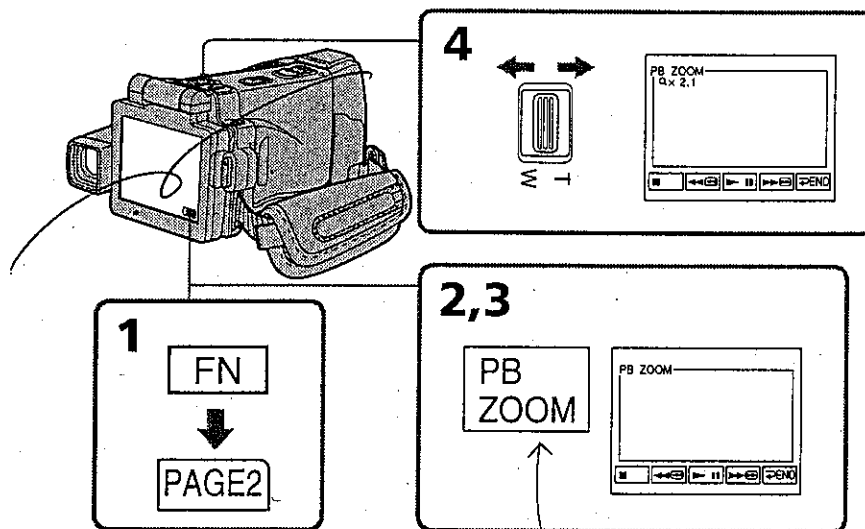
Pictures processed by the digital effect function are not output through the i.LINK (MICROMV Interface).

When you set the POWER switch to OFF (CHG) or stop playing back  
The digital effect function is automatically canceled.

## Enlarging images recorded on tapes – Tape PB ZOOM

You can enlarge playback moving pictures recorded on tapes. Besides the operation described here, your camcorder can enlarge still images recorded on a "Memory Stick" (p. ●●).

- (1) Set the POWER switch to VCR. In the playback or playback pause mode, press FN and go to PAGE2.
- (2) Press PB ZOOM. The PB ZOOM screen appears.
- (3) Press the area you want to enlarge in the frame on the PB ZOOM screen.  
The area you pressed moves to the center of the LCD screen, and the playback image is enlarged to twice the size. If you press the other area again, the area moves to the center of the LCD screen.
- (4) Adjust the zoom ratio by the zoom lever.  
You can enlarge the image from 1.1 times up to five times its size.  
"W" side: Decrease the zoom ratio.  
"T" side: Increase the zoom ratio.



**To cancel the PB ZOOM function**  
Press **END**.

## Enlarging images recorded on tapes – Tape PB ZOOM

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### Notes

- You cannot process externally input scenes using the PB ZOOM function with your camcorder.
- You cannot record images on a tape on your camcorder while you are processing the image using the tape PB ZOOM function. However, you can record images on a "Memory Stick" (p. ●●), or on a VCR using your camcorder as a player.
- You cannot record moving pictures on a "Memory Stick" on your camcorder while you are processing the picture using the tape PB ZOOM function.

The PB ZOOM function is automatically canceled when you operate the following functions:

- Set the POWER switch to OFF (CHG).
- Stop playing back.
- Insert a "Memory Stick."

### Images in the PB ZOOM

Images in the PB ZOOM mode are not output through the i.LINK (MICROMV Interface) and  $\Psi$  (USB) jack.

### In the PB ZOOM mode

If you press DISPLAY/TOUCH PANEL, the frame on the PB ZOOM screen disappears. You cannot move the part you pressed to the center of the LCD screen.

### Edge of the enlarged image

The edge of the enlarged image cannot be displayed at the center of the LCD screen.

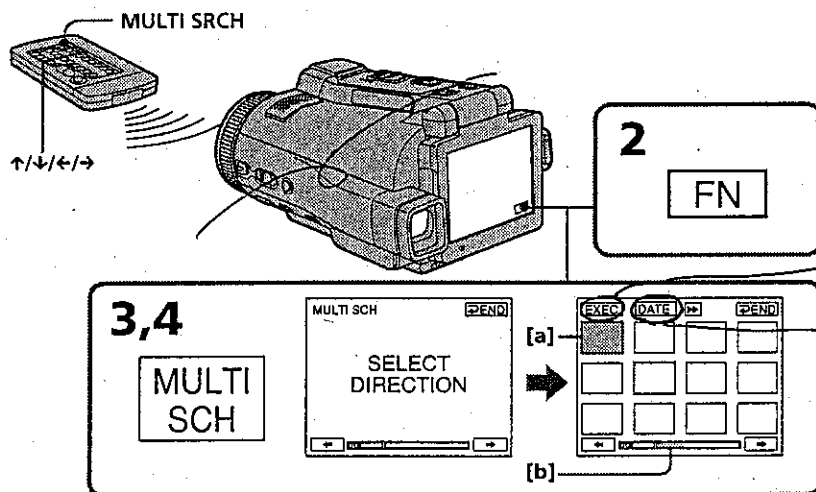
### When FOCUS is set to ZOOM

You can change the zoom ratio using the zoom ring.

## Searching for a scene - MULTI-PICTURE SEARCH

Using the multi-picture search function, you can display thumbnails of all the beginning scenes of moving pictures recorded on the tape onto the index screen. The recording date and title of each image or scene are also indicated. The thumbnails described in this section are the still images of all the beginning scenes of each recorded moving pictures and still images to help you search for the desired scene easily. When you select the thumbnail you want to play back, your camcorder starts searching for the image or scene and plays it back automatically. You can also control this function using the Remote Commander.

- (1) Set the POWER switch to VCR.
- (2) Press FN to display PAGE1.
- (3) Press MULTI SCH. The MULTI SCH screen appears.
- (4) Press  $\leftarrow/\rightarrow$  to select the direction to scan. Your camcorder starts scanning in the selected direction. When you select  $\rightarrow$ , the thumbnails are displayed from the upper-left window, and when you select  $\leftarrow$ , they are displayed from the lower-right window. When scanning is completed, it stops automatically. The upper-left window turns black and the thumbnails will be displayed on the index screen.



- [a] The picture being fast-forwarded or rewind  
[b] The blue portion indicates the range of the scan currently being made to display thumbnails

## Searching for a scene - MULTI-PICTURE SEARCH

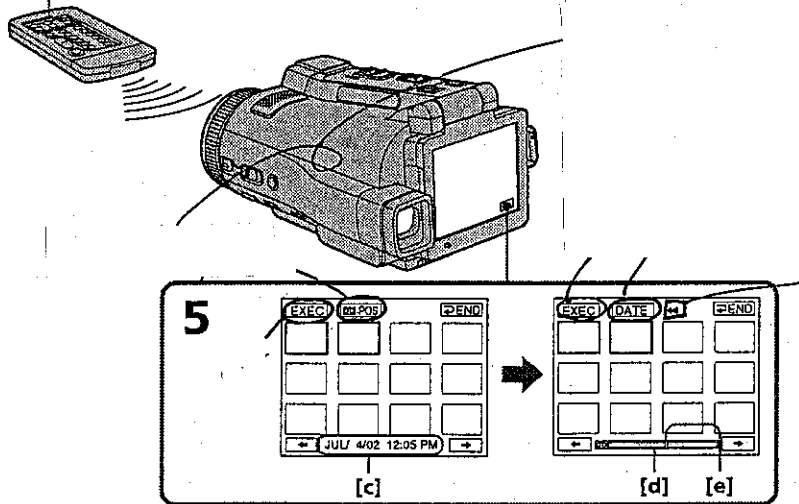
- (5) Select the thumbnail you want to play back, then press EXEC. You can also play back the thumbnail by double-tapping it. Your camcorder starts searching for the image or scene and plays it back automatically. The blue portion of the bar indicates the scanning range and the white portion of the bar indicates the recorded portion.

When you want to change the thumbnail

Press  $\Rightarrow$  RET, and select the thumbnail you want to play back again, then press  $\Rightarrow$  OK.

$\uparrow/\downarrow/\leftarrow/\rightarrow$ /EXECUTE buttons

These buttons function the same as the control button on your camcorder.



[c] The title/date (The title turns to the date indication after five seconds.)

[d] The actual point you are trying to search for (yellow  $\blacktriangle$  mark)

[e] The present point on the tape (yellow bar)

## Searching for a scene - MULTI-PICTURE SEARCH

### To return to the MULTI SCH screen from playback

Press  $\Rightarrow$  RET *or press EXECUTE on the Remote Commander*

### To stop searching

Press STOP on the Remote Commander.

### To end the multi-picture search function

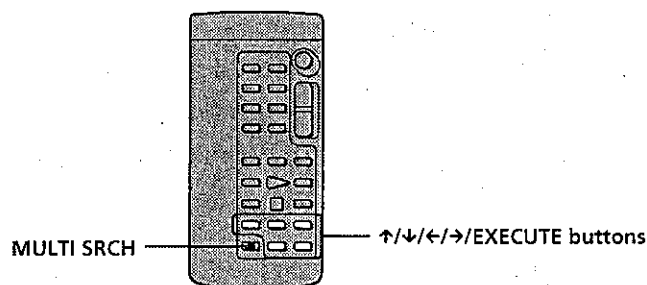
Press  $\Rightarrow$  END. The display returns to PAGE1.

### To end the multi-picture search function from the playback screen

Press EXIT.

### When controlling your camcorder with the Remote Commander

You can use the MULTI SRCH and  $\uparrow/\downarrow/\leftarrow/\rightarrow$ /EXECUTE buttons.



### Notes

- Thumbnails may not be displayed depending on the condition of the tape. This is not a malfunction.
- Noise may appear on the thumbnails. However, this has no effect on the recorded images.

### If the tape has a blank portion in the beginning of the tape or between recorded portions

The multi-picture search function may not work correctly.

### The number of thumbnails stored in one cassette

About 400 thumbnails can be stored.

## Searching for a scene - MULTI-PICTURE SEARCH

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The number of thumbnails that can be displayed for in one scanning  
A maximum of 11 thumbnails can be displayed for in one scanning.

When you press MULTI SRCH on the Remote Commander  
The MULTI SCH screen appears.

### **During searching**

The other functions of your camcorder do not work.

The thumbnail images displayed on the MULTI SCH screen  
You cannot modify these thumbnail images.

When you use the multi-picture search function with the digital effect activated  
The digital effect will be canceled.

Some of the 11 thumbnails may not be displayed in the following cases:

- These are fewer than 11 recorded images and scenes on the searched portion of the tape.
- When scanning a tape recorded over previous recordings. ←
- When you have erased all the Micro Cassette Memory of the tape (p. ●●).

To select the thumbnail with the Remote Commander  
Press ↑/↓/←/→ on the Remote Commander.

### **When you press DATE or POS**

You can switch to the title/date display or the tape bar display that shows the present point on the tape.

While your camcorder is searching for the image or scene, the tape bar display appears even if you select Title/Date.

### **When you select ← or → during scanning**

The next 11 thumbnails will be scanned.

Even if the first thumbnail is not displayed before the scanning is completed  
You can play back the image or scene.

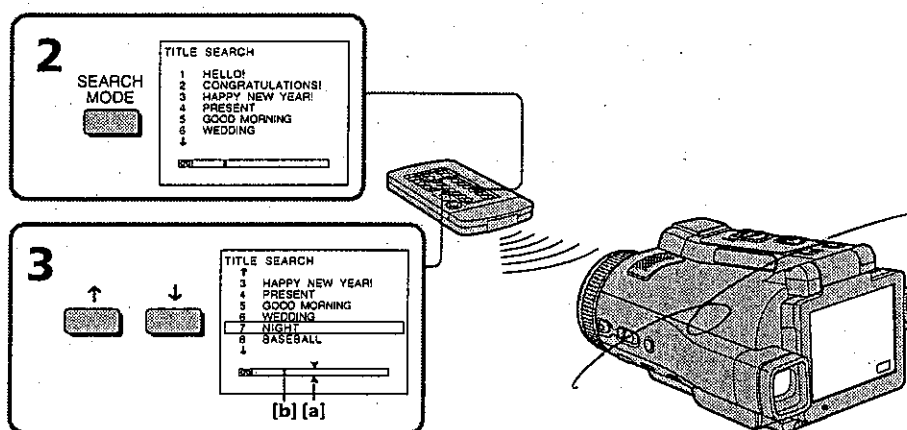
## Searching the boundaries of recorded tape by title – TITLE SEARCH

You can search for the boundaries of a recorded tape by selecting the title. Use the Remote Commander for this operation.

- (1) Set the POWER switch to VCR.
- (2) Press SEARCH MODE on the Remote Commander repeatedly, until the TITLE SEARCH indicator appears.  
The indicator changes as follows:

TITLE SEARCH → DATE SEARCH  
← (no indicator) ←

- (3) Press ↑ or ↓ on the Remote Commander to select the title for playback, then press EXECUTE on the Remote Commander.  
Searching the boundaries starts, and playback automatically starts at the scene with the title selected. Even if you do not press EXECUTE, searching the boundaries starts automatically in two seconds after you select the title.



[a] Actual point you are trying to search for  
[b] Present point on the tape

### To stop searching

Press STOP on the Remote Commander.

If a tape has a blank portion in the beginning of the tape or between recorded sections

The title search function may not work correctly.

To superimpose a title

See page ••.

Use the Remote Commander for this operation.

## Searching a recording by date – DATE SEARCH

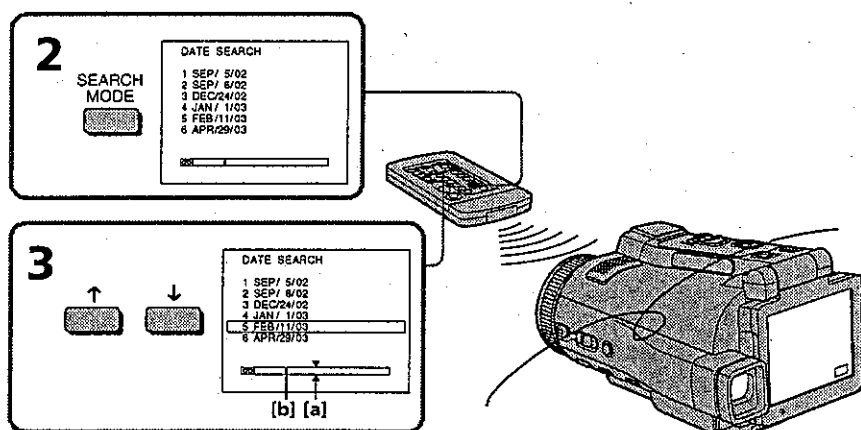
Your camcorder automatically searches for the point where the recording date changes and starts playback from that point by selecting the recording date (Date search).  
Use this function to check where recording dates change or to edit the tape at each recording date.

### Searching for the date by using cassette memory

- (1) Set the POWER switch to VCR.
- (2) Press SEARCH MODE on the Remote Commander repeatedly, until the DATE SEARCH indicator appears.  
The indicator changes as follows:

TITLE SEARCH → DATE SEARCH  
↑ (no indicator) ↓

- (3) Press ↑ or ↓ on the Remote Commander to select the date for playback, then press EXECUTE on the Remote Commander.  
Searching the boundaries starts, and playback automatically starts at the scene with the date selected. Even if you do not press EXECUTE, searching the boundaries starts automatically in two seconds after you select the date.



[a] Actual point you are trying to search for

[b] Present point on the tape

### To stop searching

Press STOP on the Remote Commander.

If a tape has a blank portion in the beginning of the tape or between recorded portions

The date search function may not work correctly.

### Micro Cassette memory

The tape cassette memory can hold 20 recording date data.

## Dubbing a tape

### Using the A/V connecting cable

You can dub or edit on the VCR connected to your camcorder using your camcorder as a player. Connect your camcorder to the VCR using the A/V connecting cable. The supplied A/V connecting cable is equipped with an S video plug and a video plug. Use either the S video plug or the video plug depending on the recorder. Do not connect both of the plugs to the recorder.

#### Before operation

- Set DISPLAY in  to LCD in the menu settings. (The default setting is LCD.)
- Press the following buttons to make the indicator disappear so that they will not be superimposed on the edited tape:

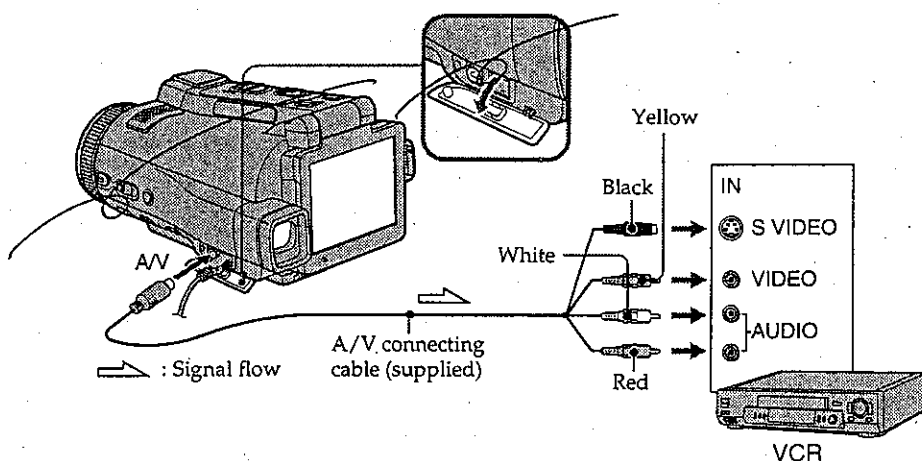
On your camcorder:

DISPLAY/TOUCH PANEL

On the Remote Commander:

DISPLAY, DATA CODE, SEARCH MODE

- (1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
- (2) Prepare the VCR for recording, then set the input selector to LINE.  
Refer to the operating instructions of the VCR.
- (3) Set the POWER switch to VCR.
- (4) Play back the recorded tape on your camcorder.
- (5) Start recording on the VCR.  
Refer to the operating instructions of your VCR.



### When you have finished dubbing a tape

Stop recording on the VCR, and stop playback on your camcorder.

## Dubbing a tape

You can edit on VCRs that support the following systems

8 mm, Hi8, Hi8 Digital, VHS, S-VHS, VHS S-VHS, VHS S-VHSC, S-VHS S-VHSC, Betamax, ED Betamax, mini DV, DV or MICROMV

### If your VCR is a monaural type

Connect the yellow plug of the A/V connecting cable to the video input jack on the VCR and the white or red plug to the audio input jack on the VCR or TV. When the white plug is connected, the left channel audio is output, and when the red plug is connected, the right channel audio is output.

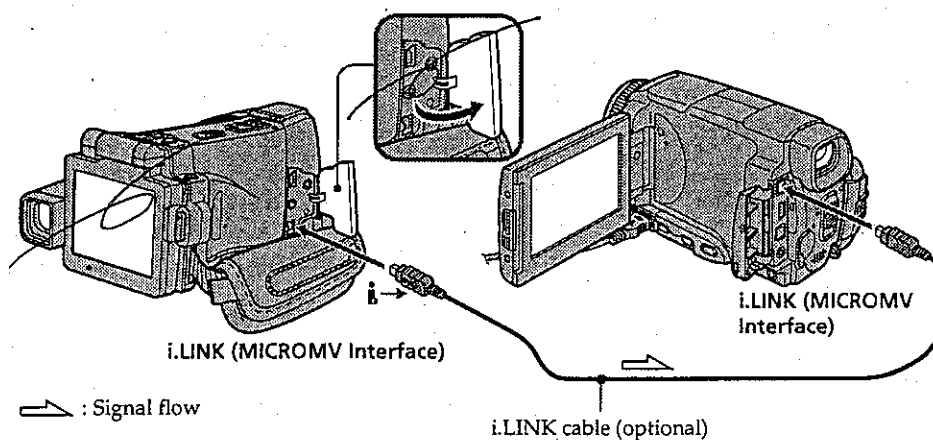
### If your VCR has an S video jack

Connect using the S video plug to faithfully obtain original pictures. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable. Connect the S video plug to the S video jack of the VCR. This connection produces higher quality MICROMV format pictures.

## Using the i.LINK cable

Simply connect the i.LINK cable (optional) to the i.LINK (MICROMV Interface) of your camcorder and to the i.LINK (MICROMV Interface) of the MICROMV product. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing. (You cannot connect your camcorder to a DV product.) You cannot dub the titles, displayed indicators, the contents of Micro Cassette Memory, or letters on the "Memory Stick" index screen.

- (1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
- (2) Prepare the VCR for recording.
- (3) Set the POWER switch to VCR.
- (4) Play back the recorded tape on your camcorder.
- (5) Start recording on the VCR. Refer to the operating instructions of the VCR.



## Dubbing a tape

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### When you have finished dubbing a tape

Stop recording on the VCR, and stop playback on your camcorder.

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You can connect one VCR only using the i.LINK cable

See page •• for more information about i.LINK.

Pictures processed by the picture effect, the digital effect or PB ZOOM function  
These pictures are not output through the i.LINK (MICROMV Interface).

The following functions do not work during digital editing:

- Picture effect
- Digital effect
- PB ZOOM

### Note on playback pause pictures

When you record a playback pause picture:

- The recorded picture becomes rough when recorded through the i.LINK (MICROMV Interface).
- The picture may jitter when you play back the tape on other video equipment. And there may be a time-lag when you play back the tape on other video equipment.

## Recording video or TV programs

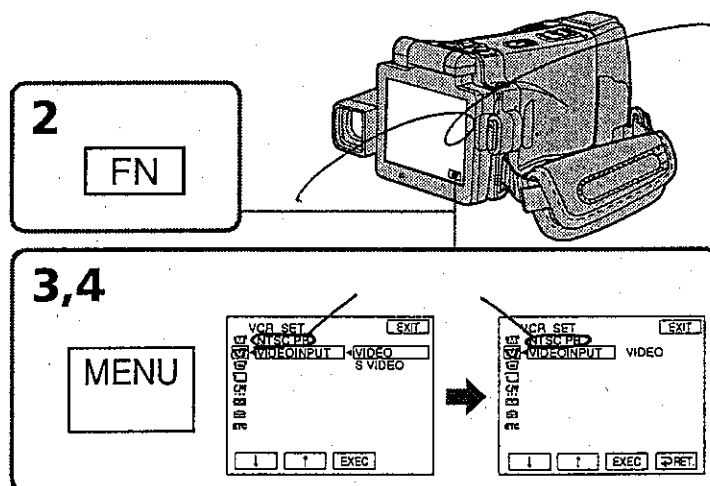
### When using the A/V connecting cable

You can record a tape from another VCR or a TV program from a TV that has video/audio outputs. Use your camcorder as a recorder.

#### **1 Switching the video input jack of the A/V connecting cable**

The supplied A/V connecting cable is equipped with an S video plug and a video plug. You have to select one of the jacks in the menu settings. The default setting is VIDEO. If the setup is not necessary, go to "2 Making a recording" on page ••.

- (1) Set the POWER switch to VCR.
- (2) Press FN to display PAGE1.
- (3) Press MENU, then select VIDEOINPUT in  in the menu settings, then press EXEC.
- (4) Select VIDEO (When using a video plug) or S VIDEO (When using an S video plug), then press EXEC.



**To return to FN**

Press EXIT.

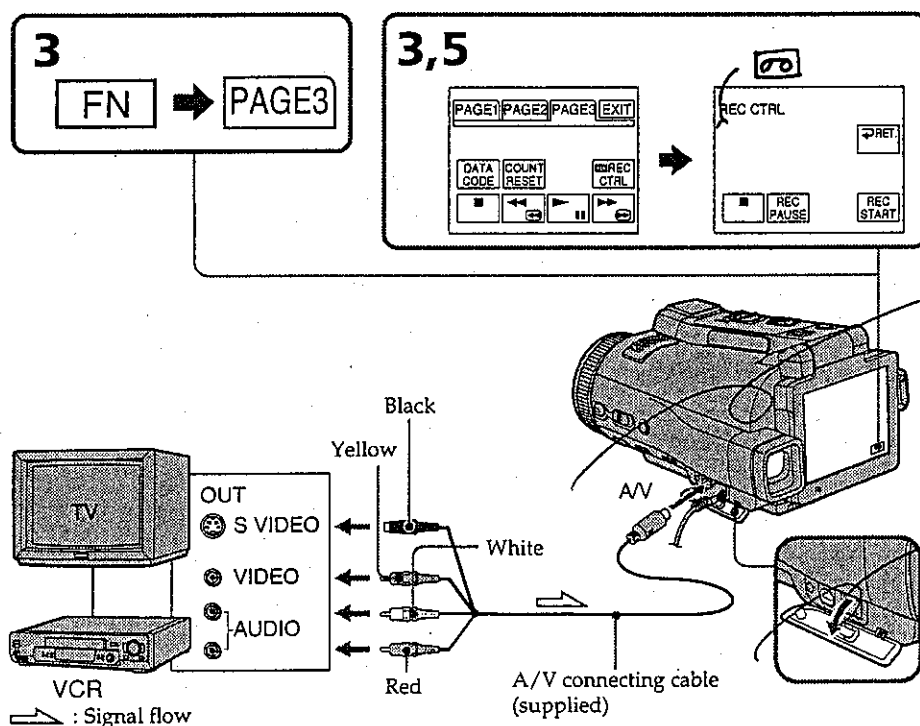
## Recording video or TV programs

### 2 Making a recording

#### Before operation

Set DISPLAY in **etc** to LCD in the menu settings. (The default setting is LCD.)

- (1) Insert a blank tape (or a tape you want to record over) into your camcorder. If you are recording a tape from the VCR, insert a recorded tape into the VCR.
- (2) Set the POWER switch to VCR.
- (3) Set your camcorder in the recording pause mode.  
Press FN and go to PAGE3, then press **REC CTRL**. Next, press **REC PAUSE**.
- (4) Start playback on VCR if you record a tape from VCR. Select a TV program if you record from TV. The picture from VCR or TV appears on the LCD screen or in the viewfinder.
- (5) Press **REC START** at the scene where you want to start recording from.



#### When you have finished dubbing a tape

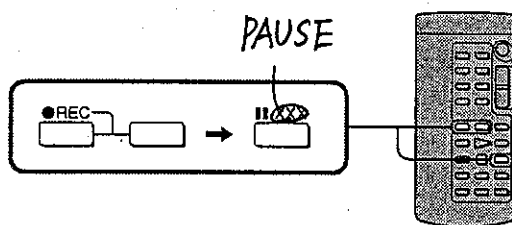
Press **■** on the LCD screen to stop recording on your camcorder and stop playback on VCR or TV.

Editing

## Recording video or TV programs

### Using the Remote Commander

In step 3, press ● REC and the button next to it simultaneously, then immediately press **II**. In step 5, press **II** at the scene where you want to start recording from.



#### If your VCR is a monaural type

Connect the yellow plug of the A/V connecting cable to the video output jack and the white or the red plug to the audio output jack on the VCR or the TV. When the white plug is connected, the left channel audio is output, and when the red plug is connected, the right channel audio is output.

#### If your TV or VCR has an S video jack

Connect using the S video plug to faithfully obtain original pictures. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable. Connect the S video plug to the S video jack of the VCR. This connection produces higher quality MICROMV format pictures.

### Note

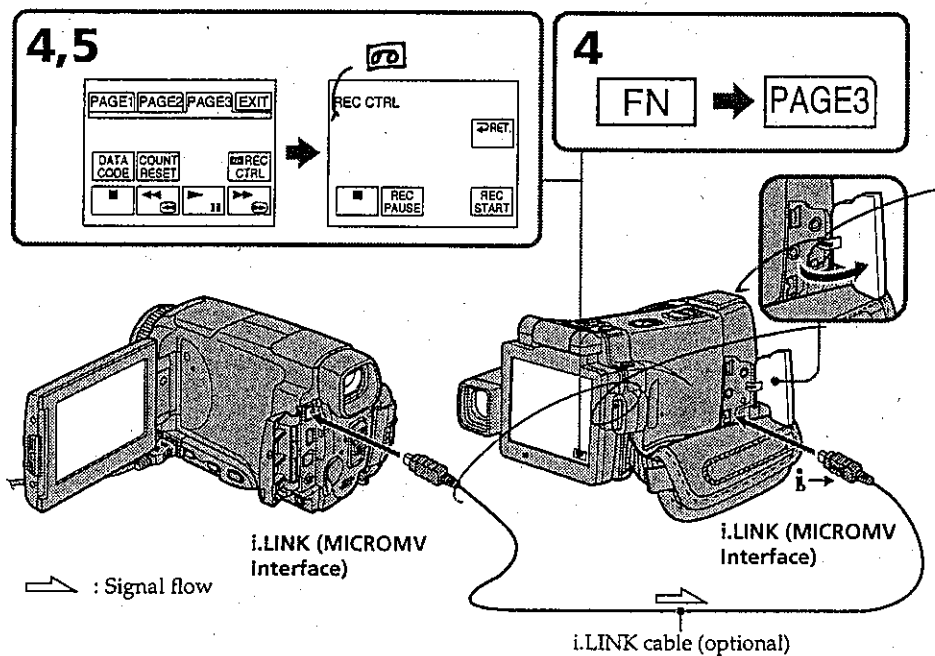
- When you record pictures using the Remote Commander, the VCR may operate improperly. If this happens, change the remote commander mode of the VCR to the mode other than VTR 2, or cover the remote sensor of the VCR with black paper.

## Recording video or TV programs

### When using the i.LINK cable

Simply connect the i.LINK cable (optional) to the i.LINK (MICROMV Interface) of your camcorder and to the i.LINK (MICROMV Interface) of the MICROMV product. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing. (You cannot connect your camcorder to a DV product.)

- (1) Insert a blank tape (or a tape you want to record over) into your camcorder, and insert the recorded tape into VCR.
- (2) Set the POWER switch to VCR.
- (3) Start playback on VCR. The picture from the VCR appears on the LCD screen of your camcorder.
- (4) Set your camcorder in the recording pause mode.  
Press FN and go to PAGE3, then press REC CTRL. Next, press REC PAUSE.
- (5) Press REC START at the scene where you want to start recording.



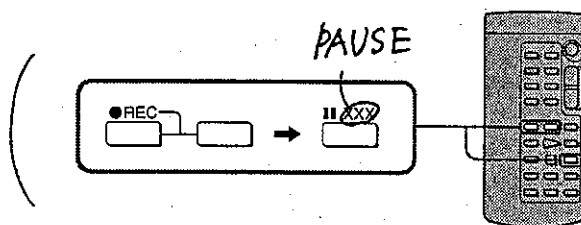
### When you have finished dubbing a tape

Press on the LCD screen to stop recording on your camcorder and stop playback on VCR or TV.

## Recording video or TV programs

### Using the Remote Commandaer

In step 4, press ● REC and the button next to it simultaneously, then immediately press ■■. In step 5, press ■■ at the scene where you want to start recording from.



### Notes

- When an incompatible picture (such as one recorded with the DV format) is input, the message "INPUT ERROR" appears.
- You can connect one VCR only using the i.LINK cable.
- First, start playback or turn to the playback pause mode before your camcorder starts recording or turns to the recording pause mode. If no signal is input into your camcorder, the message "NO INPUT" appears and the camcorder cannot start recording.

### Note on playback pause pictures

When you record a playback pause picture:

- The recorded picture becomes rough when recorded through the i.LINK (MICROMV Interface).
- The picture may jitter when you play back the tape on other video equipment. And there may be a time-lag when you play back the tape on other video equipment.

### Before recording

Make sure if the MPEG IN indicator appears on the LCD screen. The MPEG IN indicator may appear on both equipment.

## Superimposing a title

You can superimpose a title for five seconds from the recording start point. When you play back the tape, the title is displayed for about five seconds from the point where you superimposed it.

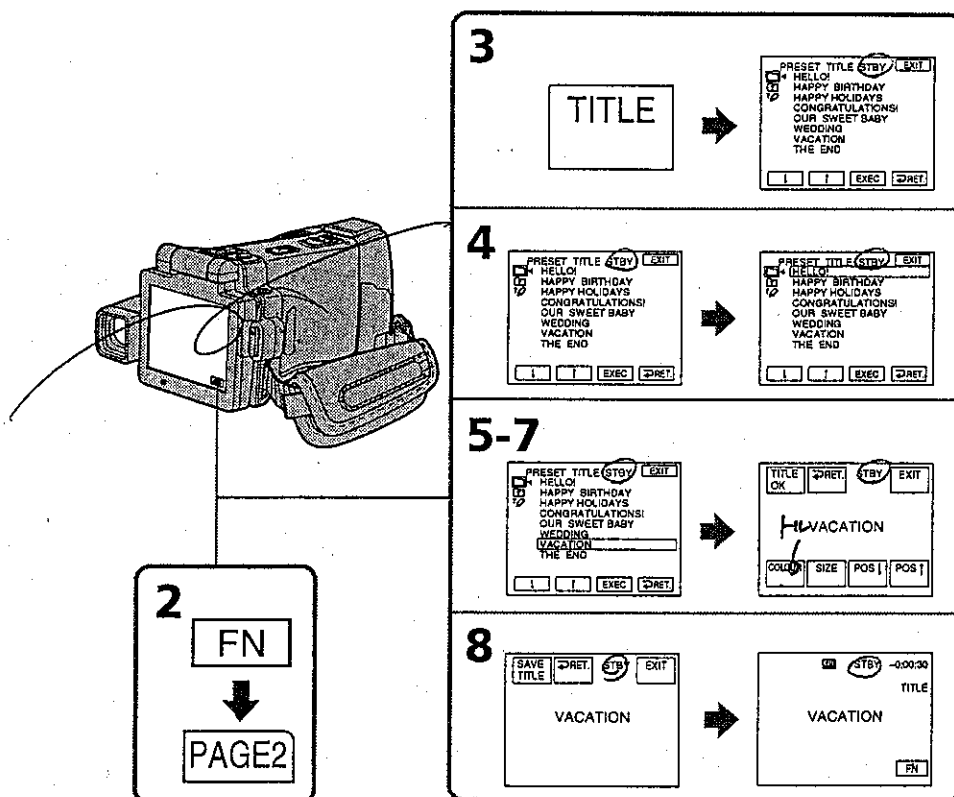


### Superimposing a title on starting a recording

- (1) Set the POWER switch to CAMERA.
- (2) Press FN and go to PAGE2.
- (3) Press TITLE. The TITLE screen appears.
- (4) Select  with ↓/↑. The PRESET TITLE screen appears. Press EXEC.
- (5) Press ↓/↑ to select a desired title, then press EXEC. The title is displayed on the LCD screen.
- (6) If necessary, change the color, size, or position by pressing COLOR, SIZE, POS ↓ or POS ↑.
- (7) Press TITLE OK. The screen to save a title appears on the LCD screen.
- (8) Press SAVE TITLE.  
The TITLE indicator appears. And when you press START/STOP to start recording, TITLE SAVE appears on the LCD screen for about five seconds and the title is set.

Editing

## Superimposing a title



### If you set the write-protect tab to lock

You cannot superimpose or erase the title. Slide the write-protect tab to release the write protection.

### To use the custom title

If you want to use the custom title, select **[C]** in step 4.

### On a blank portion of the tape

You cannot superimpose a title on the tape.

## Superimposing a title

If the tape has a blank portion in the beginning of the tape or between recorded portion  
The title may not be displayed correctly.

### The titles superimposed with your camcorder

- They are displayed only by the MICROMV format video equipment with index titler function.
- The point you superimposed the title may be detected as an index signal when searching a recording with other video equipment.

### To not display title during playback

Set TITLE DSPL to OFF in the menu settings (p. ●●).

### Title setting

- The title color changes as follows:

→ WHITE → YELLOW → VIOLET → RED → CYAN → GREEN → BLUE

- The title size changes as follows:

SMALL ↔ LARGE

You cannot input 13 characters or more in LARGE size. If you input more than 12 characters, the title size returns to SMALL even if you select LARGE.

- If you select the title size "SMALL", you have nine choices for the title position. If you select the title size "LARGE", you have eight choices for the title position.

### The number of titles recordable on one cassette

You can record up to 20 titles when each title consists of 12 characters.

### When 20 titles are already superimposed

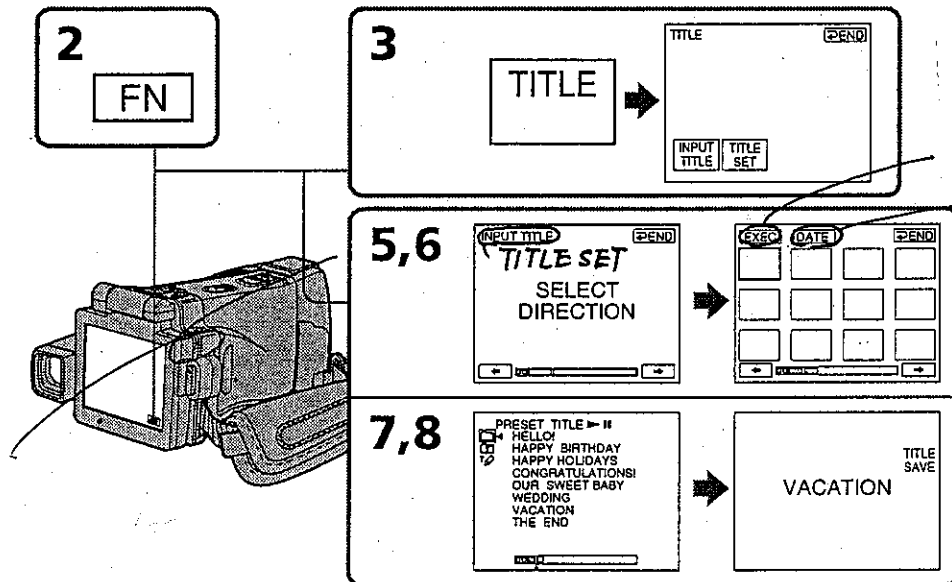
The message "TITLE FULL" appears. Erase unnecessary titles.

## Superimposing a title

### Superimposing a title on a recorded tape

You can superimpose a title for five seconds from the recording start point.

- (1) Set the POWER switch to VCR.
- (2) Press FN to display PAGE1.
- (3) Press TITLE. The TITLE screen appears.
- (4) Press INPUT TITLE. The TITLE SET screen appears.
- (5) Press  $\leftarrow/\rightarrow$  to select the direction to scan. Your camcorder starts scanning in the selected direction. When you select  $\rightarrow$ , the thumbnails are displayed from the upper-left window, and when you select  $\leftarrow$ , they are displayed from the lower-right window. After the scanning is completed, the thumbnails are displayed on the index screen.
- (6) Select the thumbnail on which you want to superimpose a title, then press **EXEC**. The title menu appears.
- (7) Perform step 5 to 7 in "Superimposing a title on starting a recording" on page ..
- (8) Press SAVE TITLE.  
"TITLE SAVE" appears on the LCD screen for about five seconds and the title is set.



## Superimposing a title

---

### Notes

- Thumbnails may not be displayed depending on the condition of the tape. This is not a malfunction.
- Noise may appear on the thumbnails. However, this has no effect on the recorded images.
- You cannot execute TITLE SAVE until the playback picture is displayed in step 8.

### To use a custom title

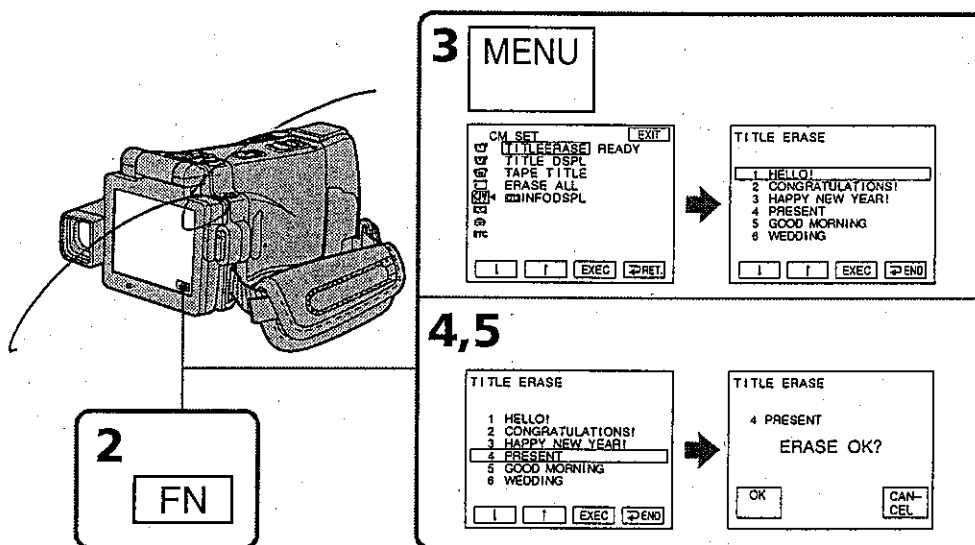
If you want to use a custom title, select  in step 7.

Editing

## Superimposing a title

### Erasing a title

- (1) Set the POWER switch to CAMERA or VCR.
- (2) Press FN to display PAGE1.
- (3) Press MENU, then select TITLEERASE in  in the menu setting, then press EXEC (p. ●●).
- (4) Press ↓/↑ to select the title you want to erase, then press EXEC.  
"ERASE OK?" appears.
- (5) Make sure the title is the one you want to erase, then press OK.  
The message "ERASING" flashes while erasing. After the erasing is completed, the message "COMPLETE" appears.



**To return to FN**  
Press EXIT.

**To cancel erasing**  
Press CANCEL in step 4.

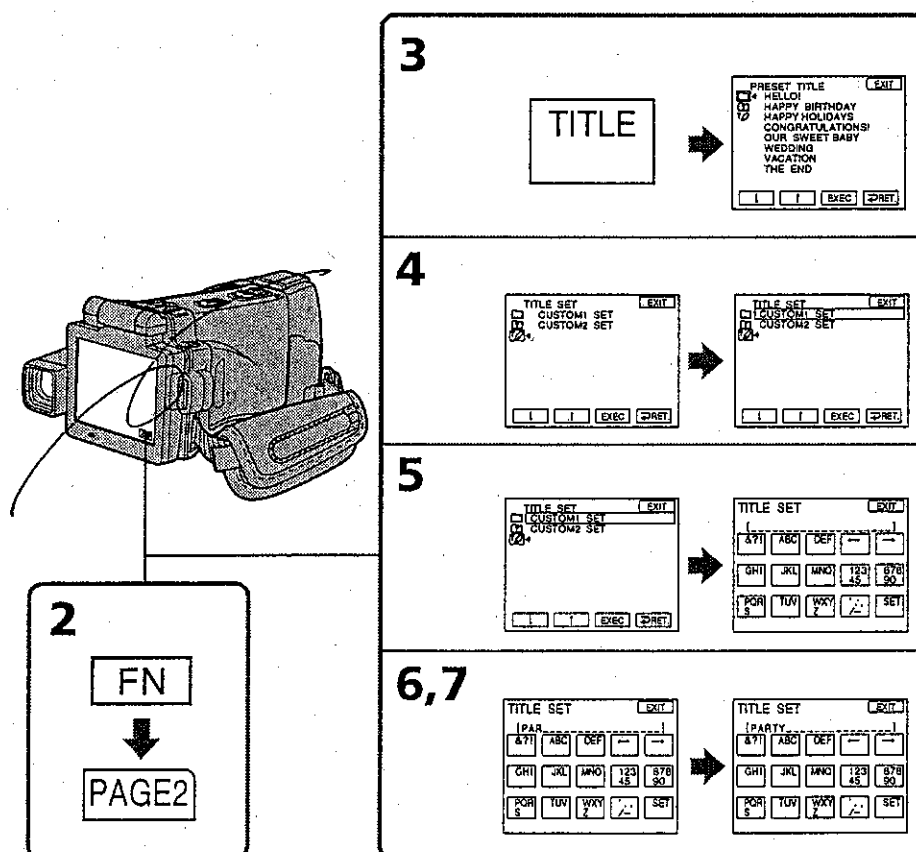
## Making your own titles

You can make up to two titles and store them in the memory of your camcorder. Each title can have up to 20 characters.

### Making a title in CAMERA mode

- (1) Set the POWER switch to CAMERA.
- (2) Press FN and go to PAGE2.
- (3) Press TITLE.
- (4) Press ↓/↑ to select [T2]. The TITLE SET screen appears. Press EXEC.
- (5) Press ↓/↑ to select CUSTOM1 SET or CUSTOM2 SET, then press EXEC.
- (6) Select the desired character. Repeat pressing a key to select the desired character on the key.
- (7) Press → to move the cursor for the next character. Repeat the same procedure as steps 6 and 7 to complete your title.
- (8) Press SET. The title is stored in memory.

Editing



## Making your own titles

---

### To return to FN

Press EXIT.

### To change a title you have stored

In step 5, select CUSTOM1 SET or CUSTOM2 SET depending on which title you want to change, then press EXEC and enter the new title as desired.

### To superimpose your own title on tape

Follow the procedure in "Superimposing a title on starting a recording" on page ••.

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### If you take five minutes or longer to enter characters in the standby mode while a cassette is in your camcorder

The power automatically goes off. The characters you have entered remain stored in memory. Set the POWER switch to OFF (CHG) and start again from step (10) to complete your title.

We recommend setting the POWER switch to VCR (p. ••) or removing the cassette so that your camcorder does not automatically turn off while you are entering title characters.

### To erase the character

Press ←. The last character is erased.

### To enter a space

Press →.

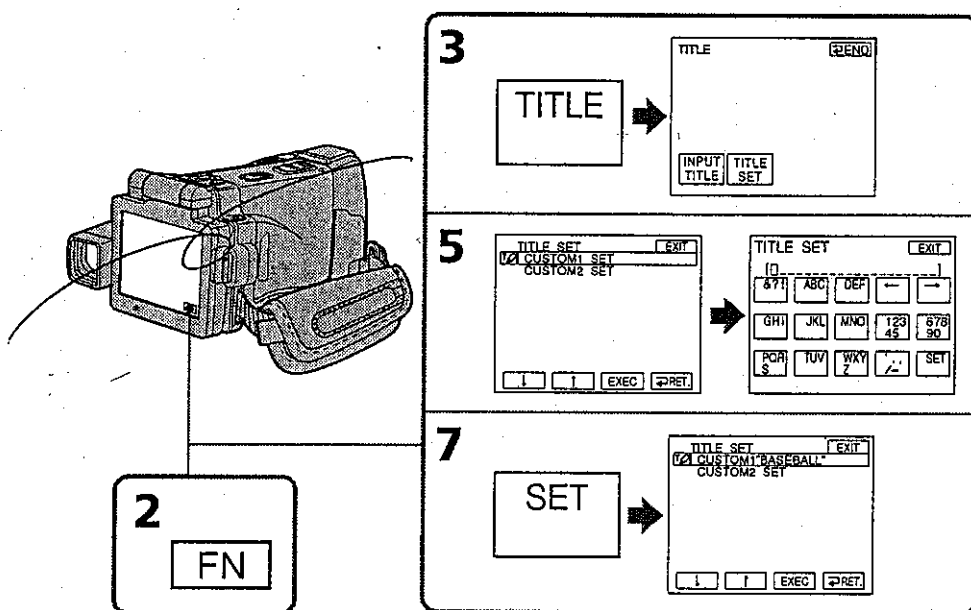
### To enter the character on the same button in succession

Press → to move the cursor to the next position, and enter the character.

## Making your own titles

### Making a title in VCR mode

- (1) Set the POWER switch to VCR.
- (2) Press FN to display PAGE1.
- (3) Press TITLE. The TITLE screen appears.
- (4) Press TITLE SET. The TITLE SET screen appears.
- (5) Press ↓/↑ to select CUSTOM1 SET or CUSTOM2 SET, then press EXEC.
- (6) Perform steps 6 and 7 in "Making a title in CAMERA mode" on page ••.
- (7) Press SET. The title is stored in memory.



**To return to FN**  
Press EXIT.

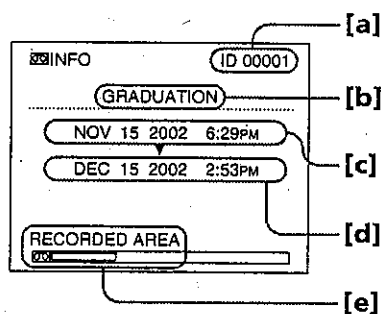
### To superimpose your own title on tape

Follow the procedure in "Superimposing a title on starting a recording" on page ••.

## The Micro Cassette Memory

The MICROMV cassette automatically records the recording settings and date. When you insert a cassette or set the POWER switch to CAMERA or VCR, the cassette information is displayed for about five seconds.

### The cassette information



- [a] The unique number of each cassette. Your camcorder automatically assign this number.
- [b] The cassette title set by TAPE TITLE in the menu settings (Cassette label).
- [c] The first-recorded date in this cassette.
- [d] The last-recorded date in this cassette.
- [e] The recorded area is indicated by the white bar.

#### Recorded areas

A blank portion between recorded area is also indicated as a recorded area.

#### Cassette information

You can turn off the cassette information using **INFO** INFODSPL in **INFO** in the menu settings.

#### When " " is flashing

Eject the cassette and insert it again. If the message is still displayed, the Micro Cassette Memory may be corrupted. Replace the cassette with another cassette.