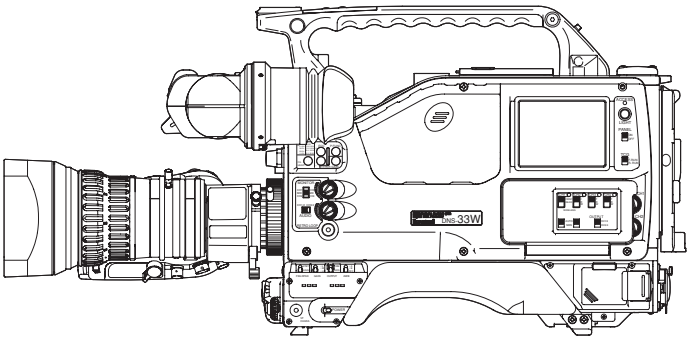
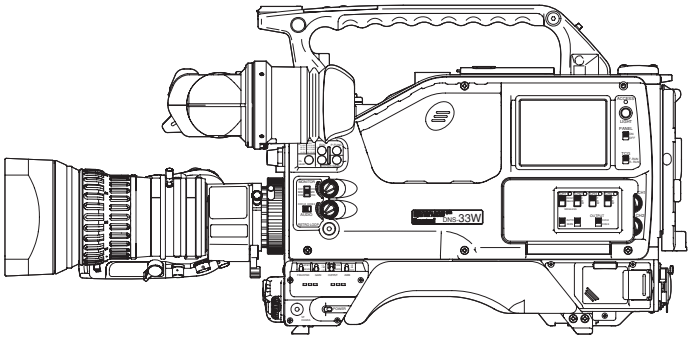


Editcam 3

DNS - 33W

OPERATION MANUAL

Ikegami



Editcam 3

DNS - 33W

OPERATION MANUAL

0503 1st Edition (U)

Ikegami

SAFETY PRECAUTIONS

The safety precautions on the use of DNS-33W are described below. Please read these precautions thoroughly before use.

1. Notes on this Manual

(1) This manual is written for readers with a basic knowledge on cameras, therefore the definitions of the technical terms are omitted.

(2) The contents of this manual are subject to change without notice in the future.

2. Hazard Alert Symbols and Signal Words Concerning Safety in this Manual

This manual employs the following "hazard alert symbol", "signal words" that indicate the danger levels, "Notice" and "Reference" for descriptions concerning safety.

Hazard Alert Symbol : ⚠

Signal Words : **DANGER**
WARNING
CAUTION

In this manual the following indications are used:

⚠ WARNING

Indicates that mis-operation may cause a potentially hazardous situation, which may result in the user's injury or property damage.

⚠ CAUTION

Supplementary information on the matter just discussed.

⚠

Guides the reader to descriptions in other sections or on other pages concerning the matter just discussed.

Notice

For calling reader's notice.

Reference

Indicates reference items described elsewhere.

3. Precautions on Handling

This product has been designed with safety well concerned; however, all electrical appliances may cause electrocution accidents or equipment damage if used in an inappropriate manner, or under unsuitable conditions. Therefore, please follow the instructions on handling this product, listed below:

(1) Do not remove the cover or disassemble unless absolutely necessary, to prevent damage and electrocution.

(2) Always turn the POWER switch OFF after use.
Leaving the POWER switch ON when not in use may result in not only the battery running out, but also equipment damage or accidents when using an AC pack.

(3) Remove the battery from the camera if not using the camera for a long time. The battery runs out if left inserted in the equipment, even if it is not used.

(4) Do not expose the camera to a strong vibration or shock. A strong vibration or shock may cause equipment damage.

(5) Do not lift or hold the camera by the projection parts.
Lifting or holding the camera by the viewfinder or the lens causes the center of gravity of the camera to become unstable so you may drop it. Moreover, the connection parts between the camera and the viewfinder, or the camera and the lens may be exposed to unnecessary pressure, which may cause equipment damage.

(6) Always install the accessories after placing the camera on a fixed position.
When installing a lens or microphone, fix the camera on a stable place (e.g. on a table, a tripod, etc.), to make the installation easier and to prevent dropping the equipment.

(7) Avoid use or storage in the following conditions:
- Extremely high/low temperature
- High humidity
- Strong magnetic field
- In direct sunlight for a long time, or near a heater
- In rain without the rain cover
- Exposed to water drops/spray

(8) Avoid moving the equipment rapidly from an extremely cold place to a warm place.
Condensation may occur in the CCD part.

(9) When shooting an important scene, always hold a trial in advance to check the videotaping and recording.

(10) Regarding the Lithium Battery
- Do not use an unspecified battery.
- Explosion or liquid leak of the battery may cause fire or injury.
  When changing or discarding a battery, please contact Ikegami's sales or operation quarters.

(11) Wipe the dirt/dust off the camera using a dry, soft cloth.
If the stain is hard, soak the cloth with water or detergent, wring well, and wipe. If you use detergent, wipe off the detergent with a cloth that was soaked in just water and wrung well. When wiping, always turn the power off, and take care not to put water in the camera.

4. Regular Maintenance Recommended

This product includes parts that wears out and have a limited life even in proper use or storage. Therefore, regular maintenance (once every 3 years or 8000 hours use) is recommended to extend the life and safe use of this product for a long time. Please contact Ikegami sales and service centers or Techno Ikegami Co., Ltd. for the regular maintenance and repair of our products.

HOW TO USE OPERATION MANUAL

The Editcam3, DNS-33W Camera Operation Manual is intended to describe how to operate DNS-33W Camera.
This Operation Manual is written for people who have some basic knowledge and understanding of a television camera, so explanation of technical terms is omitted here.
The Operation Manual consists of eight chapters. Related topics are included in the same chapter as much as possible so that you do not have to turn pages back and forth. Each chapter is arranged in the order of actual operating procedures. By reading it in sequence, you can smoothly perform a series of steps, from connection to operation in a proper manner.
If you are not familiar with DNS-33W Camera, please start with "Chapter 1. OUTLINE". If you have some experience in operation, read the relevant pages which you do not know how to proceed.
In addition, this manual contains "QUICK START GUIDE" before the Chapter 1. "QUICK START GUIDE" explains a series of operations necessary for shooting and is written for people who have some basic knowledge of a television camera. Read this guide when you briefly want to know how to use this camera.
It should be noted that this manual is written for the standard specifications of the camera. Your custom specifications are addressed in "CHANGING INFORMATION". Changed information is described in this chapter, so read this chapter along with other chapters, though it may be inconvenient ("CHANGING INFORMATION" may be sent to you later on).

Structure of Operation Manual

QUICK START GUIDE	:	Briefly explains how to operate the Camera.
1. OUTLINE	:	Briefly explains the outline and features of the Camera.
2. NAME AND FUNCTION	:	Explains the name and function of each part of the Camera.
3. INSTALLATION AND CONNECTION	:	Explains how to mount and connect peripheral equipment of the Camera.
4. OPERATION	:	Explains the function and operation of the Camera.
5. SETTINGS AND ADJUSTMENT OF CAMERA	:	Explains how to set and adjust various settings of the Camera.
6. SETTINGS AND ADJUSTMENT OF RECORDER SECTION	:	Explains how to set and adjust various settings of the Recorder Section.
7. TROUBLE SHOOTING AND MAINTENANCE	:	Explains how to take countermeasures when you encounter troubles and how to inspect the Camera and peripheral equipment. Also explains precautions when optional equipment is mounted to the Camera. Read this chapter before the use of optional equipment.
8. SPECIFICATIONS	:	Lists the specifications and external appearance of the Camera.
CHANGING INFORMATION	:	Contains revision information in the case of design revision and at request of customers. Read by comparing with the main part of the Operation Manual.

DNS-33W

OPERATION MANUAL

CONTENTS

QUICK START GUIDE

"QUICK START GUIDE" explains a series of basic operations necessary for shooting and is written for people who have some basic knowledge of a television camera and who have experience using the camera.

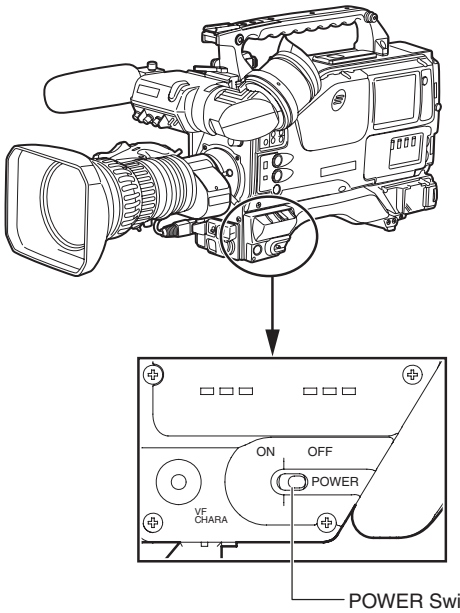
This guide explains main operations after camera equipment is connected to the camera. For how to install and connect the camera equipment, refer to "3. INSTALLATION AND CONNECTION". For details of settings of the camera and recorder section, refer to "5. SETTINGS AND ADJUSTMENT OF CAMERA" and "6. SETTINGS AND ADJUSTMENT OF RECORDER SECTION".

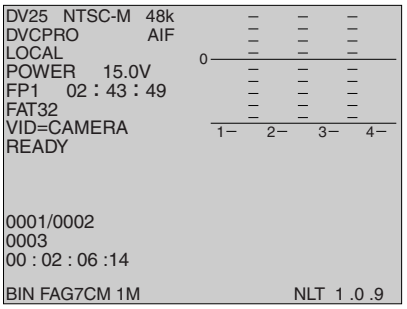
Preparations before Shooting

Power ON/OFF

■Turning On Power

Turn ON the POWER switch of the camera to turn the power of the camera on.
When the power is turned ON normally, the string "BOOTING!!" is displayed on the viewfinder (hereinafter called VF) screen. Then, the four LEDs (AUDIO LED) on the right side of the camera will light up in orange.





(Status Screen)

After the camera is powered on normally, the LEDs once turn off. Then, the color LCD on the right side of the camera displays the logo "Ikegami" and the Status screen.
When a FieldPak2 (hereinafter called FP2) has been loaded in the camera, the logo "Ikegami" is displayed and the disk is recognized automatically (recognition requires a few minutes).

For descriptions of each item displayed on the Status screen, refer to "Status Screen Display" (page 13) in this "QUICK START GUIDE".

■Turning OFF Power

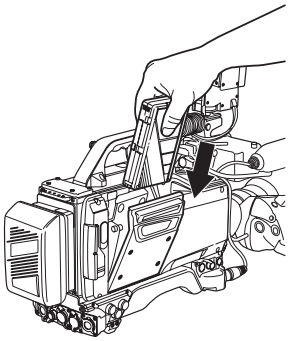
Turn OFF the POWER switch to shut the power off.
A few seconds are required to complete the shutdown of the camera. When the camera is to be restarted, the power must be turned ON 10 seconds or more after powering off.

⚠ CAUTION

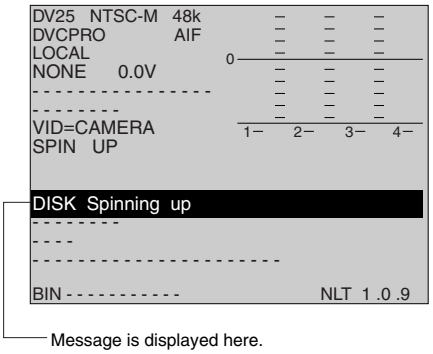
Do not disconnect battery or turn off the power of the AC pack while the power of the camera remains ON. This may cause damage of a clip (image and audio data).

FieldPak2 (FP2) Loading

1. Insert FP2 by pressing the EJECT key after the camera is powered on.



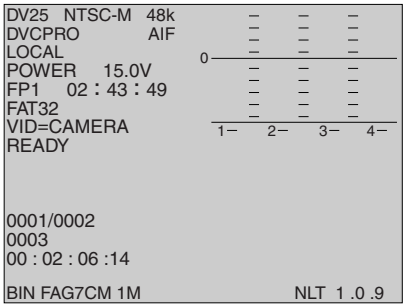
2. Close the eject cover.
Push the cover firmly until it clicks into position.
The FP2 will be recognized automatically just after the loading.
At this moment, "Disk spinning up!" and "Loading Data" messages are displayed on the color LCD.



Notice

When FIELDPAK switch is set to "SAVE", FP2 is not recognized automatically.

A message disappears, and when a disk status is displayed, FP2 recognition is completed.

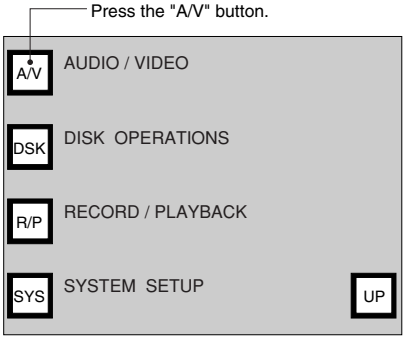


Compression Type Selection

Select a data compression type to be used by the camera before shooting.

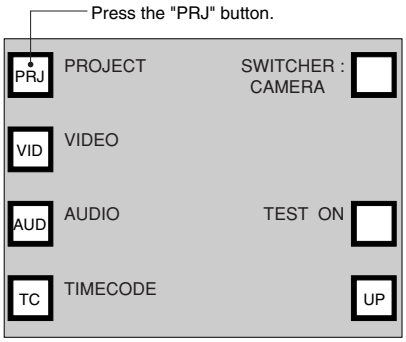
1. Touch the Status screen to display the "BASE" menu.

2. Press the "A/V" (AUDIO/VIDEO) button on the screen.

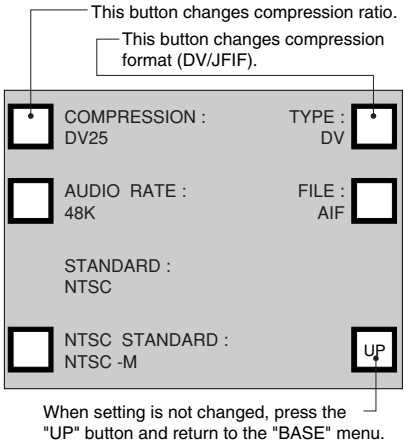


(BASE Menu)

3. Press the "PRJ" (PROJECT) button on the screen.



4. Change the compression format (DV or JFIF) by pressing the button on the right. Change the compression ratio using the button on the left.



Display	Compression Ratio
DV25	DVCPRO25 compression
DV50	DVCPRO50 compression (option)
3:1	JFIF3:1 compression
10:1	JFIF10:1 compression
20:1	JFIF20:1 compression
MPG50	MPEG50 compression (option)

If setting is not changed, press the "UP" button and return to the "BASE" menu.

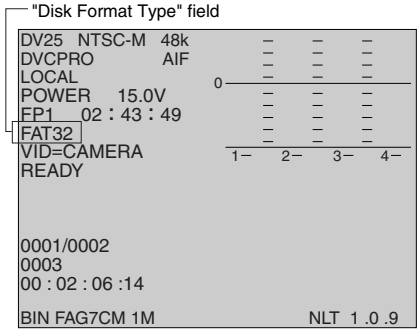
Notice

Clips with different compression format cannot co-exist in an FP2. On the other hand, clips with the same compression format and different compression ratio can co-exist.
When the compression format is changed, replace an FP2 with another FP2 initialized by the compression format to be used or initialize an FP2 by the same compression format.

5. When the compression format is changed, turn the power ON again. Changed settings will be applied after the restart.

Disk Initialization

Initialize (format) the hard disk of the FP2.
Perform this procedure when an FP2 needs to be initialized or an unformatted FP2 is used.
When an unformatted FP2 is loaded, nothing will be displayed on the "Disk Format Type" field on the Status screen. Check if a disk format type is displayed before starting initialization.

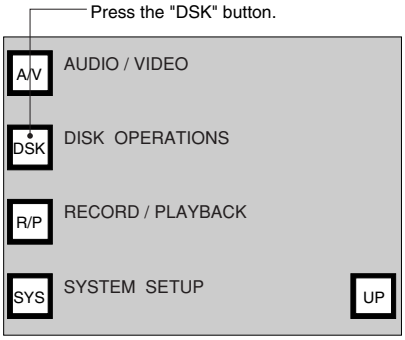


⚠ CAUTION

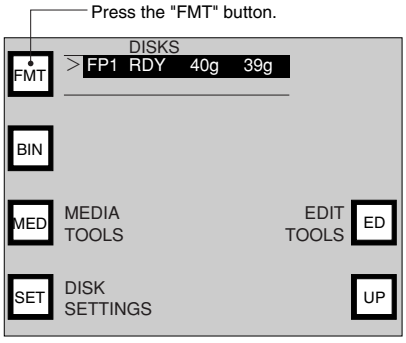
Note that all data in an FP2 will be erased when the hard disk is initialized.

1. Touch the Status screen to display the "BASE" menu.

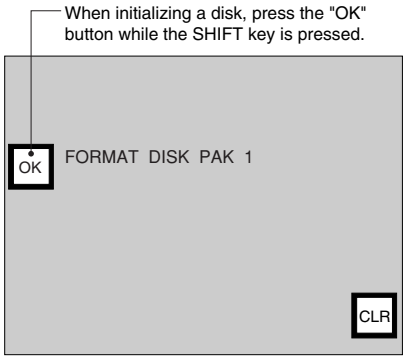
2. Press the "DSK" (DISK OPERATIONS) button on the screen.



3. Press the "FMT" (FORMAT) button on the screen.



4. When initializing a disk, press the "OK" button while the SHIFT key is pressed.
It takes 5 to 6 seconds to finish initialization.
When the initialization starts, "FORMATTING DISK" will be displayed on the screen. When the initialization is completed, "DISK FORMATTED" will be displayed.
To stop initialization, press the "CLR" button.

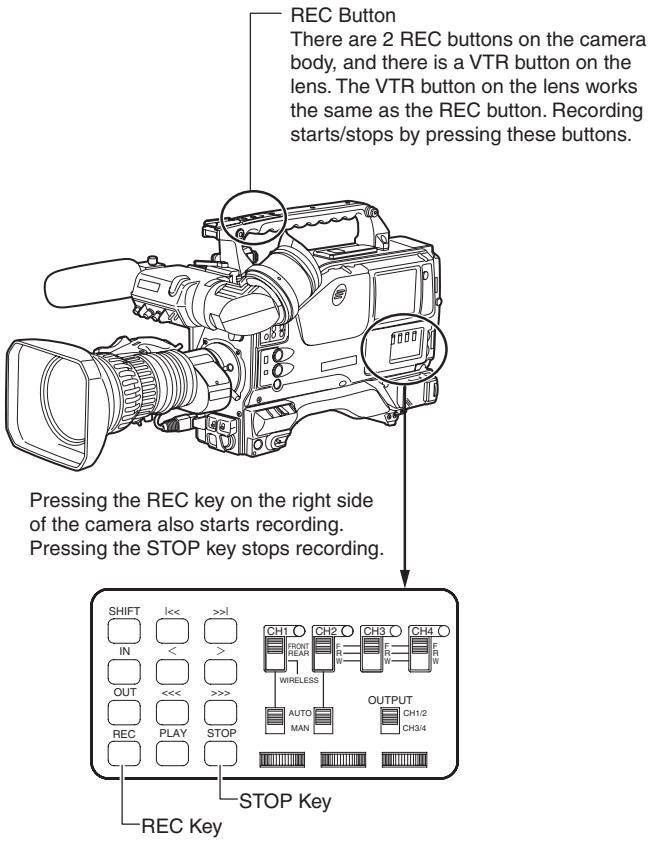


To stop initialization, press the "CLR" button.

5. After the initialization is completed, press the "UP" button and return to the "BASE" menu.

Shooting

Pressing the REC button starts recording. Pressing the REC button once again stops recording.



[When Recording External Input Video]

When an external VIDEO output line is connected to the camera, pressing the REC key can record the external input video to an FP2.

1. Connect the external VIDEO output line to the GENLOCK IN connector of the camera.
2. Select the "A/V" (AUDIO/VIDEO) button on the "BASE" menu of the recorder section, and set "SWITCHER" to "EXTERNAL".
3. Press the REC key on the right side of the camera.
   Recording will be started.
4. Press the STOP key to stop the recording.

Notice

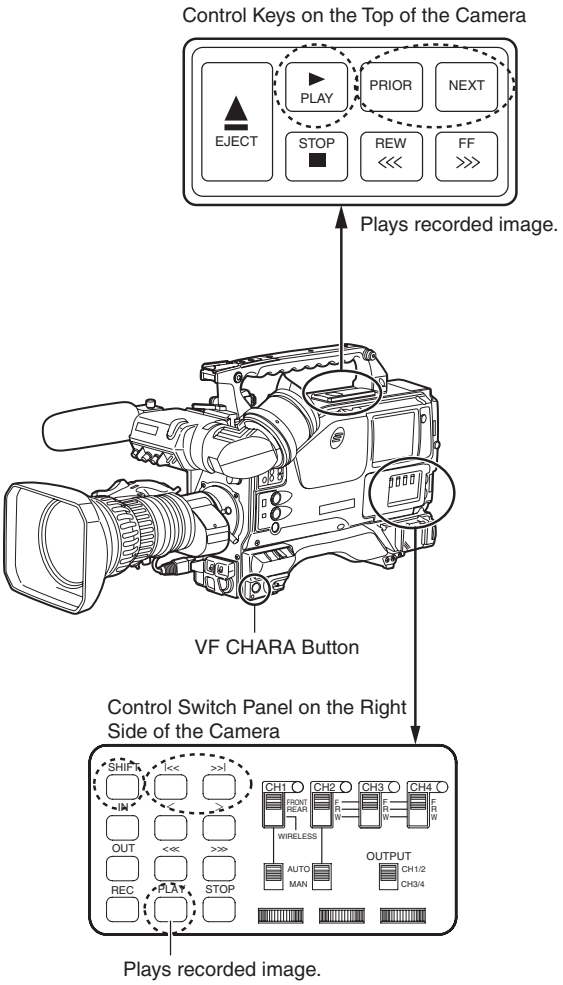
- When the REC button is pressed, the input to the recorder section changes to video signal from the camera, and a clip (image and audio data) will be recorded to the FP2.
- Pressing the REC button during playback of a clip in the FP2 does not overwrite the image in the clip. Playback will be discontinued, and recorded image and audio data will be saved as a new clip.

Playing

There are two ways to play recorded image, normal playback and REC-REVIEW playback.

Normal Playback

Pressing the PLAY key starts playback of the recorded image.
To select a desired clip, use the PRIOR key or the NEXT key on the top of the camera or |<< key or >>| key on the right side of the camera.



Notice

- Playback on the camera is simplified video.
- When the playback is stopped, the still image displayed when being stopped remains on the LCD. To switch to the image of the camera, press the VF CHARA button or the RET button once. RET buttons are placed on the handle and the lens.

[Playing Images on the Color LCD Screen]

The color LCD screen is able to play images being shot, FP2 video, and external input video. Press the SHIFT key (on the right side of the camera) and touch the screen. The screen toggles between menu display and image display.

REC-REVIEW Playback

When the RET button on the handle or on the lens is pressed with the output set to "CAM", the ending part for the last several seconds of the last clip is played.

Notice

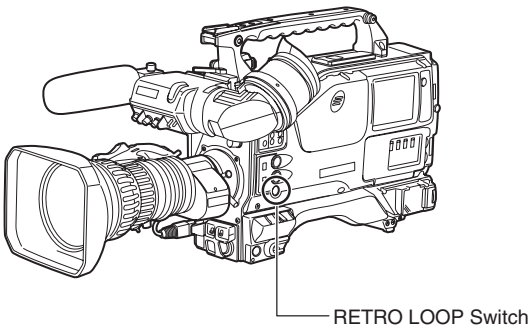
- No REC-REVIEW operation is performed if the output is set to "DISK".
- Since the recorder section is placed in playback mode for REC-REVIEW, audio output (main) is the playback audio, which is normal.
- The REC-REVIEW playback time can be set at "REVIEW LENGTH" under "PLAYBACK" menu. During REC-REVIEW operation, image and audio outputs are selected as shown below.

Output Target	Output Signal
VF	Playback image
MON OUT connector	Image of the camera
VIDEO OUT connector (main)	Image of the camera
Audio (monitor)	Playback audio signal
Audio (main)	Playback audio signal

Special Recording Modes

Retro Loop Recording

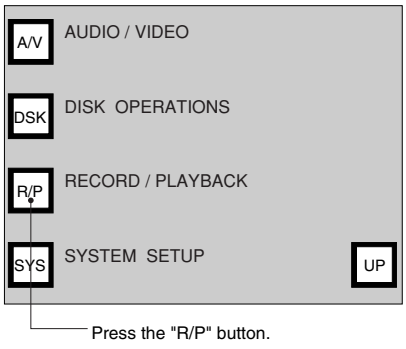
Pressing RETRO LOOP switch on the right side of the camera starts the RETRO LOOP mode.
By starting the RETRO LOOP mode in advance, the images shot before pressing the REC button are additionally recorded. The TALLY lamp blinks when the RETRO LOOP switch is pressed. Image will countinuously be saved to the disk for the specified time length.



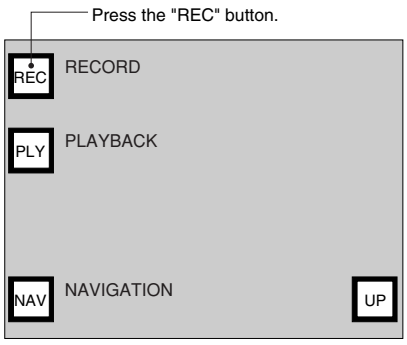
[How to Set the Retro Loop Length]

1. Touch the Status screen to display the "BASE" menu.

2. Press the "R/P" (RECORD/PLAYBACK) button on the screen.

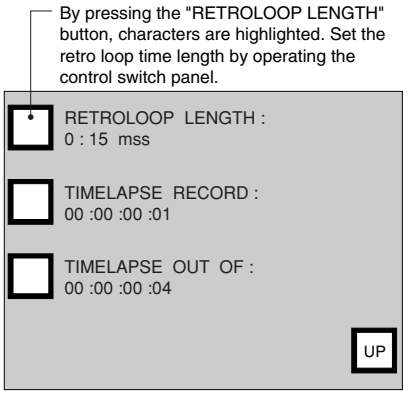


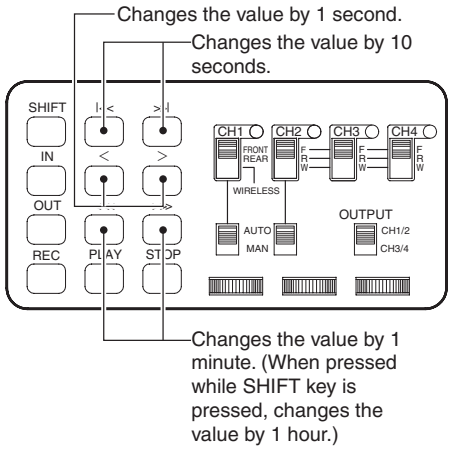
3. Press the "REC" (RECORD) button on the screen.



4. By pressing the "RETROLOOP LENGTH" button, characters are highlighted. Set the retro loop time length by pressing keys (<, >, I<<, >>I, <<<, >>>) on the control panel switch. After the completion of the input, press the "RETROLOOP LENGTH" button again to confirm the input number.
The retro loop time length to be specified varies according to the compression type. Set the time length by referring to the table below.

Compression Ratio	Available Time Length to be Set
DV25	5 sec. to 8 min. 10 sec.
DV50/JFIF3:1/MPEG50	5 sec. to 4 min.
JFIF10:1	5 sec. to 9 min. 45 sec.
JFIF20:1	5 sec. to 19 min. 40 sec.





Time Lapse Recording

Time lapse recording is an intermittent shoot function.
Pressing SHIFT+REC keys on the control switch panel on the right side of the camera starts recording. FieldPak access indicator lights when image is recorded.
Record interval is set by values of "TIMELAPSE RECORD" and "TIMELAPSE OUT OF" items. Set the values for both items between 1 frame and 59 minutes 59 seconds 29 frames. Following formula shows the relationship between record interval and "TIMELAPSE RECORD"/"TIMELAPSE OUT OF".

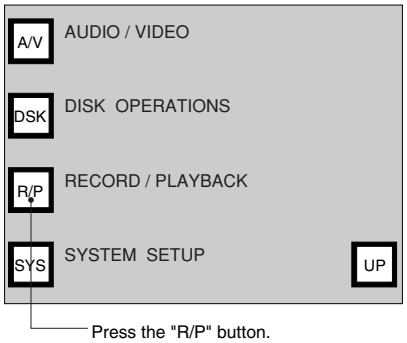
$$\text{Record interval} = \frac{\text{[TIMELAPSE OUT OF]}}{\text{[TIMELAPSE RECORD]}}$$

[How to Set the Time Lapse]

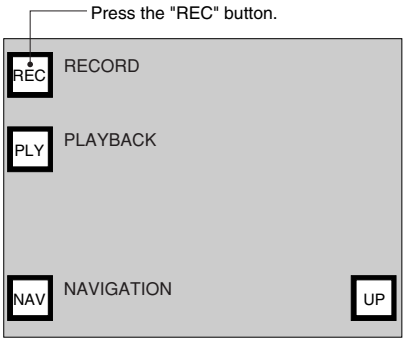
How to set the time lapse is explained here using an example of the intermittent shoot whose image recorded for 6 seconds will be played at 18 frames.

1. Touch the Status screen to display the "BASE" menu.

2. Press the "R/P" (RECORD/PLAYBACK) button on the screen.

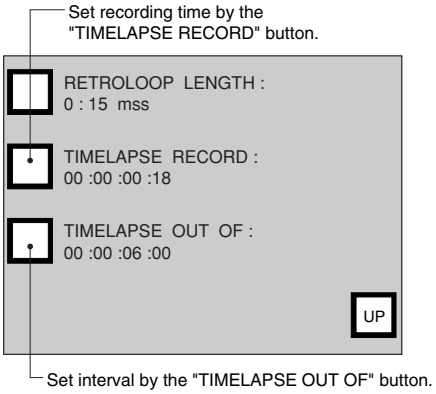


3. Press the "REC" (RECORD) button on the screen.



4. Press the "TIMELAPSE OUT OF" button, and input "00:00:06:00" using |<< key and >>| key.
After the completion of the input, press the "TIMELAPSE OUT OF" button again to confirm the input number.

5. Press the "TIMELAPSE RECORD" button, and input "00:00:00:18" using < key and > key.
After the completion of the input, press the "TIMELAPSE RECORD" button again to confirm the input number.



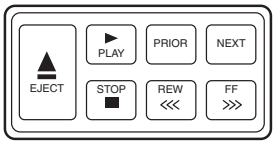
Notice

- When "TIMELAPSE RECORD" is set at "00:00:00:00", 1 frame is shot each time SHIFT+REC keys are pressed.
- Audio data is not recorded during the time lapse recording.
- When the "REC" button is pressed, normal recording starts.
- The value of "TIMELAPSE RECORD" must be smaller than that of "TIMELAPSE OUT OF".

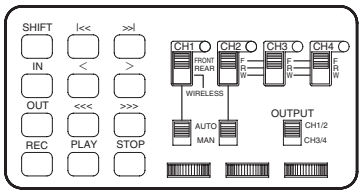
Table of Control Key Operations

To operate the recorder section, perform following key operations.

Control Keys on the Top of the Camera



Control Switch Panel on the Right Side of the Camera

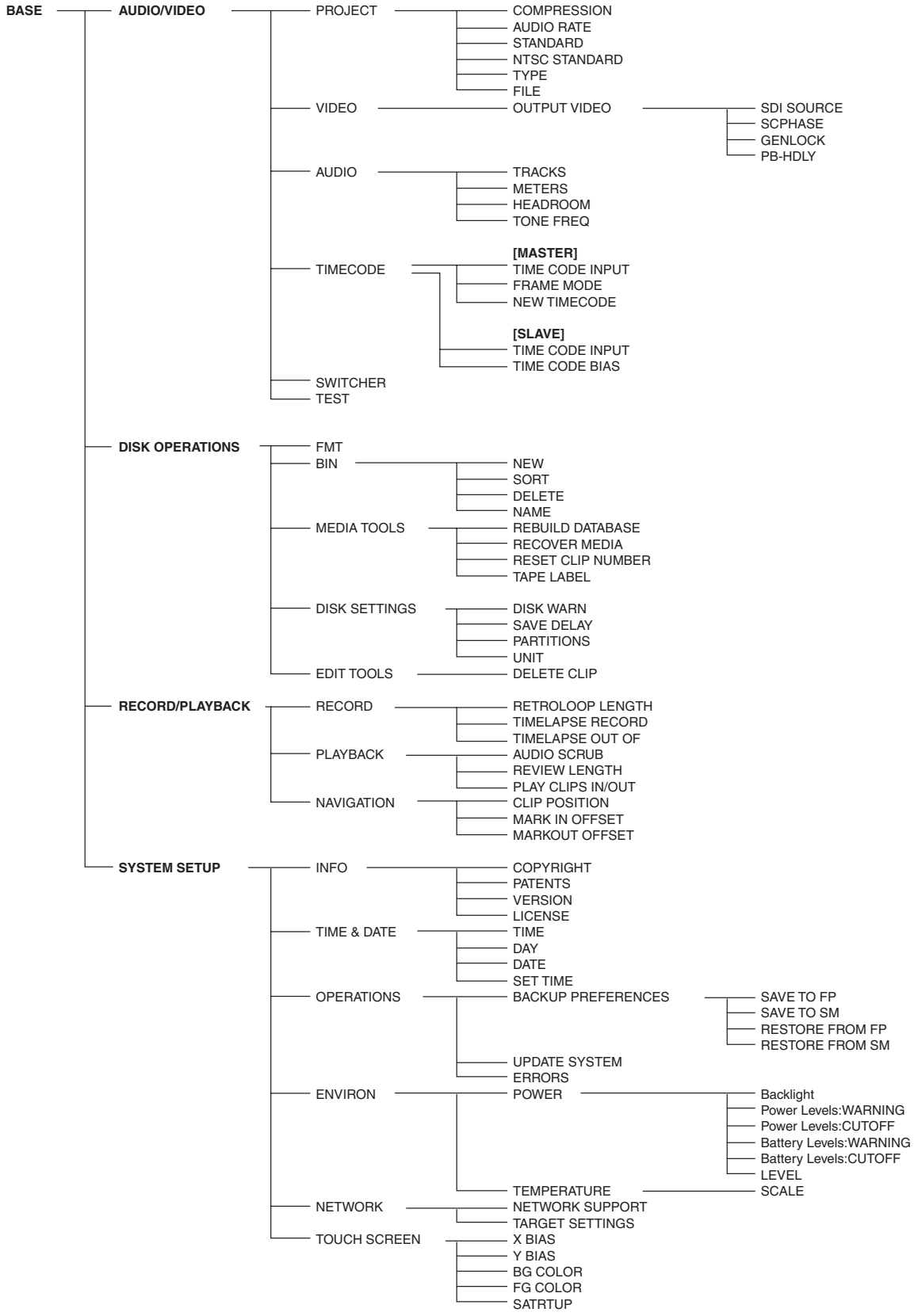


Operation	Key Operation
Starts recording	REC
Starts playing	PLAY
Stops recording or playing	STOP
Starts time lapse recording	SHIFT+REC
Starts loop playback	SHIFT+PLAY
Changes display of LCD	SHIFT+touching panel
Ejects an FieldPak	EJECT key
Rewinds 1 frame	<
Forwards 1 frame	>
Goes to the prior clip	|<< or PRIOR
Goes to the next clip	>>|or NEXT
Plays backward at variable speeds	<<<
Plays forward at variable speeds	>>>
Rewinds 1 second	SHIFT+<
Forwards 1 second	SHIFT+>
Goes to the prior bin	SHIFT+|<<
Goes to the next bin	SHIFT+>>|
Reduces first digit of input number	<
Increases first digit of input number	>
Reduces second digit of input number	|<<
Increases second digit of input number	>>|
Reduces third digit of input number	<<<
Increases third digit of input number	>>>
Reduces fourth digit of input number	SHIFT+<<<
Increases fourth digit of input number	SHIFT+>>>

Operation	Key Operation
Goes to IN point	IN
Sets IN point	SHIFT+IN
Clears IN point	STOP+IN
Moves IN point back 1 frame	IN+<
Moves IN point ahead 1 frame	IN+>
Moves IN point back 10 frames	IN+|<<
Moves IN point ahead 10 frames	IN+>>|
Moves IN point back 1 second	IN+<<<
Moves IN point ahead 1 second	IN+>>>
Goes to OUT point	OUT
Sets OUT point	SHIFT+OUT
Clears OUT point	STOP+OUT
Moves OUT point back 1 frame	OUT+<
Moves OUT point ahead 1 frame	OUT+>
Moves OUT point back 10 frames	OUT+|<<
Moves OUT point ahead 10 frames	OUT+>>|
Moves OUT point back 1 second	OUT+<<<
Moves OUT point ahead 1 second	OUT+>>>

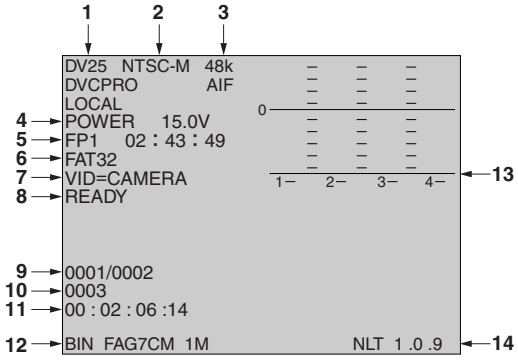
Menu Structure of the Recorder Section

Menu structure of the recorder section is described below. Refer to this for menu operations.
For details of each setting item of the menu, refer to "6. SETTINGS AND ADJUSTMENT OF RECORDER SECTION".



Status Screen Display

The Status screen displays setting information and camera status. This is the initial screen displayed just after the camera is powered on. Status of the camera can be checked before shooting. Status screen display is explained below.



1. Compression type

Displays selected compression format for recording.
Compression formats for the camera is shown below.

Display	Compression Ratio
DV25	DVCPRO25 compression
DV50	DVCPRO50 compression (option)
3:1	JFIF3:1 compression
10:1	JFIF10:1 compression
20:1	JFIF20:1 compression
MPG50	MPEG50 compression (option)

2. TV broadcast standard

Displays selected TV broadcast standard.

Display	TV Broadcast Standard
NTSC-M	NTSC STANDARD
NTSC-EIAJ	NTSC specified by EIAJ (Japan)
PAL	PAL

3. Audio sampling rate

Displays sampling frequency of the selected audio.
44.1KHz or 48KHz

4. DC input voltage

Displays DC input voltage supplied to the camera or remaining charge of the battery (%).

5. Remaining recording time

Displays remaining recording time calculated by remaining FP2 disk amount.

6. Disk format type

Displays format type of loaded FP2.

Display	Format Type
FAT32	Single partition by FAT32
No display	An FP2 is not inserted, or an unformatted FP2 is loaded.

7. Source of monitor output/video output

Displays video type sent to the VF or monitor output/video output.

Display	Output Video
VID=CAMERA	Video from the camera
VID=DISK	Playback video of an FP2
VID=EXTERNAL	External input video from the GENLOCK IN connector

8. DISK status

Displays operational status of an FP2.

9. Clip number

Displays recorded first clip number (left) and last clip number (right).

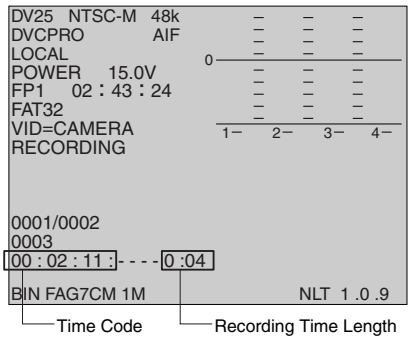
10. Current clip number

During stopping: Current clip number is displayed.
During recording: Clip number created due to recording is displayed.
During playback: Number and length of the clip being played and audio channel number used for the clip recording are displayed.

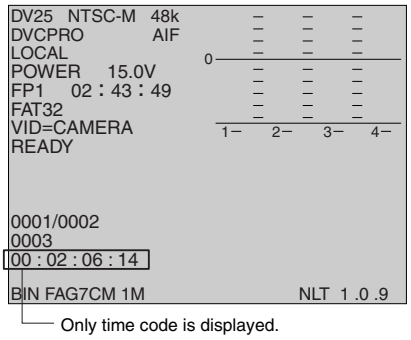
11. Time code

Displays information about time code and clip.

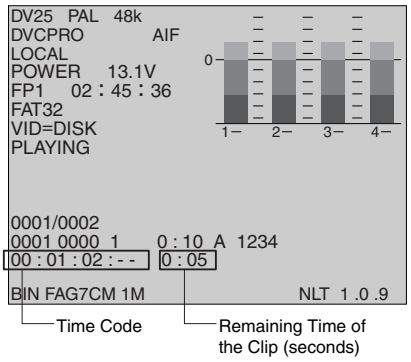
[During Recording]
Displays recording time length on the right of the time code.



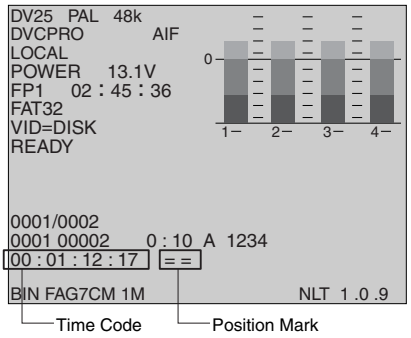
[When Recording is Stopped]
Displays only time code.



[During Playback]
Displays remaining time of the clip in seconds on the right of the time code.



[When Playback is Stopped]
Displays position mark on the right of the time code. Position mark is a mark showing where the selected frame is located in the clip such as current position and setting status of IN/OUT points. Description of each mark is shown below.



Mark	Description
| =	Start-point: first frame of the clip
| >	Start-point of the clip IN point has been set
>>	Frame between IN point and start-point
>=	Frame IN point has been set
==	Frame in the middle of the clip
=<	Frame OUT point has been set
<<	Frame between OUT point and end-point
= |	End-point: last frame of the clip
< |	End-point of the clip OUT point has been set
><	Frame both IN/OUT points have been set

12. Bin name

Displays the bin name.

13. Audio level indicator

Displays the audio input signal level.

14. Software version

Displays system software version of the recorder section.

1. OUTLINE

The Editcam3, Model DNS-33W, is a tapeless camera-recorder employing hard disk drives (instead of video tapes) as a recording medium.
A compact pocket size hard disk drive package is called FieldPak2 (FP2). Editing can be started immediately just after mounting the FP2 to an adapter connected to "Avid Non-linear Editing System". Moreover, newly designed circuits make possible of compact and lightweight camera-recorder body, without sacrificing many useful features of the Editcam system.
The Editcam3 relieves editors of troublesome digitization work and contributes laborsaving of operational flow from recording to editing.

1.1 Features

1.1.1 Camera Section

■ Digital processing

Installs a 0.18μm-rule digital process IC which is also installed to Ikegami's top-class broadcast HDTV cameras. Processes after PRE KNEE are all digitally processed; therefore, a stable high-quality picture can be obtained. Moreover, incorporates 12bit A/D converters to maximize the color gradation for the darker parts of the picture while 600% linear processing is possible in the digital process stages, greatly improving functions such as KNEE and FLARE.

■ Analog processing

By incorporating 520,000-pixel Advanced Interline Transfer (AIT) CCDs that have aspect ratio switching function between 16:9/4:3, the smear level is minimized to -135 dB even under 10,000,000x optical measurement: this result matches that of the FIT CCD. By a new CCD signal processing method and improvement of pre-amplifier circuit, an S/N of 66dB (64dB for PAL) is reached, which was impossible in conventional cameras. Moreover, employing 4 position (3200K/4300K/6300K/8000K) Electronic Color Compensation (ECC) filters for the color temperature filters enables to obtain the best amount of light and depth of field since all the optical filters of DNS-33W are ND filters (4 position).

■ HYPER GAIN

The sensitivity can be increased up to +48 dB by gain up. The minimum object illuminance of approximately 0.03 lx is accomplished. Moreover, when an optional superhigh sensitivity unit is attached, the sensitivity of the CCD accumulation can be increased by 30 times for 1 second at maximum. This superhigh sensitivity unit also enables special effects such as mirror effect and 30p/240line.

■ Usability improvement

As a memory card function, the operation status of the camera can be saved in the Smart Media™. Also, the saved data can be read to easily change the camera setup. As a detail enhancement function exclusively for the viewfinder (hereinafter called VF), detail is emphasized for objects in perfect focus, so the focus can be adjusted easily (CLEAR-VF-DTL). Moreover, installs rotary encoders enabling various adjustment and maintenance of the camera performed at only the camera section.

1.1.2 Body and Exterior

In addition to compactness and lightweight conventionally asked for body of handy cameras, a design for low center of gravity such as lowering mounting position of the lens compared to conventional models and adoption of the large-sized shoulder pad enables stable camera work. Moreover, with the newly developed slide mechanism, the VF can be adjusted by moving it forward and back, and left and right when VF is mounted. In addition, RET switch and REC switch are placed on the handle, and 2-pin connector for lighting is mounted inside the front part of the handle.

1.1.3 Recorder Section

■ Color LCD with touchscreen function

By mounting a large-sized 3.5-inch color Liquid Crystal Display (LCD), displaying various information of the recorder section and displaying video signals are achieved. This color LCD has a touchscreen function. By touching buttons displayed on the screen, settings of the recorder section can easily be modified. Mode can be changed easily from information display to video display by pressing the SHIFT key in the control switch panel and lightly touching the screen.

■ Recording format

JFIF and DV25 are supported by default as recording formats. In addition, DV50 and MPEG can be added optionally.

■ 40GB FieldPak2

For recording medium, FP2 with 40GB hard disk is included as standard equipment. When DV25 format is used, recording time can be approximately 180 minutes. Recording time depends on the recording format.

■ Input and output

Not only camera images but also images input from external equipment (analog composite) can be recorded. In addition, SDI video output and IEEE1394 output are possible optionally.

1.1.4 Accessory and System Operation

■ Unislot

A built-in wireless receiver can be installed to the Unislot mounted on the rear of the camera without cable.

■ System operation

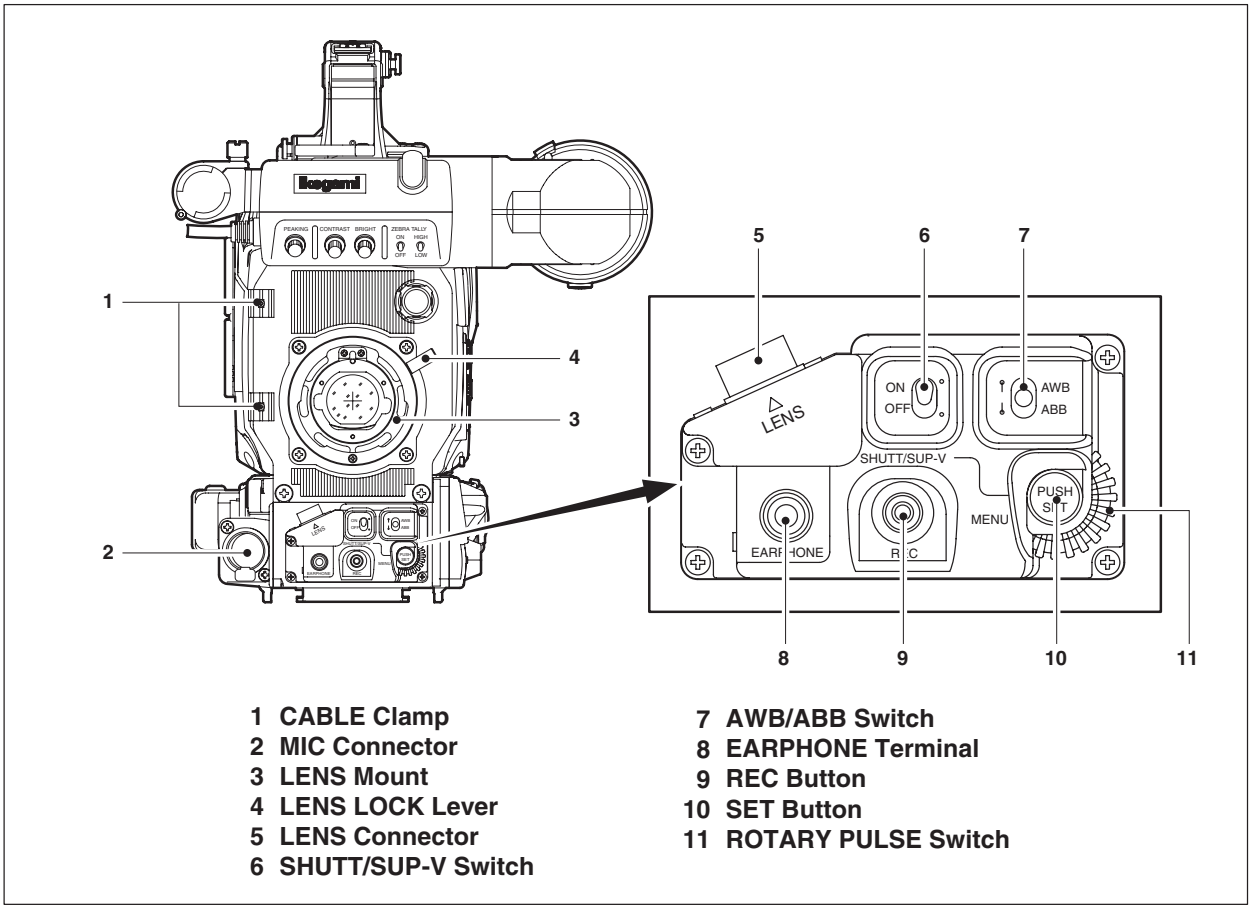
TRIAX operation with TRIAX adapter "TA-V70" supporting 26-pin external VTR connector and TRIAX extension equipment "BS-45" and MA operation with MA adapter "MCA-400" and camera control unit "MA-400" are possible when optional equipment is attached. 5-inch VF effective for TRIAX operation and MA operation is also available. In addition, existing remote control box such as "RM-11" and "RCP-50" can also be connected.

2. NAME AND FUNCTION

This chapter explains the names and functions of camera parts.

2.1 Camera Front Side

This section explains the names and functions of the parts on the front of the camera.



1 CABLE Clamp
2 MIC Connector
3 LENS Mount
4 LENS LOCK Lever
5 LENS Connector
6 SHUTT/SUP-V Switch
7 AWB/ABB Switch
8 EARPHONE Terminal
9 REC Button
10 SET Button
11 ROTARY PULSE Switch

1 CABLE Clamp

Used to secure the microphone cable and lens cable.

2 MIC Connector

Used to connect a microphone.

3 LENS Mount

The lens is attached here.

4 LENS LOCK Lever

Locks the LENS mount section.
Used to turn the lens mount ring to secure the lens after the lens is inserted onto the lens mount.

5 LENS Connector

Used to connect the Pigtail Cable of the lens.

6 SHUTT/SUP-V Switch

When turned ON, the shutter speed set by the ROTARY PULSE switch or the Super V mode works, and the function working is displayed on the VF with characters.

7 AWB/ABB Switch

Used to adjust white balance, black balance, and black shading automatically.

Setting Value	Description
AWB	By setting this switch to the AWB position, automatic adjustment of white balance starts, and the adjusted value is stored in memory A or B selected by the AWB switch on the camera's right side. When the AWB switch is set to the OFF position, this function does not work.
ABB	By setting this switch to the ABB position, automatic adjustment of black balance and black set starts, and the adjusted value is stored in memory. If the switch is set to ABB continuously until the black setting adjustment is over, it will be switched over to Auto Black Shading and, black shading, black set, and black balance will be adjusted automatically.

8 EARPHONE Terminal

Used to connect the earphone for audio monitor. When this terminal is used, the sound from the speaker stopped automatically.

9 REC Button

Used to start or stop recording to an FP2. This switch works in parallel with the REC button on the lens and the handle.

By pressing this button, the input signals to the recorder section are switched to the camera section and the output images of the camera is recorded. After stopping recording, the VF and the color LCD display the output images of the camera.

10 SET Button

Used in the followings.

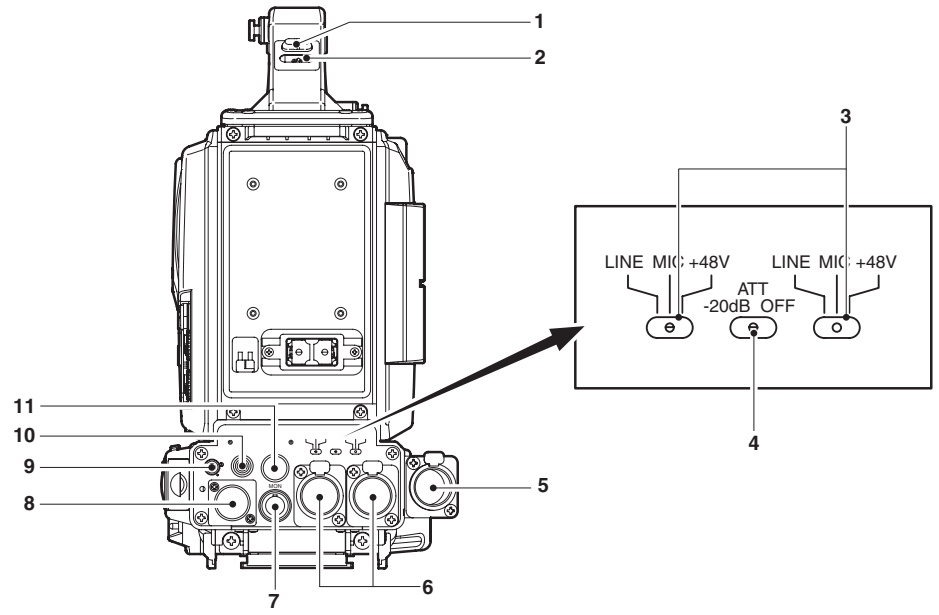
- When selecting the Shutter/Super V mode.
- When entering the camera setting mode.
- When making a decision in the camera setting mode (menu).

11 ROTARY PULSE Switch

Used to select a setting item in shutter speed or any other settings of the camera function.

2.2 Camera Rear Side

This section explains the names and functions of the parts on the rear of the camera.



1 BACK TALLY Lamp
2 BACK TALLY Switch
3 AUDIO SELECT Switches
4 MIC ATT Switch
5 AUDIO OUT Connector
6 AUDIO IN CH1/CH2 Connectors
7 MON OUT Connector
8 DC IN Connector
9 PHONE Terminal
10 DC OUT Connector
11 CAMERA REMOTE Connector

1 BACK TALLY Lamp

Lights up during recording to an FP2 to inform persons behind the camera operator of recording. However, it does not light up when the BACK TALLY switch is turned OFF.

2 BACK TALLY Switch

Used to turn ON/OFF the BACK TALLY lamp.

Setting Value	Description
ON	The BACK TALLY lamp lights up.
OFF	The BACK TALLY lamp turns off.

3 AUDIO SELECT Switches

Used to select the audio signal.

Switches the audio signal as shown below depending on the audio input.

Setting Value	Description
LINE	When line-inputting the audio signal to the AUDIO IN CH1/CH2 connectors.
MIC	When connecting a microphone to the AUDIO IN CH1/CH2 connectors.
+48V ON	When connecting a microphone dedicated for phantom powering to the AUDIO IN CH1/CH2 connectors.

4 MIC ATT Switch

Used to turn ON/OFF attenuation introduced into the audio input from the AUDIO IN CH1/CH2 connectors.

Setting Value	Description
-20dB	Attenuation of approximately -20dB is introduced.
OFF	Attenuation is not introduced.

5 AUDIO OUT Connector

Used for connecting audio equipment.

6 AUDIO IN CH1/CH2 Connectors

Used to input audio signals from a microphone or line.

7 MON OUT Connector

Connector used to output the video signal (ENC, Y, R, G, B, R+G+B) set in the camera setting mode (menu) or by the monitor screen.

During playback, the ENC signal of the playback images is output.

8 DC IN Connector

Used to supply +12V DC power to the camera from the connected AC pack.

9 PHONE Terminal

Used to connect the earphone for audio monitor. When this terminal is used, the sound from the speaker stopped automatically.

10 DC OUT Connector

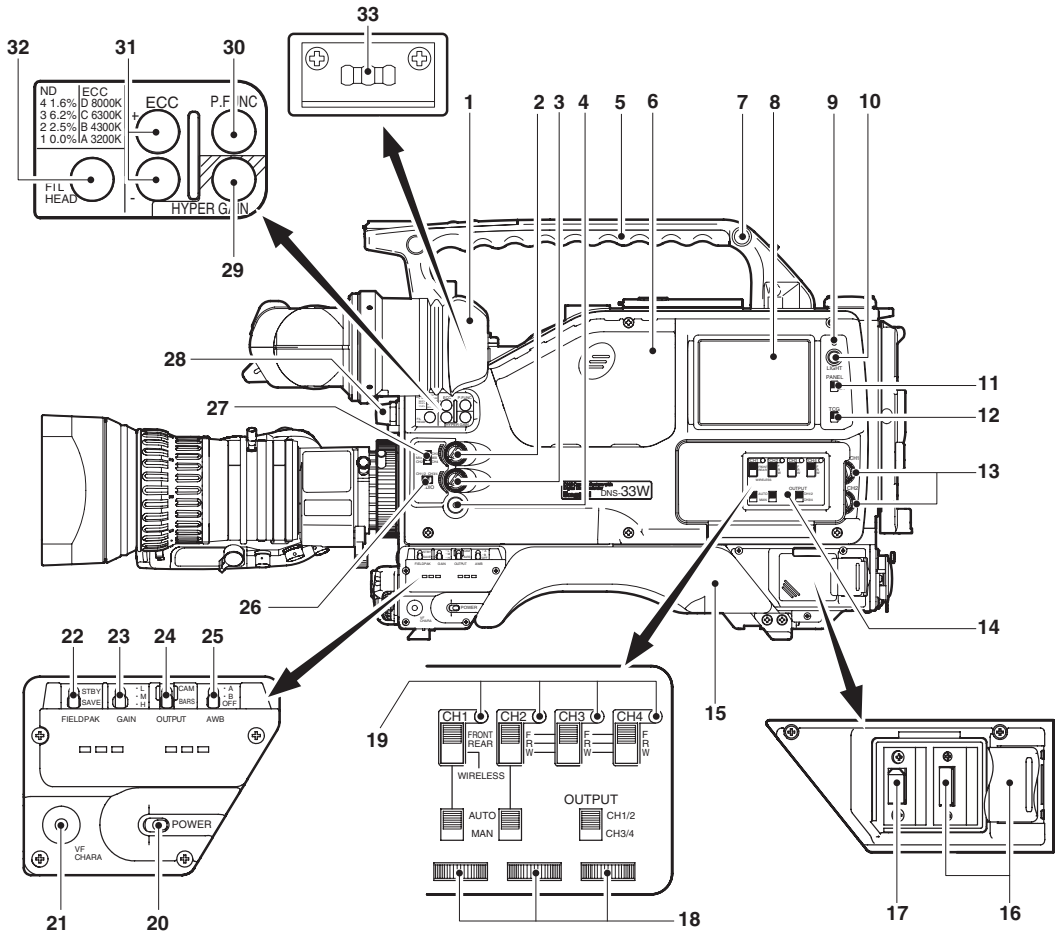
This is a power output connector (max. 200mA) for a wireless receiver and supplies +12V DC power to it.

11 CAMERA REMOTE Connector

Connector used to connect the optional remote control box (RM-11, RCP-50, RCP-11, RS-11, etc.) for camera section.

2.3 Camera Right Side (1)

This section explains the names and functions of the parts on the right side of the camera. Read this section with "2.4 Camera Right Side (2)".



1 1.5-inch Viewfinder
2 MONITOR LEVEL Knob
3 AUDIO LEVEL Knob
4 RETRO LOOP Switch
5 Handle
6 Speaker
7 Shoulder Strap Bracket
8 Color Liquid Crystal Display (LCD) with Touchscreen Function
9 FieldPak Access Indicator
10 LCD LIGHT Switch
11 PANEL Switch
12 TIME CODE SELECT Switch
13 AUDIO INPUT LEVEL Knobs
14 Control Switch Panel
15 Shoulder Pad
16 USB Connector
17 IEEE1394 Connector
18 CAMERA LEVEL SET Rotary Encoders
19 AUDIO LEDs
20 POWER Switch
21 VF CHARA Button
22 FIELDPAK Switch
23 GAIN SELECT Switch
24 OUTPUT SELECT Switch
25 AWB SELECT Switch
26 MONITOR AUDIO PAIR SELECT Switch
27 MONITOR AUDIO CHANNEL SELECT Switch
28 ND FILTER Knob
29 HYPER GAIN Switch
30 P.FUNC Switch
31 ECC FILTER SELECT Button
32 FIL HEAD Button
33 LIGHT CONTROL Switch

1 1.5-inch Viewfinder

Displays images of the camera, playback images of an FP2, various kinds of characters and markers.

2 MONITOR LEVEL Knob

Adjusts the sound level from the speaker and/or earphone.

3 AUDIO LEVEL Knob

Adjusts the input sound level of the CH1/CH2 microphone during recording to an FP2.

Adjust the input sound level within the range set in the AUDIO INPUT LEVEL knob. This knob can be used when FRONT is selected for CH1/CH2.

4 RETRO LOOP Switch

By pressing this button before starting shooting, the images shot before pressing the REC button are additionally recorded for the specified length (times and minutes). The range available in the specification varies according to the compression type.

5 Handle

For carrying this equipment.

6 Speaker

The sound can be monitored during recording to an FP2. The playback sound can be monitored during media playback.

When an earphone is connected to the EARPHONE terminal, the sound from the speaker stops.

7 Shoulder Strap Bracket

Used to attach the optional shoulder strap.

8 Color Liquid Crystal Display (LCD) with Touchscreen Function

Displays the information about video/audio recording and editing, as well as the output images of the camera and recorded images.

By touching the LCD, menus of the recorder section can be operated. By touching the LCD while the SHIFT key is pressed, displays of the menu screen and images can be changed on the LCD.

9 FieldPak Access Indicator

The indication lamp lights during the FP2 access.

10 LCD LIGHT Switch

Turns ON/OFF the LCD backlight.

11 PANEL Switch

Changes the enabled/disabled states of the touchscreen operations on the LCD.

Setting Value	Description
ON	Enables the touchscreen operations.
OFF	Disables the touchscreen operations.

12 TIME CODE SELECT Switch

Selects the way of the recording time progress.

Setting Value	Description
F-RUN	The recording time goes on regardless of operations of the recorder section. This mode is selected when the recording time of the camera should be synchronized with another external equipment.
R-RUN	The recording time goes on only during recording.

13 AUDIO INPUT LEVEL Knobs

Used to adjust the AUDIO INPUT signal levels of CH1 and CH2 manually.

(Signal levels of CH3 and CH4 are adjusted automatically.)

14 Control Switch Panel

Switches for controlling REC/PLAYBACK/AUDIO of the recorder section are located.

15 Shoulder Pad

Used for carrying the camera on shoulder.

16 USB Connector

This part is usually unused.

17 IEEE1394 Connector

Used to output the DV stream when the optional board is installed.

18 CAMERA LEVEL SET Rotary Encoders

Adjusts the level of each mode by rotating these encoders when level adjustment is performed at only the camera section. With the menu of the camera section, set any desired mode. After setting, adjust its level with these rotary encoders. The menu of the camera section is displayed on the VF.

19 AUDIO LEDs

Changes the color according to the input level of the audio signals. Turns red when the level exceeds the limit.

20 POWER Switch

This is a switch for powering on the entire camera.

Setting Value	Description
ON	The entire camera is powered.
OFF	All the power is turned OFF.

21 VF CHARA Button

While this button is pressed, various states of the camera such as zebra indicator, markers and characters are displayed on the VF. When this button is pressed with the SET button on the camera front side simultaneously, the menu is displayed. When this button is pressed during the clip playback, the display changes to the images on the camera side.

22 FIELDPAK Switch

Used to turn ON/OFF the power of the hard disk motor in an FP2.

Setting Value	Description
STBY	The hard disk is in the stand-by mode. As the hard disk is turning, recording will start right after pressing the REC button.
SAVE	The hard disk is in the power saving mode. As the hard disk is stopping, recording will start in a few seconds after pressing the REC button.

23 GAIN SELECT Switch

Used to select the gain (sensitivity) of the camera.

As this switch is operated, the corresponding characters appear on the VF.

Setting Value	Description
L	Gain value equivalent to LOW setting in the camera menu is obtained.
M	Gain value equivalent to MID setting in the camera menu is obtained.
H	Gain value equivalent to HIGH setting in the camera menu is obtained.

24 OUTPUT SELECT Switch

Used to switch the output signal of the camera.

Setting Value	Description
CAM	The camera image is output.
BARS	The color-bar signal is output.

25 AWB SELECT Switch

Used to select a memory for Auto White Balance.

AWB settings can be stored in two memories, Ach and Bch.

Setting Value	Description
A	Ach memory
B	Bch memory
OFF	Turns OFF White Balance adjustment. In this position, the preset condition (3200K) is effective.

26 MONITOR AUDIO PAIR SELECT Switch

Used to select the pair of the audio channels (CH1/CH2, CH3/CH4) for monitor output.

27 MONITOR AUDIO CHANNEL SELECT Switch

Used to change the audio channel output from the speaker or earphone.

The MONITOR LEVEL knob adjusts the output level of the audio channel that is currently selected by this switch. By selecting MIX, CH1/CH2 or CH3/CH4 become available for output simultaneously.

28 ND FILTER Knob

Used to select ND filter. The following four positions can be selected.

Position	Setting Value
1	100% (CLEAR)
2	25% (1/4 ND)
3	6.25% (1/16 ND)
4	1.6% (1/64 ND)

29 HYPER GAIN Switch

Super high sensitivity gain of +30dB to +48dB is obtained by pressing this switch. Characters are displayed on the VF while this function is enabled.

The HYPER GAIN switch must be pressed and held for 2 seconds or more in order to prevent accidental operation.

30 P.FUNC Switch

Used to turn ON/OFF the functions selected by user. User can allocate the functions by pressing and holding this button.

31 ECC FILTER SELECT Button

Used to adjust the ECC filter according to the color temperature of the scene. The + button is used to increase the color temperature, and the - button to decrease the color temperature. The + and - buttons must be pressed and held (for approximately 0.5 seconds or more) only for the first time in order to prevent accidental operation.

Position	Setting Value
A	3200K
B	4300K
C	6300K
D	8000K

32 FIL HEAD Button

Used to change the control priority of the ECC filter between the camera head and the remote controller.

Remote control of the ECC filter becomes available when a remote controller, which is capable of filter control, is connected to the camera head or various types of extension equipment. When the remote controller has the control priority, "*" (asterisk) will appear beside "ND ECC FILTER" indicator of the character display in the VF. If a servo-controlled ND filter is equipped as an option, the control priority of ND filter is changed simultaneously.

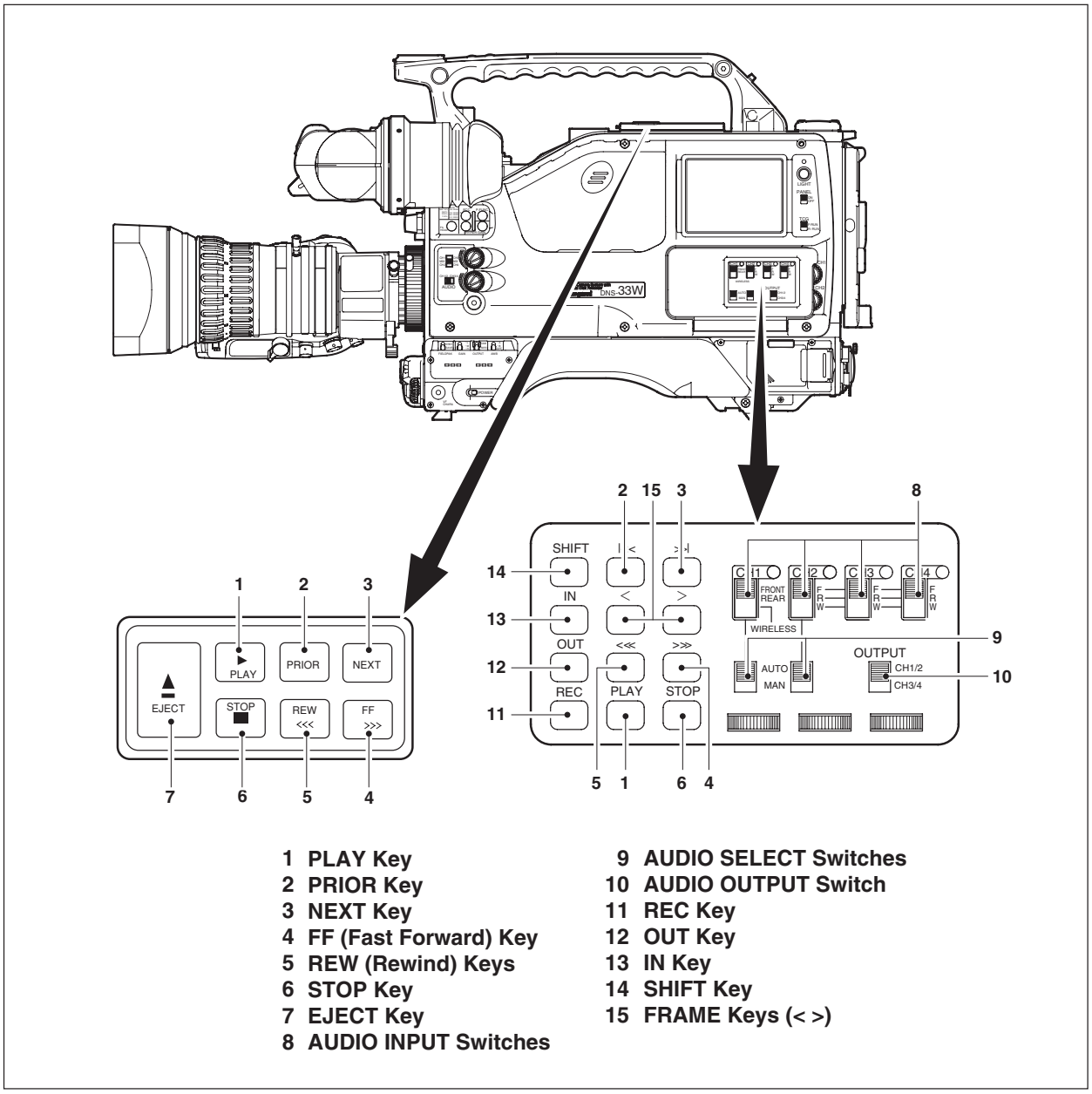
The FIL HEAD buttons must be pressed and held (for approximately 0.5 seconds or more) only for the first time in order to prevent accidental operation.

33 LIGHT CONTROL Switch

Setting Value	Description
AUTO	Supplies power to the light only when shooting a subject. Turn ON the switch of the light at this time.
MANUAL	Always supplies power to the light. ON/OFF can be switched by the switch of the light.

2.4 Camera Right Side (2)

This section explains the names and functions of the parts on the right side of the camera. Read this section with "2.3 Camera Right Side (1)".



1 PLAY Key
2 PRIOR Key
3 NEXT Key
4 FF (Fast Forward) Key
5 REW (Rewind) Keys
6 STOP Key
7 EJECT Key
8 AUDIO INPUT Switches
9 AUDIO SELECT Switches
10 AUDIO OUTPUT Switch
11 REC Key
12 OUT Key
13 IN Key
14 SHIFT Key
15 FRAME Keys (< >)

1 PLAY Key

Plays from current position and stops at last frame of last clip in the bin. When the playback is stopped, the still image displayed when being stopped remains on the LCD.

2 PRIOR Key

Goes to the first frame of the previous clip. Also used to modify setting values.

3 NEXT Key

Goes to the first frame of the next clip. Also used to modify setting values.

4 FF (Fast Forward) Key

Plays forward at variable speeds. Multiple key presses increase playback speed.

5 REW (Rewind) Keys

Plays backward at variable speeds. Multiple key presses increase playback speed.

6 STOP Key

Stops all modes playback/record. Also used in conjunction with various keys.

Operated Key	Description
STOP key + IN key	Clears the IN point.
STOP key + OUT key	Clears the OUT point.

7 EJECT Key

Pressed to insert or eject an FP2.

8 AUDIO INPUT Switches

Used to select input signal recorded to the audio channels, CH1 to CH4.

Setting Value	Description
FRONT	When selecting microphone input signal connected to the MIC connector on the front side of the camera.
REAR	When selecting audio input signal connected to the AUDIO IN CH1/CH2 connector on the rear of the camera.
WIRELESS	When selecting audio input signal connected to a wireless receiver.

The input signal, CH1 is selected for channels of odd number, and the input signal, CH2 is selected for channels of even number.

(Example)
When CH1: FRONT, CH2: F, CH3: R, and CH4: R are selected, sound signals to be recorded are as follows:

CH1: CH1 of the front microphone
CH2: CH2 of the front microphone
CH3: Input from the AUDIO IN CH1 connector
CH4: Input from the AUDIO IN CH2 connector

9 AUDIO SELECT Switches

Used to select adjusting mode of the input level of the audio channels, CH1 and CH2.

Setting Value	Description
AUTO	When performing automatic adjustment.
MAN	When performing manual adjustment.(AUTO only for CH3 and CH4)

10 AUDIO OUTPUT Switch

Used to select output (CH1/CH2 or CH3/CH4) from the AUDIO OUT connector on the rear of the camera.

11 REC Key

Starts record of source. This key is used when recording the images from external input. Press STOP key to stop recording.

12 OUT Key

Goes to mark OUT point in active clip by pressing this key. If no point, goes to the last frame in the active clip. Also used in conjunction with various keys as below.

Operated Key	Description
OUT key + > key	Moves OUT point ahead 1 frame.
OUT key + < key	Moves OUT point back 1 frame.
OUT key + >>|key	Moves OUT point ahead 10 frames.
OUT key +|<< key	Moves OUT point back 10 frames.
OUT key + >>> key	Moves OUT point ahead 1 second.
OUT key + <<< key	Moves OUT point back 1 second.

13 IN Key

Goes to mark IN point in active clip by pressing this key. If no point, goes to the first frame in the active clip. Also used in conjunction with various keys as below.

Operated Key	Description
IN key + > key	Moves IN point ahead 1 frame.
IN key + < key	Moves IN point back 1 frame.
IN key + >>|key	Moves IN point ahead 10 frames.
IN key +|<< key	Moves IN point back 10 frames.
IN key + >>> key	Moves IN point ahead 1 second.
IN key + <<< key	Moves IN point back 1 second.

Notice

By default, the first frame of the clip is marked with the IN point, the last frame of the clip is marked with the OUT point.

14 SHIFT Key

Used in conjunction with various keys.

(Record)

• SHIFT key + REC key

Starts recording by time-lapse.

(Edit)

SHIFT key + IN key Sets the IN point at the current frame.
SHIFT key + OUT key Sets the OUT point at the current frame.
SHIFT key + IN key + OUT key Pressing these keys during boot up will set all internal non-volatile setting to factory defaults.

(Playback)

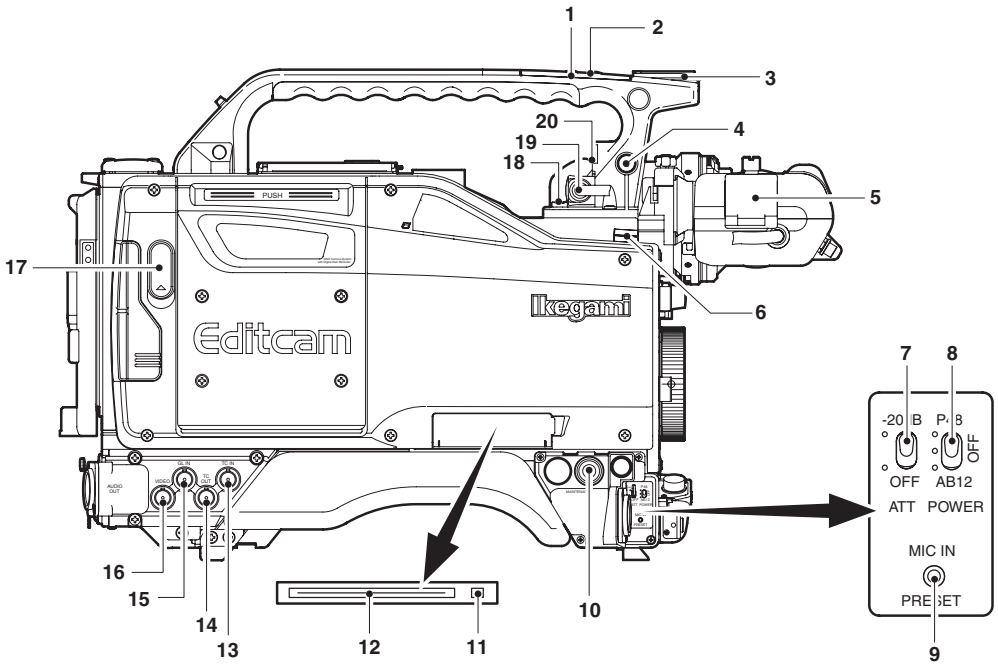
SHIFT key + PLAY key Plays from current position, all clips or events, in a continuous loop.
SHIFT key + > key Steps forward 1 second.
SHIFT key + < key Steps back 1 second.
SHIFT key + >>|key Goes to next bin.
SHIFT key +|<< key Goes to previous bin.
SHIFT key + >>> key Goes to last frame of active clip or event.
SHIFT key + <<< key Goes to first frame of active clip or event.

15 FRAME Keys (< >)

Used to move between frames or to modify setting values.

2.5 Camera Left Side

This section explains the names and functions of the parts on the left side of the camera.



1 RET Button
2 REC Button
3 Accessory Shoe
4 Shoulder Strap Bracket
5 MIC Holder
6 CABLE Clamp
7 MIC ATT Switch
8 MIC POWER Switch
9 PRESET Button
10 MAINTENANCE Connector
11 MEMORY CARD Eject Button
12 MEMORY CARD Slot
13 TC IN Connector
14 TC OUT Connector
15 GENLOCK IN Connector
16 VIDEO OUT Connector
17 EMERGENCY EJECT Hole
18 CONNECTOR LOCK Button
19 VF Connector
20 2-pin Connector for Lighting

1 RET Button

(Operation by camera alone)

<When output is CAM side>

Performs REC-REVIEW. Plays end of the last recorded clip for few seconds.

<When output is DISK side>

Switches the output to the image of the camera. REC-REVIEW is not performed.

(Operation as a system)

The VF image is switched to the RET image while this button is pressed.

2 REC Button

Used to start or stop recording to an FP2.

3 Accessory Shoe

Used to attach a portable light and so on.

4 Shoulder Strap Bracket

Used to attach the optional shoulder strap.

5 MIC Holder

Used to fix a microphone.

6 CABLE Clamp

Used to secure the VF cable.

7 MIC ATT Switch

Used to turn ON/OFF attenuation introduced into the audio input from the microphone at the front of camera.

Setting Value	Description
-20dB	Attenuation of approximately -20dB is introduced.
OFF	Attenuation is not introduced.

8 MIC POWER Switch

Used to select the type of power supplied to the microphone connected to the MIC connector at the front of camera.

Setting Value	Description
P48	+48V Phantom power is supplied.
OFF	No power is supplied.
AB12	+12V AB power is supplied.

9 PRESET Button

Used to return the level adjustment and menu settings of the camera to factory settings.

The button can only be pressed using a screwdriver with a tapered tip.

10 MAINTENANCE Connector

Used only in factory. Do not connect anything usually.

11 MEMORY CARD Eject Button

This button is pressed to remove SmartMedia from the MEMORY CARD slot.

12 MEMORY CARD Slot

Slot for SmartMedia that saves camera setting data.

13 TC IN Connector

Inputs the reference Time Code (TC) signal when time code is desired to be externally locked.

14 TC OUT Connector

Accepts a cable connected to TC IN connector of external equipment when time code of the external equipment is desired to be locked with the camera.

15 GENLOCK IN Connector

Input the SYNC signal (black burst or composite signal) from an external system to have the camera genlocked. This connector is also used to input the video signal from external equipment.

16 VIDEO OUT Connector

Outputs the video signal of the camera or color bar signal in accordance with the OUTPUT SELECT switch position (CAM/BARS) on the right side. In addition, the playback images of the disk recorder section are automatically output. SDI signal is output from VIDEO OUT connector when SDI option is attached.

17 EMERGENCY EJECT Hole

Used to take out an FP2 by inserting a slotted screwdriver etc. through this hole when an FP2 cannot be taken out by pressing the EJECT key.

18 CONNECTOR LOCK Button

Used to prevent the VF connector from being released. To remove the connector, press and hold the lock button.

19 VF Connector

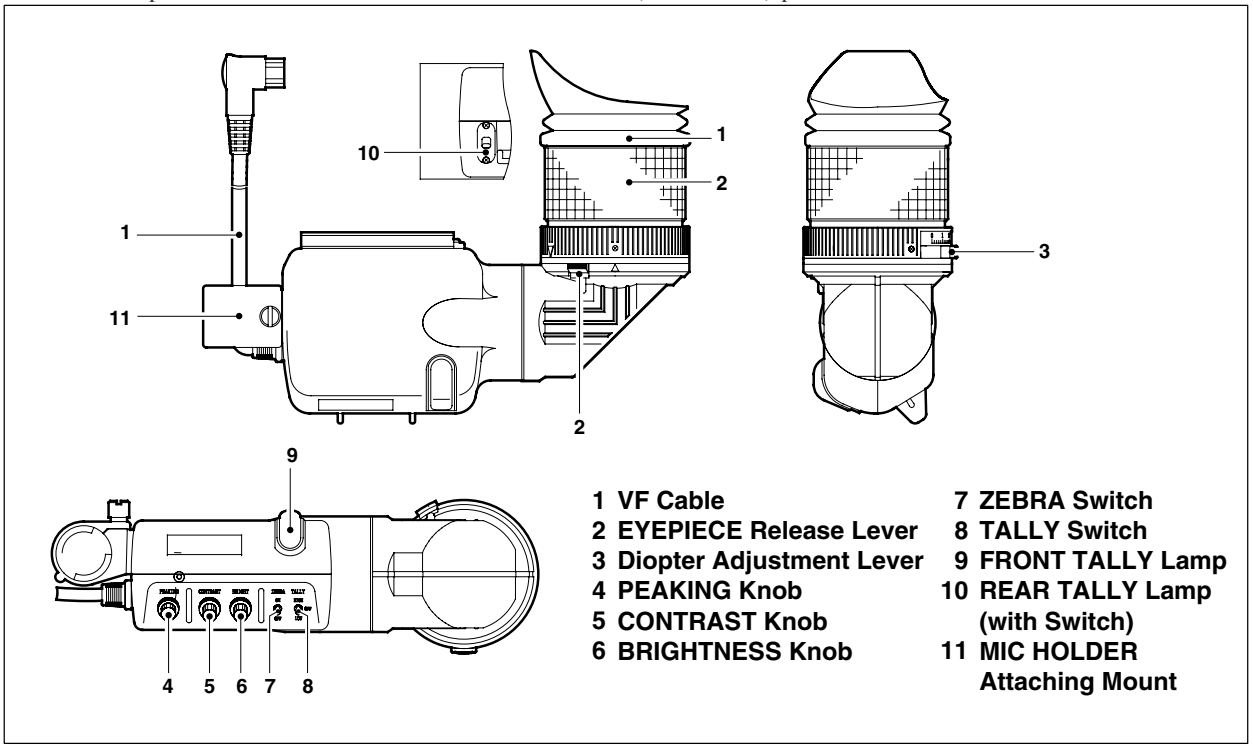
Accepts the VF cable.

20 2-pin Connector for Lighting

Used to supply power (max. 50W) to a video light.

2.6 Viewfinder (VF15-32A-S)

This section explains the names and functions of the viewfinder (VF15-32A-S) parts.



1 VF Cable
2 EYEPIECE Release Lever
3 Diopter Adjustment Lever
4 PEAKING Knob
5 CONTRAST Knob
6 BRIGHTNESS Knob
7 ZEBRA Switch
8 TALLY Switch
9 FRONT TALLY Lamp
10 REAR TALLY Lamp (with Switch)
11 MIC HOLDER Attaching Mount

1 VF Cable

Used to connect the VF (VF15-32A-S) to the camera.

2 EYEPIECE Release Lever

Used to release the eyepiece when the inside of the VF has to be cleaned.

3 Diopter Adjustment Lever

Adjusts visibility so that images on the VF can be sharpened according to a person's eyesight. Adjustment is performed by sliding the lever to the left or right while pushing it in slightly.

4 PEAKING Knob

Adjusts the PEAKING level to make images on the VF sharper so that focus can be optimized. This adjustment has no effect on the OUTPUT signal of the camera.

5 CONTRAST Knob

Adjusts contrast of images on the VF. This adjustment has no effect on the OUTPUT signal of the camera.

6 BRIGHTNESS Knob

Adjusts brightness of images on the VF. This adjustment has no effect on the OUTPUT signal of the camera.

7 ZEBRA Switch

Used to turn ON/OFF the zebra indicator. By turning this switch ON, zebra pattern is displayed on the VF when the video level is higher than the set value.

Setting Value	Description
ON	Zebra pattern is displayed.
OFF	Zebra pattern is not displayed.

8 TALLY Switch

Controls the FRONT TALLY lamp.

Setting Value	Description
HIGH	Front tally lamp gets brighter when it is on.
OFF	Front tally lamp is always off.
LOW	Front tally lamp gets dimmer when it is on.

9 FRONT TALLY Lamp

Lights during VTR recording or when R TALLY is entered in various extension equipment. It does not light when the TALLY switch is set to OFF.

10 REAR TALLY Lamp (with Switch)

The REAR TALLY lamp is interlocked with the R TALLY indicator of the VF, and lights during VTR recording or when R TALLY is entered in various extension equipment. Since REAR TALLY lamp serves as the switch, it can be turned ON/OFF by sliding.

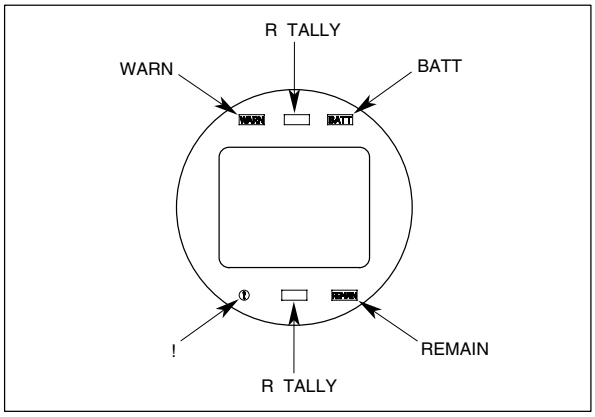
11 MIC HOLDER Attaching Mount

Used to attach the external microphone holder (option).

2.6.1 Displays in the Viewfinder

In addition to the LED indicators on the VF, marker and character displays are also provided on the VF screen. Details are provided below.

■ LED Indicators



Indicator	Description
WARN	This lights when trouble has occurred.
BATT	This lights when the battery voltage has fallen below the setting.
!	This lights when the settings are not the standard (See Notice).
R TALLY	Lights during VTR recording (Red).
REMAIN	This lights when disk remaining is less than set value.

Notice

For the default setting, the ! indicator lights in the following settings.

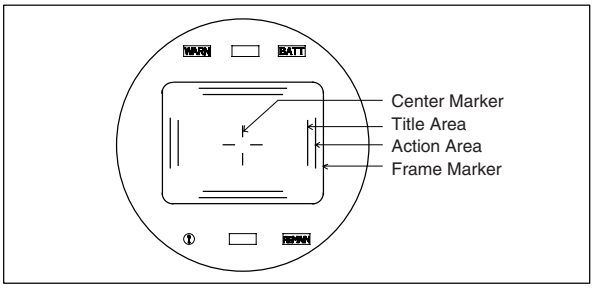
Switch/Function	Setting
KNEE MODE	MANUAL
SKIN DTL	ON
SHUTT/SUP-V	ON
A. IRIS CORR	Other than OFF
GAIN SELECT switch	Other than 0dB
AWB SELECT switch	OFF
LENS EXTENDER SELECT switch	ON
FIELDPAK switch	SAVE

Reference

- The value to output warnings can be set by the menu of the recorder section. For details of the setting, refer to "6.3.4 DISK SETTINGS Menu".
- Lighting conditions of the ! indicator can be set by the camera menu. For details of the setting, "5.10.6 ! INDICATOR (Selecting the warning display items)".

■ Center Marker, Safety Markers and Frame Marker

- The Center Marker is used to ascertain the center of the screen or align the camera horizontally and vertically.
- The Safety Markers are used to check the action safety area (90%) or title safety area (80%). Switching between the action area and the title area is done by the "SAFETY AREA" settings of the camera menu.
- The Frame Marker is used to ascertain the frame of the image being shot.
- Aspect ratio (4:3/13:9/14:9/15:9/16:9) can be set to the Safety Markers and Frame Marker.

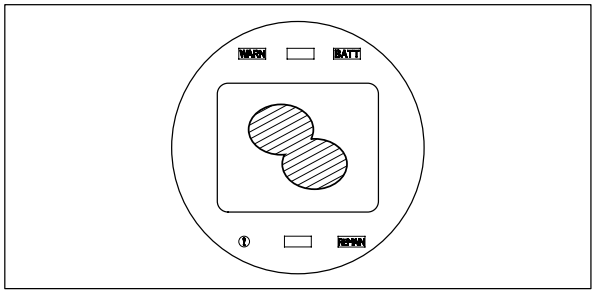


Reference

Markers described above can be set by the camera menu. For details of the setting, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)".

■ Zebra Indicator

The zebra signals are striped patterns that appear superimposed on the actual picture. There are two zebra signals: the zebra 1 signal which appears in the area where the video level of the subject is higher than the set value, and the zebra 2 signal which appears only in the area where the video level is the same as the set value. The zebra indicator is turned ON or OFF using the ZEBRA switch on the VF.

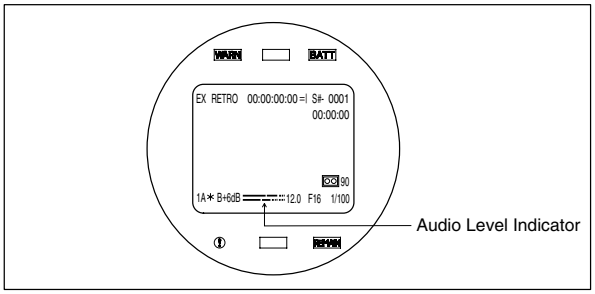


Reference

For details of the setting, refer to "5.10.5 ZEBRA INDICATOR".

■ Audio Level Indicator

The recording level is displayed in the form of a bar graph on the Audio Level Indicator.



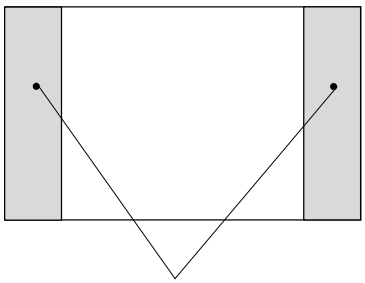
Reference

For details of the setting, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)", "■DISPLAY SELECT (Character display setting)".

■ Side Mask Function

When the camera output aspect ratio is set to 16:9, the picture on the VF is displayed with 16:9 aspect ratio. In consideration of converting to the 4:3 picture, contrast of the picture outside frame marker area can be adjusted.
The side mask is displayed when the frame marker is set to the following ratio:

Camera Aspect Mode	Frame Marker Setting
With 16:9 mode	4:3, 13:9, 14:9, 15:9
With 4:3 mode	13:9, 14:9, 15:9, 16:9



Contrast and brightness of the picture outside the frame marker can be adjusted.

Reference

For details of the setting, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)", "■VF DISPLAY 2 (Submenus to select mode for various displays on the VF)".

■ Switching the Display

The character displays can be set by "DISPLAY MODE" of the camera menu.
The characters to be displayed on the VF screen differ depending on the mode.

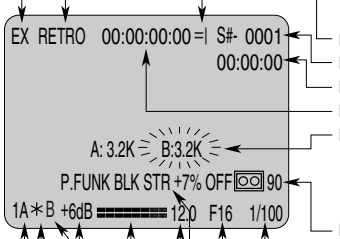
Setting Value	Description
OFF	No characters are displayed except the battery and other warnings.
1	Area Marker/Center Marker/Frame Marker/ Recording Time Count Indicator and Audio Level Indicator are always displayed. When the following knobs, buttons, and switches are operated, the settings are displayed for about 2 seconds. • ND FILTER knob (or ND FILTER SELECT button) • ECC FILTER SELECT button • GAIN SELECT switch • AWB SELECT switch • SHUTT/SUP-V switch • LENS EXTENDER SELECT lever
2	Area Marker/Center Marker/Frame Marker/Recording Time Count Indicator/Audio Level Indicator and Filter Position are always displayed. When the following switches are operated, the settings are displayed for about 2 seconds when the standard settings are selected or always displayed when the non-standard settings are selected. • GAIN SELECT switch: Standard setting 0dB • SHUTT/SUP-V switch: Standard setting OFF • AWB SELECT switch: Standard setting Ach

Reference

For details of the setting, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)", "■ DISPLAY MODE".

■ Character Display

● Status displays



■ Lens extender operation display

■ Special recording operating mode display
Displays operating mode during the special recording.
During retro loop record: RETRO
During time lapse record : T.LPS

■ Position mark

■ Clip number

■ Clip length

■ Time code

■ AWB color temperature
This color temperature has been stored in AWB memory channel. It appears while the VF CHARA button is pressed. The channel selected by the AWB select switch flashes.

■ Remaining disk amount indicator
Displays remaining FP2 disk amount time.
When remaining amount is more than 91 minutes: 00 >90
When remaining amount is less than 90 minutes: 00 remaining time (Unit: minutes)

■ Shutter speed / Super-V mode

■ Lens F value (See Notice).
+F : IRIS+ CORR ON, ‡F : IRIS++ CORR ON

■ P.FUNC
Function assigned to the P.FUNC switch is displayed with its status.

■ Battery voltage/remaining charge
The present voltage is indicated when the battery voltage has dropped below the setting. When the Anton Bauer intelligent battery is used, the present voltage is indicated when the remaining charge has dropped below the setting.
The voltage setting indicating warnings and the remaining charge setting can be changed by "POWER MENU" in the menu of the recorder section.

■ AUDIO level indicator
Indicates the input level of audio channels selected by a MONITOR AUDIO SELECT switch located on the right side of the camera. Input level for CH1 or CH3 is indicated in the upper bar, and for CH2 or CH4 is indicated in the lower bar.

■ GAIN UP value

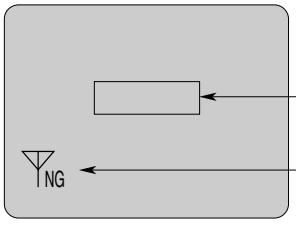
■ AWB MEMORY set
A: Ach, B: Bch, 0: OFF

■ Priority right of filter control
Indicates whether the remote controller has the priority right to control the ECC filter.
* : Being controlled by the remote controller

■ ND, ECC Filter position

ND	1	2	3	4
	100%	25%	6.2%	1.6%
ECC	A	B	C	D
	3200K	4300K	6300K	8000K

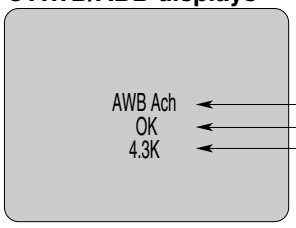
● Warning displays



■ Camera warning displays
Displays warning message of camera.

■ RF warning displays
Displays warnings when a wireless receiver supporting RF warning function is connected with and the received radio wave level is low.

● AWB/ABB displays



■ Auto function now being executed
"AWB Ach", "AWB Bch", "ABB", or "A.BLK SHADE"

■ Execution result

"OK"	: Appears when the function has been completed.
"NG"	: Appears when the function was not completed.
"STOP"	: Appears when the execution of the function was discontinued.
"LEVEL OVER"	: Appears when the input signal level is too high.
"LEVEL UNDER"	: Appears when the input signal level is too low.
"CHG FILTER"	
"COLOR TEMP. HIGH"	: Appears when color temperature of the subject is too high.
"COLOR TEMP. LOW"	: Appears when color temperature of the subject is too low.

■ AWB color temperature
The color temperature is indicated here upon completion of AWB.

Notice

A correct F value is not displayed for the B3 lens when the IRIS OPERATION SELECT switch of the lens is set to "M" (Manual). This is due to the specification of the lens and not indicative of a failure.

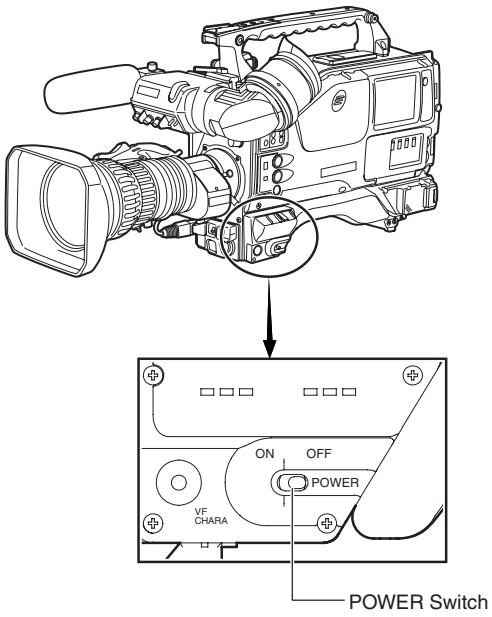
3. INSTALLATION AND CONNECTION

This chapter explains how to install and connect the camera equipment.

3.1 Preparation to Connect

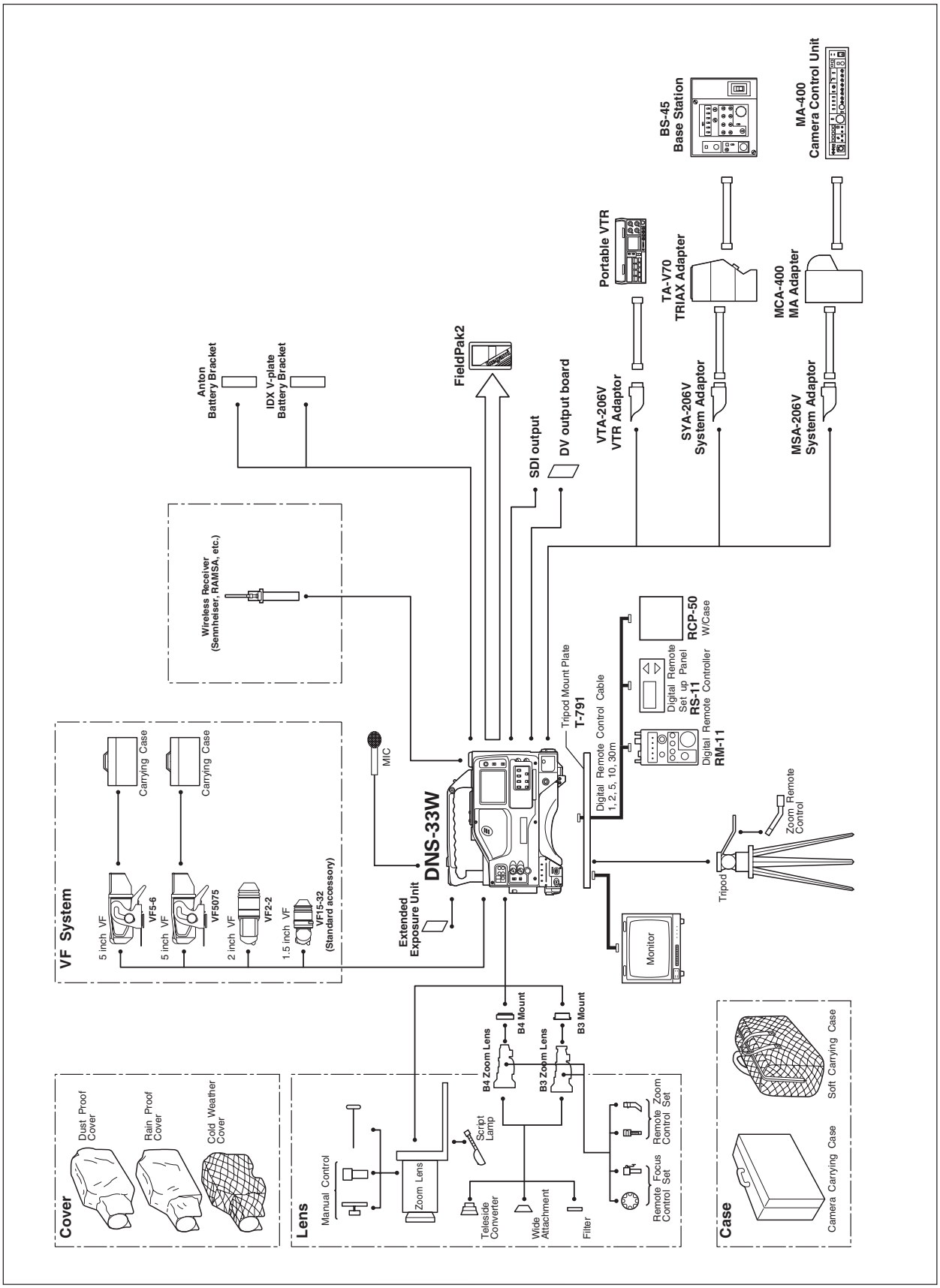
3.1.1 Making Sure that Power Switch is Turned OFF

Make sure that the power switch is turned OFF when the camera and peripheral equipment are connected. For the power switch and turning off procedure of peripheral equipment, refer to the manual of each peripheral equipment.



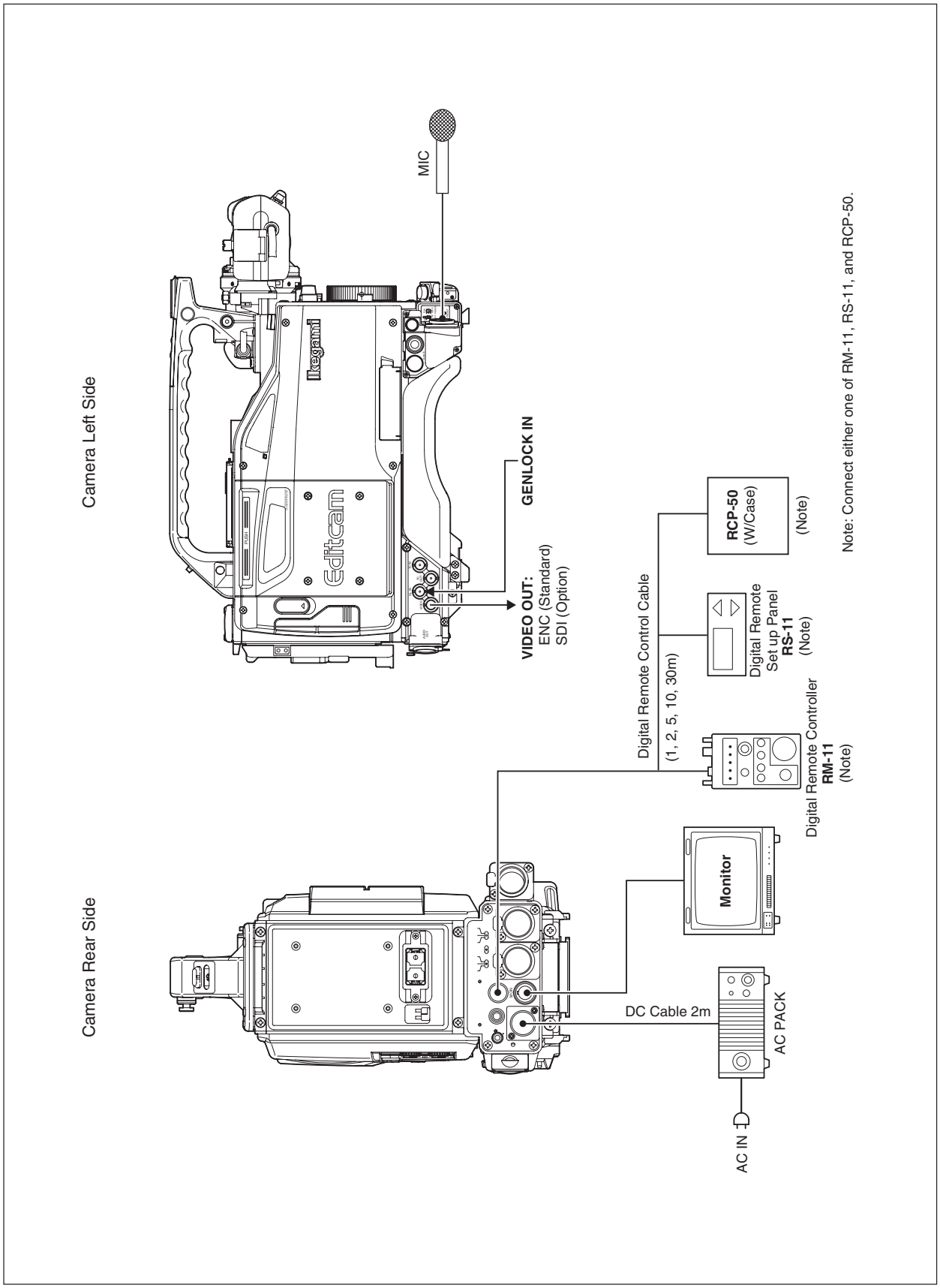
3.1.2 Connection Diagram

This section shows the connection diagram of the camera equipment.



3.1.3 Connection Example of Camera and Main Equipment

This section shows a main connection example of the camera and peripheral equipment.

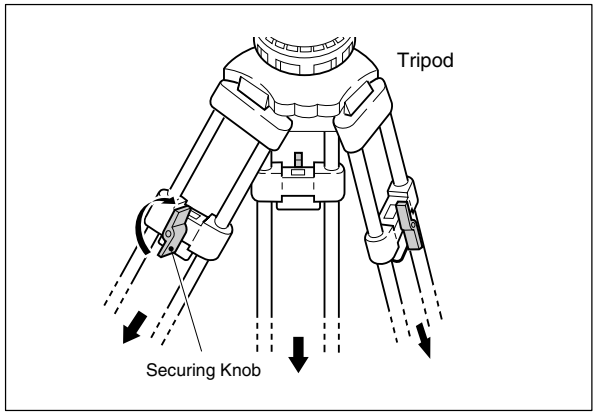


3.2 Mounting on a Tripod

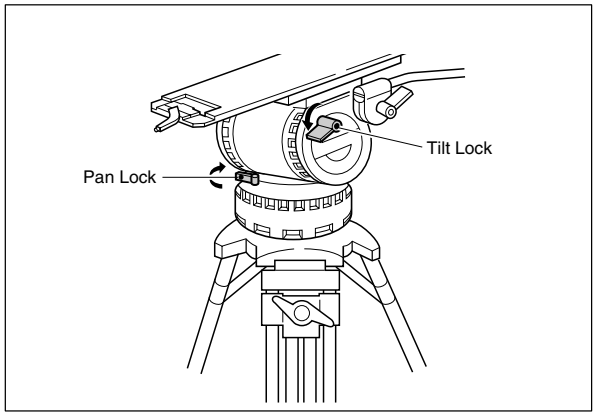
This section explains how to mount the camera on a tripod. A number of different kinds of tripods are available to suit different applications and purposes. For details about tripods, refer to the instructions accompanying the tripod to be mounted. The mounting of the VIDEO-18 will be described below as an example.

1. Loosen the Securing knobs and extend the tripod's feet. Adjust the tripod height as desired.

2. Tighten the Securing knobs to fix the tripod's feet.



3. Make sure that the Tilt lock and Pan lock are in the locked position.

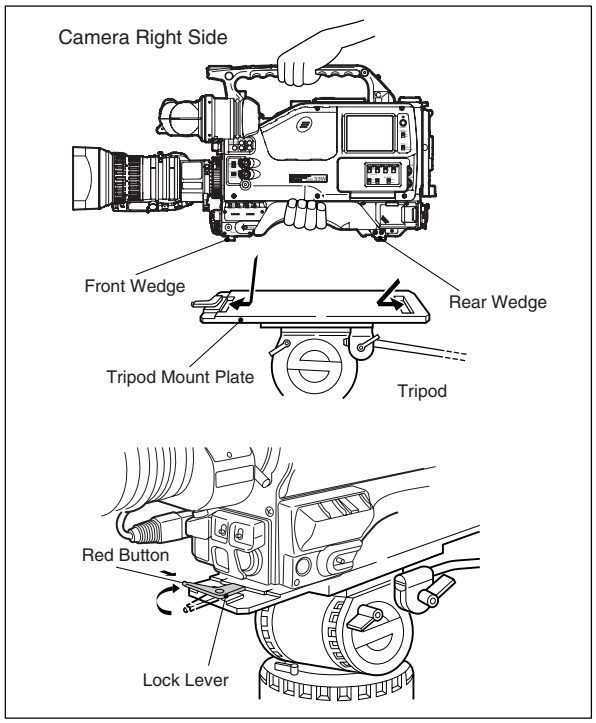


⚠ CAUTION

Be sure to tighten the Securing knobs before mounting the camera on a tripod. If the tripod is unstable, the camera might fall when it is mounted on the tripod and equipment can be damaged or you can be injured.

4. Insert the Rear wedge of the camera into the groove of the tripod mount plate and move it backward slightly.

5. After inserting the Front wedge of the camera, tighten the Lock lever until the camera is completely fixed.
At this time, rotate the lever until it clicks into position. When the camera is locked to the tripod by the lock lever, it clicks.



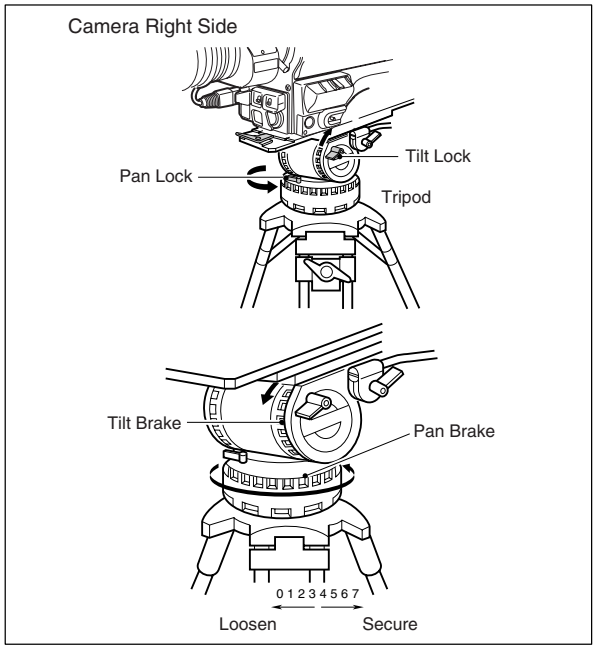
6. Make sure that the camera is fixed to the tripod completely and will not wobble.

⚠ CAUTION

Be sure to mount the camera on a tripod securely, or the camera might fall and equipment can be damaged or you can be injured.

7. Loosen the Tilt lock and Pan lock and adjust the pan and tilt angles of the camera.
Setting the Pan brake and Tilt brake to a low number will minimize friction and ensure smooth movement.

8. Position the camera to the desired pan and tilt angles and secure it.



■ Dismounting the Camera from a Tripod

This section explains how to dismount the camera on a tripod.

1. Unlock the Camera by pressing the Red button on the Lock lever when dismounting the Camera from a tripod. Hold the Carrying Handle of the camera.

2. Lift the camera and then remove the wedge from the tripod mount plate.

3.3 Mounting the Lens

This section explains how to mount the lens to the Camera. Place the camera on a tripod or in a horizontal and stable position to mount the lens. The lens mount of the camera supports BTA standard.

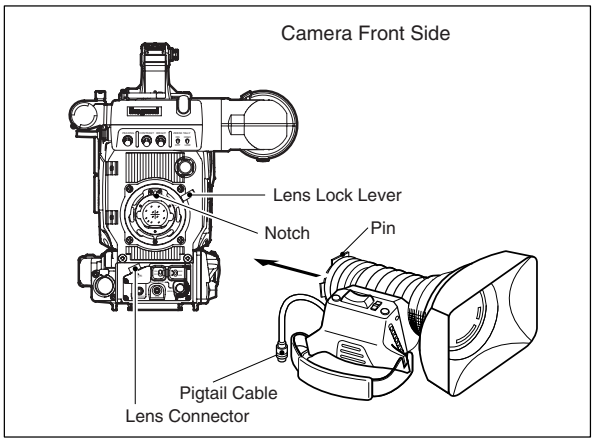
1. Remove the lens cap by pushing up the lens lock lever.

2. Align and insert horizontally the pin of the lens into the notch of the camera lens mount.
Firmly support the lens not to drop it.

3. Push down the Lens Lock Lever to secure the lens to the camera.

4. Connect the Pigtail Cable to the Lens Connector, and the Pigtail Cable is automatically locked by aligning and pressing the connector pin to the lens connector.

5. Fix the Pigtail Cable to the Cable Clamp to remove any slack.



⚠ CAUTION

Do not lift or hold the lens housing to support the entire camera or carry the camera. An excessive force applied to the lens mount will cause damage.

■ Dismount the Lens

This section explains how to dismount the lens from the camera.
Place the camera on a tripod or in a horizontal and stable position to dismount the lens.

1. Disconnect the Pigtail Cable from the Lens Connector.
Pulling the Pigtail Cable connector upward unlocks the Pigtail Cable connector and disconnects it from the Lens Connector.

2. Push down the Lens Lock Lever to remove the lens horizontally from the camera lens mount.

3. Remove the Pigtail Cable from the Cable Clamp.

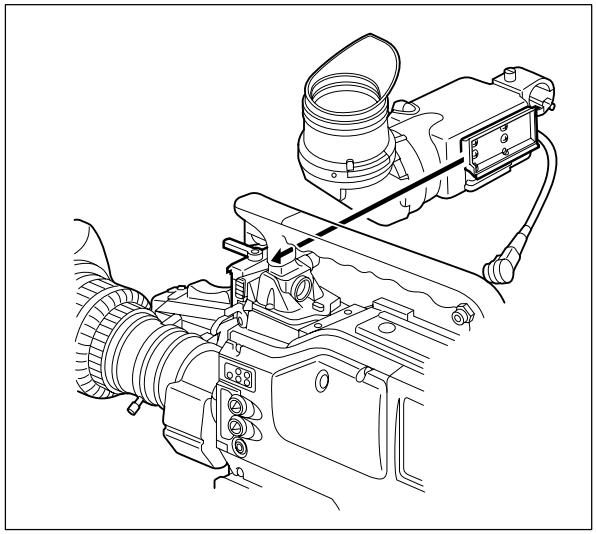
4. Place the lens cap to protect the lens from flaws.

3.4 Mounting the Viewfinder

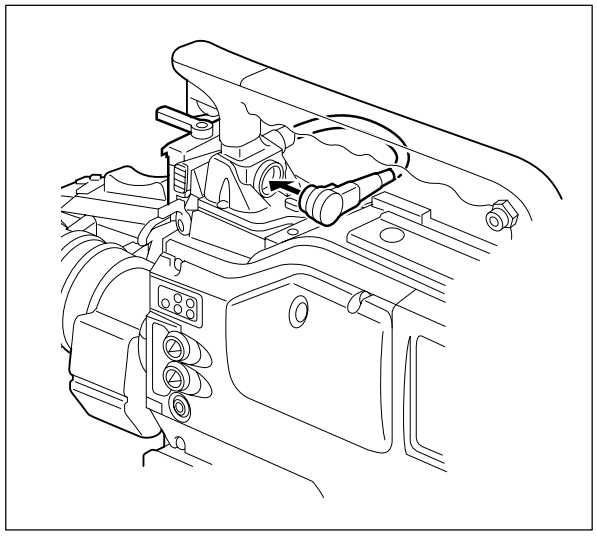
This section explains how to mount the VF (VF15-32A-S) to the Camera.

1. Stand up the eyepiece portion of the VF.

2. From the left-hand side of the Guide on the front of the camera, slide the Rail on the rear of the VF.
Slide it to the right until it clicks into position. When the VF is locked to the camera by the lock pin of the Guide, it clicks.



3. Connect the VF cable to the VF connector on the camera handle.
Insert the VF cable while pushing down the connector lock button of the VF connector until it clicks into position.
When the cable is locked by the connector lock button, it clicks.



⚠ CAUTION

Be careful not to catch your fingers in the Lock lever or Guide-Rail when mounting the VF, or you can be injured.

■ Removing the Viewfinder

This section explains how to remove the VF from the Camera.

1. Unplug the VF connector while pressing down the connector lock button.

⚠ CAUTION

Forcibly unplugging the connector without pressing down the connector lock button will place excessive stress on the cable and may break the cable.

2. Unlock the Left-Right lock lever. While pressing down the lock release lever, slide and remove the VF.

■ Adjusting the Angle and Position

The eyepiece can be moved so that you can get the most comfortable eye cup position. The angle of the eyepiece can also be adjusted in accordance with the camera angle.

[Adjusting the eyepiece angle]

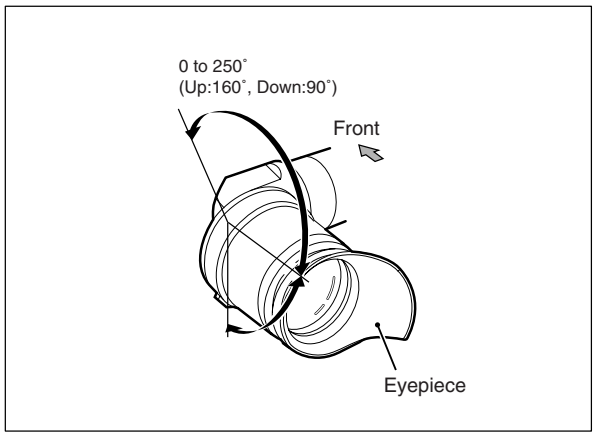
The eyepiece can be rotated up to 160 degrees upward and 90 degrees downward.

[Adjusting position to right and left]

The VF position can be shifted to the right or left by loosening the Left-Right lock lever of the camera. Lock the position after the adjustment.

[Adjusting position back and forth]

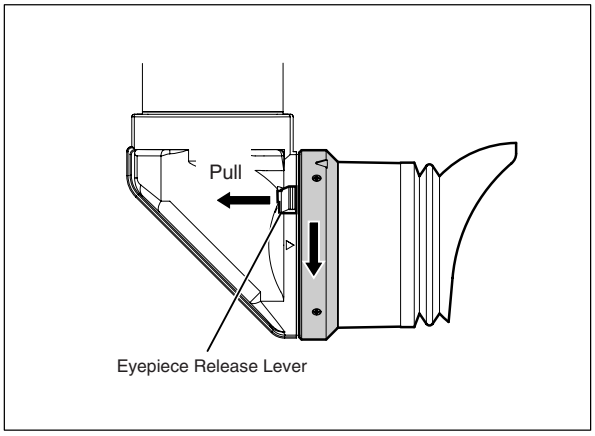
The VF position can be shifted back and forth by loosening the Front-Back lock lever of the camera. Lock the position after the adjustment.



■ Removing and Attaching the Eyepiece

This section explains how to remove the eyepiece from the VF.

1. Pull out the Eyepiece Release Lever and turn the eyepiece to the direction of the arrow to unlock the eyepiece.



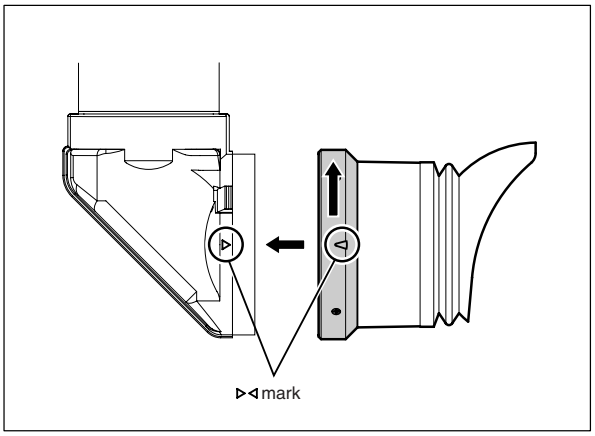
2. Remove the eyepiece.

[Attaching the eyepiece]

This section explains how to attach the eyepiece on the VF.

1. Insert the eyepiece as △ mark on the VF and △ mark on the eyepiece aligns.

2. Turn the eyepiece to the direction of the arrow until it clicks into position. When the eyepiece is locked, it clicks.



3.5 Connecting a Microphone

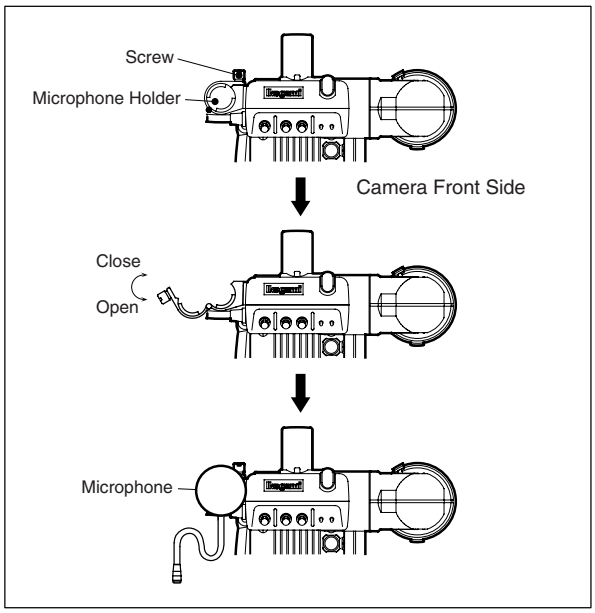
This section explains how to connect a microphone to the camera.

3.5.1 Connecting a Front Microphone

1. Check that the microphone holder is attached to the VF.
If it is not attached, attach a microphone holder to the microphone holder attaching mount. Various microphone holder options are available depending on the size of the microphone.

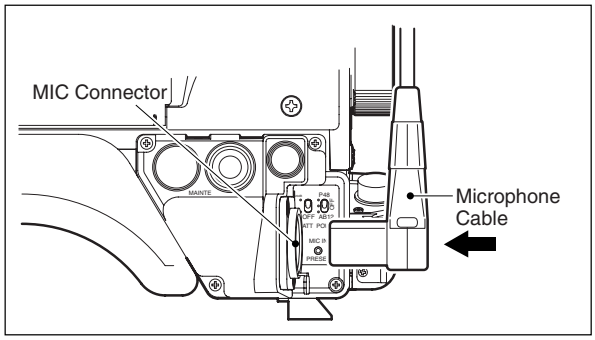
2. Loosen the screw on the microphone holder to open it.

3. Put the microphone in the opened microphone holder and tighten the screw to secure it in place.



4. Set the microphone switch according to the type of microphone used.
While the microphone is connected to the MIC connector on the front of the camera, the microphone switch operation cannot be performed.

5. Connect the microphone cable to the MIC connector on the front of the camera, and insert the cable into the cable clamp to remove any slack.
Insert the connector until it clicks into position. When the connector is locked, it clicks.



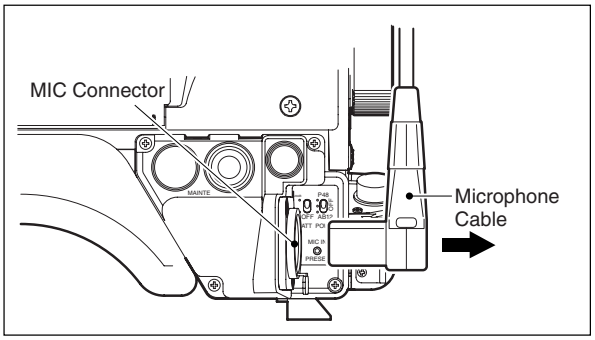
Reference

For the settings of the microphone switches, refer to "5.1 Microphone Power/Level Down Setting".

■ Disconnecting the Front Microphone

This section explains how to disconnect the front microphone from the camera.

1. While pressing down the lock release lever located under side of the MIC connector, disconnect the microphone cable.



2. Loosen the screw on the microphone holder to open it.

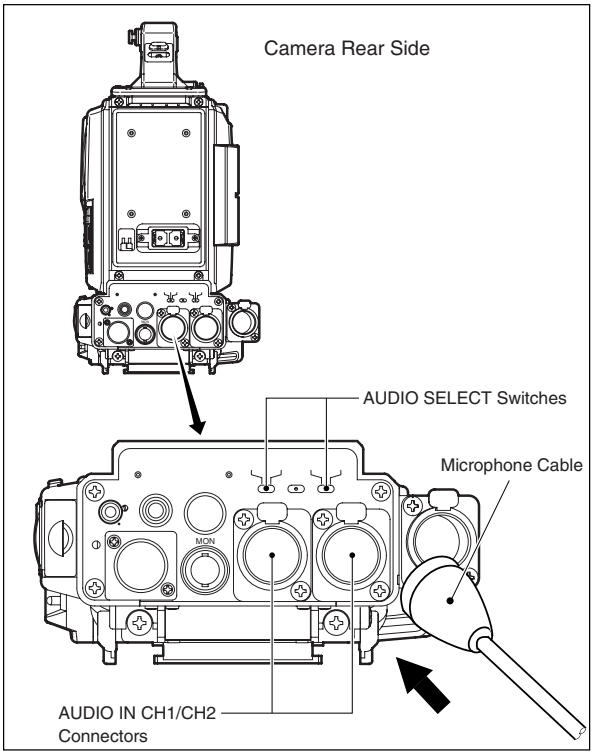
3. Remove the microphone, and then close the microphone holder.

3.5.2 Connecting a Rear Microphone and External Audio Input Signal

Two channels (CH1 and CH2) of audio input can be delivered to the AUDIO IN connector on the rear of the camera. This section explains how to connect rear microphone and external audio input signal.

1. Insert the microphone cable of the microphone into the AUDIO IN connector (CH1 and CH2) on the rear of the camera until it clicks.

2. Set the AUDIO SELECT switches on the rear of the camera depending on the microphones to be used.



■ Disconnecting the Rear Microphone and External Audio Input Signal

1. While pressing the lock release lever on the top of the AUDIO IN connector (CH1 and CH2), disconnect the microphone cable from the AUDIO IN connector.
Pressing the lock release lever unlocks the cable.

3.6 Power Connection

There are two ways to supply power to the camera. Choose the power supply depending on the environment the camera is used.

- **Power Supply from AC Pack**
  Connects the camera and AC pack directly by DC cable. This can supply stable power for a long period of time.
- **Power Supply from Battery**
  Attaches battery pack to the rear of the camera. Since cable connection is unnecessary, the camera can be operated without restriction of a power supply system.

Notice

Before connecting a power supply, make sure that POWER switch of the camera is turned OFF. Refer to "3.1.1 Making Sure that Power Switch is Turned OFF".

3.6.1 How to Supply Power from an AC Pack

This section explains how to supply power from an AC pack.

⚠ WARNING

When connecting an AC pack to the camera, pay attention to its supply voltage rating. The commercial power line voltage varies from one country to another. Therefore, if an AC pack designed for use in Japan is used in any other country, it may rupture.

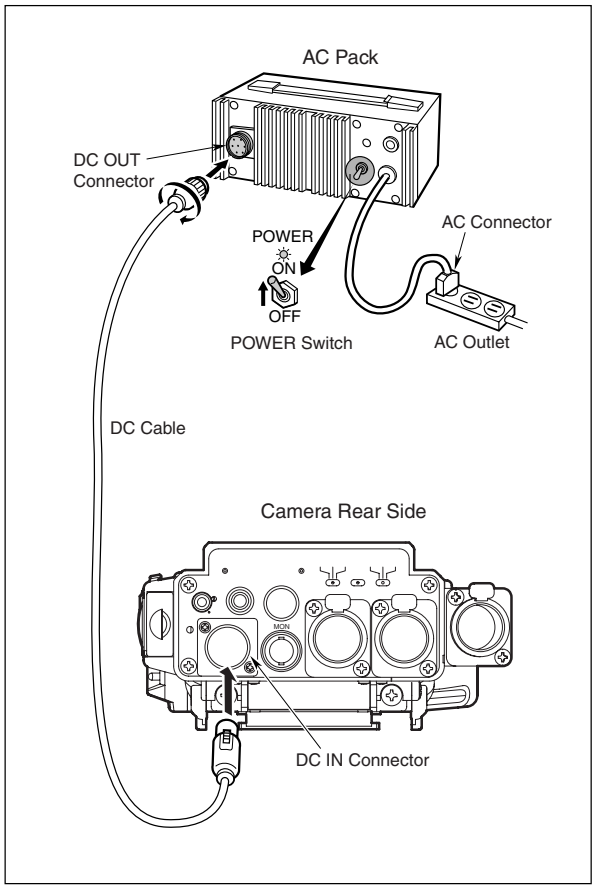
1. Check that the POWER switch on the front of the AC pack is OFF.

2. Connect the DC cable into the DC OUT connector on the front of the AC pack.

3. Connect the DC cable into the DC IN connector on the rear of the camera.

4. Connect the AC connector on the front of the AC pack to an AC power outlet to which commercial power is supplied.

5. Turn on the POWER switch of the AC pack.



When you turn ON the POWER switch of the camera, the AC pack supplies power to the camera.

■ Disconnecting the AC Pack

This section explains how to disconnect the AC pack.

1. Turn OFF the POWER switches of the camera and the AC pack.

2. Push the connector release lever and then disconnect the DC cable from the DC OUT connector on the front of the AC pack.

3. Push the connector release lever of the DC cable and then disconnect the DC cable from the DC IN connector on the rear of the camera.

4. Disconnect the AC connector on the front of the AC pack from the AC power outlet to which commercial power is supplied.

3.6.2 How to Supply Power from a Battery Pack

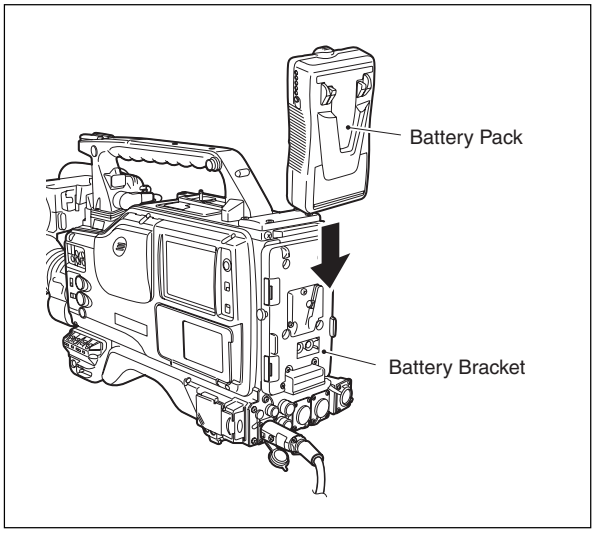
This section explains how to attach a battery pack to the camera.

There are several kinds of batteries. For details to connect a battery, refer to the instruction manual of the battery to be used. V-mount type of battery is used here as an example.

⚠ CAUTION

When connecting the battery to or disconnecting it from the camera, secure the camera by fastening it to a tripod or the like. If battery connection / disconnection is attempted while the camera is not secured or steady, the camera or battery may fall and break the equipment or cause injury.

1. Slide the battery pack downward from the upper direction of the battery bracket to attach the battery pack.
Check that battery pack is firmly attached to the battery bracket.

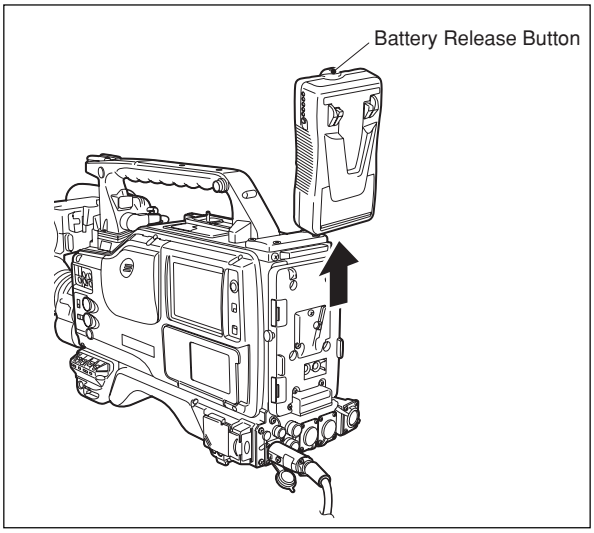


When you turn ON the POWER switch of the camera, the battery pack supplies power to the camera.

■ Disconnecting the Battery Pack

This section explains how to disconnect the battery from the camera.

1. While pressing down the button located on the top of the battery pack, slide the battery upward to disconnect the battery pack.



3.7 Connecting a Monitor

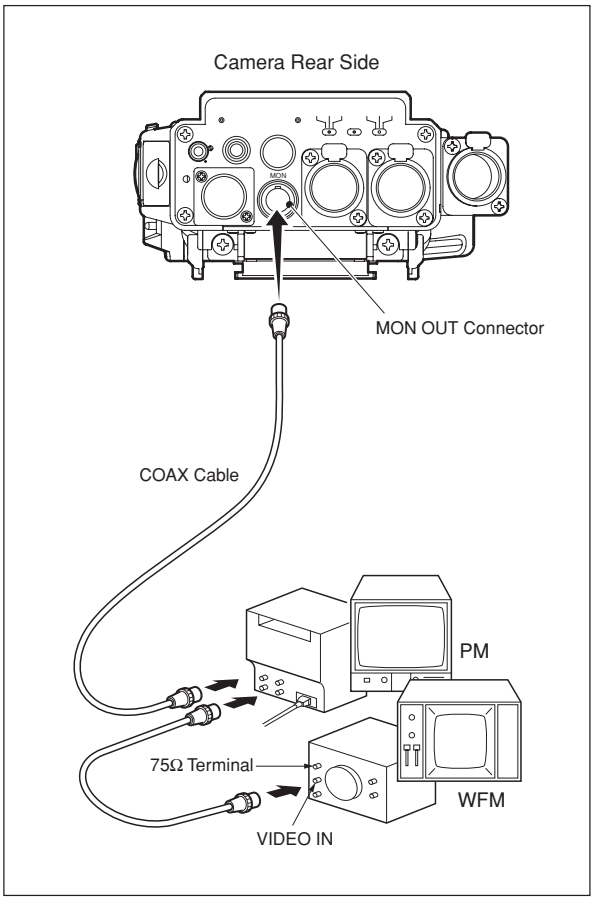
The camera has two connectors to output various video signals. Following show the video signals from each connector.

- **MON OUT connector**
  Outputs the video signal (ENC, Y, R, G, B, R+G+B) set in the camera setting mode (menu) or by the monitor screen. During playback, the ENC signal of the playback images is output.
- **VIDEO OUT connector**
  Outputs the video signal of the camera (CAM) or color bar signal (BARS) in accordance with the OUTPUT SELECT switch position on the right side. During playback, the ENC signal of the playback images is output.

3.7.1 Connection through MONITOR OUT Connector

This section explains how to connect the camera and the PM (picture monitor)/WFM (waveform monitor) through the MONITOR OUT connector.

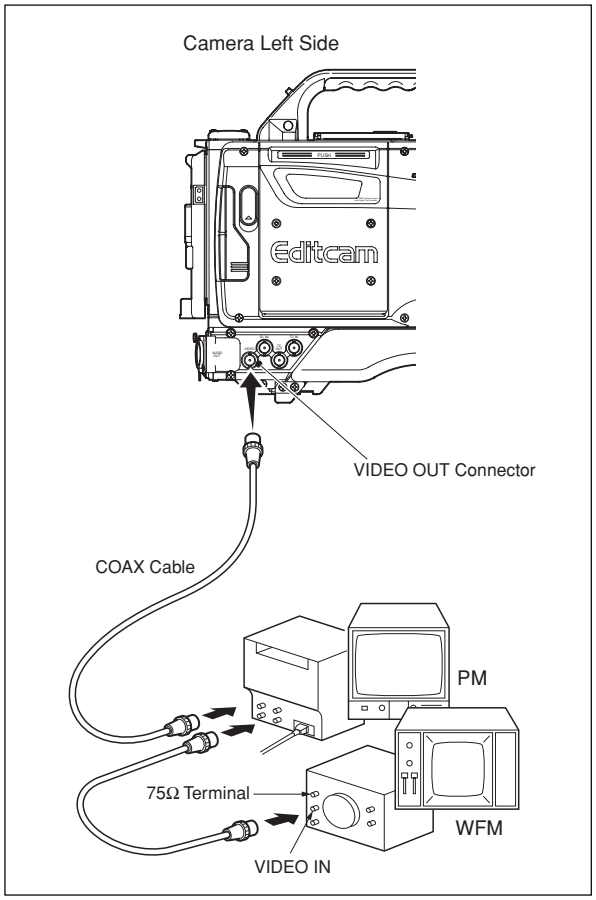
1. Connect MON OUT connector at the rear of the camera and the monitors with a coaxial cable.



3.7.2 Connection through VIDEO OUT Connector

This section explains how to connect the camera and the monitors (PM/WFM) through the VIDEO OUT connector.

1. Connect VIDEO OUT connector at the left side of the camera and the monitor with a coaxial cable.



Notice

When SDI option is attached, connect to the SDI IN connector of the monitor side.

4. OPERATION

This chapter explains how to operate the camera. Operate the camera according to the following procedures:

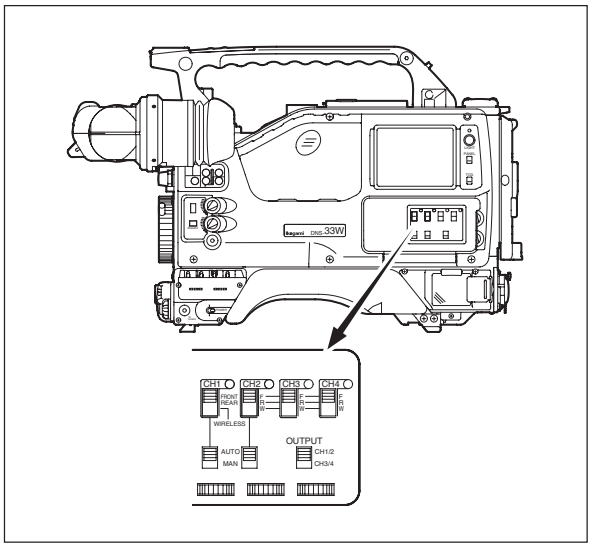
4.1 Operation Procedures

1. Installation and Connection — See Section 3
▼
2. Switch Position Checks — See Section 4.2
▼
3. Turning ON Power — See Section 4.3
▼
4. Adjusting the Viewfinder — See Section 4.4
▼
5. Adjusting the Lens — See Section 4.5
▼
6. Output Signal Checks — See Section 4.6
▼
7. Auto White Balance, Auto Black Balance and Auto Black Shading — See Section 4.7
▼
8. FieldPak Loading and Changing — See Section 4.8
▼
9. Operations of Recorder Section — See Section 4.9
▼
10. Operations of Menus of Recorder Section — See Section 4.10
▼
11. Shooting in Particular Environment — See Section 4.11

4.2 Switch Position Checks

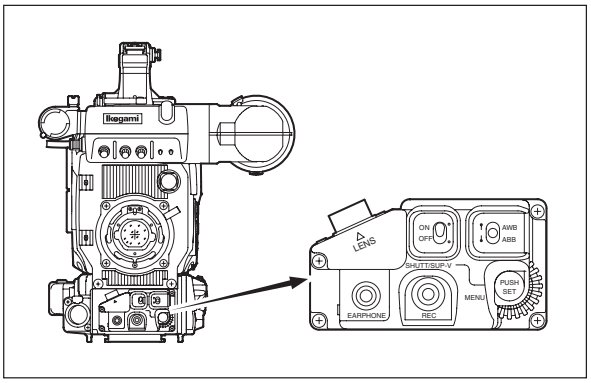
When the camera is purchased and used for the first time, set the switches and knobs to the positions indicated in the figure below and ensure that the camera operates normally.
After checking the camera operations, set the switches and knobs to match them to the environments and required conditions of shooting.

4.2.1 Right Side of the Camera



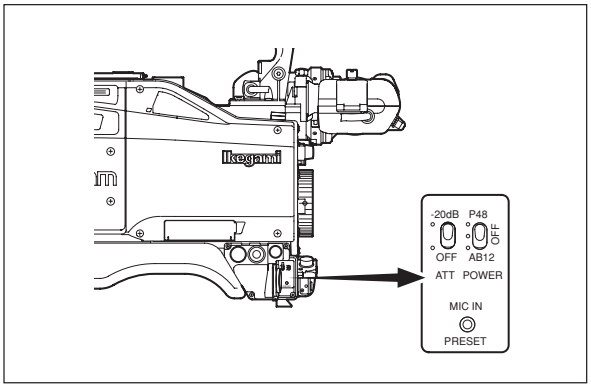
Switch Name	Switch Position
ND FILTER knob	1 (100%)
FIELDPAK switch	STBY
GAIN SELECT switch	L
OUTPUT SELECT switch	CAM
AWB SELECT switch	A
LCD LIGHT switch	ON
PANEL switch	ON
AUDIO INPUT switch	Adjust according to the input signal source used in each channel.
AUDIO SELECT switch	AUTO

4.2.2 Front Side of the Camera



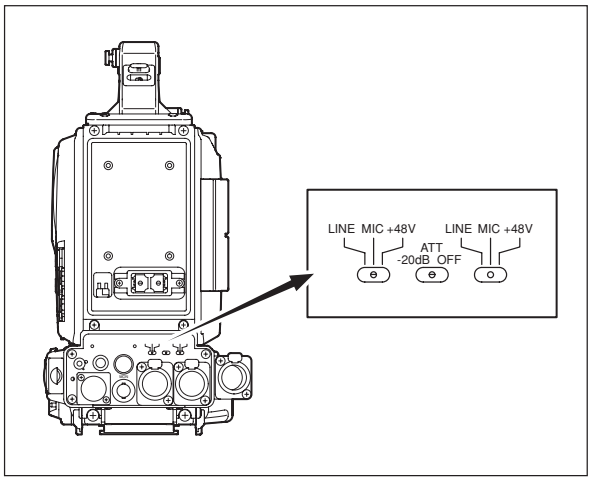
Switch Name	Switch Position
SHUTT/SUP-V switch	OFF

4.2.3 Left Side of the Camera



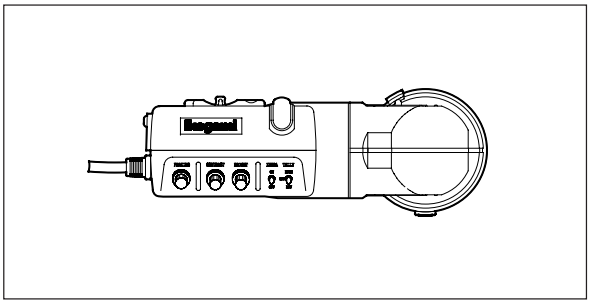
Switch Name	Switch Position
MIC POWER switch	AB12 : 12V AB power supply (power supply methods such as MKH-416TU3) OFF : No power supply (ATM-53/57 power supply method) P48 : 48V Phantom power supply (power supply methods such as MC-15 and MKH-416P48V) * Set according to the microphone used.
MIC ATT switch	OFF

4.2.4 Rear Side of the Camera



Switch Name	Switch Position
MIC ATT switch	OFF
AUDIO SELECT switch	LINE : When line-inputting the audio signal to the AUDIO IN CH1/CH2 connectors MIC : When connecting a microphone to the AUDIO IN CH1/CH2 connectors +48V ON : When connecting a microphone dedicated for phantom powering to the AUDIO IN CH1/CH2 connectors

4.2.5 Viewfinder



Switch Name	Switch Position
TALLY switch	HIGH or LOW
ZEBRA switch	ON

4.3 Turning ON Power

There are two types of power supplies. One is the supply from the AC pack and another is from the battery pack. The way to turn ON the power is common to the two types. Turn ON the power using the following procedures.

1. Turn ON the POWER switches of external system such as AC pack, monitor, and remote controller.
2. Turn ON the POWER switch of the camera.
   When the power is turned ON normally, the string "BOOTING!!" is displayed on the VF screen. Then, the four LEDs (AUDIO LED) on the right side of the camera light up in orange.

After the camera is powered on normally, the LEDs once turn off. Then, the color LCD on the right side of the camera displays the logo "Ikegami" and the Status screen.
When an FP2 has been loaded in the camera, the logo "Ikegami" is displayed and the disk is recognized automatically (recognition requires a few seconds).

■ Turning OFF Power

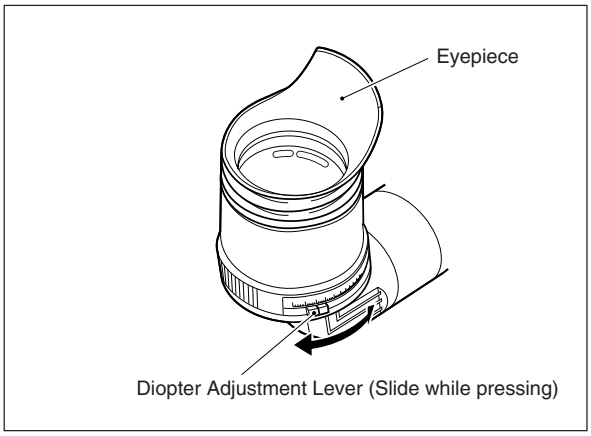
Turn OFF the power switch.
A few seconds are required to complete the shutdown of the camera. When the camera is to be restarted, the power must be turned on 10 seconds or more after powering off.

4.4 Adjusting the Viewfinder

If you want to see the images more clearly or to make the edges of the image sharper, adjust the VF to match the environments.

4.4.1 Diopter Adjustment

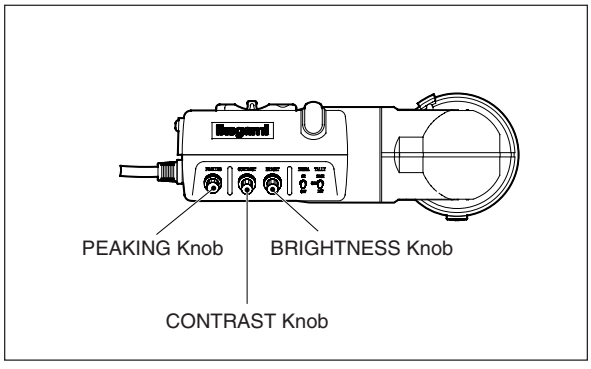
Adjust visibility so that the VF screen can be monitored much sharper according to the person's eyesight. Adjustment is performed by sliding the Diopter Adjustment Lever left and right while pushing it.



4.4.2 Viewfinder Screen Adjustment

When the image on the VF screen looks slightly fuzzy, or if you want to make the edges of the image sharper, adjust the control knobs located on the VF.

Control Knob	Description
PEAKING knob	Adjusts the sharpness of the edges of the image.
CONTRAST knob	Adjusts the contrast of the image.
BRIGHT knob	Adjusts the brightness of the image.



4.4.3 Display Mode Check

Various types of marker or character display in the VF screen can be set. Set the display mode to match it to the environment. For details of the setting, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)".

4.5 Adjusting the Lens

Refer to the manual of each lens for the standard operation of the lens. This section explains the operation unique to the camera.

The B4 mount lens and B3 mount lens differ in their operation. Please pay attention to the differences when operating the lens.

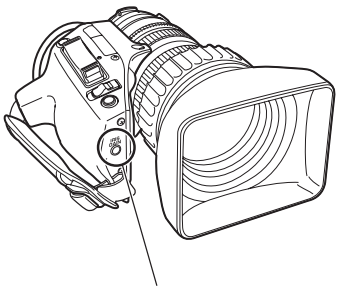
4.5.1 How to Use the B4 Mount Lens

■ AUTO IRIS Operation

If the iris operation is too slow or, on the contrary, too fast and causes hunting problems in the AUTO IRIS mode, adjust the "IRIS GAIN" settings of the "AUTO IRIS SET" of the "Maintenance Menu (2/3)". When the lens is installed in the camera for the first time, or if the hunting problems still exists or response is still slow even after the IRIS GAIN settings are adjusted, adjust the auto iris sensitivity adjustment trimmer of the lens using the following procedures:

1. Shoot the gray scale chart with the camera.
2. Set the "IRIS GAIN" to "50" by the camera menu.
3. Remove the rubber cap (with a Sens. IRIS GAIN marking on it) of the grip on the front side of the lens, and identify the auto iris sensitivity adjustment trimmer.
4. Using a Phillips screwdriver, rotate the auto iris sensitivity adjustment trimmer fully clockwise as viewed from the front of the lens to set the sensitivity to maximum.
5. When hunting occurs, adjust the trimmer by gradually reducing the sensitivity until the hunting problem is corrected.
6. Make sure that hunting will not occur even when changing the gain or covering the lens front with the hand.
   If hunting occurs, reduce the sensitivity until the problem is corrected. Also, if the iris moves slightly with the flickering light source such as a fluorescent lamp, reduce the sensitivity until the iris becomes stable.

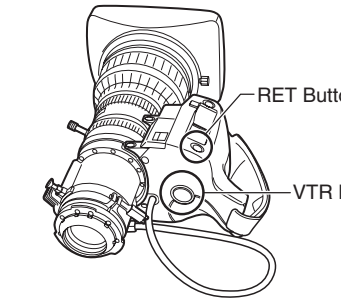
Be careful not to over-reduce the sensitivity. If overreduced, not only the iris response will become slow, but also iris adjustment accuracy will decrease. The response speed of auto iris is set by the "IRIS SPEED" setting of the camera menu. For the setting method, refer to "5.10.17 AUTO IRIS SET (Setting the auto iris operation)".



■ Operation of VTR Button and RET Button When Adaptor is Used

When a triax cable adaptor or a multi-cable adaptor is used, the return video which is sent to the camera from the extender can be switched between RET-1 and RET-2 by pressing the VTR button and RET button on the zoom lens. This returning operation is set by the "RET CH SEL SW" of the camera menu "OTHERS". Refer to "5.10.12 OTHERS (Selecting other operation modes)", "■ RET CH SEL SW".

Selection Mode	Operation
RET/VTR mode	Pressing the RET button will select RET-1, and pressing the VTR button will select RET-2.
RET+VTR mode	Pressing the VTR button while pressing and holding the RET button will shift between RET-1 and RET-2.



Notice

- The REC button on the handle works the same as the VTR button on the lens.
- The RET button on the handle works the same as the RET button on the lens.
- By pressing the VTR button during operation with the camera alone, recording is started or stopped. By pressing the RET button, REC-REVIEW operation is started.

4.5.2 How to Use the B3 Mount Lens

■ AUTO IRIS Operation

If the iris operation is too slow or, on the contrary, too fast and causes hunting problems in the AUTO IRIS mode, set the auto iris sensitivity adjustment trimmer of the lens using the following procedures:

1. Shoot the gray scale chart with the camera.
2. Remove the rubber cap (with an indication such as "Sens. IRIS GAIN" on it) of the grip on the front side of the lens, and identify the auto iris sensitivity adjustment trimmer.
3. Using a Phillips screwdriver, rotate the auto iris sensitivity adjustment trimmer fully clockwise as viewed from the front of the lens to set the sensitivity to maximum.
4. If hunting occurs, adjust the trimmer by gradually reducing the sensitivity until the hunting problem is corrected.
5. Make sure that hunting will not occur even when changing the gain or covering the lens front with the hand.
   If hunting occurs, reduce the sensitivity until the problem is corrected. Also, if the iris moves slightly with the flickering light source such as a fluorescent lamp, reduce the sensitivity until the iris becomes stable.

4.6 Output Signal Checks

After turning ON the power, ensure that the PM and WFM signals are correctly output. If the signals are not output, check the following points first before concluding that there is a failure.

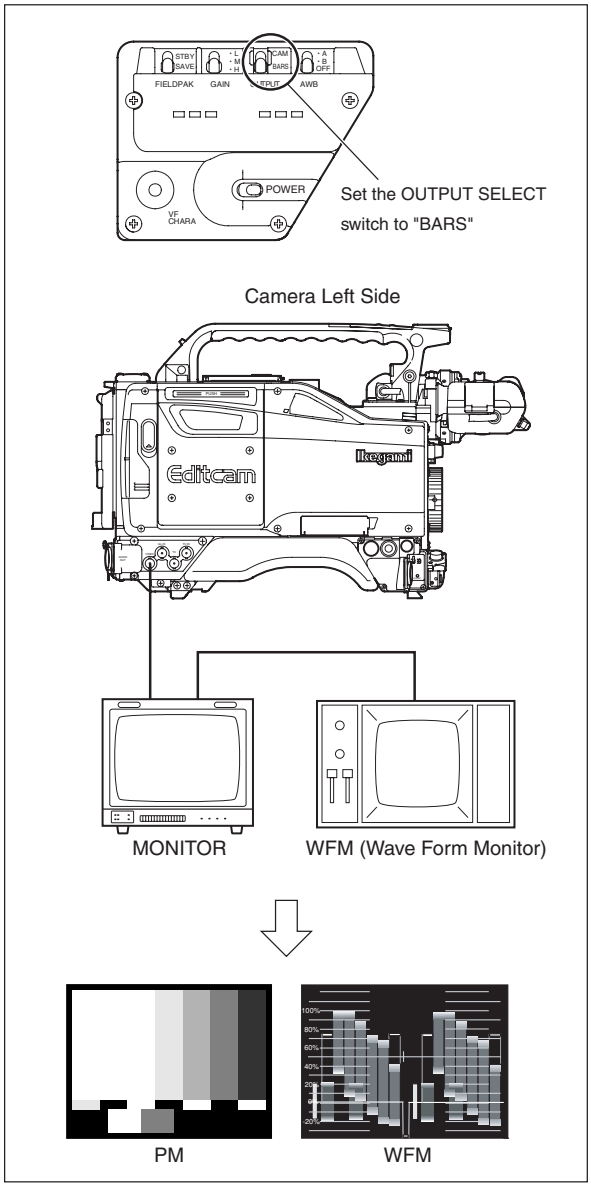
- ☐ Are the cables connected without errors?
- ☐ Are the switches correctly set?
- ☐ Is there a blown fuse?
- ☐ Is the POWER switch set to ON?

4.6.1 Color-Bar Signal Check

Set the OUTPUT SELECT switch located on the right side of the camera to "BARS" and ensure that a normal color-bar signal is output.

4.6.2 Video Signal Check with Chart etc.

Set the OUTPUT SELECT switch to "CAM". Then, shoot the grey scale chart etc. and ensure that the image is displayed on the monitor.



4.7 Auto White Balance, Auto Black Balance and Auto Black Shading

Auto White Balance (AWB) and Auto Black Balance (ABB) are functions which automatically set the white or black level of the R, G and B signals. Following the Auto Black Balance adjustment, Black Shading adjustment can also be automatically performed.

4.7.1 Auto White Balance

1. Use the AWB SELECT switch to select the memory (Ach or Bch) in which to store the execution result.

Switch	Description
A	Ach memory
B	Bch memory
OFF	White balance adjustment is turned OFF, and the level returns to the preset level (3200K). Auto white balance is not executed when the switch is set to this position.

⚠ CAUTION

If data is already stored in the channel A or B memory selected, it will be overwritten, thus erasing the previously stored data.

2. Shoot a subject which contains something white.
Make sure that the following conditions are satisfied:
- The white object must fill at least 10% of the screen.
- There must be no other subject with a higher level on the screen than that of the subject used to obtain the white level. For example, it may cause an operation error if the sky is caught in the part of image screen.
- The video level of the object used to obtain the white balance must be at least 30%.

3. Use the ND FILTER knob to set the filter which suits the subject's brightness. Also, use the ECC FILTER SELECT button to set the filter suitable for the color temperature of the subject.

4. Set the lens iris in such a way that the video level is set to a suitable level.

5. Set the AWB/ABB switch to "AWB".
Auto white balance is now activated.

6. Upon completion of auto white balance, "OK" appears on the VF screen. A zebra pattern appears superimposed over the white-balanced image. Ensure that the white balance is performed on the intended subject.
If "NG" appears, the cause (CHG FILTER, etc.) is displayed. Check whether the external subject satisfies the conditions given in step 2 above and whether the filter setting is appropriate, and then repeat the procedure starting with step 2.

Notice

When the "AWB WITH CC FILT" mode is set to "ON", the camera automatically measures the color temperature of the subject and selects the best color temperature of the ECC filter. In this mode, you can perform auto white balance in all color temperature range just by setting the AWB switch without worrying about the color temperature of the subject. The "AWB WITH CC FILT" mode is set on the "AWB WITH CC FILT" of the Maintenance Menu (2/3). For details of the setting, refer to "5.10.16 AWB/ABB MODE (Selecting AWB function and setting the reference data)", "■ AWB WITH CC FILT (ECC filter interlocking mode when AWB is activated)".

⚠ CAUTION

Hunting may occur when a lens with an automatic aperture function is used. In this case, adjust the AUTO IRIS. For details of the setting, refer to "4.5 Adjusting the Lens", "■ AUTO IRIS Operation" and "5.10.17 AUTO IRIS SET (Setting the auto iris operation)".

4.7.2 Auto Black Balance

1. Set the AWB/ABB switch to "ABB".
The lens iris closes automatically, and auto black balance is activated. The adjustment value is stored in the memory.

2. Upon completion of the auto black balance, "OK" or "NG" appears on the VF screen. If "NG" appears, the setting returns to the former status before auto black balance. Remove the cause and perform the procedure again.

Notice

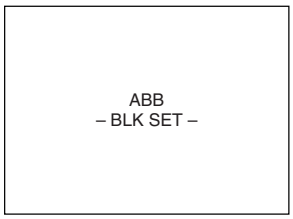
- The Auto Black Balance (ABB) adjustment is required only in the following cases:
  When the camera is used for the first time
  When the difference in the ambient temperature has changed significantly
  When GAIN is changed to +18dB or more
- No adjustment is required in the following cases:
  When power is turned off
  Adjust only the white balance when the color temperature of the lighting has changed.
- When the iris is being set manually, it will remain closed even after the ABB has been adjusted. Reset the iris before resuming shooting.
- During ABB adjustment, the gain selection circuit is switched automatically and flicker appears several times on the VF screen. This is normal and not indicative of malfunctioning.
- To discontinue ABB adjustment, set the AWB/ABB switch to "ABB" again. The adjusted setting is cleared, returning to the former status before auto black balance.

4.7.3 Auto Black Shading

Following the auto black balance adjustment, black shading adjustment can be automatically performed.

1. Set the AWB/ABB switch to "ABB" and hold it in this position.

2. After the lens iris is automatically closed, black set adjustment starts. At this time, the following display appears on the VF screen.



3. After completion of black set adjustment, black shading adjustment starts.
The VF screen display changes to "A.BLK SHADE" as shown below. At this time, you may release your finger from the AWB/ABB switch.

4. Upon completion of auto black shading, "OK" or "NG" appears on the VF screen. If "NG" appears, the setting returns to the former status before auto black shading.

Notice

To discontinue auto black shading, set the AWB/ABB switch to "ABB" again. The adjusted setting is cleared, returning to the former status before auto black shading.

4.8 FieldPak Loading and Changing

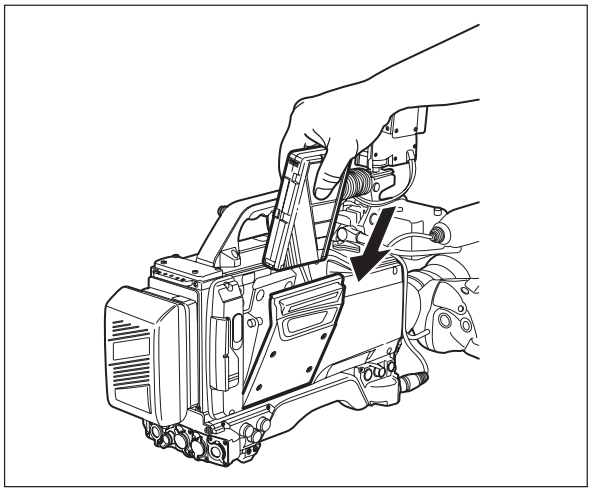
Scenes picked up by the camera are recorded onto the hard disk in an FP2. The procedures to load (insert) and replace an FP2 are shown below.

4.8.1 FieldPak Loading

1. Open the FieldPak holder by pressing the EJECT key on the top of the camera.

2. Place an FP2 in the FieldPak holder.
The FP2 may be oriented in any direction.

3. Push the FieldPak holder cover to close.



4.8.2 FieldPak Replacement

1. Press the EJECT key to open the FieldPak holder.

2. Take out the FP2 from the FieldPak holder.
Push the FieldPak holder cover to close.

4.9 Operations of Recorder Section

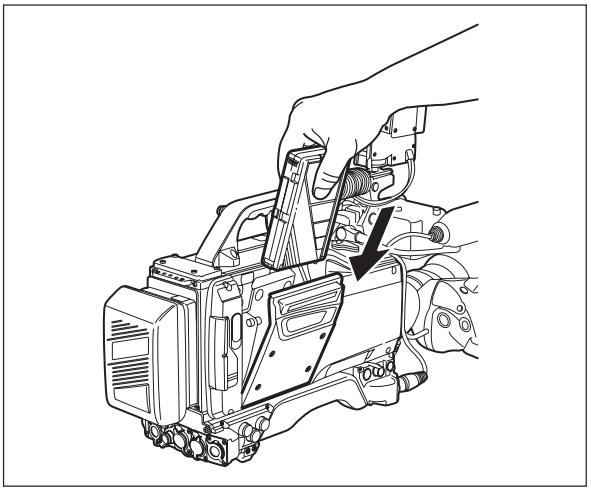
This section explains the basic operations of the recorder section.

4.9.1 Clip Recording

Recorded images and sound data are called "clips". This section explains how to record a clip onto an FP2.

1. Open the FieldPak holder by pressing the EJECT key on the top of the camera.

2. Place an FP2 in the FieldPak holder, and push the holder cover into the camera body.



Notice

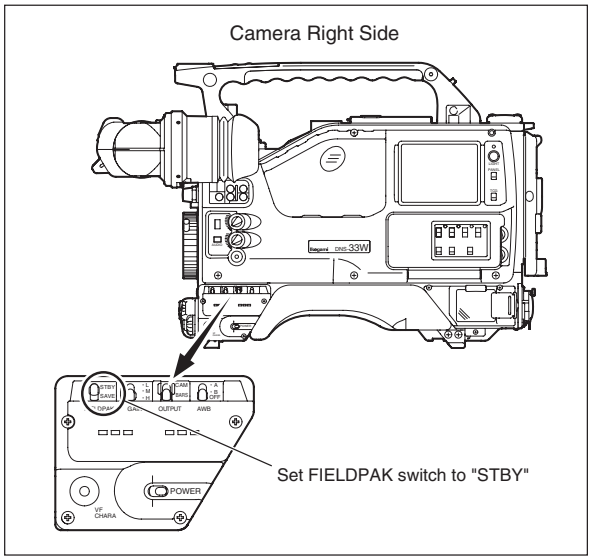
Be sure to use a formatted FP2. For how to format the FP2, refer to "6.3.1 FMT Menu".

3. Select the output signal of the camera for "SWITCHER" of "AUDIO/VIDEO" in the menu of the recorder section.

Selection Mode	Output Signal
CAMERA	Output signal of the camera
EXTERNAL	External input signal
DISK	Video signal already recorded on the FP2

4. Select the audio input using the AUDIO INPUT switch on the control switch panel.

5. Set the FIELDPAK switch on the right side of the camera to "STBY".

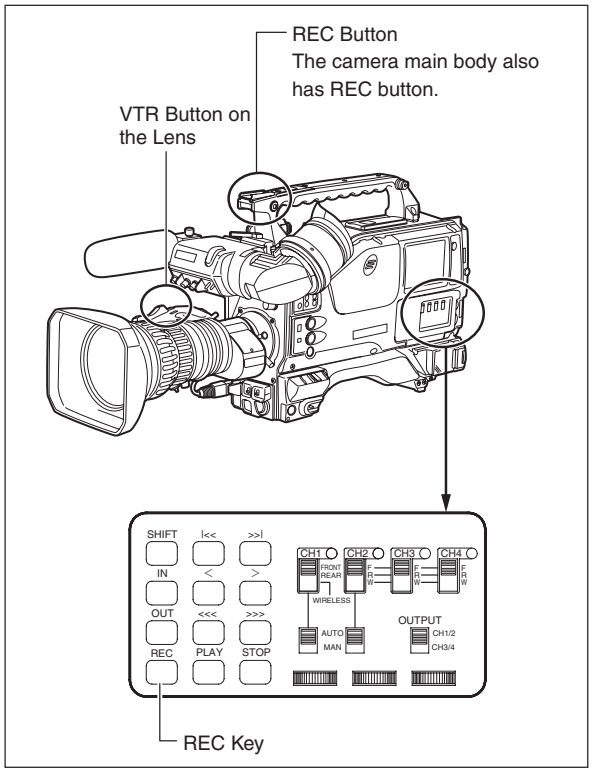


6. Select a bin in which to store the clip recorded. Press the SHIFT+PRIOR key or SHIFT+NEXT key to switch to the prior or next bin. You can also use the "BIN" menu of the recorder section to select the desired bin. Refer to "6.3.2 BIN Menu" for how to create a new bin and how to select a bin on the "BIN" menu.

Notice

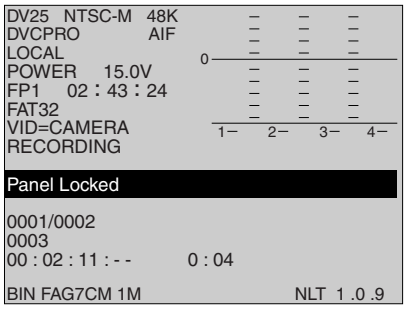
- Bin is a location where a set of related clips is stored. A bin can be newly created in the FP2, and any bin to be used can be selected. The newly created clip will be recorded in the bin selected at the time.
- You cannot record to the OUTTAKES bin or the ORPHANS bin. The unit will record to the last accessed bin if the REC button is pressed while displaying OUTTAKES or ORPHANS bin material.

7. Recording of a clip is started by pressing any one of the REC button on the front of the camera, the REC button on the handle, the VTR button on the lens, and the REC key on the control switch panel.



Notice

- All keys on the control switch panel, except the STOP key, are disabled during recording. If any disabled key is pressed, message "Panel Locked" appears on the screen.



- When recording external input video, be sure to press the REC key on the control switch panel.
- Even when "DISK" or "EXTERNAL" is selected for "SWITCHER" of "AUDIO/VIDEO" menu of the recorder section, pressing the REC button or the VTR button on the lens automatically switches to "CAMERA" and starts recording.

8. To stop the recording, press the STOP key on the control switch panel on the camera's right side, the REC button on the camera's front side/carrying handle, or the VTR button on the lens.
The REC/VTR button when pressed toggles between start and stop of the recording.

Notice

Use the STOP key when stopping the recording of external input video.

9. If you want to place the FP2 on standby after recording, set the FIELDPAK switch on the right side of the camera to "STBY". To place it in the power saving mode, set the switch to "SAVE". Even with the FIELDPAK switch set to "SAVE", you can take out the FP2 by pressing the EJECT key on the top of the camera. For details of the setting of retro-loop recording, refer to "6.4.1 RECORD Menu".

⚠ CAUTION

Setting of date and time is required for recording it on the clip. The factory-adjusted date and time will be cleared if the backup battery in the recorder section runs out of power. For details of the setting, refer to "6.5.2 TIME&DATE Menu".

■ When Recording External Input Video

The following explains how to record external input images and sound.

1. Connect the external VIDEO output line to the GENLOCK IN connector on the left side of the camera.

2. Select the "A/V" (AUDIO/VIDEO) button on "BASE" menu of the recorder section, and set "SWITCHER" to "EXTERNAL".

3. Press the REC key on the control switch panel to start recording.

4. Press the STOP key to halt the recording.

Notice

If the REC button on the camera is pressed in this state, the unit will record images from the camera.

4.9.2 Clip Playback

This section explains how to play a clip recorded on the FP2. There are two ways to play clips, normal playback and REC-REVIEW.

■ Normal Playback

1. Make sure a recorded FP2 is in the FieldPak holder. If the holder is empty, place a recorded FP2 in the holder.

2. Set the FIELDPAK switch on the right side of the camera to "STBY".

3. Select the clip you want to play using the PRIOR key or the NEXT key on the top of the camera or on the control switch panel. When selecting a clip in another bin, press the SHIFT+PRIOR key or SHIFT+NEXT key to switch to the desired bin, and choose the clip. You can also use the "BIN" menu of the recorder section.

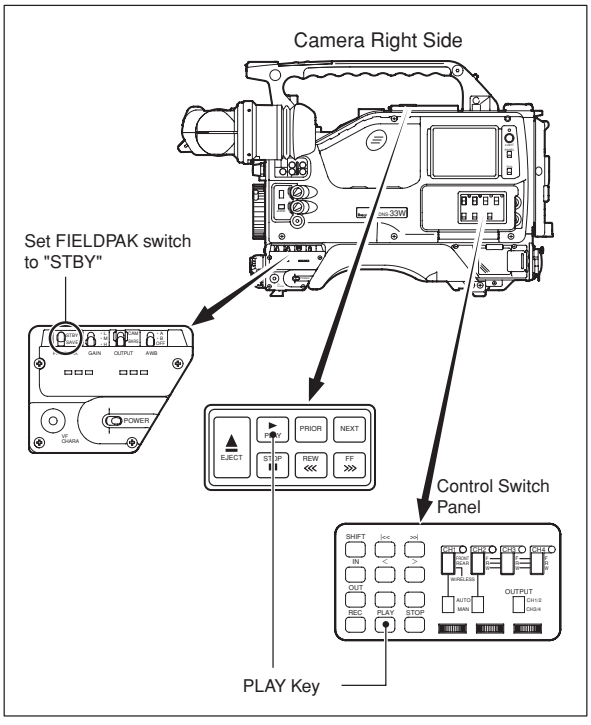
Notice

The selected clip number is displayed on the Status screen of the recorder section as well as in the VF.

4. Start playback by pressing the PLAY key on the top of the camera or on the control switch panel.

Notice

- Playback on the camera is simplified video.
- If no clip is selected before playback, the last recorded clip will be played.
- Pressing the PLAY key automatically switches to "DISK" for the input source.



5. To end the playback, press the STOP key on the top of the camera or on the control switch panel.

Notice

To play the same clip again from the beginning, press the PLAY key after pressing the IN key. When the PLAY key is pressed after the PRIOR (|<<) key is pressed, playback will start from the beginning of the prior clip to the currently selected one.

6. To switch to the image of the camera after the playback, press the VF CHARA button or the RET button.

[Playing Images on the LCD Screen]

The LCD screen is able to play images being shot, FP2 video, and external input video. Press the SHIFT key (on the right side) and touch the LCD screen. The LCD screen toggles between menu display and image display.

■ REC-REVIEW Playback

When the RET button on the carrying handle is pressed with the output set to "CAM", the ending part for the last several seconds on the last clip is played. The REC-REVIEW playback time can be set as "REVIEW LENGTH" under "PLAYBACK" menu of the recorder section.
During REC-REVIEW operation, image and audio outputs are selected as shown below.

Output Target	Output Signal
VF	Playback image
MON OUT connector	Image of the camera
VIDEO OUT connector (main)	Image of the camera
Audio (monitor)	Playback audio signal
Audio (main)	Playback audio signal

Notice

- No REC-REVIEW operation is performed if the output is set to "DISK".
- Since the recorder section is placed in playback mode for REC-REVIEW, audio output (main) is the playback audio, which is normal.

4.9.3 Clip Deletion

This section explains how to delete a clip recorded on the FP2.

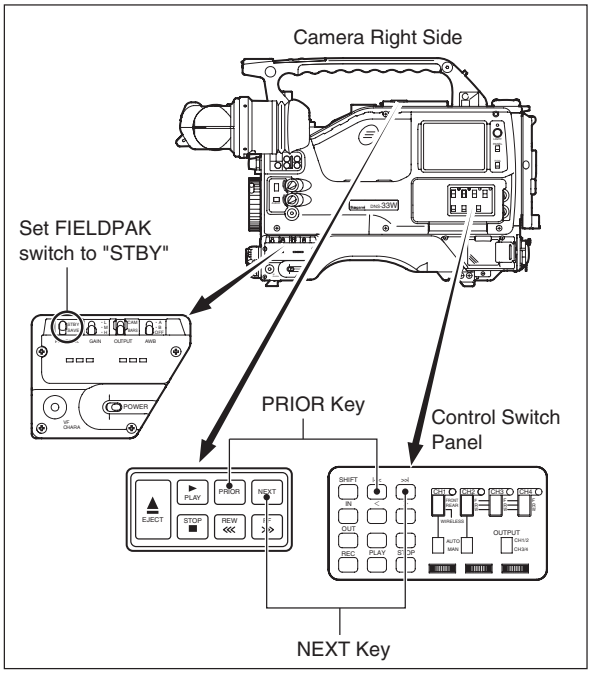
1. Make sure a recorded FP2 is in the FieldPak holder. If the holder is empty, place a recorded FP2 in the holder.

2. Set the FIELDPAK switch on the right side of the camera to "STBY".

3. Select the clip you want to delete using the PRIOR key or the NEXT key on the top of the camera or on the control switch panel. When selecting a clip in another bin, press the SHIFT+PRIOR key or SHIFT+NEXT key to switch to the target bin, and choose the clip.

Notice

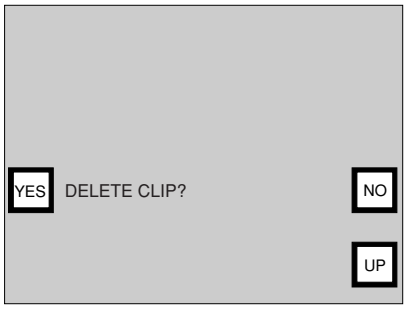
The selected clip number is displayed on the Status screen of the recorder section as well as in the VF.



4. Display the "BASE" menu and select the "DSK" (DISK OPERATIONS) button.

5. Select the "ED" (EDIT TOOLS) button on the sub menu screen, and press the "DEL" (DELETE CLIP) button.

6. The confirmation screen for deletion is displayed.
Selecting "YES" while pressing the SHIFT key deletes the clip. Selecting "NO" returns to the sub menu screen. If no clip is selected before deletion, the last recorded clip will be deleted.



7. If you want to place the FP2 on standby after deletion, set the FIELDPAK switch on the right side of the camera to "STBY". To place it in the power saving mode, set the switch to "SAVE". Even with the FIELDPAK switch set to "SAVE", you can take out the FP2 by pressing the EJECT key on the top of the camera.

4.10 Operations of Menus of Recorder Section

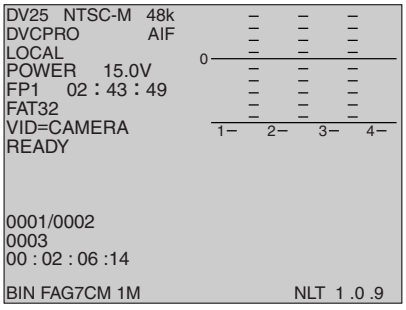
By touching the Status screen on the color LCD, the display moves to "BASE" menu, the screen for various settings. The setting screens are composed of the hierarchical constructions that differ according to the items. The followings explain each of the items.

Notice

By touching the LCD display while the Shift key is pressed, the display can be switched between the menu screen and the recording/playback images.

4.10.1 Status Screen

The Status screen displays the settings and the media information. Also, desired clip or bin can be selected on this screen.

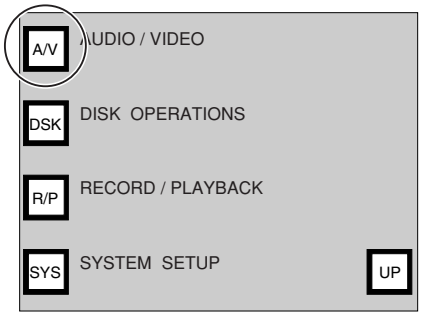


For details on each of the items displayed on the Status screen, refer to "QUICK START GUIDE", "Status Screen Display".

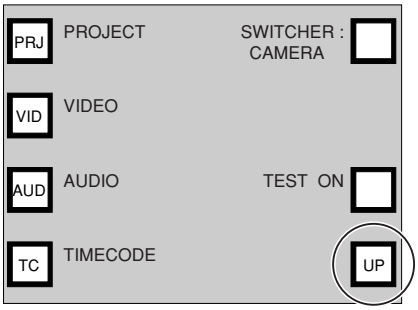
4.10.2 Display Changing

This section explains the changing method as the operation common to all the screens.

1. Touch the LCD while the Status screen is displayed on it. The display changes to the "BASE" menu.



2. Touch the desired item.
The display changes to the sub menu screen. Displayed content on this sub menu screen differ according to each of the setting items.



A sub menu screen may subordinate another sub menu screen according to the setting items.

3. By touching the "UP" button, the display returns to the previous screen. By touching the UP key while the SHIFT key is pressed, the display returns to the Status screen.

Notice

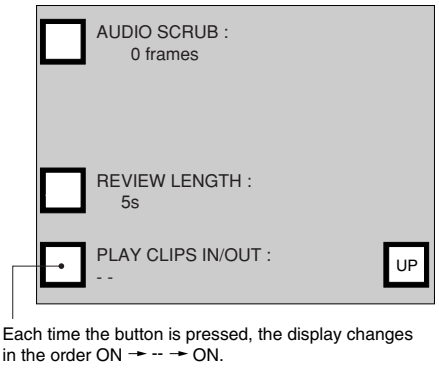
By touching the REC key or the PLAY key, the display automatically returns to the Status screen.

4.10.3 Settings and Input

This section explains the setting and input methods as the operation common to all the screens. Each of the setting items has the three types of the methods: Button Selection, Number Input and Character Input.

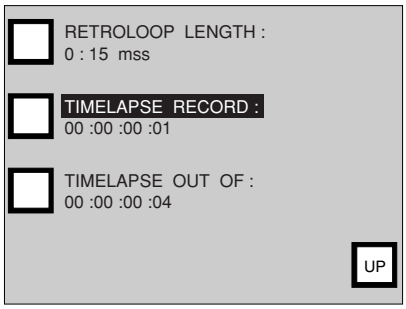
■ Button Selection

Change the setting by pressing the button assigned to the item to be selected.
(Screen example: PLAYBACK menu)



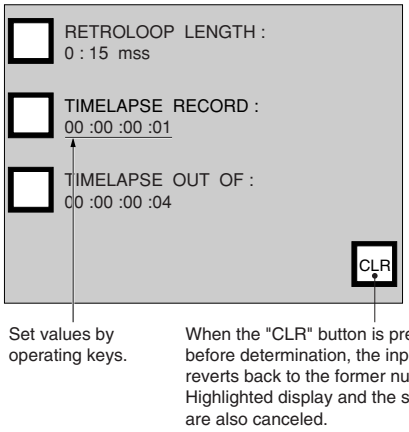
■ Number Input

1. By pressing the button assigned to the item to be set, highlight the item name.
(Screen example: RECORD menu)



2. Change the number by pressing the FRAME key (< >), the PRIOR key (|<<), the NEXT key (>>|), the REW key (<<<) or the FF key (>>>) on the control switch panel. The numbers are changed by pressing each of the above keys as the followings.

Operated Key	Setting Description
< >	Changes the first digit
|<< >>|	Changes the second digit
<<< >>>	Changes the third digit
SHIFT + <<< >>>	Changes the fourth digit

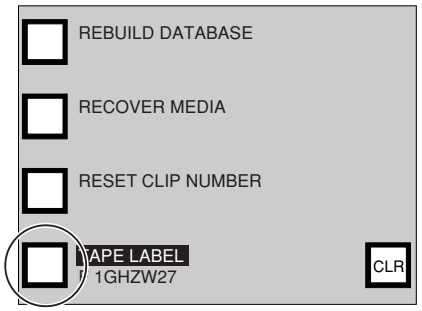


3. By pressing the button of the item to be set again, the input number is determined.
When the "CLR" button is pressed before determination, the input number will be cancelled.

■ Character Input

Character input is available when the FP2 volume name or the bin name is set.

1. By pressing the button assigned to the item to be set, highlight the item name.
(Screen example: MEDIA TOOLS)



2. SELECT the character by pressing the FRAME key (< >), the PRIOR key (|<<)or the NEXT key (>>|) on the control switch panel. Pressing the PLAY key determines the selected characters.

The FRAME key (< >):

Each time the key is pressed, the character to be selected changes in the order A, B, C, ...

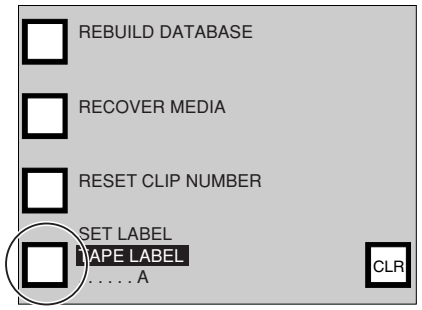
The PRIOR key (|<<) and the NEXT key (>>|):

Each time the key is pressed, the character to be selected changes skipping four characters like as E, J, O, ...

After the alphabet characters has displayed, the numbers will follow.

A, B, C, ..., X, Y, Z, 0, 1, 2, 3, ..., A, B, ...

Once a character is selected, press the FRAME key (< >), the PRIOR key (|<<) or the NEXT key (>>|) to input the next character.



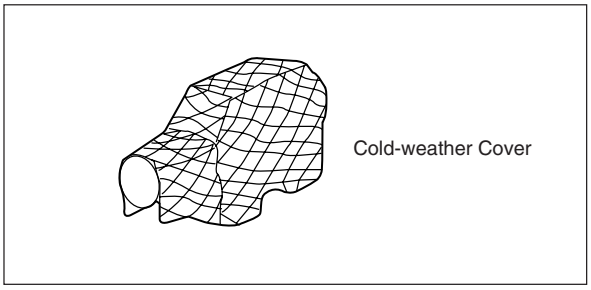
3. After inputting all the desired characters, press the "SET LABEL" button.
All the input characters are determined.

4.11 Shooting in Particular Environment

When the camera is used in a particular environment such as places where the temperature is extremely low, where the camera is subject to the direct rays of the sun throughout the day, or where an electric field strong enough to put electronic circuits out of order exists in the vicinity of the camera, it is necessary to take some protective measures so that the camera may operate normally.

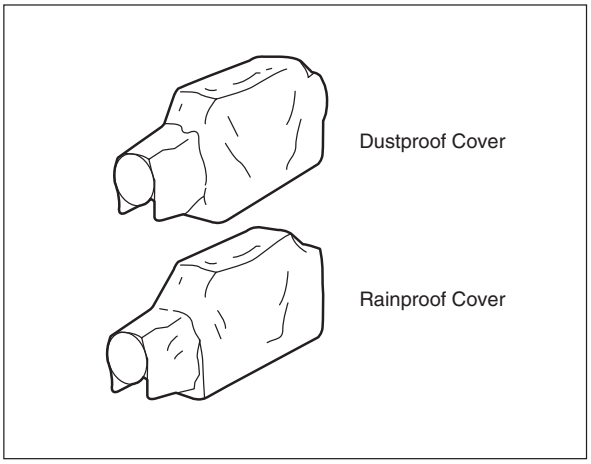
■ Shooting in an Extremely Cold Location

Change the oil for cold districts in advance. Otherwise the oil is frozen by the cold and the movements of the tripod, focus, zoom and iris will become heavy.
Put a cold-weather cover on the entire camera, and fully warm up the camera before starting shooting.



■ Shooting in a Dusty Place or in the Rain

The camera is dustproof and rainproof design. However, when shooting in a dusty place or in the rain, put a dustproof cover or a rainproof cover on the entire camera.
As the dustproof covers and rainproof covers are available in various sizes, use one suitable for the purpose intended.



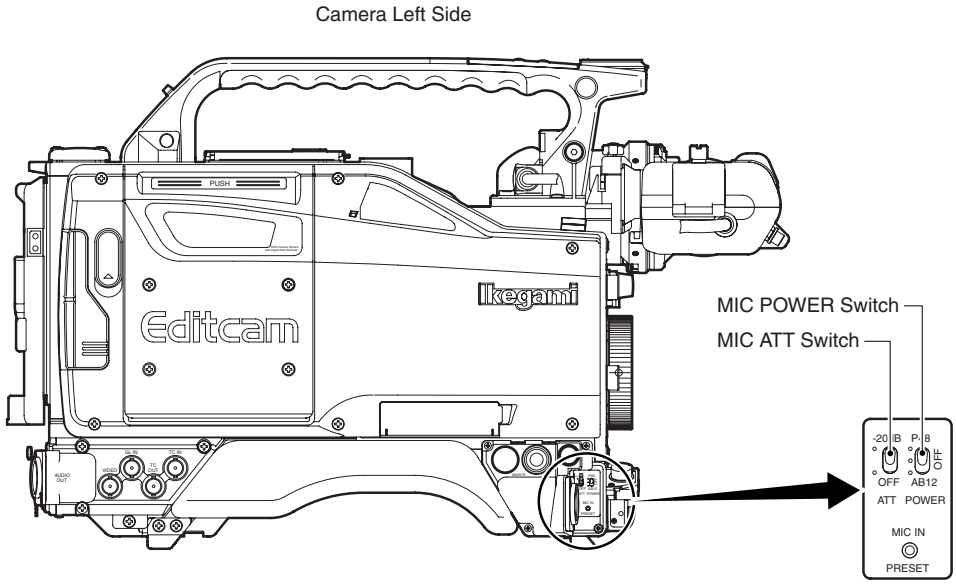
■ Shooting in a Place Where the Electric Field Strength is High

The camera is a precision device. Therefore, its electronic circuits are adversely affected in a place where the electric field strength is excessively high such as an airport, a base or a transmitting station. When shooting in such a place, completely shield the camera by thoroughly covering it with aluminum foil.
It is necessary to take the same measure for other devices.

5. SETTINGS AND ADJUSTMENT OF CAMERA

This chapter explains how to set and adjust various camera settings.

5.1 Microphone Power/Level Down Setting



MIC POWER Switch

- P48 : 48V phantom power supply (For MC-15, MKH-416P48V, etc.)
- OFF : No power supply (For ATM-53/57)
- AB12 : 12V AB power supply (For MKH-416TU3, etc.)

MIC ATT Switch

- ON : Lowers the microphone output level by -20 dB (For MC-15, use this position.)
- OFF : No level down of microphone

5.1.1 MIC POWER Switch

Depending on the type of microphone to use, switch the MIC POWER switch.

Switch	Power Supply Type
P48	Power is supplied by 48V phantom power.
OFF	Stops the power supply. Shoot at this switch position when using dynamic microphones and microphones with built-in power source.
AB12	Power is supplied by 12V AB powering.

5.1.2 MIC ATT Switch

The output level of a microphone differs depending on the type of microphone used. If the output level and the sensitivity of the microphone are too high, turn "ON" the MIC ATT switch to lower the level to -20 dB.

5.2 Selecting Shutter Speed

DNS-33W has two shutter speed settings: Preset Shutter with six different levels of shutter speed set in advance, and Variable Shutter for which the user can set the shutter speed to suit different shooting situations.

• Preset Shutter

Select from 6 levels of shutter speed: 1/100, 1/120, 1/250, 1/500, 1/1000 and 1/2000. Moreover, by attaching the optional D.PROC SUB BOARD, the preset slow shutter function by longer accumulation of CCD is added. In this case, the preset shutter speeds are extended to 11 levels:

1s, 1/2, 1/4, 1/8, 1/15 (1/12 for PAL), 1/100, 1/120, 1/250, 1/500, 1/1000 and 1/2000.

• Variable Shutter

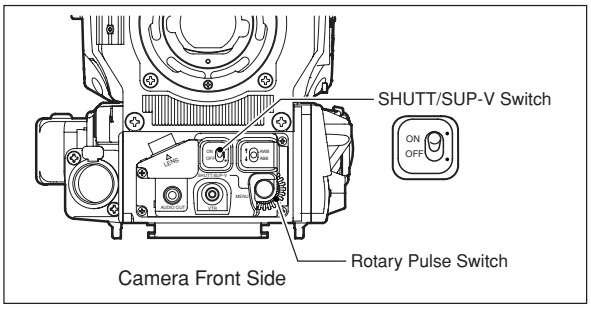
Set the suitable shutter speed from 1/60.5 to 1/7867 second (1/50.4 to 1/7812 second for PAL). Variable Shutter function is effective when shooting a computer screen that is not synchronized with the normal TV frame rate, or a subject in quick motion such as the club swing of a golfer in order to playback in slow motion. With a faster shutter speed, a high-resolution picture can be shot without blur caused by the camera shaking when shooting subjects with vigorous movement, for example a live coverage of a sporting event. However, the faster the shutter speed, the larger the interval between possible setting value becomes.

Notice

- The sensitivity decreases as the shutter speed increases. Ensure that the lighting condition is sufficient for faster shutter speed settings.
- As the preset slow shutter speed decreases, the sensitivity increases, but the number of picture frames per second decreases which causes an intermittent freeze of a picture. Though movement is not smooth, this is not a failure.
- When a remote controller is connected, the operation of the remote controller has priority over the operation switches on the camera (when SEMI REMOTE MODE is set to "OFF").

  For details on how to operate the various remote controllers, refer to the instruction manuals attached to the remote controllers.

■Activating Preset/Variable Shutter Speed Mode



1. Display characters to check the current setting information on the VF, by setting "DISPLAY MODE "from the Menu (Normal Menu or Maintenance Menu) to "1" or "2".

Setting Value	Description
OFF	Turns off the character display.
1	Displays characters for approximately 2 seconds after operation of any switch.
2	Displays characters at all times.

Reference

For details on the settings, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)", "■ DISPLAY MODE".

2. Turn "ON" the SHUTT/SUP-V switch.

3. Select the shutter speed mode by pressing the SET button. Pressing the SET button switches the modes in the order of Preset Shutter, Variable Shutter and Super-V.

4. While character of the shutter speed is flashing on the viewfinder, set the shutter speed by rotating the rotary pulse switch in the "UP" or "DOWN" direction.
When character of the shutter speed is not flashing on the VF, the shutter speed cannot be set by rotating the rotary pulse switch. In such a case, by pressing the SET button, character of the shutter speed starts flashing on the VF and the shutter speed setting is enabled. The flashing stops automatically in approximately 3 seconds after the setting operation ends.

5. Set the SHUTT/SUP-V switch to "OFF" to turn off the shutter function.

5.3 Enhancing the Vertical Resolution (Super-V mode)

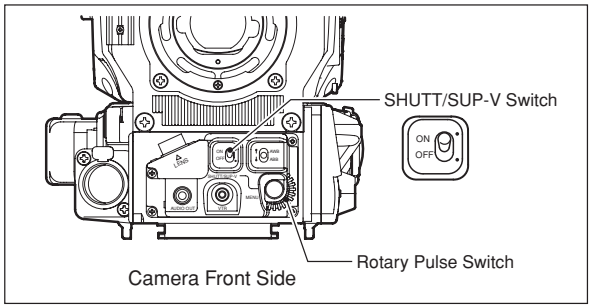
Super-V function enhances the vertical resolution.

Notice

- The sensitivity of camera decreases when in Super-V function mode.
- When a remote controller is connected, the operation of the remote controller has priority over the operation switches on the camera.

Reference

For details on how to operate the various remote controllers, refer to the instruction manuals attached to the remote controllers.



Camera Front Side

1. Display characters to check the current setting information on the VF, by setting "DISPLAY MODE" from the Menu (Normal Menu or Maintenance Menu) to "1" or "2".

Setting Value	Description
OFF	Turns off the character display.
1	Displays characters for approximately 2 seconds after operation of any switch.
2	Displays characters at all times.

Reference

For details on the settings, refer to "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)", "■ DISPLAY MODE".

2. Set the SHUTT/SUP-V switch to "ON".

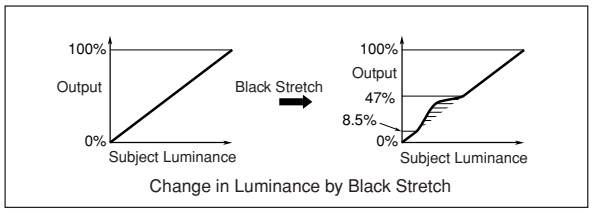
3. Select Super-V mode by pressing the SET button. Pressing the SET button switches the modes in the order of Preset Shutter, Variable Shutter and Super-V.

4. Set the SHUTT/SUP-V switch to "OFF" to turn off the Super-V function.

5.4 Improving the Low Luminance Reproduction (Black Stretch/Black Press)

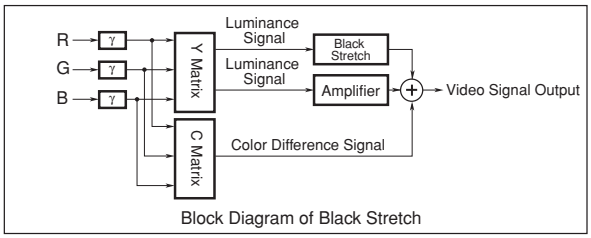
■Black Stretch

The human eye has a much greater dynamic range than a TV camera. Even if the subject has a significant contrast, the eye can capture the details in both light and dark parts to a certain extent. On the other hand, if a TV camera focuses its iris to the lighter part, the darker (low luminance) part tends to turn black, and it is difficult to reproduce the subject as a clear image. Black Stretch is a function that raises only the low luminance parts of the subject to a distinguishable light level, to minimize the blackening as shown in the figure below.



Change in Luminance by Black Stretch

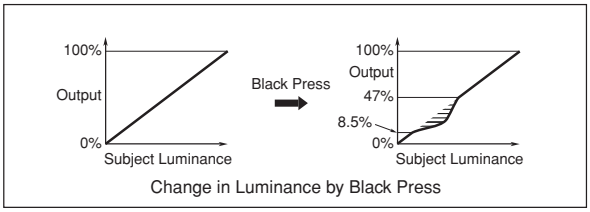
Since only the luminance signals are processed with the Black Stretch function, the color difference signals are not affected at all, unlike the case when the gamma curve was varied. Therefore, the blackening of the low luminance parts is improved while maintaining the color reproducibility level.



Block Diagram of Black Stretch

■Black Press

Using the Black Press function, the low luminance part can be made darker. This function is effective when the main subject is light with a dim background: it emphasizes the lighter part and darkens the background. Also, when shooting paintings and photographs, the Black Press function can minimize the light reflection to reproduce the black part naturally. The change in luminance level caused by the Black Press function is shown in the figure below.



Change in Luminance by Black Press

■Operating Black Stretch/Black Press Function

There are three ways to activate the Black Stretch/Black Press functions: allocating function to the P.FUNC switch on the right side of the camera, activating from the Maintenance Menu screen, and activating from the remote controller.
When allocating the function to the P.FUNC switch or activating from the Maintenance Menu screen, select from 10 setting levels: -11%, -9%, -7%, -5%, -3%, +3%, +5%, +7%, +9% and +11%.

Reference

- For details on how to allocate function to P.FUNC switch, refer to "5.8 Allocating Functions to P.FUNC".
- For details on the settings of Maintenance Menu, refer to "5.10.21 VIDEO PROCESS MODE (Setting video process circuit and level)".
- For details on how to operate the various remote controllers, refer to the instruction manuals attached to the remote controllers.

5.5 Screen Detail Enhancement (DTL)

5.5.1 Skin DTL

Skin DTL function suppresses the amount of the edge signals in the skin colored areas of the picture, while maintaining the DTL setting for the entire picture. To achieve the best effect, it is important to ensure that the Skin DTL function does not affect the clothing and colors appearing immediately next to the skin colors.
There are three ways to activate the Skin DTL function: allocating the Skin DTL to the P.FUNC switch (settings: ON/OFF, AHD), selecting from the Maintenance Menu (settings: ON/OFF, SKIN DTL GAIN) and activating from the remote controller.

■Activating the Skin DTL from the P.FUNC switch

For details on the settings, refer to "5.8 Allocating Functions to P.FUNC", "5.8.2 Allocating Skin DTL Function to P.FUNC" and "5.8.3 Allocating AHD to P.FUNC".

■Activating the Skin DTL from the Maintenance Menu (settings: ON/OFF, SKIN DTL GAIN)

For details on the settings, refer to "5.10.11 LEVEL ADJUST (Adjusting various levels)" of the normal menu, "■ SKIN DTL MODE (Turning ON/OFF the Skin DTL)" and "■ SKIN DTL (Adjusting the SKIN DTL GAIN level)".

■Activating the Skin DTL from the remote controller

For details on how to operate the various remote controllers, refer to the instruction manuals attached to the remote controllers. (RM-11 cannot control this function.)

Notice

- To set the skin colors (hue affected by skin DTL), it is recommended to adjust by shooting the actual skin color.
- The skin color can be detected automatically by Auto Hue Detect (AHD).

5.5.2 Soft DTL

When shooting a subject that has a significant difference in its black and white shading, a glare may occur in the lighter area. The glares are especially evident in the catch light reflecting on eyes, checkered patterns, etc.
The Soft DTL function reduces these unpleasant glares. Signals with large contrast have a greater edge level, which causes the glares. The Soft DTL function controls this edge level by a limiter. There are two ways to activate the Soft DTL function: selecting from the Maintenance Menu (settings: ON/OFF), and activating using the remote controller.

■Activating from the Maintenance Menu (settings: ON/OFF)

Set GRP3 from the Maintenance Menu. For details on the GRP3 settings, refer to Maintenance Menu (2/3), "5.10.21 VIDEO PROCESS MODE (Setting video process circuit and level)", "■ GRP1, GRP2, GRP3".

■Activating from the remote controller

For details on how to operate the various remote controllers, refer to the instruction manuals attached to the remote controllers. (RM-11 cannot control this function.)

5.5.3 Changing the DTL Boost Frequency

Depending on the subject, finely detailed pictures are required in some cases. In such cases, the DTL boost frequency can be selected to produce pictures with finer details. The center of the boost frequency can be selected from 8 levels.

Boost frequency:

with 16:9 : 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5 MHz
with 4:3 : 2.2, 2.6, 3.0, 3.4, 3.8, 4.1, 4.5, 4.9 MHz

For details on the settings, refer to Maintenance Menu (2/3), "5.10.21 VIDEO PROCESS MODE (Setting video process circuit and level)", "■ LEVEL SET", or the instruction manuals attached to the remote controllers.

5.6 Switching the Gain

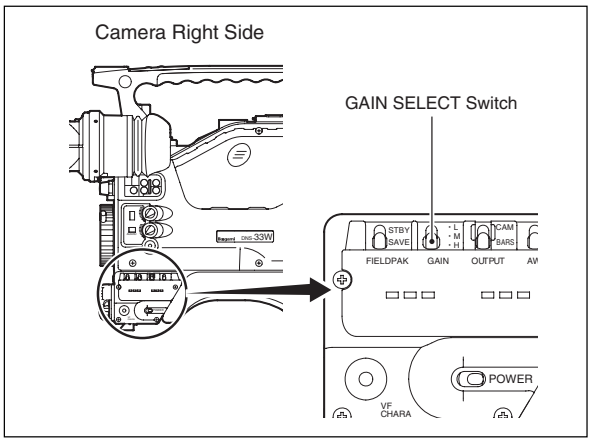
When shooting the camera under the conditions such as in evening, night time, or indoor use, the gain (sensitivity) of the camera needs to be adjusted to suit subjects with different brightness.

5.6.1 Switching the Gain on the Camera

Allocate a gain value to each of "L" (LOW), "M" (MID) and "H" (HIGH) switch position of the GAIN SELECT switch on the right side of the camera in advance. Switch the setting depending on the shooting environment.

The gain values -3, 0, +3, +6, +9, +12, +18, +24, +30, +36, +42, and +48 dB can be selected from the Menu. (Any value can be allocated to the switches as long as the values are in the following relationship: "L"<"M"<"H".)

The normal position of the GAIN switch is "L".



5.6.2 Activating the HYPER GAIN

When temporarily shooting the dark part during the normal shooting, a clear image may not be shot because of the low gain. In such a case, the HYPER GAIN can be activated.

1. Press and hold the HYPER GAIN switch on the right side of the camera for more than 2 seconds.
This operation turns the HYPER GAIN "ON". The value of the gain is determined as follows according to the setting value set in the "HYPER GAIN" of the "LOW/MID/HIGH GAIN MODE" submenu.

Selected Mode	HYPER GAIN Value
+30dB	+30dB
+36dB	+36dB
+42dB	+42dB
+48dB	+48dB
SEL(30-36)dB	Switch of +30dB and +36dB
SEL(30-42)dB	Switch of +30dB, +36dB, and +42dB
SEL(30-48)dB	Switch of +30dB, +36dB, +42dB, and +48dB

Notice

When the HYPER GAIN function is activated, the noise component increases as well as the gain becomes high. The HYPER GAIN switch must be pressed and held for 2 seconds or more in order to prevent accidental operation.

2. Switch the value from +30dB to +48dB.
When the "HYPER GAIN" of the "LOW/MID/HIGH GAIN MODE" submenu is set to "SEL(30-36dB)", "SEL(30-42dB)", or "SEL(30-48dB)", the range of the gain can be switched.
Pressing and holding the HYPER GAIN switch (ON) for 2 seconds or more changes the value previously set. At this time, the GAIN indication on the VF flashes. While it flashes, pressing the HYPER GAIN switch again switches the setting as +30dB→+36dB→+42dB→+48dB →+30dB (in the case of SEL30-48dB).

3. Return to the gain mode of the normal setting.
To return to the gain mode of the normal setting, press the HYPER GAIN switch again.

Notice

When the "HYPER GAIN" of the "LOW/MID/HIGH GAIN MODE" submenu is set to "SEL(30-36dB)", pressing the HYPER GAIN switch while the gain value indication on the VF screen is flashing switches the value from +30dB to +48dB; on the other hand, pressing the HYPER GAIN switch while the indication is not flashing returns to the gain mode of the normal setting.

5.6.3 Activating the HYPER GAIN from the Remote Controller

RM-11 selects the gain value from 0dB, "MID", and "HIGH" (the values of "MID", and "HIGH" are set by the camera). For details on this operation, refer to the instruction manuals attached to the remote controllers.

Notice

When a remote controller is connected, the operation of the remote controller has priority over the operation switches on the camera (When the SEMI REMOTE mode is set to "OFF").

5.7 Using the Memory Card

The camera settings can be saved to/loaded from a memory card (SmartMedia™). The save function can store the current setting status of the camera to the memory card. The load function can read the saved settings on the memory card and reproduce them on the camera. Using these functions, the camera settings can be backed up on the memory card.
The memory cards (SmartMedia™) on sale in retailers can also be used. Use a SmartMedia™ for 3.3V power supply, with the memory capacity of 128M and smaller.

⚠ CAUTION

Before using a memory card bought from retailers for the first time, always format the memory card with this camera. If a memory card is not formatted with this camera or when a memory card formatted with other equipment such as PC is used, it will not function properly. The memory card bought from retailers has been tested sufficiently. However, we cannot take responsibility for the operation guarantee of the memory card.

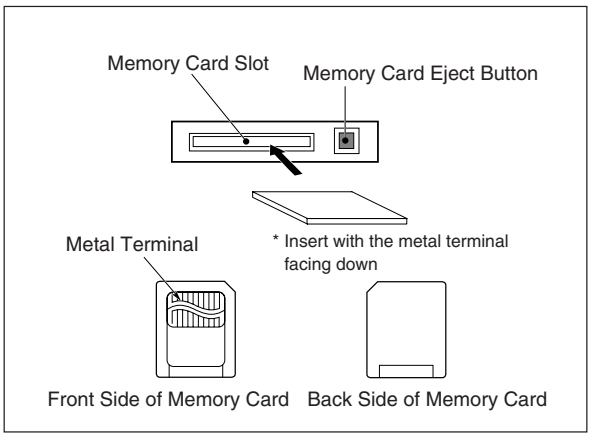
Notice

SmartMedia™ is a registered trademark of Toshiba.

5.7.1 Saving the Camera Settings on the Memory Card

This section explains how to save the camera settings on the memory card.

1. Insert the memory card into the memory card slot.
There is a memory card slot at the bottom of the left side of the camera, as shown in the following figure. Insert the memory card into the slot.



⚠ CAUTION

Ensure that the memory card is facing the right way (metal terminal facing down) when inserting it to the memory card slot.

2. Press and hold the VF CHARA button for more than 2 seconds, and holding the VF CHARA button, press the SET button to display "MEMORY CARD" of the Maintenance Menu (2/3).

3. Input the file name (up to 8 characters) on "SAVE FILE". For how to input the file name, refer to "5.7.3 Naming Saved Files".

4. Select the data type to save on "SAVE DATA".

Data Type	Description
LENS	Lens files No.1 to No. 8
REFERENCE	Reference file
SCENE	Scene files No.1 to No. 8
SNAP SHOT	Snap shot files
ALL DATA	All setting data

5. Select "SAVE (→M CARD)". "EXECUTE" is displayed. Press the SET button to execute.
"COMPLETED" is displayed, and the specified camera settings are saved as a file.

6. Press the memory card eject button and remove the memory card.

The procedures above save the camera setting file on the memory card.

⚠ CAUTION

Never remove the memory card from the slot while "SAVING..." is displayed, as the data is being written on the memory card. Otherwise, the data or the memory card itself may be damaged.

5.7.2 Loading the Camera Settings Saved on the Memory Card

This section explains how to load the camera settings saved on the memory card to the camera.

1. Insert the memory card into the memory card slot.

⚠ CAUTION

Ensure that the memory card is facing the right way (metal terminal facing down) when inserting it to the memory card slot.

2. While pressing and holding the VF CHARA button for more than 2 seconds, press the SET button to display "MEMORY CARD" of the Maintenance Menu (2/3).

3. Select the file name to load on "LOAD FILE".

4. Select the data in the specified file on "LOAD DATA".

Data Type	Description
LENS1-8	All lens files
LENS1	Only lens file No.1
LENS2	Only lens file No.2
LENS3	Only lens file No.3
LENS4	Only lens file No.4
LENS5	Only lens file No.5
LENS6	Only lens file No.6
LENS7	Only lens file No.7
LENS8	Only lens file No.8
REFERENCE	Reference file
SCENE1-8	All scene files
SCENE1	Only scene file No.1
SCENE2	Only scene file No.2
SCENE3	Only scene file No.3
SCENE4	Only scene file No.4
SCENE5	Only scene file No.5
SCENE6	Only scene file No.6
SCENE7	Only scene file No.7
SCENE8	Only scene file No.8
SNAP SHOT	Snapshot file
ALL DATA	All data in the specified file
MENU DATA	Data of the menu setting items
VF DATA	Data of the VF setting items

Data loaded by selecting "MENU DATA" does not include level adjustment value and ON/OFF settings of the camera.

Notice

Depending on the setting selected on "SAVE DATA" when the data is saved on the memory card, the data types available on "LOAD DATA" vary. For details, refer to "■ LOAD DATA" in "5.10.22 MEMORY CARD".

5. Select "LOAD (→CAMERA)". "EXECUTE" is displayed. Press the SET button to execute.
"COMPLETED" is displayed when the selected data is read. When "ALL DATA" is loaded to the camera, "CAMERA RESTART" will be displayed after "COMPLETED", and the camera will be restarted.

6. Press the memory card eject button and remove the memory card.

The procedures above load the camera setting file saved on the memory card to the camera.

⚠ CAUTION

- When the camera settings saved on the memory card are loaded, all previous camera settings will be overwritten. It is recommended to save the current camera settings before loading.
- Never remove the memory card from the slot while "LOADING..." is displayed, as the data is being loaded to the camera. Otherwise, the data or the memory card itself may be damaged.
- Always press the memory card eject button to remove the memory card from the slot. When the camera is powered on, removing the memory card without pressing the memory card eject button may damage the memory card data and the memory card itself.

5.7.3 Naming Saved Files

Any file name can be given to files saved on the memory card. Up to 8 characters can be input as the file name. However, if a space is inserted within a file name, the characters input after the space will not be included in the saved file name.

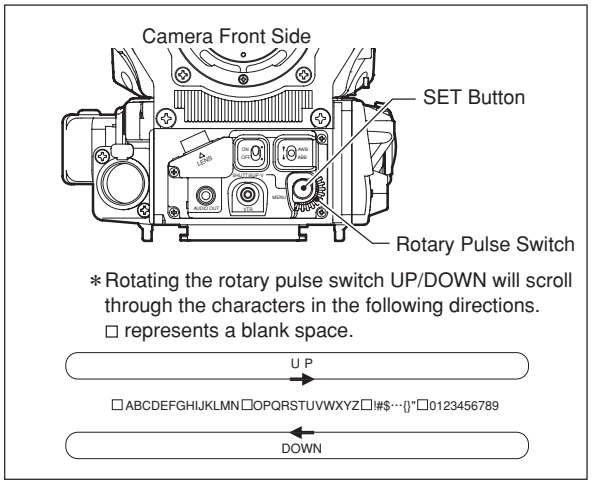
```
MEMORY CARD
LOAD FILE        (          )
LOAD DATA        SCENE1-8
LOAD (→CAMERA )
SAVE FILE        (          )
SAVE DATA        SCENE
SAVE (→M.CARD )
FORMAT/DELETE

M.CARD NAME      (          )
```

1. Select "SAVE FILE".

2. "_ _ _ _ _ _ _ _" is displayed in the parenthesis. Press the SET button again to switch to the character input mode.

3. Select the necessary character using the rotary pulse switch, and then press the SET button to confirm the selected character one by one in the parenthesis.

4. When all the characters in the parenthesis are set, the character input mode ends and the new file name is set. If the file name is less than 8 characters long, be sure to input blank spaces in the remaining fields. The character input mode does not end unless there are 8 characters confirmed as the file name. Rotating the rotary pulse switch scrolls through the characters as shown in the figure below:



Notice

If there is already a file saved on the memory card when "SAVE FILE" is selected and "_ _ _ _ _ _ _ _" is displayed in the parenthesis, rotating the rotary pulse switch displays the current file name in the character field, so the old file name can easily be edited into a partly changed new file name.

5.7.4 Deleting the Camera Settings on the Memory Card

This section explains how to delete the camera settings saved on the memory card.

1. Select "DELETE FILE".

2. Select the file name that contains data to be deleted using the rotary pulse switch.
The data format of the selected file will be displayed next to "DATA".

3. Press the SET button to confirm.

4. Select "DELETE" by the SET button. "EXECUTE" is displayed. Press the SET button to execute.
Data deletion starts. "COMPLETED" is displayed when the data deletion is completed.
When "CANCEL" is executed using the rotary pulse switch before the data is deleted, the DELETE operation will end without execution.

5.7.5 Naming the Memory Card

The memory card can be named.

```
MEMORY CARD
LOAD FILE          (            )
LOAD DATA          SCENE1-8
LOAD (→CAMERA )
SAVE FILE          (            )
SAVE DATA          SCENE
SAVE (→M.CARD )
FORMAT/DELETE

M.CARD NAME        (            )
```

1. Select "M.CARD NAME".
The flashing cursor moves and the screen switches to the character input mode.

2. Select the necessary character using the rotary pulse switch, and then press the SET button to confirm the selected character in the parenthesis.

3. When all the character input fields in the parenthesis are confirmed, the character input mode ends, and the memory card name is updated. If the file name is less than 11 characters long, be sure to input blank spaces in the remaining fields. The character input mode does not end unless there are 11 characters confirmed as the file name. Rotating the rotary pulse switch scrolls through the characters.

Notice

If the memory card is already named, the current name is displayed in the parenthesis. For a memory card not yet named, "--NO NAME--" is displayed. When there is no memory card inserted, "--NO CARD--" is displayed.

5.7.6 Precautions on Using the Memory Card

When using the memory card which stores the camera data in other devices (PC, Mobile Terminal, Digital Camera etc.,), the following precautions are necessary.

- Copying the camera data in the memory card into the PC is not a particular problem. However, when transferring the data which is saved in the PC back to the memory card, be careful about following matters:
  Do not change the file name of the camera data.
  Do not create or save files or folders other than camera data on the memory card.
  Do not format the memory card on the PC.
- Operation of the memory card used with devices other than PC, such as mobile terminals and digital camera, has not been checked. Avoid using these devices as the data of the memory card may be destroyed.
- When using a memory card that has been used by other equipment, format the memory card with the camera in advance.

• Always press the memory card eject button to remove the memory card from the slot. When the camera is powered on, removing the memory card without pressing the memory card eject button may damage the memory card data and the memory card itself.

Important:

The camera does not allow a long file name exceeding 8 characters and 3 filename extension characters or a file name containing other than half-size alphabets, such as Chinese characters, Japanese characters "kana" etc. When saving the camera data into the memory card which contains files and folders with those file names, the data inside the memory card may be destroyed, causing a problem such as unable to access the data on the memory card or unable to format the memory card with the camera.

Notice

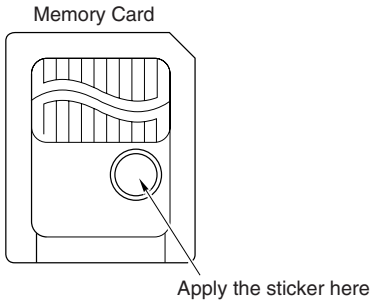
If an error occurs during loading/saving, various error messages are displayed. The error messages and their definitions are described in the following table:

Error Message	Definition
CARD INSERT ERROR!	There is no memory card in the slot.
CARD ERROR!	The inserted memory card cannot be used.
ACCESS ERROR!	An error occurred during saving to or loading from the memory card.
! DIFFERENT TYPE DATA	The specified data type is different.
FILE ALREADY EXIST	There is already a file with the same name.
FILE CREATE ERROR!	The file could not be created.
FILE DATA ERROR!	There was an error in the data.
FILE NOT FOUND!	The file was not found on the memory card.
NOT SAVE DATA FOR CAMERA	The data on the memory card was not saved by the camera.

Notice

The round sticker attached to the memory card is used for write protection. Applying the sticker in the position shown in the next figure prevents formatting the memory card or overwriting data on the existing files by mistake.

Always use the sticker supplied with the card for write protection. Do not touch, wet, etc. to keep the applied sticker and the metal terminal clean.



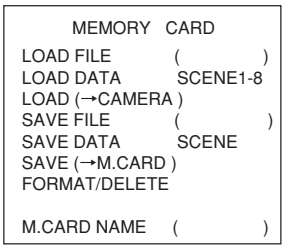
5.7.7 Formatting the Memory Card

This section explains how to format memory cards so that they can be used for DNS-33W.

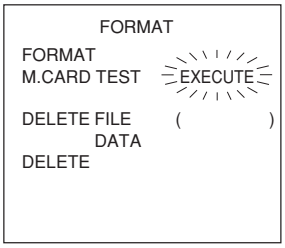
⚠ CAUTION

When a memory card is formatted, all the data recorded on the card will be lost.

1. Select "FORMAT/DELETE".

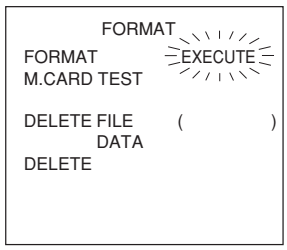


2. The following submenus are displayed. Select "FORMAT" in detail items. "CANCEL" flashes in the setting field. Rotate the rotary pulse switch and select "EXECUTE", then press the SET button.



3. When the memory card is formatted, "COMPLETE" is displayed on the screen.

4. Test the memory card to confirm that it is formatted correctly by selecting "M. CARD TEST" from the submenus. "CANCEL" flashes in the setting field. Rotate the rotary pulse switch and select "EXECUTE", then press the SET button.



5. When the test is completed, "TEST OK" is displayed on the screen.

The procedures above format the memory card.

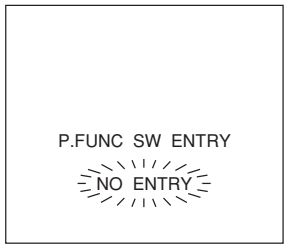
5.8 Allocating Functions to P.FUNC

The functions used frequently can be allocated to the P.FUNC switch. This section explains how to allocate functions to the P.FUNC switch.

5.8.1 Allocating Functions to P.FUNC

1. Press and hold the P.FUNC switch for more than 2 seconds.

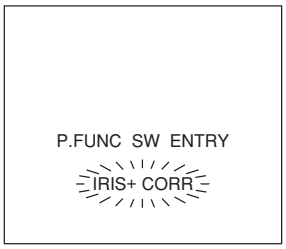
2. The following display appears on the VF and the selection display (NO ENTRY in the figure below) flashes:



3. While the selection display is flashing, scroll through the functions that can be allocated to the P.FUNC switch by rotating the rotary pulse switch. The following table shows the functions that can be allocated to the P.FUNC switch:

Selection Display	Function
NO ENTRY	No function is allocated to the P.FUNC switch.
IRIS+ CORR	Turns ON/OFF the mode to adjust the iris by approximately +1/2 STOP when AUTO IRIS is set.
IRIS++ CORR	Turns ON/OFF the mode to adjust the iris by +1 STOP when AUTO IRIS is set.
AUTO KNEE	Turns ON/OFF the AUTO KNEE function.
SOFT DTL	Turns ON/OFF the Soft DTL function.
AUTO HUE DETE	Turns ON/OFF the Auto Hue Detect (AHD) function and starts AHD.
SCENE-1	Turns ON/OFF Scene file No.1.
SCENE-2	Turns ON/OFF Scene file No.2.
SCENE-3	Turns ON/OFF Scene file No.3.
SCENE-4	Turns ON/OFF Scene file No.4.
SCENE-5	Turns ON/OFF Scene file No.5.
SCENE-6	Turns ON/OFF Scene file No.6.
SCENE-7	Turns ON/OFF Scene file No.7.
SCENE-8	Turns ON/OFF Scene file No.8.
ASPECT RATIO	Switches the aspect ratios between 16:9 and 4:3.
SKIN DTL	Turns ON/OFF the Skin DTL function.
BLK PRS -11%	Turns ON/OFF -11% Black Press function.
BLK PRS -9%	Turns ON/OFF -9% Black Press function.
BLK PRS -7%	Turns ON/OFF -7% Black Press function.
BLK PRS -5%	Turns ON/OFF -5% Black Press function.
BLK PRS -3%	Turns ON/OFF -3% Black Press function.
BLK STR +3%	Turns ON/OFF +3% Black Press function.
BLK STR +5%	Turns ON/OFF +5% Black Press function.
BLK STR +7%	Turns ON/OFF +7% Black Press function.
BLK STR +9%	Turns ON/OFF +9% Black Press function.
BLK STR +11%	Turns ON/OFF +11% Black Press function.

4. Display the desired function and press the SET button while the selection is flashing. The selected function is allocated to the P.FUNC switch (IRIS+CORR for the figure below).



The procedures above allocate functions to the P.FUNC switch. Pressing the P.FUNC switch turns the allocated function ON, and pressing it again turns the function OFF.

5.8.2 Allocating Skin DTL Function to P.FUNC

The Skin DTL function can be allocated to the P.FUNC switch.

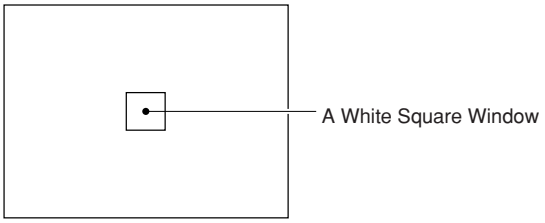
1. After allocating functions to the P.FUNC switch, pressing the P.FUNC switch turns the Skin DTL function ON. The color range to apply the Skin DTL function must be decided in advance, using Auto Hue Detect (AHD).

2. Pressing the P.FUNC switch again turns the Skin DTL function OFF. The camera returns to the normal DTL setting.

5.8.3 Allocating AHD to P.FUNC

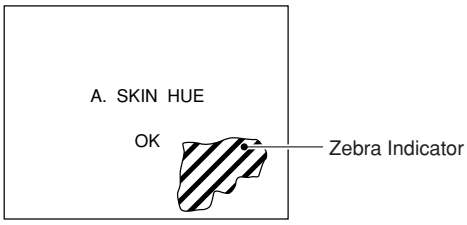
The Auto Hue Detect (AHD) can be allocated to the P.FUNC switch.

1. Press the P.FUNC button. A white square window appears in the middle of the VF.
The white square for the AHD disappears if no operation is carried out in 10 seconds, and the AHD function is also cancelled.



2. Adjust the camera position so that the part to apply the Skin DTL function comes in the middle of the white square window.

3. Press the P.FUNC switch again. AHD is executed, "A.SKIN HUE OK" is displayed in the VF, and the color to apply the Skin DTL function is replaced by the zebra indicator.



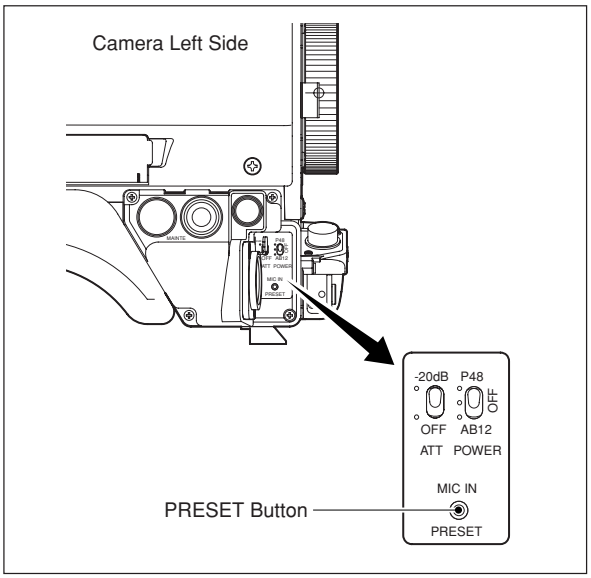
4. If the color to apply the Skin DTL function is not replaced by the zebra indicator, or the zebra indicator is applied to other colors/parts as well, repeat step 1 to 3 again to display zebra indicator for only the applicable subject.

Reference

For details on the Skin DTL, refer to "5.5 Screen Detail Enhancement (DTL)", "5.5.1 Skin DTL".

5.9 Initializing Various Camera Settings

The level adjustments and settings changed from the menu can be returned (initialized) to the factory settings. This section explains how to initialize various camera settings.



1. Press and hold the PRESET button with a pointed stick, for example the tip of a ballpoint pen. The following message is displayed:

```
PRESET FILE SELECT
(ENGINEER SET FILE)
```

2. Rotate the rotary pulse switch to scroll to "FACTORY SET FILE" and press the SET button.
The following message is displayed:

```
PRESET FILE SELECT
(FACTORY SET FILE)

HOLD PRESET SW→LOAD
```

3. Press and hold the PRESET button again. The following message is displayed and preparation for the initialization is started.
Keep holding the PRESET button while "PLEASE HOLD" message is displayed. When the PRESET button is released, "STOP!" message appears and the initialization stops. After preparation for the initialization is completed, the file loading is started automatically.

```
---PRESET PROCESS---
FACTORY SET FILE LOAD
PLEASE HOLD >>>>>>>>
```

4. After the file loading is completed and the following message is displayed, "CAMERA RESTART" is displayed, the camera is restarted, and the camera settings return to the factory settings.

```
FACTORY SET FILE LOAD
COMPLETED
```

Notice

Selecting "CANCEL" on the first message and pressing the SET button will cancel the initialization. Also, not pressing the PRESET button again for 10 seconds while the first or second message is displayed will end the message display and cancels the initialization.

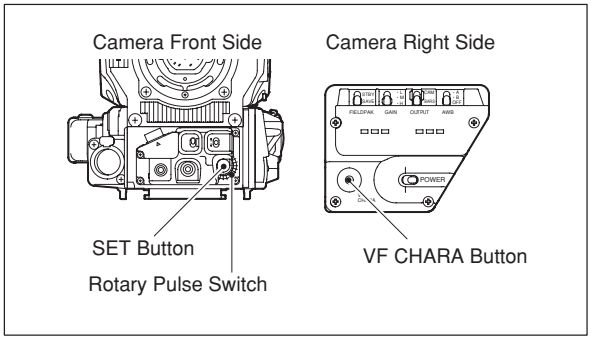
5.10 Settings in the Menu

There are two menu modes available for DNS-33W: "Normal Menu" and "Maintenance Menu". These setting modes can set up various status of the camera such as items displayed on the VF to suit the shooting situation. The selection and set up of each item are performed by displaying operation menu screen on the VF or the monitor.

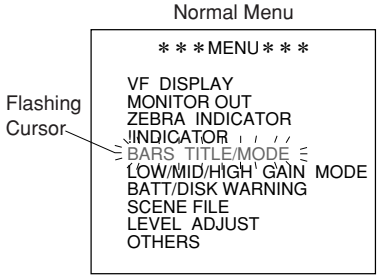
5.10.1 Basic Operations of the Menu Screen

■Operation of the "Normal Menu"

This section explains how to operate the Normal Menu.



1. Press and hold the VF CHARA button on the right side of the camera, and press the SET button on the front part, still holding the VF CHARA button.
The Normal Menu is displayed as shown in the figure below. Press the VF CHARA button again to end the Normal Menu.

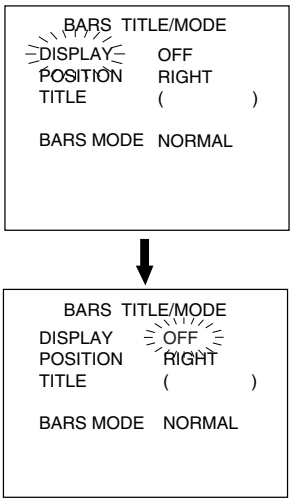


2. Rotate the rotary pulse switch and put the flashing cursor on the menu item to set up.

3. Press the SET button to confirm the selected item.
When the selected item is confirmed, the screen automatically switches to the submenu screen, and detailed setting items can be modified there.

4. As in the Normal Menu, rotate the rotary pulse switch, put the flashing cursor on the detailed setting item to set up, and then press the SET button to confirm the selected item for submenus.

Submenu



When the detailed setting items are confirmed, the flashing cursor moves to the mode selection field (ON/OFF, etc.).

5. Select the mode by rotating the rotary pulse switch, and press the SET button to confirm the selection. Each time the SET button is pressed, the flashing cursor switches to detailed setting item → mode selection → detailed setting item → mode selection and so on.

6. To exit from submenu, press the VF CHARA button, or select the title on top of the screen ("BARS TITLE/MODE" in the figures above).

7. To end the Normal Menu, return to the initial screen of the Normal Menu, then press the VF CHARA button.

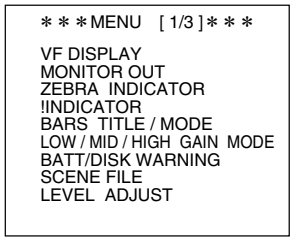
Notice

- If the Maintenance Menu is displayed by mistake during setup by the Normal Menu, press the VF CHARA button again, exit from the menu mode and retry the Normal Menu operations. The Maintenance Menu is displayed by pressing and holding VF CHARA button for more than two seconds and then pressing the SET button. Please note that even if the Maintenance Menu is displayed, it is not abnormality or trouble in the camera setting mode.
- If the mode setting is selected but not confirmed, the change in that setting may be cancelled.

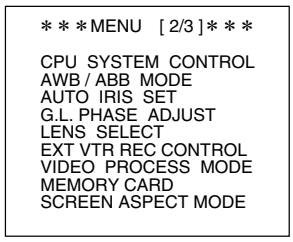
■Operation of the "Maintenance Menu"

This section explains how to operate the Maintenance Menu. There are 3 screens for the Maintenance Menu: "***MENU [1/3]***", "***MENU [2/3]***", and "***MENU [3/3]***". Their operation procedures are basically the same as the Normal Menu.

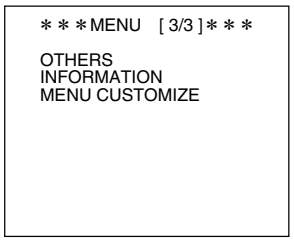
Maintenance Menu (1/3)



Maintenance Menu (2/3)



Maintenance Menu (2/3)



1. Press and hold the VF CHARA button on the right side of the camera for more than 2 seconds, and then press the SET button on the front part, with the VF CHARA button still held. Press the VF CHARA button to end the Maintenance Menu.

2. Rotate the rotary pulse switch and put the flashing cursor on the menu item to set up.

3. Press the SET button to confirm the selected item.
When the selected item is confirmed, the screen automatically switches to the submenu screen, and detailed setting items can be modified there.

4. As in the Maintenance Menu, rotate the rotary pulse switch and put the flashing cursor on the detailed setting item to set up, then press the SET button to confirm the selected item.

5. Select the mode by rotating the rotary pulse switch, and press the SET button to confirm the selection. Each time the SET button is pressed, the flashing cursor switches to detailed setting item → mode selection → detailed setting item → mode selection and so on.

6. To exit from submenu, press the VF CHARA button or select the title on top of the screen to confirm.

7. To end the Maintenance Menu, return to the initial screen of the Maintenance Menu and press the VF CHARA button.

5.10.2 Structure of Normal Menu

This section shows the structure of the Normal Menu.

The menu items displayed on the Normal Menu can be changed in MENU CUSTOMIZE in the Maintenance Menu (3/3). Here, the factory setting is described:

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
VF DISPLAY	DISPLAY MODE	OFF, 1, 2	2	Selects the display mode for various characters displayed on the VF
	SAFETY AREA	ACTION, TITLE	ACTION	Selects the safety marker from action area or title area
	SAFETY MARKER	OFF, ON	OFF	Turns the safety marker ON/OF
	SAFETY ASPECT	4:3, 13:9, 14:9, 15:9, 16:9	4:3	Switches the aspect ratio of the safety marker display
	CENTER MARKER	OFF, ON	OFF	Turns ON/OFF the center marker display
	FRAME MARKER	OFF, ON	OFF	Turns ON/OFF the frame marker display
	FRAME ASPECT	4:3, 13:9, 14:9, 15:9, 16:9	4:3	Switches the aspect ratio of the frame marker display
	SIDE MASK	OFF, ON	OFF	Turns ON/OFF the side mask function. The side mask function changes the video level of the picture outside the frame marker. Therefore this menu is displayed only when the FRAME MARKER is ON.

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
VF DISPLAY2	OUTPUT SIGNAL	Y, R+G+B	Y	Selects the video signal displayed on the VF
	MARKER/ CHAR LVL	1 to 100	65	Sets the video level of the markers and characters
	SIDE MASK LVL	1 to 100	50	Sets the video level of the side mask
	ZEBRA IND LVL	1 to 100	20	Sets the video level of the zebra indicator
	VF DTL LVL	1 to 100	75	Sets the video level of the VF DTL
	DISPLAY SELECT			Displays the ON/OFF setting screen of various characters

MONITOR OUT	VIDEO SELECT	CAMERA, RET VIDEO	CAMERA	Selects the video signal to output on the MONITOR OUT
	OUTPUT SIGNAL	ENC, Y, R+G+B, R, G, B	ENC	Selects the camera video signal to output on the MONITOR OUT
	SAFETY MARKER	OFF, ON	OFF	Turns the safety marker ON/OFF
	CENTER MARKER	OFF, ON	OFF	Turns the center marker ON/OFF
	FRAME MARKER	OFF, ON	OFF	Turns the frame marker ON/OFF
	SIDE MASK	OFF, ON	OFF	Turns the side mask ON/OFF
	CHARACTER IND	OFF, ON	ON	Turns the character display ON/OFF
	ZEBRA IND	OFF, ON	OFF	Turns the zebra indicator ON/OFF
	MARKER/CHAR LVL	1 to 100	65	Sets the video level of markers and characters

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
MONITOR OUT2	SIDE MASK LVL	1 to 100	50	Sets the video level of the side mask
	ZEBRA IND LVL	1 to 100	20	Sets the video level of the zebra indicator

ZEBRA INDICATOR	ZEBRA1 IND	OFF, ON	ON	Turns ON/OFF the 1st zebra indicator
	ZEBRA1 DETECT	1 to 137%	100%	Sets the detection level of the 1st zebra indicator
	ZEBRA2 IND	OFF, ON	OFF	Turns ON/OFF the 2nd zebra indicator
	ZEBRA2 DETECT	1 to 137%	70%	Sets the detection level of the 2nd zebra indicator
! INDICATOR	GAIN UP	OFF, ON	ON	Settings for the function that interacts with the alarm display (! indicator lamp) in the VF "*" displayed under CURRENT indicates that the function is operating
	AWB OFF	OFF, ON	ON	
	VTR SAVE	OFF, ON	ON	
	LENS EXT	OFF, ON	ON	
	MANUAL KNEE	OFF, ON	ON	
	SKIN DTL	OFF, ON	ON	
	SHUTT/SUP-V	OFF, ON	ON	
	A.IRIS CORR	OFF, ON	ON	
BARS TITLE/MODE	DISPLAY	ON, OFF	OFF	Turns the color bar title display ON/OFF
	POSITION	LEFT, RIGHT	RIGHT	Sets the position of the color bar title display
	TITLE	(Input 10 characters)		Sets the characters displayed as the title on the color bar
	BARS MODE	NORMAL, SPLIT	NORMAL	Sets the color bar mode

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
LOW/MID/HIGH GAIN MODE	LOW GAIN	-3, 0, +3, +6, +9, +12 dB	0 dB	Allocates a gain value in the "L" position of the GAIN SELECT switch
	MID GAIN	0, +3, +6, +9, +12, +18 dB	+6 dB	Allocates a gain value in the "M" position of the GAIN SELECT switch
	HIGH GAIN	+3, +6, +9, +12, +18, +24 dB	+12 dB	Allocates a gain value in the "H" position of the GAIN SELECT switch
	HYPER GAIN	SEL (30-48dB), SEL (30-42dB), SEL (30-36dB), +48, +42, +36, +30dB	SEL (30-42dB)	Allocates a gain value of the HYPER GAIN switch
BATT/DISK WARNING	WARN FRONT TALLY	ON, OFF	ON	Turns the FRONT TALLY warning display ON/OFF
	WARN BACK TALLY	ON, OFF	ON	Turns the BACK TALLY warning display ON/OFF
SCENE FILE	SCENE NUMBER	OFF, NO.1 to 8	OFF	Loads a scene file
	STORE SCENE	NO.1 to 8, CANCEL	READY	Registers the scene file
LEVEL ADJUST	MASTER GAMMA	-100 to +100	0.0	Adjusts the MASTER GAMMA level
	MASTER PED	-100 to +100	0.0	Adjusts the MASTER PED level
	DTL GAIN	-100 to +100	0.0	Adjusts the DTL GAIN level
	SKIN DTL MODE	ON, OFF	OFF	Turns the SKIN DTL MODE ON/OFF
	SKIN DTL	-100 to +100	0.0	Adjusts the SKIN DTL GAIN
	COLOR SAT MODE	ON, OFF	OFF	Turns the COLOR SAT MOD ON/OFF
	COLOR SAT	-100 to +100	0.0	Adjusts the COLOR SAT level
	ADJUST CLR	PUSH SET -> CLR, CANCEL	READY	Returns the adjusted levels to the default settings
OTHERS	RET SOURCE	VTR VIDEO, GL VIDEO	VTR VIDEO	Selects whether to turn the RET video signal into VTR video or GL VIDEO
	G.L. INH IN G.L. VIDEO	---, OFF, ON	---	Selects whether to use GENLOCK input signal as the external synchronization signal ON/OFF can be specified only when "GL VIDEO" is selected in RET SOURCE described above
	BARS WITH CAP	ON, OFF	ON	Selects whether to make the iris cap interact when in BAR ON setting
	PWR ON AWB OFF CLR	YES, NO	YES	In the power has been turned OFF with a panel with AWB OFF mode set to "AWB OFF" in the past, this function turns the AWB OFF mode is connected the next time. Can only be specified when a remote control panel is connected
	RET CH SEL SW	RET/VTR, RET+VTR (Only RET+VTR available for B3 lens)	RET/VTR (RET+VTR for B3 lens)	Sets how the switch RET channel for the VF by using the RET and VTR buttons on the lens (The REC button on the handle works the same as the VTR button on the lens) RET/VTR : RET button for RET1, VTR for RET2 RET+VTR : Press VTR button while pressing and holding RET button to switch RET channel * Only RET+VTR available for B3 lens.
	VF G TALLY	NO, YES	NO	Selects whether or not to mount the VF with G TALLY lamp
	MENU CURSOR	NEXT, STAY	NEXT	Selects the menu cursor movement when the SET button is pressed

5.10.3 VF DISPLAY (Selecting various status display modes on the VF)

VF DISPLAY sets up items and contents displayed on the VF, for example turning ON/OFF the markers, etc.

■DISPLAY MODE

DISPLAY MODE selects the display mode of various characters providing the camera setting information. Depending on the selected mode, the characters are displayed as follows:

Setting Value	Description
OFF	Displays no characters except the alarm messages.
1	Displays the area/center/frame marker and the record time count/audio level indicator at all times. Also, when any of the following switches is operated, the corresponding setting status is displayed for approximately 2 seconds: • ND FILTER knob • ECC FILTER SELECT switch • GAIN SELECT switch • AWB SELECT switch • SHUTT/SUP-V switch • EXTENDER SELECT lever
2	Displays the area/center/frame marker, the record time count/audio level indicator, and filter positions at all times. Also, when any of the following switches is operated, the corresponding setting status is displayed for approximately 2 seconds if the set item is of a default setting/value, and displayed at all times if the set item is not a default value: • GAIN SELECT switch (default: 0dB) • AWB SELECT switch (default: Ach) • SHUTT/SUP-V switch (default: OFF)

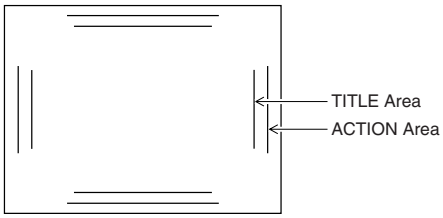
1. Select "VF DISPLAY" from the Normal Menu and confirm the selection.
The submenu screen is displayed.

2. Select "DISPLAY MODE" from the submenus and confirm the selection.
The flashing cursor moves to the mode setting column.

3. Select "OFF", "1", or "2" and confirm the selection.

■SAFETY AREA, SAFETY MARKER, SAFETY ASPECT

The safety markers are used to check the safety area zone within the screen. Select "ACTION" (displays action area), or "TITLE" (displays the title area) from "SAFETY AREA". "SAFETY MARKER" turns ON/OFF the safety marker display, and "SAFETY ASPECT" selects the aspect ratio of the safety markers from 4:3, 13:9, 14:9, 15:9, and 16:9.



Area Name	Description
Action area	Action safety zone, which is equivalent to 90% of the height and width of the screen.
Title area	Title safety zone, which is equivalent to 80% of the height and width of the screen.

■CENTER MARKER

Select "ON" or "OFF" from the "CENTER MARKER" and confirm.

■FRAME MARKER, FRAME ASPECT, SIDE MASK

Turn the frame marker display ON/OFF by "FRAME MARKER", and select the aspect ratio of the frame marker display from 4:3, 13:9, 14:9, 15:9, and 16:9 by "FRAME ASPECT".

SIDE MASK is the function that converts the video level of the picture outside the frame marker. "SIDE MASK" selects a switch ON/OFF of the SIDE MASK. Video level of the SIDE MASK is adjusted by "SIDE MASK LVL" of "VF DISPLAY2".

Notice

- The area markers (area, center, frame markers) displayed on the VF can all be turned ON/OFF at the same time. Press and hold VF CHARA button and rotate the rotary pulse switch. The screen switches to setting mode for turning ON/OFF the area marker display, and the ON/OFF setting can be changed (when the screen switches to the setting mode, the VF CHARA button can be released). At this time, the current setting appears on the character display of the VF. If the setting mode screen is left as is for approximately 3 seconds after selecting the mode, the setting mode ends automatically. There are three ways to end the marker display setting mode: pressing the SET button, pressing the VF CHARA button again, and leaving as is for more than 3 seconds.
- Note that if all the area marker display settings are set to "OFF", no area markers will be displayed on the VF. If the area marker display settings for each marker is not set to "ON" mode, selecting "1" or "2" in "DISPLAY MODE" submenu will not display the markers.

■VF DISPLAY2 (Submenus to select mode for various displays on the VF)

VF DISPLAY2 sets up the item contents to display on the VF, for example the brightness of the marker display, etc.

[OUTPUT SIGNAL]

OUTPUT SIGNAL selects the video signal type (Y or R+G+B) displayed on the VF.

1. Select "OUTPUT SIGNAL", and rotate the rotary pulse switch to select "Y" or "R+G+B".
   Selecting "R+G+B" will display a blue subject better on the VF, but at the same time increases the noise.

2. Confirm the selection by pressing the SET button.

[MARKER/CHAR LVL]

MARKER/CHAR LVL sets up the brightness of the marker/ character display.

1. Select "MARKER/CHAR LVL", and rotate the rotary pulse switch to adjust to the required value.

2. Confirm the value by pressing the SET button.

[SIDE MASK LVL]

SIDE MASK LVL sets up the brightness of the side mask display. The side mask function changes the video level of the picture outside the frame marker, therefore this menu is displayed only when the FRAME MARKER is ON.

1. Select "SIDE MASK LVL", and rotate the rotary pulse switch to adjust to the required value.

2. Confirm the value by pressing the SET button.

[ZEBRA IND LVL]

ZEBRA IND LVL sets up the brightness of the zebra indicators.

1. Select "ZEBRA IND LVL", and rotate the rotary pulse switch to adjust to the required value.

2. Confirm the value by pressing the SET button.

[VF DTL LVL]

VF DTL LVL sets up the amount of DTL displayed on the VF.

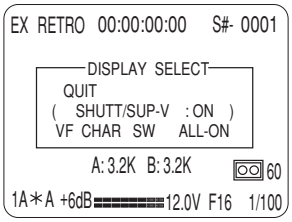
1. Select "VF DTL LVL", and rotate the rotary pulse switch to adjust to the required value.

2. Confirm the value by pressing the SET button.

■DISPLAY SELECT (Character display setting)

DISPLAY SELECT turns each character display ON/OFF.

1. Select "DISPLAY SELECT". The following submenu screen is displayed.



2. The setting item is displayed in the parenthesis, and its character display flashes. Rotate the rotary pulse switch and select an item to be set.

3. Press the SET button, rotate the rotary pulse switch, and select from "ON" and "OFF" of the display.

4. Press the SET button to confirm the selection.

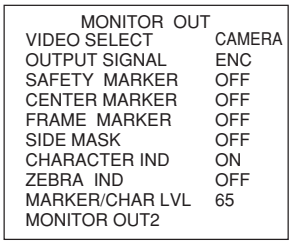
5. In "VF CHAR SW" submenu, the character display setting when the VF CHARA button is pressed can be specified.

Setting Value	Description
SEL-ON	Displays only the setting items set to "ON".
ALL-ON	Displays all the setting items regardless of ON/OFF setting.

6. Rotate the rotary pulse switch to select the setting item, and press the SET button to confirm the selection.

5.10.4 MONITOR OUT (Selecting mode for various display items on the monitor line)

MONITOR OUT sets up the items displayed on the video output on the monitor and their contents, for example turning ON/OFF the marker display, etc.



■VIDEO SELECT

VIDEO SELECT selects the video signal channel output on the MON OUT connector.

1. Select "VIDEO SELECT", and rotate the rotary pulse switch to adjust to the required value.

Setting Value	Description
CAMERA	To be output video signal of the camera
RET VIDEO	To be output RET video signal

2. Confirm the value by pressing the SET button.

■OUTPUT SIGNAL

OUTPUT SIGNAL selects the video signal channel (ENC, Y, R+G+B, R, G, or B) displayed on the MON connector.

1. Select "OUTPUT SIGNAL", and rotate the rotary pulse switch to select a signal to be set.
2. Confirm the selection by pressing the SET button.

Notice

This setting is valid only while the power is turned ON. If the power is turned OFF, this setting returns to "ENC".

■SAFETY MARKER

The safety markers are used to check the safety area zone within the screen. The safety marker setting ("ACTION" or "TITLE") and the aspect ratio are the same as set in the "VF DISPLAY" submenu.

1. Select "SAFETY MARKER", and rotate the rotary pulse switch to set "ON" or "OFF".
2. Confirm the selection by pressing the SET button.

■CENTER MARKER

CENTER MARKER turn ON/OFF the center marker display on the monitor.
Select "ON" or "OFF" from "CENTER MARKER" and confirm.

■FRAME MARKER

FRAME MARKER turns ON/OFF the frame marker display on the monitor.
Select "ON" or "OFF" from "FRAME MARKER" and confirm.

■SIDE MASK

SIDE MASK turns ON/OFF the side mask on the monitor.
Select "ON" or "OFF" from "SIDE MASK" and confirm.

■CHARACTER IND

CHARACTER IND turns ON/OFF the character indicators on the monitor.
Select "ON" or "OFF" from "CHARACTER IND" and confirm.

■ZEBRA IND

ZEBRA IND turns ON/OFF the zebra indicators on the monitor.
Select "ON" or "OFF" from "ZEBRA IND" and confirm.

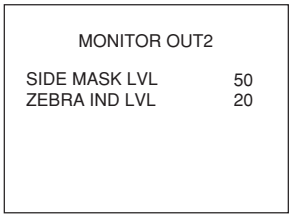
■MARKER/CHAR LVL

MARKER/CHAR LVL sets up the brightness of the marker/character display on the monitor.

1. Select "MARKER/CHAR LVL", and rotate the rotary pulse switch to adjust to the required value.
2. Confirm the value by pressing the SET button.

■MONITOR OUT2 (Submenus to select mode for various displays on the monitor line)

MONITOR OUT2 sets up the item contents to display on the monitor, for example the brightness of the marker display, etc.



[SIDE MASK LVL]

SIDE MASK LVL sets up the brightness of the side mask display. The side mask function changes the video level of the picture outside the frame marker, therefore this menu is displayed only when the FRAME MARKER is "ON".

1. Select "SIDE MASK LVL", and rotate the rotary pulse switch to adjust to the required value.
2. Confirm the value by pressing the SET button.

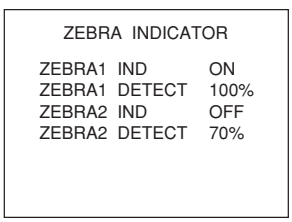
[ZEBRA IND LVL]

ZEBRA IND LVL sets up the brightness of the zebra indicators.

1. Select "ZEBRA IND LVL", and rotate the rotary pulse switch to adjust to the required value.
2. Confirm the value by pressing the SET button.

5.10.5 ZEBRA INDICATOR

The zebra signals are striped patterns that appear superimposed on the actual picture. There are two zebra signals: the zebra 1 signal which appears in the area where the video level is higher than the value set in "ZEBRA1 DETECT", and the zebra 2 signal which appears only in the area where the video level is the same as the value set in "ZEBRA2 DETECT".
The type of striped pattern displayed for zebra 1 and zebra 2 are different.
The zebra 1 signals appear as thin slanting stripes streaming towards the top right corner of the screen, while the zebra 2 signals appear as wider slanting stripes streaming slower towards the bottom right corner of the screen.
The zebra 1 signal is used to manage the tone of the whole screen, and the zebra 2 signal is used to manage the tone of a part of screen, which involves colors in memory, for example the face tone. The following describes the procedures.



■Setting the Zebra 1 Signal

1. Select "ZEBRA 1 IND", and rotate the rotary pulse switch to select "ON".

2. Confirm the selection by pressing the SET button.

3. Select "ZEBRA 1 DETECT", and rotate the rotary pulse switch to adjust to the required value.

4. Confirm the value by pressing the SET button.

■Setting the Zebra 2 Signal

1. Select "ZEBRA 2 IND", and rotate the rotary pulse switch to select "ON".

2. Confirm the selection by pressing the SET button.

3. Select "ZEBRA 2 DETECT", and rotate the rotary pulse switch to adjust to the required value.

4. Confirm the value by pressing the SET button.

Notice

Note that if the VF ZEBRA switch is not set to "ON", the zebra 1 and 2 signals will not be displayed. However, while pressing and holding the VF CHARA button on the right side of the camera, the zebra signals are displayed forcibly regardless of these settings, so that the video level can be checked temporarily.

5.10.6 ! INDICATOR (Selecting the warning display items)

! INDICATOR sets up the functions that interact with the warning display on the VF (! indicator).

1. Select "! INDICATOR" and confirm. The following submenu screen is displayed.

! INDICATOR		
		CURRENT
GAIN UP	ON	*
AWB OFF	ON	*
VTR SAVE	ON	*
LENS EXT	ON	*
MANUAL KNEE	ON	*
SKIN DTL	ON	*
SHUTT/SUP-V	ON	*
A. IRIS CORR	ON	*

2. Rotate the rotary pulse switch to select an item to be set.

3. Press the SET button, then rotate the rotary pulse switch to select "ON" or "OFF".
   If "ON" is selected for a function, the ! indicator turns on when the function is activated.

4. Confirm the selection by pressing the SET button.

5. On the CURRENT column asterisks are displayed next to the functions currently selected to display the warning.

5.10.7 BARS TITLE/MODE (Selecting the title displayed on the color bar and the type of color bar)

BATS TITLE/MODE sets up the title displayed on the color bar (up to 10 characters) and the position to display the color bar.

■TITLE (Inputting title)

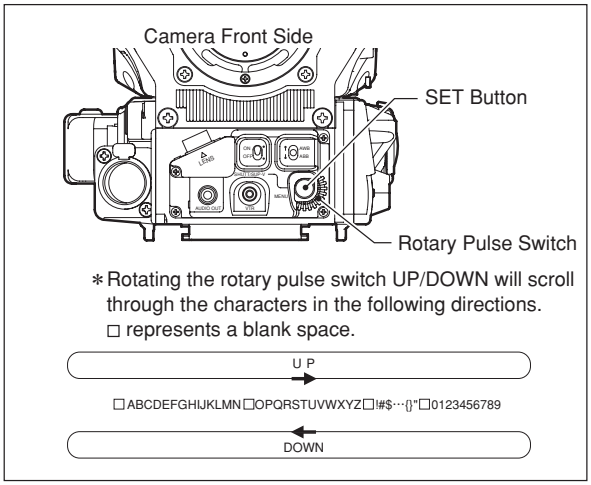
BARS TITLE/MODE	
DISPLAY	OFF
POSITION	RIGHT
TITLE	( )
BARS MODE	NORMAL

1. Select "BARS TITLE" from the Normal Menu and confirm.
   The screen switches to the submenu screen.

2. Select "TITLE" submenu.
   The flashing cursor moves to allow you to enter the title.

3. Select the necessary character using the rotary pulse switch, and then press the SET button to confirm the selected character one by one in the parenthesis.

4. When all the characters in the parenthesis are set, the character input mode ends and the new file name is set. If the file name is less than 10 characters long, be sure to input blank spaces in the remaining fields. The title input mode does not end unless there are 10 characters confirmed as the file name. Rotating the rotary pulse switch scrolls through the characters as shown in the figure below.



■DISPLAY (Setting the title display)

1. Select "DISPLAY".

2. Select "ON" or "OFF" and confirm.

■POSITION (Setting the title position)

1. Select "POSITION".

2. Select "RIGHT" or "LEFT" and confirm.

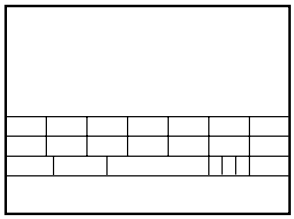
■BARS MODE (Selecting the color bar type)

BARS MODE selects the type of the color bar signal output when the OUTPUT switch is set to "BARS".

• **NORMAL :** The conventionally used SMPTE bars.

NORMAL

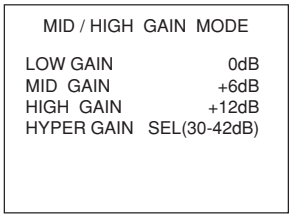
• **SPLIT** : The SPLIT bars suitable for SNG relay.



SPLIT

5.10.8 LOW/MID/HIGH GAIN MODE (Setting the GAIN SELECT switch)

LOW/MID/HIGH GAIN MODE sets up the gain value allocated to the "L"(LOW)/"M"(MID)/"H"(HIGH) positions of the GAIN SELECT and HYPER GAIN switches.
Setting is provided from the submenus "LOW GAIN", "MID GAIN", "HIGH GAIN", and "HYPER GAIN".



Item	Setting Value
LOW GAIN	-3/0/+3/+6/+9/+12dB
MID GAIN	0/+3/+6/+9/+12/+18dB
HIGH GAIN	+3/+6/+9/+12/+18/+24dB
HYPER GAIN	+30/+36/+42/+48dB Select from +30dB to SEL(30-48)dB.

The values must be in LOW<MID<HIGH<HYPER relationship.

Reference

For details on how to use the HYPER GAIN, refer to "5.6.2 Activating the HYPER GAIN".

5.10.9 BATT/DISK WARNING

■BATT/DISK WARNING

BATT/DISK WARNING sets up whether to light the FRONT TALLY lamp or BACK TALLY lamp when the battery voltage, the remaining battery power, and the remaining disk space become below the specified value.

WARN FRONT TALLY

"WARN FRONT TALLY" sets up whether to display status of warnings on the FRONT TALLY.

WARN BACK TALLY

"WARN BACK TALLY" sets up whether to display status of warnings on the BACK TALLY.

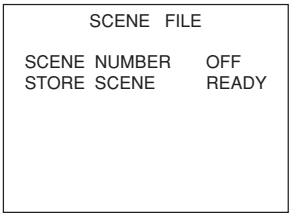
The value to display warnings is set by the following items in the menu of the recorder section respectively.

Description	Setting Value
Warning level of the battery voltage	"Battery Levels: WARNING" in the "POWER" menu
Warning level of the remaining battery power	"LEVEL" in the "POWER" menu
Warning level of the remaining disk space	"DISK WARN" in the "DISK SETTINGS" menu
Warning level of the DC input voltage	"Power Levels: WARNING" in the "POWER" menu

For details of each menu of the recorder section, refer to "6. SETTINGS AND ADJUSTMENT OF RECORDER SECTION".

5.10.10 SCENE FILE

A scene file stores adjusted values of the camera set in accordance with shooting scenes. SCENE FILE mode is used when shooting under a special condition, etc.
For SCENE FILE, 8 files (NO.1 to NO.8) can be set up.



■SCENE NUMBER (Loading the scene files)

SCENE NUMBER loads the scene files set in advance.

1. Select "SCENE NUMBER" from "SCENE FILE".
2. Rotate the rotary pulse switch to select a file number, and press the SET button to confirm.
3. Set "SCENE NUMBER" to "OFF" for normal shooting condition.

■STORE SCENE

Selecting a file number by rotating the rotary pulse switch and pressing the SET button create a scene file. Selecting "CANCEL" and pressing the SET button will cancel the file creation.

5.10.11 LEVEL ADJUST (Adjusting various levels)

LEVEL ADJUST	
MASTER GAMMA	0.0
MASTER PED	0.0
DTL GAIN	0.0
SKIN DTL MODE	OFF
SKIN DTL	0.0
COLOR SAT MODE	OFF
COLOR SAT	0.0
ADJUST CLR	READY

■MASTER GAMMA (Adjusting master gamma level)

"MASTER GAMMA" changes the master gamma level according to the shooting condition. While observing the waveform monitor, the color monitor or the picture monitor, rotate the rotary pulse switch to adjust the "MASTER GAMMA" to a suitable value.

■MASTER PED (Adjusting master pedestal level)

"MASTER PED" changes the master pedestal level according to the shooting condition.
(EXAMPLE)
The picture quality can be improved by lowering the master pedestal level when the black level is raised in the fog.
Rotate the rotary pulse switch to change the master pedestal level. While observing the waveform monitor, the color monitor or the picture monitor, rotate the rotary pulse switch to adjust the "MASTER PED" to a suitable value.

Notice

The displayed values in numbers indicate the ratio of adjustment and not the actual video signal level (IRE value). To return this level to the factory setting, activate the auto black balance. For details on auto black balance operations, refer to "4.7 Auto White Balance, Auto Black Balance and Auto Black Shading".

■DTL GAIN (Adjusting DTL GAIN level)

"DTL GAIN" adjusts the DTL GAIN level according to the shooting environment. While observing the waveform monitor, the color monitor or the picture monitor, rotate the rotary pulse switch to adjust the "DTL GAIN" to a suitable value.

■SKIN DTL MODE (Turning ON/OFF the Skin DTL)

Turns the SKIN DTL function ON/OFF. For details on the SKIN DTL function, refer to "5.5 Screen Detail Enhancement (DTL)", "5.5.1 Skin DTL".

■SKIN DTL (Adjusting the SKIN DTL GAIN level)

"SKIN DTL" adjusts the SKIN DTL GAIN level according to the shooting environment.
Set the "SKIN DTL MODE" to "ON". While observing the waveform monitor or the color monitor, rotate the rotary pulse switch to adjust the "SKIN DTL" to a suitable value.

■COLOR SAT MODE (Turning ON/OFF the color saturation)

"COLOR SAT MODE" turns ON/OFF the color saturation function.

■COLOR SAT (Adjusting the color saturation level)

"COLOR SAT" adjusts the color saturation level according to the shooting environment. Set the "COLOR SAT MODE" to "ON". While observing the waveform monitor or the color monitor, rotate the rotary pulse switch to adjust the "COLOR SAT" to a suitable value.

■ADJUST CLR (Clearing the level adjustment data)

"ADJUST CLR" returns all the settings changed at "LEVEL ADJUST" to the setting before the change. Selecting "PUSH SET→CLR" by rotating the rotary pulse switch clears the settings.
Selecting "CANCEL" will end the "ADJUST CLR" screen without clearing the settings.

5.10.12 OTHERS (Selecting other operation modes)

OTHERS	
RET SOURCE	VTR VIDEO
G.L.INH IN G.L.VIDEO	---
BARS WITH CAP	ON
PWR ON AWB OFF CLR	YES
RET CH SEL SW	RET / VTR
VF G TALLY	NO
MENU CURSOR	NEXT

■RET SOURCE
(Selecting the return video signal source)

"RET SOURCE" selects the source of return video signals. To display the external VTR (playback or Rec Review) or the return picture from the base station on the VF when the RET button is pressed, select "VTR VIDEO" from "RET SOURCE". To display video signals input to the GENLOCK IN connector, select "GL VIDEO" from "RET SOURCE".

Notice

The returned picture is displayed on the VF by pressing the RET button on the lens or the camera handle.

■G.L. INH IN G.L. VIDEO
(Inhibits external synchronization to the camera by GENLOCK input signal)

To avoid external synchronization by signals input in the GENLOCK IN connector, select "ON" (the inhibit function turns ON) from "G.L. INH IN G.L. VIDEO". To perform external synchronization to the camera, select "OFF".

Notice

"G.L. INH IN G.L. VIDEO" can only be specified when "GL VIDEO" is set in "RET SOURCE". When "RET VIDEO" is selected in "RET SOURCE", "---" is displayed for "G.L. INH IN G.L. VIDEO" and the external synchronization to the camera by signals input in the GENLOCK IN connector is always performed.

■BARS WITH CAP
(Selects whether or not lens IRIS CAP is interlocked when BARS is ON)

To close the lens iris when the color bar signal is ON, set "BARS WITH CAP" to "ON".
When the closing of the iris is inconvenient, such as when the iris is manually set, select "OFF".

■PWR ON AWB OFF CLR
(Canceling AWB OFF setting when the power is turned ON with a remote controller attached)

"PWR ON AWB OFF CLR" selects whether to cancel the "AWB OFF" setting in the AWB memory from the last time, when the power is turned ON with a remote controller attached.

Setting Value	Description
YES	Cancels the "OFF" setting in the AWB memory, and set it to "Ach".
NO	Does not cancel the "OFF" setting in the AWB memory.

If the previous setting is "AWB OFF" when a remote controller without the AWB memory switch function is used, the AWB function cannot be activated. In such a case, selecting "YES" cancels the AWB OFF setting and activates the AWB function by setting the memory to Ach.

Normally, use the camera with "YES" setting. In special cases when only the remote controllers with the AWB memory switch function and the setting should remain as "AWB OFF", select "NO".

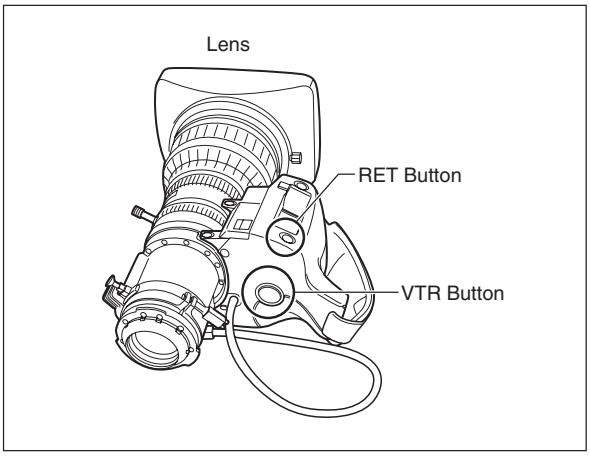
■RET CH SEL SW

When using the TRIAX cable extension equipment or multi-cable extension equipment, pressing the VTR button on the zoom lens, the REC button on the camera handle, and the RET buttons on the camera handle and the lens switches channel of the return picture sent to the camera. "RET CH SEL SW" changes the operation mode of the VTR button, the REC button on the camera handle, and the RET button.

- RET/VTR mode
  Press the RET button to display RET-1, and the VTR button or the REC button on the camera handle to display RET-2.
- RET-2 RET+VTR mode
  Press and hold the RET button and press the VTR button or the REC button on the camera handle to switch to RET-1 and RET-2 in order.

Notice

Only RET+VTR mode is available for the B3 lens.



■VF G TALLY

When a VF other than the standard equipment of this camera is mounted, set "YES" for the VF with a G tally lamp function, or set "NO" for the VF without this function.
When a VF as the standard equipment of this camera is mounted, set "NO".

■MENU CURSOR
(Setting the flashing cursor movement after the menu setting is confirmed)

When "NEXT" is selected for "MENU CURSOR" mode, the flashing cursor will automatically move to the next setting item after the menu setting is confirmed by the SET button (default setting). When "STAY" is selected, the flashing cursor remains on the confirmed menu after the menu setting is confirmed.

5.10.13 Structure of Maintenance Menu (1/3)

This section shows the structure of the Maintenance Menu (1/3).

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
VF DISPLAY	DISPLAY MODE	OFF, 1, 2	2	Selects the display mode for various characters displayed on the VF
	SAFETY AREA	ACTION, TITLE	ACTION	Selects the safety marker from action area or title area
	SAFETY MARKER	OFF, ON	OFF	Turns the safety marker ON/OFF
	SAFETY ASPECT	4:3, 13:9, 14:9, 15:9, 16:9	4:3	Switches the aspect ratio of the safety marker display
	CENTER MARKER	OFF, ON	OFF	Turns ON/OFF the center marker display
	FRAME MARKER	OFF, ON	OFF	Turns ON/OFF the frame marker display
	FRAME ASPECT	4:3, 13:9, 14:9, 15:9, 16:9	4:3	Switches the aspect ratio of the frame marker display
	SIDE MASK	OFF, ON	OFF	Turns ON/OFF the side mask function. The side mask function changes the video level of the picture outside the frame marker. Therefore this menu is displayed only when the FRAME MARKER is ON.
	Submenu	**Detailed Setting Items**	**Mode Selection**	**Default Value**	**Function**
	VF DISPLAY2	OUTPUT SIGNAL	Y, R+G+B	Y	Selects the video signal displayed on the VF
		MARKER/ CHAR LVL	1 to 100	65	Sets the video level of the markers and characters
		SIDE MASK LVL	1 to 100	50	Sets the video level of the side mask
		ZEBRA IND LVL	1 to 100	20	Sets the video level of the zebra indicator
		VF DTL LVL	1 to 100	75	Sets the video level of the VF DTL
	DISPLAY SELECT				Displays the ON/OFF setting screen of various characters
MONITOR OUT	VIDEO SELECT	CAMERA, RET VIDEO	CAMERA	Selects the video signal to output on the MONITOR OUT
	OUTPUT SIGNAL	ENC, Y, R+G+B, R, G, B	ENC	Selects the camera video signal to output on the MONITOR OUT
	SAFETY MARKER	OFF, ON	OFF	Turns the safety marker ON/OFF
	CENTER MARKER	OFF, ON	OFF	Turns the center marker ON/OFF
	FRAME MARKER	OFF, ON	OFF	Turns the frame marker ON/OFF
	SIDE MASK	OFF, ON	OFF	Turns the side mask ON/OFF
	CHARACTER IND	OFF, ON	ON	Turns the character indicator ON/OFF
	ZEBRA IND	OFF, ON	OFF	Turns the zebra indicator ON/OFF
	MARKER/CHAR LVL	1 to 100	65	Sets the video level of markers and characters
	Submenu	**Detailed Setting Items**	**Mode Selection**	**Default Value**	**Function**
	MONITOR OUT2	SIDE MASK LVL	1 to 100	50	Sets the video level of the side mask
		ZEBRA IND LVL	1 to 100	20	Sets the video level of the zebra indicator
ZEBRA INDICATOR	ZEBRA1 IND	OFF, ON	ON	Turns ON/OFF the 1st zebra indicator
	ZEBRA1 DETECT	1 to 137%	100%	Sets the detection level of the 1st zebra indicator
	ZEBRA2 IND	OFF, ON	OFF	Turns ON/OFF the 2nd zebra indicator
	ZEBRA2 DETECT	1 to 137%	70%	Sets the detection level of the 2nd zebra indicator
! INDICATOR	GAIN UP	OFF, ON	ON	Settings for the function that interacts with the alarm display (! indicator lamp) in the VF "*" displayed under CURRENT indicates that the function is operating
	AWB OFF	OFF, ON	ON	
	VTR SAVE	OFF, ON	ON	
	LENS EXT	OFF, ON	ON	
	MANUAL KNEE	OFF, ON	ON	
	SKIN DTL	OFF, ON	ON	
	SHUTT/SUP-V	OFF, ON	ON	
	A.IRIS CORR	OFF, ON	ON	
BARS TITLE/MODE	DISPLAY	ON, OFF	OFF	Turns the color bar title display ON/OFF
	POSITION	LEFT, RIGHT	RIGHT	Sets the position of the color bar title display
	TITLE	(Input 10 characters)		Sets the characters displayed as the title on the color bar
	BARS MODE	NORMAL, SPLIT	NORMAL	Sets the color bar mode

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
LOW/MID/HIGH GAIN MODE	LOW GAIN	-3, 0, +3, +6, +9, +12dB	0 dB	Allocates a gain value in the "L" position of the GAIN switch
	MID GAIN	0, +3, +6, +9, +12, +18dB	+6 dB	Allocates a gain value in the "M" position of the GAIN switch
	HIGH GAIN	+3, +6, +9, +12, +18, +24dB	+12 dB	Allocates a gain value in the "H" position of the GAIN switch
	HYPER GAIN	SEL (30-48dB), SEL (30-42dB), SEL (30-36dB), +48, +42, +36, +30dB	SEL (30-42dB)	Allocates a gain value of the HYPER GAIN switch
BATT/DISK WARNING	WARN FRONT TALLY	ON, OFF	ON	Turns the FRONT TALLY warning display ON/OFF
	WARN BACK TALLY	ON, OFF	ON	Turns the BACK TALLY warning display ON/OFF
SCENE FILE	SCENE NUMBER	OFF, NO.1 to 8	OFF	Loads a scene file
	STORE SCENE	NO.1 to 8, CANCEL	READY	Registers the scene file
LEVEL ADJUST	MASTER GAMMA	-100 to +100	0.0	Adjusts the MASTER GAMMA level
	MASTER PED	-100 to +100	0.0	Adjusts the MASTER PED level
	DTL GAIN	-100 to +100	0.0	Adjusts the DTL GAIN level
	SKIN DTL MODE	ON, OFF	OFF	Turns the SKIN DTL MODE ON/OFF
	SKIN DTL	-100 to +100	0.0	Adjusts the SKIN DTL GAIN
	COLOR SAT MODE	ON, OFF	OFF	Turns the COLOR SAT MODE ON/OFF
	COLOR SAT	-100 to +100	0.0	Adjusts the COLOR SAT level
	ADJUST CLR	PUSH SET→CLR, CANCEL	READY	Returns the adjusted levels to the default settings

■VF DISPLAY

Refer to the "5.10.3 VF DISPLAY (Selecting various status display modes on the VF)" of the Normal Menu for details on the operation procedures and the function description.

■MONITOR OUT

Refer to the "5.10.4 MONITOR OUT (Selecting mode for various display items on the monitor line)" of the Normal Menu for details on the operation procedures and the function description.

■ZEBRA INDICATOR

Refer to the "5.10.5 ZEBRA INDICATOR" of the Normal Menu for details on the operation procedures and the function description.

■! INDICATOR

Refer to the "5.10.6 ! INDICATOR (Selecting the warning display items)" of the Normal Menu for details on the operation procedures and the function description.

■BARS TITLE/MODE

Refer to the "5.10.7 BARS TITLE/MODE (Selecting the title displayed on the color bar and the type of color bar)" of the Normal Menu for details on the operation procedures and the function description.

■LOW/MID/HIGH GAIN MODE

Refer to the "5.10.8 LOW/MID/HIGH GAIN MODE (Setting the GAIN switch)" of the Normal Menu for details on the operation procedures and the function description.

■BATT/DISK WARNING

Refer to the "5.10.9 BATT/DISK WARNING" of the Normal Menu for details on the operation procedures and the function description.

■SCENE FILE

Refer to the "5.10.10 SCENE FILE" of the Normal Menu for details on the operation procedures and the function description.

■LEVEL ADJUST

Refer to the "5.10.11 LEVEL ADJUST (Adjusting various levels)" of the Normal Menu for details on the operation procedures and the function description.

5.10.14 Structure of Maintenance Menu (2/3)

This section shows the structure of the Maintenance Menu (2/3).

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
CPU SYSTEM CONTROL	LEVEL CONTROL	OPE, OFF	OPE	Sets the various level data controlled by the CPU to "0" (OFF: the central value) temporarily
	SEMI SELF MODE	OFF, ON	OFF	Turns ON/OFF the semi self mode
	SEMI REMOTE MODE	OFF, ON	OFF	Turns ON/OFF the semi remote mode
AWB / ABB MODE	AWB WITH A.IRIS	OFF, ON	ON	Turns ON/OFF the mode to shift to auto iris forcibly while executing AWB
	AWB WITH CC FILT	OFF, ON	OFF	Turns ON/OFF the mode to interact ECC filter to AWB
	SHOCKLESS AWB	OFF, ON-1.0s, ON-1.5s, ON-2.0s	ON-1.0s	Turns ON/OFF the shock-less AWB mode and sets up the operation time
	FILTER AWB MEM	OFF, ON	OFF	Turns ON/OFF AWB memory for each ECC filter
	AWB REFERENCE	OFF, ON	OFF	Turns ON/OFF the function to use the set value for AWB conclusive value
	REFERENCE SET	AWB, ABB	ABB	Creates a normal data to use as the AWB/ABB conclusive value
AUTO IRIS SET	IRIS SET MODE	OFF, ON	OFF	Turns ON/OFF the auto iris function
	IRIS LEVEL SET	-100 to +100	0	Sets up the iris level
	PEAK RATIO SET	-100 to +100	0	Sets up the peak ratio of auto iris function
	IRIS GAIN (See Notice)	1 to 100	50	Sets up the iris gain
	IRIS SPEED (See Notice)	1 to 100	50	Sets up the iris speed
	IRIS LIMIT	F22, F20, F18, F16	F22	Sets up the iris limit value for the closing direction
	LENS ADJUST	OFF, F2.8, F16	OFF	Sets up the fixed iris value control output in case of lens adjustment
G.L. PHASE ADJUST	SC COARSE	-100 to +100	0	Adjusts coarsely the phase between the external synchronization signal for GENLOCK and the subcarrier
	FINE	-100 to +100	0	Adjust finely the phase between the external synchronization signal for GENLOCK and the subcarrier
	H PHASE	-100 to +100	0	Adjusts the phase between internal horizontal synchronization and the external synchronization signal for GENLOCK
LENS SELECT	FILE	OFF, ON	ON	Turns ON/OFF the lens files
	NUMBER	NO.1 to 8	NO.1	Selects the lens number (NO.1 to NO.8)
	NAME	12 characters		Sets up the lens file names
	SET MODE	OFF, ON	OFF	Turns ON/OFF the lens file creation mode
EXT VTR REC CONTROL	CONTROL MODE	EDGE TRIG, HI LVL REC, LO LVL REC, POSI PULSE, NEGA PULSE	EDGE TRIG	Switches start/stop control for the external VTR
	REC PRIORITY	PARARELL, EXT, VTR, INV VTR	PARALLEL	Switches the output destination of start/stop for the external VTR
	26P VIDEO SEL	[NTSC] COMP (WO/SETUP), COMP (W/SETUP), COMP (SMPTE), R/G/B [PAL] COMP (EBU N10), R/G/B	USA :COMP (W/SETUP) JPN : COMP (WO/SETUP) EUR :COMP (EBU N10)	Switches the video output from the optional VTR 26 pin connector
VIDEO PROCESS MODE	CAL PULSE	OFF, ON	OFF	Turns ON/OFF the SAW TOOTH calibration pulse
	EFFECT MODE	OFF, CCD SCAN REVERSE, ALT FIELD PROG	---	Selects the functions in case the option D.PROC_SUB BOARD is connected If the option D.PROC SUB BOARD is not connected, "--- " is displayed and this menu cannot be selected

Notice

The IRIS GAIN and IRIS SPEED settings are not available for the B3 lens and thus not displayed.

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
VIDEO PROCESS MODE	**Submenu**	**Detailed Setting Items**	**Mode Selection**	**Default Value**	**Function**
	GRP1 - GAMMA・FLARE・MATRIX・CHROMA・COLOR SAT・COLOR CORR・BLK STRETCH	GAMMA	OFF, 0.35, 0.4, 0.45	0.45	Sets up the preset GAMMA value
		GAMMA CURVE	B (STD), A	B (STD)	Sets up the characteristic of the GAMMA curve
		FLARE	OFF, ON	ON	Turns ON/OFF FLARE
		MATRIX	OFF, ON	ON	Turns ON/OFF MATRIX
		CHROMA	OFF, ON	ON	Turns ON/OFF CHROMA
		COLOR SAT	OFF, ON	OFF	Turns ON/OFF the color saturation control
		COLOR CORR	OFF, ON	OFF	Turns ON/OFF the color corrector
		COLOR CORR RANGE	NORMAL, WIDE	NORMAL	Selects the adjustment range of the color corrector
		BLK PRS/STR	-11%, -9%, -7%, -5%, -3%, OFF, +3%, +5%, +7%, +9%, +11%	OFF	Sets up the black stretch/black press percentage
	GRP2 - KNEE・WHT CLIP・SHADE	KNEE	OFF/ON	ON	Turns ON/OFF KNEE
		KNEE MODE	MANUAL/AUTO	AUTO	Switches between MANUAL KNEE and AUTO KNEE
		AUTO KNEE	SLOPE+POINT 1, SLOPE+POINT 2, SLOPE+POINT 3, SLOPE+POINT 4, SLOPE+POINT 5, SLOPE ONLY	SLOPE+POINT 2	Selects the AUTO KNEE method
		SUPER KNEE	OFF, LOW, MID, HIGH	MID	Switches the effect of the SUPER KNEE
		WHITE CLIP	OFF, ON	ON	Turns ON/OFF WHITE CLIP
		WHITE SHADE	OFF, ON	ON	Turns ON/OFF WHITE SHADE
		BLACK SHADE	OFF, ON	ON	Turns ON/OFF BLACK SHADE
	GRP3 - DTL・APERTURE・COMB	DTL	OFF, ON	ON	Turns ON/OFF DTL
		SOFT DTL	OFF, ON	OFF	Turns ON/OFF SOFT DTL
		SKIN DTL	OFF, ON	OFF	Turns ON/OFF SKIN DTL
		SLIM DTL	OFF, ON	OFF	Turns ON/OFF SLIM DTL
		DIAGONAL DTL	OFF, ON	OFF	Turns ON/OFF DIAGONAL DTL
		KNEE APERTURE	OFF, ON	ON	Turns ON/OFF KNEE APERTURE
		FINE DTL BAL	1, 2, 3, 4, 5, 6, 7, 8,	5	Sets the FINE DTL effect
		COMB FILTER	OFF, ON	ON	Turns ON/OFF COMB FILTER
	LEVEL SET	CONTROL FUNCTION	GAIN, GAMMA, FLARE, MANUAL KNEE, AUTO KNEE, WHT CLIP, DTL (1/2), DTL (2/2), SOFT DTL, R COLOR CORR, G COLOR CORR, B COLOR CORR, C COLOR CORR, M COLOR CORR, Y COLOR CORR, MATRIX, COL SAT, G.L. PHASE, R WHT SHADING, G WHT SHADING, B WHT SHADING, R BLK SHADING, G BLK SHADING, B BLK SHADING, BLACK SET, PED		Selects the level setting items
		MON OUT	ENC, Y, R+G+B, R, G, B	ENC	Switches the MONITOR output signal type Returns to the default value if the power is turned OFF
		DISP VALUE	OFFSET, ABSOLUTE	OFFSET	Switches the display method for each CONTROL FUNCTION level
		MANUAL CLR	PUSH SET→CLR, CANCEL	READY	Returns the various adjustment items set in CONTROL FUNCTION

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
MEMORY CARD	LOAD FILE	(8 characters)		Selects the file name to load from the memory card
	LOAD DATA	ALL DATA, MENU DATA, VF DATA, SNAP SHOT, SCENE1-8, SCENE1, SCENE2, SCENE3, SCENE4, SCENE5, SCENE6, SCENE7, SCENE8		Sets up the data to load from the memory card
	LOAD (→CAMERA)	EXECUTE, CANCEL		Loads the memory card data into the camera
	SAVE FILE	(8 characters)		Sets up the file name to save in the memory card
	SAVE DATA	ALL DATA, SNAP SHOT, SCENE, REFERENCE, LENS	ALL DATA	Sets up the data to save to the memory card
	SAVE (→M.CARD)	EXECUTE, CANCEL		Save the data on the memory card

Submenu	Detailed Setting Items	Mode Selection	Function
FORMAT/DELETE	FORMAT	EXECUTE, CANCEL	Formats the memory card
	M.CARD TEST	EXECUTE, CANCEL	Carry out the operation test of the memory card
	DELETE FILE	(8 characters)	Selects the file name that contains data to be deleted from the memory card
	DELETE	EXECUTE, CANCEL	Deletes the file from the memory card

	M.CARD NAME	(11 characters)		Sets up the memory card name
SCREEN ASPECT MODE	ASPECT RATIO	16:9, 4:3	4:3	Selects the aspect ratio of the camera video output screen

5.10.15 CPU SYSTEM CONTROL (Selecting operation mode of the Camera)

Sets up various operation modes. Set up the mode according to the expected operation conditions.

CPU SYSTEM CONTROL	
LEVEL CONTROL	OPE
SEMI SELF MODE	OFF
SEMI REMOTE MODE	OFF

■LEVEL CONTROL

If the LEVEL CONTROL is turned OFF, the level data controlled from the CPU are temporarily changed to "0" (the central value) (the memory off function). This is used when confirming the adjustment status of each module, or finding out the cause of failure by abnormal data from the CPU.

When in operation, ensure that this setting is "OPE". When this submenu is set to "OFF", the level cannot be controlled from the remote controllers.

This setting is valid only while the power is turned ON. If the power is turned OFF, this setting is reset to "OPE".

■SEMI SELF MODE

If the "SEMI SELF MODE" is turned "ON", the adjustment data set from the remote controller can be loaded. For example, when detaching the remote controller and operating by the camera alone after adjusting the camera using the remote controller, turning this function "ON" will enable the camera to keep the ON/OFF and the adjustment settings set by the remote controller.

Turning the SEMI SELF MODE "OFF" will return to the normal level setting, however turning this function "ON" again will load the adjustment data by the remote controller any time.

■SEMI REMOTE MODE

When the SEMI REMOTE MODE is turned "ON", the control priority of the ON/OFF settings of the following switches on the right and front of the camera can be returned to the camera in remote operation (when controlling from the remote controllers, etc.). Then, turning ON/OFF a function from the remote controller is disabled.

When the SEMI REMOTE MODE is "OFF", the control priority of these switches is switched to the remote controller, and turning ON/OFF a function from the camera is disabled.

- GAIN SELECT switch
- AWB SELECT switch (OFF, A, B)
- OUTPUT SELECT switch
- SHUTT/SUP-V switch

5.10.16 AWB/ABB MODE (Selecting AWB function and setting the reference data)

AWB/ABB MODE selects the operation mode for AWB. This menu creates the reference file for AWB and ABB.

AWB / ABB MODE	
AWB WITH A. IRIS	ON
AWB WITH CC FLT	OFF
SHOCKLESS AWB	ON-1.0s
FILTER AWB MEM	OFF
AWB REFERENCE	OFF
REFERENCE SET	ABB

■AWB WITH A.IRIS (Auto iris mode when AWB is activated)

Changes the iris mode to auto iris mode when AWB is activated.

When set to "ON", the camera changes to auto iris mode when AWB is activated.

When set to "OFF", the camera remains in the current iris mode.

■AWB WITH CC FILT (ECC filter interlocking mode when AWB is activated)

When set to "ON", measures the color temperature of the subject and interlock the ECC filter if required. AWB can be activated in all color temperature range by the AWB, disregarding the color temperature of the subject.

■SHOCKLESS AWB (Setting the switching time of AWB memory)

Sets up the duration of time to switch the AWB memory. The AWB memory data will be gradually switched in the set time; therefore, the shock will be minimized.

Setting Value	Description
OFF	The memory data will be switched at once
ON-0.3s	The memory data will be gradually switched in 0.3 seconds
ON-0.5s	The memory data will be gradually switched in 0.5 seconds
ON-1.0s	The memory data will be gradually switched in 1.0 seconds
ON-1.5s	The memory data will be gradually switched in 1.5 seconds
ON-2.0s	The memory data will be gradually switched in 2.0 seconds

Notice

When AWB WITH CC FILT is set to "ON", the SHOCKLESS AWB function cannot be used. When AWB WITH CC FILT setting is changed to "ON", the SHOCKLESS AWB function setting will automatically change to "OFF".

■FILTER AWB MEM
(AWB memory setting for each filter)

The AWB memory settings can be changed for each filter.

Setting Value	Description
OFF	2 AWB memories, A/B can be used
ON	2 AWB memories A/B for each ECC filter, 8 in total can be used

■AWB REFERENCE

Select "ON" when using the user setting as AWB convergence value. When set to "OFF", the GAIN in R and Bch will be adjusted so that it will match the level in Gch. In normal operation, set to "OFF".

■REFERENCE SET
(Creating reference data to use as the convergence value when AWB/ABB is activated)

Stores reference for AWB/ABB in the memory.

Setting Value	Description
AWB	The current white balance status is stored in the memory as the convergence value.
ABB	The current black balance status is stored in the memory as the convergence value.

Adjust the GAIN (R, B) or PEDESTAL (R, G, B) accurately using the remote controller, etc. Rotate the rotary pulse switch to select "AWB" or "ABB" and press the SET button to confirm. "PUSH SET -> START" message is displayed. To cancel, press the VF CHARA button to exit from the camera setting mode. To execute, press the SET button again. The reference data is created. The created reference data is stored in the memory.
"MEASURING ..." is displayed, and the creation of the reference data starts. When creation is complete, "COMPLETED" is displayed. If the level measurement of white/black level fails, "MEASURE ERROR" will be displayed. If the miss-operation prevention function is activated, "UNABLE TO EXECUTE" will be displayed, and this operation will not be executed.

Notice

This function cannot be activated if the S2 switch (red slide-switch) of MPU module is not set to "ON" (at the top). To prevent miss-operation, the S2 switch is set to "OFF" (at the bottom), to prevent unintentional update of the reference files.

5.10.17 AUTO IRIS SET
(Setting the auto iris operation)

■IRIS LEVEL SET
[B4 Mount Lens]

Sets the level and response characteristics of auto iris function. To always obtain the best video level even if the amount of light changes, the iris must be controlled. Set "IRIS SET MODE" to "ON" first. This will enable the setting of the "IRIS LEVEL SET", "PEAK RATIO SET", "IRIS GAIN", and "IRIS SPEED" described below.

AUTO IRIS SET	
IRIS SET MODE	OFF
IRIS LEVEL SET	0
PEAK RATIO SET	0
IRIS GAIN	50
IRIS SPEED	50
IRIS LIMIT	F22
LENS ADJUST	OFF

1. Select "IRIS LEVEL SET".

2. Shoot the gray scale chart with the camera, adjust the value of "IRIS LEVEL SET" by the rotary pulse switch so that the video level becomes 100%.

3. Select "IRIS GAIN", put your hand before the camera, pan the camera etc. to adjust the "IRIS GAIN" by the rotary pulse switch, so that the IRIS does not hunt even if the video level is changed rapidly.
   The default value of "IRIS GAIN" is set to "50". The operation speed of the auto iris is set that "1" is slow and "100" is fast. Hunting tends to occur more often as the value goes up. Set it to the default value "50" as long as hunting is not occurring.

4. Select "IRIS SPEED", put your hand before the camera, pan the camera etc. to adjust the "IRIS SPEED" by the rotary pulse switch, so that the proper iris convergence speed can be obtained even if the video level is changed rapidly. The default value of "IRIS SPEED" is set to "50". The operation speed of the auto iris is set that "1" is slow and "100" is fast.

5. Set "IRIS SET MODE" to "OFF". (Exiting from this menu mode will automatically change the setting to "OFF")

Notice

When this setting is set to "ON", the iris control from the remote controllers is disabled. When the lens is installed in the camera for the first time, or if the hunting problems still exist or response is still slow even after the settings are adjusted, adjust the sensitivity of the auto iris lens.
For details, refer to "4.5.1 How to Use the B4 Mount Lens", "■ AUTO IRIS Operation".

[B3 Mount Lens]

Sets the level of auto iris function. To always obtain the best video level even if the amount of light changes, the iris must be controlled. Set "IRIS SET MODE" to "ON" first. This will enable the setting of the "IRIS LEVEL SET" and "PEAK RATIO SET" described below.

AUTO IRIS SET	
IRIS SET MODE	OFF
IRIS LEVEL SET	0
PEAK RATIO SET	0
IRIS LIMIT	F22
LENS ADJUST	OFF

1. Select "IRIS LEVEL SET".

2. Shoot the registration chart with the camera, adjust the value of "IRIS LEVEL SET" by the rotary pulse switch so that the video level becomes 75%.

Notice

When this setting is set to "ON", the iris control from the remote controllers is disabled. When the lens is installed in the camera for the first time, or if the hunting problems still exist or response is still slow even after the settings are adjusted, adjust the sensitivity of the auto iris lens.
For details, refer to "4.5.2 How to Use the B3 Mount Lens", "■ AUTO IRIS Operation".

■PEAK RATIO SET

[B4 Mount Lens]

Adjusts the iris when contrast between light and dark, such as spotlight and backlight, is high. Set the exposure for a bright area with the "PEAK RATIO SET" settings in the "+" direction, and for a dark area in the "-" direction.
The default value is "0" which indicates no exposure compensation. Before setting "PEAK RATIO SET", turn ON "IRIS SET MODE".

[B3 Mount Lens]

Sets the response characteristics of auto iris. Shoot the gray scale chart with the camera, adjust the value of "PEAK RATIO SET" by the rotary pulse switch so that the video level becomes 100%. After setting "PEAK RATIO SET", adjust "IRIS LEVEL SET" again. Repeat "PEAK RATIO SET" and "IRIS LEVEL SET" settings several times and adjust the video levels when shooting each chart.
After the settings are complete, set "IRIS SET MODE" back to "OFF". (Exiting from this menu mode will automatically change the setting to "OFF".)

■IRIS LIMIT (Setting up the iris limit value in the closing direction)

When the iris is closing in auto iris mode, the iris movement is stopped before closing completely to prevent the iris from hunting. The iris value (limit value) used in such cases is set up in IRIS LIMIT.

Setting Value	Description
F22	The iris stops closing at F22
F20	The iris stops closing at F20
F18	The iris stops closing at F18
F16	The iris stops closing at F16

■LENS ADJUST (Setting the fixed iris value control output during lens adjustment)

To adjust the relationship between the control voltage value and lens iris value, control voltage equivalent to F2.8 and F16 can be output to the lens.

1. Select "LENS ADJUST".

2. Turn the rotary pulse switch to select "F2.8".

3. The iris control voltage equivalent to F2.8 will be output. Adjust the adjustment control VR (generally displayed as "O") on the open side of the lens, so that the iris value becomes F2.8.

4. Turn the rotary pulse switch to select "F16".

5. The iris control voltage equivalent to F16 will be output. Adjust the adjustment control VR (generally displayed as "C") on the close side of the lens, so that the iris value becomes F16.

6. Repeat the steps 2 to 5 several times to adjust the VR on the lens side so that each of F2.8 and F16 match.

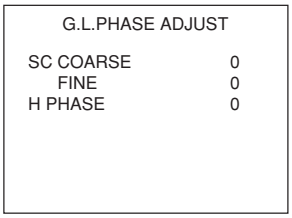
7. When the adjustment is complete, set "LENS ADJUST to "OFF" and press the SET button.
Exiting from this menu mode will automatically change the setting to "OFF".

Notice

- When IRIS LIMIT is activated, the F value display in the VF flashes.
- Just turning the rotary pulse switch to "F2.8" or "F16" will output the control voltage, so pressing the SET button is not necessary.
  If the SET button is pressed when "F2.8" or "F16" is selected, the setting automatically changes to "OFF" and "LENS ADJUST" setting ends.
- For "IRIS LIMIT" and "LENS ADJUST", "IRIS SET MODE" does not have to be set to "ON".

5.10.18 G.L. PHASE ADJUST (Adjusting GENLOCK phase)

The phase of the external synchronization signals (VBS or BBS) for GENLOCK and the video signals of the camera can be adjusted to match.



■Sub-carrier Phase adjustment

Inputs the external synchronization signals (VBS or BBS) to the G.L. IN connector on the camera. The video signals and external synchronization signals are input in the vector scope and the sub-carrier phase is compared.
For details on how to use the vector scope, refer to the manuals of the vector scope.

1. Select "SC COARSE", rotate the rotary pulse switch so that the video signals phase and external synchronization signals phase are closest in the vector scope, and then press the SET button.
   Set "FINE" to "0" in advance.

2. Select "FINE", rotate the rotary pulse switch so that the video signals phase and external synchronization signals phase are closest in the vector scope, and then press the SET button.

■H PHASE adjustment

Inputs the external synchronization signals (VBS or BBS) to the G.L. IN connector. The video signals of the camera and external synchronization signals are monitored by the waveform monitor or the oscilloscope to compare the horizontal synchronization phase (H SYNC).
For details on how to use the waveform monitor and the oscilloscope, refer to their manuals.

1. Select "H PHASE", rotate the rotary pulse switch so that the horizontal synchronization (H SYNC) phases of the video signal phase and external synchronization signal are closest in the vector scope, and then press the SET button.

Notice

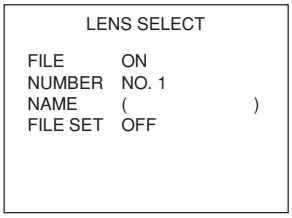
If the external synchronization signals are not input into the camera, the values of "SC COARSE", "FINE" and "H PHASE" cannot be changed.

5.10.19 LENS SELECT (Selecting lens files)

Stores in advance the change in color balance caused by the optical characteristics of each lens. Readjustment is not necessary even when white shading is changed to use an extender when using a lens with different magnification or from other manufacturers: the lens files are switched and each parameter can be optimized just by selecting the lens number from the menu.
Moreover, 8 files can be stored so that the lens files can be used when using a prompter or an external filter. In each file, the status of extender: extender OFF, or extender ON can be stored and switched automatically by the answer signal from the lens.

Notice

Lens file is created automatically when the auto white shading function is executed.



■To Load a Lens File

1. Select "LENS SELECT" from the Maintenance Menu (2/3).

2. Select "FILE" and rotate the rotary pulse switch to select "ON".

3. Select "NUMBER" and rotate the rotary pulse switch to the required file number (No.1 to No.8).

Notice

The above procedures to load lens files are described assuming that the lens files are created in advance.
For how to create a lens file, refer to the next section.

■To Create a Lens File

Before creating a lens file, confirm the following items:

☐ Is filter in normal status?
- ECC filter: 3200K
- ND filter: 100% (clear) condition

☐ Is any special effect filter equipped to the lens or in the internal filter disk?

1. Put the camera in level set up status. (Refer to the figure shown below)

2. Remove the right side cover off the camera, and slide the S2 switch (red-slide switch) of the MPU module inside to "ON" (slid to the top) to cancel the creation prohibition of lens files.
The creation of the lens file requires precise adjustments; therefore, their registration is not usually accepted. This is to prevent inputting wrong data intentionally.

3. Select "LENS SELECT" submenu.

4. Set "FILE SET" to "ON".
When "ON" is set, the camera accepts lens files. Also, the AWB side of AWB/ABB switch will work as the activation switch of auto white shading function. On the VF, "(AWB SW→A.WHT SHADE)" will be displayed.

5. Create a lens off file.

5-1. Set "FILE" to "OFF"

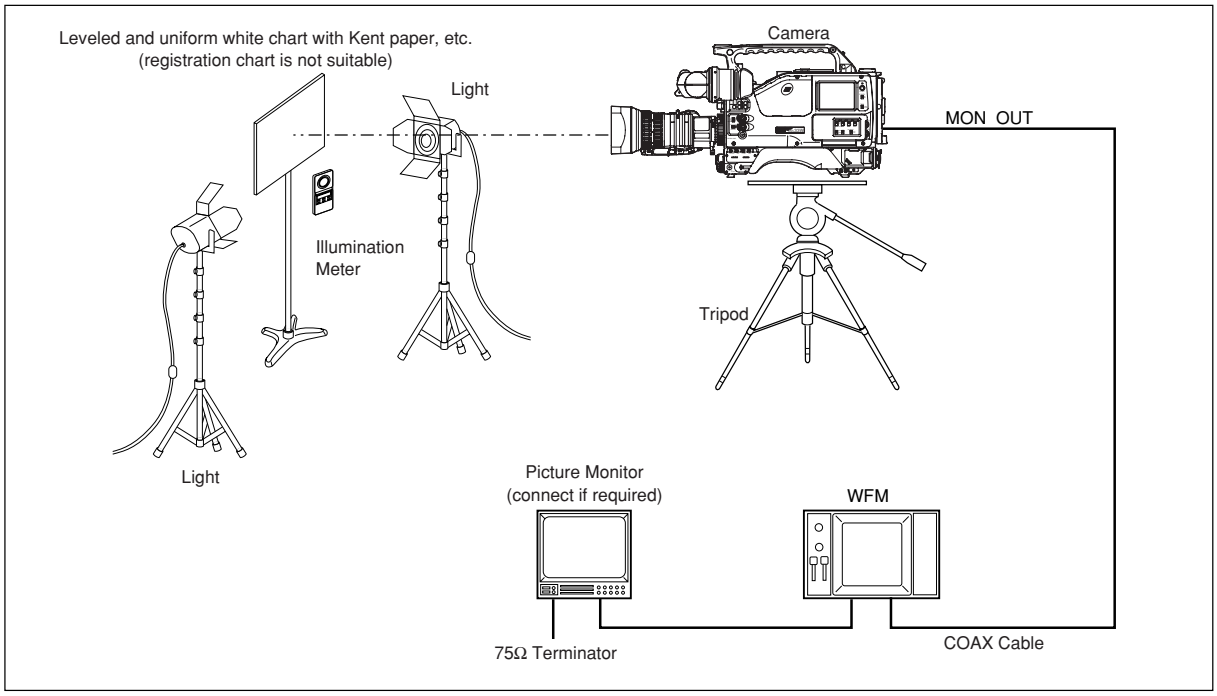
5-2. Attach the normal lens to the camera.
Turn the lens extender OFF.

5-3. Set the AWB/ABB switch on the front side of the camera to "AWB".
Auto white shading is executed and a lens off file is created automatically.

Notice

Check the following items when making a lens off file or a lens file of an optional lens:

- Prepare a white chart with Kent paper, etc. so that the whole surface is leveled and uniform. The registration chart is unsuitable as the subject, so we recommend a white chart.
- Use an illuminometer, etc. to provide even light on the whole chart.
- A lens off file is used as a reference when creating a lens file. A lens file stores the difference between this reference value and the optional lens values.
- The normal lens means the most commonly used lens with good optical properties.



6. Create a lens file of the optional lens.

6-1. Remove the normal lens, and attach the optional lens to the camera.
Go on to next step without removing the normal lens when creating a lens file for the normal lens.

6-2. Set "FILE" setting to "ON".

6-3. Select a lens number from 1 to 8 in "NUMBER".

6-4. Turn the lens extender OFF.

6-5. Refer to step 5-3 and executed the auto white shading function.
When auto white shading is executed, a lens file that corresponds to the lens number is created.

6-6. In the case of a lens with extender, set the extender setting to ON, then create a lens file in the same manner as the previous step.

```
LENS SELECT

FILE        ON
NUMBER   NO.1
NAME       (                )
FILE SET  ON
(AWB SW → A.WHT SHADE)
      A.WHT SHADE
            OK
```

7. When creating the lens files of other lenses without break, repeat the step 6 for the number of files to be created.

Notice

- If a new file is created with the same file number as an existing file, the data will be overwritten and the old data will be lost.
- Right after the auto white shading is completed, the previous settings adjusted automatically till then will be cleared. This is because the lens file is stored in the internal memory of the camera. It is not a malfunction.

8. After the lens file is created, turn off the "FILE SET". Then, turn off the S2 switch on the MPU module for data protection.

Notice

- When the power of the camera is turned off, the "FILE SET" turns to "OFF".
- Before the lens file is created, prepare all the lenses in use. Then, create files under the same condition all at one time. If the condition are changed, the setting can't be accurate. Lens file memorizes the difference in level between lenses. If lighting and a chart are changed, it isn't realized whether it is the error of the lighting and chart or if it is the error of the lens.
- It is suggested to give a name to the LENS No. in accordance with lens type.
- At shipment, the revision data by the factory normal lens is registered in LENS No.1. Create a lens file when using a new lens.

■NAME (Inputs the name for lens files)

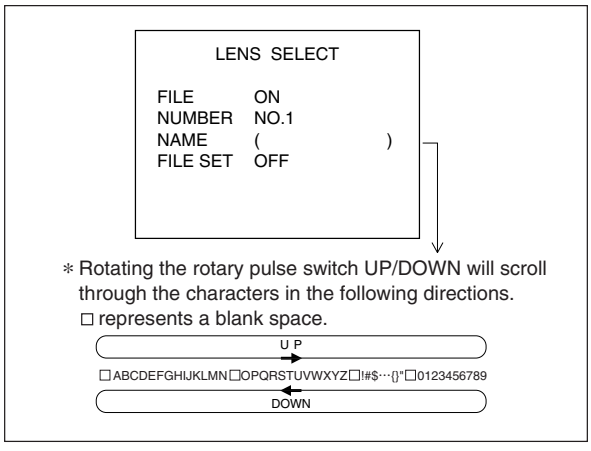
The lens files can be named by each number. By naming a lens file after the model name, etc., the correspondence between the lens number and the lens will be easier to recognize.

1. Select a lens number of the lens file to name in "NUMBER".

2. Select "NAME" and press the SET button.
The flashing cursor moves and the screen switches to character input mode.

3. Select the necessary character using the rotary pulse switch, and then press the SET button to confirm the selected character one by one in the parenthesis.

4. When all the characters in the parenthesis are set, the character input mode ends and the new file name is set. If the file name is less than 12 characters long, be sure to input blank spaces in the remaining fields. The character input mode does not end unless there are 12 characters confirmed as the file name. Rotating the rotary pulse switch scrolls through the characters as shown in the figure below.



5.10.20 EXT VTR REC CONTROL

Sets up the interface when the dockable VTR is connected to the 26 pin VTR connector.

EXT VTR REC CONTROL

CONTROL MODE	HI LVL REC
REC PRIORITY	PALALLEL
26P VIDEO SEL	COMP (WO/SETUP)

■CONTROL MODE

Switches start/stop controlling methods of VTR according to the external VTR to be used. 5 controlling methods are available. Select one to fit the specification of the external VTR.

Setting Value	Description
EDGE TRIG	Method to start/stop VTR by the change of control signal level (Hi⟷Lo).
HI LVL REC	Method to start REC when the control signal level is Hi and to stop VTR when the signal level changes from Hi to Lo.
LO LVL REC	Method to start REC when the control signal level is Lo and to stop VTR when the signal level changes from Lo to Hi.
POSI PULSE	Method to start/stop VTR when a positive pulse is given.
NEGA PULSE	Method to start/stop VTR when a negative pulse is given.

Reference

For details on the start/stop controlling methods of VTR, refer to the instruction manuals attached to the external VTR.

Notice

"EDGE TRIG" or "HI LVL REC" (SMPTE method) is the main start/stop controlling methods of VTR for broadcasting. When the controlling method is unknown, try "EDGE TRIG" first.

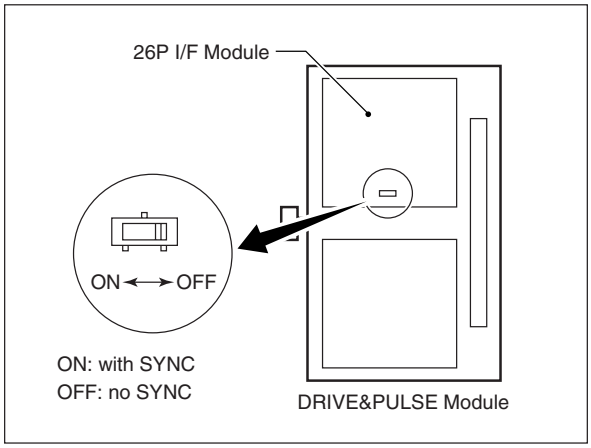
■26P VIDEO SEL

Setting "26P VIDEO SEL" will select the component signal type output from the 26 pin connector.

Selection	Output Signal	Signal Level
COMP (WO/SETUP) [only NTSC]	Y, Cr, Cb β CAM level Without setup 7.5%	Y;V:0.714Vp-p / S:0.286Vp-p Setup:0% Cr;0.756Vp-p (75% BAR) Cb;0.756Vp-p (75% BAR)
COMP (W/SETUP) [only NTSC]	Y, Cr, Cb β CAM level With setup 7.5%	Y;V:0.714Vp-p / S:0.286Vp-p Setup:7.5% Cr;0.7Vp-p (75% BAR) Cb;0.7Vp-p (75% BAR)
COMP (SMPTE) [NTSC] (EBU N10) [PAL]	Y, Cr, Cb SMPTE /EBU N10 level	Y;V:0.7Vp-p / S:0.3Vp-p Setup:0% Cr;0.525Vp-p (75% BAR) Cb;0.525Vp-p (75% BAR)
R/G/B	R, G, B	RGB;0.7Vp-p Setup:0% G on Sync 0.3Vp-p or No Sync switch

Notice

When R/G/B is selected, whether to put SYNC to Gch or not can be set up with the RGB SYNC switch above the sub board (26P I/F) on DRIVE&PULSE module (second from the front, printed "2" on the tab) inside the camera.



■REC PRIORITY

Switches the priority to output FP2 control by the REC button on the camera, the VTR button on the lens, or the FIELDPAK switch on the camera and the TALLY lamp (FRONT TALLY, REAR TALLY, BACK TALLY, and upper and lower TALLY in the VF) control to the recorder section of the camera or external VTR. This setting is valid only when the external VTR is connected.

• **PARALLEL**

Control over the VTR is simultaneously output to both internal and external VTRs. Therefore, simultaneous parallel recording is possible. In this case, the lamps of FRONT TALLY, REAR TALLY, BACK TALLY, and upper TALLY in the VF indicate states of the internal VTR, and the lamps of the lower TALLY in the VF indicate states of the external VTR.

When an FP2 is not loaded, the operation is the same as "EXT VTR" mode.

• **EXT VTR**

Control over the VTR is only output to the external VTR. When the VTR STBY / SAVE switches of the camera are operated, this mode is valid only for the external VTR, and the internal VTR forcibly becomes POWERSAVE status. All the TALLY lamps (FRONT TALLY, REAR TALLY, BACK TALLY, and upper and lower TALLY in the VF) indicate states of the external VTR. When the RET button on the lens is pressed during recording or playback by the external VTR, the return picture from the external VTR is output on the VF (in the case where "EXT VIDEO" is set in "RET SOURCE" of the camera menu "OTHERS").

• **INT VTR**

Control over the VTR is only output to the recorder section of the camera. Simultaneous recording by the external VTR is possible when operation is performed from the external VTR. Simultaneous recording can be done without being influenced by the start/stop control of VTR from the camera. In this case, the lamps of FRONT TALLY, REAR TALLY, BACK TALLY, and upper TALLY in the VF indicate states of the internal VTR, and the lamps of the lower TALLY in the VF indicate states of the external VTR.

5.10.21 VIDEO PROCESS MODE (Setting video process circuit and level)

There are 4 submenus under VIDEO PROCESS MODE. Each item in those submenus sets up the video process circuit for the camera and their levels.

■CAL PULSE

Turning ON "CAL PULSE" will output a sawtooth calibration pulse. It is set to "OFF" normally.

■EFFECT MODE

Selects the special function to operate when an optional D.PROC SUB BOARD is installed. When the D.PROC SUB BOARD is not installed, "---" is displayed.

• **OFF**

Disables the special function (Normally set it to "OFF".)

• **CCD SCAN REVERSE**

Sets the mirror image mode. During this mode, "REV" is displayed on the upper part of VF.

• **ALT FIELD PROG**

Sets the pseudo intermittent freeze image mode so that the pseudo effect of film shooting can be obtained. During this mode, "AFP" is displayed on the upper part of VF.

Notice

- During the pseudo intermittent freeze image mode, an image of 30 frames per second outputs (25 frames for PAL). Also, the vertical resolution reduces to half in this mode. Slanting lines appear, but this is not a failure.
- The above special functions cannot be used simultaneously with the longer accumulation of CCD (preset slow shutter) function.

■GRP1, GRP2, GRP3

Select when setting the video process circuit. After selecting submenu, detailed setting items are displayed. Turn ON/OFF each video circuit item, or select a value out of the pre-set values such as BLK PRS/STR.

■LEVEL SET

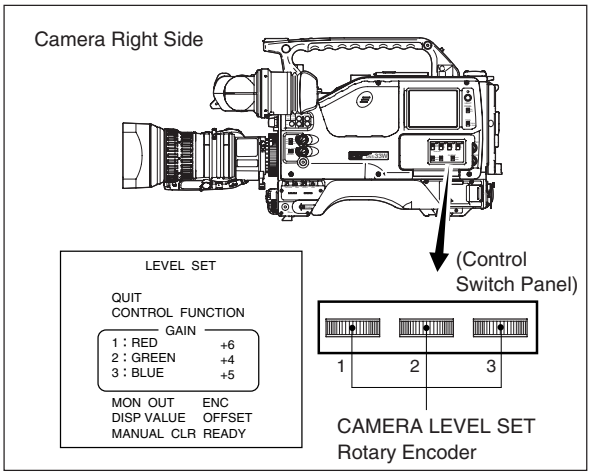
"LEVEL SET" is selected to check the level setting value of the camera, or to adjust level just with the camera by using CAMERA LEVEL SET rotary encoder.

[Checking the levels]

1. Select "CONTROL FUNCTION" from "LEVEL SET".
2. Rotate the rotary pulse switch to select level setting items, and check the set values of each parameter.
3. After checking is completed, press the VF CHARA button.

[Adjusting the levels from the camera]

1. Select "CONTROL FUNCTION" from "LEVEL SET".
2. Rotate the rotary pulse switch to select level setting items, and check the set values of each parameter.
3. Adjust the camera by rotating the CAMERA LEVEL SET rotary encoder (the rotary encoder has numbers 1, 2 and 3 allocated from the left, which matches the level setting items number on the menu).



4. To clear the adjusted levels and return them to the normal level, select "PUSH SET→CLR" in "MANUAL CLR". The adjusted level data of the currently displayed level setting items of the FUNCTION is cleared and returns to the original level. To cancel the clearing operation, select "CANCEL".

5. Changing the video signals output from the monitor to ENC signal, Y signal, or R, G, B signals makes it easy to adjust some of the level setting items.
In such cases, change the signal types output from the MON OUT connector to ENC, Y, R+G+B, R, G, or B by selecting "MON OUT" submenu. Rotate the rotary pulse switch to select the required signal type, and then press the SET button to confirm the selection.

Notice

- The function of "MON OUT" is the same function as the "OUTPUT SIGNAL" of "MONITOR OUT" submenu on the Normal Menu and the Maintenance Menu. Therefore, no matter from which menu the signal type was set, the later set signal type will be output from the MON OUT connector.
- This setting is only valid during the camera power is turned on. When the power is turned OFF, the signal type setting returns to "ENC".

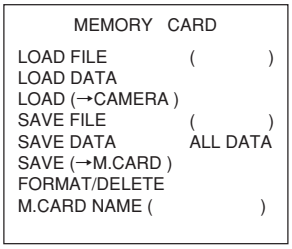
6. "DISP VALUE" submenu changes the set value display mode of each function can be changed as the following.

Setting Value	Description
ABSOLUTE	Displays the value in absolute value.
OFFSET	Displays the set value with deviation, with the factory setting level considered 0.

List of Level Adjustment Items

Function	Item
GAIN	(RED / GREEN / BLUE)
GAMMA	(RED / GREEN / BLUE)
GAMMA	(MASTER)
FLARE	(RED / GREEN / BLUE)
MANUAL KNEE	(POINT / SLOPE)
AUTO KNEE	(POINT / SLOPE)
WHT CLIP	(RED / GREEN / BLUE)
DTL (1/2)	(GAIN / FREQ / H/V BALANCE)
DTL (2/2)	(THRESH / NOISE SUP)
SOFT DTL	(WHT SUP / BLK SUP)
SKIN DTL	(R HUE / GAIN / B HUE)
R COLOR CORR	(R SAT / R HUE)
G COLOR CORR	(G SAT / G HUE)
B COLOR CORR	(B SAT / B HUE)
C COLOR CORR	(C SAT / C HUE)
M COLOR CORR	(M SAT / M HUE)
Y COLOR CORR	(Y SAT / Y HUE)
MATRIX	(R-G / R-B)
MATRIX	(G-R / G-B)
MATRIX	(B-R / B-G)
COL SAT	(COL SAT)
G.L. PHASE	(SC COARSE / FINE / H PHASE)
R WHT SHADING	(H SAW / H PARA)
R WHT SHADING	(V SAW / V PARA)
G WHT SHADING	(H SAW / H PARA)
G WHT SHADING	(V SAW / V PARA)
B WHT SHADING	(H SAW / H PARA)
B WHT SHADING	(V SAW / V PARA)
R BLK SHADING	(H SAW / H PARA)
R BLK SHADING	(V SAW / V PARA)
G BLK SHADING	(H SAW / H PARA)
G BLK SHADING	(V SAW / V PARA)
B BLK SHADING	(H SAW / H PARA)
B BLK SHADING	(V SAW / V PARA)
BLACK SET	(RED / GREEN / BLUE)
PED	(MASTER)
PED	(RED / GREEN / BLUE)

5.10.22 MEMORY CARD



■LOAD FILE

Selects the file from the memory card to load to the camera.

1. Select "LOAD FILE".

2. The names of files stored on the memory card are displayed in the parenthesis. Scroll and select the file name to load by rotating the rotary pulse switch.
When the file is not saved on the memory card, "NO FILE" is displayed in the parenthesis.

3. Press the SET button to confirm the selection.

■LOAD DATA

Selects the data from the file selected in "LOAD FILE" to load to the camera.

1. In "LOAD FILE", select the file to load to the camera.

2. Select "LOAD DATA".

3. Scroll and select the data to load by rotating the rotary pulse switch.

4. Press the SET button to confirm the selection.

Notice

Depending on the setting selected on "SAVE DATA" when the data is saved on the memory card, the data types available on "LOAD DATA" vary.

- When loading files set to "LENS" in "SAVE DATA", the following items can be set:

Setting Value	Description
LENS1-8	Loads all lens files
LENS1	Only loads lens file No.1
LENS2	Only loads lens file No.2
LENS3	Only loads lens file No.3
LENS4	Only loads lens file No.4
LENS5	Only loads lens file No.5
LENS6	Only loads lens file No.6
LENS7	Only loads lens file No.7
LENS8	Only loads lens file No.8

- When loading files set to "REFERENCE" in "SAVE DATA", the following item can be set:

Setting Value	Description
REFERENCE	Loads the reference file

- When loading files set to "SCENE" in "SAVE DATA", the following items can be set:

Setting Value	Description
SCENE1-8	Loads all scene files
SCENE1	Only loads scene file No.1
SCENE2	Only loads scene file No.2
SCENE3	Only loads scene file No.3
SCENE4	Only loads scene file No.4
SCENE5	Only loads scene file No.5
SCENE6	Only loads scene file No.6
SCENE7	Only loads scene file No.7
SCENE8	Only loads scene file No.8

- When loading files set to "SNAP SHOT" in "SAVE DATA", the following item and the items in "REFERENCE" and "SCENE" items listed above can be set:

Setting Value	Description
SNAP SHOT	Loads the snapshot file

- When loading files set to "ALL FILES" in "SAVE DATA", the following items and the items in "SNAP SHOT" and "LENS" items can be set:

Setting Value	Description
ALL DATA	Loads all data in the specified file
MENU DATA	Loads data of the menu setting items
VF DATA	Loads data of the VF setting items

Notice

If a different format file is selected in "LOAD FILE", "DIFF DATA" message will be displayed and that file cannot be selected for "LOAD FILE".

■LOAD(→CAMERA)

Loads the data set in "LOAD DATA" of the file selected in "LOAD FILE" to the camera.

1. Select "LOAD(→CAMERA)".

2. "EXECUTE" is displayed. Press the SET button in this state. "LOADING..." is displayed and the loading starts.

3. When "COMPLETED" is displayed the loading is completed.

4. To cancel the loading operation, rotate the rotary pulse switch to select "CANCEL" and press the SET button before the data is loaded.

When "ALL DATA" is loaded to the camera, "CAMERA RESTART" will be displayed after "COMPLETED", and the camera will be restarted.

■SAVE FILE

Any file name can be given to files saved on the memory card. Up to 8 characters can be input as the file name. However, if a space is inserted within a file name, the characters input after the space will not be included in the saved file name.
For details on the procedure to name the files, refer to "5.7.3 Naming Saved Files".

■SAVE DATA

Selects the data in the camera to save on the memory card.

1. Select "SAVE DATA".

2. Rotate the rotary pulse switch to select the data to save.

3. Press the SET button to confirm the selection.

Setting Value	Description
LENS	Saves the lens files No.1 to No.8
REFERENCE	Saves the reference file
SCENE	Saves the scene files No.1 to No.8
SNAP SHOT	Saves the snap shot file
ALL DATA	Saves all data

■SAVE(→M.CARD)

Saves the data selected in "SAVE DATA" by the file name set in "SAVE FILE" on the memory card.

1. Select "SAVE(→M.CARD)" by pressing the SET button.

2. "EXECUTE" is displayed. Press the SET button in this state. "SAVING..." is displayed and the saving starts.

3. When "COMPLETED" is displayed the saving is completed.

4. To cancel the saving operation, rotate the rotary pulse switch to execute "CANCEL" before the data is saved.

Notice

If a file name that already exists on the memory card is set in "SAVE FILE" and "SAVE (→M.CARD)" is executed, the message "FILE ALREADY EXIST" will be displayed and saving operation will be canceled.
If overwriting on the existing file, select "EXECUTE".
If not, select "CANCEL" and retry "SAVE(→M.CARD)" after changing the file name in "SAVE FILE".

⚠ CAUTION

Various error messages may be displayed during LOAD/SAVE operation.
For the error message types and their definitions, refer to "5.7.6 Precautions on Using the Memory Card".

■FORMAT/DELETE

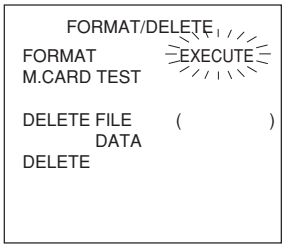
Format memory cards so that they can be used for the camera.

⚠ CAUTION

When a memory card is formatted, all the data recorded on the card will be lost.

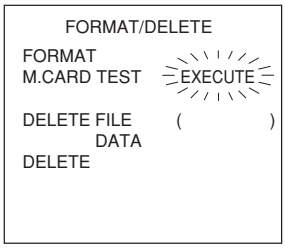
1. Select "FORMAT/DELETE" and press the SET button.

2. The following submenus are displayed. Select "FORMAT" out of the selection mode.
"CANCEL" flashes in the setting field. Rotate the rotary pulse switch and select "EXECUTE", then press the SET button.



3. When the memory card is formatted, "COMPLETE" is displayed on the screen.

4. Test the memory card to confirm that it is formatted correctly by selecting "M. CARD TEST" from the submenus. "CANCEL" flashes in the setting field. Rotate the rotary pulse switch and select "EXECUTE", then press the SET button.



5. When the test is completed, "TEST OK" is displayed on the screen.

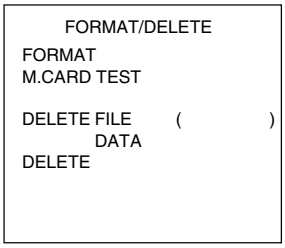
The procedures above format the memory card.

■M.CARD NAME

The memory card can be named (up to 11 characters). Each memory card can be named to manage the camera data files. For the error message types and their definitions, refer to "5.7.5 Naming the Memory Card".

■DELETE FILE

Selects the file name that contains data to be deleted from the memory card.



1. Select "DELETE FILE".

2. Select the file name that contains data to be deleted using the rotary pulse switch.
The data format of the selected file will be displayed next to "DATA".

3. Press the SET button to confirm.

■DELETE

Deletes the file selected in "DELETE FILE" from the memory card.

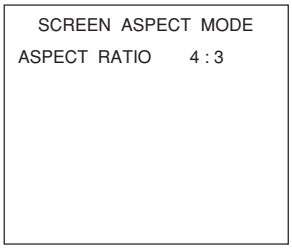
1. Select "DELETE" by pressing the SET button.

2. "EXECUTE" is displayed. Press the SET button in this state.
Data deletion starts.

3. "COMPLETED" is displayed when the data deletion is completed.
When "CANCEL" is executed using the rotary pulse switch before the data is deleted, the DELETE operation will end without execution.

5.10.23 SCREEN ASPECT MODE

Selects the aspect ratio for the output video from the camera.



1. Select "SCREEN ASPECT MODE".

2. Rotate the rotary pulse switch and select the aspect ratio.

Setting Value	Description
16:9	Aspect ratio 16:9
4:3	Aspect ratio 4:3

3. Press the SET button to confirm the selection.

5.10.24 Structure of Maintenance Menu (3/3)

This section shows the structure of the Maintenance Menu (3/3).

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
OTHERS	RET SOURCE	VTR VIDEO, GL VIDEO	VTR VIDEO	Selects whether to turn the RET video signal into VTR video or GL VIDEO
	G.L. INH IN G.L. VIDEO	---, OFF, ON	---	Selects whether to use GENLOCK input signal as the external synchronization signal- ON/OFF can be specified only when "GL VIDEO" is selected in RET SOURCE described above
	BARS WITH CAP	ON, OFF	ON	Selects whether to make the iris cap interact when in BAR ON setting
	PWR ON AWB OFF CLR	YES, NO	YES	If the power has been turned OFF with a panel with AWB OFF mode set to "AWB OFF" in the past, this function turns the AWB OFF mode OFF when a panel without AWB OFF mode is connected the next time Can only be specified when a remote control panel is connected
	RET CH SEL SW	RET/VTR, RET+VTR	RET/VTR	Sets how to switch the RET channel for the VF by using the RET and VTR buttons on the lens RET/VTR: RET button for RET1, VTR for RET2 RET+VTR: Press VTR button while pressing and holding RET button to switch the RET channel
	VF G TALLY	NO, YES	NO	Selects whether or not to mount the VF with G TALLY lamp
	MENU CURSOR	NEXT, STAY	NEXT	Selects the menu cursor movement when the SET button is pressed
INFORMATION	WORKING TIME			Displays the total working time of the camera
	SYSTEM ROM VERSION			Displays the ROM version and checksum value
MENU CUSTOMIZE	VF DISPLAY	☐/☑	☑	Selects the menu items to display on the Normal Menu screen ☑ : Displays the menu item on the "Normal Menu" screen ☐ : Does not display the menu item on the "Normal Menu" screen
	MONITOR OUT	☐/☑	☑	
	ZEBRA INDICATOR	☐/☑	☑	
	! INDICATOR	☐/☑	☑	
	BARS TITLE/MODE	☐/☑	☑	
	LOW/MID/HIGH GAIN MODE	☐/☑	☑	
	BATT/DISK WARNING	☐/☑	☑	
	SCENE FILE	☐/☑	☑	
	LEVEL ADJUST	☐/☑	☑	
	CPU SYSTEM CONTROL	☐/☑	☐	
	AWB/ABB MODE	☐/☑	☐	
	AUTO IRIS SET	☐/☑	☐	
	G.L. PHASE ADJUST	☐/☑	☐	
	LENS SELECT	☐/☑	☐	
	EXT VTR REC CONTROL	☐/☑	☐	
	VIDEO PROCESS MODE	☐/☑	☐	
	MEMORY CARD	☐/☑	☐	
	SCREEN ASPECT MODE	☐/☑	☐	
	OTHERS	☐/☑	☑	
	INFORMATION	☐/☑	☐	

Submenu	Detailed Setting Items	Mode Selection	Default Value	Function
-CUSTOMIZE DISPLAY-				Rearranges the display of the selected menu items

5.10.25 OTHERS (Selecting other operation modes)

The operation procedures and descriptions are the same as those in "OTHERS" menu of the Normal Menu. Refer to "5.10.12 Others (Selecting other operation mode)".

5.10.26 INFORMATION (Displaying the camera information)

■WORKING TIME (Working time display)

Displays the accumulated working time of the camera.

■SYSTEM ROM VERSION (ROM version display)

Displays the ROM version and checksum value of the camera.

INFORMATION

WORKING TIME □□□□.□H

ROM VERSION : STR-※※※※V※※
: CHECK SUM (※※※※)

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In the □ part, the actual accumulated working time is displayed.
In the ※ part, the actual version information and checksum value are displayed.

5.10.27 MENU CUSTOMIZE (Customizing the Normal Menu screen)

Sets up the menu items and their orders on the Normal Menu to suit the users' needs.

1. Select "MENU CUSTOMIZE". The following submenus are displayed.
   The currently displayed items on the Normal Menu are displayed with a checkmark.

MENU CUSTOMIZE
(10/10)

VF DISPLAY ☑
MONITOR OUT ☑
ZEBRA INDICATOR ☑
! INDICATOR ☑
BARS TITLE/MODE ☑
LOW/MID/HIGH GAIN MODE ☑
BATT/DISK WARNING ☑
SCENE FILE ☑
LEVEL ADJUST ☑

2. Rotate the rotary pulse switch to display the remaining menu items, as shown on the next figure. The selectable items are 20 items of the Maintenance Menu (1/3) to (3/3) except the MENU CUSTOMIZE.

MENU CUSTOMIZE
(10/10)

VF DISPLAY ☑
MONITOR OUT ☑
ZEBRA INDICATOR ☑
! INDICATOR ☑
BARS TITLE/MODE ☑
LOW/MID/HIGH GAIN MODE ☑
BATT/DISK WARNING ☑
SCENE FILE ☑
LEVEL ADJUST ☑
CPU SYSTEM CONTROL ☐
AWB/ABB MODE ☐
AUTO IRIS SET ☐
G.L. PHASE ADJUST ☐
LENS SELECT ☐
EXT VTR REC CONTROL ☐
VIDEO PROCESS MODE ☐
MEMORY CARD ☐
SCREEN ASPECT MODE ☐
OTHERS ☑
INFORMAITION ☐

- CUSTOMIZE DISPLAY -

3. Rotate the rotary pulse switch to move the flashing cursor to the item to add/delete from the menu.
4. Rotate the rotary pulse switch to place a check to the checkbox to add the item on the menu screen, or remove the check from the checkbox to delete the item from the menu screen.
5. Press the SET button to confirm the change.
6. The order of the menu items can be changed by "CUSTOMIZE DISPLAY". Select "CUSTOMIZE DISPLAY", the submenus are displayed.

*** MENU ***

VF DISPLY
Arrow shaped cursor → MONITOR OUT
ZEBRA INDICATOR
! INDICATOR
BARS TITLE/MODE
LOW/MID/HIGH GAIN MODE
BATT/DISK WARNING
SCENE FILE
LEVEL ADJUST
OTHERS

7. Rotate the rotary pulse switch to move the flashing cursor to the item to change the order.
8. An arrow "→" is displayed beside the menu item. Rotate the rotary pulse switch to move the item up or down the list.
9. When the menu item is in the required position, press the SET button to confirm the order.

Notice

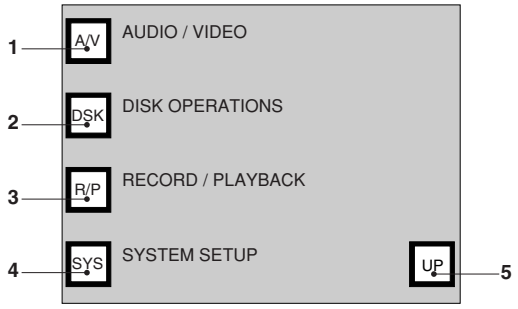
Up to 10 menu items can be displayed on the Normal Menu (however, at least 1 item must be displayed).
If already 10 items are displayed on the Normal Menu and a new item needs to be added, delete an item in advance. The number of items currently displayed is displayed in the prarenthesis at the top right side corner of the menu screen.

6. SETTINGS AND ADJUSTMENT OF RECORDER SECTION

This chapter explains various setting items of the recorder section. For the menu structure of the recorder section, refer to "Menu Structure of the Recorder Section" of the "QUICK START GUIDE".

6.1 BASE Menu

Touching the Status screen displays the "BASE" menu. Pressing buttons on the screen moves to submenus for various settings of the recorder section.



1 AUDIO/VIDEO
Moves to the "AUDIO/VIDEO" menu.

2 DISK OPERATIONS
Moves to the "DISK OPERATIONS" menu.

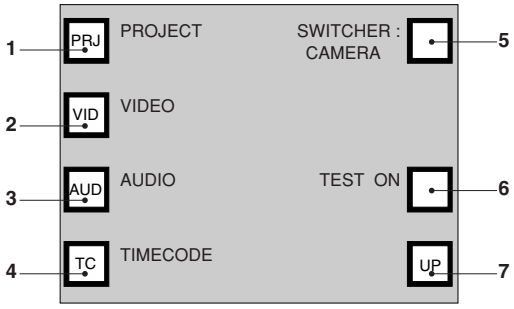
3 RECORD/PLAYBACK
Moves to the "RECORD/PLAYBACK" menu.

4 SYSTEM SETUP
Moves to the "SYSTEM SETUP" menu.

5 UP
Returns to the Status screen.

6.2 AUDIO/VIDEO Menu

Pressing the "A/V" button on the "BASE" menu displays "AUDIO/VIDEO" menu.



1 PROJECT
Moves to the "PROJECT" menu.

2 VIDEO
Moves to the "VIDEO" menu.

3 AUDIO
Moves to the "AUDIO" menu.

4 TIMECODE
Moves to the "TIMECODE" menu.

5 SWITCHER
Selects a source of video signal output from the camera.
- CAMERA ..... Video signal from the camera
- EXTERNAL ... External input video signal
- DISK ..... Video signal recorded on an FP2

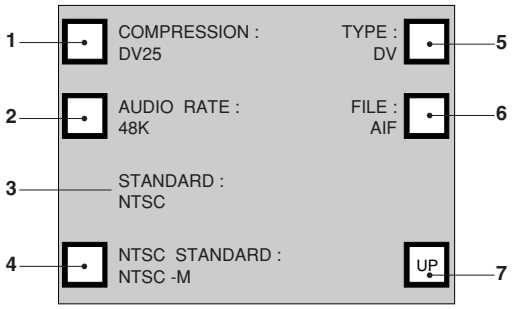
6 TEST
Outputs a test tone when this button is pressed while "ON" is displayed.
Stops output of the test tone when this button is pressed while "OFF" is displayed.

7 UP
Returns to the "BASE" menu.

Notice

The test tone cannot be recorded on an FP2.

6.2.1 PROJECT Menu



1 COMPRESSION

Selects a compression ratio for recording. The compression ratio depends on the compression format. Set the compression format with the "TYPE" button.

[When the Compression Format is DV]

Compression Ratio	Description
DV25	DV compression whose file size is reduced to 1/5
DV50	DV compression whose file size is reduced to 1/3.3 (option)

[When the Compression Format is JFIF]

Compression Ratio	Description
3:1	Motion-JPEG compression whose file size is reduced to 1/3
10:1	Motion-JPEG compression whose file size is reduced to 1/10
20:1	Motion-JPEG compression whose file size is reduced to 1/20

[When the Compression Format is MPEG]

Compression Ratio	Description
MPG50	MPEG50 compression of 50Mbps

Notice

Clips with different compression format cannot co-exist in an FP2. On the other hand, clips with the same compression format and different compression ratio can co-exist. Prepare FP2s for each compression format to be used. After desired format is selected by the "TYPE" button, restart the camera and initialize the FP2.

For how to initialize an FP2, refer to "Disk Initialization" of "QUICK START GUIDE".

2 AUDIO RATE

Selects an audio sampling rate (44.1kHz or 48kHz).

3 STANDARD

Displays a TV broadcast standard.

(No modification is allowed for this camera.)

4 NTSC STANDARD

Selects a record setting (NTSC-EIAJ or NTSC-M).

5 TYPE

Selects a compression format from items below.

Compression formats that can be used for the camera are: JFIF, DV, and MPEG (option).

6 FILE

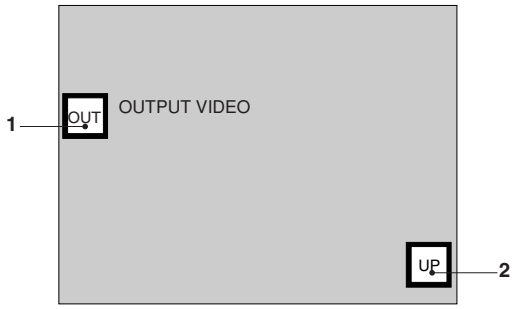
Displays the audio file format.

Audio file format that can be used for the camera is: AIFF.

7 UP

Returns to the "AUDIO/VIDEO" menu.

6.2.2 VIDEO Menu



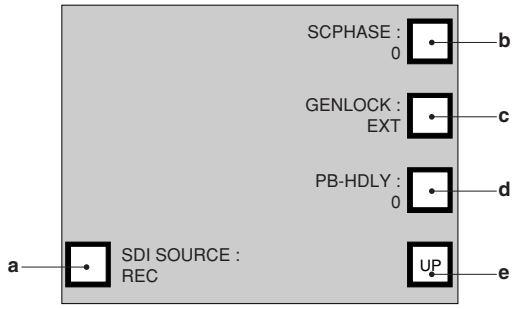
1 OUTPUT VIDEO
Moves to the "OUTPUT VIDEO" menu.

2 UP
Returns to the "AUDIO/VIDEO" menu.

Notice

When an external video signal is input, items "INPUT VIDEO" and "CALIBRATION" are added to the "VIDEO" menu. Normally, setting these items is not necessary.

1 OUTPUT VIDEO Menu



a SDI SOURCE
Selects a signal input to the SDI part.

Input Signal	Description
CAM	Video signal from the camera
REC	Video signal from the recorder section

This setting is valid when SDI option is attached.

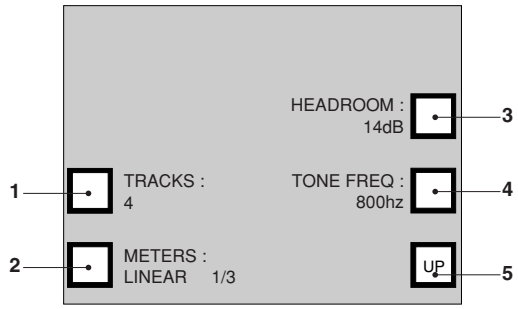
b SCPHASE
Adjusts the phase of subcarrier.
Set the value between 127 and -128.

c GENLOCK
Selects a synchronization signal source.
Select "CAM".

d PB-HDLY
Adjusts the DELAY value of the horizontal direction for the playback video signal.
Set the value between 80 and -80.

e UP
Returns to the "VIDEO" menu.

6.2.3 AUDIO Menu



1 TRACKS
Selects the number of audio channels (4, 2, or 0) to be recorded on an FP2.
Data can be recorded effectively when this value is set according to the number of channels for audio input to be used. When "2" is set, only input to CH1 and CH2 will be valid, and data of CH3 and CH4 are not recorded.

2 METERS
Switches the audio level meter, 3-level linear display or 6-level logarithmic display.

Display Type	Description
Linear display	LINEAR1/3, LINEAR2/3, LINEAR FULL
Logarithmic display	LOG 1/3 HI, LOG 2/3 HI, LOG FULL HI, LOG 1/3 LO, LOG 2/3 LO, LOG FULL LO

3 HEADROOM
Sets a headroom value of the audio (0dBu to 24dBu). Set this item to 20dB if there is no specific need to adjust the setting. The factory setting is 20dB.

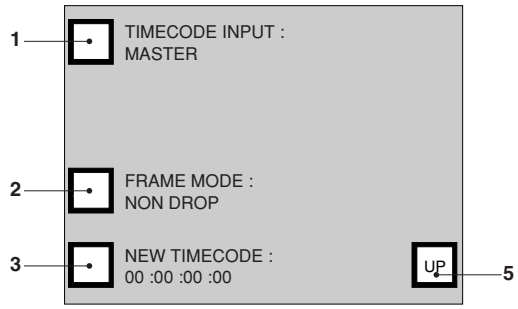
4 TONE FREQ
Sets a frequency of the test tone (100Hz to 4000Hz).

5 UP
Returns to the "AUDIO/VIDEO" menu.

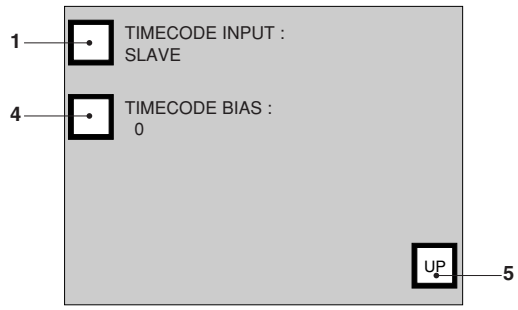
6.2.4 TIMECODE Menu

The "TIMECODE" menu has different screens for "MASTER" and "SLAVE".

[MASTER]



[SLAVE]



1 TIMECODE INPUT

Switches between MASETER and SLAVE.

2 FRAME MODE

Switches between DROP and NON DROP.

3 NEW TIMECODE

[RECORD RUN]

Sets a time code data ("00:00:00:00" to "23:59:59:59").

Operated Key	Description
SHIFT + <<< or SHIFT + >>>	Changes the value by hour
<<< or >>>	Changes the value by minute
|<< or >>|	Changes the value by second
< or >	Changes the value by frame

[FREE RUN]

Sets a time code data ("00:00:00" to "23:59:59").

Operated Key	Description
<<< or >>>	Changes the value by hour
|<< or >>|	Changes the value by minute
< or >	Changes the value by second

4 TIMECODE BIAS

Sets the time code bias value (-9 to +9).

Change the value by < key and > key. When the value is changed, "SET TIMECODE BIAS" message appears.

Pressing the "TIMECODE BIAS" button confirms the value.

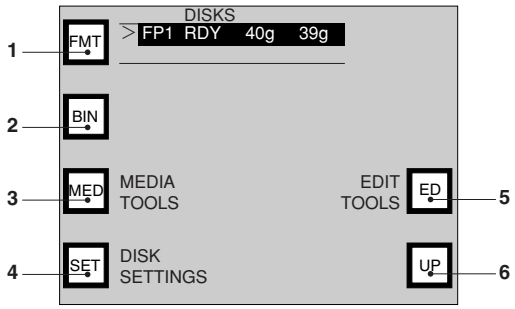
Pressing the "CLR" button returns the value before the setting.

5 UP

Returns to the "AUDIO/VIDEO" menu.

6.3 DISK OPERATIONS Menu

Pressing the "DSK" button on the "BASE" menu displays "DISK OPERATIONS" menu.



1 FMT
Initializes an FP2.

2 BIN
Moves to the "BIN" menu.

3 MEDIA TOOLS
Moves to the "MEDIA TOOLS" menu.

4 DISK SETTINGS
Moves to the "DISK SETTINGS" menu.

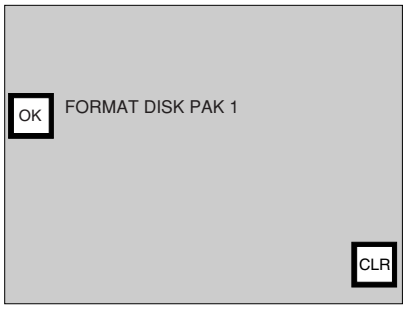
5 EDIT TOOLS
Moves to the "EDIT TOOLS" menu.

6 UP
Returns to the "BASE" menu.

6.3.1 FMT Menu

[Normal Initialization]

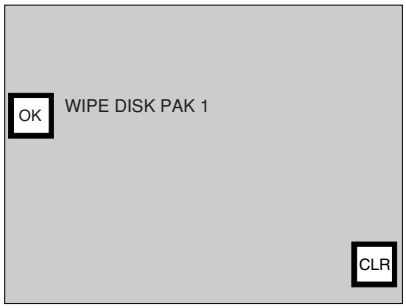
Initializes an FP2 into the recording format of the camera.
Pressing the "FMT" button displays the following confirmation screen.



Pressing the "OK" button while pressing the SHIFT key starts initialization by the compression type selected in the "PROJECT" menu. When the initialization is completed, the screen switches to "DISK OPERATIONS" menu, and total disk space and remaining disk space of an FP2 will be displayed next to the "FMT" button. Normally initialized FP2 can be used by only this camera and the supported equipment.

[Complete Erasure of Data]

Completely deletes data stored in an FP2.
Pressing the "FMT" button while pressing the SHIFT key displays the following confirmation screen.



Pressing the "OK" button while pressing the SHIFT key deletes data stored in the FP2, and the FP2 remains unformatted.
It takes about 40 minutes for a 40GB FP2 to complete the WIPE operation.
To use the FP2 that the WIPE operation is performed, initialize it normally.

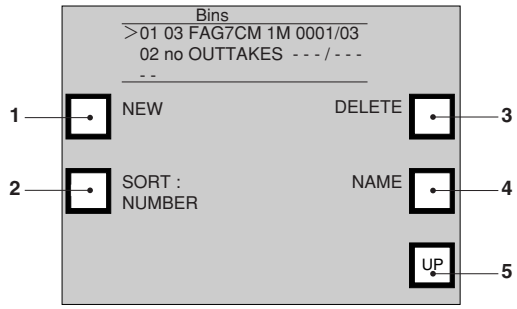
6.3.2 BIN Menu

Creates, deletes, renames, and sorts bins.

Statuses of all the bins in an FP2 are displayed on the top of the screen. Bin number, number of clips, bin name, first clip number, and last clip number are displayed as statuses.

Bin number=1 cannot be erased since it is the default bin, but it can be renamed. This default bin name will be the volume name of the FP2.

Bin number=last cannot be erased and renamed since it is an OUTTAKE bin.



1 NEW

Creates a new bin.

Pressing the "NEW" button creates a new bin under the name, NEW_002, NEW_003, and so on.

Use I<< key and >>I key to move between bins.

2 SORT

Sorts clips in a bin by following items.

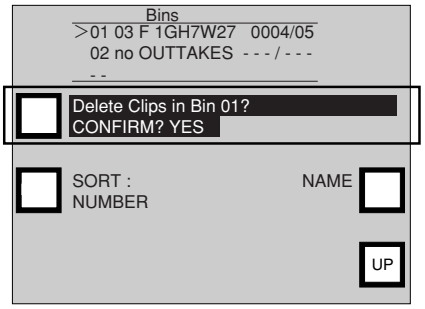
- NUMBER (Clip number)
- DATE
- TIME
- LENGTH
- NAME
- QUALITY
- ATTR1 to 5

3 DELETE

Following operation deletes all the clips in the selected bin or the bin itself.

[When deleting all the clips in the bin at once]

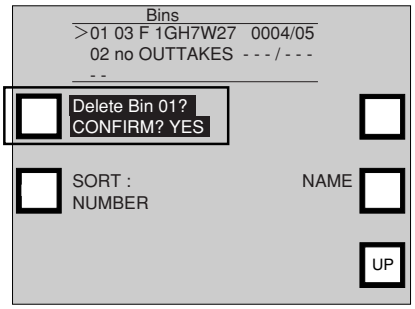
Use the I<< key and the >>I key to select the bin that contains the clips, and pressing the "DELETE" button displays the following confirmation screen.



Pressing the selection button showing "YES" deletes the all the clips in the selected bin.

[When deleting the bin itself]

When no clip is contained in the selected clip, pressing the "DELETE" button displays the following confirmation screen.



Pressing the selection button showing "YES" deletes the selected bin.

4 NAME

Renames the newly created bin or selected bin.

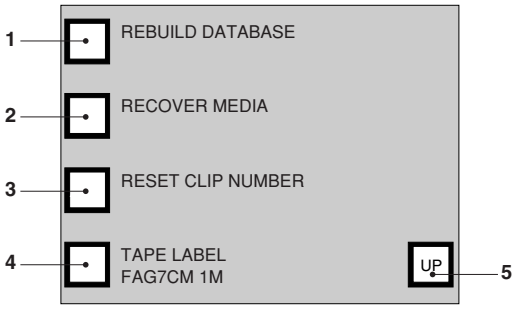
To input the bin name, select characters by pressing FRAME key (< >), PRIOR key(I<<), and NEXT key(>>I) on the control switch panel and confirm the selection by PLAY key. Up to 11 characters can be input.

5 UP

Returns to the "DISK OPERATIONS" menu.

6.3.3 MEDIA TOOLS Menu

Performs operations such as disk recovery.



1 REBUILD DATABASE

Finds the data when data stored in an FP2 cannot be read out. Found data will be stored in the ORPHANS bin.

2 RECOVER MEDIA

Finds the data when clips stored in an FP2 are lost. Found clips will be stored in the ORPHANS bin.

3 RESET CLIP NUMBER

Resets clip number.

4 TAPE LABEL

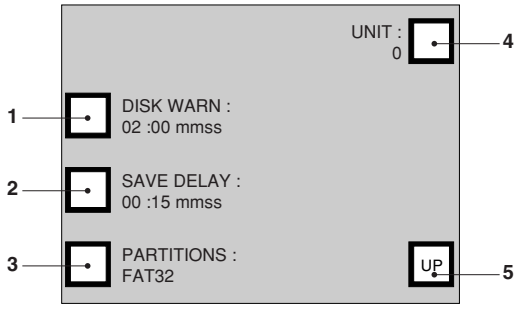
Renames the tape label, the name assigned to an FP2. This name is automatically assigned when the FP2 is initialized. Performing WIPE operation to the FP2 also deletes the tape label.

To rename the tape label, select characters by pressing FRAME key (< >), PRIOR key(|<<), and NEXT key(>>|) on the control switch panel and confirm the selection by PLAY key. Up to 11 characters can be input.

5 UP

Returns to the "DISK OPERATIONS" menu.

6.3.4 DISK SETTINGS Menu



1 DISK WARN

Sets the value to warn the remaining disk space of an FP2.

When the remaining disk space exceeds this value, a warning is displayed on the VF.

Operated Key	Description
<< or >>	Changes the value by 1 minute
|<< or >>|	Changes the value by 10 seconds
< or >	Changes the value by 1 second

2 SAVE DELAY

Sets the time to start saving the clip management information to an FP2 since recording is stopped. Normally, setting this value is not necessary.

Operated Key	Description
<< or >>	Changes the value by 1 minute
|<< or >>|	Changes the value by 10 seconds
< or >	Changes the value by 1 second

3 PARTITIONS

Displays the disk format type of an FP2.

Format type of the camera is FAT32. When nothing is displayed here, an FP2 is not inserted, or an unformatted FP2 is loaded.

4 UNIT

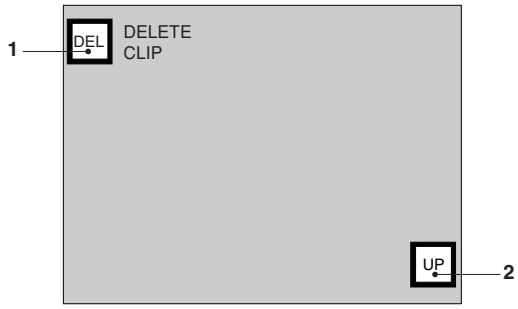
Input different values for each camera when multiple Editcam3s are used.

This avoids to assign the same tape label name that cannot be distinguished when editing.

5 UP

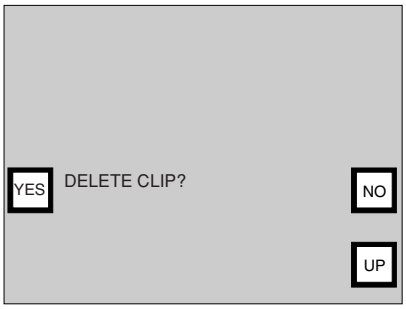
Returns to the "DISK OPERATIONS" menu.

6.3.5 EDIT TOOLS Menu



1 DELETE CLIP

Deletes the clip selected in the Status screen.
Pressing the "DEL" button displays the following confirmation screen.



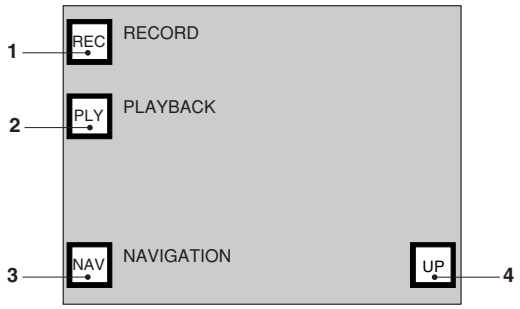
Pressing the "YES" button deletes the selected clip.
Pressing the "NO" button does not delete the selected clip and returns to the "EDIT TOOLS" menu.

2 UP

Returns to the "DISK OPERATIONS" menu.

6.4 RECORD/PLAYBACK Menu

Pressing the "R/P" button on the "BASE" menu displays "RECORD/PLAYBACK" menu.



1 RECORD

Moves to the "RECORD" menu.

2 PLAYBACK

Moves to the "PLAYBACK" menu.

3 NAVIGATION

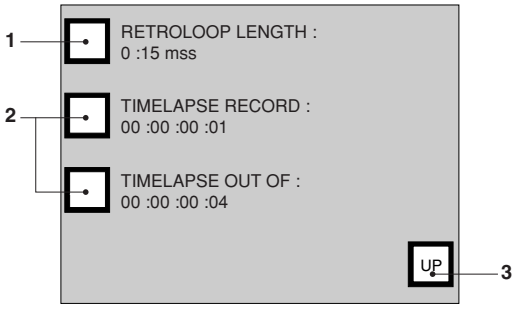
Moves to the "NAVIGATION" menu.

4 UP

Returns to the "BASE" menu.

6.4.1 RECORD Menu

Performs settings for retro loop recording and time lapse recording.



1 RETROLOOP LENGTH

Sets the time length of the record buffer during the retro loop operation (5 seconds to 8 minutes 10 seconds).

2 TIMELAPSE RECORD, TIMELAPSE OUT OF

Sets the record interval during the time lapse operation. Following formula shows the relationship between record interval and "TIMELAPSE RECORD"/"TIMELAPSE OUT OF".

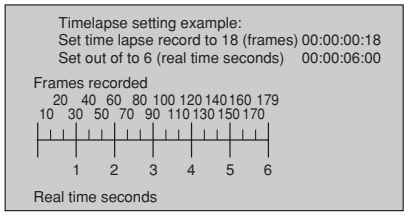
$$\text{Record interval} = \frac{\text{[TIMELAPSE OUT OF]}}{\text{[TIMELAPSE RECORD]}}$$

During the time lapse operation, the intermittent recording whose image recorded for the time set as "TIMELAPSE OUT OF" will be played for the time set as "TIMELAPSE RECORD" is performed. Set the values for both items between 1 frame and 59 minutes 59 seconds 29 frames.

[Setting Example]

A case of the intermittent shoot whose image recorded for 6 seconds as "TIMELAPSE OUT OF" will be played at 18 frames as "TIMELAPSE RECORD".

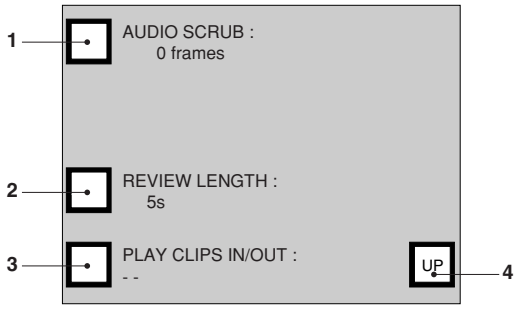
$$\text{Record interval} = \frac{6 \times 30}{18} = 10 \text{ (frames)}$$



3 UP

Returns to the "RECORD/PLAYBACK" menu.

6.4.2 PLAYBACK Menu



1 AUDIO SCRUB

Adjusts the phase lag by frame when phases of video and audio are not coherent.

Operated Key	Description
>>>	Changes the value to plus 16 frames
<<<	Changes the value to minus 16 frames
|<< or >>|	Changes the value by 10 frames
< or >	Changes the value by 1 frame

2 REVIEW LENGTH

Sets playback time during the REC-REVIEW operation.

Operated Key	Description
<<< or >>>	Changes the value by 100 seconds
|<< or >>|	Changes the value by 10 seconds
< or >	Changes the value by 1 second

3 PLAY CLIPS IN/OUT

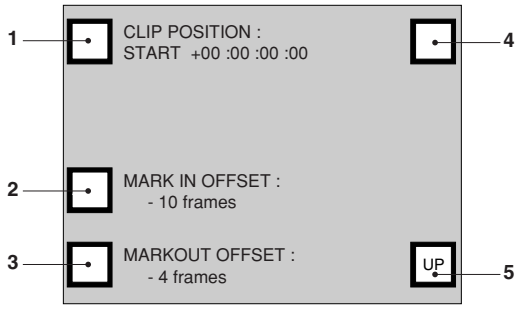
Switches playback mode.

Mode	Description
ON	Sets IN point and OUT point on a clip and plays the clip between the IN point and the OUT point.
--	Plays the clip from the beginning to the end. IN and OUT points on a clip are ignored.

4 UP

Returns to the "RECORD/PLAYBACK" menu.

6.4.3 NAVIGATION Menu



1 CLIP POSITION

Sets a position in a clip to be jumped when a clip is selected.

Setting Value	Description
START	Jumps to the beginning of the clip
IN	Jumps to the specified IN point of the clip
OUT	Jumps to the specified OUT point of the clip
END	Jumps to the end of the clip

2 MARK IN OFFSET

Sets the offset of the mark IN point (-128 to 127).

3 MARKOUT OFFSET

Sets the offset of the mark OUT point (-128 to 127).

4 Clip Position Set Button

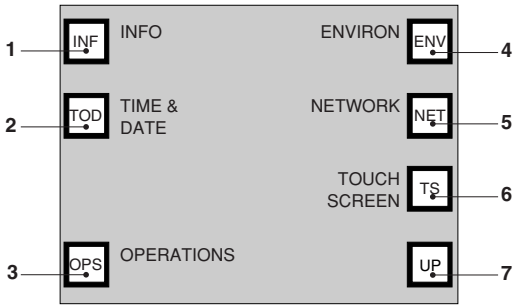
Sets the offset from the position set by "CLIP POSITION".

5 UP

Returns to the "RECORD/PLAYBACK" menu.

6.5 SYSTEM SETUP Menu

Pressing the "SYS" button on the "BASE" menu displays "SYSTEM SETUP" menu.



1 INFO

Moves to the "INFO" menu.

2 TIME & DATE

Moves to the "TIME & DATE" menu.

3 OPERATIONS

Moves to the "OPERATIONS" menu.

4 ENVIRON

Moves to the "ENVIRON" menu.

5 NETWORK

Moves to the "NETWORK" menu.
Normally, setting this menu is not necessary.

6 TOUCH SCREEN

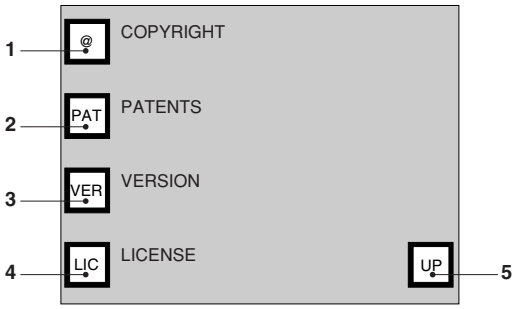
Moves to the "TOUCH SCREEN" menu.

7 UP

Returns to the "BASE" menu.

6.5.1 INFO Menu

Refers to information such as copyright, patents, software version, and license.



1 COPYRIGHT
Displays copyright information.

2 PATENTS
Displays patents information.

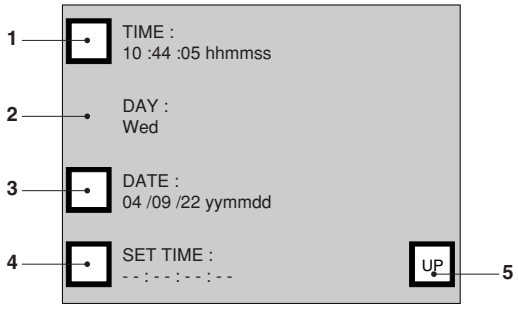
3 VERSION
Displays version information.

4 LICENSE
Displays license information.

5 UP
Returns to the "SYSTEM SETUP" menu.

6.5.2 TIME & DATE Menu

Sets the date and time of the internal clock in 24-hour format.



1 TIME
Sets the time of the internal clock.

Operated Key	Description
<<< or >>>	Changes the value by hour
|<< or >>|	Changes the value by minute
< or >	Changes the value by second

2 DAY
Displays a day of the week. This item cannot be edited since it links with the "DATE" setting.

3 DATE
Sets the date of the internal clock.

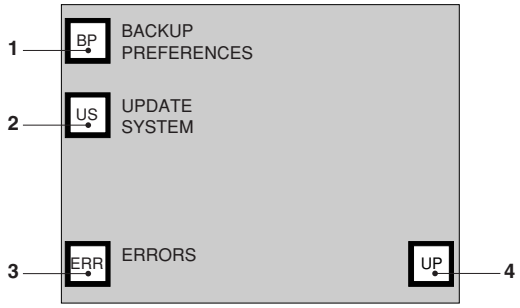
Operated Key	Description
<<< or >>>	Changes the value by year
|<< or >>|	Changes the value by month
< or >	Changes the value by date

4 SET TIME
Adjusts the internal clock time to an external LTC.
This item can be set when an external LTC signal is input.

5 UP
Returns to the "SYSTEM SETUP" menu.

6.5.3 OPERATIONS Menu

Performs operations such as saving of the system information of the recorder section.



1 BACKUP PREFERENCES
Moves to the "BACKUP PREFERENCES" menu.

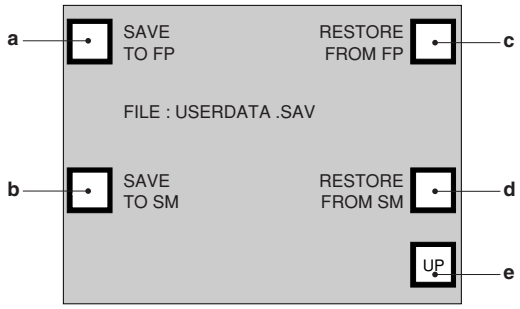
2 UPDATE SYSTEM
Normally, this menu is not used.

3 ERRORS
Moves to the "ERRORS" menu.

4 UP
Returns to the "SYSTEM SETUP" menu.

1 BACKUP PREFERENCES Menu

Saves/loads settings of the recorder section to/from an FP2 or memory card (SmartMedia™).



a SAVE TO FP
Saves setting information of the recorder section to an FP2.
Press this button after the FP2 is loaded.

b SAVE TO SM
Saves setting information of the recorder section to a memory card.
Press this button after the memory card is loaded.

c RESTORE FROM FP
Restores setting information of the recorder section from an FP2.
Press this button after the FP2 is loaded.

d RESTORE FROM SM
Restores setting information of the recorder section from a memory card.
Press this button after the memory card is loaded.

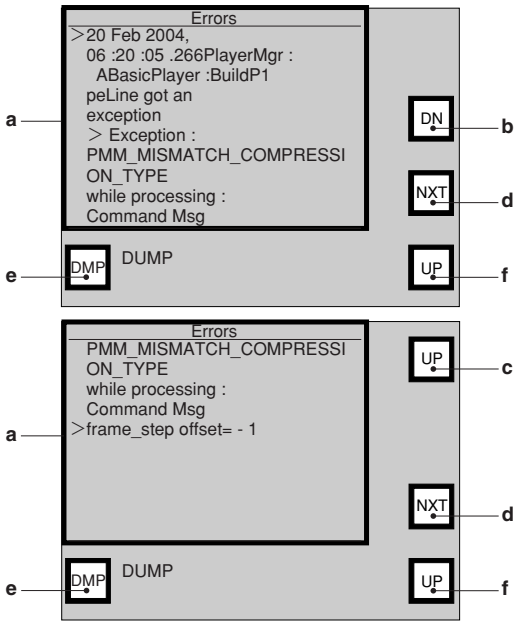
e UP
Returns to the "OPERATIONS" menu.

2 UPDATE SYSTEM Menu

Normally, this menu is not used.

3 ERRORS Menu

Displays error logs.



a Errors
Displays an error log here.

b DN
Displays the rest of the error message when it cannot be displayed in one screen.

c UP
Displays the error message of the previous screen when it is displayed in multiple screens.

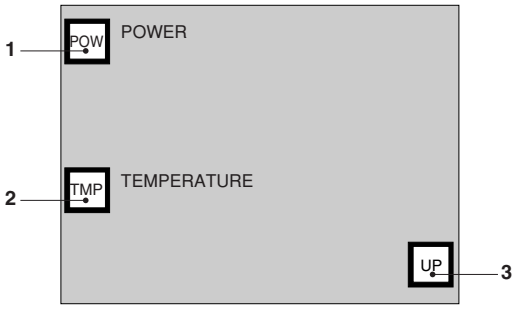
d NXT
Displays the next error message.
"NO more messages" appears when there is no next message.

e DUMP
Dumps the content of the memory to an FP2 when an error occurs and it is displayed on the screen.

f UP
Returns to the "OPERATIONS" menu.

6.5.4 ENVIRON Menu

Performs settings for power and so on.

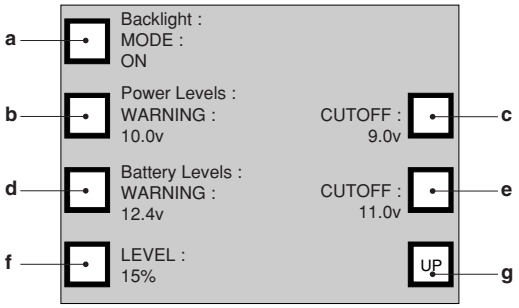


1 POWER
Moves to the "POWER" menu.

2 TEMPERATURE
Moves to the "TEMPERATURE" menu.

3 UP
Returns to the "SYSTEM SETUP" menu.

1 POWER Menu



a Backlight
Sets the backlight of the LCD.

Setting Value	Description
AUTO-ON	Turns ON the LCD backlight automatically when the touchscreen is touched.
AUTO-OFF	Turns OFF the LCD backlight automatically when there is no input for a certain time period.
ON	Always turns ON the LCD backlight.
OFF	Always turns OFF the LCD backlight.

b Power Levels: WARNING
Sets a voltage warning level from the DC input (8.0 to 15.0V).
When the voltage reaches to the specified value, a warning is displayed on the VF and the TALLY lamp flashes.

Operated Key	Description
<< or >>	Changes the value by 10V
|<< or >>|	Changes the value by 1V
< or >	Changes the value by 0.1V

c Power Levels: CUTOFF
Sets a cutoff voltage from the DC input (8.0 to 15.0V). When the voltage reaches to the specified value, the recording operation cannot be performed.

d Battery Levels: WARNING
Sets a voltage warning level from the battery (8.0 to 15.0V).
When the voltage reaches to the specified value, a warning is displayed on the VF and the TALLY lamp flashes.

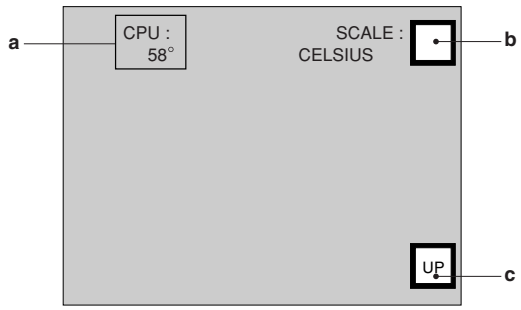
Operated Key	Description
<< or >>	Changes the value by 10V
|<< or >>|	Changes the value by 1V
< or >	Changes the value by 0.1V

e Battery Levels: CUTOFF
Sets a cutoff voltage from the battery (8.0 to 15.0V). When the voltage reaches to the specified value, the recording operation cannot be performed.

f LEVEL
Sets a voltage warning level from the battery (0 to 99% of remaining charge of the battery). When the remaining charge of the battery reaches to the specified value, the TALLY lamp flashes as a warning.

g UP
Returns to the "ENVIRON" menu.

2 TEMPERATURE Menu

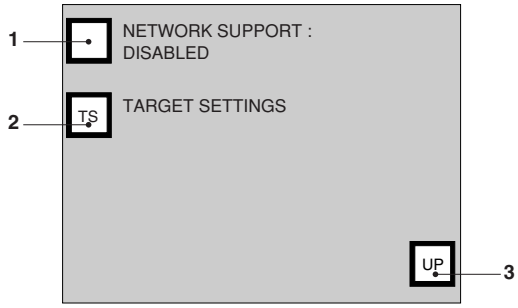


a CPU
Displays the temperature of the CPU.

b SCALE
Selects an unit of the temperature used to display the CPU temperature.
Select one from 4 items below.
- CELCIUS
- FAHRENHEIT
- RANKINE
- KELVIN

c UP
Returns to the "ENVIRON" menu.

6.5.5 NETWORK Menu



1 NETWORK SUPPORT

Normally, select "DISABLED".

2 TARGET SETTINGS

Moves to the "TARGET SETTINGS" menu.

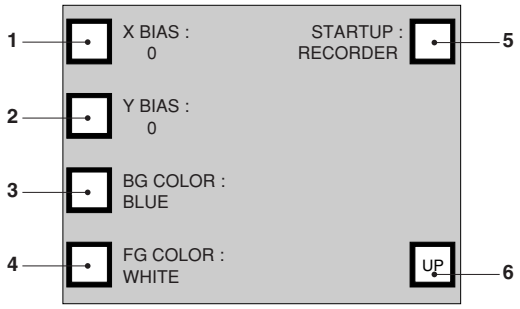
Normally, this setting is not necessary.

3 UP

Returns to the "SYSTEM SETUP" menu.

6.5.6 TOUCH SCREEN Menu

Sets the background color of the LCD.



1 X BIAS

Normally, set "0".

Adjusts the position of the button by inputting an offset value if the position of the desired button on the menu screen and the position where the button responds when actually touched are out of line in the horizontal direction.

2 Y BIAS

Normally, set "0".

Adjusts the position of the button by inputting an offset value if the position of the desired button on the menu screen and the position where the button responds when actually touched are out of line in the vertical direction.

3 BG COLOR

Selects the background color of the Status screen.

Select one from 9 colors below.

BLACK, RED, YELLOW, GREEN, BLUE, DARK RED, DARK YELLOW, DARK GREEN, DARK BLUE

4 FG COLOR

Selects the color of the characters on the Status screen.

Select one from 9 colors below.

WHITE, BLACK, GRAY, RED, YELLOW, GREEN, DARK RED, DARK YELLOW, DARK GREEN

5 STARTUP

Selects the display mode of the LCD upon powering up of the camera.

Display Mode	Screen Display
RECORDER	Menu screen
VIDEO	Video

6 UP

Returns to the "SYSTEM SETUP" menu.

7. TROUBLE SHOOTING AND MAINTENANCE

This chapter explains how to take countermeasures when you encounter troubles and how to inspect the Camera and peripheral equipment.

7.1 Trouble Shooting

If you encounter troubles while operating the camera, take proper countermeasures, referring to the following table. Furthermore, refer to **Notice** in each chapter.

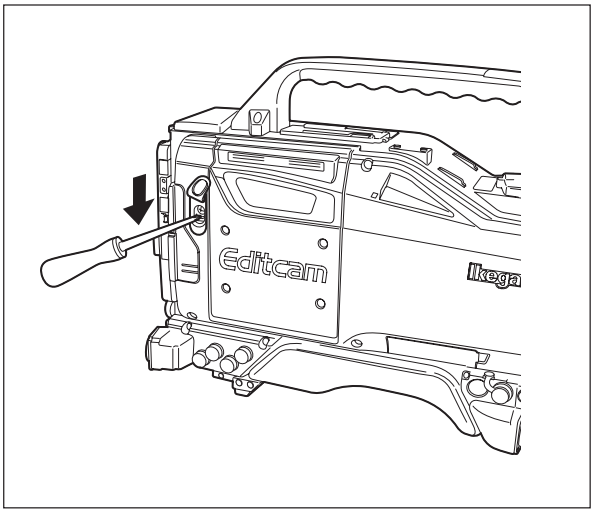
Phenomenon	Check/Cause	Remedy
Power is not turned on.	Is the AC pack properly connected?	Connect the AC pack and power cord properly.
	Is a charged battery pack properly connected?	Connect a charged battery.
	Is the camera restarted just after the POWER switch is turned OFF?	When restarting the camera, turn on the power 10 seconds or more after powering off.
FP2 cannot be ejected.	Is the power of the camera turned on?	Press the EJECT key after power is on. When FP2 cannot be ejected, it can be taken out forcibly. Refer to "■ How to Take out FieldPak on Emergency" described in the next page.
It takes for a while to start recording or playback.	Is the FIELDPAK switch set to "SAVE"?	Set the FIELDPAK switch to "STBY".
Warning "Check Time/Date" appears on the color LCD upon powering up.	Time and date are not set to the camera.	Set time and date by "TIME & DATE" menu of the recorder section.
The warning above appears each time of powering up.	The backup battery of the recorder section is drained.	Please contact Ikegami's sales and service centers or Techno Ikegami Co., Ltd.
Warning "CAM BACKUP BATT WARN" appears on the VF.	The backup battery of the camera section is drained.	
FP2 is not properly recognized.	• Currently selected compression format for recording is different from that of the loaded FP2. • Sampling frequency of the currently selected audio is different from that of the loaded FP2.	**When existing data in the loaded FP2 needs to be kept** Replace the FP2 with another FP2 formatted by the compression format and sampling frequency to be used. **When existing data in the loaded FP2 can be erased** Set the compression format and sampling frequency to be used by the "PROJECT" menu of the recorder section and format the FP2 .
Video from the camera cannot be recorded.	Is the FP2 loaded?	Load the FP2.
	Does the FP2 have any disk space?	Delete unnecessary clip or replace the FP2 with another FP2 having enough disk space.
External input video cannot be recorded.	Is the external VIDEO output line properly connected to the GENLOCK IN connector?	Connect the external VIDEO output line properly.
	Is an appropriate input source set to the recorder section?	Set "SWITCHER" item to "EXTERNAL" by "PROJECT" menu of the recorder section.
	Did you start recording by pressing the "REC" button?	Press the REC key on the control switch panel to start recording.
Nothing appears on the color LCD.	Is power of the color LCD turned off?	Turn ON the LCD Light switch.
	Is the camera restarted just after the POWER switch is turned OFF?	When restarting the camera, turn on the power 10 seconds or more after powering off.
Touch panel does not respond.	Is the panel switch on the right side of the camera turned OFF?	Turn ON the touch panel switch.
Audio cannot be recorded.	Is the AUDIO LEVEL adjustment knob set to minimum?	Turn the AUDIO LEVEL knob to an appropriate audio level.
	Is the AUDIO INPUT switch properly set?	Set the AUDIO INPUT switch according to the connected microphone and audio input line.
Audio is distorted.	Is the setting of input level too high?	Turn the AUDIO LEVEL knob to an appropriate audio level.
Noise level is high.	Is the setting of input level too low?	
When zooming the lens, the subject through the telephoto and wide angle is not in focus.	Is the flange back of the lens properly adjusted?	Adjust the flange back of the lens again.
Sensitivity of the camera is low.	Is the SHUTT/SUP-V switch turned ON?	Turn the SHUTT/SUP-V switch OFF or select a proper shutter speed.
	Is unsuitable ND filter setting selected?	Turn the ND FILTER knob to select the ND filter which suits the lighting condition.
Sensitivity of the camera is high.	Is HYPER GAIN switch turned ON?	Turn the HYPER GAIN switch OFF.
	Is GAIN SELECT switch set to "M" or "H"?	Set the GAIN SELECT switch to "L".
	Is unsuitable ND filter setting selected?	Turn the ND FILTER knob to select the ND filter which suits the lighting condition.
Sensitivity of the microphone is low, or the microphone is not operative.	Is the microphone properly connected?	Connect the microphone properly.
	Are the switch settings appropriate?	Set the MIC POWER switch and MIC ATT switch properly.

■How to Take out FieldPak on Emergency

When FP2 cannot be ejected even if the EJECT key on the upper part of the camera is pressed, it can be taken out forcibly by inserting a slotted screwdriver to the EMERGENCY EJECT hole on the left side of the camera.

1. Turn OFF the power of the camera.

2. Insert a slotted screwdriver etc. to the EMERGENCY EJECT hole and push down the clasp inside.
The EJECT cover opens. Take out the FP2.



7.2 Maintenance

This section explains the maintenance for DNS-33W.

7.2.1 Inspecting the Camera

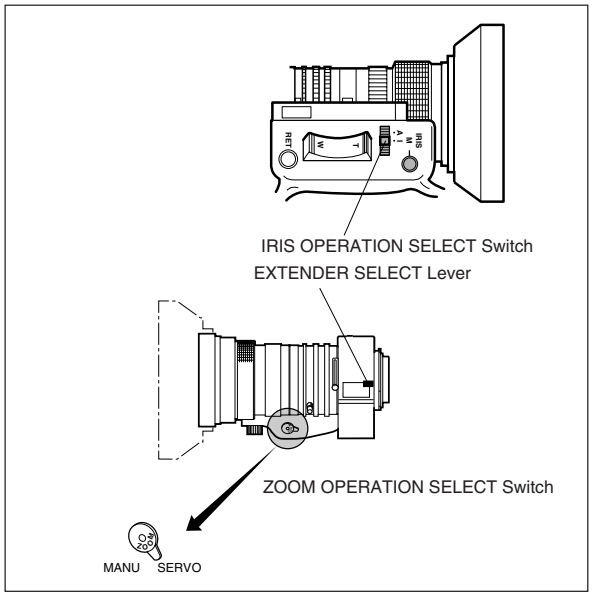
Before shooting, carry out the following inspection to check that the camera is operating properly. It is recommended that a color monitor be used to check the images during the inspection.

■Checking the Positions of the Switches

Before turning the POWER switch ON, check that the following switches, knobs, etc. are set to the specified positions.

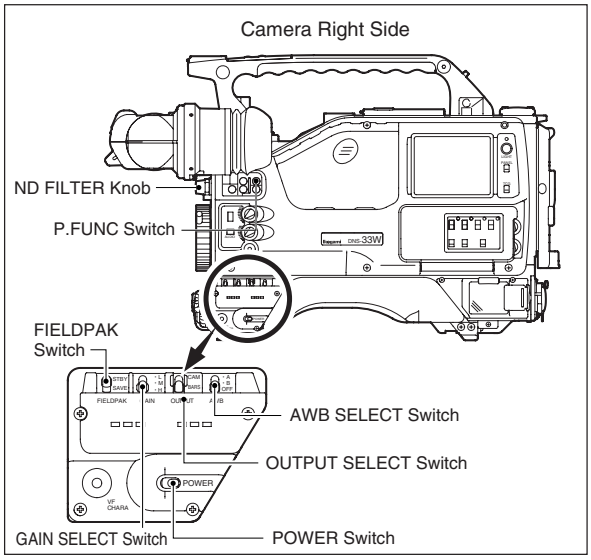
[Lens]

Switch	Position
IRIS OPERATION SELECT switch	A
ZOOM OPERATION SELECT switch	SERVO
EXTENDER SELECT lever	x1



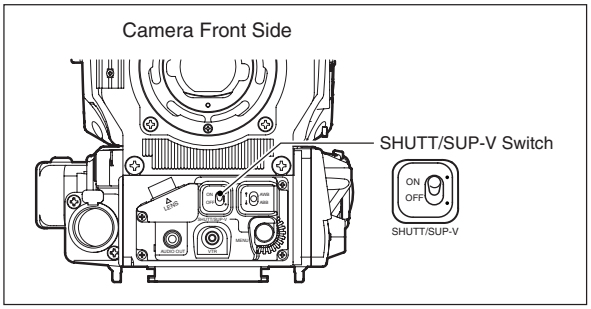
[Camera Right Side]

Switch	Position
ND FILTER knob	1
GAIN SELECT switch	L
AWB SELECT switch	A or B
OUTPUT SELECT switch	BARS
FIELDPAK switch	STBY
P.FUNC switch	OFF



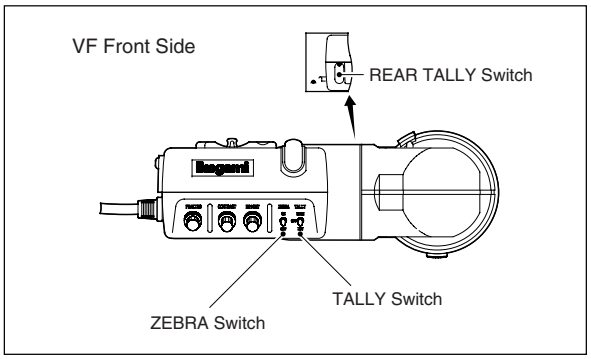
[Camera Front Side]

Switch	Position
SHUTT/SUP-V switch	OFF



[Viewfinder]

Switch	Position
TALLY switch	HIGH or LOW
ZEBRA switch	ON
REAR TALLY switch	ON



■Turning POWER ON

Turn ON the power of the camera and ensure that a normal color-bar signal is output.

[When AC Pack is Used]

1. Connect the AC pack to the camera and turn ON the POWER switch of the AC pack.
2. Turn ON the POWER switch of the camera.
3. Check that a normal color-bar signal is output on the VF (monitor) screen.

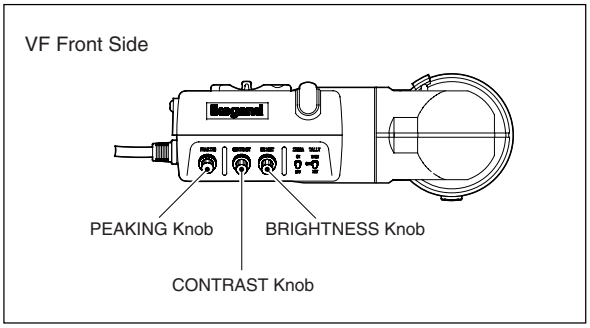
[When Battery Pack is Used]

1. Attach the battery pack to the camera.
2. Turn ON the POWER switch of the camera.
3. Check that a normal color-bar signal is output on the VF (monitor) screen.

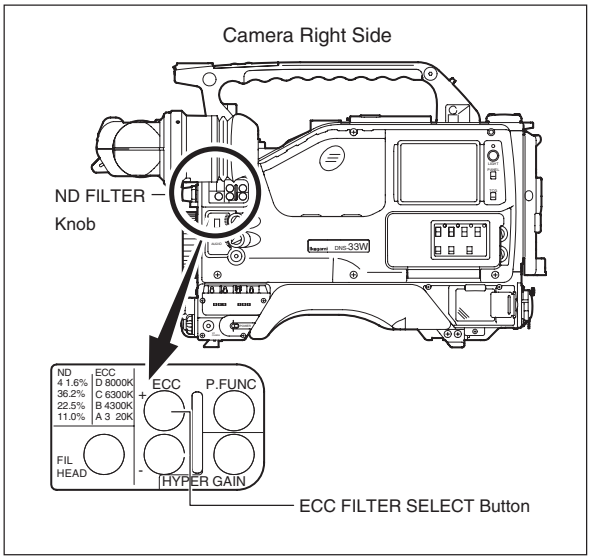
7.2.2 Inspecting the Viewfinder

Inspect following items before shooting to check if the VF works normally.

1. Adjust the VF position.
   For details, refer to "3.4 Mounting the Viewfinder", "■ Adjusting the Angle and Position".
2. Check that color bars appear in the viewfinder, and then adjust the BRIGHTNESS knob, CONTRAST knob, and PEAKING knob in such a way that the color bars appear most clearly.



3. Set the OUTPUT SELECT switch to "CAM", switch the ND FILTER knob to 1 to 2 to 3 to 4. Also, switch the ECC FILTER SELECT button to A to B to C to D. During this procedure, check that the character display of the filter position switches in the VF as the filter position. The + and – buttons must be pressed and held (for approximately 0.5 seconds or more) only for the first time in order to prevent accidental operation.



4. Point the camera at a chart or other subject, turn the focus ring to bring the subject into focus.
   Check that the proper image appears on the VF.

7.2.3 Cleaning inside of the Viewfinder

Be careful of following matters when cleaning the VF.

- Do not use solvents such as thinner when removing stain.
- Use a commercially produced lens cleaner to wipe the lens.
- Never wipe the mirror.
- Remove dust and dirt by a commercially produced air blower when they attach to the mirror.

7.2.4 Replacing Backup Battery

The camera mounts backup batteries for the camera and for the recorder.

When the battery for the camera is drained, a warning "BACK UP BATTERY EMPTY" will appear on the VF for 3 seconds. When the battery for the recorder is drained, settings for time code value and time and date of TCG will be reset, and a warning "Check Time/Date" will appear on the color LCD each time of powering up. Under these circumstances, the battery needs to be replaced.

Notice

Please contact Ikegami's sales and service centers or Techno Ikegami Co., Ltd. for the replacement of batteries.

7.2.5 Inspecting the Automatic Aperture Control and Motorized Zoom Functions

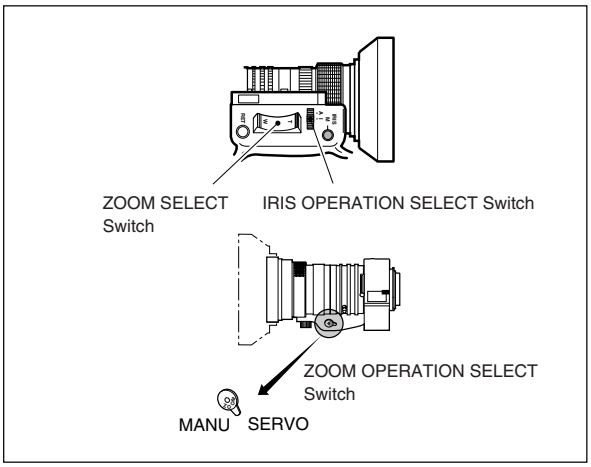
Inspect following items before shooting to check if the automatic aperture control and motorized zoom functions of the lens work normally.

1. Set the ZOOM OPERATION SELECT switch on the lens to "SERVO".

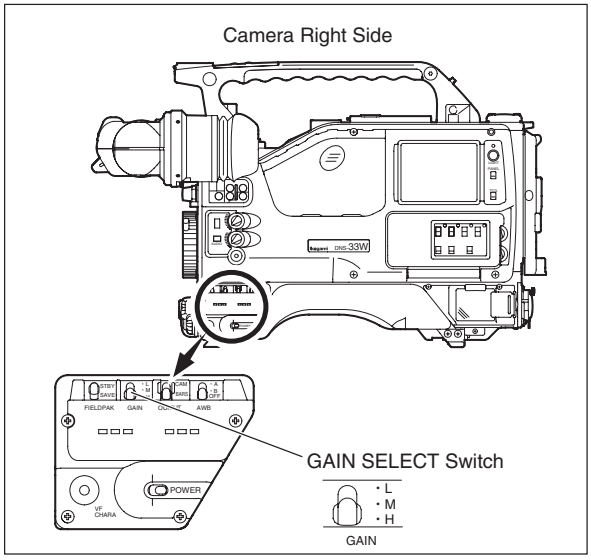
2. Press the ZOOM SELECT switch on the lens to "W" or "T", and check that the image changes to wide angle or telephoto.

3. Set the IRIS OPERATION SELECT switch on the lens to "A" (Auto), point the camera at a subject with a different brightness, and check that the automatic aperture control mechanism is working.

4. Set the IRIS OPERATION SELECT switch to "M" (Manual), point the camera at a subject with a different brightness, and check that the automatic aperture control mechanism is working while the iris switch is held down.

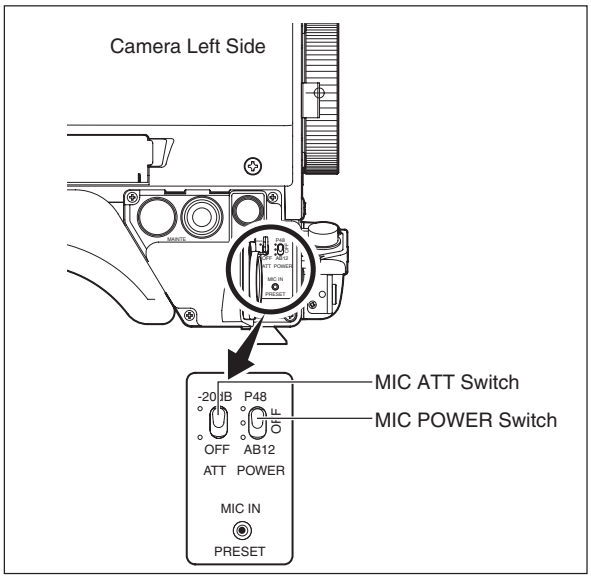


5. Set the IRIS OPERATION SELECT switch back to "A" and check that the lens aperture changes with a subject having the same brightness when the GAIN SELECT switch is set to "M" and then to "H".



7.2.6 Inspections when Using an External Microphone

When an external microphone is used, check following items before shooting and then connect the microphone.



1. Before connecting the external microphone to the microphone connector, set the MIC POWER switch and MIC ATT switch according to the type of microphone used.

[MIC POWER Switch Settings]

Setting Value	Description
P48	For the microphone which requires 48V phantom power supply. (Set to this position for a microphone specific to DNS-33W.)
OFF	For the microphone which requires no power supply
AB12	For the microphone which requires 12V AB power supply

[MIC ATT Switch Settings]

Setting Value	Description
ON	-20dB attenuation is introduced. (Set to this position for a microphone specific to DNS-33W.)
OFF	No attenuation is introduced.

2. Connect the microphone to the microphone connector.

7.3 Precautions when Optional Equipment is Used

This section explains precautions when each option is attached to the camera.

■IEEE1394 Option

- Operations on all PCs with IEEE1394 terminal and software are not guaranteed.
- Regardless of compression type selected in the recorder section, a DV stream signal is always output from this terminal.
- This terminal is only for DV stream output. DV stream input is not supported.
- Time code information is not multiplexed.
- Among the 4 channels, audio signals are output to the 2 channels selected by the AUDIO OUTPUT switch.
- Audio-Video/Control protocol (AV/C) is not supported. Playback and stop operations need to be done by the camera.

■SDI Output

SDI signal is output from VIDEO OUT connector when SDI option is attached.
Audio embedded in an SDI signal is not supported.

■Precautions for MSA-206V+MCA-400+MA-400 Operation

- For multicore cable operation, the maximum extension is 100m.
- When there is no need to record video or audio by the camera, an FP2 must be removed when operating the camera.
- When there is a need to record or play video or audio with the camera, an FP2 must be attached to the camera.
- When the POWER of the camera is turned ON/OFF, an FP2 must be removed from the camera.
  When the POWER of the camera is turned ON/OFF without removing the FP2, data stored in the FP2 may be broken.
- By mounting the MSA-206V, an audio output connector needs to be replaced by an interface connector with the MCA-400. In this case, the 2-pin connector for lighting on the handle cannot be used.

■Precautions for SYA-206V+TA-V70+BS-45 Operation

- When an FP2 is attached, video or audio of the camera cannot be recorded or played. The FP2 must be removed when operating the camera.
  When the camera is operated without removing the FP2, data stored in the FP2 may be broken.
- By mounting the SYA-206V, an audio output connector needs to be replaced by an interface connector with the TA-V70. In this case, the 2-pin connector for lighting on the handle cannot be used.

8. SPECIFICATIONS

This chapter shows the specifications, control items, external appearance, etc.

8.1 DNS-33W Product Specifications

8.1.1 Rating and Performance

Items		Rating	Remarks
1	Image sensor	2/3-inch AIT CCD x 3	AIT (Advanced Interline Transfer)
2	Pixels		
	Total number of pixels	NTSC: 1020 (H) x 505 (V), PAL: 1008 (H) x 591 (V)	NTSC: 0.52 million pixels, PAL: 0.60 million pixels
	Effective number of pixels	NTSC: 966 (H) x 492 (V), PAL: 954 (H) x 575 (V)	
3	Sensitivity	F11	2000 lx, reflection rate: 89.9%
4	Minimum illumination	Approximately 0.03 lx	F1.4, +48 dB, video level: 50% theoretical value
5	S/N ratio (Camera section)	NTSC: -66 dB typ., PAL: -64 dB typ.	γ OFF, DTL OFF, Chroma OFF, PED 5%
6	Modulation	75% typ. (16:9), 65% typ. (4:3)	5MHz
7	Horizontal resolution	750TV lines typ. (16:9), 750TV lines typ. (4:3)	
8	Vertical resolution	NTSC: 400TV lines/480TV lines (Sup-V ON) PAL: 450TV lines/570TV lines (Sup-V ON)	
9	Registration error	0.02% or less	Excluding lens aberration
10	Smear level	-135dB typ.	Measured with 10, 000, 000 times the amount of light (See Note.)
11	Sampling frequency	18.0MHz (Camera section) 13.5MHz (4:2:2 or 4:1:1, recorder section)	36.0MHz processing in the camera DSP
12	Quantization bit	12bit (Camera section) 8bit (Recorder section)	
13	Gain select	-3, 0, +3, +6, +9, +12, +18, +24, +30, +36, +42, +48 dB	
14	Electronic shutter		
	Preset	NTSC: 1/60 (OFF), 1/100, 1/120, 1/250, 1/1000, 1/2000 PAL: 1/50 (OFF), 1/100, 1/120, 1/250, 1/1000, 1/2000	
	Variable	NTSC: 2H (1/7867sec) to 260H (1/60.5sec.) PAL: 2H (1/7812sec) to 310H (1/50.4sec.)	
15	Lens mount	B4	B3 option
16	Optical filter	ND: 100%, 25%, 6.2%, 1.6% ECC: 3200K, 4300K, 6300K, 8000K	ECC remote control available
17	Power voltage	+12V	Allowed range: +10.5 to +17V
18	Power consumption	Approximately 27W	Excluding viewfinder
19	Dimensions	W138 x H250 x D320 mm	Excluding protruding portion
20	Weight	Approximately 4.3kg	Excluding viewfinder
21	Ambient temperature	0˚C to +40˚C (-4˚F to +104˚F)	When ambient temperature changes by ±10˚C within 0˚C to 40˚C against adjusted value after preheating for 30 minutes at ambient temperature of 0˚C to 40˚C, specified characteristics are satisfied. Permissible change of GAIN, PEDESTAL is within ±2%
22	Ambient humidity	25% to 85%	No condensation
23	Accumulation sensitivity	increase 1/15(NTSC), 1/12(PAL), 1/8, 1/4, 1/2, 1second	Option (D.PROC_SUB) attachment required
24	Recording format	JFIF(3:1, 10:1, 20:1), DV(25Mbps, *50Mbps), *MPEG(50Mbps)	*DV (50Mbps) and MPEG are optional.
25	Recording time	Approximately 165minutes	When DV format and 40GB medium are used.

Note: When smear level is measured with the amount of light as small as 500 times, the amount of smear is small and the measurement error is large. We therefore employ the measurement with 10,000,000 times the amount of light.

8.1.2 Output

Items		Rating	Remarks
1	Composite Video	1Vp-p 75Ω x 1	Output to the camera's BNC connector
2	Monitor OUT	1Vp-p 75Ω x 2 ENC/Y/R/G/B/R+G+B/RET selectable	Output to the camera's BNC connector Output to the REMOTE connector
3	SDI OUT (option)	0.8Vp-p 75Ω x 1	When selected as option, output to the camera's VIDEO OUT BNC connector
4	IEEE1394 OUT (option)	DV stream x 1	When selected as option, output to the camera's IEEE1394 connector
5	VF Video	Low impedance Y/R+G+B/RET selectable	Output to the VF connector
6	AUDIO	Output with CH1/CH2 or CH3/CH4 selectable 0dB x 1	Output to the camera's XLR connector
7	Microphone power supply	+48V Phantom/OFF/AB12V selectable (MIC connector) +48V Phantom ON/OFF (REAR-1, REAR-2)	Output to the MIC, REAR-1, and REAR-2 connectors

8.1.3 Input

Items		Rating	Remarks
1	External synchronization	VBS : 1Vp-p ±6dB or BBS : 0.45Vp-p ±6dB 75Ω	Input from the camera's BNC connector Input signal can be recorded as external video.
2	AUDIO	4ch (Select one from MIC connector, REAR-1, REAR-2, and Unislot.) -60dBm (ATT OFF), -40dBm (ATT ON) 600Ω balanced (Front microphone) -60dBm (MIC), -40dBm (MIC, ATT ON), 0dBm (LINE) 600Ω balanced	Input from the MIC connector (stereo as option), REAR-1, REAR-2, and Unislot

8.2 Control Items

8.2.1 ON/OFF Control Function

This section shows the ON/OFF control functions.

(The control items depend on the type of controller.)

Control Items	Camera Head	Remote Controller	Remarks
ABB/AWB	○	○	
AHD (Auto Hue Detect)	○	○	
ALT FIELD PROG	○*		* Works only when the optional D.PROC SUB BOARD is attached.
AUTO BLACK SHADING	○	○	
AUTO IRIS	○*	○	* Depends on A/M switch settings of the lens.
AUTO KNEE	○	○	
AUTO WHITE SHADING	○	○	
AWB MEMORY (OFF, A, B)	○	○	
BARS	○	○	
BLACK PRESS (OFF, -3%, -5%, -7%, -9%, -11%)	○	○	
BLACK SET GAIN WOBBLING		○	
BLACK SHADING	○	○	
BLACK STRETCH (OFF, +3%, +5%, +7%, +9%, +11%)	○	○	
CAL	○	○	
CALL	○*	○	* Applicable only when the BS-45 is connected.
CAP		○	
CCD SCAN REVERSE	○*		* Works only when the optional D.PROC SUB BOARD is attached.
CHROMA	○	○	
COLOR CORR	○	○	
COLOR DTL		○	
COLOR SATURATION	○	○	
COMB FILTER	○	○	
CUSTOM COLOR EFFECT (1, 2)		○	
DIAGONAL DTL	○	○	
DTL	○	○	
ECC FILTER	○	○	
FILTER HEAD	○	○	Works only when the remote controller is connected.
FLARE	○	○	
G TALLY IND.	○	○	
GAIN (-3, 0, +3, +6, +9, +12, +18, +24, +30, +36 , +42, +48 dB)	○	○	
GAMMA (OFF, 0.35, 0.40, 0.45)	○	○	
HYPER GAIN (+30, +36, +42, +48 dB)	○		
IRIS ADJUST (+, ++)	○		
KNEE	○	○	
KNEE APERTURE	○	○	
LENS EXTENDER IND.	○	○	
MATRIX	○	○	
MON SELE (ENC, Y, R, G, B, R+G+B)	○		
ND FILTER	○	○*	* Applicable only when an optional servo-controlled ND filter is installed.
PERSONAL FUNCTION (P.FUNC)	○		
R TALLY IND.	○	○	
SCENE FILE (1 to 8)	○	○	
SCREEN ASPECT RATIO (16:9/4:3)	○	○	
SHUTTER (1s, 1/2, 1/4, 1/8, 1/15 (1/12 for PAL),* 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, VAR.)	○	○	* 1s, 1/2, 1/4, 1/8, and 1/15 (1/12 for PAL) work only when the optional D.PROC SUB BOARD is attached.

Control Items	Camera Head	Remote Controller	Remarks
SKIN DTL	○	○	
SKIN KEY MARKER	○	○	
SLIM DTL	○	○	
SOFT DTL	○	○	
SUPER KNEE (OFF, LOW, MID, HIGH)	○	○	
SUPER V	○	○	
VF CHARA	○		
VF RET	○		Works only when extension equipment is connected.
VTR POWER SAVE	○		
VTR START/STOP	○	○*	* Only applicable for RM-11.
WHITE CLIP	○	○	
WHITE SHADING	○	○	
ZEBRA IND.	○		Capable of 2-zone zebra indicator.

8.2.2 Analog Controls

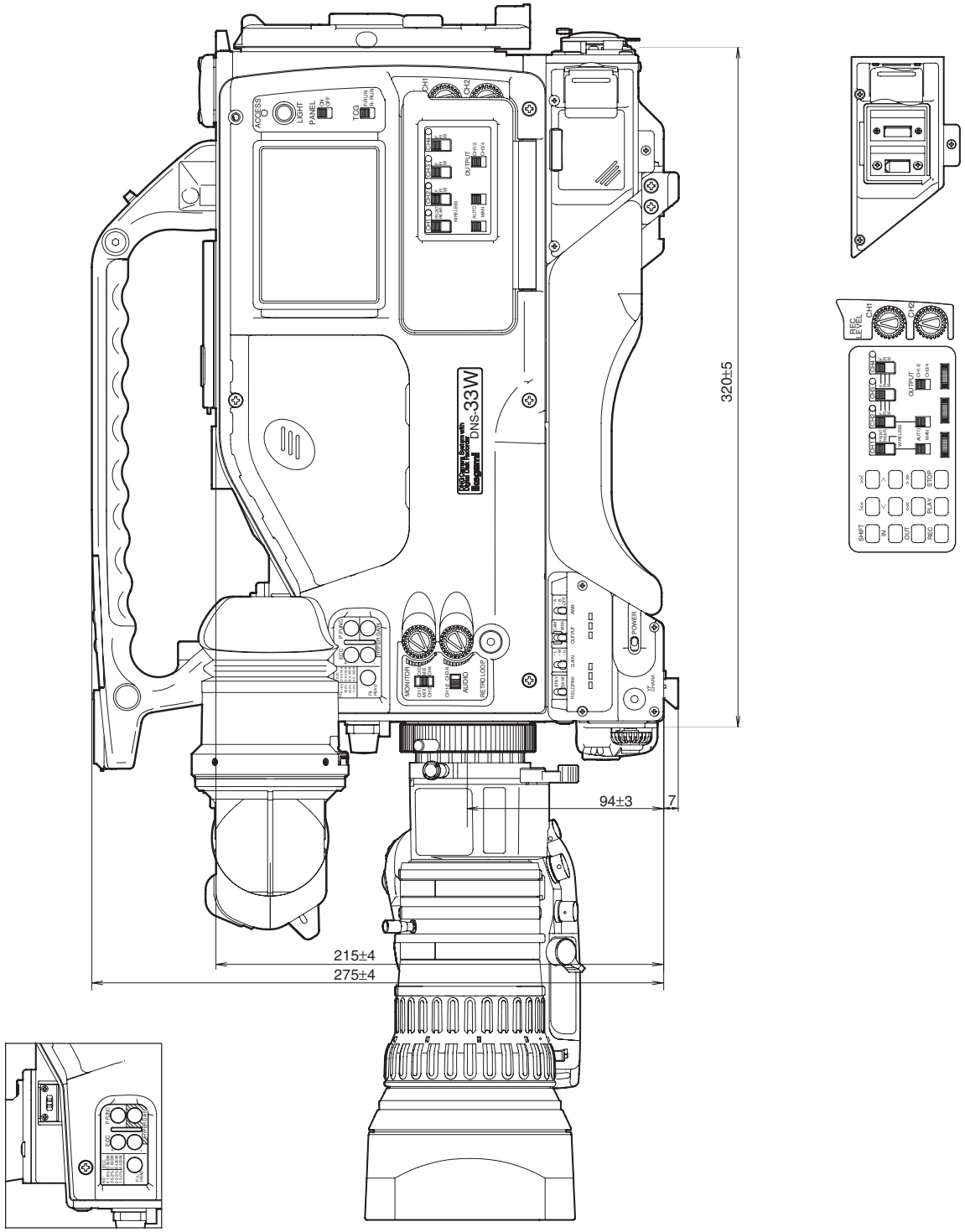
This section shows the analog controls.

Control Items	Camera Head	Remote Controller	Remarks
AUTO IRIS SET	○	○*	*Remote controller can set only LEVEL and PEAK RATIO.
BLACK GAMMA		○	
BLACK SET	○	○	
BLACK SHADING	○	○	
CHROMA LEVEL		○	
COLOR CORR	○	○	
COLOR DTL		○	
COLOR SATURATION	○	○	
CUSTOM COLOR EFFECT (1, 2)		○	
DTL BALANCE	○	○	Sets the amount of V DTL edge.
DTL BOOST FREQUENCY	○	○	
DTL GAIN	○	○	
DTL NOISE SUP.	○	○	
DTL THRESHOLD	○	○	
FLARE	○	○	
GAIN	○	○	
GAMMA	○	○	
H. PHASE	○	○	
IRIS		○	
KNEE POINT (AUTO, MANUAL)	○	○	
KNEE SLOPE (AUTO, MANUAL)	○	○	
MATRIX	○	○	
PEDESTAL	○	○	
SC PHASE	○	○	
SKIN DTL	○	○	
SOFT DTL	○	○	
VARIABLE SHUTTER	○	○	
WHITE CLIP	○	○	
WHITE SHADING	○	○	

8.3 External Appearance

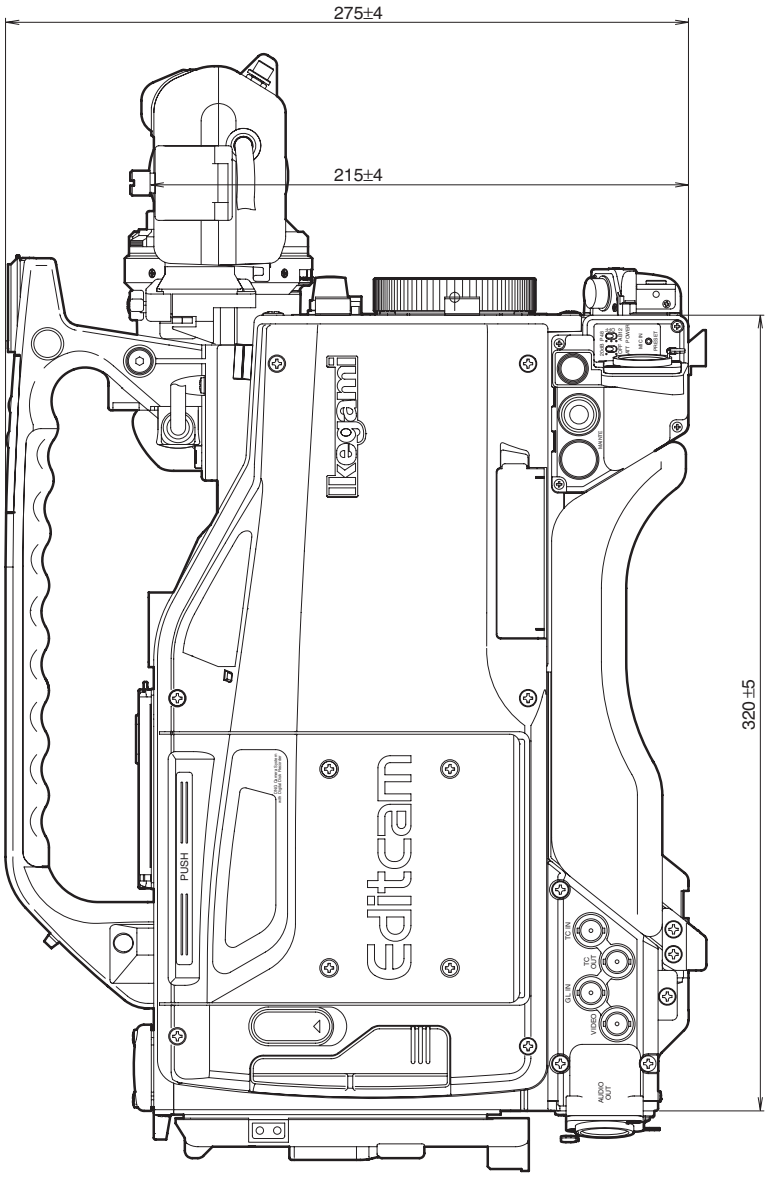
8.3.1 Right Side View

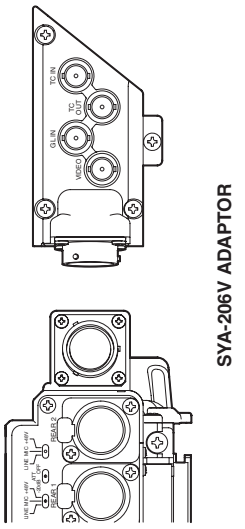
Unit: mm



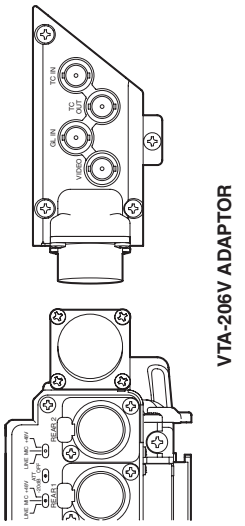
8.3.2 Left Side View

Unit: mm

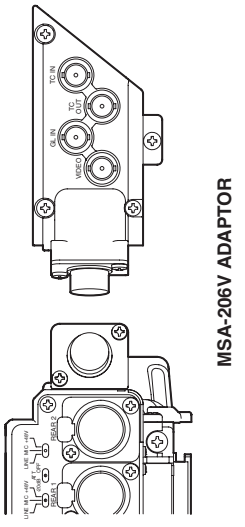




SYA-206V ADAPTOR



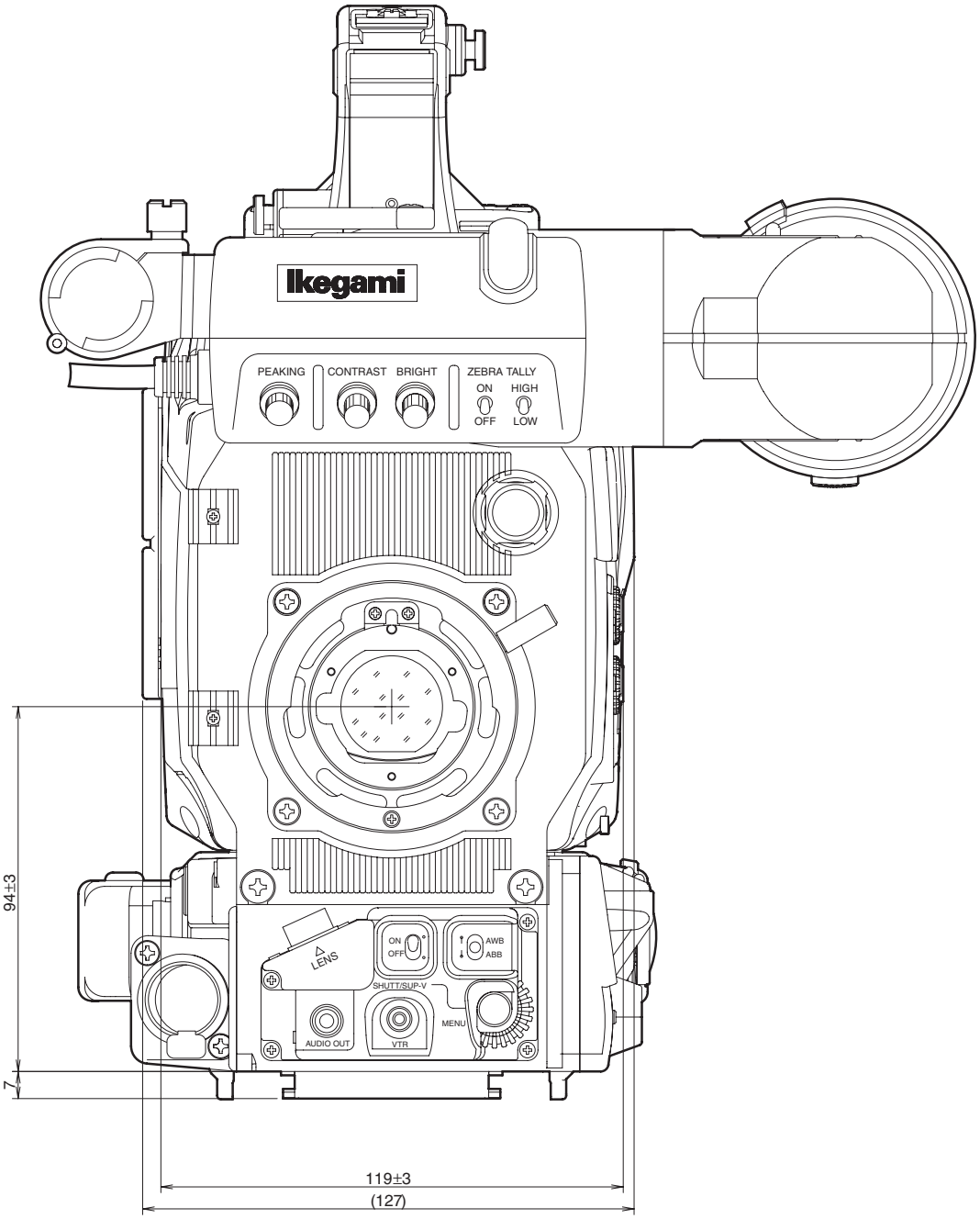
VTA-206V ADAPTOR



MSA-206V ADAPTOR

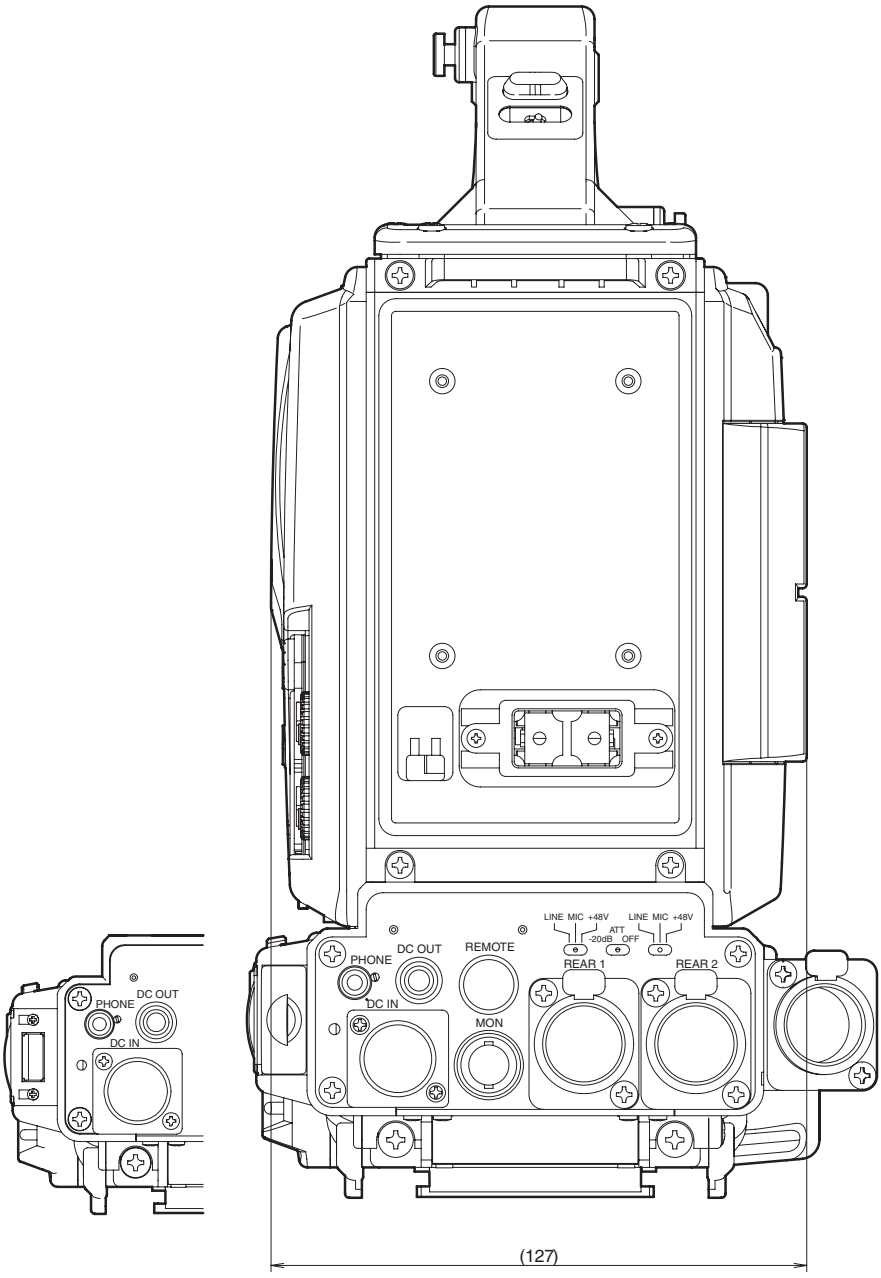
8.3.3 Front Side View

Unit: mm



8.3.4 Rear Side View

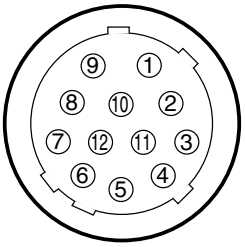
Unit: mm



8.4 External Connections

■LENS Connector

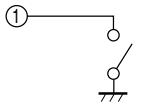
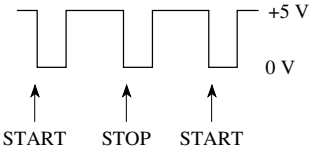
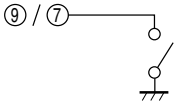
— Receptacle —

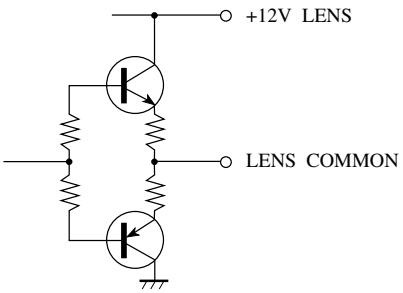
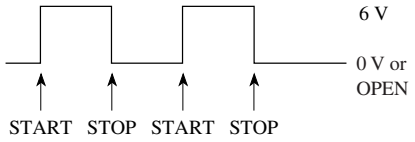


Insertion Side

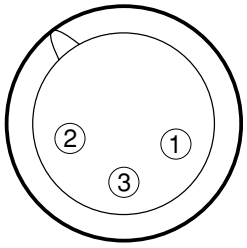
Used to connect a 12-pin lens.
Lenses are available in two types, B3 type and B4 type, each of which has different pin functions. The B4 type is standard.

Camera head side : HR10A-10R-12SC (Hirose)
Lens side : HR10-10P-12P (12 pin male plug)

Pin No. B4	Pin No. B3	Name	Function	I/O	External Interface
①	—	PB CONT	RETURN VIDEO ON / OFF signal RETURN ON : GND RETURN OFF : OPEN	IN	
②	—	REC TRIGGER	RET START/STOP control signal 	IN	
③	②	GND	Ground for lens	GND	
④	⑨	AUTO +5V (B4) IRIS SERVO ON (B3)	IRIS FORCED-SERVO ON/OFF SERVO ON : +5V (B4), +6V (B3) SERVO OFF : OPEN	OUT	
⑤	⑥	IRIS CONT	Lens IRIS control output B4 type F2.8 : +6.2V, F16 : +3.4V, CLOSE : +2.5V B3 type 6V (LENS COMMON) ±2.5V 6V +2.5V : CLOSE, 6V -2.5V : OPEN	OUT	
⑥	①	+12V LENS	+12 V output for lens	OUT	200 mA MAX
⑦	—	IRIS FOLLOW	IRIS position signal +3.4V (F16) to +6.2V (F2.8)	IN	
⑧	—	IRIS REMOTE / LOCAL	IRIS REMOTE / LOCAL (AUTO) signal REMOTE : +4.6V LOCAL (AUTO) : GND	OUT	
⑨	⑦	EXT ANS (B4) IE ON ANS (B3)	Built-in extender ON / OFF signal EXT ON : GND EXT OFF : OPEN	IN	
⑩	⑪	ZOOM FOLLOW	Zoom position signal	IN	
⑪	⑫	FOCUS FOLLOW	Focus position signal	IN	
⑫	—	NC	———	—	

Pin No. B4	Pin No. B3	Name	Function	I/O	External Interface
—	③	LENS COMMON	For common power output of lens (nominal 6V) Intermediate potential between +12V lens and GND 	OUT	
—	④	REC TRIGGER	REC START / STOP control signal 	IN	LENS COMMON ③ REC TRIG ④
—	⑤	RET ON	RETURN VIDEO ON / OFF signal RETURN ON : 6V RETURN OFF : OPEN	IN	LENS COMMON ③ RET ON ⑤
—	⑧	IRIS AUTO / REM	IRIS AUTO / REMOTE switching AUTO : OPEN REMOTE : GND	OUT	⑧
—	⑩	DIASCOPE ON	DIASCOPE (projector) ON / OFF ON : GND OFF : OPEN	IN	

■MIC Connector



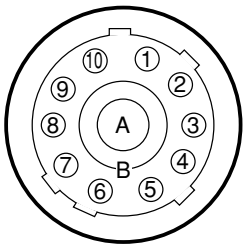
MIC input connector (600Ω balanced input).

Camera head side : NC3FDL-1 (Neutrik)
Cable side : XLR-3-12C or equivalent (3 pin male plug)

Pin No.	Name	Function	I/O	External Interface
①	MIC (SHIELD)	MIC input shield	—	
②	MIC (HOT)	MIC (HOT) line 600Ω balanced input When +12V AB power is supplied : DC 12V When +48V phantom power is supplied : DC 48V	IN	
③	MIC (COLD)	MIC (COLD) line 600Ω balanced input When +12V AB power is supplied : DC 0V When +48V phantom power is supplied : DC 48V	IN	

■REMOTE Connector

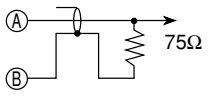
—— Receptacle ——



Insertion Side

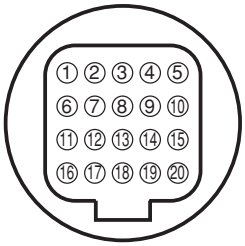
Used to connect a remote controller.

Camera head side : HR10B-10R-10SC (Hirose)
Cable side : HR10B-10P-10PC (10 pin male plug)

Pin No.	Name	Function	I/O	External Interface
①	HEC IN (+)	Digital control signal input from remote controller to camera	IN	
②	HEC IN (-)			
③	HEAD OUT (+)	Digital data output to remote controller from camera	OUT	
④	HEAD OUT (-)			
⑤	REM SENSE	ENABLE signal input from remote controller	IN	
⑥	NC	———	—	
⑦	R TALLY OUT	External output of R TALLY signal	OUT	
⑧	NC	———	—	
⑨	+12V OUT	Power output for remote controller	OUT	
⑩	GND	GND for +12V OUT (9 pin)	GND	
A	MON OUT	Video signal output for monitor	OUT	
B	MON RET	GND for MON OUT (A pin)	GND	

■VF Connector

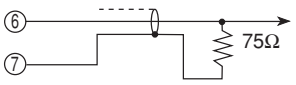
— Receptacle —



Insertion Side

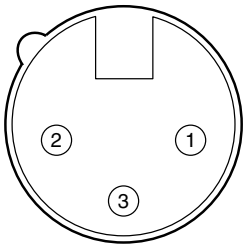
Used to connect the viewfinder (VF15-32A-S).

Camera head side : HR12-10RA-20SC
Cable side : HR12 type (20 pin male plug)

Pin No.	Name	Function	I/O	External Interface
①	+ 12 V	DC + 12 V power supply	OUT	
②	+ 12 V	DC + 12 V power supply	OUT	
③	+ 9 V	DC + 9 V power supply	OUT	
④	+ 12 V RET (VF GND)	Ground for DC + 12 V power supply	RET	
⑤	+ 12 V RET (VF GND)	Ground for DC + 12 V power supply	RET	
⑥	VF VIDEO	VF VIDEO signal output	OUT	
⑦	VIDEO RET	Ground for VF VIDEO signal output	RET	
⑧	VF M CLK	Clock pulse signal for serial data reproduction	OUT	
⑨	SP WR	Write pulse signal for serial-parallel data conversion	OUT	
⑩	VF SP DATA	Serial data signal for serial-parallel data conversion	OUT	
⑪	+ 12 V RET	Ground for DC + 12 V power supply	RET	
⑫	ZEBRA ON	ZEBRA signal ON / OFF switching	IN	
⑬	NC	———	—	
⑭	+ 9 V	DC + 9 V power supply	OUT	
⑮	VF Y	VF Y signal output	OUT	
⑯	VF PR	VF PR signal output	OUT	
⑰	VF PB	VF PB signal output	OUT	
⑱	VF RET	VF PET signal output	OUT	
⑲	COLOR VF	COLOR VF detection	IN	
⑳	+ 12 V RET	Ground for DC + 12 V power supply	RET	

■AUDIO IN CH1/CH2 Connector

— Receptacle —



Insertion Side

Microphone or LINE input connector.
To switch the input, use the AUDIO SELECT switch on the back of the camera section.

Camera head side : NC3FDL-1
Cable side : XLR-3-12C or equivalent (3 pin male plug)

• MIC input

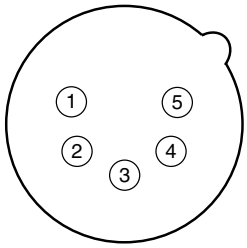
Pin No.	Name	Function	I/O	External Interface
①	MIC (SHIELD)	Shield for input	—	
②	MIC (HOT)	MIC (HOT) line When +48V phantom power is supplied : DC 48V	IN	
③	MIC (COLD)	MIC (COLD) line When +48V phantom power is supplied : DC 48V	IN	

• LINE input

Pin No.	Name	Function	I/O	External Interface
①	LINE (SHIELD)	Shield for LINE input	—	
②	LINE (HOT)	LINE (HOT) line	IN	
③	LINE (COLD)	LINE (COLD) line	IN	

■AUDIO OUT Connector

— Receptacle —



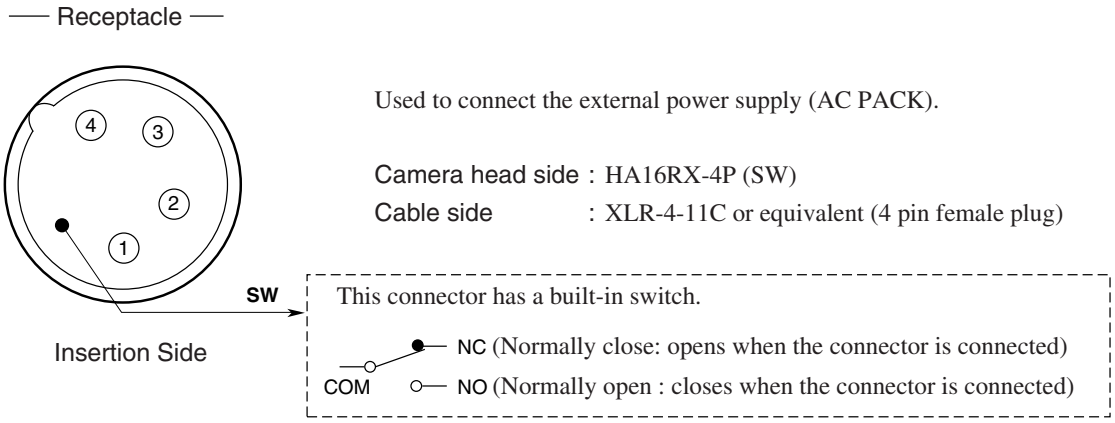
Insertion Side

AUDIO output connector.

Camera head side : NC5MDL-1
Cable side : XLR-5-11C or equivalent (5 pin female plug)

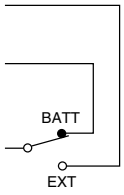
Pin No.	Name	Function	I/O	External Interface
①	LINE (SHIELD)	Shield for LINE output	—	
②	LINE (HOT) CH1	LINE (HOT) line	OUT	
③	LINE (COLD) CH1	LINE (COLD) line	OUT	
④	LINE (HOT) CH2	LINE (HOT) line	OUT	
⑤	LINE (COLD) CH2	LINE (COLD) line	OUT	

■DC IN Connector

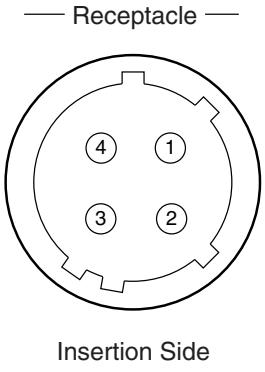


Used to connect the external power supply (AC PACK).

Camera head side : HA16RX-4P (SW)
Cable side : XLR-4-11C or equivalent (4 pin female plug)

Pin No.	Name	Function		I/O	External Interface
①	+12V RET	+12V input RET		GND	
②	NC	—		—	
③	NC	—		—	
④	+12V IN	+12V input (+11V to +17V)		IN	
FRM	FRAME	Ground for frame		GND	
NO	EXT +12V IN	External power supply input for switch		—	
NC	BATT (+)	Battery input for switch		—	
COM	+12V UNSW	Output for external/battery switching (Switches to EXT when a plug is inserted.)		—	

■DC OUT Connector



Used to supply power for external accessory (+12V, 200mA).

Camera head side : HR10A-7R-4SC
Cable side : HR10A-7P-4P (4 pin male plug)

Pin No.	Name	Function	I/O	External Interface
①	+12V RET	+12V output RET	GND	
②	NC	—	—	
③	NC	—	—	
④	+12V OUT	+12V output (200mA)	OUT	

CHANGING INFORMATION

Revision contents in case of design revision and at request of customers are explained here.
Read by comparing this information with the main part of the operation manual.

GUARANTEES AFTER PURCHASE

1. Guarantee Period

The guarantee period is one year after the purchase date (excluding the articles of consumption).

2. Repair Parts Stock

Ikegami will store the repair parts of this product for seven years after production stop.

3. Regarding Repair

Within the guarantee period, Ikegami will repair the product according to the regulation put on the guarantee document. Even if the guarantee period is already over, Ikegami will repair the product for payment if the repair is possible.

Note: There are cases of charged repair even in the guarantee period. Please read the guarantee thoroughly.

<When you bring in the product to repair>

When you bring in the product to repair to Ikegami sales or operation quarters within the guarantee period, please bring along the guarantee document.

<When you send the product to repair>

When you send the product to repair to us, please attach the guarantee document if within guarantee period, specify clearly the part that is subject to repair, and wrap the product sufficiently.

Note: Customer is responsible for shipping charges.

DNS-33W

Editcam3

OPERATION MANUAL

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