Panasonic®

Operating Instructions

Memory Card Video Recorder

Model No. **AG-CPD20P**

Car Use only
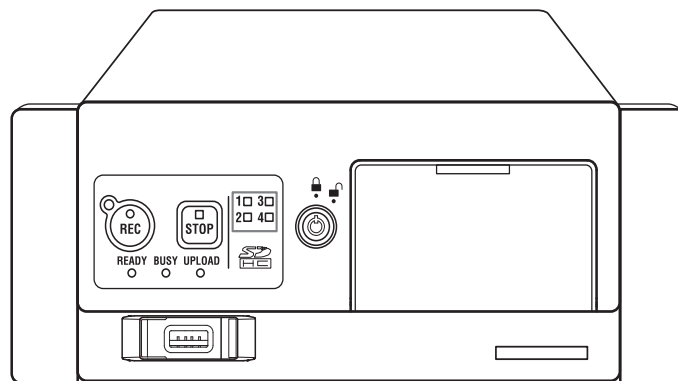
TOUGHBOOK
Arbitrator 360°
mobile digital video system

SDHC™

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

In this manual, each explanation for playback with the remote control panel is enclosed in a colored frame, like   .

Manuals for this recorder are prepared in two parts:

Section 1 : Before Use (Control Reference Guide, Connections, etc.) (Paper)

Section 2 : Operation (This manual)

Before operating this product, please read the instructions carefully and save this manual for future use.

ENGLISH

Contents

Contents (continued)

■ Figures in this manual
Figures for the main unit and display on the menu screen
may differ from the actual product.

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About This Manual

Manuals for this recorder are prepared in two parts:
"Section 1: Before Use" (Paper) and "Section 2: Operation" (This manual).
This manual describes the operation of the recorder using the remote control panel (sold separately).

    Section 1: Before Use (Control Reference Guide, Connections, etc.) (Paper)
    Section 2: Operation (This manual)

■ Definition of terms

Officer :Anybody using the Remote Control Panel.
Administrator :A user with administration privileges to collect and manage Memory Card Video Recorder data.

■ Operations available to officers

The sections other than "Administrator Setup" describe the operations available to officers with the remote control panel (sold separately).

■ "Administrator Setup"

These sections describe operations available only to administrators with the remote control panel (sold separately).

Major contents
• How to change the factory defaults as required by the operating environment.
• How to collect and keep the recorded data.

■ "Menu List"

This section lists the functions provided by the operation menu displayed on the LCD panel of the Remote Control Panel (sold separately).

■ Organization of the "Operation Using the Remote Control Panel (sold separately)" sections

This manual uses the following symbols to distinguish between operations that involve button operations and those that use LCD panel menus.

Example)
Button operations of the Remote Control Panel are indicated as follows :

◎ **Selecting pictures**

While menu operations are indicated as follows :

▤ **Adjusting image brightness**

Features

Multi-picture display and record

The memory card recorder allows to six cameras to be connected at a time. Pictures captured by these cameras are displayed on a Main and/or Sub windows and are recorded.

Main window: A picture of a camera selected from among CAMERA 1, 2, and 3

Sub window: A picture selected from among CAMERA 1, 2, and 3, and pictures from CAMERA 4, 5, and 6 in QUAD or PANORAMA pattern.

Example: connection of six cameras
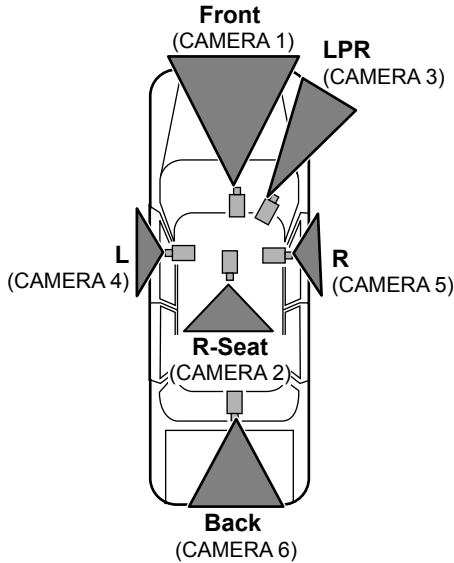
Camera setup

Main window　　**Sub window (one picture)**

Selected from among CAMERA 2, and 3

Main window　　**Sub window (four pictures, QUAD)**

Selected from among CAMERA 1, 2, and 3

Main window　　**Sub window (four pictures, PANORAMA)**
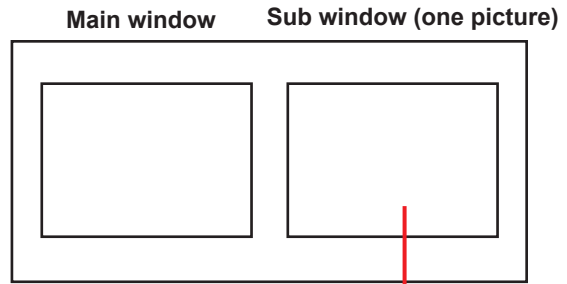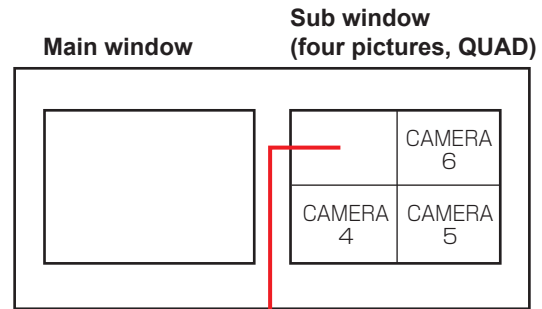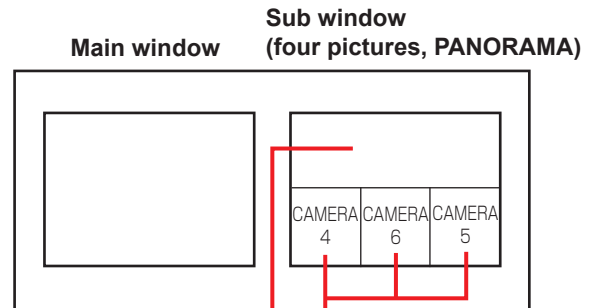
Pictures from three cameras are reduced to 1/9.

Selected from among CAMERA 2, and 3
(Upper and lower parts of a picture is cut by 1/6)

Record time in each record mode

Record mode	D1 HI (High quality mode)		D1 STD (Standard quality mode)		CIF (Low quality mode)		D1 10 (10 frames/second)	
Resolution	720 x 480		720 x 480		352 x 240		720 x 480	
Frame rate [fps]	30	1	30	1	30	1	10	1
SDHC Memory Card capacity / Number to be used	Main window only/ Sub window only	Main window + Sub window	Main window only/ Sub window only	Main window + Sub window	Main window only/ Sub window only	Main window + Sub window	Main window only/ Sub window only	Main window + Sub window	Main window only/ Sub window only	Main window + Sub window
32 GB — 1	approx.32h	approx.16h	approx.174h	approx.87h	approx.48h	approx.24h	approx.232h	approx.116h	approx.96h	approx.48h	approx.648h	approx.324h	approx.64h	approx.32h	approx.416h	approx.208h
32 GB — 4	approx.128h	approx.64h	approx.696h	approx.348h	approx.192h	approx.96h	approx.928h	approx.464h	approx.384h	approx.192h	approx.2592h	approx.1296h	approx.256h	approx.128h	approx.1664h	approx.832h

Control Reference Guide of the Remote Control Panel

Front panel
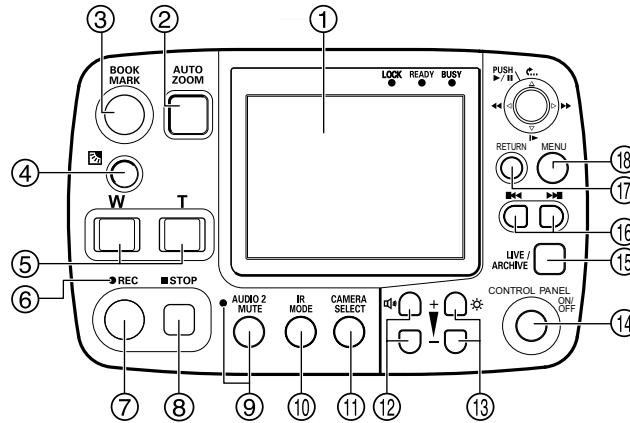
① **LCD panel**
Shows images and operation menus.

② **AUTO ZOOM button**[*1, *2]
Provides automatic control of zoom-in, pause and zoom-out operation.
The officer can set zoom ratio and pause time.

③ **BOOK MARK button** [*2]
Press during recording or playback to enter bookmarks.
A set bookmark displays an icon 🅟 on the display for 1 to 2 seconds when pressed.

④ **Backlight compensation button (🔆)**[*1, *2]
Press to compensate for strong backlighting. This button toggles between ON and OFF at each press.

⑤ **Zoom buttons**[*1, *2]
Use these buttons to zoom out (W-button) and zoom in (T-button).

⑥ **REC lamp**
Lights or flashes during recording.

⑦ **REC button** [*2]
Press to start recording video and sound to SDHC Memory Cards.

⑧ **STOP button (■)** [*2]
Stops recording.

⑨ **AUDIO 2 MUTE button/lamp**
Starts/releases recording for Audio2. Pressing this button turns the lamp on/off. While the lamp is lit, Audio2 is not being recorded.
If "Audio2" on the Audio Allocation screen is set to OFF, the button operation is disabled.

⑩ **IR MODE button**[*1]
Switches the IR mode to one of the following modes.
AUTO : Automatically changes IR mode depending on ambient brightness.
ON : Turns on the IR mode.
OFF : Turns off the IR mode.

⑪ **CAMERA SELECT button**
Each press of the button toggles the displayed picture between Main and Sub.
If you hold the button pressed for more than two seconds, the preset mode set on the Video Allocation screen in Administrator setup (see page 79) (Preset1, Preset2, or Preset3) is switched.

Note:
When you switch the preset mode, noise may occur in video.

⑫ **Volume control buttons (🔊)**
Adjusts speaker sound volume of the Remote Control Panel.

⑬ **Brightness buttons (☀)**
Adjusts LCD panel brightness.

⑭ **CONTROL PANEL ON/OFF button**
Turns on and off the LCD panel, lamp indications and buttons when the Memory Card Video Recorder is on.
It cannot turn on or off the Memory Card Video Recorder or Remote Control Panel.

⑮ **LIVE/ARCHIVE button**
Switches between the live and playback screen. Press this button to open the Live screen when the "Information" screen, "Archive" screen, Officer setup top screen or Setup/Admin top screen is displayed.

⑯ **Skip back button (◄◄)**
Press to return playback to the previous skip location.
Skip forward button (►►)
Press to move playback to the next skip location.

⑰ **RETURN button**
Returns to the previous menu or screen.

⑱ **MENU button**
Opens menus on the LCD panel.

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For playback, it is recommended to use the Front-End application or Back-End Client application.

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*1 Commercially available cameras connected to the [CAMERA 2], [3], [4], [5] and [6] connectors cannot be controlled.

*2 The lamp turns on when the [CONTROL PANEL ON/OFF] button is set to ON.

Control Reference Guide of the Remote Control Panel (continued)

Front panel
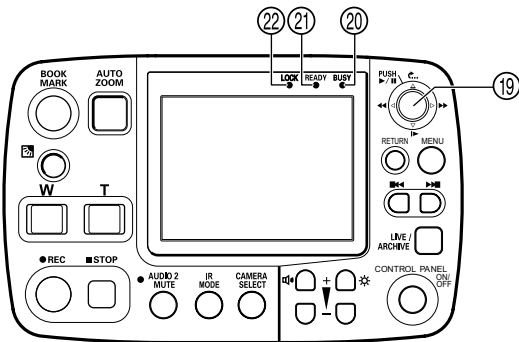
⑲ **Cursor buttons**
(►/II, △ ↺..., ▽ I►, ◁ ◄◄, ▷ ►►)
Use these buttons to manipulate menus and control playback.
• During menu operation
  [►/II] : Press the center position of the button to confirm an entry.
  [△,▽,◁,▷] : Press to move the cursor or change a set value.
• During playback
  [►/II]: Press the center position of the button to toggle between playback and pause.
  [↺...]: Press to return to a playback position that is 7 seconds earlier.
  [I►]: Engages slow playback. Each press changes playback speed between 1/10 and 1/2.
  [◄◄]: Press to rewind.
    Each press changes the rewind speed from x4 to x20 and x200.
  [►►]: Press to fast forward.
    Each press changes the fast forward speed from x4 to x20 and x200.

⑳ **BUSY lamp**
Lights or blinks when accessing an SDHC Memory Card (for example during recording and playback).

㉑ **READY lamp**
Lights, flashes or goes off to indicate whether or not an SDHC Memory Card can be recorded.

㉒ **LOCK lamp**
When lit:
  Indicates that the [W], [T], [AUTO ZOOM], [BACKLIGHT], [CAMERA SELECT], [IR MODE], [AUDIO 2 MUTE], [LIVE/ARCHIVE], [◄◄], [►►], and [BOOKMARK] buttons are locked.
When blinking:
  Indicates that the license plate recognition mode is running.
  For details, see "License Plate Recognition (LPR) Mode" on page 18.

Rear panel
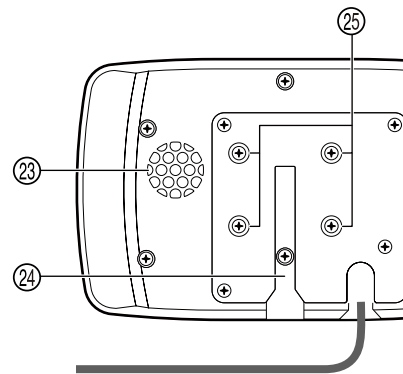
㉓ **Speaker**
In playback screen mode:
  Outputs audio. However, during [I►] slow playback, [◄◄] rewind, and [►►] fast forward, audio is not output.
In Live screen mode:
  The audio sound track is not normally available. For how to monitor the audio, refer to "Checking audio" on page 52.

㉔ **Anchoring groove**
Provides attachment for a commercially available stand.

㉕ **Securing screw holes**
Use the supplied screws to attach a commercially available mounting bracket.

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On Recording

Starting Recording

■ Recording Start Methods
- **Press the [REC] button (the REC buttons on the recorder, Color Camera, Remote Control Panel, and Front-End application all operate the same way).**
- **Apply a recording trigger.**
- **When power-on recording is enabled, recording starts when the recorder is turned on.**

The prerecord function (see "Pre-recording and post-recording" on page 10) records video for a pre-specified period prior to a recording-start trigger event (or pressing the [REC] button). The amount of the prerecord time is set on the Rec/Play screen (see "Rec/Play" on page 81). An audio prerecord time, as well as an audio postrecord time, can be set independently, although it cannot be longer than the specified video prerecord/postrecord time. You can use this function to prerecord video without audio.

■ Recording Triggers
The following types of recording triggers are available.
- When [Action] set for detection of trigger signals (GPI1-16) is "REC", "P1REC", "P2REC", or "P3REC" and the trigger signal is valid.
- Vehicle Speed Signal
  Speed data detected by the recorder serves as a recording trigger when the specified speed is exceeded.
  Select from the following detection methods according to the intended application or installation conditions.
  Detection of own vehicle speed:
    Uses GPS or a radar gun
  Target vehicle speed:
    Uses a radar gun

Note:
To use the GPS or radar gun as the recording trigger, check with your supplier to ensure that connections have been made correctly, then specify the source device (see "Radar/GPS" on page 90).

Notes:
- If the GPS is enabled, and the recording trigger is detected by GPS, if the vehicle is stopped or a speed of 5 MPH or 5 km/h below the set speed is detected, the recording trigger can be used again.
- Recording is allowed only when the [READY] lamp on the recorder and the Remote Control Panel is lit. If pressing the [REC] button or applying a recording trigger fails to start recording, the [REC] lamps on the recorder, Color Camera and Remote Control Panel blink at a high rate.
- The Remote Control Panel, the Color Camera and the recorder [REC] lamps go on during recording.
- Video signals set for Preset1, Preset2, and Preset3 are recorded (see "Preset1, Preset2, Preset3" on page 80 and "Trigger" on page 86).
- Audio signals input to the [AUDIO IN] [1] to [4] connectors are recorded, and recording of audio input to the [AUDIO IN 2] connector can be turned on or off with a trigger signal (see "Trigger" on page 86).
- Recording stops if the SDHC Memory Card slot cover is opened.

- Recording cannot start unless the SDHC Memory Card slot cover is closed.
- Recording will not start while the user is configuring administrator settings, even if the level signal satisfies the recording start conditions. In this case, recording will still not start when the user quits the administrator settings. To start recording, the recording start conditions must be satisfied again after configuration of the administrator settings is finished.
- When multiple recording triggers are enabled, recording starts when the first recording start criteria are met, and if a prerecord time has been set, the specified period before the start event is also recorded.
- If Loop recording is not activated, recording will not start under the following condition even if there is space left on an SDHC Memory Card.
  - When the number of files recorded on any SDHC Memory Card inserted in slots 1, 2, 3 or 4 totals over 5,000 files.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

On Recording (continued)

Stopping Recording

Setting criteria determines when recording stops. Settings that affect when recording stops include the stop timer setting for Rec Continue Time and the presence of the recording trigger level signal.

The following conditions are handled in the same manner.
- When the [STOP] button on the recorder is pressed.
- When the [STOP] button on the Remote Control Panel is pressed.
- When the [STOP] button on the Front-End application is pressed.
- When the [REC] button on the Color Camera is kept pressed for about 2 seconds.
- When [Action] for detection of trigger signals (GPI1-16) is set to "STOP" and the trigger signal has reached an active edge.

■ Recording Stop Criteria

Level Signal	Stop Timer Setting	Criteria to Stop Recording (whichever happened earlier)
No	No	[STOP] button is pressed.
	Yes	[STOP] button is pressed or the time set for the stop timer of the edge trigger recording is reached.
Yes	No	[STOP] button is pressed or the level signal changes to an invalid level.
	Yes	[STOP] button is pressed, the level signal changes to an invalid level, or the signal whose level is specified is invalid and the stop timer setting for the edge trigger recording is reached.

The post-recording function continues to record video after the recording stop trigger event. The amount of time to continue recording after the stop-recording event can be set from the Remote Control Panel.

Recording stops also under the following conditions.
- There is no more space left on the SDHC Memory Card.
- When an administrator setup is started.
- When an error is detected on an SDHC Memory Card and recording is no longer possible.
- When the number of files recorded on an SDHC Memory Card exceeds 5,000 files.
- When the memory card slot cover opens.
- When the recorder is turned off.

Notes:
- Continuous video and audio from starting to stopping recording, and including pre-recording and post-recording periods, are recorded as one file on the SDHC Memory Card.
- If recording time exceeds 4 hours, or if the size of one file would exceed 4 GB, the file is automatically split into multiple files during recording.
- Once recording starts, it may not be possible to stop it during the first five seconds (approx.). Pressing the [STOP] button during this period causes the [REC] lamp to blink for about one second as recording continues.

- Pressing the [STOP] button when recording is already stopped also causes the [REC] lamp to blink for about one second.
- When recording is stopped by the stop timer at the end of the Rec Continue Time, the post-recording function is disabled.
- After recording is started by a level trigger signal, it continues for at least one minute regardless of changes to the signal level. During this period, you can press the [STOP] button to interrupt the recording.
- If the [REC] button was pressed multiple times and the recording trigger set as the edge signal had multiple active edges, Rec Continue Time is applied to the last button press and active edge.
- Intermittent recording does not stop due to the Rec Continue Time.

On Recording (continued)

Write-protect switch

The SDHC Memory Card is equipped with a write-protect switch. Sliding this switch to the LOCK position prevents writing data, formatting SDHC Memory Cards and deleting files.

Write-protect switch ————
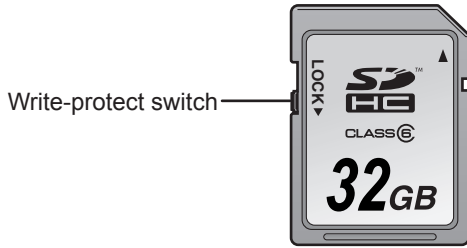
Note:
If the write-protect switch is set to the LOCK position on any of the SDHC Memory Cards in the four card slots, recording will not start.

Pre-recording and post-recording

Pre-recording is the capability of including material from an interval before the specified start point in a recording. Similarly, post-recording is the capability of including material from an interval after the specified stop point in a recording.
Pre-recording and post-recording times can be set for each recording time.
Audio pre-recording and post-recording times can be set separately from video, so pre-recording and post-recording audio may be partly omitted. Because video pre-recording and post-recording time settings have priority, audio pre-recording and post-recording times cannot be set longer than video pre-recording and post-recording times.

[REC] button pressed
(Recording starts)

[STOP] button pressed
(Recording stops)

(Time)

Actual recording time

Prerecord time
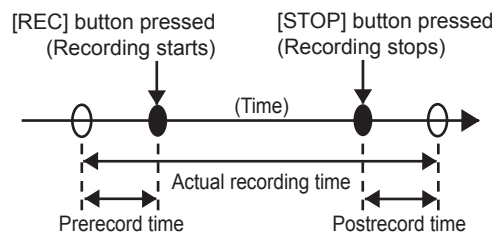
Postrecord time

Notes:
- Pressing the [STOP] button turns off the [REC] lamp and video and sound recordings stop when the post record interval has elapsed.
  Then the [BUSY] lamp goes off.
- If "Loop Rec" is set to ON, pre-recording and post-recording do not function.

On Recording (continued)

In the cases shown below, the actual prerecord and postrecord time may be shorter than the respective setting.

■ If recording is started immediately after system startup

Prerecord time will be shorter.

[Startup completed]
[REC] button pressed (Recording starts)
[STOP] button pressed (Recording stops)
(Time)
Actual recording time
Prerecord time
Postrecord time
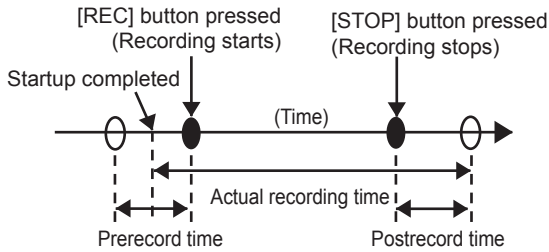
■ If recording is started during postrecord interval

Post-recording will be terminated and next recording starts. There is no pre-recording interval for the second recording.

[STOP] button pressed
[REC] button pressed (Post-recording halted and next recording starts)
[STOP] button pressed (Recording stops)
(Time)
Actual recording time
Prerecord time
Postrecord time
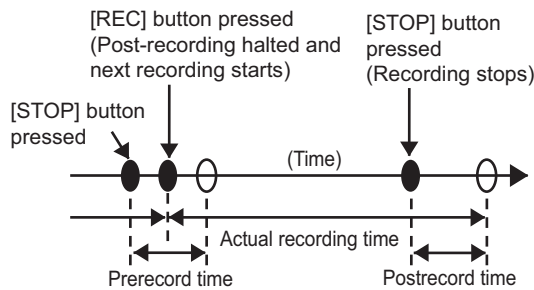
Notes:
• If you press the [REC] button and [STOP] button alternately in rapid succession, the system may not separate the two recording sessions, resulting in a single video file.
• If the remaining capacity of the SDHC Memory Card is low, the prerecord time or postrecord time may become shorter.
• Pre-recording is interrupted by playback, trial shoot (RecCheck) or administrator setup.
• Post-recording is interrupted by playback, trial shoot (RecCheck), automatic file restoration or administrator setup.

Selecting the video source to record

You can select and record video input at the [CAMERA] [1], [2], [3], [4], [5], or [6] connector on the rear panel of the recorder. Also, when the action set for the detection of trigger signals
(GPI1-16) is "P1REC", "P2REC" or "P3REC" and the trigger signal is enabled, the selected video is recorded. If pre-recording is enabled and the video source is switched by a recording trigger, the prerecord video is taken from the source selected before switching, and the video is taken from the source selected after switching. You can select whether the video source is switched by the recording trigger or not, as well as selecting which video is recorded upon switching.

Example: When video input set for "P2REC" is switched to that set for "P1REC"

Recording start trigger activation
(Time)
Recording of signal from the connector set for "P2REC"
Recording of signal from the connector set for "P1REC"
Pre-recording
Recording after trigger activation
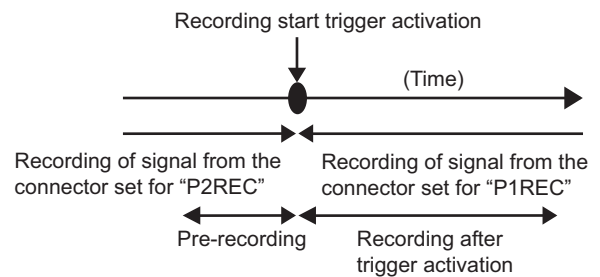
Notes:
• When switching video input, the video or audio may be briefly disrupted.
• For best results, minimize the amount of video source switching while recording.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

On Recording (continued)

Audio sources when recording

The Memory Card Video Recorder can record up to four audio channels (Audio1, 2, 3, and 4).
• Pressing the [AUDIO 2 MUTE] button on the Remote Control Panel disables recording of the signal input to the [AUDIO IN 2] connector only.

Power-on recording

The recorder automatically starts recording when it is powered on.
Also when the recorder is operating with the [PowerOff Time] setting, recording will start automatically when the recorder is turned on.

Loop recording

Loop recording continues recording new video while deleting the oldest recorded files. When loop recording is set, the file is split for every 60 minutes normally.
When the number of files recorded on an SDHC Memory Card reaches the maximum value (5,000 files per card), loop recording will continue recording, deleting the oldest file and retaining the rest.

Notes:
• If an error occurs during recording, the record file will be split.
• When loop recording is set, total recorded time is displayed in the remaining record time section on the Overlay OSD. See "Viewing the status of the recorder (Overlay OSD)" on page 55.
• During loop recording, recording stops under the following conditions:
  - When an error is detected in an SDHC Memory Card, and recording is no longer possible.
  - When the memory card slot cover opens.
• If loop recording is started with a large number of files recorded on an SDHC Memory Card, no pre-recording may be obtained.
• If "Loop Rec" is set to ON, pre-recording and post-recording do not function.

Intermittent recording

Intermittent recording records only one image per second extending recording time. An audio signal is not recorded. Intermittent recording and normal recording transit in the same record mode. Recording in each record mode is as shown below.

Record mode	D1 HI	D1 STD	CIF	D1 10
Normal recording (fps)	30	30	30	10
Intermittent recording (fps)	1	1	1	1

■ Interrupting intermittent recording

Entering a recording trigger during intermittent recording interrupts intermittent recording and starts normal recording. Normal recording includes pre-recording so intermittent recording and pre-recording of normal recording may overlap during pre-recording. When a recording stop criteria other than the [STOP] button are met, intermittent recording starts after post-recording.
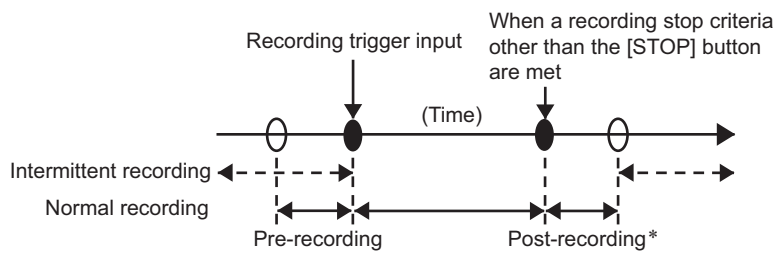
∗When intermittent recording is started after post-recording, audio is postrecorded for the duration of the video postrecord time, regardless of the value set for the audio postrecord time.

■ Period when recording cannot be terminated

Under the following conditions, pressing the [STOP] button does not stop recording.
• About the first five seconds after intermittent recording transitions to normal recording (not including pre-recording)
• The first five seconds (approx.) after normal recording transitions to intermittent recording
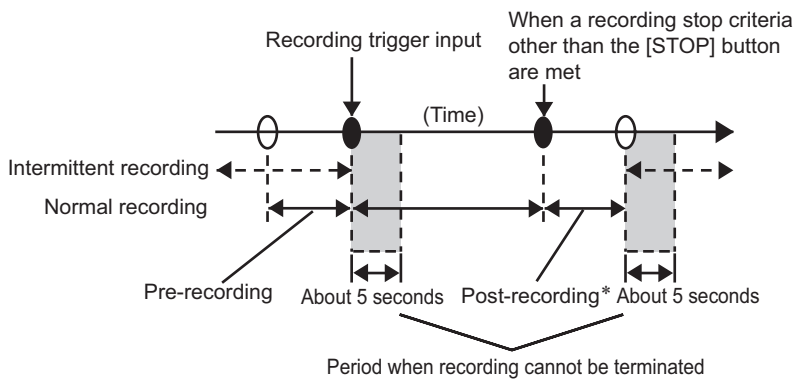
∗When intermittent recording is started after post-recording, audio is postrecorded for the duration of the video postrecord time, regardless of the value set for the audio postrecord time.

Notes:
• When both intermittent recording and power-on recording are set to "ON", intermittent recording starts in the intermittent recording mode when the recorder is turned on. (When intermittent recording mode is set to "OFF", normal recording starts.)
• When recording stops after the Rec Continue Time elapses, intermittent recording starts without activating post-recording.
• When pre-recording time is set to something other than "0", and a recording trigger starts normal recording during intermittent recording, the pre-recording time is automatically set to start after the intermittent recording start time.

• Period when recording cannot be terminated just after starting recording, intermittent recording transitions to normal recording or normal recording transitions to intermittent recording, may become longer when loop recording is set to "ON".
• The [REC] lamp lights during post-recording after a transition from normal to intermittent recording.
• The Rec Continue Time setting does not function outside of a recording trigger.

On Recording (continued)

Changes in intermittent recording status

Status changes caused by button operations, recording triggers, recording stop criteria and other inputs are shown below for set intermittent recording conditions.

<When intermittent recording is set to "ON">

Status prior to input	Input			
	[STOP] button pressed	[REC] button pressed	When a recording stop criteria other than the [STOP] button are met	Recording trigger input
Recording stop status	No change	Intermittent recording status	No change	Normal recording status
Intermittent recording status	Recording stop status	No change	No change	Normal recording status
Normal recording status	Recording stop status	No change	Intermittent recording status	No change

<When intermittent recording is set to "OFF">

Status prior to input	Input			
	[STOP] button pressed	[REC] button pressed	When a recording stop criteria other than the [STOP] button are met	Recording trigger input
Recording stop status	No change	Normal recording status	No change	Normal recording status
Normal recording status	Recording stop status	No change	Normal recording status	No change

On Recording (continued)

Location and name of recording files

The names of folders storing recording files are created according to the Rule of Filename.

WT (world time)   : "/DATA" is the base folder
LT (local time)   : "/DATA /LOCAL" is the base folder

A folder indicating the recording start date is created in the above base folder and a file indicating the recording start time is created in that folder.

WT : Date and time are designated according to world time
LT : Date and time are designated according to local time

For example, if recording started at 10:23:39 on September 28, 2009,
    Name of folder storing recording files: "/DATA/20090928"
    Name of recording file: "102339xn.eee"

	L	Local time
	_	Derivative file
x	B	Bookmark file (in WT mode)
	M	Bookmark file (in LT mode)
	None	No Files other than above

n	Derivative number (numbers are sometimes not assigned)

.eee	Extension

Derivative files are created when there are multiple file names with the same start time.

■ **Names of files that have been split up automatically**

The filename when the file automatically split has two patterns; one is a filename indicating the derivative file, and another is indicated by the recording start time.
- Indicating the derivative file
  The file name consists of the recording stat time to which "_n" is appended. In the file list screen, "∗" is added to the end of the file name.
- Indicating the recording start time
  The time when the file is split automatically in loop recording will be the file name.

On Recording (continued)

Recording Error Warnings

When the recorder detects that it cannot properly record audio or video, it will output the warning signals described below via GPO1, GPO2, and GPO3 (Pin number 25, 8, and 18 of the [GPIO] connector).

Data output via GPO1, GPO2, and GPO3

GPO1, GPO2, and GPO3 signals	When not recording	During recording	When an error occurs[*1]
OFF	Unlit[*2]	Unlit[*2]	Unlit[*2]
ERROR	Continued (Fast blinking when recording error was the prior status.)	Unlit[*2]	Fast blinking[*4]
REC	Unlit[*2]	Lit[*3]	Unlit[*2]
REC + ERROR	Continued (Fast blinking when recording error was the prior status. Otherwise Unlit.)	Lit[*3]	Fast blinking[*4]

*1 A recording error indicates any of the following conditions.
  • Cannot record (a detailed description of examples follow)
    - SDHC Memory Card slot cover is open
    - No recordable SDHC Memory Card is inserted or it is not recognized
    - No more SDHC Memory Card space available
    - The write-protect switch of the SDHC Memory Card is set to "LOCK".
    - When an error is detected on an SDHC Memory Card and recording is no longer possible.
    - When a new unformatted SDHC Memory Card is inserted
    - When an SDHC Memory Card is inserted and the maximum number of recording files has been exceeded
    - When an administrator setup is started or is going on
    - When [PowerOff Time] (see "PowerOff Time" on page 81) is set to "AUTO" and the engine switch is set to the LOCK (OFF) position
  • Cannot recognize video signal from the camera
*2 Unlit   : Output to GPO1, GPO2, or GPO3 is low (output voltage 0 V).
*3 Lit   : Output to GPO1, GPO2, or GPO3 is high (output voltage 5 V).
*4 Fast blinking: Output to GPO1, GPO2, or GPO3 repeatedly cycles between low → high → low (250 ms cycle).

GPO output
The [GPIO] connector on the recorder has four GPO outputs and output the signals below.
The functions of GPO1, GPO2, and GPO3 can be changed with settings (see "GPO1, GPO2, GPO3 Signal" on page 83). GPO4 always outputs the power status of the recorder, and has no setting.

Pin number	Signal
8	GPO2 (REC and ERROR)
18	GPO3 (REC)
19	GPO4 (Power status of the recorder)
25	GPO1 (REC and ERROR)

About the Trigger Signals

Trigger signals (GPI1 - 16), which are used for recording control and Color Camera control, consist of edge and level signals.

■ Edge signals

High-edge, low-edge and both-edge of an edge signal can be specified. Control specified by Action starts when a change in an edge of the specified signal is detected.
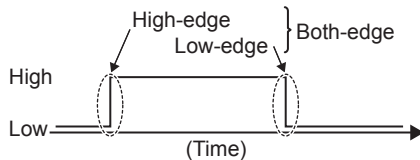
For example, when a high-edge of "AUTOZOOM" is specified (see "Trigger1 to 16" on page 86):
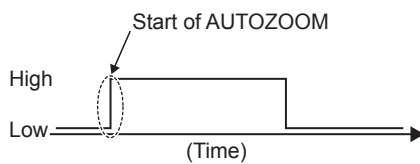
■ Level signals

The high-level and low-level of a level signal can be specified and control specified by Action (recording control) occurs when a change is detected in the specified signal.

When high-level is specified:
A change in the signal from low to high starts recording and a change from high to low stops it.
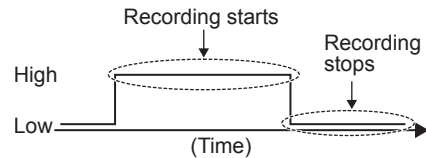
When low-level is specified:
A change in the signal from high to low starts recording and a change from low to high stops it.

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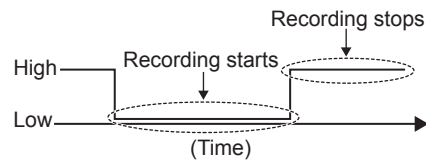
License Plate Recognition (LPR) Mode

Engaging the License Plate Recognition (LPR) mode allows you to start up the LPR system.

Set the color camera shutter speed to [LPR Shutter Speed] (1/500 or 1/1000) when using the LPR system.

When a recording trigger starts a recording during license plate recognition, however, the shutter speed automatically switches to the setting configured for [Patrol Shutter Speed].

When recording stop criteria are met, the shutter speed automatically returns to the setting configured for [LPR Shutter Speed] (1/500 or 1/1000).

The diagram below shows how changes in LPR mode settings and starting and stopping recording by an officer affect shutter speed, camera zoom, and the [LOCK] lamp.
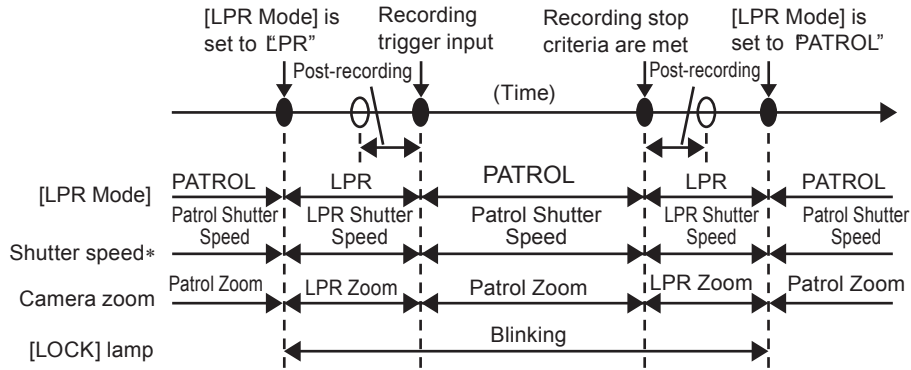
∗ The settings available for [Patrol Shutter Speed] are AUTO, 1/100, 1/500, and 1/1000.
The settings available for [LPR Shutter Speed] are AUTO, 1/500, and 1/1000.

Notes:

• The License Plate Recognition (LPR) mode is activated when a color camera connected to the [CAMERA 1] connector is used.

• [Patrol Shutter Speed] and [Patrol Zoom] are available also without the license plate recognition program. (When [Init LPR Mode] is set to "DISABLE", or when [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL".)

Setup

Factory default values are shown below.

Items officers can set

	Setting Item	Factory Default Value	Description
1	Camera1		Color camera connected the [CAMERA 1] connector setting
	AE[–2 -- +2]	0	Color camera video brightness setting totally Setting : -2, -1, 0, +1, +2

	LPR Mode	PATROL	LPR mode setting
			    Setting : PATROL (normal mode), LPR (License Plate Recognition
			        mode)

	Patrol Shutter Speed	AUTO	Shutter speed setting with [LPR Mode] set to "PATROL" Setting : AUTO, 1/100, 1/500, 1/1000
	Patrol Zoom	×1.0	Zoom ratio setting with [LPR Mode] set to "PATROL" Setting : ×1.0 - ×22.0
	LPR Shutter Speed	1/1000	Shutter speed setting with [LPR Mode] set to "LPR" Setting : AUTO, 1/500, 1/1000
	LPR Zoom	×1.0	Zoom ratio setting with [LPR Mode] set to "LPR" Setting : ×1.0 - ×22.0
2	Audio/Video		Audio and video setting

	Image Enhance	OFF	The brightness of a dark video image on the main screen adjustment
			    Setting: OFF (no enhancing)
			        LOW (enhancing slightly)
			        HIGH (enhancing strongly)

	VIDEO OUT1	VIDEO OUT2	Output to [VIDEO OUT1] connector
			    Setting: CAM1 (Camera 1)[1]
			        CAM3 (Camera 3)[1]
			        VIDEO OUT2 (the same signal as that output from the
			        [VIDEO OUT2] connector)

3	Setup/Info		Setup/Information
	Officer		Officer settings
	Officer 1 ID	----	Officer 1 ID
	Officer 1 Name	----	Officer 1 name
	Officer 2 ID	----	Officer 2 ID
	Officer 2 Name	----	Officer 2 name
	Source[2]	----	Source
	Area[2]	----	Area
	Shift[2]	----	Shift
	Work Time	----	Work Time
	Overlay OSD	OFF	Overlay OSD setting Setting : OFF, AUTO, SIMPLE, DETAILS,
	Camera1 Rec LED	ON	Color camera [REC] lamp setting Setting : ON, OFF
	Target Speed	OFF	Target vehicle speed setting Setting: OFF, 1, 2, …, 200[3]

[1] CAM1 and CAM3 may not be displayed, depending on the settings made on the Video Allocation screen in Administrator setup.

[2] If the Front-End application is connected, the names, Source, Area, and Shift, may be different from the corresponding field names of the Front-End application. The field name of the Front-End application can be changed using the Back-End application.

[3] This may not be selected, depending on the setting made on the Trigger screen in Administrator setup.

Setup (continued)

Items administrators can set

	Setting Item	Factory Default Value	Description
1	Audio Allocation		Audio settings

	Audio1	WMIC	Audio signal connected to the [AUDIO IN 1] connector
			    Setting: WMIC (wireless microphone)
			            MIC (microphone)
			            OFF (no connection)

	Audio2	MIC	Audio signal connected to the [AUDIO IN 2] connector
			    Setting: WMIC (wireless microphone)
			            MIC (microphone)
			            OFF (no connection)

	Audio3	OFF	Audio signal connected to the [AUDIO IN 3] connector
			    Setting: WMIC (wireless microphone)
			            MIC (microphone)
			            OFF (no connection)

	Audio4	OFF	Audio signal connected to the [AUDIO IN 4] connector
			    Setting: WMIC (wireless microphone)
			            MIC (microphone)
			            OFF (no connection)

2	Video Allocation		Video settings
	Detect		Connection detecting automatically
	CAM1	ON	Connection to the [CAMERA 1] connector Setting: ON, OFF
	CAM2	ON	Connection to the [CAMERA 2] connector Setting: ON, OFF
	CAM3	OFF	Connection to the [CAMERA 3] connector Setting: ON, OFF
	CAM4	OFF	Connection to the [CAMERA 4] connector Setting: ON, OFF
	CAM5	OFF	Connection to the [CAMERA 5] connector Setting: ON, OFF
	CAM6	OFF	Connection to the [CAMERA 6] connector Setting: ON, OFF
	Preset1		Preset 1 setting

	Form	1Ch	Channel mode setting
			    Setting: 1Ch, 2Ch, 4Ch-QUAD, 4Ch-PANORAMA, 5Ch-QUAD,
			           5Ch-PANORAMA, - (preset not used)

	Main Sub	1, -	Cameras for Main and Sub pictures setting
			    Setting: 1, - 2, - 3, -
			           1, 2 1, 3 2, 3
			           -, 1456 -, 2456 -, 3456
			           1, 2456 1, 3456 2, 3456
			           3, 2456

	Setting Item	Factory Default Value	Description
2	Preset2*1		Preset 2 setting
	Form	1Ch	Channel mode setting Setting: 1Ch, 2Ch, 4Ch-QUAD, 4Ch-PANORAMA, 5Ch-QUAD, 5Ch-PANORAMA, - (preset not used)
	Main Sub	2, -	Cameras for Main and Sub pictures setting Setting: 1, - 2, - 3, - 1, 2 1, 3 2, 3 -, 1456 -, 2456 -, 3456 1, 2456 1, 3456 2, 3456 3, 2456
	Preset3		Preset 3 setting
	Form	2Ch	Channel mode setting Setting: 1Ch, 2Ch, 4Ch-QUAD, 4Ch-PANORAMA, 5Ch-QUAD, 5Ch-PANORAMA, - (preset not used)
	Main Sub	1, 2	Cameras for Main and Sub pictures setting Setting: 1, - 2, - 3, - 1, 2 1, 3 2, 3 -, 1456 -, 2456 -, 3456 1, 2456 1, 3456 2, 3456 3, 2456
	Main Resolution/RecRate	D1 HI	Main-picture's resolution and bit rate settings Setting: CIF, D1 10, D1 STD, D1 HI
	Sub Resolution/RecRate	D1 HI	Sub-picture's resolution and bit rate settings Setting: CIF, D1 10, D1 STD, D1 HI
3	Rec/Play		Recording and playback settings
	PowerOff Time*2	AUTO	Time from the SIGNAL turn-off to recorder shut-down (minutes) Setting : 0 min, 10 min, 20 min, 30 min, 60 min, 90 min, 120 min, 180 min, AUTO*3
	Init Preset Select	PRESET1	Initial Preset setting*4 Setting: PRESET1, PRESET2, PRESET3, LAST *5
	Init VIDEO OUT1	VIDEO_OUT2	Initial through-out video setting*4 Setting: CAM1, CAM3, VIDEO_OUT2, LAST *5
	PowerOn Rec	OFF	Automatically start recording with power-on Setting : OFF, ON
	Loop Rec	OFF	Loop recording Setting : OFF, ON*6
	Intermittent Rec	OFF	Intermittent recording Setting : OFF, ON

(Continued on the next page)

*1 If the Preset2 or Preset3 setting is canceled on the Video Allocation screen in Administrator setup, the setting of Action on the Trigger screen may be changed to NONE.
*2 Depending on the vehicle, the battery may run out of power during operation.
*3 **When a PC with the Front-End application or Back-End application installed is not connected:**
Power is turned off immediately. Note, however, that power is not turned off while data is being exported to a USB memory device, but is turned off after completion of data export.
When a PC with Front-End application or a Back-End application installed is connected:
Power is turned off when control from a Front-End application or Back-End application is released, when upload, streaming, administrator setting, or updating with Back-End application is terminated, or when the SDHC Memory Card slot is opened.

*4 Depending on the settings on the Video Allocation screen in Administrator setup, some items may not be displayed.
*5 Applies the setting in effect when power was last turned off. Unless power is turned off properly, the operating state may not be saved correctly.
*6 If "Loop Rec" is set to ON, pre-recording and post-recording do not function.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Setup (continued)

	Setting Item	Factory Default Value	Description
3	Rec Continue Time	CONTINUE	Continuous recording time (minutes) Setting : CONTINUE, 1 min, 2 min, 5 min, 10 min, 15 min, 20 min, 30 min, 60 min, 90 min
	PreRec Time (Video)	30 s	Video Prerecord time (seconds)[*1] Setting : 0 s, 10 s, 20 s, 30 s, 60 s, 90 s
	PreRec Time (Audio)	0 s	Audio Prerecord time (seconds)[*1] Setting : 0 s, 3 s, 10 s, 20 s, 30 s, 60 s, 90 s
	PostRec Time (Video)	0 s	Video Postrecord time (seconds)[*1] Setting : 0 s, 10 s, 20 s, 30 s, 60 s, 90 s
	PostRec Time (Audio)	0 s	Audio Postrecord time (seconds)[*1] Setting : 0 s, 3 s, 10 s, 20 s, 30 s, 60 s, 90 s

	Rule of Filename	WT	Recording file naming method
			    Setting : WT(World time)
			              LT(Local time)

	Init Audio2 Rec	ON	Initial on/off setting for Audio2 input (upon power on) Setting : ON, LAST[*1], OFF
	Init Overlay OSD	OFF	Initial OSD (on-screen display) overlay setting Setting : OFF, AUTO, SIMPLE, DETAILS, LAST[*2]
	GPO1 Signal	OFF	GPO1 output signal setting[*3] Setting: OFF, REC, ERROR, REC+ERROR
	GPO2 Signal	OFF	GPO2 output signal setting[*3] Setting: OFF, REC, ERROR, REC+ERROR
	GPO3 Signal	OFF	GP 3 output signal setting[*3] Setting: OFF, REC
	Init Audio Out (Play)	ON	Initial audio output selection (upon power on) Setting : ON, LAST[*2], OFF
	Play Mode	SINGLE	Select playback mode (relay playback setup) Setting : SINGLE, RELAY
	Skip Target		Skip position
	Trigger/Marker	YES	Select a trigger or marker location Setting : YES, NO
	Head of File	YES	Select the starting point of the file Setting : YES, NO

*1 If "Loop Rec" is set to ON, pre-recording and post-recording do not function.

*2 Applies the setting in effect when power was last turned off. Unless power is turned off properly, the operating state may not be saved correctly.

*3 The functions of GPO1, GPO2, and GPO3 can be changed with settings, but GPO4 always outputs the power status of the recorder, and has no setting.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Setup (continued)

	Setting Item	Factory Default Value	Description
4	Date/Time		Date, Time and Time Zone Settings
	TimeZone	Eastern DST	Time zone Indicates time difference from world standard time. **Hawaii** : Hawaiian standard time **Yukon** : Alaska standard time **Yukon DST** : Alaska daylight saving time **Pacific** : Pacific standard time **Pacific DST** : Pacific daylight saving time **Mountain** : Mountain standard time **Mountain DST** : Mountain daylight saving time **Central** : Central standard time **Central DST** : Central daylight saving time **Eastern** : Eastern standard time **Eastern DST** : Eastern daylight saving time **Atlantic** : Atlantic standard time **Atlantic DST** : Atlantic daylight saving time **Asia Tokyo** : Japan standard time
	Style	USA	Date display format setup Setting : ISO (YYYY-MM-DD HH:MM:SS format), USA (MM/DD/YYYY HH:MM:SS format)
	Date/Time	Current time	Year/Month/Day Hour:Min.:Sec.

Setup (continued)

	Setting Item	Factory Default Value	Description
5	Trigger		Trigger signal (GPI1-16) settings
	Trigger	ON	All trigger signal input or no input Setting : ON (All trigger signal input permission), OFF
	Action	NONE	Action upon trigger signal (GPI1-16) detection Setting: NONE (no operation) REC (recording), STOP (stopping) AUTO ZOOM (automatically zooms in/out or pauses) P1 (selects Preset1 input) P2 (selects Preset2 input)[2] P3 (selects Preset3 input)[2] P1REC (records video of Preset1 input) P2REC (records video of Preset2 input)[2] P3REC (records video of Preset3 input)[2] CMA1 LED (Changes the status setting (on/off) of the [REC] lamp on a Color Camera connected to the [CAMERA 1] connector) AUDIO2ON (records audio input to the [AUDIO IN 2] connector) AUDIO2MUTE (not records audio input to the [AUDIO IN 2] connector) TGT (REC) (records with a TGT input)[1] TGT (P1REC) (records video of Preset 1 input with a TGT input)[1] TGT (P2REC) (records video of Preset 2 input with a TGT input)[1, 2] TGT (P3REC) (records video of Preset 3 input with a TGT input)[1, 2] OWN (REC) (records with an OWN input)[1] OWN (P1REC) (records video of Preset 1 input with an OWN input)[1] OWN (P2REC) (records video of Preset 2 input with an OWN input)[1, 2] OWN (P3REC) (records video of Preset 3 input with an OWN input)[1, 2]

	Detection	H	Method for trigger signal (GPI1-16) detection
			Choice of signal detection depends on set [Action]
			• REC, P1REC, P2REC, and P3REC modes
			  Setting: H (high-edge trigger)
			      Level H (high-level trigger)
			      L (low-edge trigger)
			      Level L (low-level trigger)
			      B (both-edge trigger)
			• P1, P2, P3, CAM1 LED, AUTO ZOOM, AUDIO2ON, AUDIO2MUTE, STOP modes
			  Setting: H (high-edge trigger)
			      L (low-edge trigger)
			      B (both-edge trigger)
			• TGT(REC), TGT(P1REC), TGT(P2REC), TGT(P3REC), OWN(REC), OWN(P1REC), OWN(P2REC), and OWN(P3REC), modes
			  Setting: OFF, 200, …, 2, 1
			• NONE mode
			  Setting: H (high-edge trigger)
			      L (low-edge trigger)

	Display	OFF	Character definition when one letter is displayed in the OSD Setting : OFF, A - Z, –

*1 These are selectable for Trigger 15 or Trigger 16.
*2 These cannot be selectable if Preset2 or Preset3 has not been allocated on the Video Allocation screen in Administrator setup.

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Setup (continued)

	Setting Item	Factory Default Value	Description
6	Embedded OSD		Embedded OSD
	Main OSD	ON	Main OSD on/off setting 　　Setting: ON, OFF
	Sub OSD	ON	Sub OSD on/off setting 　　Setting: ON, OFF
	Display Position	L-Upper	Location display setting 　　Setting : L-Upper (upper left) 　　　　　　R-Upper (upper right) 　　　　　　L-Bottom (bottom left) 　　　　　　R-Bottom (bottom right)
	Trigger	ON	OSD setting during trigger signal (GPI1-16) input 　　Setting : ON, OFF
	Time	ON	Date and time display setting 　　Setting : ON, OFF
	Source @ Area	OFF	Display setting for the vehicle identification and name of a location 　　Setting : ON, OFF

Setup (continued)

	Setting Item	Factory Default Value	Description
7	Camera1		Color Camera connected to the [CAMERA 1] connector setting
	Zoom Limit	×220	Maximum zoom magnification Setting : ×22, ×220
	AGC Level	HIGH	Color Camera automatic gain control setting Setting : HIGH, OFF, LOW, MID

	Init Backlight	OFF	Initial backlighting compensation setting (upon power on)
			    Setting : ON, OFF, LAST *1
			        (perform backlighting compensation when on)

	Init AE Shift	0	Initial exposure compensation of Color Camera video (upon power on)*2 Setting :0, +1, +2, LAST *1, -2, -1

	Flip	OFF	Color Camera image top/bottom flip enable/disable
			    Setting : OFF (Top/bottom flip disabled)
			            ON (Top/bottom flip enabled)

	AutoZoom Magnification	×10	Magnification of auto zoom Setting : ×10, ×15, ×22, ×1, ×2, ×3, ×4, ×5, ×7
	AutoZoom Time	3 s	Auto zoom magnification retention time (seconds) Setting : 3 s, 5 s, 8 s
	AutoZoom End Position	×1	Target magnification of auto zoom Setting: ×1, ×2, ×3, …, ×22, LAST *1

	Init Camera1 Rec LED	ON	Initial Color Camera [REC] lamp enable/disable setting (upon power on)
			    Setting : ON ([REC] lamp lights during recording)
			            LAST*1
			            OFF ([REC] lamp does not light)

	Init IR Mode	AUTO	IR switching function
			    Setting : AUTO (Automatically switch IR function on/off),
			            OFF (Force IR function off)
			            ON (Force IR function on)
			            LAST *1

	IR Level	LOW	IR auto switching level setting*3 Setting : LOW, HIGH
	IR Time	30 s	IR auto switching level detection time (seconds)*3 Setting : 30 s, 60 s, 300 s, 10 s

	Auto Focus	PRESET	Select color camera focusing method when,
			• [Init LPR Mode] is set to "DISABLE"
			• [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL"
			• A recording trigger starts recording when [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "LPR".
			    Setting :
			        PRESET (When the zoom is 3x or below, the camera is focused at a distance of about 15 m (50 feet). Subsequent zooming will engage auto focus.)
			        DISABLE (Focus is locked at a distance of about 40 m (130 feet) and auto focus is disabled.)
			        AUTO (Set to auto focus when zoom ratio has been changed.)

	Init LPR Mode	DISABLE	LPR (License Plate Recognition) function switching
			    Setting :
			        DISABLE (LPR function is off and [LPR Mode] switches to "PATROL".)
			        ENABLE (LPR function is on.)

<div align="right">(Continued on the next page)</div>

*1 Applies the setting in effect when power was last turned off. Unless power is turned off properly, the operating state may not be saved correctly.

*2 When the [Init AE Shift] setting is "+2" and the target is dark, the image may not refresh at 30 frames/sec.

*3 The [IR Level] and [IR Time] settings apply only when the [Init IR Mode] setting is "AUTO".

Setup (continued)

	Setting Item	Factory Default Value	Description
8	Management Mode		Officer management setup
	Classify*1	DISABLE	Classify settings 　　Setting: DISABLE (disables adding) 　　　　　　ENABLE (enables adding) 　　　　　　FORCE (forcibly adding)
	Setting Method	AUTO	Officer registration procedure 　　Setting : AUTO, MANUAL, LIST
	Upload Mode	MANUAL	Upload mode setting 　　Setting: AUTO (uploading automatically) 　　　　　　MANUAL (uploading manually)
	Export Menu	DISABLE	Export menu setting 　　Setting: ENABLE, DISABLE
	Preset Select	ENABLE	Preset selection setting 　　Setting: ENABLE, DISABLE
	Operation Key Lock	OFF	Lock of buttons by an administrator 　　Setting : OFF, ANY, STOP
9	Radar/GPS		Radar Gun*2, GPS and speed settings
	Model Select	ProLaser	Radar gun type selection*3 　　Setting : ProLaser 　　　　　　STALKER_ 　　　　　　GOLDEN_E
	Connection of Radar	OFF	Radar Gun connection*2 　　Setting : OFF, Recorder
	Connection of GPS	Recorder	GPS connection 　　Setting : Recorder, OFF
	Collection Time	1 s	Interval for GPS data collection (seconds) 　　Setting : 5 s, 10 s, 1 s, 2 s
	Speed Unit	MPH	Speed measurement units 　　Setting : MPH, km/h

*1 If Loop Rec on the Rec/Play screen is set to ON, the
　Classify does not function.
*2 When using a radar gun, contact your supplier.
*3 Only the first 8 characters appear in the [Model Select]
　input field.

Setup (continued)

	Setting Item		Factory Default Value	Description
10	Network			Network setting
	IP Address			Each network setting

		PC LAN	Server1	DHCP Setting:
				    Server1, Server2
				    Server3, Server4
				    OFF*1

		UPLOAD LAN	Client	DHCP Setting: Client, OFF*2
		USB WIRELESS LAN	Client	DHCP Setting: Client, OFF*2
	Wireless LAN			Wireless network setting
		AP Priority	AP1 Highest	AP (Access Point) priority setting Setting: RANDOM, AP1 Highest
		Network	Access Point1	Network access point setting Setting: Access Point1, Access Point2, …, Access Point10

		Access Point	DISABLE	Access Point setting
				    Setting: ENABLE
				            DISABLE

		Security	----	Security setting Setting: WEP, WPA/WPA2-PSK, NONE
		SSID	----	Service set ID setting
		Network Key	----	Network key setting
		Key Index	–	Key index setting Setting: 1, 2, 3, 4

*1 If Server1, Server2, Server3, or Server4 is selected, the IP Address, Subnet Mask, and Gateway are fixed as shown below. If Off is selected, the IP Address, Subnet Mask, and Gateway can be changed.

	Server1	Server2	Server3	Server4	OFF
IP Address	192.168.10.10	192.168.217.192	172.24.217.192	10.216.217.192	192.168.10.10
Subnet Mask	255.255.255.0	255.255.255.0	255.255.255.0	255.255.255.0	255.255.255.0
Gateway	--	--	--	--	--

*2

	Client	OFF
IP Address	--	--
Subnet Mask	--	--
Gateway	--	--

Text Files Used with the Recorder

The following types of text files can be used by the recorder, and created with a commercially available text editor.
To display correctly, the files must meet the following specifications. Refer to "Sample Files" on page 31 for examples.

File Types

File Types	Contents	File Name
Officer Data File	This file type contains officer settings. It is required when the officer data setting method is "AUTO" or "MANUAL". It is also used for log-in authentication on the administrator settings screen.	\WIDKEY\ WID*****.TXT
Officer Registration File	This file type contains batch officer registration data (for up to 1,000 officers) for the recorder. When the "LIST" officer data setting method is selected, officers can select their own names from the registration list to load their settings into the recorder. It is also used for log-in authentication for the Front-End application.	\WIDKEY\ WOFFICER.TXT
Administrator Registration File	This file type contains administrator registration data (for up to 10 administrators) that enables logging in to the administrator settings screen. An officer data file is required for log-in authentication on the administrator settings screen.	\WIDKEY\ WADMIN.TXT
Classify File	The file is used to store classify tags on the recorder. Up to 10 files are stored.	\WIDKEY\ CLASSIFY.TXT
Source File	The file is used to store vehicle ID from the vehicle list when storing an officer. Up to 1,000 files are stored.	\WIDKEY\WSOURCE. TXT
Shift File	The file is used to store work shift from the shift list when storing an officer. Up to 100 files are stored.	\WIDKEY\WSHIFT. TXT
Area File	The file is used to store area from the area list when storing an officer. Up to 100 files are stored.	\WIDKEY\WAREA. TXT

Note:
When the officer or administrator registration file is as follows, officer or administrator data is not registered, but is deleted along with previously registered officer and administrator data.
• When no officer or administrator data is present
• When the content of required items is invalid

Saving Location and File Naming

Text files to be used on the recorder must be stored in a "WIDKEY" created under the root directory of a USB memory device.
Be sure to save the Officer Data File to one USB memory device.
Officer data file names are composed of up to eight characters beginning with the prefix "WID", and having the extension ".TXT". There are no restrictions on naming other than the "WID" prefix.
When multiple officer data files are saved in the "WIDKEY", the file names are automatically sorted (in ascending order), and the first 1 or 2 files are used as officer data.

Text Files Used with the Recorder (continued)

File Specifications

Syntax:

Officer data files may contain no more than one statement per line.
Multiple statements or definitions on one line are invalid.

Line Feed Codes:

Line feeds are coded as the hexadecimal values 0Dh 0Ah or just 0Ah.

Blank Lines:

Blank lines are ignored. Aside from the line feed code, a blank line may contain only space and tab (09h) characters.

Comment Lines:

Lines beginning with "#" (ignoring leading spaces or tabs) are considered to be comment lines. These have no special meaning, but may contain notes or descriptions. Valid comment characters are those from 20h to 7Eh.

Definition Lines:

- An identifier is a definition value.
- These lines define names and other data. Leading spaces and tabs are ignored.
- Identifier descriptions are shown in the following table.
  ◎ : Required item
  ○ : An item with significance or an object of inspection
  ✕ : Ignored item

Identifier	Max. characters.	Description	Officer Data File		Officer/Administrator Registration File	
			Officer 1	Officer 2	Officer	Administrator
FirstName	50	Specify officer's first name	◎	◎	◎	◎
MiddleName	1	Specify officer's middle initial	○	○	○	○
LastName	50	Specify officer's last name	◎	◎	◎	◎
ID	50	Officer number for authentication	◎	◎	◎	◎
Password	12	This should be entered when making administrator settings.	○	○	○	○
SDate	10	Shift start date YYYY-MM-DD	○	✕	✕	✕
SdayOfWeek	3	Shift start day of week	✕	✕	✕	✕
STime	5	Shift start time hh:mm	○	✕	✕	✕
EDate	10	Shift end date YYYY-MM-DD	○	✕	✕	✕
EdayOfWeek	3	Shift end day of week	✕	✕	✕	✕
ETime	5	Shift end time hh:mm	○	✕	✕	✕
WHour*	5	Working period hh:mm	○	✕	○	✕
Shift	50	A term for a work period, for example, early shift.	○	✕	✕	✕
Area	50	Name of a location	○	✕	✕	✕
Source	50	Vehicle identification	○	✕	✕	✕
Border	73	Borders may be assigned to multiple officers. Defined values are ignored. For use within registration files.	✕	✕	○	○

Identifier	Max. characters.	Description	Classify
Classify	99	Defines Classify.	○

*
- If SDate, STime, and ETime have been set, the WHour setting will be ignored.
- If a value of more than 24 hours is set, the default value of 8 hours will be set.
- The minimum period to be set is 15 minutes.

- If no definition is provided for a required item (that is, it is undefined), necessary data is considered to be incomplete and invalid for registration or testing. Identifiers are not case sensitive.
- All item definition values are character strings consisting of alphanumeric symbols other than "<" (3Ch), ">" (3Eh), "\" (5Ch), "&" (26h) and "," (2Ch), control character codes 00h to 1Fh, and "Delete" character code 7Fh. Characters (including spaces) following "=" on a line are considered to be the definition value. Any invalid characters are handled as spaces. Characters exceeding the maximum character length are ignored.
- Identifiers having no defining characters are considered to be undefined. For example, if a line contains a "=" followed by a line feed character, that identifier is considered to be undefined. If an identifier is multiply defined on different lines, the last definition line has priority.

Sample Files

Officer data file:
If work day and time data (SDate, EDate, ETime) are not specified, the time loading the officer data will be the work start day and time. The work end day and time will be the day and time after the work time (WHour) elapsed.
If WHour has not be specified, the work hour will be 8 hours.

```
FirstName=John
#MiddleName=
LastName=Smith
ID=ICV12345
Password=panasonic
SDate=2005-09-12
SdayOfWeek=MON
STime=08:15
#EDate=2005-09-12
#EdayOfWeek=MON
#ETime=20:00
WHoue=7:30
Shift=Patrol
Area=WEST
Source=Car123


# Format of the officer registration file
#
# Identifier=definition_value
#
# Identifier          Length      Description
# FirstName           50          First name
# MiddleName          1           Middle name
# LastName            50          Last name
# ID                  50          Identifier of officer
# Password            12          Password. It is desirable to set for administrator certification.
# SDate               10          Service start date YYYY-MM-DD
# SdayOfWeek          3           Service start day of week SUN/MON/TUE/WED/THU/FRI/SAT
# STime               5           Service start time hh:mm
# EDate               10          Service end date YYYY-MM-DD
# EdayOfWeek          3           Service end day of week SUN/MON/TUE/WED/THU/FRI/SAT
# ETime               5           Service end time hh:mm
# WHour               5           Service Time hh:mm
# Shift               50          The name of service
# Area                50          Regional name
# Source              50          Vehicles identifier
#
# Definition value
# ASCII character Except < (0x3c), > (0x3e), \ (0x5c), & (0x26), ..., (0x2c)
# control character (0x00 ~ 0x1f), Delete (0x7f)
```

Text Files Used with the Recorder (continued)

Officer Registration File :

```
Border=----------------------------------

# Officer setting file

# John Smith
FirstName=John
MiddleName=
LastName=Smith
ID=ICV12345
Password=pana1122
WHour=7:00


Border=----------------------------------

# Jane White
FirstName=Jane
MiddleName=
LastName=White
ID=ICV12346
Password=pana1234
WHour=8:00

# FirstName      50     First name
# MiddleName     1      Middle name
# LastName       50     Last name
# ID             50     Identifier of officer
# Password       12     Password. It is desirable to set for administrator certification.
```

Administrator Registration File :

```
# Mike Brown
FirstName=Mike
MiddleName=
LastName=Brown
ID=ICV12347
Password=panasonic
```

Classify File :

```
#--------------------------------------------------------------------
# Classify file
# - Number of registration maximum data is 10
# - The maximum characters of data is 99
#--------------------------------------------------------------------
CLASSIFY=Patrol
CLASSIFY=Signal
CLASSIFY=Speed
```

Source File :

```
#--------------------------------------------------------------------
# Source file
# - Number of registration maximum data is 1000
# - The maximum characters of data is 50
#--------------------------------------------------------------------
Source=ND2032
Source=ND2213
Source=ND3194
Source=NDPC1199
```

# Text Files Used with the Recorder (continued)

Shift File :

```
#--------------------------------------------------------------------
# Shift file
# - Number of registration maximum data is 100
# - The maximum characters of data is 50
#--------------------------------------------------------------------
Shift=EARLY
Shift=LATE
Shift=NIGHT
Shift=DAY
```

AreaFile :

```
#--------------------------------------------------------------------
# Area file
# - Number of registration maximum data is 100
# - The maximum characters of data is 50
#--------------------------------------------------------------------
Area=EAST
Area=NORTH
Area=SOUTH
```

Basic Menu Operations

For a list of all the menus, refer to "Menu List" on pages 97 - 106.
(This list also describes menus available only to administrators.)

Cursor button
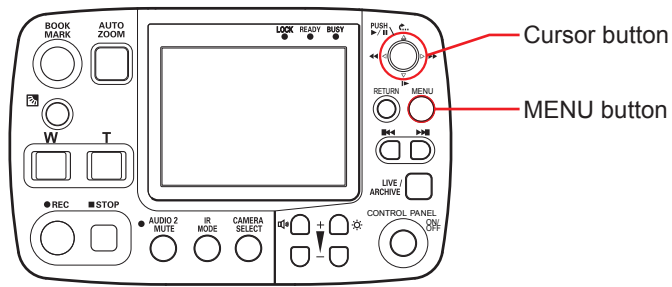
MENU button

Example: Audio1 Test

1. Press the [MENU] button.

The Menu appears.
A triangle displayed at the right edge of a menu item indicates that it contains a submenu.

MENU
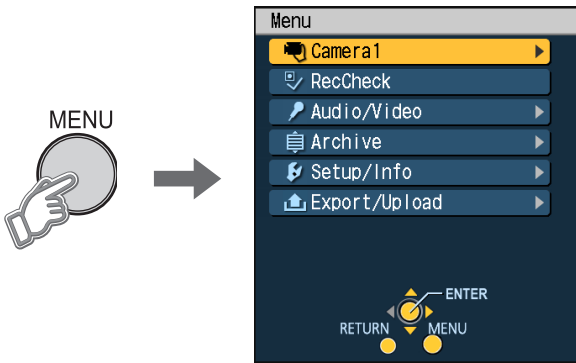
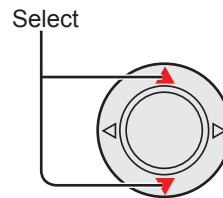## 2. Press the cursor buttons [△ , ▽] to select an item.
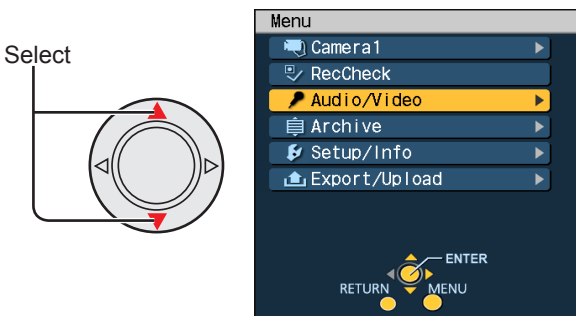
Select

3. Press the center position of the cursor button [⏵/II] or [▷] to confirm the entry.

The selected item opens to reveal selection details.

PUSH ⏵/II   Confirm

or
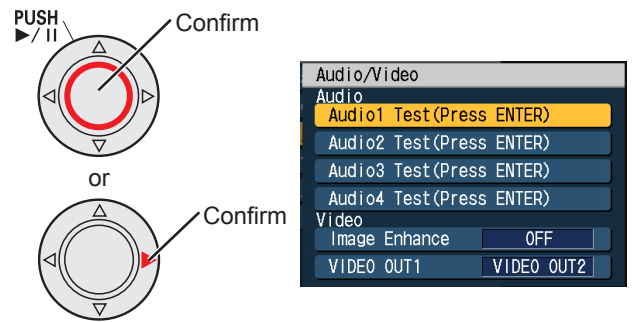
Confirm

4. Press the [△ , ▽] buttons to select [Audio1 Test].

Select

5. Press the [⏵/II] button to confirm the entry.
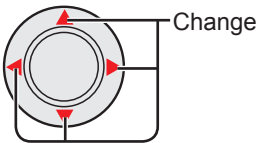
The Audio1 test is now ready to run.

PUSH ⏵/II   Confirm

34
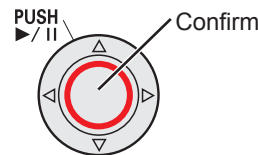
Basic Menu Operations (continued)

Cursor button

RETURN button
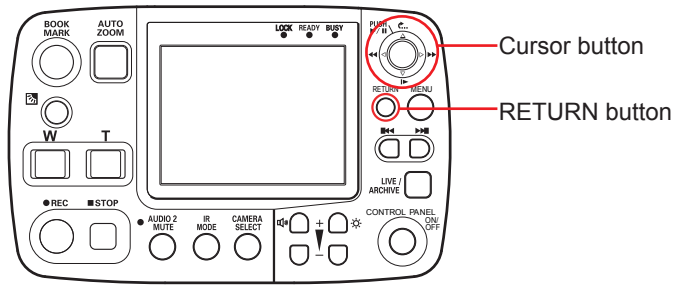
■ Changing the value

Press the [△ , ▽ , ◁ , ▷] buttons to set a value.

Change

• A selected item with tiny triangles at the top and bottom allow you to change its value by pressing [△] or [▽].

(Screen example)

Change

Trigger			[1/2]
Trigger	ON		
	Action	Detection	Display
Trigger1	REC	H	A
Trigger2	STOP	H	B
Trigger3	AUTO ZOOM	H	C
Trigger4	P1	H	D
Trigger5	P2	H	E
Trigger6	P3	H	F
Trigger7	P1REC	H	G
Trigger8	P2REC	H	H
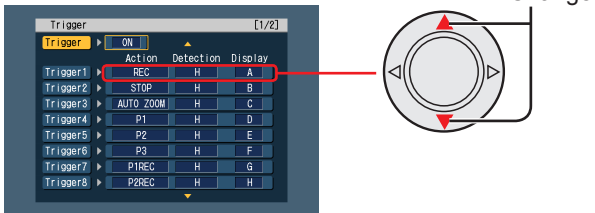
• A selected item with tiny triangles to the left and right allow you to change its value by pressing [◁] or [▷].

(Screen example)

Change

Audio Allocation	
Audio1	◁ OFF ▷
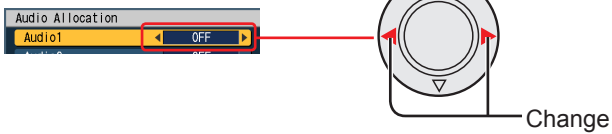
■ Displaying the submenu

A triangle displayed at the right edge of the menu item indicates that it contains a submenu.
Press the [▷] button to display the submenu.

Display

Menu	
Camera1	▶
RecCheck	
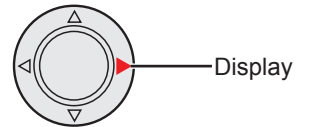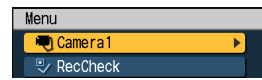
## ■ Returning to previous screen

RETURN

Press the [RETURN] button to return to the previous screen. The menu is cleared when the "Archive" screen, Officer setup top screen or Setup/Admin top screen is displayed.

■ Long menus

Menus with arrows at the top and bottom contain items that are currently not shown.
Press the [△] or [▽] button to display the item.

(Screen example)

Display

AE[-2 -- +2]	◁ 0 ▷

35
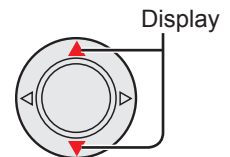
Setting up/Deleting Officer Data

When Front-End application is running, this unit freezes in the live screen and officer data cannot be set or deleted. In AUTO mode, officer data can be set using the USB memory device.

Before using this unit, you must create and configure officer data, such as an officer ID and officer name. For details on creating officer data, refer to "Text Files Used with the Recorder" on pages 29 - 33.
Three setup methods are available, called the AUTO, MANUAL and LIST modes.
Check with the administrator which mode is selected (see "Setting Method" on page 89).

Note:
Starting up Front-End application during officer data setup will abort the setup operation. The recorder will then freeze in the live screen and disable setup and deletion of officer data.
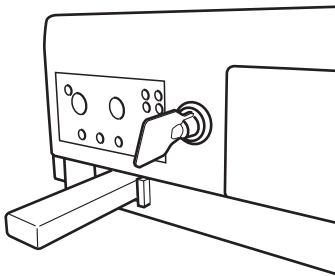
▤ AUTO mode

When a USB memory device is connected to the recorder, or when connection is detected after turning power on, the officer data for one or two officers is automatically read in and activated (see "Text Files Used with the Recorder" on pages 29 - 33).

Connect a USB memory device containing officer data to the recorder.

The [READY] lamp flashes for one second:
This indicates that the data was correctly read.
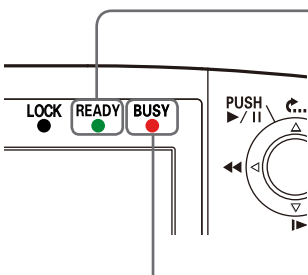

The [BUSY] lamp flashes for one second:
This indicates that the data could not be correctly read. Disconnect the USB memory device and then reconnect it. If the [READY] lamp does not flash when the USB memory device is connected again, check if the officer data file has been correctly saved to the USB memory device.
If the above measures do not correct this problem, replace the USB memory device.

Notes:
• If a USB memory device is connected and the officer data is read during recording, the file will be split up at the location where reading was effectuated.
• Once the officer data has been read, the USB memory device may be removed.
• Once the officer data has been set up, it is not deleted even when power is turned off or the mode changed.
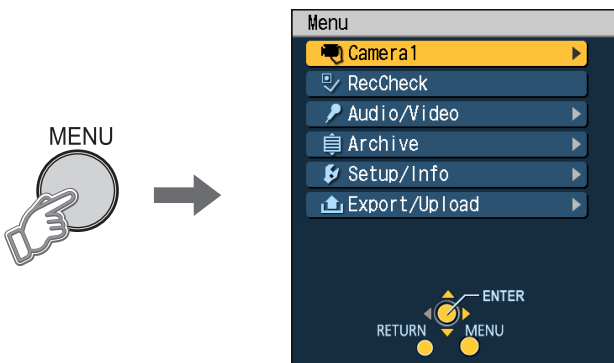
Setting up/Deleting Officer Data (continued)

▤ MANUAL mode

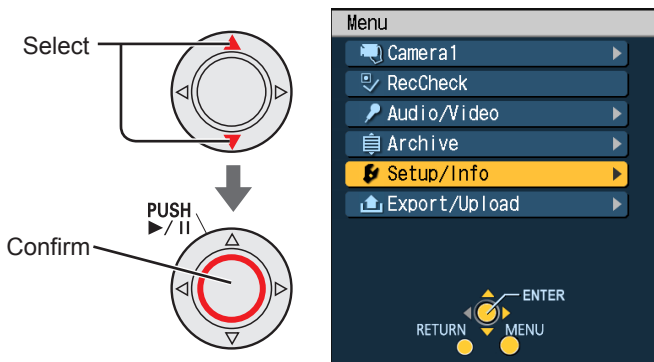Display the menu on the LCD panel. Then read and load the officer data from the Officer setup top screen.
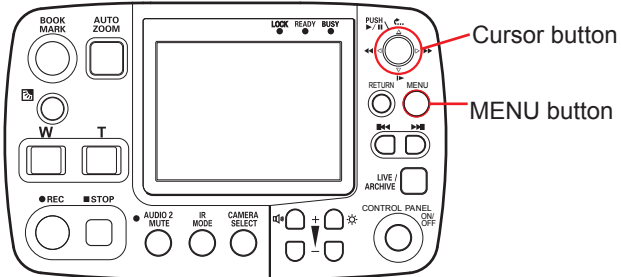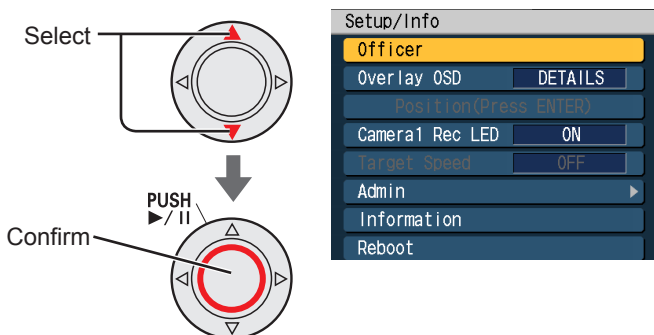

Cursor button
MENU button

1. Press the [MENU] button.

The Menu appears.

MENU

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [PUSH▶/II] button to confirm the entry.
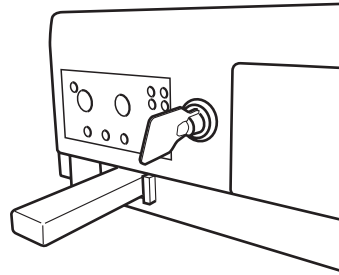
Select
Confirm

3. Press the [△ , ▽] buttons to select [Officer] and press the [PUSH▶/II] button to confirm the entry.

Select
Confirm

The Officer setup top screen appears.

4. Connect a USB memory device containing officer data to the recorder.

5. Press the [△ , ▽] buttons to select [Officer1] and press the [PUSH▶/II] button to confirm the entry.
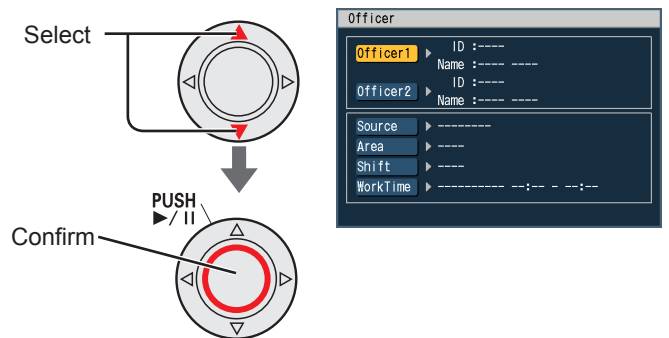
Select
Confirm

6. Press the [◁ , ▷] buttons to select [Load] and press the [PUSH▶/II] button to confirm the entry.
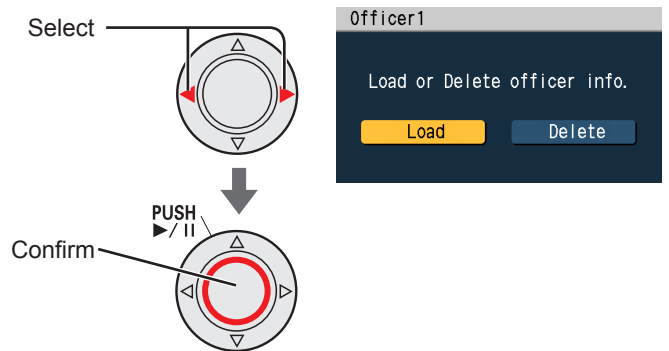
Select
Confirm

This registers officer1 and the name and ID appear.

Note:
Long names and IDs may not be displayed in full.

Entering Officer2 data

Replace the USB memory device with the one containing data for another officer. Then select [Officer2] in Step 5 mentioned above and repeat Step 6.

Setting up/Deleting Officer Data (continued)

▤ LIST mode

Open the menu on the LCD panel and read in the officer data registered in the recorder from the Officer setup top screen. For details on registering officer data, refer to "Load Officer" on page 85.

Cursor button

MENU button

1. Press the [MENU] button.

The Menu appears.

MENU

```
Menu
  🎥 Camera1            ▶
  🗒 RecCheck
  🔧 Audio/Video        ▶
  📄 Archive            ▶
  🎚 Setup/Info         ▶
  📤 Export/Upload      ▶


                  ▲—ENTER
          RETURN  ▼ MENU
```

2. Use the [△ , ▽] buttons to select [Setup/Info] and press the [▶/II] button to confirm the entry.

Select

Confirm

```
Menu
  🎥 Camera1            ▶
  🗒 RecCheck
  🔧 Audio/Video        ▶
  📄 Archive            ▶
  🎚 Setup/Info         ▶
  📤 Export/Upload      ▶


                  ▲—ENTER
          RETURN  ▼ MENU
```

3. Press the [△ , ▽] buttons to select [Officer] and press the [▶/II] button to confirm the entry.

Select

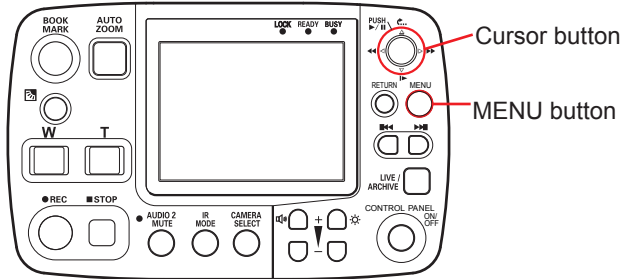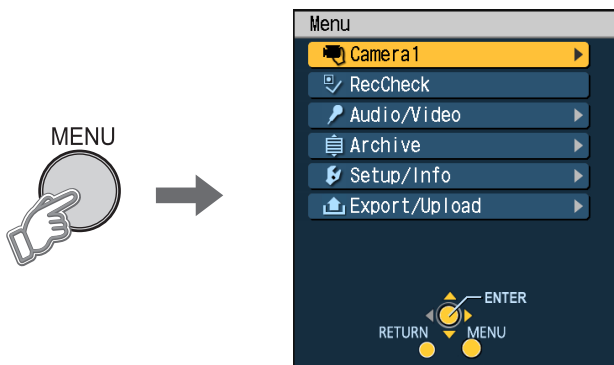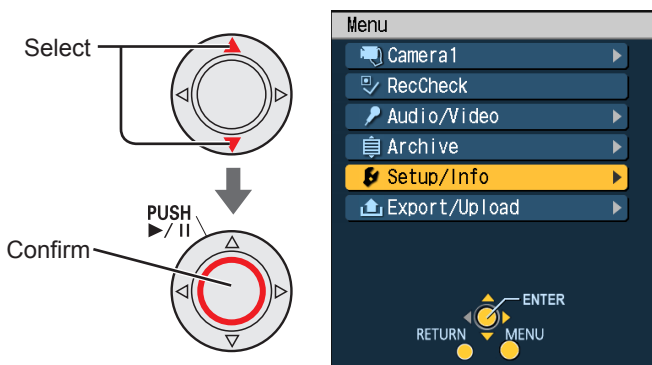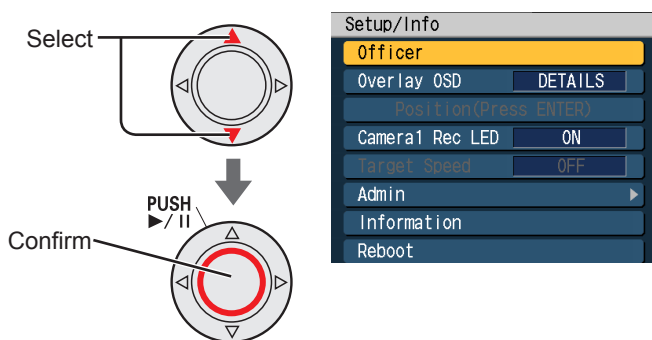Confirm

```
Setup/Info
  Officer
  Overlay OSD      DETAILS
  Position(Press ENTER)
  Camera1 Rec LED     ON
  Target Speed       OFF
  Admin                 ▶
  Information
  Reboot
```
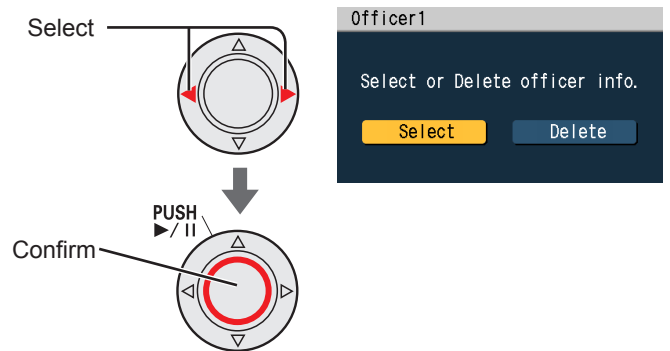
The Officer setup top screen appears.

4. Press the [△ , ▽] buttons to select [Officer1] and press the [▶/II] button to confirm the entry.

Select

Confirm

```
Officer
  Officer1  ▶  ID :————
              Name :———— ————
  Officer2  ▶  ID :————
              Name :———— ————
  Source    ▶  ————————
  Area      ▶  ————
  Shift     ▶  ————
  WorkTime  ▶  ——————————— ——:—— - ——:——
```
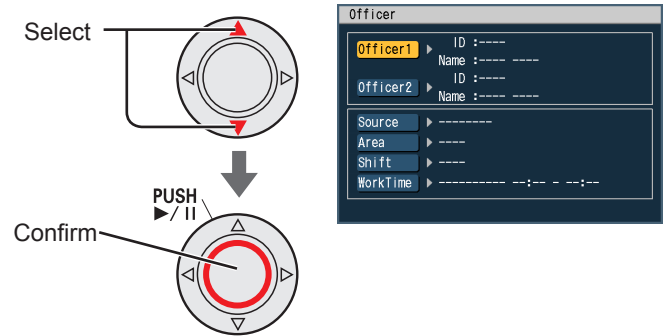
A list of officers registered in the recorder appears.

5. Press the [◁ , ▷] buttons to select [Select] and press the [▶/II] buttons to confirm the entry.

Select

Confirm

```
Officer1

  Select or Delete officer info.

       Select          Delete
```

6. Press the [△ , ▽] buttons to select an officer, (use the [◁ , ▷] buttons to go between pages) and press the [▶/II] button to confirm the entry.

Select

Confirm

```
Officer List              [0/0]




                          ▲—ENTER
                  RETURN  ▼ MENU
```

The Officer setup top screen appears when officer1 has been set.

Note:
Long names and IDs may not be displayed in full.

Entering Officer2 data
Select [Officer2] in Step 4 mentioned above, and repeat Steps 5 and 6.

Setting up/Deleting Officer Data (continued)

▤ Setting the Source data

Display the menu on the LCD panel. Then read the Source data loaded in the recorder and set. For details on loading the Source data, see "Load Source" on page 85.

Cursor button

MENU button

1. Press the [MENU] button.

The Menu appears.


```
Menu
  📷 Camera1              ▶
  ▱ RecCheck
  🔧 Audio/Video          ▶
  🗐 Archive              ▶
  ⚡ Setup/Info           ▶
  ⬆ Export/Upload        ▶

                    ENTER
          RETURN    MENU
```

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [▷/II] button to confirm the entry.

Select

Confirm


```
Menu
  📷 Camera1              ▶
  ▱ RecCheck
  🔧 Audio/Video          ▶
  🗐 Archive              ▶
  ⚡ Setup/Info           ▶
  ⬆ Export/Upload        ▶

                    ENTER
          RETURN    MENU
```

3. Press the [△ , ▽] buttons to select [Officer] and press the [▷/II] button to confirm the entry.

Select

Confirm


```
Setup/Info
  Officer
  Overlay OSD          DETAILS
       Position(Press ENTER)
  Camera1 Rec LED        ON
       Target Speed      OFF
  Admin                  ▶
  Information
  Reboot
```

The Officer setup top screen appears.

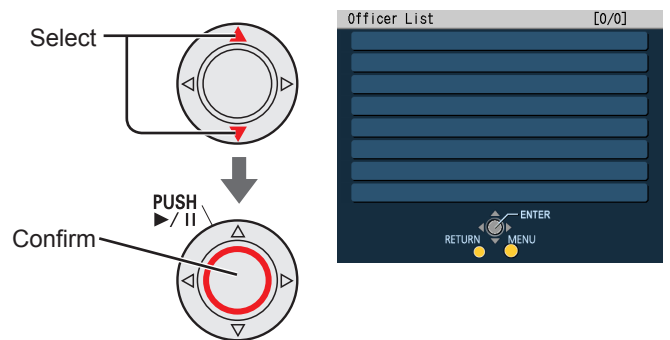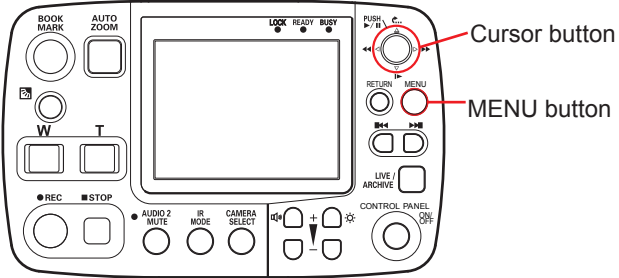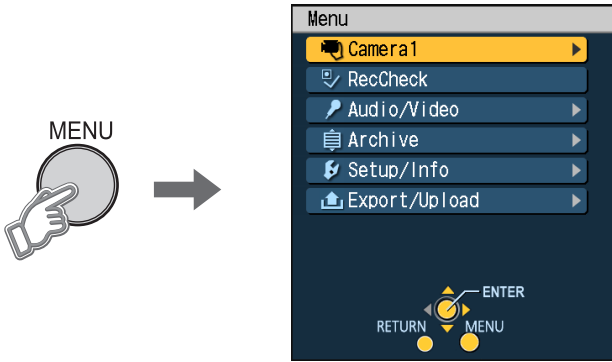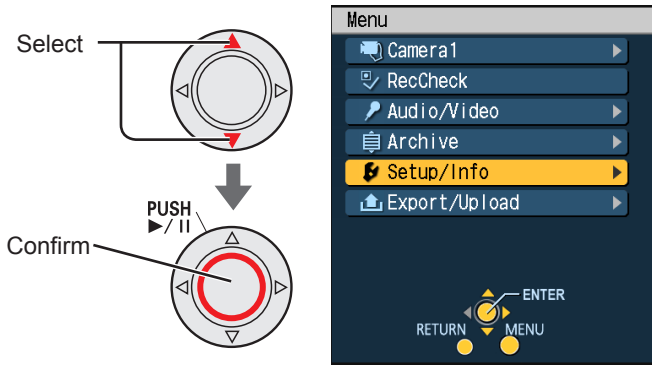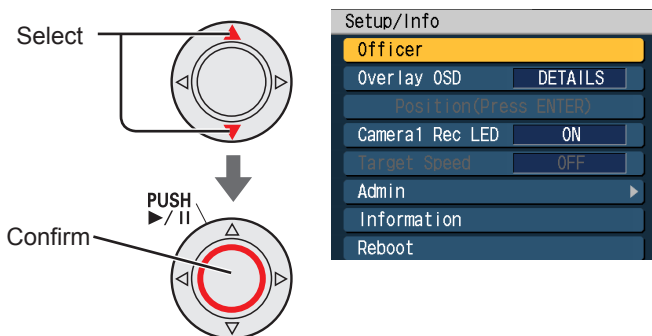**4. Press the [△ , ▽] buttons to select [Source] and press the [▷/II] button to confirm the entry.**

Select

Confirm


```
Officer
  Officer1  ▶  ID :ICV12347
               Name :Mike Brown
  Officer2  ▶  ID :ICV12345
               Name :John Smith
  Source    ▶ Car123
  Area      ▶ WEST
  Shift     ▶ Patrol
  WorkTime  ▶ 2005-09-12 08:15 –
```
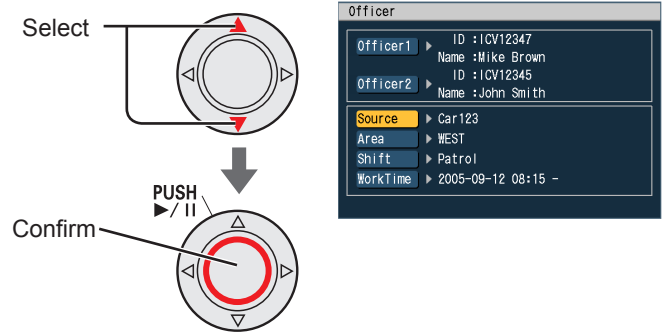
The registered Source data list appears.

5. Press the [△ , ▽] buttons to select Source data (use the [◁ , ▷] buttons to go between pages), and press the [▷/II] button to confirm the entry.

Select

Confirm


```
Source List              [1/1]
  ND2032
  ND2213
  ND3194
  NDPC1199

                    ENTER
          RETURN    MENU
```

The Source data are set, and the Officer setup top screen appears.

Setting up/Deleting Officer Data (continued)

▤ Setting the Area data

Display the menu on the LCD panel. Then read the Area data loaded in the recorder and set. For details on loading the Area data, see "Load Area" on page 85.

Cursor button

MENU button

1. **Press the [MENU] button.**
   The Menu appears.

MENU

```
Menu
  📹 Camera1                    ▶
  ✅ RecCheck
  🔧 Audio/Video                ▶
  📋 Archive                    ▶
  🔧 Setup/Info                 ▶
  📤 Export/Upload              ▶

                        ENTER
              RETURN    MENU
```

2. **Press the [△ , ▽] buttons to select [Setup/Info] and press the [PUSH ▶/II] button to confirm the entry.**

Select

Confirm

```
Menu
  📹 Camera1                    ▶
  ✅ RecCheck
  🔧 Audio/Video                ▶
  📋 Archive                    ▶
  🔧 Setup/Info                 ▶
  📤 Export/Upload              ▶

                        ENTER
              RETURN    MENU
```

3. **Press the [△ , ▽] buttons to select [Officer] and press the [PUSH ▶/II] button to confirm the entry.**

Select

Confirm

```
Setup/Info
  Officer
  Overlay OSD          DETAILS
  Position(Press ENTER)
  Camera1 Rec LED         ON
  Target Speed            OFF
  Admin                      ▶
  Information
  Reboot
```
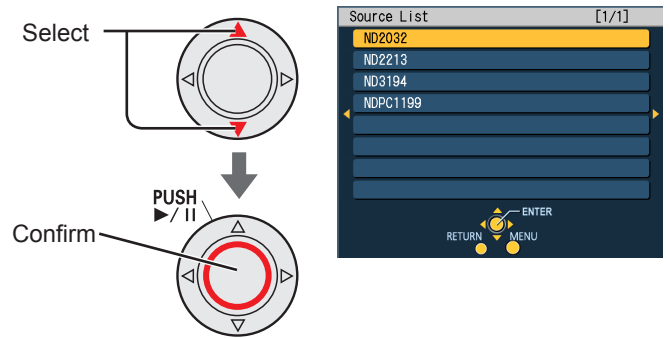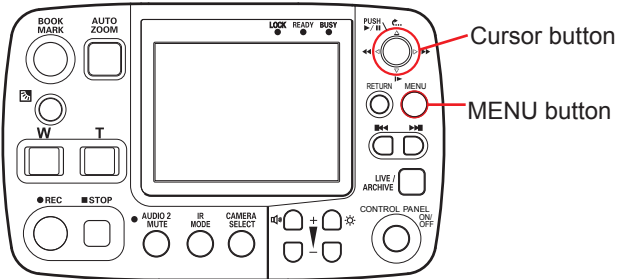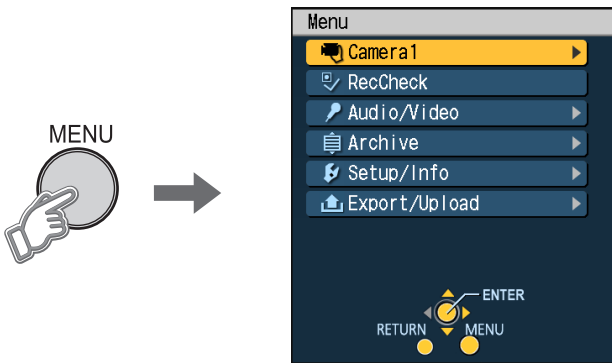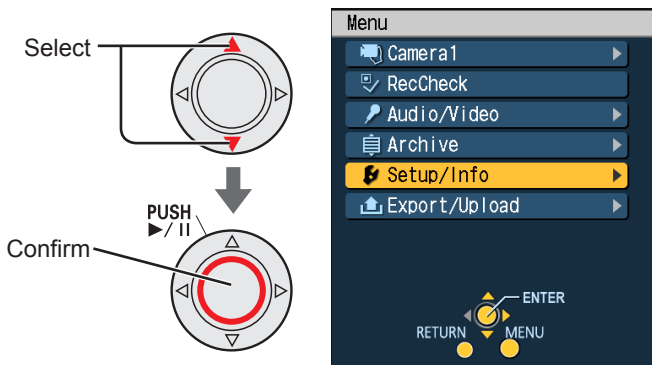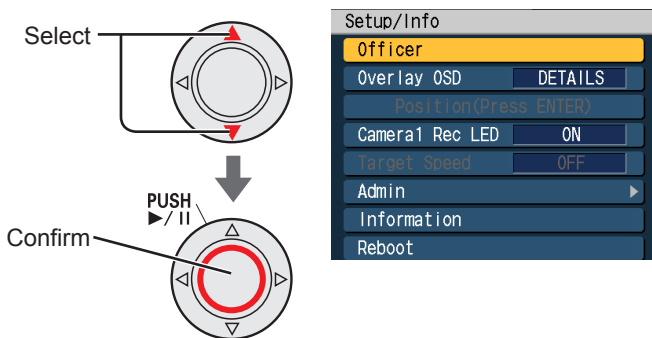
The Officer setup top screen appears.

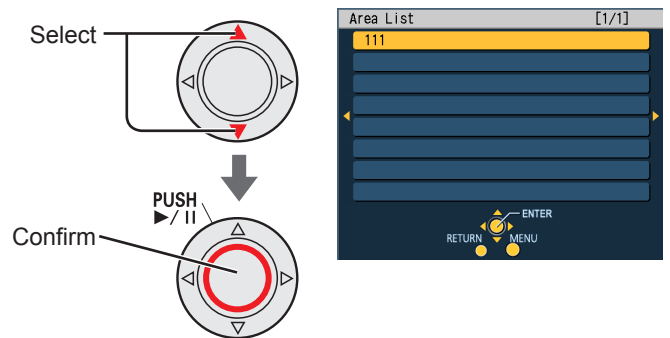4. **Press the [△ , ▽] buttons to select [Area] and press the [PUSH ▶/II] button to confirm the entry.**

Select

Confirm

```
Officer
  Officer1  ▶  ID :ICV12347
              Name :Mike Brown
  Officer2  ▶  ID :ICV12345
              Name :John Smith

  Source    ▶ Car123
  Area      ▶ WEST
  Shift     ▶ Patrol
  WorkTime  ▶ 2005-09-12 08:15 -
```
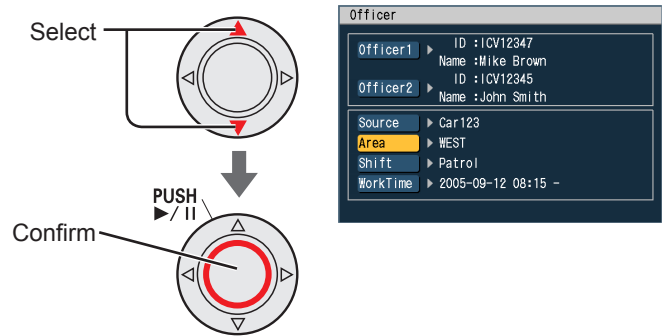
The registered Area data list appears.

5. **Press the [△ , ▽] buttons to select Area data (use the [◁ , ▷] buttons to go between pages), and press the [PUSH ▶/II] button to confirm the entry.**

Select

Confirm

```
Area List                    [1/1]
  111

                        ENTER
              RETURN    MENU
```
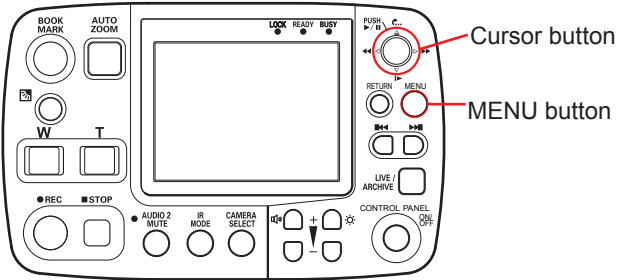
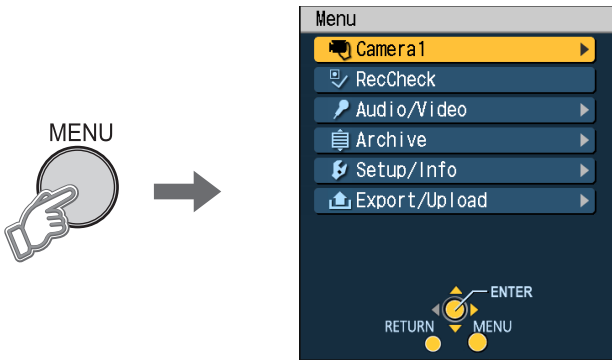The Area data are set, and the Officer setup top screen appears.

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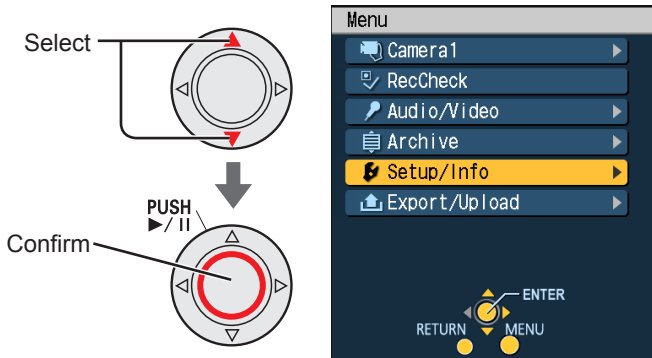# Setting up/Deleting Officer Data (continued)

▤ Setting the Shift data

Display the menu on the LCD panel. Then read the Shift data loaded in the recorder and set. For details on loading the Shift data, see "Load Shift" on page 85.
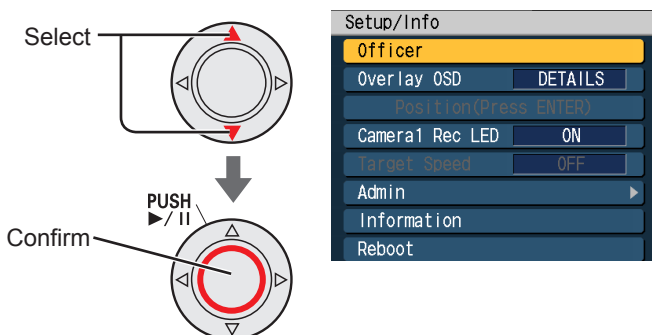

Cursor button
MENU button

1. Press the [MENU] button.

The Menu appears.


```
Menu
  📹 Camera1                    ▶
  🗐 RecCheck
  🔧 Audio/Video                ▶
  📄 Archive                    ▶
  🔧 Setup/Info                 ▶
  📤 Export/Upload              ▶

                        ENTER
            RETURN      MENU
```

MENU

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/Ⅱ] button to confirm the entry.

Select
Confirm

PUSH ▶/Ⅱ


```
Menu
  📹 Camera1                    ▶
  🗐 RecCheck
  🔧 Audio/Video                ▶
  📄 Archive                    ▶
  🔧 Setup/Info                 ▶
  📤 Export/Upload              ▶

                        ENTER
            RETURN      MENU
```

3. Press the [△ , ▽] buttons to select [Officer] and press the [▶/Ⅱ] button to confirm the entry.

Select
Confirm

PUSH ▶/Ⅱ


```
Setup/Info
  Officer
  Overlay OSD          DETAILS
  Position(Press ENTER)
  Camera1 Rec LED         ON
  Target Speed            OFF
  Admin                    ▶
  Information
  Reboot
```

The Officer setup top screen appears.

4. Press the [△ , ▽] buttons to select [Shift] and press the [▶/Ⅱ] button to confirm the entry.

Select
Confirm

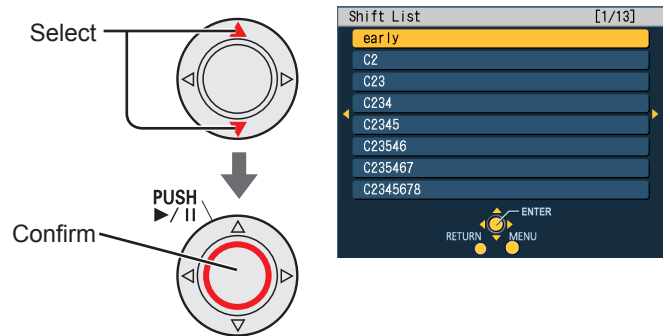PUSH ▶/Ⅱ


```
Officer
  Officer1  ▶  ID :ICV12347
               Name :Mike Brown
  Officer2  ▶  ID :ICV12345
               Name :John Smith

  Source    ▶ Car123
  Area      ▶ WEST
  Shift     ▶ Patrol
  WorkTime  ▶ 2005-09-12 08:15 -
```
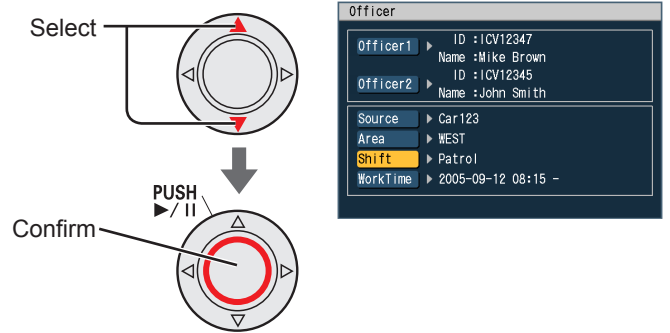
The registered Shift data list appears.

5. Press the [△,▽] buttons to select Shift data (use the [◁ , ▷] buttons to go between pages), and press the [▶/Ⅱ] button to confirm the entry.
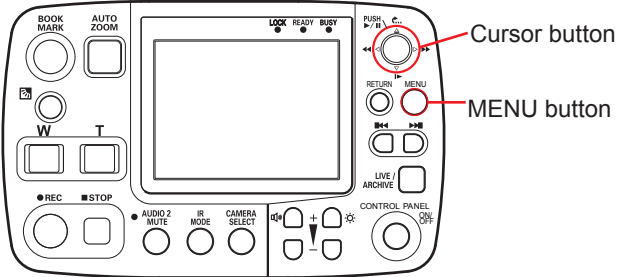
Select
Confirm

PUSH ▶/Ⅱ


```
Shift List                    [1/13]
  early
  C2
  C23
  C234
  C2345
  C23546
  C235467
  C2345678
                        ENTER
            RETURN      MENU
```

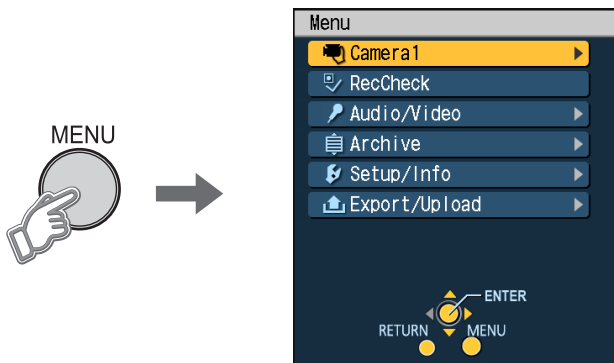The Shift data are set, and the Officer setup top screen appears.

▤ Setting the Work Time data

Display the menu on the LCD panel. Then read the Work Time data loaded in the recorder and set.

Cursor button

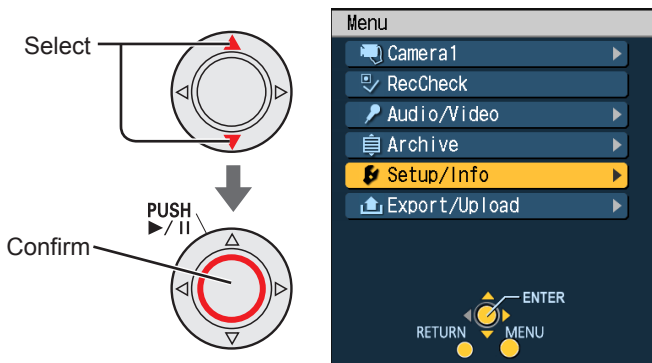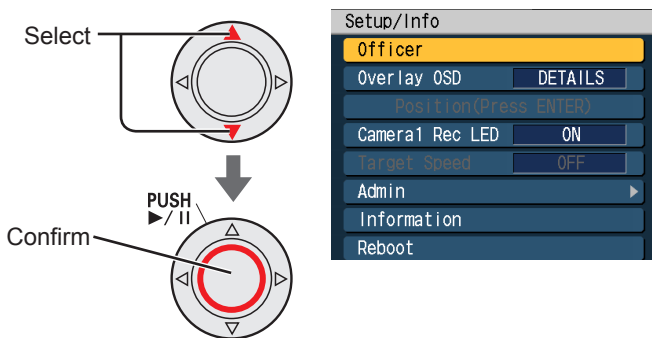MENU button

1. Press the [MENU] button.

The Menu appears.

MENU

Menu
- Camera1
- RecCheck
- Audio/Video
- Archive
- Setup/Info
- Export/Upload

ENTER
RETURN   MENU

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [PUSH ▶/II] button to confirm the entry.

Select

Confirm

Menu
- Camera1
- RecCheck
- Audio/Video
- Archive
- Setup/Info
- Export/Upload

ENTER
RETURN   MENU

3. Press the [△ , ▽] buttons to select [Officer] and press the [PUSH ▶/II] button to confirm the entry.

Select

Confirm

Setup/Info
- Officer
- Overlay OSD   DETAILS
- Position(Press ENTER)
- Camera1 Rec LED   ON
- Target Speed   OFF
- Admin
- Information
- Reboot

The Officer setup top screen appears.

4. Press the [△ , ▽] buttons to select [Work Time] and press the [PUSH ▶/II] button to confirm the entry.

Select

Confirm

Officer
- Officer1 ▶ ID :ICV12347 Name :Mike Brown
- Officer2 ▶ ID :ICV12345 Name :John Smith
- Source ▶ Car123
- Area ▶ WEST
- Shift ▶ Patrol
- WorkTime ▶ 2005-09-12 08:15 –
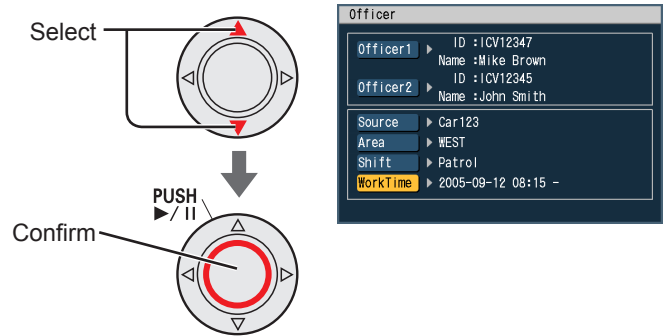
The Work Time setting screen appears.

5. Press the [◁ , ▷] buttons to set Work Time data.

The setting is made on a 15-minute basis.

Select

Confirm

Work Time
Another ◀ 08:00 ▶ from now
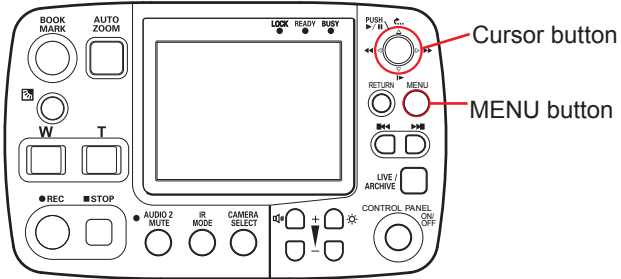Start : 04/11/2009 06:51
End   : 04/11/2009 14:51
Set
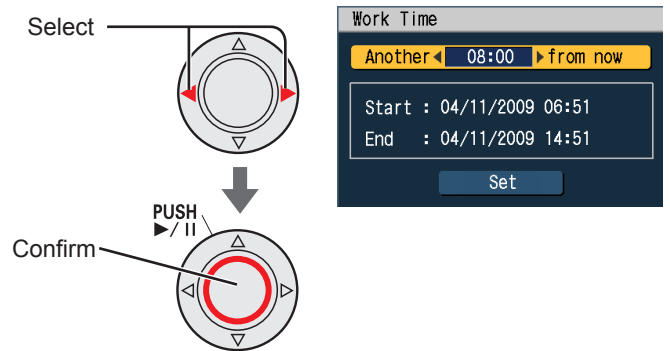
6. Press the [Set] button.

The Work Time data are set, and the Officer setup top screen appears.

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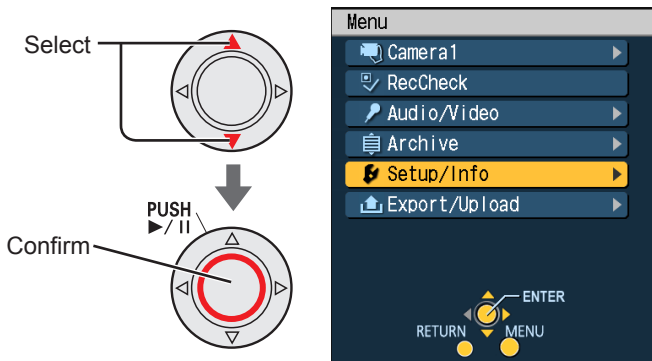# Setting up/Deleting Officer Data (continued)
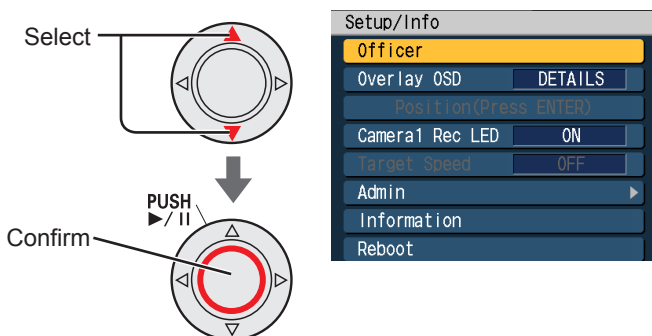
▤ Deleting entered data
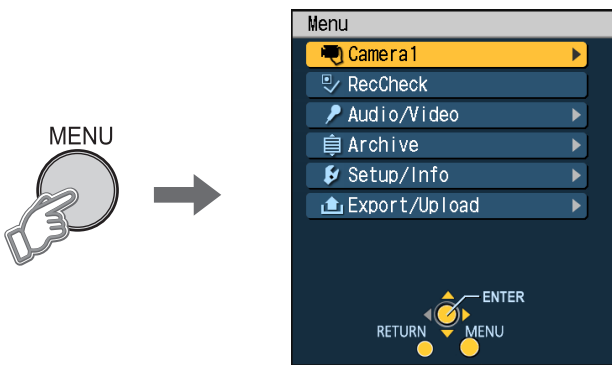
Cursor button

MENU button

1. Press the [MENU] button.

The Menu appears.

MENU

Menu	
🗨 Camera1	▶
🗹 RecCheck	
🔧 Audio/Video	▶
🗐 Archive	▶
🎮 Setup/Info	▶
🔼 Export/Upload	▶

ENTER
RETURN   MENU

2. Press the [△, ▽] buttons to select [Setup/Info] and press the [▶/II] button to confirm the entry.

Select

Confirm

Menu	
🗨 Camera1	▶
🗹 RecCheck	
🔧 Audio/Video	▶
🗐 Archive	▶
🎮 Setup/Info	▶
🔼 Export/Upload	▶

ENTER
RETURN   MENU

3. Press the [△, ▽] buttons to select [Officer] and press the [▶/II] button to confirm the entry.

Select

Confirm

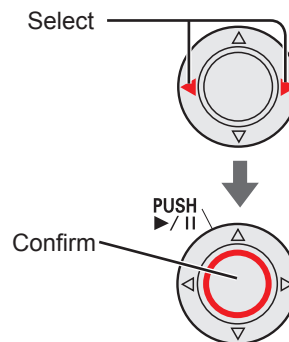| Setup/Info	
Officer	
Overlay OSD	DETAILS
Position(Press ENTER)	
Camera1 Rec LED	ON
Target Speed	OFF
Admin	▶
Information	
Reboot	

The Officer setup top screen appears.

4. Press the [△, ▽] buttons to select [Officer1] or [Officer2] to be deleted, and press the [▶/II] button to confirm the entry.

Select

Confirm

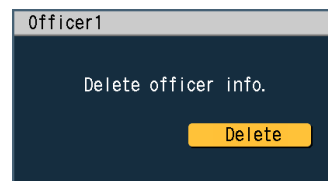| Officer	
Officer1 ▶	ID :ICV12347
	Name :Mike Brown
Officer2 ▶	ID :ICV12345
	Name :John Smith
Source	▶ Car123
Area	▶ WEST
Shift	▶ Patrol
WorkTime	▶ 2005-09-12 08:15 -
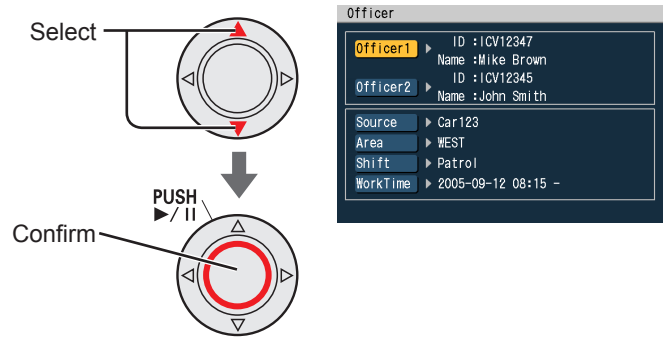
Notes:
- Only Officer1 and Officer2 data can be selected. Even if Source, Area, Shift, or Work Time is selected, the data cannot be deleted.
- When the Officer1 data are deleted, the Source, Area, Shift, and Work Time data for the Officer1 are also deleted.

5. Press the [◁, ▷] buttons to select [Delete] and press the [▶/II] button to confirm the entry.

Select

Confirm

The displayed screen depends on the setup method.

<When set in AUTO mode>

Officer1
Delete officer info.
Delete

<When set in MANUAL mode>

Officer1
Load or Delete officer info.
Load   Delete

<When set in LIST mode>

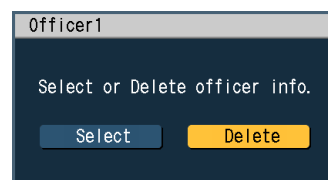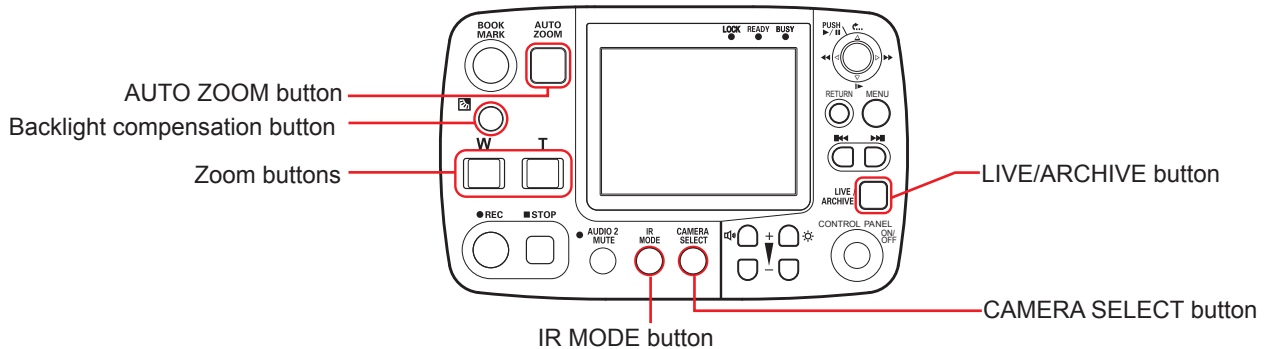| Officer1 |
|---|
| Select or Delete officer info. |
| Select   Delete |
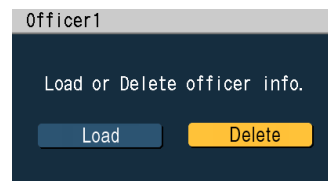
This deletes officer data selected in Step 4.

Viewing Live Video

Use the functions described below to manipulate video output by the camera connected to the [CAMERA 1] connector and sound from the microphone.
Press the [LIVE/ARCHIVE] button to view live video.
A commercially available cameras connected to the [CAMERA 2, 3, 4, 5, 6] connectors cannot be controlled.

AUTO ZOOM button
Backlight compensation button
Zoom buttons
LIVE/ARCHIVE button
CAMERA SELECT button
IR MODE button

◎ Selecting pictures

Press the [CAMERA SELECT] button.
Each press of the button toggles the main and sub pictures.
Holding the button pressed for more than two seconds switches the preset (Preset1, Preset2 or Preset3).

Notes:
• Color Camera operations in the Remote Control Panel menu cannot be accessed when one of the [CAMERA] [2] to [6] connector input is selected.
• If the preset setting is enabled, the main screen for Preset1 is displayed with selection of the [CAMERA SELECT] button.
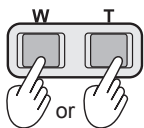
◎ Zooming

To view the overall scene, press the [W] button and zoom out.
To view fine details, press the [T] button and zoom in.

1. **Press the [W] button or the [T] button.**
   The camera zooms in or out while the button is kept depressed.

2. **Release the button when reaching the desired image size.**

■ **Pressing [AUTO ZOOM] button**

   It zooms in the image to the target ratio and then pauses before zooming out towards the wide angle end. When the zoom in operation goes beyond the target ratio, it first zooms out to the target ratio.

◎ Making a backlit image easier to view

A dark subject against a bright background can be made easier to view.

Press the [ ] button.

This button toggles between "ON" and "OFF" at each press.
Set this button to "OFF" for normal operation.

◎ Making a dark image easier to view

Use the infrared mode to make dark images easier to view.

Press the [IR MODE] button.
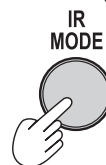
The `IR          ON` appears.

Each press of this button switches the function from "AUTO", "ON" and "OFF". Set this function to "AUTO" for normal operation.

Note:
This function can be used together with "Adjusting image brightness" (on page 47) to make an image brighter.

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Viewing Live Video (continued)

CONTROL PANEL
ON/OFF button

AUDIO 2 MUTE button

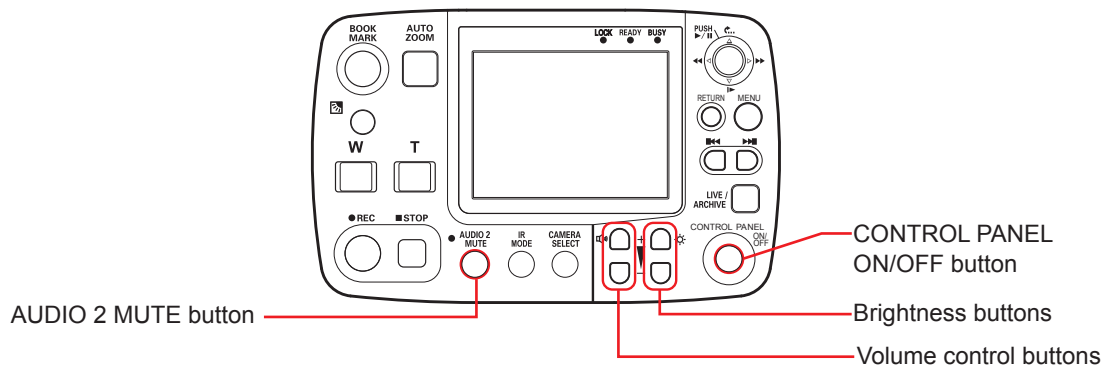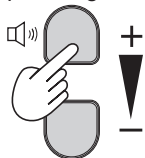Brightness buttons

Volume control buttons

◎ Adjusting speaker volume

Adjust the sound volume of the speaker on the remote
control panel with the volume control buttons.

1. **Press the [+] or [–] button of the [◁»] button.**
   Pressing the [+] button increasing the volume, while
   pressing the [–] button decreases the volume.

2. **Release the button when reaching the desired
   volume.**

◎ Muting Audio 2 input sound

Press the [AUDIO 2 MUTE] button.
Each press of this button toggles the button between record
and mute.

Note:
It is not possible to switch Audio1, 3, or 4 sound recording in
this manner.

◎ Adjusting brightness of the LCD panel

Adjust the brightness of the LCD panel on the remote control
panel with the brightness buttons.

1. **Press the [+] or [–] button of the [☼] buttons.**
   Pressing the [+] button makes the LCD panel brighter,
   while pressing the [–] button makes the it darker.
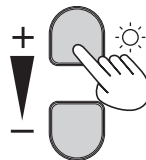
2. **Release the button when reaching the desired
   brightness.**

◎ Turning off the LCD panel

Press the [CONTROL PANEL ON/OFF] button.
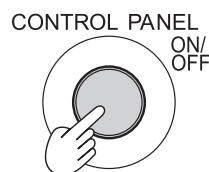
This turns off the LCD panel and lamps and disables all
button functions.
Pressing this button a second time turns on the LCD panel
and lamps and button operations again become available.

Viewing Live Video (continued)

Cursor button

MENU button

◎ Adjusting image focus

Note:
This menu is available only when the [CAMERA 1] connector input is selected.
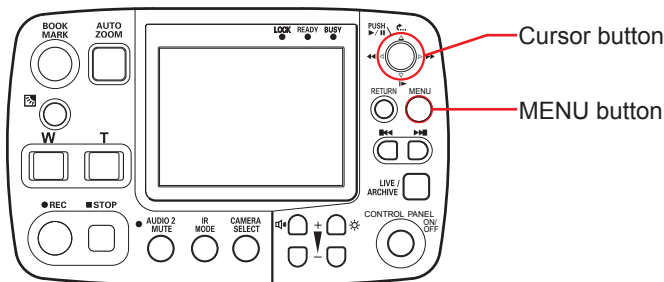
1. Press the [MENU] button.
The Menu appears.

MENU


```
Menu
  🎥 Camera1                    ▶
  📝 RecCheck
  🔧 Audio/Video                ▶
  📋 Archive                    ▶
  💷 Setup/Info                 ▶
  📤 Export/Upload              ▶

                    ENTER
  RETURN      MENU
```

2. Confirm that [Camera1] is selected, and press the [▶/Ⅱ] button.
The `Auto Focus(Press ENTER)` appears.

Confirm

3. Press the [▶/Ⅱ] button.

Confirm
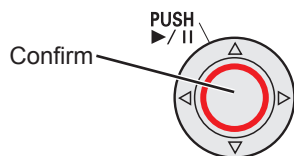
The autofocus function automatically focuses the image.

■ When the autofocus function cannot properly focus the image.

1. Press the [△ , ▽] buttons to select [Manual Focus].
The `Manual Focus    ◀ N      F ▶` appears.

Select
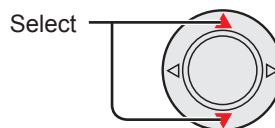
2. To focus on a more distant subject, keep pressing the [▷] button and release it when it comes into focus.

To focus on a closer subject, keep pressing the [◁] button and release it when it comes into focus.

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Viewing Live Video (continued)

Cursor button
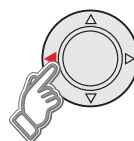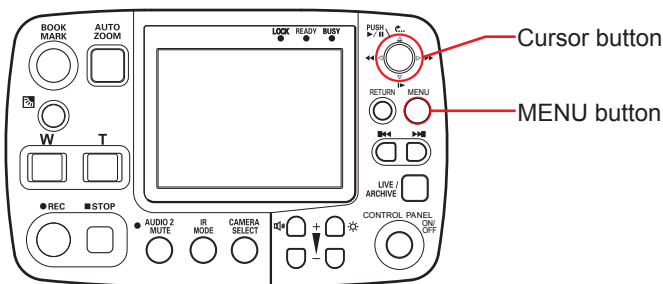
MENU button

☰ Adjusting image brightness

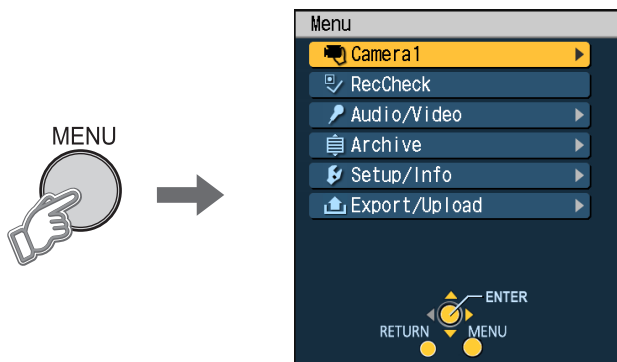Total brightness of the video captured by the color camera is adjusted.

Note:
This menu is available only when the [CAMERA 1] connector input is selected.

1. **Press the [MENU] button.**

   The Menu appears.

   MENU

   Menu
   - 🎥 Camera1
   - 🗾 RecCheck
   - 🔧 Audio/Video
   - 📄 Archive
   - 🔧 Setup/Info
   - ⬆ Export/Upload

   ENTER
   RETURN   MENU
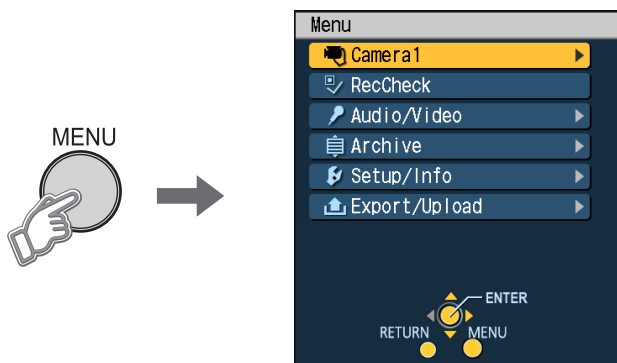
2. **Confirm that [Camera1] is selected, and press the [▶/‖] button.**

   PUSH
   ▶/‖
   Confirm

3. **Press the [△ , ▽] buttons to select [AE [-2 -- +2]].**

   The `AE[-2 -- +2]  ◀  0  ▶` appears.

   Select
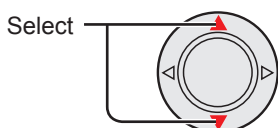
4. **Press the [▷] button to make the image brighter.**

   ➡ Brighter
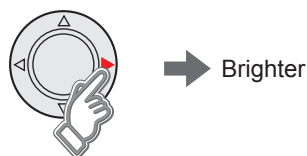
   Press the [◁] button to make the image darker.

   ➡ Darker
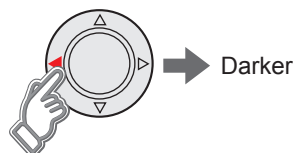
   Set this button to "0" (zero) for normal operation.

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Viewing Live Video (continued)

LOCK lamp

Cursor button

MENU button
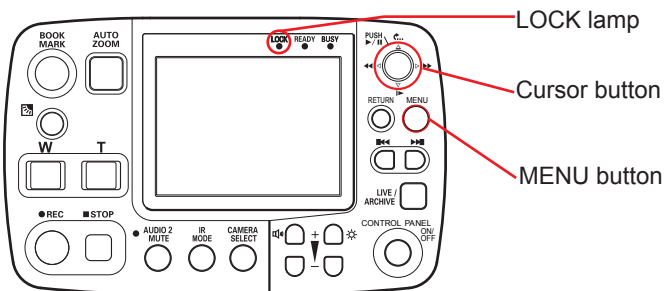
▤ Setting LPR mode

When the camera for the LPR mode is connected to the [CAMERA 3] connector (see "Example" on page 5), use the signal output from the [VIDEO OUT 1] connector, and set [VIDEO OUT 1] on the Audio/Video screen to "CAM3".
Use of license plate recognition requires the following setup.
This menu is available only when [Init LPR Mode] in administrator setup is set to "ENABLE" (see "Camera1" on page 88).

Note:
This menu is available only when the [CAMERA 1] connector input is selected.

1. Press the [MENU] button.
The Menu appears.
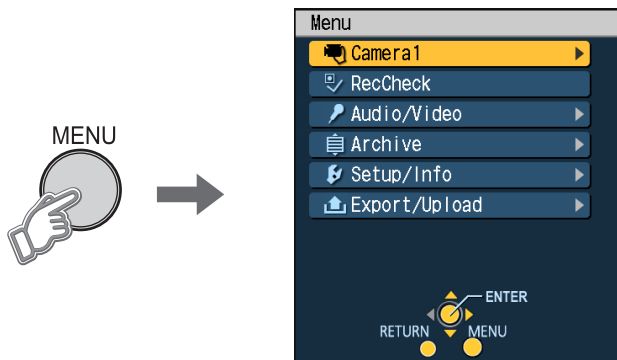
2. Confirm that [Camera1] is selected, and press the [►/ II] button.

Confirm
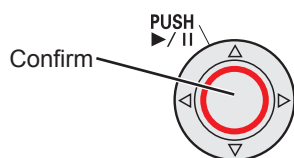
3. Press the [△ , ▽] buttons to select [LPR Mode].
The [LPR Mode   ◄ PATROL ►] appears.
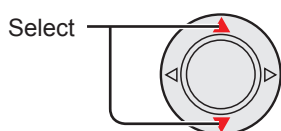
Select

4. Press the [◁ , ▷] buttons to select the recognition mode.

Select
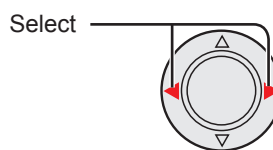
LPR: Engages the License Plate Recognition mode and the [LOCK] lamp blinks. [LPR Shutter Speed] and [LPR Zoom] now become available.

PATROL: Engages the normal mode. [Patrol Shutter Speed] and [Patrol Zoom] now become available.

Note:
Changing [Init LPR Mode] to "DISABLE" in administrator setup while setting "LPR" engages "PATROL" and [LPR Mode] is no longer available.

Viewing Live Video (continued)

Cursor button

MENU button
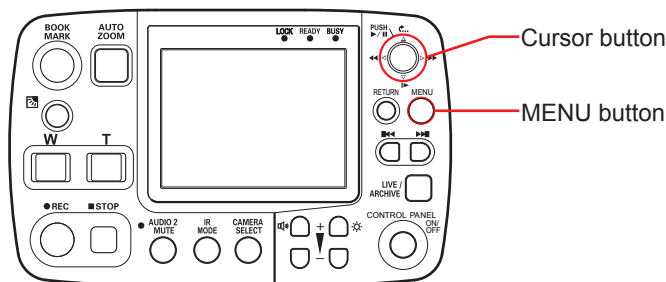
▤ Setting shutter speed (in LPR mode)

Set a shutter speed to capture sharp video of fast-moving subjects.
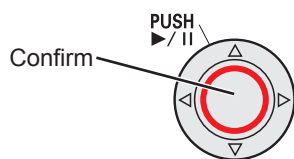This menu is available only when [Init LPR Mode] in administrator setup is set to "ENABLE" and [LPR Mode] is set to "LPR".

Note:
This menu is available only when the [CAMERA 1] connector input is selected.

1. Press the [MENU] button.

The Menu appears.

MENU
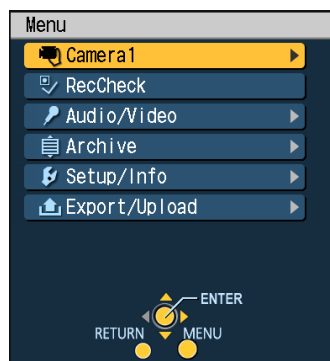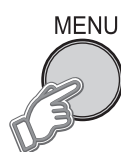
### 2. Confirm that [Camera1] is selected, and press the [PUSH ▶/II] button.

Confirm
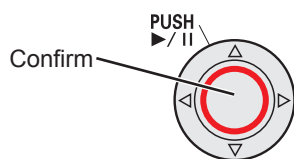
3. Press the [△ , ▽] buttons to select [LPR Shutter Speed].

The LPR Shutter Speed ◀ 1/1000 ▶ appears.
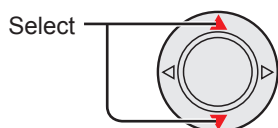
Select

4. Press the [◁ , ▷] buttons to select a shutter speed.

Select
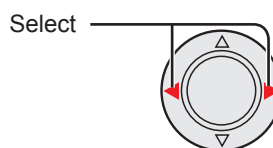
AUTO: Automatically adjusts the shutter speed to ambient light.
1/500, 1/1000: Set as required by the subject.

Note:
A recording started by a recording trigger during license plate recognition will automatically switch the shutter speed to the value set by Patrol Shutter Speed. When recording stop criteria are met, the shutter speed automatically returns to the value set in Step 4.

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Viewing Live Video (continued)

Cursor button

MENU button
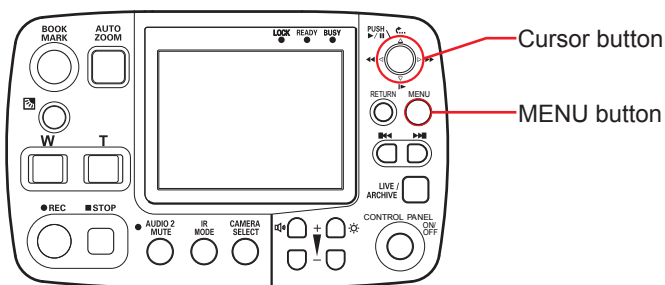
▤ Setting camera zoom (in LPR mode)

The camera zoom can be set in the range 1.0 to 22.0 x. This menu is available only when [Init LPR Mode] in administrator setup is set to "ENABLE" and [LPR Mode] is set to "LPR".

Note:
This menu is available only when the [CAMERA 1] connector input is selected.

1. Press the [MENU] button.

The Menu appears.

2. Confirm that [Camera1] is selected, and press the [▶/Ⅱ] button.

Confirm
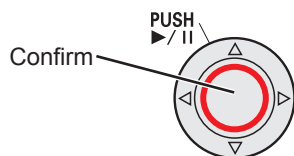
3. Press the [△ , ▽] buttons to select [LPR Zoom].

The ▊ LPR Zoom ◀ X1.0 ▶ appears.
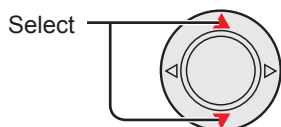
Select

4. Press the [▷] button to raise the ratio.
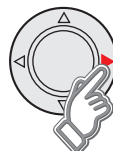
Raise the ratio.

Press the [◁] button to lower the ratio.
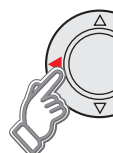
Lower the ratio.

Note:
A recording started by a recording trigger during license plate recognition will automatically switch the camera zoom setting to [Patrol Zoom]. When recording stop criteria are met, the camera zoom setting is automatically switched to [LPR Zoom].

Viewing Live Video (continued)

Cursor button

MENU button
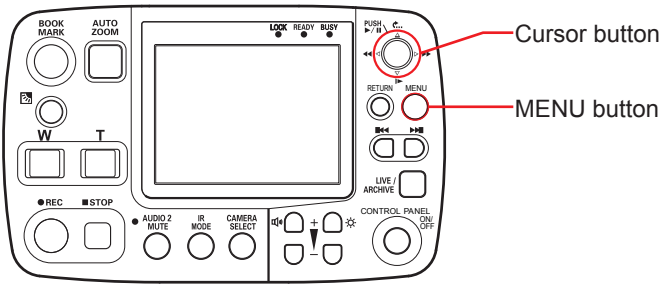
Setting shutter speed (in PATROL mode)

Set a shutter speed to capture sharp video of fast-moving subjects.
This menu is available only when [Init LPR Mode] in administrator setup is set to "ENABLE" and [LPR Mode] is set to "PATROL".

Note:
This menu is available only when the [CAMERA 1] connector input is selected.

1. **Press the [MENU] button.**

   The Menu appears.
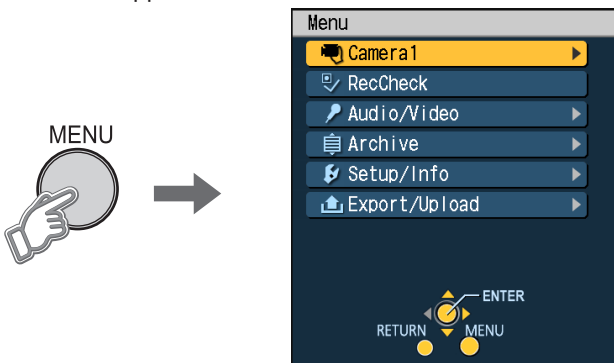
2. **Confirm that [Camera1] is selected, and press the [PUSH ►/II] button.**
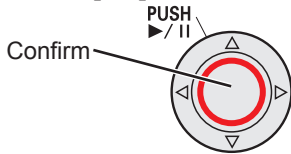
3. **Press the [△ , ▽] buttons to select [Patrol Shutter Speed].**

   The [Patrol Shutter Speed ◄ AUTO ►] appears.
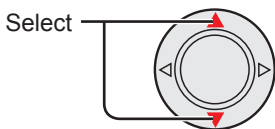
4. **Press the [◁ , ▷] buttons to select a shutter speed.**
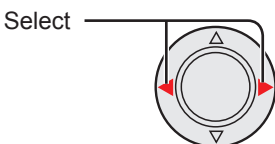
   AUTO: Automatically adjusts the shutter speed to ambient light.
   1/100, 1/500, 1/1000: Set as required by the subject.

Setting camera zoom (in PATROL mode)

The camera zoom can be set in the range 1.0 to 22.0 x.
This menu is available only when [Init LPR Mode] in administrator setup is set to "ENABLE" and [LPR Mode] is set to "PATROL".

Note:
This menu is available only when the [CAMERA 1] connector input is selected.

1. **Press the [MENU] button.**

   The Menu appears.
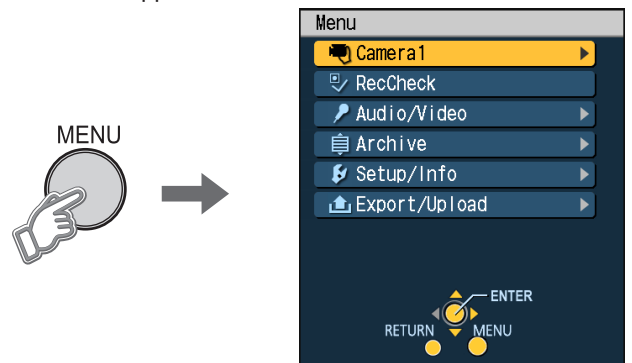
2. **Confirm that [Camera1] is selected, and press the [PUSH ►/II] button.**
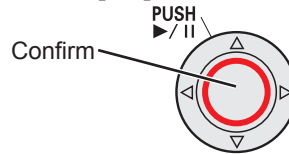
3. **Use the [△ , ▽] buttons to select [Patrol Zoom].**

   The [Patrol Zoom ◄ X1.0 ►] appears.

4. **Press the [▷] button to raise the ratio.**
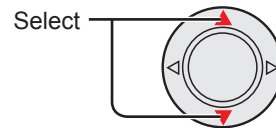
   Raise the ratio.

   Press the [◁] button to lower the ratio.

   Lower the ratio.

Viewing Live Video (continued)

Cursor button
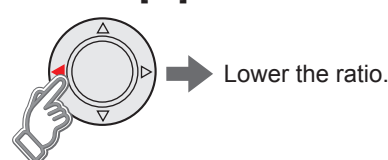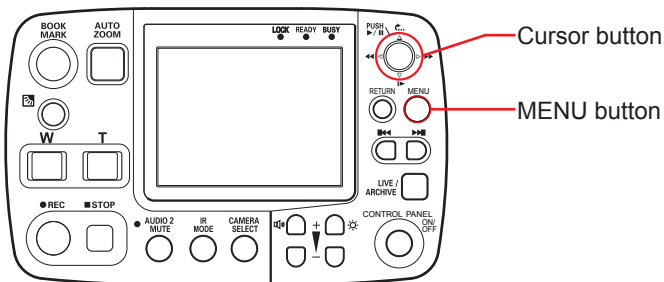
MENU button

▤ Checking audio

Sound output is normally off when viewing live video. Use the following steps to check that sound is input normally.

1. Press the [MENU] button.
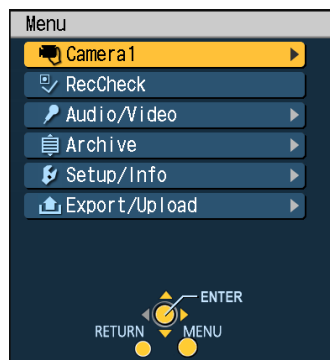
The Menu appears.

MENU


```
Menu
  🗔 Camera1              ▶
  � RecCheck
  🔧 Audio/Video          ▶
  📋 Archive              ▶
  🔧 Setup/Info           ▶
  ⬆ Export/Upload         ▶


                    ┌ ENTER
          RETURN    MENU
```

2. Use the [△ , ▽] buttons to select [Audio/Video] and press the [PUSH ►/II] button to confirm the entry.

Select

Confirm

PUSH ►/ II


```
Menu
  🗔 Camera1              ▶
  � RecCheck
  🔧 Audio/Video          ▶
  📋 Archive              ▶
  🔧 Setup/Info           ▶
  ⬆ Export/Upload         ▶


                    ┌ ENTER
          RETURN    MENU
```
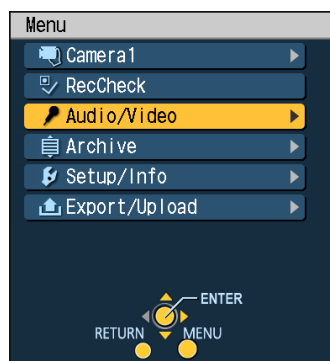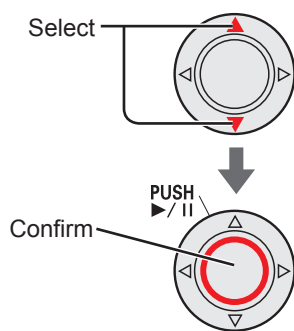
3. Press the [△ , ▽] buttons to select the channel to be checked, and then press the [PUSH ►/II] button.

Select

Confirm

PUSH ►/ II


```
Audio/Video
Audio
  Audio1 Test(Press ENTER)
  Audio2 Test(Press ENTER)
  Audio3 Test(Press ENTER)
  Audio4 Test(Press ENTER)
Video
  Image Enhance      OFF
  VIDEO OUT1      VIDEO OUT2
```
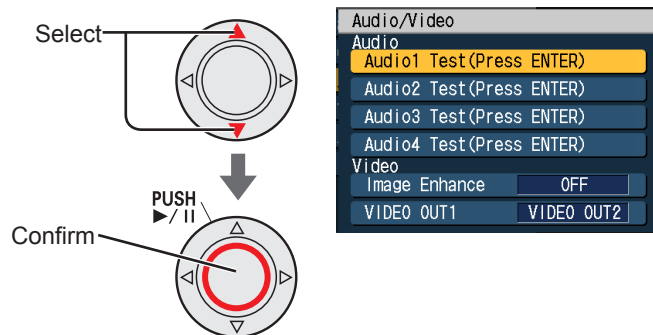
Sound is output while the [PUSH ►/II] button is depressed.

Notes:
- The output sound may be too loud depending on the sound volume setting. Lower the sound volume as required.
- Audio channels set to OFF on the Audio Allocation screen in Administrator setup cannot be selected.

Viewing Live Video (continued)

Cursor button
MENU button
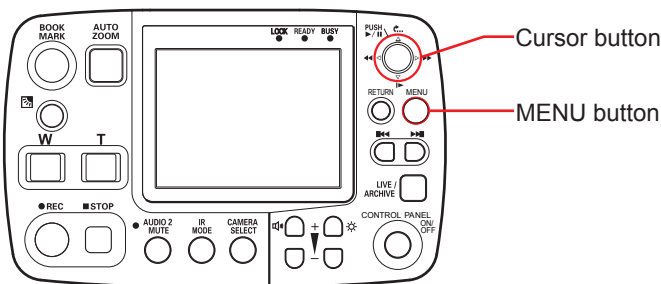
📺 Adjusting the image enhancement

The brightness of the dark part of the main picture is adjusted. The sub picture is not adjusted.

1. Press the [MENU] button.
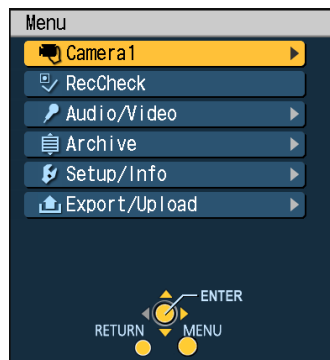
The Menu appears.

MENU

```
Menu
  🎥 Camera1              ▶
  📷 RecCheck
  🔊 Audio/Video          ▶
  🗄 Archive              ▶
  ⚙ Setup/Info           ▶
  ⬆ Export/Upload        ▶

                    ▲ ENTER
           RETURN  ◀◉▶  MENU
                    ▼
```

2. Press the [△ , ▽] buttons to select [Audio/Video] and press the [▶/II] button to confirm the entry.

Select

Confirm


```
Menu
  🎥 Camera1              ▶
  📷 RecCheck
  🔊 Audio/Video          ▶
  🗄 Archive              ▶
  ⚙ Setup/Info           ▶
  ⬆ Export/Upload        ▶

                    ▲ ENTER
           RETURN  ◀◉▶  MENU
                    ▼
```
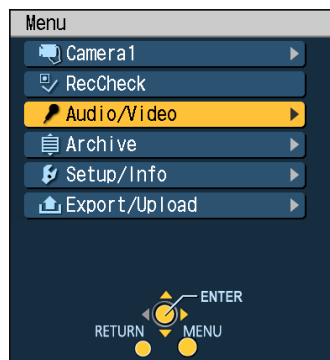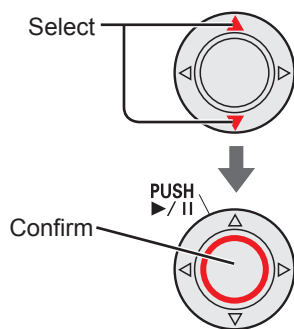
3. Press the [△ , ▽] buttons to select [Image Enhance].

Select

Confirm


```
Audio/Video
Audio
  Audio1 Test(Press ENTER)
  Audio2 Test(Press ENTER)
  Audio3 Test(Press ENTER)
  Audio4 Test(Press ENTER)
Video
  Image Enhance    ◀    OFF    ▶
  VIDEO OUT1        VIDEO OUT2
```
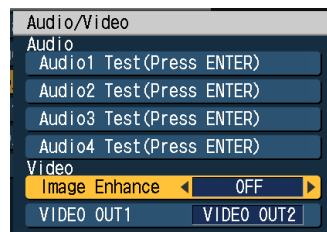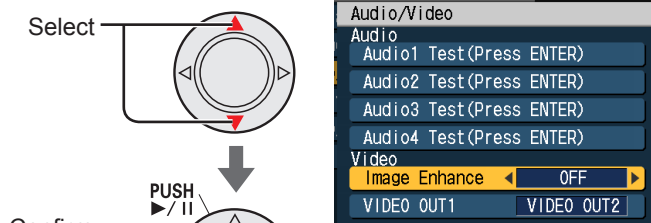
4. Press the [◁ , ▷] buttons to set brightness, and press the [▶/II] button to confirm the entry.

LOW: Adjusting slightly
HIGH: Adjusting strongly
OFF: No adjustment

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Viewing Live Video (continued)

Cursor button
MENU button

▤ Setting the output video

Set the through-out signal output from the [VIDEO OUT 1] connector on the recorder.

1. Press the [MENU] button.
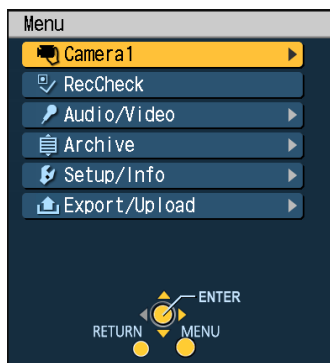
The Menu appears.

MENU

2. Use the [△ , ▽] buttons to select [Audio/Video] and press the [▶/Ⅱ] button to confirm the entry.
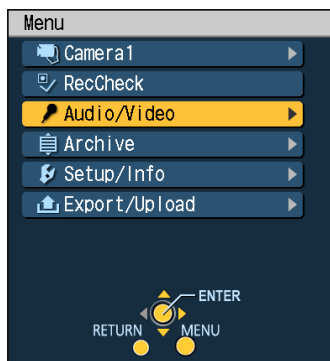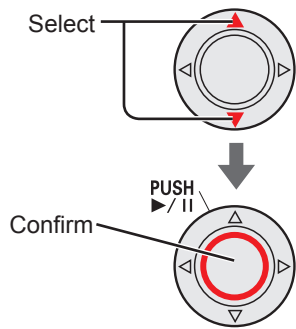
Select

Confirm

3. Press the [△ , ▽] buttons to select [VIDEO OUT1].
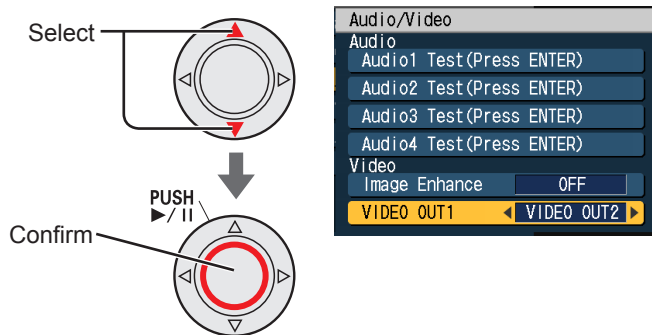
Select

Confirm

4. Press the [◁ , ▷] buttons to select a signal, and press the [▶/Ⅱ] button to confirm the entry.

CAM1: Signal input to the [CAMERA 1] connector
CAM3: Signal input to the [CAMERA 3] connector
VIDEO OUT2: The same signal as that output from the [VIDEO OUT 2] connector

Viewing Live Video (continued)

Cursor button
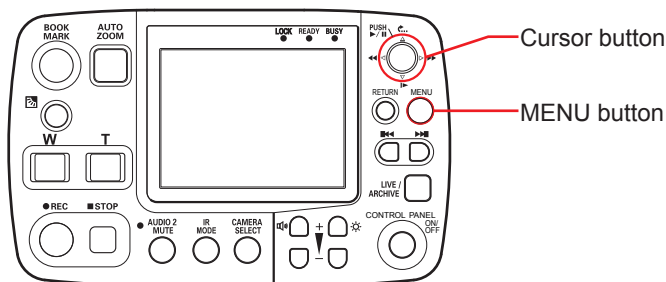
MENU button

▤ Viewing the status of the recorder (Overlay OSD)

The following function is provided to enable viewing the status of the recorder and the trigger signal (GPI1-16) status.

1. Press the [MENU] button.
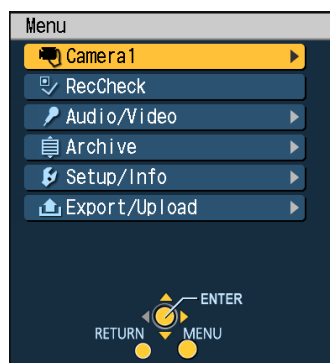
The Menu appears.

MENU

```
Menu
  🗨 Camera1           ▶
  🗹 RecCheck
  🖉 Audio/Video       ▶
  📋 Archive           ▶
  🔧 Setup/Info        ▶
  🔼 Export/Upload     ▶

                ┌ ENTER
  RETURN     MENU
```

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [PUSH ▶/II] button to confirm the entry.

Select

Confirm

PUSH
▶/ II


```
Menu
  🗨 Camera1           ▶
  🗹 RecCheck
  🖉 Audio/Video       ▶
  📋 Archive           ▶
  🔧 Setup/Info        ▶
  🔼 Export/Upload     ▶

                ┌ ENTER
  RETURN     MENU
```

3. Press the [△ , ▽] buttons to select [Overlay OSD].

select


```
Setup/Info
  Officer
  Overlay OSD      ◀  AUTO  ▶
       Position(Press ENTER)
  Camera1 Rec LED       ON
  Target Speed          OFF
  Admin                        ▶
  Information
  Reboot
```
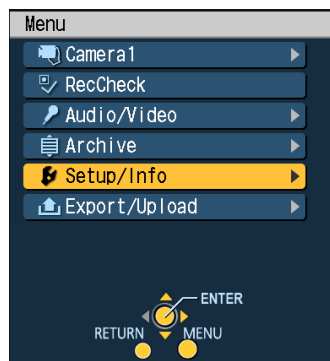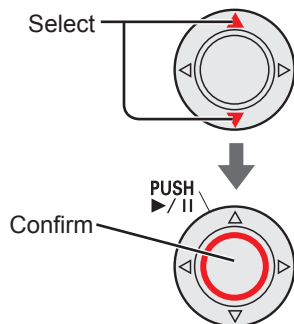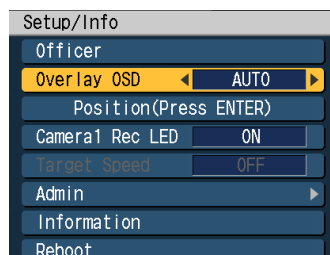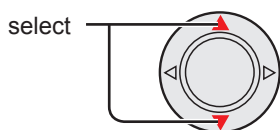
4. Press the [◁ , ▷] buttons to select "AUTO", "SIMPLE", "DETAILS" or "OFF".

Select
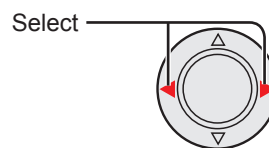
AUTO: The simple overlay OSD (see page 56) appears for 3 to 5 seconds when any of the following items have been changed.
 • Mode indication
 • Status display

SIMPLE: The simple overlay OSD appears.

DETAILS: The detailed overlay OSD appears.

OFF: The overlay OSD closes.

Notes:
• The administrator can set the Overlay OSD (Init Overlay OSD) selected at power-on.
• See the next page for how to read the overlay OSD.
• When "AUTO" is selected and the [BOOK MARK] button is pressed, the simple overlay OSD does not appear but the bookmark icon 🔖 appears for 1 to 2 seconds.

Adjusting the display position

When [Main OSD] or [Sub OSD] is set to OFF on the Embedded OSD screen in administrator setup, select the [Position (Press ENTER)] on the Setup/Info screen, and press the [PUSH ▶/II] button. Then the display position moves up and down.

Viewing Live Video (continued)

<Detailed Overlay OSD>

<Simple Overlay OSD>
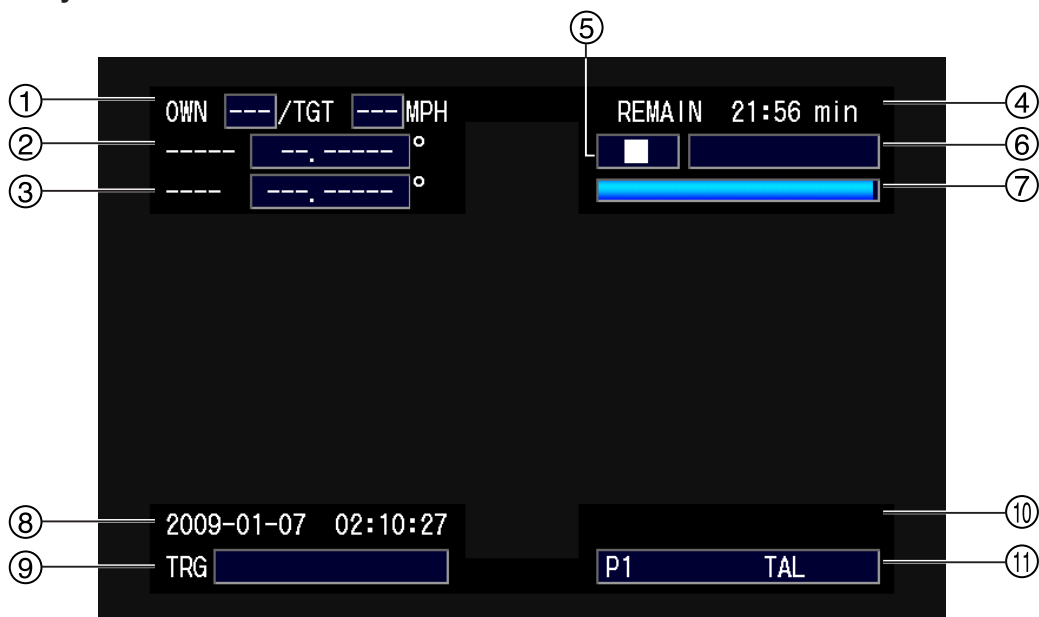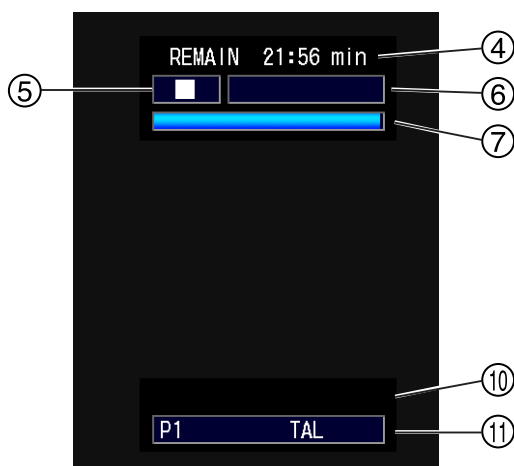
① **Speed (MPH / km/h)**
OWN: Own vehicle speed
Own vehicle speed detected by a Radar or GPS connected to the recorder is displayed. If the speed data of both the Radar and GPS are sent from the recorder, the speed detected by the Radar is displayed.

TGT: Target vehicle speed
Target vehicle speed indication depends on the type of radar gun that is connected. For example, one ProLaser3 measurement indicates vehicle speed for a period of about 10 seconds. If another measurement is made within this 10 second period (approx.), the speed indication is updated accordingly.

Note:
"ERR" appears to indicate that the radar gun measurement result is not correct.

② **Location information (latitude)**

③ **Location information (longitude)**

④ **Remaining SDHC Memory Card recording time (HH : MM)**
REMAIN: The remaining recordable time

LOOP TIME: Loop period (total recording time)
• The remaining recording time is updated about every 30 seconds.
• When Loop recording is set to [ON], loop period (total recording time) is displayed.

Note:
The total recording time does not include pre-recording and post-recording time.

⑤ **Mode indication**
■: paused ●: recording

⑥ **Status display**
Displays the status of the recorder and SDHC Memory Card.
<Status of the recorder>
PON: Power ON recording "ON"
LOP: Loop recording "ON"
INT: Intermittent recording "ON"

<Status Display>
CARD FULL, CARD PROTECT, VUP CARD, UNFORMATTED, NO CARD, READ ERROR, UNSUPPORTED, PLAY ERROR
(see "Status Display" on page 118)

Viewing Live Video (continued)

⑦ **Remaining time on the SDHC Memory Card**
Displays the remaining time on the SDHC memory card that can be recorded by the recorder.

⑧ **Date/Time**

⑨ **Trigger signal (GPI1-16) input status**
(GPI1 to 16 are displayed in order from the left.)
The characters assigned by [Display] appear when the state set by [Detection] occurs.

⑩ **Mark position**
🎏 : Bookmark position
⬆ : Upload

⑪ **Setup status of the recorder**
P1	: Preset1 input is selected.
P2	: Preset2 input is selected.
P3	: Preset3 input is selected.
IR	: Camera IR mode is "ON".
IRA	: Camera IR mode is "AUTO".
BL	: Camera backlight compensation is "ON".
TAL	: Camera1 Rec LED is "ON".
LOCK	: Operation button lock is "ON".

Cursor button

MENU button
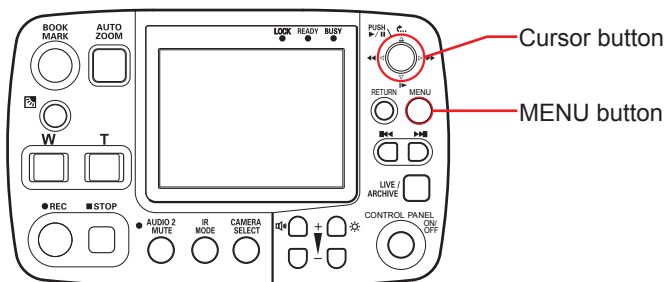
▤ Disconnecting the recorder from a Front-End application

Connecting a PC with Front-End application installed to the recorder and starting up a Front-End application freezes the recorder in the live screen and disables the following operations.
- Setting up/Deleting Officer Data
- A trial shoot
- Playback
- Administrator Setup
- Exporting to the USB memory device

Follow these steps to disconnect a Front-End application from the recorder to enable the above operations.

1. Press the [MENU] button.
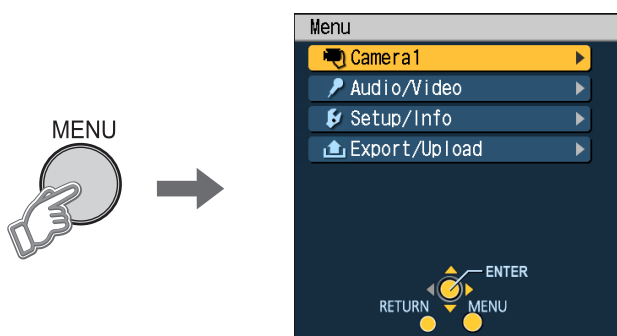
The Menu appears.

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [PUSH ▶/Ⅱ] button to confirm the entry.
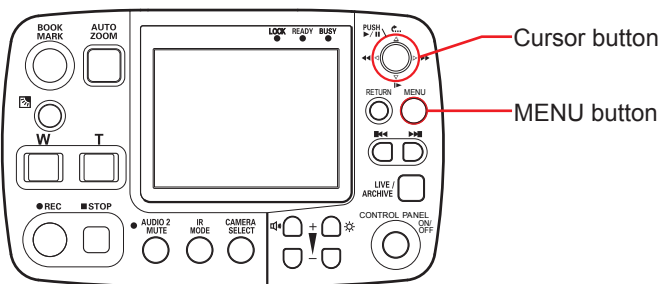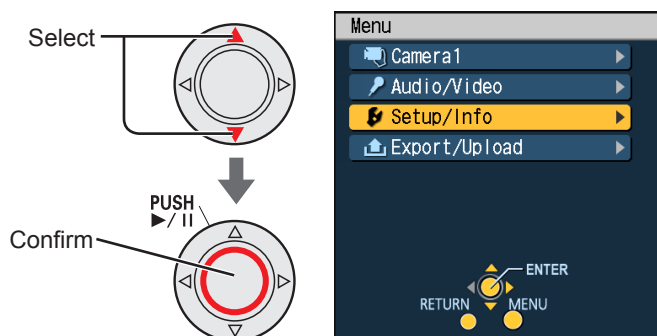

3. Press the [△ , ▽] buttons to select [Disconnect PC] and press the [PUSH ▶/Ⅱ] button to confirm the entry.
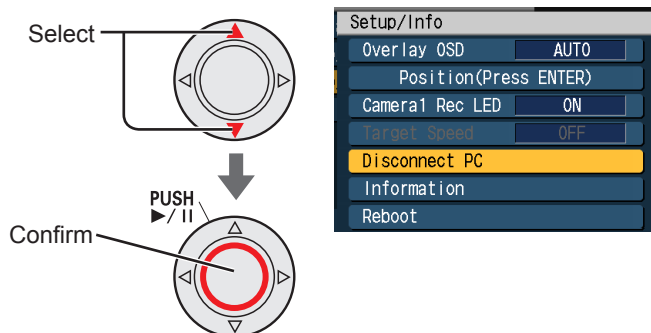
These steps disconnect the recorder from a Front-End application.

Notes:
- Do not disconnect a PC with Front-End application from the recorder during automatic uploading.
- For details on how to restart the Front-End application, see the Operating Instructions of the Front-End application.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Recording

BOOK MARK button

REC button

STOP button
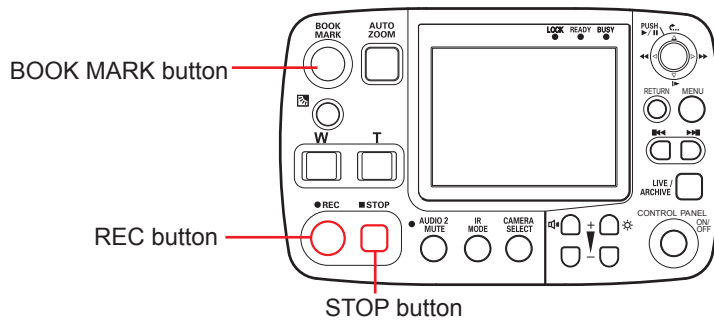
◎ Starting and stopping recording

■ Starting recording

Press the [REC] button.
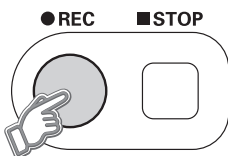
This starts video and sound recording.
The live screen appears automatically if not already on. The Remote Control Panel, the Color Camera and the Memory Card Recorder [REC] lamps go on during recording.

Note:
The Color Camera [REC] lamp goes on regardless of camera input setting.

There are also other methods for starting recording. For details, refer to "Starting Recording" on page 8.

■ Stopping recording

Press the [STOP] button (■).
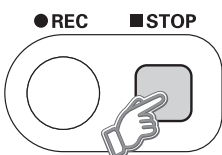
Pressing the [STOP] button turns off the [REC] lamp and video and sound recordings stop when the post record*1 interval has elapsed. Then the [BUSY] lamp goes off.

Notes:
• When recording is stopped under the conditions in which Classify information is registered (see page 89), Classify on the Management Mode screen is set to "ENABLE" or "FORCE" (see page 89), and Loop Rec on the Rec/Play screen is set to "OFF" (see page 81), the Classify selection screen `Classify ◀ FOOTBALL ▶` appears.
Select the classify information with the [◁,▷] buttons and press the [BOOK MARK] or [RETURN] button. The classify information will be added to the file.
• In the following cases, the Classify screen disappears and the classify information cannot be added.

*1 Post record is the capability of including material from an interval after the specified stop point in recording. The interval is set by an administrator.

- When automatic uploading has started
- When automatic restoring has started
- When the CONTROL PANEL button is set to OFF
- When a fatal error has occurred
- When the SDHC Memory Card slot cover is open
- When the unit is in ACC-OFF mode

There are also other conditions for stopping recording. For details, see "Stopping Recording" on page 9.

■ Adding bookmarks

A bookmark can be added to a file that is being recorded to mark it for playback. (See "Moving back to a previous skip location to start playback" and "Moving to the next skip location to start playback" on page 65.)

Press the [BOOK MARK] button.

The bookmark icon 🔖 appears for 1 or 2 seconds.

Notes:
• The bookmark icon 🔖 appears on the overlay OSD. When [Overlay OSD] is "OFF" (see "Viewing the status of the recorder (Overlay OSD)" on page 55), the bookmark icon does not appear.
• Bookmarks can be added with a minimum interval of 2 seconds.
• A bookmark cannot be entered until about 2 seconds after recording starts.
• It is possible to move the playback location to the bookmark during playback.
• Bookmarks can be added also during playback. (See "Adding bookmarks" on page 66.)
• Bookmarks but not classify tags can be added during recording.
• Classify tags can be added only during playback. (See "Adding bookmarks" on page 66.)

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Recording (continued)

Cursor button

MENU button
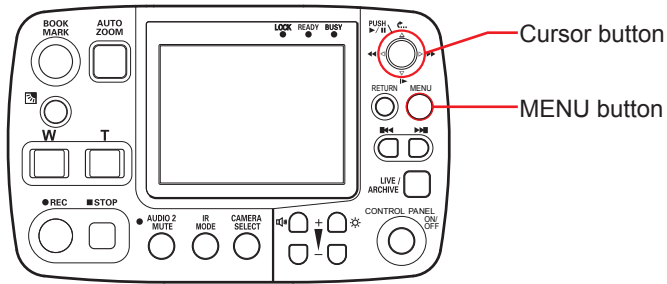
▤ A trial shoot

When Front-End application is running, or Back-End application is streaming a picture, this unit freezes in the live screen, and a trial shoot is disabled.

The following is a description of a test to check if recording can be correctly made.

1. Press the [MENU] button.

The Menu appears.

MENU
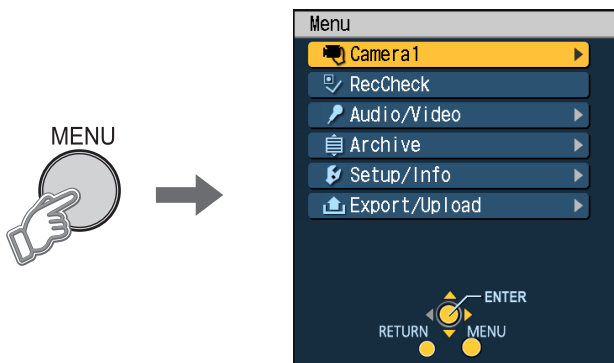
2. Press the [△ , ▽] buttons to select [RecCheck] and press the [⏯] button to confirm the entry.

Select

Confirm
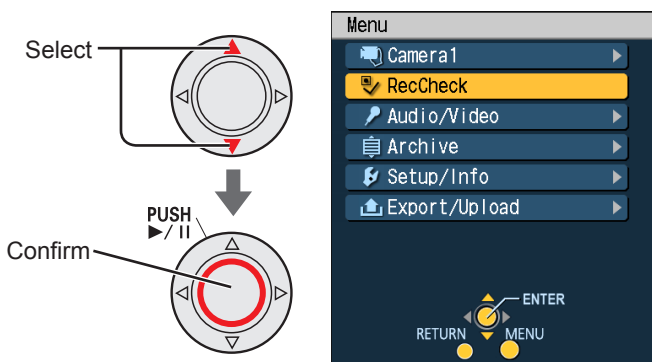
A five-second recording is made and played back.

Notes:
- A trial shoot cannot be performed during recording or playback.
- The trial shoot portion of a recording is automatically deleted after playback.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Recording (continued)

Cursor button
MENU button
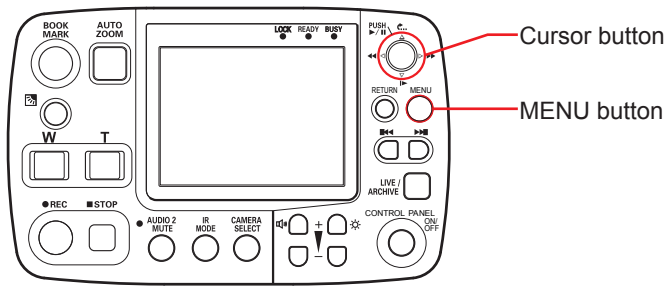
▤ Setting the target speed

If the target speed detected with the radar gun exceeds the value set here, it is used as a record trigger.

1. Press the [MENU] button.

The Menu appears.

MENU


```
Menu
  📹 Camera1              ▶
  🗹 RecCheck
  🎤 Audio/Video          ▶
  📑 Archive              ▶
  ⚡ Setup/Info           ▶
  ⬆ Export/Upload        ▶

              ENTER
  RETURN        MENU
```

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/‖] button to confirm the entry.

Select

Confirm

PUSH
▶/‖


```
Menu
  📹 Camera1              ▶
  🗹 RecCheck
  🎤 Audio/Video          ▶
  📑 Archive              ▶
  ⚡ Setup/Info           ▶
  ⬆ Export/Upload        ▶
```

3. Press the [△ , ▽] buttons to select [Target Speed].

Select


```
Setup/Info
  Officer
  Overlay OSD         AUTO
      Position(Press ENTER)
  Camera1 Rec LED      ON
  Target Speed         OFF
  Admin                      ▶
  Information
  Reboot
```

4. Press the [◁ , ▷] buttons to set the speed.

Setting values: OFF, 1, 2, ..., 200
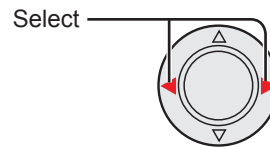
Select

Notes:

• [Target Speed] may not be selected due to the settings on the Trigger screen in Administrator setup.

• Set Connection Of Radar on the Radar/GPS screen in Administrator setup to "Recorder".

Recording (continued)

Cursor button

MENU button

▤ To turn off the [REC] lamp during recording

The [REC] lamp on the camera connected to the [CAMERA 1] connector lights during recording. The following steps allow you to keep this lamp off at all times.

1. Press the [MENU] button.
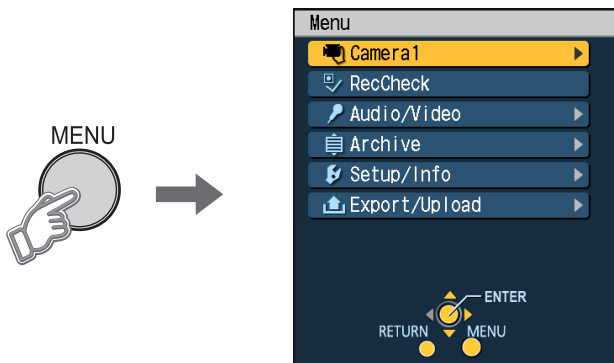
The Menu appears.

MENU

Menu
- 🎥 Camera1 ▶
- RecCheck
- 🔧 Audio/Video ▶
- 📄 Archive ▶
- ⚡ Setup/Info ▶
- 🔼 Export/Upload ▶

ENTER
RETURN   MENU

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/Ⅱ] buttons to confirm the entry.

Select

PUSH
▶/Ⅱ

Confirm

Menu
- 🎥 Camera1 ▶
- RecCheck
- 🔧 Audio/Video ▶
- 📄 Archive ▶
- ⚡ Setup/Info ▶
- 🔼 Export/Upload ▶
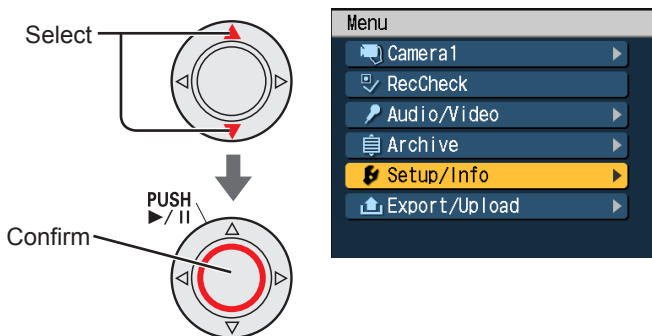
3. Press the [△ , ▽] buttons to select [Camera1 Rec LED].
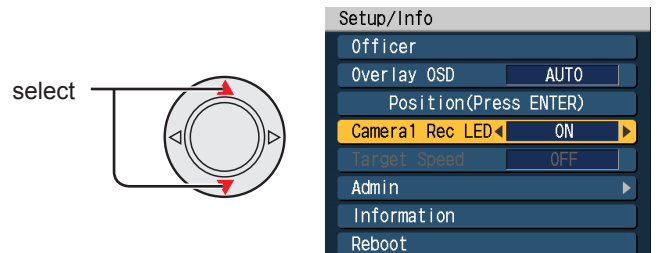
select

Setup/Info
- Officer
- Overlay OSD   AUTO
- Position(Press ENTER)
- Camera1 Rec LED◄   ON   ▶
- Target Speed   OFF
- Admin   ▶
- Information
- Reboot

Note:
If "Camera1" has not be set for any of Preset1, Preset2, and Preset 3 on the Video Allocation screen in Administrator setup, [Camera1 Rec LED] cannot be selected.

4. Press the [◁ , ▷] buttons to select "OFF".

select

Setup/Info
- Officer
- Overlay OSD   AUTO
- Position(Press ENTER)
- Camera1 Rec LED◄   OFF   ▶
- Target Speed   OFF
- Admin   ▶
- Information
- Reboot
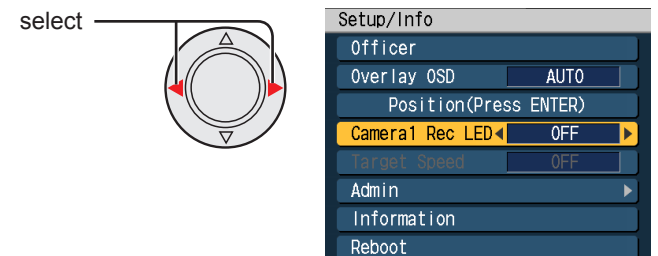
The lamp will now remain off at all times.

Playback
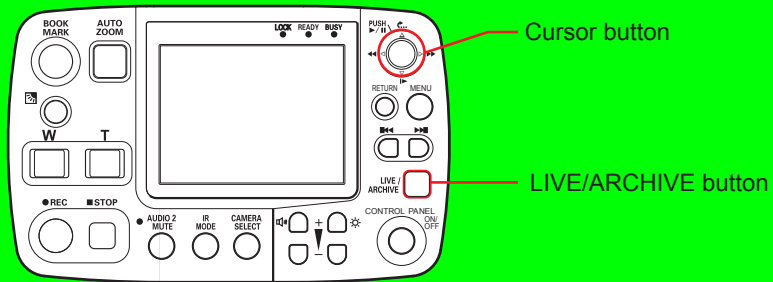
Cursor button

LIVE/ARCHIVE button

When Front-End application or the streaming player of Back-End application is running, this unit freezes the live screen, and the card cannot be played back.

◎ Playback

Press the [LIVE/ARCHIVE] button.

LIVE / ARCHIVE

The playback screen appears and playback starts from the location where playback was last made.
If recording was started or stopped prior to pressing the [LIVE/ARCHIVE] button, playback starts from the beginning of the recorded file.

Notes:
- In the following cases, recorded files may not be played back from the beginning.
  - When [Setup/Info]-[Admin]-[Date/Time]-[Date/Time] is changed
  - When [Setup/Info]-[Admin]-[Date/Time]-[TimeZone] is changed
  - When [Setup/Info]-[Admin]-[Rec/Play]-[Rule of Filename] is changed
  - When the clock time is corrected by GPS
- If playback was previously ended at the end of the file, playback is paused.
- If the LCD panel is turned off by using the [CONTROL PANEL ON/OFF] button, file playback stops.
- If Front-End application or the streaming player of Back-End application is activated during playback, playback stops.

■ Name of record file

A record file name that appears on the overlay OSD or playback file list screen takes a name that is based on the local time when recording started.
A date format is set under Style on the Date/Time screen in Administrator setup. (See "Date/Time" on page 84.)

Note:
A physical filename (for example, a filename that appears on a PC) can be indicated either in world or local time depending on Administrator setup.

■ Intermittent recording files

An intermittent recording file records only one video frame per second but no audio.

Note:
The playback speed of an intermittent recording file is slower than a normal file.

■ Loop recording files

A loop recording file is automatically separated, and the starting time of recording at separation will be the filename.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Playback (continued)

Cursor button
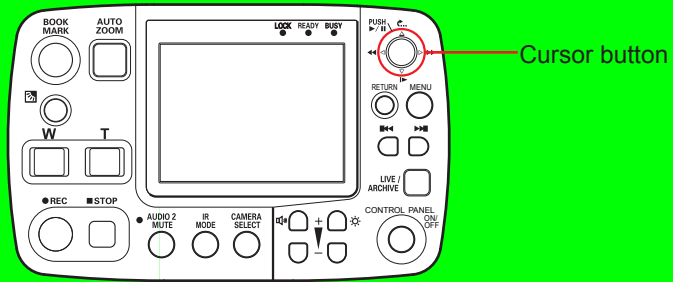
◎ Changing playback method

■ Playback and pause

Press the [►/II] button.

Playback starts. Press again to pause playback. Use this button to pause slow, rewind and fast forward.

■ Slow

Press the [I►] button.
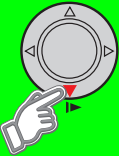
Slow plays back at 1/10 or 1/2 of normal speed. Each press changes playback speed from 1/10 to 1/2 and 1/10.

Note:
Intermittent recording files cannot be played back at slow speed.

■ Quick Replay

Press the [ɔ...] button.

Playback starts 7 seconds prior to the current location. During slow playback, slow playback starts 7 seconds prior to the current location.

■ Rewinding

Press the [◄◄] button.
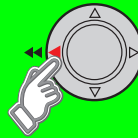
Rewinding is performed at 4, 20 or 200 times normal speed. Each press changes the rewind speed from 4, to 20, 200 and back to 4 times normal speed.

■ Fast forward

Press the [►►] button.

Fast forwarding is performed at 4, 20 or 200 times normal speed.
Each press changes the fast forward speed from 4, to 20, 200 and back to 4 times normal speed.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Playback (continued)
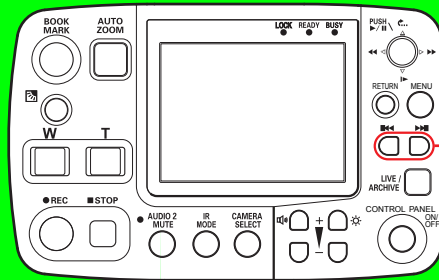
Skip back button
Skip forward button

■ Moving back to a previous skip location to start playback

Press the [◄◄] button.
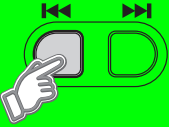
Playback starts from the previous skip location.
If the current location is 5 seconds or less away from a skip location, playback starts from the skip location before the previous skip location.
However, if the current location is 5 seconds or less away from the first skip location in the file, playback starts from a skip location in the previous file.
If there is no previous file, playback starts from the current location without skipping.

■ Moving to the next skip location to start playback

Press the [►►] button.
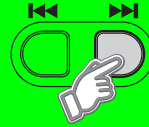
Playback starts from the next skip location.
If the current location comes after the last skip location in the file, playback starts from a skip location in the next file. If there is no next file, playback starts from the current location without skipping.

Notes:
- The skip location may be a bookmark, head of file or a trigger position (one per file) at which recording began. However, no trigger position can exist in automatically divided files.
- One of the following icons may appear on an overlay OSD screen for about 2 seconds depending on the location playback skips. When not shown on an overlay OSD screen, they appear on the LCD panel.
  - : File beginning
  - : Trigger position
  - : Bookmark position
- It is recommended that the skip location be placed at the [Trigger/Marker] or [Head of File] in the administration setup. (See "Skip Target" on page 83.)
- Up to 999 bookmarks can be skipped. You cannot skip to the bookmark position exceeding this limit.
- When the [◄◄] button or [►►] button is pressed, playback stops momentarily while the skip location is searched for, and then playback resumes from that position.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Playback (continued)

```
BOOK MARK button ──────────────── [diagram of control panel]
                                            Cursor button
                                            MENU button
                                            RETURN button
```
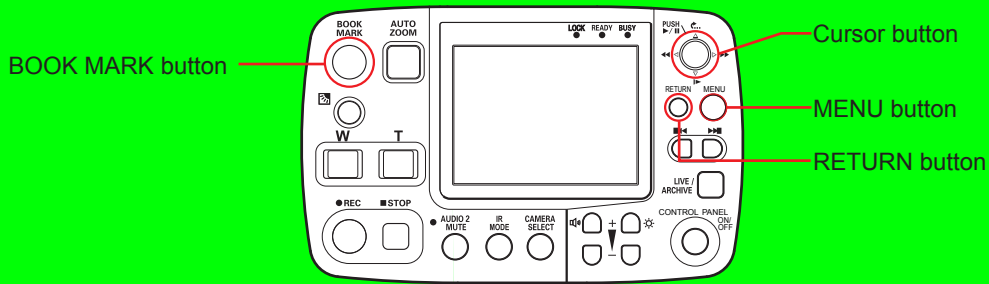
◎ Setting bookmarks

■ Adding bookmarks

Bookmarks can be added to a file during playback, pause or slow playback. Loading Classify tags from a USB memory device in advance to the recorder allows the operator to add both bookmarks and Classify tags. (See "Load Classify" on page 85.)

When no Classify tags are loaded

Press the [BOOK MARK] button.

- A bookmark icon [P] appears.
- Playback or slow playback stops for a short while and then resumes.

When Classify tags are loaded

1. Press the [BOOK MARK] button.

`Classify ◄ FOOTBALL ►` [*1] appears.

2. Press the [◁ , ▷] buttons to select an Classify tag and press the [BOOK MARK], [RETURN] or [MENU] button to confirm the entry.
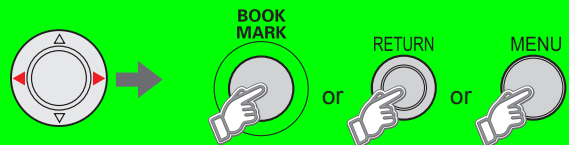
- The recorder returns to previous playback status, and the bookmark icon [P] appears enabling insertion also of Classify tags.
- Playback or slow playback stops for a short while and then resumes.

Notes:
- The bookmark icon [P] appears on the overlay OSD. When [Overlay OSD] is "OFF" (see "Viewing the status of the recorder (Overlay OSD)" on page 69), the bookmark icon does not appear.
- Bookmarks can be added with a minimum interval of 2 seconds.
- Playing back a segment with a bookmark shows a bookmark icon [P] for about 2 seconds.
- Once characters are set for a classify tag, the default setting "---" is not displayed.
- If a classify tag of the video being played is not registered on the recorder used for playback, the classify tag is grayed out during playback. Once the grayed-out classify tag is edited, the original classify tag cannot be retrieved.

---

*1 • The last used classify tag appears.
   • The last used classify tag remains even after a power off. However, if classify tags are reloaded, "----" appears.
   • Long classify tag character strings may not be displayed in full.
   • Classify tags where bookmarks cannot be set, for example a recording file with unregistered classify tags, are displayed in gray.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Playback (continued)

Cursor button
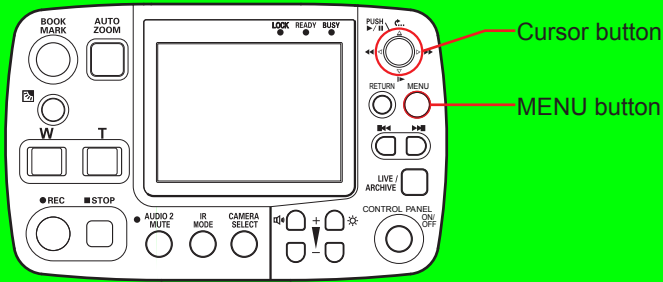
MENU button

▤ Selecting a file for playback

1. Press the [MENU] button.
The Menu appears.

MENU

2. Press the [△ , ▽] buttons to select [Archive] and press the [►/‖] button to confirm the entry.
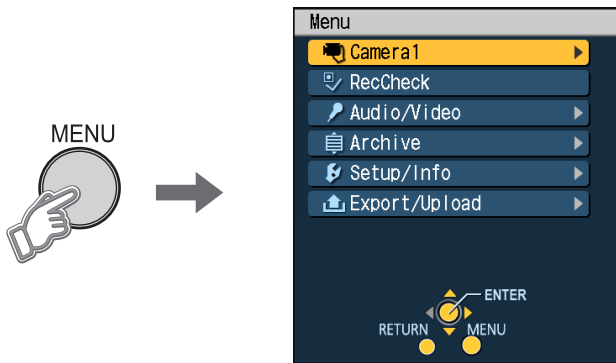The playback file list screen appears.

Select

Confirm


```
File List              [1/2]
                2008-11-20 13:13:51
                2008-11-20 13:14:05
                2008-11-20 13:14:12
                2008-11-20 13:14:46
                2008-11-20 13:14:46∗
                2008-11-20 13:32:41
                2008-11-20 13:32:49
                2008-11-20 13:32:58
                2008-11-20 13:33:07
                2008-11-20 13:33:19
```
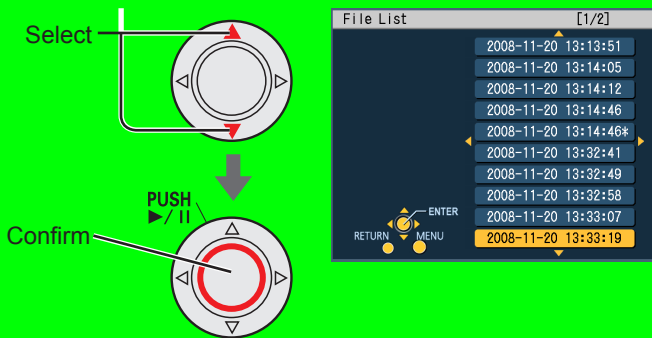
Notes:
- [Archive] is not available when there are no playback files.
- Files appear in the order of the filenames (see "Rule of Filename" on page 82) that are assigned at recording.

"WT" (world time) files are displayed in recording start order (but the time is converted and indicated in local time).

↓

"LT" (local time) files are displayed in recording start order.

- When a file is recorded across two SDHC Memory Cards and is split into two files, the start time of the latter file is suffixed by "∗". Also, if two or more files have the same start time, the start time of the second and succeeding files are suffixed by "∗".

3. Press the [△ , ▽] buttons to select a file to play back.

Select
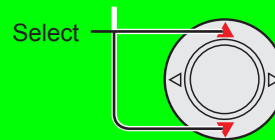
(Use the following functions to go between pages.)
- Press the [◁ , ▷] buttons once to turn pages one at a time.
- Keep pressing the [◁ , ▷] buttons to go quickly between pages. This function turns pages up to page 3 in one-page increments and pages from page 4 in 10-page increments.

4. Press the [►/‖] button to start playback.
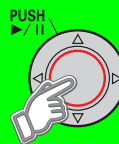
Playback starts from the beginning of the file.
When playback reaches end of the file, playback is paused.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Playback (continued)

Cursor button
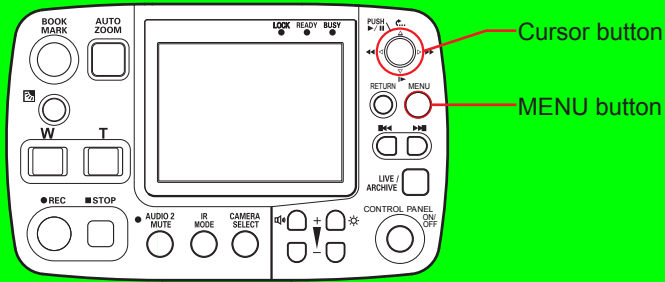
MENU button

Turning Playback sound ON and OFF

1. Press the [MENU] button.
The Menu appears.

MENU


```
Menu
  📋 Archive          ▶
  🔑 Audio            ▶
  ⚙ Setup/Info       ▶


                  ENTER
        RETURN    MENU
```

2. Press the [△ , ▽] buttons to select [Audio] and press the [►/ΙΙ] button to confirm the entry.

Select

Confirm

PUSH
►/ΙΙ


```
Menu
  📋 Archive          ▶
  🔑 Audio            ▶
  ⚙ Setup/Info       ▶


                  ENTER
        RETURN    MENU
```
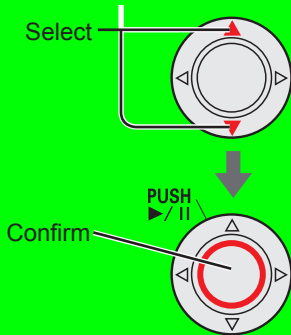
3. Press the [△ , ▽] buttons to select an audio channel to be played back.
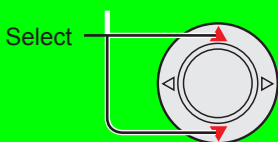
Select


```
Audio
  Audio1    ◄    ON    ▶
  Audio2         ON
  Audio3         –
  Audio4         –
```

4. Press the [◁ , ▷] buttons to select "ON" or "OFF".

Select

Notes:
• An administrator can set the audio output (Init Audio Out (Play)) selected at power-on.
• An audio channel set to OFF on the Audio Allocation screen in Administrator setup cannot be selected. (See "Audio Allocation" on page 78.)

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

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Playback (continued)

Cursor button
MENU button
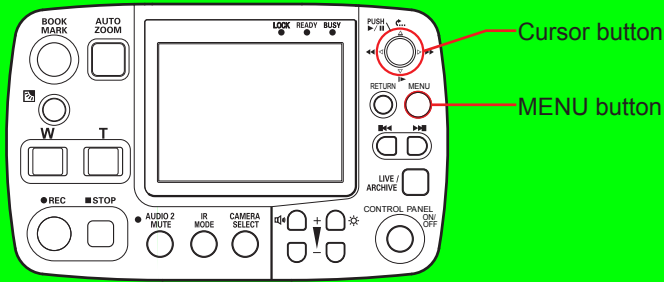
Viewing the status of the recorder (Overlay OSD)

Use the following function to see the status of the recorder or trigger signal (GPI1-16) status when a played back file was recorded.

1. Press the [MENU] button.
The Menu appears.

2. Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/II] button to confirm the entry.

Select
Confirm
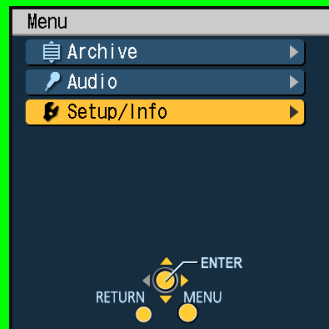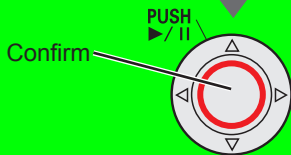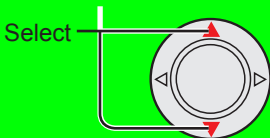
3. Press the [△ , ▽] buttons to select [Overlay OSD].
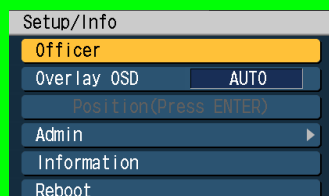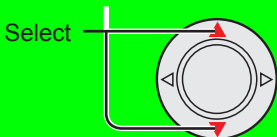
Select

4. Press the [◁ , ▷] buttons to select "AUTO", "SIMPLE", "DETAILS" or "OFF".

select
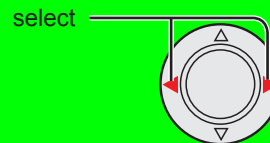
AUTO : The simple overlay OSD appears for 3 to 5 seconds when any of the following items have been changed (see page 70).
  • Playback filename
  • Mode indication
  • Playback speed and status indication
SIMPLE: The Simple overlay OSD appears.
DETAILS: The Detailed overlay OSD appears.
OFF: Overlay OSD closes.

Notes:
• An administrator can set the Overlay OSD (Init Overlay OSD) selected at power-on.
• See the next page for how to read the overlay OSD.
• When "AUTO" is selected and the [BOOK MARK] button is pressed or the bookmark position is reached, the simple overlay OSD does not appear but the bookmark icon appears for 1 to 2 seconds.
• When "AUTO" is selected and the trigger position is reached, the simple overlay OSD does not appear but the trigger icon appears for 1 to 2 seconds.

Adjusting the display position

When a picture recorded with Main OSD or Sub OSD embedded on the Embedded OSD screen in Administrator setup set to OFF is played, Trigger, Time, and Source@ Area that are set to ON on the Embedded OSD screen are displayed. Select [Position (Press ENTER)] on the Setup/Info screen then press [▶/II] button. Then the display position will move up and down.

Note:
The OSD position of the picture recorded with Main OSD or Sub OSD on the Embedded OSD screen in Administrator setup set to ON cannot be changed.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Playback (continued)

<Detailed Overlay OSD>

```
                                    ⑤

①——— OWN 000 /TGT --- MPH        2009-01-07 18:03:04  ———④
②——— NORTH  34. 73306 °          ⑤—  ▐▐                ———⑥
③——— EAST   135. 58319 °                                ———⑦


                                 2009-01-07 18:03:17    ———⑩
⑧——— 2009-01-07 18:03:17
⑨——— TRG                                                ———⑪
```

<Simple Overlay OSD>

```
                    2009-01-07 18:03:04  ———④
            ⑤——  ▐▐                      ———⑥
            ⑦——                                 ———⑩
                                                 ———⑪
```
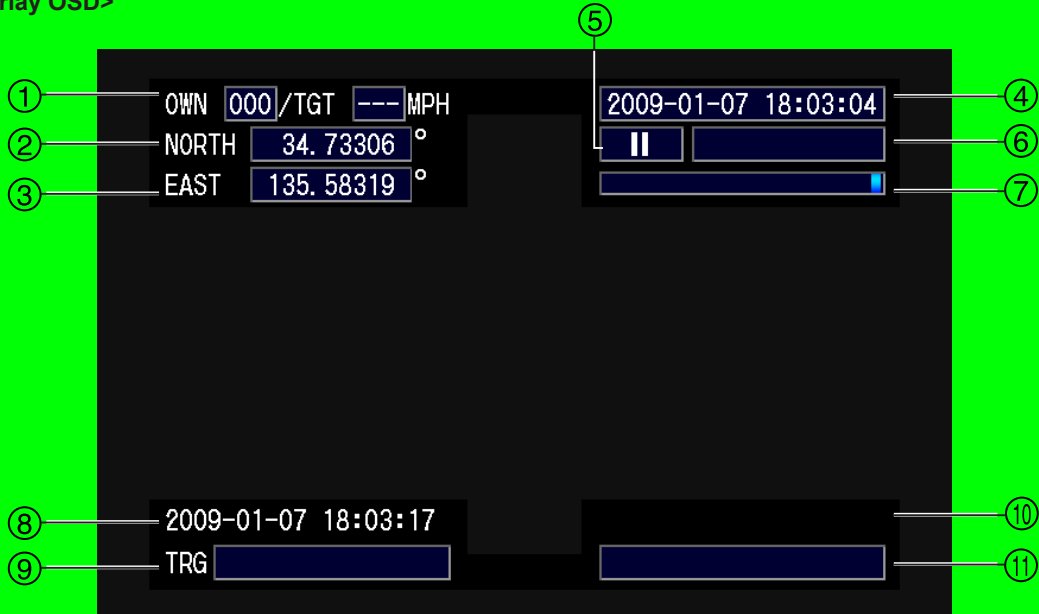
① **Speed (MPH / km/h)**
   OWN : Own vehicle speed
   TGT : Target vehicle speed

② **Location information (latitude)**

③ **Location information (longitude)**

④ **Playback filename**
   (Local time at start of recording)
   "NO FILE" appears when there is no file to play back.

⑤ **Mode indication**
   ▶ : Playback
   ▐▐ : Pause
   ▶▶ : Fast forward
   ◀◀ : Rewind
   ▐▶ : Slow

⑥ **Playback speed and status indication**
   <Speed>
   x1/10, x1/2, x4, x20, x200
   <Status Display> (see "Status Display" on page 118)
   READ ERROR, UNSUPPORTED,
   PLAY ERROR

⑦ **Playback location (in file units)**

⑧ **Date/Time**

⑨ **Trigger signal (GPI1-16) input status**
   (GPI1 to 16 are displayed in order from the left.)
   The characters assigned by [Display] appear when the
   state set by [Detection] occurs.

⑩ **Mark position**
   🔼 : File beginning
   ❄ : Trigger position
   🔖 : Bookmark position

⑪ **Sound output setting**
   (▶ : appears only during playback)
   A1, 2, 3, or 4 : Audio1, 2, 3, or 4 is output.

Playback with the remote control panel is not available at
present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End
application or Back-End Client application.

Displaying Product Information

Cursor button
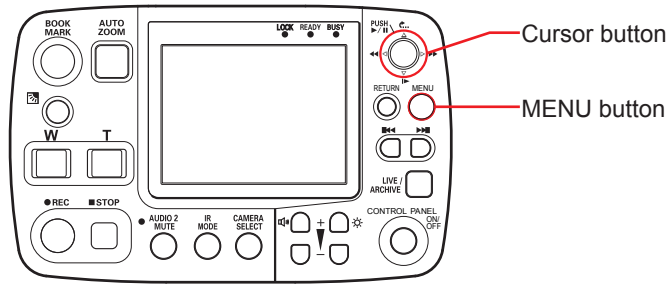
MENU button

▤ Viewing SDHC Memory Card type and software version

1. **Press the [MENU] button.**
   The Menu appears.
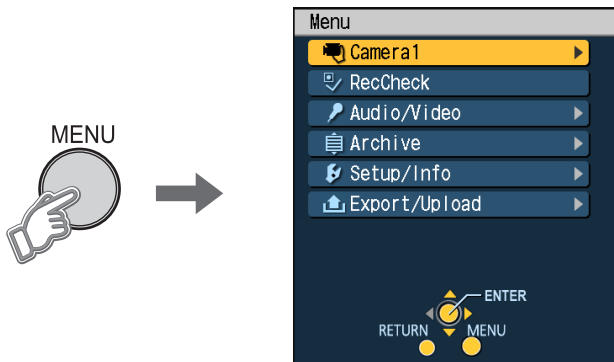
2. **Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/II] button to confirm the entry.**
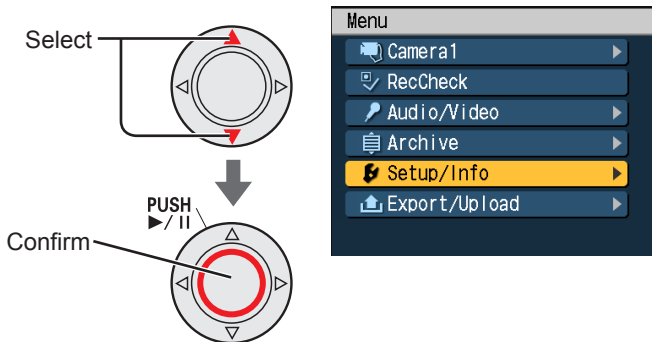
Select

Confirm

3. **Press the [△ , ▽] buttons to select [Information] and press the [▶/II] button to confirm the entry.**

Select

Confirm
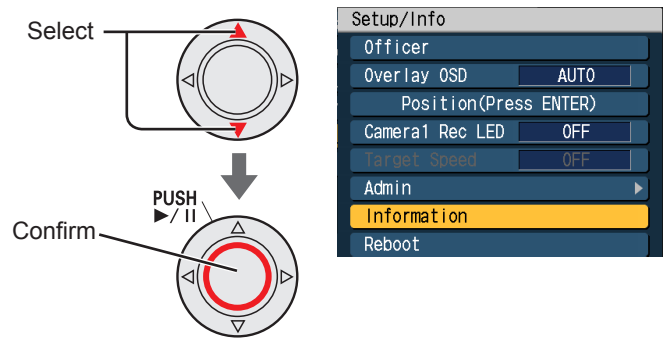
The Information screen appears.
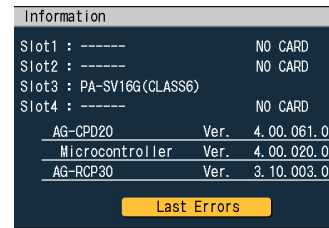
- This displays SDHC Memory Card model and card information. The following information appears depending on card type.
  - UNFORMATTED
  - CARD PROTECT
  - CARD ERROR
  - CARD FULL
  - UNSUPPORTED
  - VUP CARD
  - NO CARD
- This opens the product information screen that contains the software version information.
- The product name is defined by the SD Card Association and may differ from the SDHC memory card product number.

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Displaying Product Information (continued)

Cursor button

MENU button
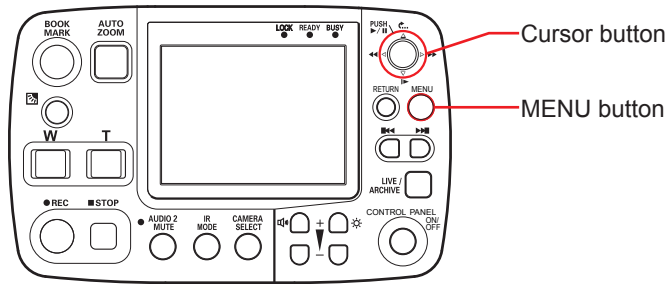
▤ Viewing error log data

Use the following procedure to open a dialog showing up to five of the most recent errors.

1. **Perform steps 1 to 3 in " Viewing SDHC Memory Card type and software version".**

2. **This selects [Last Errors]. Press the [▶/Ⅱ] button to accept.**

Confirm
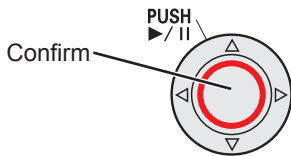
This dialog shows the most recent error data (the items listed below).
• Month/day (MM/DD)
• Hour/minute (HH : MM)
• Error No.
• Error type (Fatal Error/Error)
• Error message (the first 40 characters appear)

Notes:
• Error data with a low priority is also displayed.
• The following error numbers do not appear as error log data.
  E00604, E08601, E20901, E20911, E20912, E20921,
  E20922, E22420 to E22432, E24010, E24011, E24030,
  E24110, E28206 to E28203

Transferring Files

Cursor button
MENU button
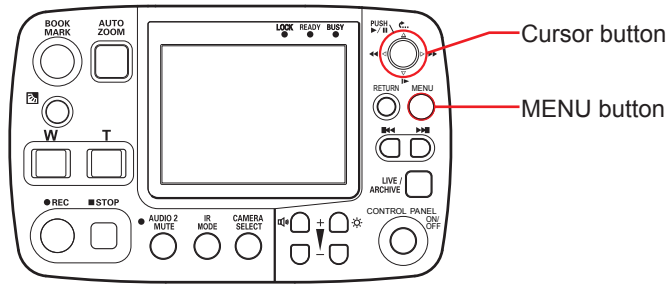
Exporting files

Video and audio data recorded on the SDHC Memory Cards are copied to the USB memory device. Exported data are deleted from the cards.

Notes:
- Export cannot be executed while recording or post-recording. If export is selected while recording, a confirmation dialog box appears. Select [Stop] to stop recording and start exporting, or [Cancel] to continue recording. If export is selected while post-recording, post-recording stops and export starts.
- If the updating file is stored on the USB memory device, error message "E28406" appears and files cannot be exported.
- If a USB memory device for authentication is removed or inserted, an error message "E28201" appears. While exporting, do not insert or remove the USB memory device, even if it is not accessed.
- Be sure to set Export Menu on the Management Mode screen in Administrator setup to ENABLE. Otherwise [Export/Upload] cannot be selected. (See "Export Menu" on page 89.)
- If the Front-End application is connected, export is disabled.
- Export will be canceled if the Front-End application is to be connected during exporting.

1. **Press the [MENU] button.**
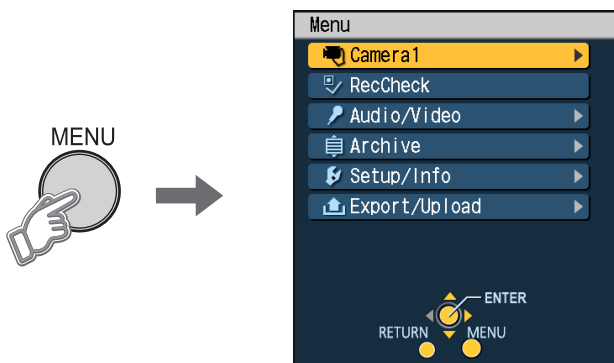
    The Menu appears.

    MENU

2. **Press the [△ , ▽] buttons to select [Export/ Upload] and press the [►/II] button to confirm the entry.**
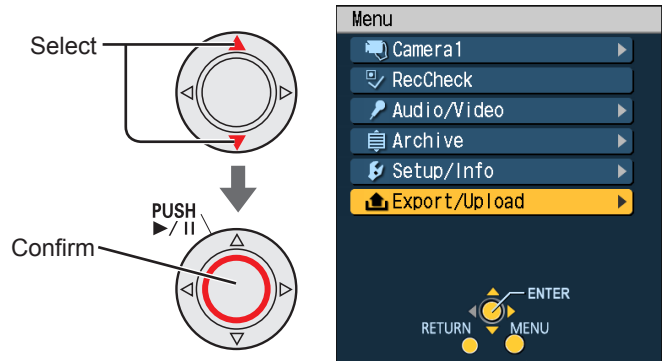
Select

Confirm

3. **Press the [△ , ▽] buttons to select [Export] and press the [►/II] button to confirm the entry.**

Select

Confirm
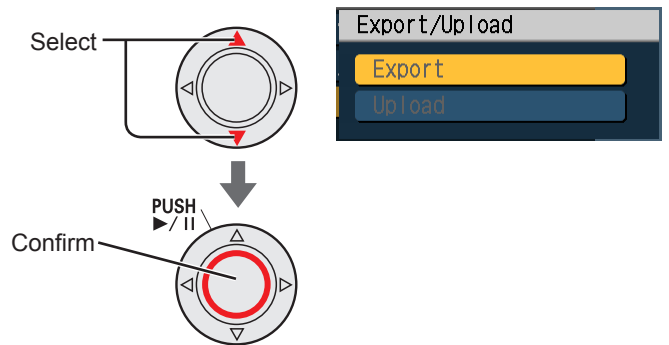
Files are exported.
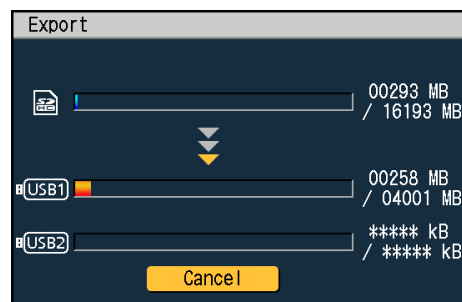
Note:
The USB1 and USB2 progress bars are displayed on the screen, but the USB connectors on the recorder are not discriminated. If two USB memory devices are connected, you cannot specify the device used for exporting. Check the access lamp on the USB memory device.

Cancel exporting

Press the [►/II] button.

Exporting is canceled immediately when the button is pressed, but the data transferred before the button was pressed are exported.

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Cursor button

MENU button
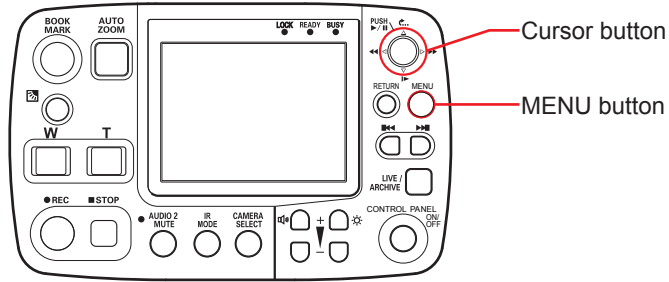
Uploading files

Video and audio data recorded on the SDHC Memory Cards are uploaded to the Back-End server. You can upload data manually or automatically with Upload Mode on the Management Mode screen in Administrator setup. Uploaded data are deleted from the cards.

Notes:
• Upload cannot be executed while recording or post-recording. If upload is selected while recording, a confirmation dialog box appears. Select [Stop] to stop recording and start uploading, or [Cancel] to continue recording. If upload is selected while post-recording, post-recording stops and upload starts..
• For uploading, the network connection must be enabled.
• If the Back-End application is not connected, upload is disabled.

Uploading files manually

Set the Upload Mode on the Management Mode screen in Administrator setup to MANUAL. (See "Upload Mode" on page 89.)

1. **Press the [MENU] button.**
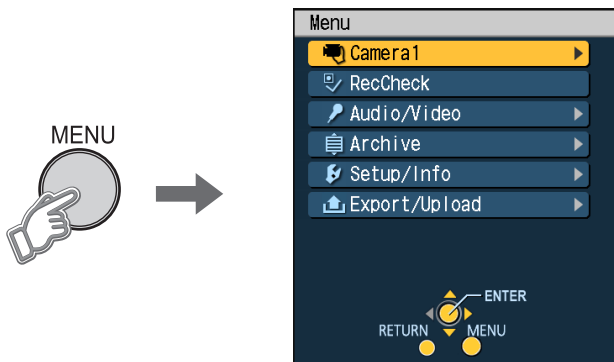
   The Menu appears.

2. **Press the [△ , ▽] buttons to select [Export/Upload] and press the [PUSH ▶/‖] button to confirm the entry.**
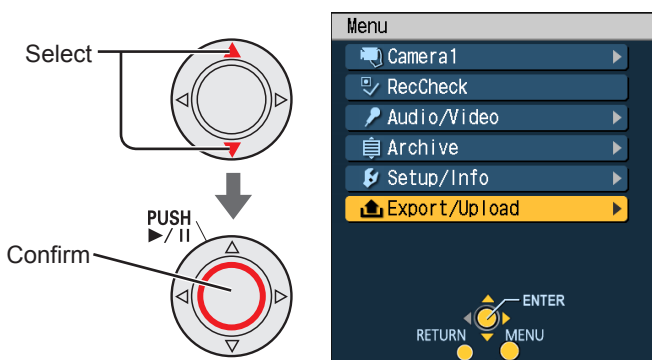
3. **Press the [△ , ▽] buttons to select [Upload] and press the [PUSH ▶/‖] button to confirm the entry.**
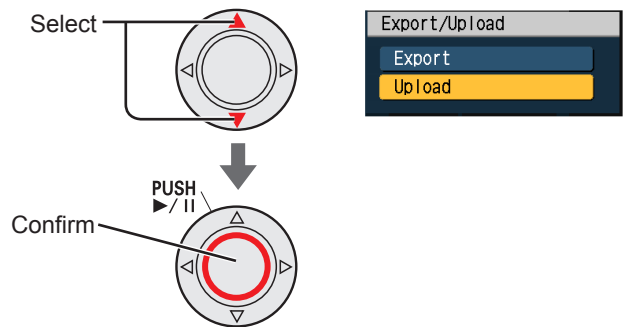
   Files are uploaded.

Note:
When the vehicle's ignition switch is set to ACC-OFF with Upload Mode on the Management Mode screen in Administrator setup set to MANUAL and PowerOff Time on the Rec/Play screen set to AUTO, uploading will start automatically.

Cancel uploading

If the [Cancel] button is pressed on the screen, the [REC], [MENU] or [RETURN] button on the remote control panel, or the [STOP] button on the Memory Card Video Recorder is pressed, uploading will be canceled.
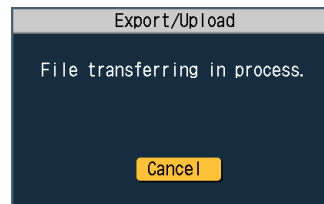
Uploading files automatically

When "Upload Mode" on the Management Mode screen in Administrator setup is set to "AUTO", files are automatically uploaded with the signal from the Back-End.
(See "Upload Mode" on page 89.)

Note:
If the SDHC Memory Cards are accessed during automatic uploading for recording or playback, uploading will be canceled.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
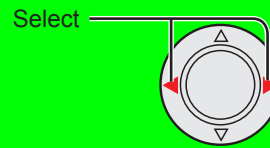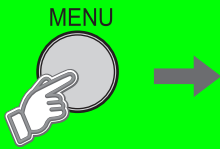For playback, it is recommended to use the Front-End application or Back-End Client application.

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Restoring Files Automatically

If the power of the recorder is turned off or an SDHC Memory Card is removed during recording, the file will be corrupted and require restoring. In the following cases, files are restored automatically.

• When the SDHC Memory Card that requires restoring is inserted to the recorder, and the recorder is turned on and transferred to the live mode
• When the SDHC Memory Card that requires restoring is inserted to the recorder, the card slot cover is closed, and the recorder transfers to the live mode
• When the SDHC Memory Card that requires restoring is inserted to the recorder, and the recorder is transferred to the live mode from playback mode

During automatic-restoring, the restoring status is shown on the LCD of the remote control panel.
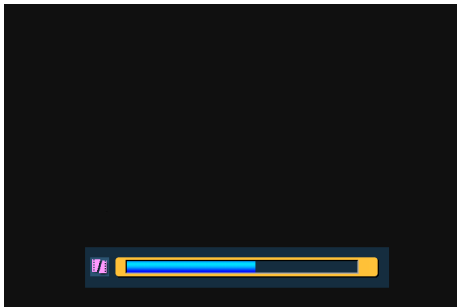
Notes:
• The restoration status is displayed when Overlay OSD on the Setup/Info screen in Administrator setup is set to AUTO, SIMPLE, or DETAILS. (See "Viewing the status of the recorder (Overlay OSD)" on page 69.)
• If the [MENU] button is pressed during automatic restoration, the progress bar disappears, but the restoration continues.
• If recording, playback, or trial shooting begins, or if Administrator setup mode is obtained, the progress bar disappears, and the restoration is canceled.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

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Rebooting This Unit

Cursor button
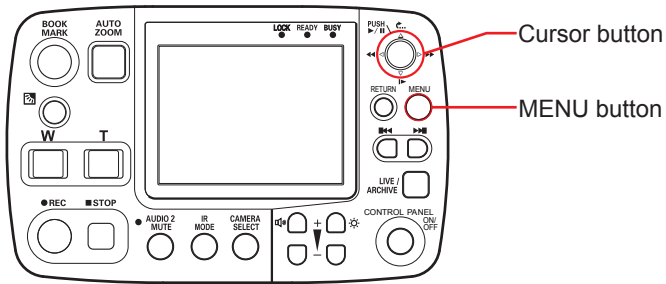
MENU button

Should the operating status of the recorder become unstable, use the following steps to reboot the recorder.

1. **Press the [MENU] button.**
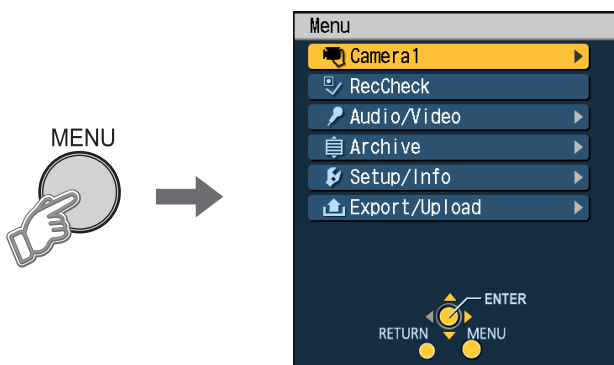
   The Menu appears.

2. **Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/‖] button to confirm the entry.**
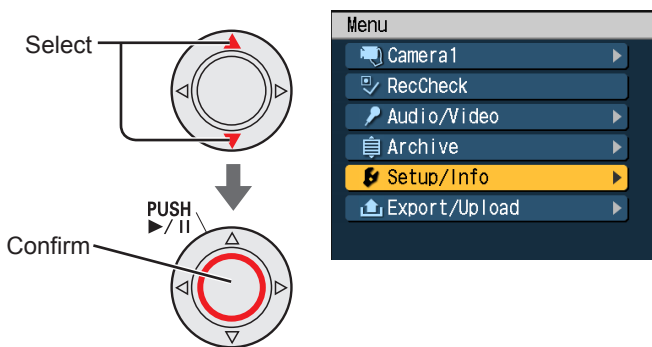
3. **Press the [△ , ▽] buttons to select [Reboot] and press the [▶/‖] button to confirm the entry.**
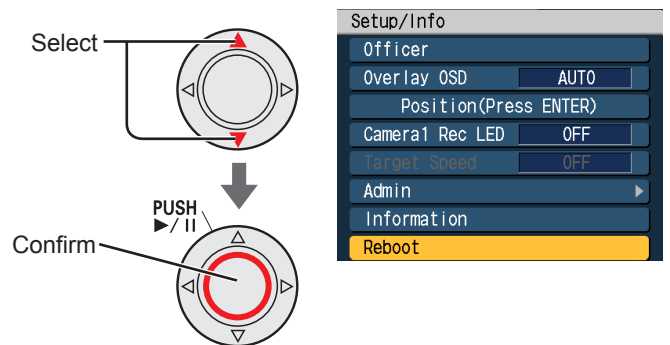
    The Reboot confirmation screen appears.

4. **Press the [◁ , ▷] buttons to select [OK] and press the [▶/‖] button to confirm the entry.**
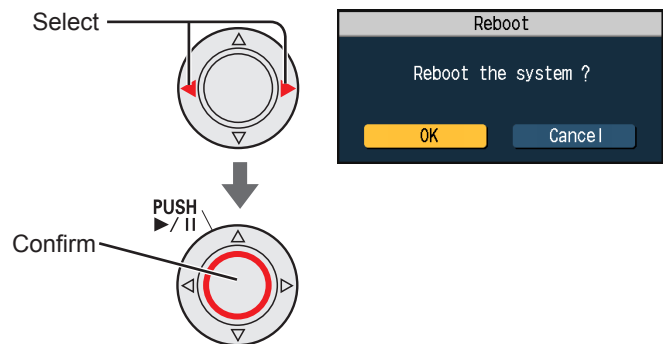
    A reboot takes between 40 to 50 seconds to complete.

Administrator Setup

Cursor button

MENU button
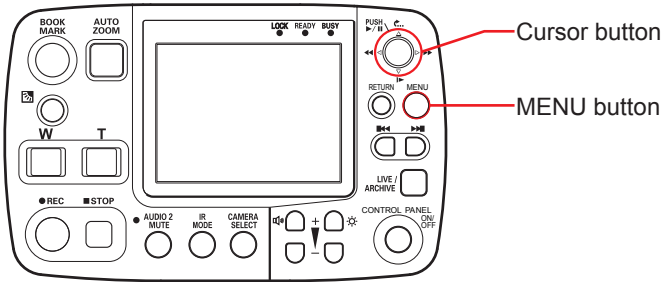
When a Front-End application is running or the Back-End application is streaming a picture, the recorder freezes in the live screen and disables Administrator Setup.

The setup of the recorder includes items that only an administrator is allowed to set up.

Notes:
- Starting up a Front-End application or streaming on the Back-End application during Administrator Setup aborts Administrator Setup. The recorder will then freeze in the live screen and disable Administrator Setup.
- Starting Administrator Setup from a Front-End or Back-End application causes the following screen transitions.
  ① The "Under admin setup from PC…" standby screen replaces the live screen.
  ② The live screen reappears when the Front-End or Back-End application completes Administrator Setup.

Logging in the Setup/Admin screen

1. **Use a computer to copy the administrator's officer data to a USB memory device.**

   For details on creating a text file with the administrator's officer data, refer to "Text Files Used with the Recorder" on pages 29 - 33.

2. **Connect the USB memory device to the recorder.**

3. **Press the [MENU] button.**

   The Menu appears.

4. **Press the [△ , ▽] buttons to select [Setup/Info] and press the [▶/Ⅱ] button to confirm the entry.**

Select

Confirm

Note:
Some USB memory devices may not be properly recognized.

5. **Press the [△ , ▽] buttons to select [Admin] and press the [▶/Ⅱ] button to confirm the entry.**

Select

Confirm

The first of the files automatically sorted (in ascending order) from the USB memory device is loaded as the administrator's officer data.

If the Front-End application or Back-End application is running, the message shown below appears, and Administrator Setup is disabled.

Administrator Setup (continued)

Cursor button

MENU button

The recorder searches to determine whether officer data for the administrator has already been registered, and in the following cases, the Setup/Admin top screen appears.
- When no officer data for the administrator is registered, such as immediately after purchase.
- When identical officer data is already registered for the administrator.

```
Setup/Admin              [1/2]
              ▲
 Audio Allocation            ▶
 Video Allocation            ▶
 Rec/Play                    ▶
 Date/Time                   ▶
 Registration                ▶
 Trigger                     ▶
 Embedded OSD                ▶
 Camera1                     ▶
              ▼
```

If officer data is already registered for the administrator but is not identical, the following screen appears before the Menu automatically reappears.
Obtain correct data from the administrator and repeat operations from Step 1 above.

Authentication
Since you are not an administrator, you cannot open this menu.
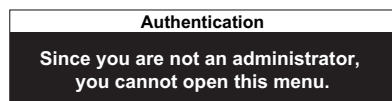
Note:
Refer to "Setup" on pages 19 - 28 for information on the factory defaults.

Audio Allocation

```
Audio Allocation
 Audio1        ◀  OFF  ▶
 Audio2           OFF
 Audio3           OFF
 Audio4           OFF
```

■ Audio 1, Audio 2, Audio 3, and Audio 4

Select the signal level depending on the signal connected to the [AUDIO IN] [1], [2], [3], or [4] connector.

WMIC: Wireless microphone
MIC: Microphone
OFF: No signal input

Administrator Setup (continued)

Video Allocation

```
Video Allocation
          CAM1  CAM2  CAM3  CAM4  CAM5  CAM6
 Detect ▶  ON    ON    ON   OFF   OFF   OFF

                 Form        Main  Sub
 Preset1 ▶        1Ch         1     -
 Preset2 ▶        2Ch         1     2
 Preset3 ▶        2Ch         1     3

 Main Resolution/RecRate     D1 HI
 Sub Resolution/RecRate      D1 HI

    Set                  Main      Sub
```

■ Detect

Press the [△ , ▽] buttons to select [Detect] and press the [►/II] button.

Select

Confirm
PUSH
►/II
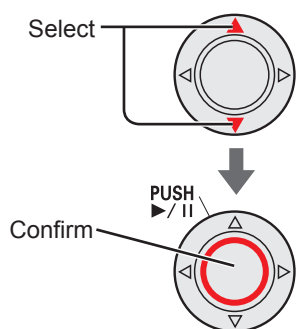
Cameras connected to the recorder are detected, and the connected status are displayed.

ON: Connected
OFF: Not connected

The recommended preset settings are set for Preset1, Preset2, and Preset3.
(See "Camera Connection and Combination of Cameras" on page 117.)

Setting camera connection manually

1. Press the [◁ , ▷] buttons to select a camera.

Select
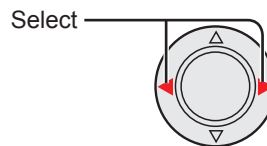
2. Press the [△ , ▽] buttons to change the settings and press the [►/II] button.

Select

Confirm
PUSH
►/II
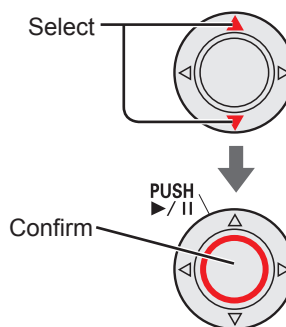
Notes:
- If it is set to "OFF" but a camera is connected, no signal will be recorded.
- If the camera input is disconnected on the Video Allocation screen, the display will change to the Live screen.

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Administrator Setup (continued)

■ Preset1, Preset2, Preset3

```
Video Allocation
          CAM1 CAM2 CAM3 CAM4 CAM5 CAM6
Detect ▶   ON   ON   ON  OFF  OFF  OFF

              Form        Main Sub
Preset1 ▶     1Ch          1   -
Preset2 ▶     2Ch          1   2
Preset3 ▶     2Ch          1   3

Main Resolution/RecRate    D1 HI
Sub Resolution/RecRate     D1 HI

   Set              Main 1 Sub 2
```
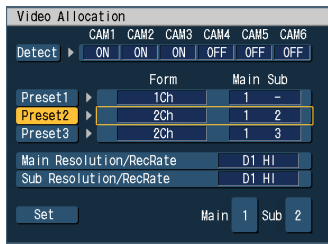
1. Press the [△ , ▽] buttons to select a preset number to be set.
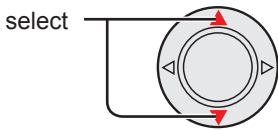
select

2. Press the [▷] button to select [Form].
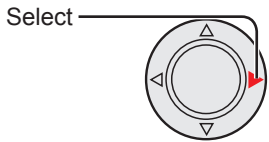
Select

3. Press the [△ , ▽] buttons to change the settings.
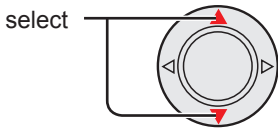
select

4. Press the [▷] button to select [Main Sub].
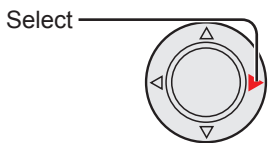
Select

5. Press the [△ , ▽] buttons to change the setting and press the [▶/ⅡPUSH] button to confirm the setting.

Select

PUSH
▶/Ⅱ

Confirm
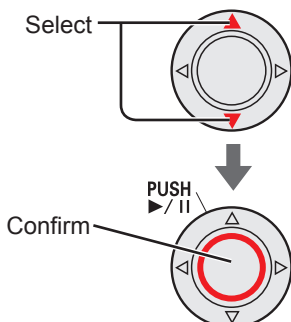
Pattern of the selected Main video and Sub video is displayed at the lower right on the screen.

Preset setting pattern

Form	Main	Sub
1Ch	1 / 2 / 3	—
2Ch	1 / 2	2 / 3
4Ch-QUAD	—	1/2/3 6 4 5
4Ch-PANORAMA	—	1 / 2 / 3 4 6 5
5Ch-QUAD	1 / 2 / 3	2/3 6 4 5
5Ch-PANORAMA	1 / 2 / 3	2 / 3 4 6 5

Notes:
- Some pattern cannot be selected depending on the connected cameras.
  (See "Camera Connection and Combination of Cameras" on page 117.)
- If Form is set to "-", no Preset can be selected.

■ Main Resolution/RecRate

Set the resolution and record rate of a main video.
　　Setting: CIF, D1 10, D1 STD, D1 HI
　　(For details, see "Record time in each record mode" on page 5,)

Note:
If the Main Resolution/RecRate is set to "D1 10", the setting of the Sub Resolution/RecRate is changed to "D1 10".

■ Sub Resolution/RecRate

Set the resolution and record rate of a sub video.
　　Setting: CIF, D1 10, D1 STD, D1 HI
　　(For details, see "Record time in each record mode" on page 5,)

Note:
If the Sub Resolution/RecRate is set to "D1 10", the setting of the Main Resolution/RecRate is changed to "D1 10".

Enabling the settings

When setting is changed on this screen, the [Set] button appears at lower left on the screen.
To enable the settings on the screen, select [Set] and press the [▶/ⅡPUSH] button.
If you press the [Return] button on the remote control panel to terminate the screen, the setting will not be updated.

Note:
If the Preset setting is enabled, the selection with the [CAMERA SELECT] button will be the main picture of Preset1.

Administrator Setup (continued)

Rec/Play

Page 1

```
Rec/Play                    [1/3]

   PowerOff Time      ◀  120 min  ▶
   Init Preset Select     PRESET1
   Init VIDEO OUT1      VIDEO OUT2
   PowerOn Rec             OFF
   Loop Rec                OFF
   Intermittent Rec        OFF
   Rec Continue Time     CONTINUE
                ▼
```
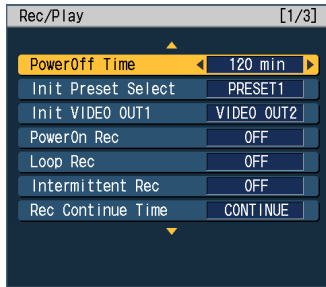
■ PowerOff Time

Use this function to set the interval after which the Remote Control Panel and the recorder will shut down after the ignition switch has been set to the LOCK (OFF) position.
Setting : 0 min, 10 min, 20 min, 30 min, 60 min, 90 min, 120 min, 180 min, AUTO[*1]

■ Init Preset Select

Select a Preset number when the power is turned on. Only the preset numbers set on the Video Allocation screen are selectable. For example, if only Preset 1 and Preset 2 have been set, Preset 3 cannot be selected.
Setting: PRESET 1, PRESET 2, PRESET 3, LAST [*2]

■ Init VIDEO OUT1

Select a signal output from the [VIDEO OUT 1] connector on the recorder when the power is turned on. Only the cameras set to ON on the Video Allocation screen are selectable. For example, if CAM3 has been set to OFF, CAM3 is not selectable.
Setting: CAM1, CAM3, VIDEO OUT2, LAST [*2]

■ PowerOn Rec

Use this function to set recording to start when the recorder is turned on.
Setting: OFF, ON

■ Loop Rec

Use this function to continue recording new video while deleting the oldest recorded files if no space is available on an SDHC Memory Card.
Setting: OFF, ON

Notes:
• If Upload Mode on the Management Mode screen is set to AUTO, the setting is fixed to OFF, and loop recording will be disabled.
• If Loop Rec is set to ON, the Upload Mode on the Management Mode screen cannot be set, and uploading is disabled.

■ Intermittent Rec

Use this function to record one video frame per second[*3].
Setting:OFF, ON

■ Rec Continue Time[*4]

Use this function to set recording continue time for normal recording when a trigger is entered or when the [REC] button is pressed.
Setting: CONTINUE, 1 min, 2min, 5min, 10 min, 15 min, 20 min, 30 min, 60 min, 90 min

---

[*1] **When recorder operation is not controlled by a Front-End or Back-End application:**
Power is turned off immediately. Note, however, that power is not turned off while data is exported to a USB memory device, but is turned off after completion of data export.

When recorder operation is controller by a Front-End or Back-End application:
Power is turned off when control from a Front-End or Back-End application is released, uploading, streaming, administrator setup, or updating is finished on the Back-End application, or the SDHC Memory Card slot cover is opened.

If uploading or exporting continues for more than three hours, it will be interrupted to save battery charge, and the power will be shut off.

[*2] Applies the setting in effect when power was last turned off. Unless power is turned off properly, the operating state may not be saved correctly.

[*3] Normal recording records 10 or 30 video and audio frames per second.

[*4] Intermittent recording does not stop with the time set on Rec Continue Time.

Administrator Setup (continued)

Page 2

```
Rec/Play                    [2/3]
          ▲
PreRec Time(Video)   ◀   30 s   ▶
PreRec Time(Audio)       0 s
PostRec Time(Video)      0 s
PostRec Time(Audio)      0 s
Rule of Filename         WT
Init Audio2 Rec          ON
Init Overlay OSD         OFF
          ▼
```

■ PreRec Time (Video)[*1]

Use this function to set how much of already stored video will be retained when a trigger is entered or the [REC] button is pressed.

Setting : 0 s, 10 s, 20 s, 30 s, 60 s, 90 s

■ PreRec Time (Audio)[*1]

Use this function to set how much of already stored audio will be retained when a trigger is entered or the [REC] button is pressed. However, the audio recording starts at the same time when the video pre-recording starts, even if the PreRec Time (Audio) is set longer than the PreRec Time (Video).

Setting : 0 s, 3 s, 10 s, 20 s, 30 s, 60 s, 90 s

■ PostRec Time (Video)[*2]

Use this function to set the time interval video recording will continue after the [STOP] button is pressed.

Setting : 0 s, 10 s, 20 s, 30 s, 60 s, 90 s

■ PostRec Time (Audio)[*2]

Use this function to set the time interval audio recording will continue after the [STOP] button is pressed. However, the audio recording ends at the same time when the video post-recording ends, even if the PostRec Time (Audio) is set longer than the PostRec Time (Video).

Setting : 0 s, 3 s, 10 s, 20 s, 30 s, 60 s, 90 s

■ Rule of Filename

Use this function to set the rules for filenames generated during recording.

WT : World time
LT : Local time

■ Init Audio2 Rec

Sets Audio2 recording when the power is turned ON.

ON : Recording is performed.
LAST : See footnote.[*3]
OFF : Recording is not performed.

Note:

If Audio2 on the Audio Allocation screen is set to OFF, this setting is disabled.

■ Init Overlay OSD

Use this function to set the Overlay OSD used when the power is on.

Setting : OFF, AUTO, SIMPLE, DETAILS, LAST [*3]

---

*1 Intermittent recording does not include pre-recording time.
*2 If recording is stopped by Intermittent recording, Rec Continue Time, post-recording is not included.

*3 Applies the setting in effect when power was last turned off. Unless power is turned off properly, the operating state may not be saved correctly.

Administrator Setup (continued)

Page 3

```
Rec/Play                    [3/3]
        ▲
GP01 Signal        ◄    REC    ►
GP02 Signal            REC+ERROR
GP03 Signal              OFF
Init Audio Out(Play)      ON
Play Mode               SINGLE
Skip Target
Trigger/Marker           YES
Head of File             YES
        ▼
```

■ GPO1, GPO2, GPO3 Signal

Use this function to select the output signal from GPO1, GPO2, and GPO3.

GPO1, 2: OFF, REC, ERROR, REC+ERROR
GPO3: OFF, REC

■ Init Audio Out (Play)

Use this function to set Audio Out used when the power is on.

ON : All audio channels are output.
LAST : See footnote. [*1]
OFF : All audio channels are not output.

■ Play Mode

Use this function to turn all valid files starting in order from the oldest file on four SDHC Memory Cards into a virtual file for playback.

SINGLE : Normal playback for playing back files one at a time.
RELAY : Plays back multiple files as one single file without the need for further operation. Playback pauses upon reaching the end of the large virtual file (the most recently recorded file). Playback operation is the same as for normal playback.

Notes:

• Slow playback of a virtual file that contains intermittent recording files will revert to normal playback speed at the start of an intermittent recording file. Slow playback is not restored for subsequent normal recording files.
• Quick replay starts playback 7 seconds prior to current location.
• A large virtual file consists of multiple files and video and sound may be momentarily interrupted in playback between files.

Skip Target

Use this function to set the skip location when the [Skip back] or [Skip forward] button is pressed.

■ Trigger / Marker

Pressing of the skip-buttons jumps to the trigger position (one per file) at which recording began, or to a bookmark position, whichever found earlier. However, no trigger position can exist in automatically divided files.

YES: Jumping with the skip-buttons enabled
NO: Jumping with the skip-buttons disabled

■ Head of File

Use this function to move to the beginning of a file with the skip-button operation.

YES: Jumping with the skip-buttons enabled
NO: Jumping with the skip-buttons disabled

Notes:

• When both [Trigger/Marker] and [Head of File] are set to "YES", playback will restart from the first trigger or bookmark that appears or restarts from the beginning of the file.
• [Trigger/Marker] and [Head of File] cannot both be set to "NO".

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

---

*1 Applies the setting in effect when power was last turned off.
   Unless power is turned off properly, the operating state may not be saved correctly.

Administrator Setup (continued)

Date/Time

```
Date/Time
┌─────────────────────────────────────────┐
│ TimeZone          ◄ Eastern DST ►        │
│ Style                  ISO               │
│                                          │
│              yyyy  MM  dd  HH  mm  ss     │
│ Date/Time ►  2008 / 11 / 19  23 : 46 : 23 │
└─────────────────────────────────────────┘
```

■ TimeZone

Indicates time difference from world standard time.

Hawaii	: Hawaiian standard time
Yukon	: Alaska standard time
Yukon DST	: Alaska daylight saving time
Pacific	: Pacific standard time
Pacific DST	: Pacific daylight saving time
Mountain	: Mountain standard time
Mountain DST	: Mountain daylight saving time
Central	: Central standard time
Central DST	: Central daylight saving time
Eastern	: Eastern standard time
Eastern DST	: Eastern daylight saving time
Atlantic	: Atlantic standard time
Atlantic DST	: Atlantic daylight saving time
Asia Tokyo	: Japan standard time

■ Style

Use this function to set a date format.

ISO : YYYY-MM-DD
       HH : MM : SS
USA : MM/DD/YYYY
       HH : MM : SS

■ Date/Time

The [Set] button appears when [Date/Time] is used to change the date and time. Select the [Set] button and use the [⏯] button to confirm the entry. The [Set] button disappears upon confirmation. Use the [MENU] button, [CONTROL PANEL ON/OFF] button, [RETURN] button or the [LIVE/ARCHIVE] button to cancel.

Setting : Year/month/day
            hour : minute : second

Note:

If GPS information is used for the date and time setting, setting of Date/Time on the menu will be invalid.

Administrator Setup (continued)

Registration

Page 1

```
Registration              [1/2]
              ▲
          Load Admin
          List Admin
        ─────────────
         Load Officer
         List Officer
        ─────────────
        Load Classify
        List Classify
              ▼
```

■ Load Admin

Use this function to load administrator data from a USB memory device, overwriting any existing administrator data.

Note:

No administrator data is registered when shipped from the factory.

■ List Admin

Use this function to view the IDs of administrators and officer names already registered in the recorder. Use the [△ , ▽] buttons to go between pages.

■ Load Officer

Use this function to load officer data from a USB memory device, overwriting any existing officer data.

Note:

No officer data is registered when shipped from the factory.

■ List Officer

Use this function to view the IDs of officers and officer names already registered in the recorder. Use the [△ , ▽] buttons to go between pages.

Note:

Long IDs and officer names may not be displayed in full.

■ Load Classify

Use this function to load classify tags from a USB memory device, and delete any existing classify tags and update all classify tags.

Note:

The recorder contains no classify tags when shipped from the factory.

■ List Classify

Displays classify tags stored on the recorder. Use the [△ , ▽] buttons to go between pages.

Note:

Long classify tag character strings may not be displayed in full.

Page 2

```
Registration              [2/2]
              ▲
          Load Source
          List Source
        ─────────────
          Load Area
          List Area
        ─────────────
          Load Shift
          List Shift
              ▼
```
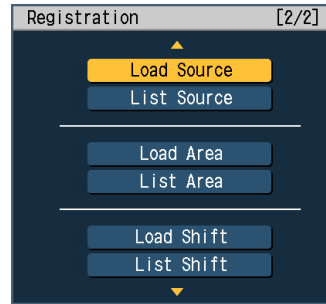
■ Load Source

Use this function to load source data from a USB memory device, overwriting any existing source data.

Note:

No source data is registered when shipping from the factory.

■ List Source

Use this function to display source data already registered in the recorder. Use the [△ , ▽] button to go between pages.

■ Load Area

Use this function to load area data from a USB memory device, overwriting any existing area data.

Note:

No area data is registered when shipping from the factory.

■ List Area

Use this function to display area data already registered in the recorder. Use the [△ , ▽] button to go between pages.

■ Load Shift

Use this function to load shift data from a USB memory device, overwriting any existing shift data.

Note:

No shift data is registered when shipping from the factory.

■ List Shift

Use this function to display shift data already registered in the recorder. Use the [△ , ▽] button to go between pages.

Trigger

```
Trigger                    [1/2]
Trigger  ▶  ON        ▲
            Action  Detection Printable
Trigger1 ▶   NONE      H       OFF
Trigger2 ▶   NONE      H       OFF
Trigger3 ▶   NONE      H       OFF
Trigger4 ▶   NONE      H       OFF
Trigger5 ▶   NONE      H       OFF
Trigger6 ▶   NONE      H       OFF
Trigger7 ▶   NONE      H       OFF
Trigger8 ▶   NONE      H       OFF
                       ▼
```
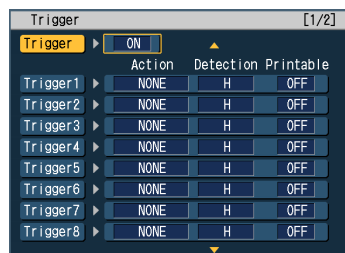
■ Trigger

Use this function to turn trigger on or off.
Setting : ON, OFF

■ Trigger1 to 16

< Action >

Enter actions for detection of trigger signals (GPI1–16). Enter "NONE" for triggers that will not be used.

REC	: Record
STOP	: Stop
AUTO ZOOM	: Automatically zooms in/out or pauses
P1, P2 [*1]**, P3** [*1]	: Selects video set for Preset1, Preset2, or Preset3
P1REC, P2REC [*1]**, P3REC** [*1]	
	: Records video set for Preset1, Preset2, or Preset3
AUDIO2ON	: Records audio input to the [AUDIO IN 2] connector
AUDIO2MUTE	: Not records audio input to the [AUDIO IN 2] connector
TGT(REC) [*2]	: Starts recording with a TGT input signal
TGT(P1REC) [*2]**, TGT(P2REC)** [*1, *2]**, TGT(P3REC)** [*1, *2]	
	: Starts recording video set for Preset1, Preset2, or Preset3 with a TGT input signal
OWN(REC) [*2]	: Starts recording with an OWN input signal
OWN(P1REC) [*2]**, OWN(P2REC)** [*1, *2]**, OWN(P3REC)** [*1, *2]	
	: Starts recording video set for Preset1, Preset2, or Preset3 with an OWN input signal
CAM1 LED	: Changes the status setting (on/off) of the [REC] lamp on a Color Camera connected to the [CAMERA 1] connector
NONE	: No operation

Note:

When you switch the preset mode, noise may occur in video.

< Detection >

Enter conditions for detection of trigger signals (GPI1–16). Choice of detection method depends on the setting selected by <Action>.

- In REC, P1REC, P2REC, and P3REC modes
  - **H** : High-edge trigger
  - **Level H** : High-level trigger
  - **L** : Low-edge trigger
  - **Level L** : Low-level trigger
  - **B** : Both-edge trigger
- In P1, P2, P3, CAM1 LED, AUDIO2ON, AUDIO2MUTE, AUTO ZOOM, and STOP modes
  - **H** : High-edge trigger
  - **L** : Low-edge trigger
  - **B** : Both-edge trigger
- In NONE mode
  - **H** : High-edge trigger
  - **L** : Low-edge trigger
- In TGT(REC), TGT(P1REC), TGT(P2REC), TGT(P3REC), OWN(REC), OWN(P1REC), OWN(P2REC), and OWN(P3REC) modes
  - **Setting:** OFF, 200, …, 2, 1

< Display >

Assign characters to be used in the Embedded OSD display.
Setting: OFF (no display), A to Z, –

Note:

The value set by <Display> appears when the state triggered by <Detection> prevails. However, only when a value "B" is set for <Detection>, the value set by <Display> will appear during a high state.

---

*1 These are not displayed if Preset 2 and Preset 3 have not been set on Video Allocation screen.
*2 TGT(REC), TGT(P1REC), TGT(P2REC), TGT(P3REC), OWN(REC), OWN(P1REC), OWN(P2REC), and OWN(P3REC) can be selected for Trigger 15 and Trigger 16.

Administrator Setup (continued)

Embedded OSD

Embedded OSD
Main OSD	◀ ON ▶
Sub OSD	ON
Display Position	L-Upper
Contents (Embedded/Overlay)	
Trigger	ON
Time	ON
Source@Area	OFF
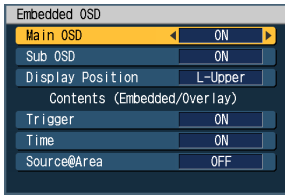
■ Main OSD

Use this function to set whether the items in "Contents" are to be embedded on the main screen on recording.

ON: Trigger, Time, and Source@Area that are set to ON are embedded on the screen during recording. When a file with the items embedded is played, the embedded items are displayed at the recorded locations.

OFF: No item is embedded during recording.

■ Sub OSD

Use this function to set whether the items in "Contents" are to be embedded on the sub screen during recording.

ON: Trigger, Time, and Source@Area, that are set to ON are embedded on the screen during recording. When a file with the items embedded is played, the embedded items are displayed at the recorded locations.

OFF: No item is embedded during recording.

■ Display Position

Use this function to set the display position for the On-Screen Display on the screen and in record files.

L-Upper : Upper left
R-Upper : Upper right
L-Bottom : Lower left
R-Bottom : Lower right

■ Trigger

Use this function to turn trigger display on or off upon trigger signal (GPI1–16) inputs.

Setting : ON, OFF

Note:

The Detailed Overlay OSD (see pages 56, 70) will hide this indication.

■ Time

Use this function to turn date and time display on or off during recording.

Setting : ON, OFF

Note:

The Detailed Overlay OSD (see pages 56, 70) will hide this indication.

■ Display for the vehicle identification and name of a location (Source@Area)

Use this function to turn vehicle identification and name of a location on or off during recording.
This information appears as "Source@Area".
The first 5 characters in the vehicle identification is displayed as "Source" and the first 4 characters in the name of a location is displayed as "Area".

Setting : ON, OFF

Notes:

• If the Source is less than 5 characters, the number of characters for the Area is adjusted so that the total number of characters becomes 10.

• If the Area is less than 4 characters, the number of characters for the Source is adjusted so that the total number of characters becomes 10.

• "@Area" is displayed when there is no Source.

• The vehicle identification only is displayed when there is no Area.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Administrator Setup (continued)

Camera1

Note:

If "Camera1" has not be set for any of Preset1, Preset2, and Preset 3 on the Video Allocation screen in Administrator setup, the Camera1 screen cannot be selected.

Page 1

Camera1	[1/2]
▲	
Zoom Limit	◄ X 220 ►
AGC Level	HIGH
Init Backlight	OFF
Init AE Shift	0
Flip	OFF
AutoZoom Magnification	X10
AutoZoom Time	3 s
AutoZoom End Position	X1
▼	
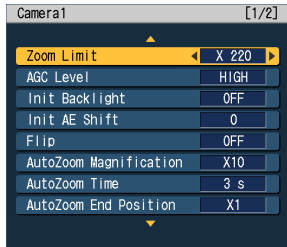
■ Zoom Limit

Use this function to enter maximum zoom ratio.
Setting : ×22, ×220

■ AGC Level

Use this function to set the level of camera input gain control.
Setting : HIGH, OFF, LOW, MID

■ Init Backlight

Use this function to turn backlight compensation on or off when the power is on.
Setting : OFF, ON, LAST *1

■ Init AE Shift

Use this function to adjust brightness when the power is on.
Setting : 0, -2, -1, +1, +2, LAST *1

■ Flip

Use this function to determine whether to vertically flip camera video image or not.
Setting : OFF, ON

■ AutoZoom Magnification

Use this function to set the target zoom-in ratio.
Setting : ×10, ×15, ×22, ×1, ×2, ×3, ×4, ×5, ×7

■ AutoZoom Time

Use this function to set the zoom-in pause time.
Setting : 3 s, 5 s, 8 s

■ AutoZoom End Position

Use this function to set the zoom-end ratio for auto zoom.
Setting: x1, x2, x3, x4, x5, x7, x10, x15, x22, LAST *1

Page 2

Camera1	[2/2]
▲	
Init Camera1 Rec LED	◄ ON ►
Init IR Mode	AUTO
IR Level	LOW
IR Time	30 s
Auto Focus	PRESET
Init LPR Mode	DISABLE
▼	
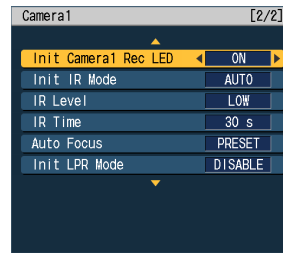
■ Init Camera1 Rec LED

Use this function to turn the [REC] lamp on the camera connected to the [CAMERA 1] connector on or off when the power is on.
Setting : ON, LAST *1,OFF

■ Init IR Mode

Use this function to set the IR function when the power is on.
Setting : AUTO *2, OFF, ON, LAST *1

■ IR Level

Use this function to set the IR function level during automatic switching.
Setting : LOW, HIGH

■ IR Time

Use this function to set the IR function detection time during automatic switching.
Setting : 30 s, 60 s, 300 s, 10 s

■ Auto Focus

Selects color camera focusing method when,
• [Init LPR Mode] is set to "DISABLE".
• [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL".
• A recording trigger starts recording when [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "LPR".

PRESET : When the zoom is 3x or below, the camera is focused at about 15 m (50 feet). Subsequent zooming will engage auto focus.
DISABLE : Focus is locked at about 40 m (130 feet) and auto focus is not available.
AUTO : Auto focus goes into operation when the zoom ratio is changed.

■ Init LPR Mode

Enables or disables the LPR function (license plate recognition) when the recorder is turned on.

DISABLE : Color camera shutter speed changes to "AUTO". The zoom position for the camera at power on returns to the position it had when the power was last turned off.
ENABLE : Allows changes to be made to the officer [LPR Mode]. Values set in this mode will persist through a power off and become available at the next power on.

---

*1 Applies the setting in effect when power was last turned off. Unless power is turned off properly, the operating state may not be saved correctly.
*2 Automatically switches between ON and OFF.

Management Mode

```
Management Mode
    Setup Management for Officer
  Classify            ◄  DISABLE  ►
  Setting Method          AUTO
  Upload Mode            MANUAL
  Export Menu           DISABLE
  Preset Select          ENABLE
  Operation Key Lock       OFF
```
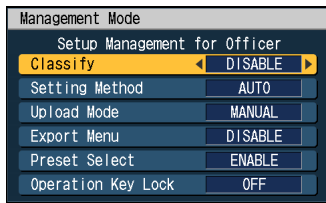
■ Classify

Use this function to set whether the classify tag is added upon stopping of recording.

DISABLE : Disables adding a classify tag.
ENABLE : Enables adding a classify tag.
FORCE : Add a classify tag forcibly.

If "Loop Rec" on the Rec/Play screen is set to ON, the classify tag will not be added even if [ENABLE] or [FORCE] is selected.

■ Setting Method

Use one of the following methods to enter officer data.

AUTO : Automatically reads and loads officer data for up to two persons from a USB memory device.

MANUAL : Display the menu on the LCD panel, and then read in and configure officer data from a USB memory device on the Officer setup top screen.

LIST : Display the menu on the LCD panel and allow you to set the officer data by selecting from the list on the Officer setup top screen after reading in the officer data already stored on this unit.

■ Upload Mode

Use this function to set the upload mode.

AUTO : Data are uploaded automatically.
MANUAL : Data are uploaded manually.

Notes:
- If Loop Rec on the Rec/Play screen is set to ON, the Upload Mode cannot be set, and uploading is disabled.
- If the Upload Mode is set to AUTO, connection with a PC will be automatically started and maintained during uploading.

■ Export Menu

Use this function to set Export menu.

ENABLE : Enables Export menu.
DISABLE : Disables Export menu.

■ Preset Select

Use this function to set preset selection.

ENABLE : Enables the preset selection.
DISABLE : Disables the preset selection.

■ Operation Key Lock

Use this function to lock the buttons on the remote control panel.

OFF : All buttons can be used.
ANY : The [W], [T], [AUTO ZOOM], [BACKLIGHT], [CAMERA SELECT], [IR MODE], [AUDIO2MUTE], [LIVE/ARCHIVE], [PREV], [NEXT], and [BOOKMARK] buttons are locked.
STOP : The buttons other than the [STOP] button are locked.

Notes:
- When a USB memory device containing administrator data is connected, you can press the [MENU] button to enter the Setup/Admin top screen via the menu items. Set [Management Mode] – [Operation Key Lock] setting to "OFF" in administrator setup to release key lock.
- The key lock is activated for the first time when you move to the live screen.
- The [LOCK] lamp indicates whether the keys are locked.
- The Color Camera zoom and brightness buttons cannot be locked.
- Trigger signal (GPI1-16) control (see page 86) is not locked.

Administrator Setup (continued)

Radar/GPS

```
Radar/GPS
Radar Model : ProLaser3
  Model Select          ◄ ProLaser ►
          Add Model
  Connection of Radar        OFF
GPS
  Connection of GPS        Recorder
  Collection Time            5 s
Speed Information
  Speed Unit                 MPH
```
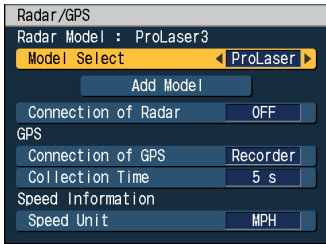
Radar Model

The model name of the radar gun connected to the recorder is displayed.

■ Model Select

Use this function to select a radar gun.

ProLaser :
   The recorder is set to support Kustom Signal's Inc.'s ProLaser3 as standard.

STALKER_:
   The recorder is set to support Applied Concepts, Inc.'s STALKER DUAL.

GOLDEN_:
   The recorder is set to support Kustom Signals, Inc.'s Golden Eagle II.

Note:
To use the recorder with other radar guns, consult your supplier.

■ Add Model

1. **Press the [△ , ▽] buttons to select [Add Model], and press the [▶/ⅡPUSH] button to confirm the entry.**
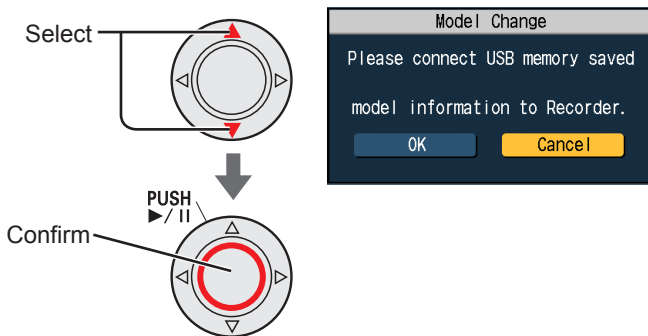
2. **Connect the USB memory device containing the model data to the recorder.**

3. **Press the [◁ , ▷] buttons to select [OK], and press the [▶/ⅡPUSH] button to confirm the entry.**
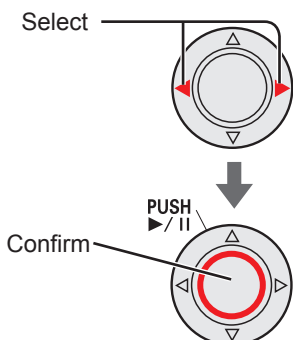
A new radar gun is added.

■ Connection of Radar

Use this function to specify the radar gun connection port.
   OFF : When not connected
   Recorder: When connected to the recorder

Notes:
• The remote control panel has no function for calculating the speed of the target vehicle from the moving own vehicle.
• No distinction is made between the speed of an approaching target vehicle and a receding one.
• Some radar guns come with a function for setting conditions that enable correct measurement of target vehicle speed. Use this function according to the instructions in the Operating Instructions of the radar gun.
• Error messages appear when the radar gun is operating abnormally.

GPS

■ Connection of GPS

Use this function to select GPS data source.
   Recorder: Uses GPS data from the GPS module attached to the recorder.
   OFF   : Does not use GPS data.

■ Collection Time

Use this function to set the time to collect GPS data.
   Setting : 5 s, 10 s, 1 s, 2 s

Speed Information

■ Speed Unit

Use this function to set the speed unit for own and target vehicles.
   Setting : MPH, km/h

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Administrator Setup (continued)

File Management

```
File Management
      Delete All Files    ▶
          Format          ▶
```
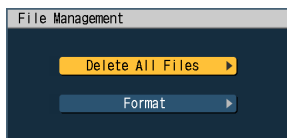
■ Delete All Files

Use this function to delete all video and audio data files on the recorder. Select [OK] in the confirmation dialog box that appears to delete the files or select [Cancel] to keep the files.

Notes:

• Do not make button operations or turn the power off during a delete all files operation.
• SDHC Memory Card files for which the following information appears in the status display cannot be deleted.
  - CARD PROTECT
  - VUP CARD
  - UNFORMATTED
  - NO CARD

■ Format

```
            Format
        Format All cards ?
Slot1 : ------            NO CARD      ①
Slot2 : ------            NO CARD
Slot3 : PA-SV16G(CLASS6)
Slot4 : ------            NO CARD      ②
        OK          Cancel            ③
```
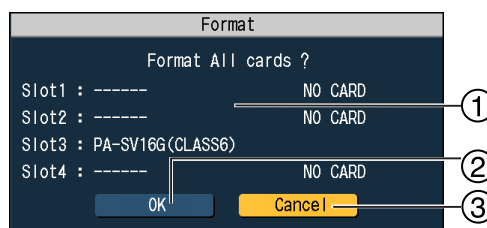
Use this function to format all SDHC Memory Cards in the recorder.

① : Displays the model of the inserted SDHC Memory Card.
② : Formats all SDHC Memory Cards.
③ : Cancels formatting.

Notes:

• Do not make button operations or turn the power off during a format operation.
• An SDHC Memory Card for which the following information appears in the status display cannot be formatted.
  - CARD PROTECT
  - VUP CARD
  - NO CARD
  - UNSUPPORTED
• Format a new SDHC Memory Card or an SDHC Memory Card to be used with another device, in the recorder or with the "SD Memory Card Formatting Software". "SD Memory Card Formatting Software" can be downloaded from the Web site below.
  http://panasonic.jp/support/global/cs/sd/download/sd_formatter.html
  For formatting with the "SD Memory Card Formatting Software", be sure to set the FORMAT SIZE ADJUSTMENT of the format option to "OFF". If it is set to "ON", the recorder will not be able to use the SDHC Memory Card.
• The product name is defined by the SD Card Association and may differ from the SDHC memory card product number.

Administrator Setup (continued)

Network
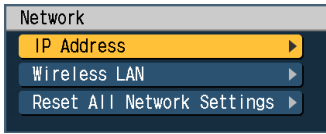
IP Address
Use this function to set IP address.
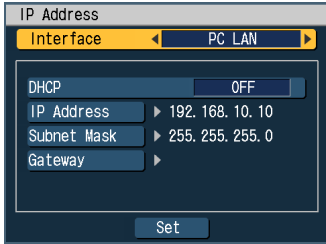
■ Interface
Select an interface to be used.

PC LAN	:	Wired LAN for connecting the Front-End application and the recorder
UPLOAD LAN	:	Wired LAN for connecting the Back-End application and the recorder
USB WIRELESS LAN	:	USB Wireless LAN for connecting the Back-End application and the recorder

■ DHCP
Use this function to set DHCP.

• When "PC LAN" is selected for [Interface]
If [DHCP] is set to "Server1", "Server2", "Server3", or "Server4", the recorder is set to the DHCP server and the Front-End application is set to the DHCP client. In this case, the IP address is fixed.
If [DHCP] is set to "OFF", IP Address, Subnet Mask, and Gateway can be set with the procedures described below.

1. Press the [△ , ▽] buttons to select [Interface].
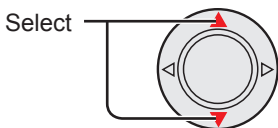
2. Press the [◁ , ▷] buttons to select [PC LAN].
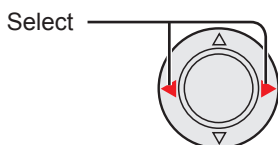
3. Press the [△ , ▽] buttons to select [DHCP].
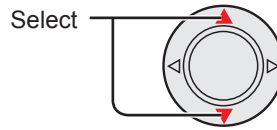
4. Press the [◁ , ▷] buttons to select [OFF].
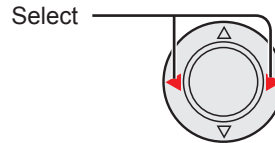
5. Press the [△ , ▽] buttons to select [IP Address].
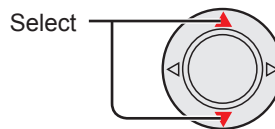
6. Press the [▷] button.
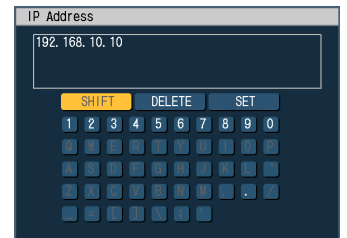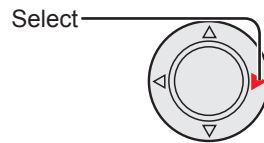
7. Enter the address.
Select a character to be entered with the cursor button, and press the [PUSH ▶/II] button.
To delete a entered character: Select [DELETE] with the cursor button, and press the [PUSH ▶/II] button.
To change displayed characters: Select [SHIFT] with the cursor button, and press the [PUSH ▶/II] button.

8. When all characters have been entered, select [SET] with the cursor button, and press the [PUSH ▶/II] button.

Set Subnet Mask and Gateway in the same way.

• When "UPLOAD LAN" is selected for [Interface]
If the network includes a DHCP server, set [DHCP] to "Client". The recorder is set to the DHCP client, and obtains the IP address from the server.
If the network does not include a DHCP server, set [DHCP] to "OFF". The IP address is fixed.

• When USB WIRELESS LAN is selected for [Interface]
If the network includes a DHCP server, set [DHCP] to "Client". The recorder is set to the DHCP client, and obtains the IP address from the server.
If the network does not include a DHCP server, set [DHCP] to "OFF". The IP address is fixed.

Updating network setting
When network settings are changed, press the [Set] button. The network setting will be updated.

Administrator Setup (continued)

Wireless LAN

Use this function to set details for the USB wireless LAN.

```
Wireless LAN
AP Priority        ◀   AP1 Highest   ▶
Network                Access Point1

Access Point           ENABLE
Security               WEP
SSID           ▶ SS
Network Key    ▶ NET
Key Index              1

              Set
```
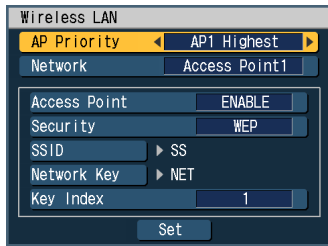
■ AP Priority

Use this function to set priority.

Random : Trying to connect to the access point at random

AP1 Highest : Trying to connect to the access point in order of Access Point1, Access Point2, …, Access Point10

■ Network

Use this function to set the access point of the network.
Setting: Access Point1, Access Point2, …, Access Point10

Make the following settings for each access point.

• Access Point

Set whether the access point is enabled or disabled.
Setting: ENABLE, DISABLE

• Security

Use this function to set security.
Setting: WEP, WAP/WPA2-PSK, NONE

• Service Set ID (SSID)

Use this function to set the service set ID.

• Network Key

Use this function to set network key.

• Key Index

Use this function to set key index.
Setting: 1, 2, 3, 4

■ [Set] button

Press this button when a setting is changed. The network setting will be updated.

Reset All Network Settings

Use this function to reset the network settings.

1. **Press the [△ , ▽] buttons to select [Reset All Network Settings].**
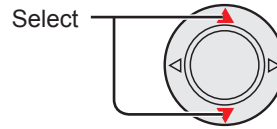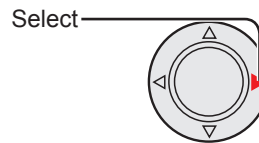
Select

2. **Press the [▷] button.**

Select

3. **Press the [◁ , ▷] buttons to select [OK] and press the [▶/Ⅱ] button to confirm the entry.**

Select

PUSH
▶/Ⅱ

Confirm
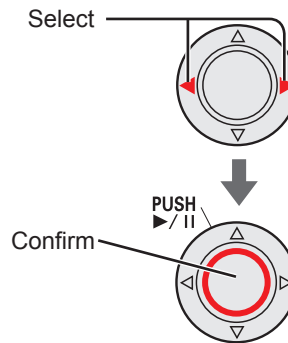
Service

```
Service
AG-CPD20 Operating Time      137 h
FAN      Operating Time      123 h
CAM1     Operating Time      105 h
AG-RCP30 Operating Time      121 h
LCD      Lighting Time       109 h
AG-CPD20      Version  4.00.048.1
    Serial No.           ----------
Microcontroller Version  4.00.019.0
AG-RCP30      Version  3.10.003.1
         Operations       ▶
```

■ AG-CPD20 Operating Time

Use this function to view the operating time of the recorder.
(unit: hours)

■ FAN Operating Time

Use this function to view the operating time of the fan.
(unit: hours)

■ CAM1 Operating Time

Use this function to view the operating time of the Camera connected to the [CAMERA 1] connector.
(unit: hours)

■ AG-RCP30 Operating Time

Use this function to view the operating time of the Remote Control Panel.
(unit: hours)

■ LCD Lighting Time

Use this function to view the cumulative lighting time of the LCD panel.
(unit: hours)

■ AG-CPD20 Version

Use this function to view the version of the recorder.

■ Serial No.

Use this function to view the serial number of the recorder.

■ Microcontroller Version

Use this function to view the version of the microprocessor.

■ AG-RCP30 Version

Use this function to view the version of the Remote Control Panel.

Operations

```
Operations
     Software Version Up       ▶
     Menu Copy(Copy To USB)    ▶
   Menu Copy(Copy To Recorder) ▶
         Service Log           ▶
     Clear Officer Information ▶
         Factory Default       ▶
```

■ Software Version Up

For details on obtaining version upgrade files, consult your supplier. Make sure to use a computer beforehand to save the version upgrade file you obtain in the root directory[*1] of an SDHC Memory Card or USB memory device.

1. **Insert the SDHC Memory Card or connect the USB memory device to the recorder.**

2. **Select [Service] - [Operations] - [Software Version Up], and press the [▷/ǁ] button to confirm the entry.**
   A confirmation dialog box appears.

3. **Select [OK], and accept by pressing the [▷/ǁ] button.**
   The version upgrade is performed, and the recorder automatically restarts.

Notes:
• Do not make button operations or turn the power off during a version upgrade.
• An error screen appears if the version upgrade fails. (See "Error Message" on pages 111-116.)

---

*1 Version upgrade cannot be performed when the following conditions exist in the root directory.
  • If a DATA folder is present
  • If multiple version upgrade files (.VUP extension) are present

■ **Menu Copy (Copy to USB)**

Use this function to copy menu settings on this recorder to another recorder.

1. **Connect a USB memory device to this recorder.**

2. **Select [Service] – [Operations] – [Menu Copy (Copy to USB)], and press the [⏯] button to confirm the entry.**
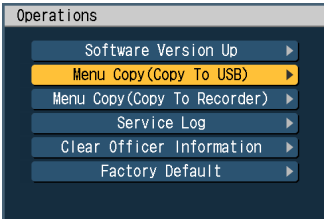
```
Operations
    Software Version Up          ▶
    Menu Copy(Copy To USB)       ▶
    Menu Copy(Copy To Recorder)  ▶
    Service Log                  ▶
    Clear Officer Information    ▶
    Factory Default              ▶
```

A confirmation dialog box appears.

3. **Select [OK], and press the [⏯] button to confirm the entry.**

```
Menu Copy

Copy menu settings into an
attached USB memory device ?

   OK          Cancel
```

■ **Menu Copy (Copy to Recorder)**

Use this function to copy menu settings stored on a USB memory device to this recorder.

1. **Connect a USB memory device to this recorder.**

2. **Select [Service] – [Operations] – [Menu Copy (Copy to Recorder)], and press the [⏯] button to confirm the entry.**
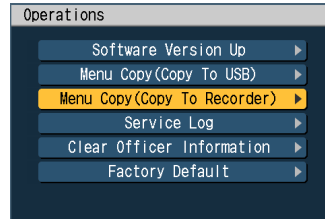
```
Operations
    Software Version Up          ▶
    Menu Copy(Copy To USB)       ▶
    Menu Copy(Copy To Recorder)  ▶
    Service Log                  ▶
    Clear Officer Information    ▶
    Factory Default              ▶
```

A confirmation dialog box appears.

3. **Select [OK], and press the [⏯] button to confirm the entry.**

```
Menu Copy

Load menu settings saved in
USB memory or SD card ?

   OK          Cancel
```

Menu settings are copied from a USB memory device.

Note:
The following lamp states indicate that an error has occurred.

[BUSY] lamp fast blinking:
This indicates that an error occurred during configuration file[*1] check or administrator authentication.
• If a configuration file[*1] check error occurred, the followings are probable causes.
  - The configuration file is missing.
  - There are multiple configuration files.
  - The configuration file is corrupted.
• If an administrator authentication error occurred, administrator setup has been made on another recorder. Use a PC to copy the administrator's officer data to the \WIDKEY on the USB memory device.
  For details regarding text files containing administrator's officer data, see "Text Files Used with the Recorder" on pages 29 – 33. Perform operations above from Step 1.

[READY] lamp goes off:
This indicates that the data could not be correctly loaded. Perform the operations below in the stated order. If the [READY] lamp still does not light, consult your supplier.
① Remove the USB memory device, and perform the operation from Step 1.
② Replace the USB memory device, and perform the operation from Step 1.

---

*1 The configuration file is the file with the ".CFG" extension. The configuration file contains all information set on this recorder. However, the following data are excluded.
  • Recorder Operating Time
  • Fan Operating Time
  • CAMERA 1 Operating Time
  • Remote Control Panel Operating Time

  • LCD Lighting Time
  • Recorder Version
  • Recorder serial number
  • Microcontroller Version
  • Remote Control Panel Version
  • Last erros

Administrator Setup (continued)

■ Service Log

Use this function to copy service log (see "Service Log" on page 119) to an USB memory device.

1. **Connect a USB memory device to this recorder.**

2. **Select [Service] – [Operations] – [Service Log], and press the [⏯] button to confirm the entry.**
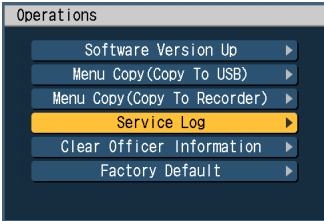
```
Operations
    Software Version Up          ▶
    Menu Copy(Copy To USB)       ▶
    Menu Copy(Copy To Recorder)  ▶
    Service Log                  ▶
    Clear Officer Information     ▶
    Factory Default              ▶
```

A confirmation dialog box appears.

3. **Select [OK], and press the [⏯] button to confirm the entry.**

```
Service Log
    Copy service log into an
    attached USB memory device ?
    [ OK ]      [ Cancel ]
```
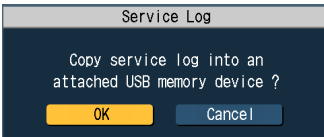
A service log is created with the filename of SVddhhmm. log (dd: day, hh: hours, mm: minutes), and copied to the top folder of the USB memory device.
Select [Cancel] to stop copying.

■ Clear Officer Information

Use this function to delete officer data from a recorder.

1. **Select [Service] – [Operations] – [Clear Officer Information], and press the [⏯] button to confirm the entry.**
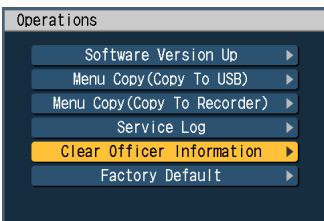
```
Operations
    Software Version Up          ▶
    Menu Copy(Copy To USB)       ▶
    Menu Copy(Copy To Recorder)  ▶
    Service Log                  ▶
    Clear Officer Information     ▶
    Factory Default              ▶
```

A confirmation dialog box appears.

2. **Select [OK], and press the [⏯] button to confirm the entry.**

```
Clear Officer Information
    Clear Officer Information ?
    [ OK ]      [ Cancel ]
```
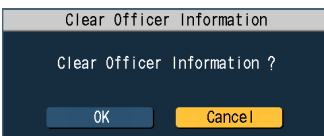
Officer data will be deleted.
Select [Cancel] to stop deleting officer data.

■ Factory Default

All recorder settings can be returned to their factory defaults. The following settings do not return to their factory defaults.
- Recorder Operating Time
- FAN Operating Time
- CAM1 Operating Time
- Remote Control Panel Operating Time
- LCD Lighting Time
- Recorder Version
- Recorder serial number
- Microcontroller Version
- Remote Control Panel Version

Note that the recorder will not revert to user made settings after being reset to their factory defaults. Make sure you really want to return all settings to their factory defaults before performing the following steps.

1. **Select [Service] - [Operations] - [Factory Default], and press the [⏯] button to confirm the entry.**

```
Operations
    Software Version Up          ▶
    Menu Copy(Copy To USB)       ▶
    Menu Copy(Copy To Recorder)  ▶
    Service Log                  ▶
    Clear Officer Information     ▶
    Factory Default              ▶
```
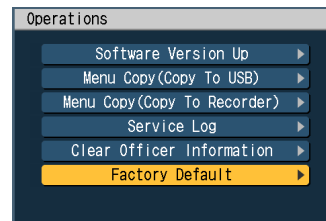
A confirmation dialog box appears.

2. **Select [OK], and accept by pressing the [⏯] button.**

```
Factory Default
    Reset to the factory default
    and reboot ?
    [ OK ]      [ Cancel ]
```
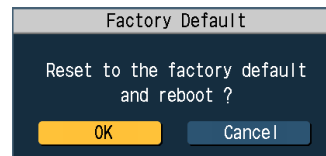
The recorder will reboot and start up in the factory default settings.
Select [Cancel] to cancel returning to the factory defaults.

Menu List

Use menus provided by the Remote Control Panel to set up and adjust this recorder.

When the [MENU] button is pressed while recording is being stopped in the live screen

• Menu top screen

```
Menu
  Camera1                    ▶
  RecCheck
  Audio/Video                ▶
  Archive                    ▶
  Setup/Info                 ▶
  Export/Upload              ▶

              ENTER
    RETURN    MENU
```

Camera1 (see page 88)
When [Init LPR Mode] is set to "DISABLE":

```
Auto Focus(Press ENTER)

Manual Focus        ◀ N        F ▶

AE[-2 -- +2]        ◀      0      ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "LPR":

```
Auto Focus(Press ENTER)

Manual Focus        ◀ N        F ▶

AE[-2 -- +2]        ◀      0      ▶

LPR Mode            ◀     LPR     ▶

LPR Shutter Speed   ◀    1/1000   ▶

LPR Zoom            ◀    X1.0     ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL":

```
Auto Focus(Press ENTER)

Manual Focus        ◀ N        F ▶

AE[-2 -- +2]        ◀      0      ▶

LPR Mode            ◀    PATROL   ▶

Patrol Shutter Speed ◀   AUTO     ▶

Patrol Zoom         ◀    X1.0     ▶
```

RecCheck (see page 60)
A trial shoot can be performed.

Audio/Video (see pages 52-54)

```
Audio/Video
Audio
  Audio1 Test(Press ENTER)
  Audio2 Test(Press ENTER)
  Audio3 Test(Press ENTER)
  Audio4 Test(Press ENTER)
Video
  Image Enhance        OFF
  VIDEO OUT1      VIDEO OUT2
```

Officer (see page 37)

```
Officer
  Officer1 ▶  ID :----
              Name :---- ----
  Officer2 ▶  ID :----
              Name :---- ----
  Source   ▶  --------
  Area     ▶  ----
  Shift    ▶  ----
  WorkTime ▶  ---------- --:-- - --:--
```

Archive (see page 67)

```
File List            [1/2]

        2008-11-20 13:13:51
        2008-11-20 13:14:05
        2008-11-20 13:14:12
        2008-11-20 13:14:46
        2008-11-20 13:14:46*
        2008-11-20 13:32:41
        2008-11-20 13:32:49
        2008-11-20 13:32:58
        2008-11-20 13:33:07
             ENTER
RETURN  MENU 2008-11-20 13:33:19
```

Setup/Admin (see page 78)

```
Setup/Admin          [1/2]

  Audio Allocation         ▶
  Video Allocation         ▶
  Rec/Play                 ▶
  Date/Time                ▶
  Registration             ▶
  Trigger                  ▶
  Embedded OSD             ▶
  Camera1                  ▶
```

Export/Upload (see page 73)

```
Export/Upload
  Export
  Upload
```

Setup/Info (see page 37)

```
Setup/Info
  Officer
  Overlay OSD        DETAILS
  Position(Press ENTER)
  Camera1 Rec LED       ON
  Target Speed         OFF
  Admin                    ▶
  Information
  Reboot
```

Information (see page 71)

```
Information
  Slot1 : ------              NO CARD
  Slot2 : ------              NO CARD
  Slot3 : PA-SV16G(CLASS6)
  Slot4 : ------              NO CARD
    AG-CPD20        Ver.  4.00.061.0
    Microcontroller Ver.  4.00.020.0
    AG-RCP30        Ver.  3.10.003.0
           Last Errors
```

Reboot (see page 76)

```
Reboot

  Reboot the system ?

    OK          Cancel
```

Menu List (continued)

• Setup/Admin top screen 1

Setup/Admin [1/2]

- Audio Allocation
- Video Allocation
- Rec/Play
- Date/Time
- Registration
- Trigger
- Embedded OSD
- Camera1

Audio Allocation (see page 78)

Audio Allocation

Audio1	OFF
Audio2	OFF
Audio3	OFF
Audio4	OFF

Video Allocation (see page 79)

Video Allocation

	CAM1	CAM2	CAM3	CAM4	CAM5	CAM6
Detect	ON	ON	ON	OFF	OFF	OFF

	Form	Main	Sub
Preset1	1Ch	1	–
Preset2	2Ch	1	2
Preset3	2Ch	1	2

Main Resolution/RecRate D1 HI
Sub Resolution/RecRate D1 HI

Set Main Sub

Rec/Play (see page 81)

Rec/Play [1/3]

PowerOff Time	120 min
Init Preset Select	PRESET1
Init VIDEO OUT1	VIDEO OUT2
PowerOn Rec	OFF
Loop Rec	OFF
Intermittent Rec	OFF
Rec Continue Time	CONTINUE

Rec/Play [2/3]

PreRec Time(Video)	30 s
PreRec Time(Audio)	0 s
PostRec Time(Video)	0 s
PostRec Time(Audio)	0 s
Rule of Filename	WT
Init Audio2 Rec	ON
Init Overlay OSD	OFF

Rec/Play [3/3]

GPO1 Signal	REC
GPO2 Signal	REC+ERROR
GPO3 Signal	OFF
Init Audio Out(Play)	ON
Play Mode	SINGLE

Skip Target
| Trigger/Marker | YES |
| Head of File | YES |

Date/Time (see page 84)

Date/Time

| TimeZone | Eastern DST |
| Style | ISO |

	yyyy	MM	dd	HH	mm	ss
Date/Time	2008	11	19	23	46	23

Registration (see page 85)

Registration [1/2]

- Load Admin
- List Admin
- Load Officer
- List Officer
- Load Classify
- List Classify

Registration [2/2]

- Load Source
- List Source
- Load Area
- List Area
- Load Shift
- List Shift

Trigger (see page 86)

Trigger [1/2]

Trigger ON

	Action	Detection	Display
Trigger1	REC	H	A
Trigger2	STOP	H	B
Trigger3	AUTO ZOOM	H	C
Trigger4	P1	H	D
Trigger5	P2	H	E
Trigger6	P3	H	F
Trigger7	P1REC	H	G
Trigger8	P2REC	H	H

Trigger [2/2]

	Action	Detection	Display
Trigger9	P3REC	H	I
Trigger10	CAM1 LED	H	J
Trigger11	AUDIO2ON	H	K
Trigger12	AUDIO2MUTE	H	L
Trigger13	NONE	H	OFF
Trigger14	NONE	H	OFF
Trigger15	OWN(P1REC)	OFF	O
Trigger16	TGT(P2REC)	OFF	T

Embedded OSD (see page 87)

Embedded OSD

Main OSD	ON
Sub OSD	ON
Display Position	L-Upper

Contents (Embedded/Overlay)
Trigger	ON
Time	ON
Source@Area	OFF

Camera1 (see page 88)

Camera1 [1/2]

Zoom Limit	X 220
AGC Level	HIGH
Init Backlight	OFF
Init AE Shift	0
Flip	OFF
AutoZoom Magnification	X10
AutoZoom Time	3 s
AutoZoom End Position	X1

Camera1 [2/2]

Init Camera1 Rec LED	ON
Init IR Mode	AUTO
IR Level	LOW
IR Time	30 s
Auto Focus	PRESET
Init LPR Mode	DISABLE

Menu List (continued)

• Setup/Admin top screen 2

Setup/Admin   [2/2]
Management Mode
Radar/GPS
File Management
Network
Service

Management Mode (see page 89)

Management Mode
Setup Management for Officer
Classify   DISABLE
Setting Method   AUTO
Upload Mode   MANUAL
Export Menu   DISABLE
Preset Select   ENABLE
Operation Key Lock   OFF

Rader/GPS (see page 90)

Radar/GPS
Radar Model : ProLaser3
Model Select   ProLaser
Add Model
Connection of Radar   OFF
GPS
Connection of GPS   Recorder
Collection Time   5 s
Speed Information
Speed Unit   MPH

File Management (see page 91)

File Management
Delete All Files
Format

Delete All File (see page 91)

Delete All Files
Delete All files ?
OK   Cancel

Format (see page 91)

Format
Format All cards ?
Slot1 : ------   NO CARD
Slot2 : ------   NO CARD
Slot3 : PA-SV16G(CLASS6)
Slot4 : ------   NO CARD
OK   Cancel

Network (see page 92)

Network
IP Address
Wireless LAN
Reset All Network Settings

IP Address (see page 92)

IP Address
Interface   PC LAN
DHCP   OFF
IP Address   ▶ 192.168.10.10
Subnet Mask   ▶ 255.255.255.0
Gateway   ▶
Set

Wireless LAN (see page 93)

Wireless LAN
AP Priority   AP1 Highest
Network   Access Point1
Access Point   ENABLE
Security   WEP
SSID   ▶ SS
Network Key   ▶ NET
Key Index   1
Set

Reset All Network Settings (see page 93)

Reset All Network Settings
Reset to the All Network Settings ?
OK   Cancel

Service (see page 94)

Service
AG-CPD20 Operating Time   137 h
FAN   Operating Time   123 h
CAM1   Operating Time   105 h
AG-RCP30 Operating Time   121 h
LCD   Lighting Time   109 h
AG-CPD20   Version   4.00.048.1
  Serial No.   ----------
Microcontroller Version 4.00.019.0
AG-RCP30   Version   3.10.003.1
Operations

Operations (see page 94)

Operations
Software Version Up
Menu Copy(Copy To USB)
Menu Copy(Copy To Recorder)
Service Log
Clear Officer Information
Factory Default

99

Menu List (continued)

When the [MENU] button is pressed in the playback screen

• Menu top screen

```
Menu
  Archive          ▶
  Audio            ▶
  Setup/Info       ▶


         ENTER
  RETURN     MENU
```

Archive (see page 67)

```
File List                [1/2]
              2008-11-20 13:13:51
              2008-11-20 13:14:05
              2008-11-20 13:14:12
              2008-11-20 13:14:46
           ◀  2008-11-20 13:14:46✻  ▶
              2008-11-20 13:32:41
              2008-11-20 13:32:49
              2008-11-20 13:32:58
         ENTER 2008-11-20 13:33:07
  RETURN  MENU 2008-11-20 13:33:19
```

Audio (see page 68)

```
Audio
  Audio1      ◀     ON     ▶
  Audio2            ON
  Audio3            −
  Audio4            −
```

Setup/Info (see page 37)

```
Setup/Info
  Officer
  Overlay OSD          AUTO
  Position(Press ENTER)
  Admin                ▶
  Information
  Reboot
```

Officer (see page 37)

```
Officer
  Officer1  ▶  ID :−−−−
              Name :−−−− −−−−
  Officer2  ▶  ID :−−−−
              Name :−−−− −−−−
  Source   ▶  −−−−−−−−
  Area     ▶  −−−−
  Shift    ▶  −−−−
  WorkTime ▶  −−−−−−−−− −−:−− − −−:−−
```

Setup/Admin (see page 78)

```
Setup/Admin              [1/2]
              ▲
  Audio Allocation       ▶
  Video Allocation       ▶
  Rec/Play               ▶
  Date/Time              ▶
  Registration           ▶
  Trigger                ▶
  Embedded OSD           ▶
  Camera1                ▶
              ▼
```

Information (see page 71)

```
Information
  Slot1 : −−−−−−           NO CARD
  Slot2 : −−−−−−           NO CARD
  Slot3 : PA-SV16G(CLASS6)
  Slot4 : −−−−−−           NO CARD

    AG-CPD20         Ver.  4.00.061.0
     Microcontroller Ver.  4.00.020.0
    AG-RCP30         Ver.  3.10.003.0

           Last Errors
```

Reboot (see page 76)

```
Reboot
   Reboot the system ?

     OK        Cancel
```

Playback with the remote control panel is not available at
present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End
application or Back-End Client application.

Menu List (continued)

When the [MENU] button is pressed while the live screen is being recorded

• Menu top screen

```
Menu
   Camera1                    ▶
   Audio/Video                ▶
   Setup/Info                 ▶
   Export/Upload              ▶



          ENTER
   RETURN      MENU
```

Camera1 (see page 88)

```
Auto Focus(Press ENTER)
Manual Focus        ◀ N      F ▶
AE[-2 -- +2]        ◀    0    ▶
LPR Mode            ◀  PATROL ▶
Patrol Shutter Speed ◀ AUTO  ▶
Patrol Zoom         ◀  X1.0   ▶
```

Audio/Video (see pages 52-54)

```
Audio/Video
Audio
   Audio1 Test(Press ENTER)
   Audio2 Test(Press ENTER)
   Audio3 Test(Press ENTER)
   Audio4 Test(Press ENTER)
Video
   Image Enhance       OFF
   VIDEO OUT1     VIDEO OUT2
```

Setup/Info (see page 37)

```
Setup/Info
   Officer
   Overlay OSD         AUTO
        Position(Press ENTER)
   Camera1 Rec LED     OFF
   Admin                      ▶
   Reboot
```

Officer (see page 37)

```
Officer
Officer1   ID :----
           Name :---- ----
Officer2   ID :----
           Name :---- ----
Source     ---------
Area       ----
Shift      ----
WorkTime   ---------- --:-- - --:--
```

Warning

```
Warning
You must stop recording
in this menu.
   Stop        Cancel
```

Reboot (see page 76)

```
Reboot
Reboot the system ?
   OK          Cancel
```

Export/Upload (see page 73)

```
Export/Upload
   Export
   Upload
```

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Menu List

When the [MENU] button is pressed in the Administrator setup screen

• **Menu top screen**

Menu
Archive ▶
Setup/Info ▶
Export/Upload ▶

ENTER
RETURN MENU

Archive (see page 67)

File List   [1/2]
2008-11-20 13:13:51
2008-11-20 13:14:05
2008-11-20 13:14:12
2008-11-20 13:14:46
2008-11-20 13:14:46*
2008-11-20 13:32:41
2008-11-20 13:32:49
2008-11-20 13:32:58
2008-11-20 13:33:07
2008-11-20 13:33:19

ENTER
RETURN MENU

Setup/Info (see page 37)

Setup/Info
Officer
Admin ▶
Information
Reboot

Officer (see page 37)

Officer
Officer1 ▶ ID :----
            Name :---- ----
Officer2 ▶ ID :----
            Name :---- ----
Source ▶ ---------
Area   ▶ ----
Shift   ▶ ----
WorkTime ▶ ---------- --:-- - --:--

Setup/Admin (see pages 78)

Setup/Admin   [1/2]
Audio Allocation ▶
Video Allocation ▶
Rec/Play ▶
Date/Time ▶
Registration ▶
Trigger ▶
Embedded OSD ▶
Camera1 ▶

Information (see page 71)

Information
Slot1 : ------   NO CARD
Slot2 : ------   NO CARD
Slot3 : PA-SV16G(CLASS6)
Slot4 : ------   NO CARD
  AG-CPD20   Ver. 4.00.061.0
  Microcontroller Ver. 4.00.020.0
  AG-RCP30   Ver. 3.10.003.0
        Last Errors

Reboot (see page 76)

Reboot
Reboot the system ?
OK   Cancel

Export/Upload (see page 73)

Export/Upload
Export
Upload

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Menu List (continued)

When the [MENU] button is pressed in the Archive screen

• **Menu top screen**

Archive (see page 67)
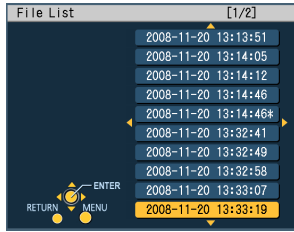
Setup/Info (see page 37)
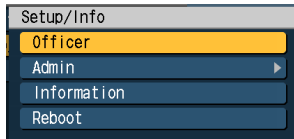
Officer (see page 37)
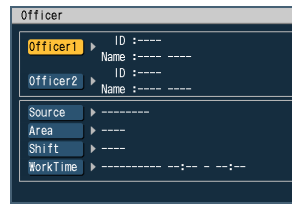
Setup/Admin (see pages 78)

Information (see page 71)

Reboot (see page 76)

Menu List (continued)

When the [MENU] button is pressed when recording is being stopped in the live screen while the Front-End application is running or streaming is performed on the Back-End application via the Front-End application

• Menu top screen
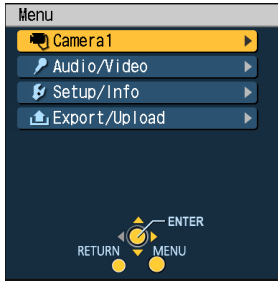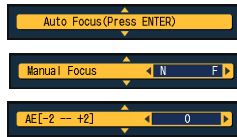
```
Menu
  📷 Camera1                    ▶
  🔧 Audio/Video                ▶
  🔧 Setup/Info                 ▶
  📤 Export/Upload              ▶


              ▲ —ENTER
         ◀  [ ]  ▶
  RETURN  ▼  MENU
           ○    ○
```

Camera1 (see page 88)
When [Init LPR Mode] is set to "DISABLE":

```
Auto Focus(Press ENTER)

Manual Focus      ◀ N    F ▶

AE[-2 -- +2]      ◀  0   ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "LPR":

```
Auto Focus(Press ENTER)

Manual Focus      ◀ N    F ▶

AE[-2 -- +2]      ◀  0   ▶

LPR Mode          ◀ LPR  ▶

LPR Shutter Speed ◀ 1/1000 ▶

LPR Zoom          ◀ X1.0 ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL":

```
Auto Focus(Press ENTER)

Manual Focus      ◀ N    F ▶

AE[-2 -- +2]      ◀  0   ▶

LPR Mode          ◀ PATROL ▶

Patrol Shutter Speed ◀ AUTO ▶

Patrol Zoom       ◀ X1.0 ▶
```

Audio/Video (see pages 52-54)

```
Audio/Video
Audio
  Audio1 Test(Press ENTER)
  Audio2 Test(Press ENTER)
  Audio3 Test(Press ENTER)
  Audio4 Test(Press ENTER)
Video
  Image Enhance        OFF
  VIDEO OUT1     VIDEO OUT2
```

Setup/Info (see page 37)

```
Setup/Info
  Overlay OSD          AUTO
     Position(Press ENTER)
  Camera1 Rec LED      ON
  Target Speed         OFF
  Disconnect PC
  Information
  Reboot
```

Reboot (see page 76)

```
Reboot

  Reboot the system ?

    OK        Cancel
```

Export/Upload (see page 73)

```
Export/Upload

  Export

  Upload
```

Menu List (continued)
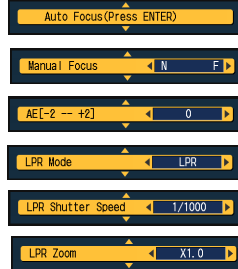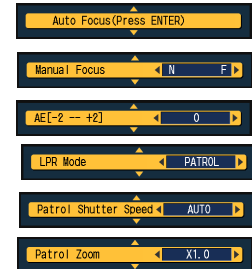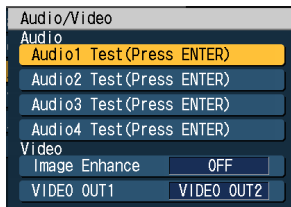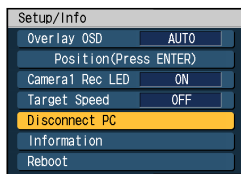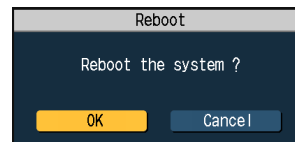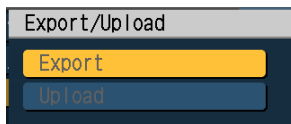
When the [MENU] button is pressed when recording is performed in the live screen while the Front-End application is running

• Menu top screen
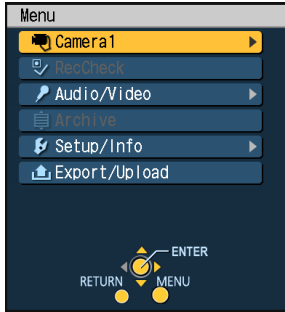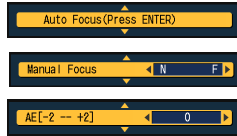
```
Menu
  Camera1                    ▶
  RecCheck
  Audio/Video                ▶
  Archive
  Setup/Info                 ▶
  Export/Upload              ▶


              ─ ENTER
   RETURN    MENU
```

Camera1 (see page 88)
When [Init LPR Mode] is set to "DISABLE":

```
Auto Focus(Press ENTER)
Manual Focus          ◀ N      F ▶
AE[-2 -- +2]          ◀    0     ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "LPR":

```
Auto Focus(Press ENTER)
Manual Focus          ◀ N      F ▶
AE[-2 -- +2]          ◀    0     ▶
LPR Mode              ◀   LPR    ▶
LPR Shutter Speed     ◀  1/1000  ▶
LPR Zoom              ◀   X1.0   ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL":

```
Auto Focus(Press ENTER)
Manual Focus          ◀ N      F ▶
AE[-2 -- +2]          ◀    0     ▶
LPR Mode              ◀  PATROL  ▶
Patrol Shutter Speed  ◀  AUTO    ▶
Patrol Zoom           ◀   X1.0   ▶
```

Audio/Video (see pages 52-54)

```
Audio/Video
Audio
    Audio1 Test(Press ENTER)
    Audio2 Test(Press ENTER)
    Audio3 Test(Press ENTER)
    Audio4 Test(Press ENTER)
Video
    Image Enhance        OFF
    VIDEO OUT1      VIDEO OUT2
```

Setup/Info (see page 37)

```
Setup/Info
  Overlay OSD      ◀  AUTO  ▶
      Position(Press ENTER)
  Camera1 Rec LED      ON
  Disconnect PC
  Reboot
```

Reboot (see page 76)

```
Reboot

Reboot the system ?

   OK          Cancel
```

Export/Upload (see page 73)

```
Export/Upload
  Export
  Upload
```

Menu List (continued)
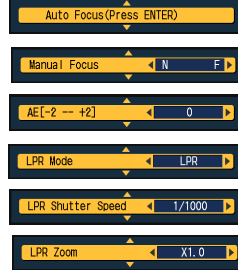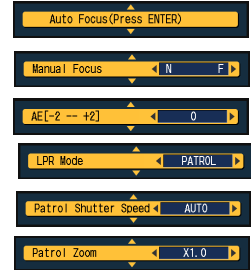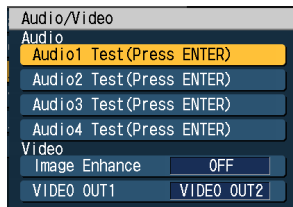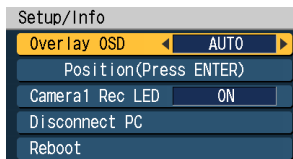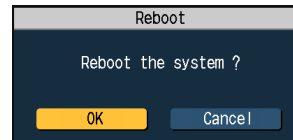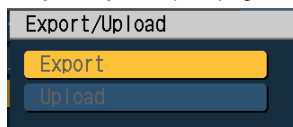
When the [MENU] button is pressed when recording is being stopped in the live screen while streaming is performed on the Back-End application

• Menu top screen

```
Menu
  📷 Camera1                    ▶
  📝 RecCheck
  🔧 Audio/Video                ▶
  📋 Archive
  ⚡ Setup/Info                 ▶
  📤 Export/Upload
```

```
              ▲——ENTER
    RETURN ◀     ▶
              ▼ MENU
        ○    ○
```

Camera1 (see page 88)
When [Init LPR Mode] is set to "DISABLE":

```
Auto Focus(Press ENTER)

Manual Focus        ◀ N      F ▶

AE[-2 -- +2]        ◀    0    ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "LPR":

```
Auto Focus(Press ENTER)

Manual Focus        ◀ N      F ▶

AE[-2 -- +2]        ◀    0    ▶

LPR Mode            ◀   LPR    ▶

LPR Shutter Speed   ◀  1/1000  ▶

LPR Zoom            ◀   X1.0   ▶
```

When [Init LPR Mode] is set to "ENABLE" and [LPR Mode] is set to "PATROL":

```
Auto Focus(Press ENTER)

Manual Focus        ◀ N      F ▶

AE[-2 -- +2]        ◀    0    ▶

LPR Mode            ◀  PATROL  ▶

Patrol Shutter Speed ◀  AUTO   ▶

Patrol Zoom         ◀   X1.0   ▶
```

Audio/Video (see pages 52-54)

```
Audio/Video
Audio
  Audio1 Test(Press ENTER)
  Audio2 Test(Press ENTER)
  Audio3 Test(Press ENTER)
  Audio4 Test(Press ENTER)
Video
  Image Enhance       OFF
  VIDEO OUT1       VIDEO OUT2
```

Setup/Info (see page 37)

```
Setup/Info
  Officer
  Overlay OSD         OFF
  Position(Press ENTER)
  Camera1 Rec LED     ON
  Target Speed        200
  Admin
  Information
  Reboot
```

Reboot (see page 76)

```
Reboot

Reboot the system ?

  OK        Cancel
```

Export/Upload (see page 73)

```
Export/Upload
  Export
  Upload
```

106

Indicator Lamps and Recorder Status

This table shows the relationship between lamp Lit/Unlit/blinking states and the recorder's operating status.
● : Lit ◑ : Normal blinking ○ : Unlit ☼ : Fast blinking (about three times/sec)
◗ : Blinking consisting of short off intervals combined with long on intervals
◔ : Blinking consisting of short on intervals combined with long off intervals

Lamp Indication on the Memory Card Recorder

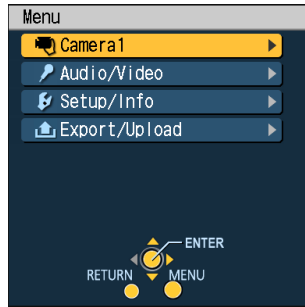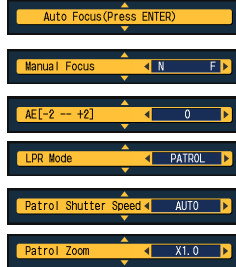| Indicator Lamp		Recorder Status
SDHC	● (green)	Recordable SDHC Memory Cards are inserted.
	◑ (green)	Data cannot be recorded on the SDHC Memory Cards inserted in the slots, but can be read from the cards (write-protected or memory full).
	◑ (blue)	Startup
	● (orange)	The SDHC Memory Cards on which data have been recorded last.
	◑ (orange)	Recording, playing, uploading
	☼ (orange)	Recognizing or repairing the card
	◔ (orange)	SDHC Memory Cards are not inserted in all four SDHC Memory Card slots, or at least one of the inserted SDHC Memory Cards cannot be read from and/or written to.
	○	No SDHC Memory Card is inserted or the inserted SDHC Memory Card cannot be recognized.
UPLOAD	● (green)	Connecting the recorder and the Back-End server via UPLOAD-LAN
	◑ (green)	Uploading to the Back-End server or exporting to an external media using the Remote Control Panel, or displaying the UPLOAD/Export/DVD Burn screen
	○	Back-End server is not connected.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Lamp Indication on the Memory Card Recorder or the Remote Control Panel

This table shows the relationship between lamp Lit/Unlit/blinking states and the recorder's operating status.

● : Lit ◐ : Normal blinking ○ : Unlit ☼ : Fast blinking (about three times/sec)

◖ : Blinking consisting of short off intervals combined with long on intervals

◗ : Blinking consisting of short on intervals combined with long off intervals

REC (Red)	READY (Green)	BUSY (Red)	Recorder Status
◐	◐	◐	Status immediately after power-on
○	◐	◐	Recorder booting, Front-End and Back-End applications running
○	●	○	Live video display
●	●	●	Normal recording*1, Loop recording
◖	●	●	Intermittent recording*1
○	●	●	• Post-recording • Including Front-End and Back-End application operation*2
○	◐	●	Restoring automatically Administrator setting screen display with recording stopped (accessing SDHC Memory Card), formatting, deleting a file
○	◐	○	Administrator setting screen display with recording stopped (not accessing SDHC Memory Card)
○	○	●	Playing, exporting, uploading
○	○	◐	• Terminating operation • SDHC Memory Card start processing (recognition when inserted) • SDHC Memory Card shutdown processing (when a SDHC Memory Card slot cover is opened)
○	☼	○	The SDHC Memory Card slot cover is opened.
●	◐	●	Updating recorder firmware
◐	●	●	• Updating microprocessors on the recorder and Remote Control Panel • Copying menu settings
◐	●	◐	Successfully copied the menu settings
◐	○	◐	Failed to copy menu settings
☼	●, ◐ or ○		An error involving recording operations occurred during live screen display*3
●	●	◐	Starting upgrading
◐	◐	●	Finishing upgrading
◐	◐	○	Failed in upgrading
○	○	○	• No SDHC Memory Card is inserted, or it is not recognized • No more SDHC Memory Card space available • The write-protect switch of the SDHC Memory Card is set to "LOCK" • An unformatted card

*1 The [REC] lamp normally blinks under the following conditions:
• When there is little space left (about 30 minutes or less) on an SDHC Memory Card
• When the number of files recorded on each SDHC Memory Card inserted in slots 1, 2, 3, and 4 totals over 5,000 files

*2 For details on how to run the Front-End or Back-End application, refer to the operating instructions supplied with the Front-End or Back-End application.

*3 If the error is related to the status of the SDHC Memory Card, the status will appear in the status display of the Overlay OSD. Refer to "Viewing Live Video → Viewing the status of the recorder" on page 55, or contact your supplier.

Notes:
• If pressing the [REC] button or entering a recording trigger fails to start recording, the [REC] lamp blinks at a high rate.
• The [BUSY] lamp blinks when accessing the SDHC Memory Card immediately after opening or closing the recorder's SDHC Memory Card slot cover.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Troubleshooting

Before requesting service, check the points listed below. If the problem persists, contact your supplier.

■ Starting up

Symptom	Remedy
Power does not come on.	• Check whether power cable (included in the sold separately Cable Kit) is connected correctly.
Power gets turned off automatically.	• If you have set a refer to "PowerOff Time" on page 81 and are running the recorder with the ignition switch at LOCK (OFF), turn the ignition switch on and reboot the recorder (see "Rebooting This Unit" on page 76). • If the operating environment is hotter than the recommended temperature, the recorder may turn off for safety reasons. If this happens, wait for the operating environment to cool down before using the unit.

■ Operation

Symptom	Remedy
Cover cannot be opened.	• Are you using the supplied key?
Key cannot be removed from lock.	• Is the SDHC Memory Card slot cover closed? The key can only be removed if the SDHC Memory Card slot cover is closed.
SDHC Memory Card slot cover cannot be closed.	• Is an SDHC Memory Card inserted correctly in an SDHC Memory Card slot?
The recorder does not respond or another problem has occurred.	• To reset the recorder, keep pressing the [REC] button and [STOP] button on the recorder together for about 10 seconds. When resetting, after all lamps turn off (1 or 2 seconds) and then on (1 or 2 seconds), all lamps blink. • If the button lock is enabled ("ANY" or "STOP"), change the setting to "OFF" (see "Operation Key Lock" on page 89).
Recorder was restarted without performing a reset.	• If you remove the SDHC Memory Card during SDHC Memory Card access ([BUSY] lamp is lit), the SDHC Memory Card slot may become inoperative. In such a case, the recorder automatically restarts itself, and the card slot will become operative again.

Troubleshooting (continued)

■ **Recording**

Symptom	Remedy
Cannot start recording. **Or a recording error warning appears.**	• Is an SDHC Memory Card inserted in an SDHC Memory Card slot? • Is the SDHC Memory Card slot cover closed? • Is there any free space on the SDHC Memory Card? Check the remaining space, and upload files to clear some space. • Make sure that the write-protect switch of the SDHC Memory Card is not set to LOCK. • Is a new SDHC Memory Card formatted in the recorder? • Are the [GPIO] connector or recording trigger criteria set correctly? • Check whether the recorder is set to administrator setup status. • Check whether the correct cables have been connected to the video input connectors.
Recorded data have become totally or partially unusable.	• A power outage or power cable (included in the sold separately Cable Kit) disconnection during recording may damage the SDHC Memory Card or corrupt data on an SDHC Memory Card. Never turn the power off while recording to an SDHC Memory Card. • Do not insert or remove an SDHC Memory Card when another SDHC Memory Card is being accessed as this may damage the SDHC Memory Card or corrupt data on the SDHC Memory Card. • Corrupted data may be restored automatically (see "Restoring Files Automatically" on page 75 for details).
Video is distorted or not recorded.	• Are Color Camera and video monitoring equipment connected properly? • Are both the video input connector selection and the input selection made with the Remote Control Panel the same? • Are the video outputs settings correct for the connected equipment? Connect a monitor to the [VIDEO OUT1] connector on the rear panel of the recorder and check the picture.
Sound is distorted or not recorded.	• Is the cable connection to the audio input correct? • Are both the audio input connector selection and the input selection made with the Remote Control Panel the same? • Are the audio outputs settings correct for the connected equipment? Refer to the Operating Instructions for the connected device.
Information from equipment connected via the [SERIAL] connector is not recorded in the meta data file.	• Do the communication settings of the connected device match those of the recorder's [SERIAL] connector? Check this while referring to the Operating Instructions for connected equipment.

Error Message

No.	Message	Measure
E00410	Invalid update file was found.	The update file on the SDHC Memory Card or USB memory device is corrupted. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00411	Update file was not found.	No update file could be found on the SDHC Memory Card or USB memory device. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00412	Two or more update files were found.	Multiple update files were found on the SDHC Memory Card or USB memory device. • Check whether there are multiple update files on the SDHC Memory Card or USB memory device. • Check whether there are multiple SDHC Memory Cards and/or USB memory devices containing update files.
E00413 E00414 E00415	Invalid update file was found.	The update file on the SDHC Memory Card or USB memory device is corrupted. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00418	Update file was not found.	No update file could be found on the SDHC Memory Card or USB memory device. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00419	This media cannot be used for update.	The used SDHC Memory Card or USB memory device cannot be used for updating. • An SDHC Memory Card with a \DATA folder cannot be used for updating. • A USB memory device containing a folder other than the \WIDKEY folder cannot be used for updating.
E00420	Update file cannot be read.	An update file load error occurred. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00449	Unexpected update failure was found.	Some other update error occurred. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00460	Invalid update file was found.	The update file on the SDHC Memory Card or USB memory device is corrupted. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00461	Update file was not found.	No update file could be found on the SDHC Memory Card or USB memory device. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00462	Two or more update files were found.	Multiple update files were found on the SDHC Memory Card or USB memory device. • Check whether there are multiple update files on the SDHC Memory Card or USB memory device. • Check whether there are multiple SDHC Memory Cards and/or USB memory devices containing update files.

Error Message (continued)

No.	Message	Measure
E00463	Invalid update file was found.	The update file on the SDHC Memory Card or USB memory device is corrupted. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00464		
E00465		
E00466	Unexpected update failure was found.	Some other update error occurred. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00467		
E00468	Update file was not found.	No update file could be found on the SDHC Memory Card or USB memory device. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00469	This media cannot be used for update.	The used SDHC Memory Card or USB memory device cannot be used for updating. • An SDHC Memory Card with a \DATA folder cannot be used for updating. • A USB memory device containing a folder other than the \WIDKEY folder cannot be used for updating.
E00470	Update file cannot be read.	An update file load error occurred. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00499	Unexpected update failure was found.	Some other update error occurred. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device.
E00602	AG-RCP30 needs to be updated! Will start updating soon.	A connected AG-RCP30 was found to need an update. The recorder reboots automatically to start an update.
E00603	Unsupported Control Panel! Replace Control Panel.	A Remote Control Panel not supported by this recorder was detected. Disconnect the Remote Control Panel.
E00604	Will power off after uploading. Turn ACC ON to cancel power off.	The vehicle engine switch is set to LOCK (OFF) when "PowerOff Time" on page 81 is set to "AUTO". The system awaits that the connection with the Front-End or Back-End application is released, or uploading, streaming, administrator setup, or upgrading on the Back-End application is finished. To continue using the recorder without turning it off, set the engine switch to ON.
E02431	DSP error. This system is rebooting.	Wait until the error message is cleared. Contact your supplier if the message does not clear after about a minute.
E02432		
E02440	System error. Couldn't format cards.	Insert another SDHC Memory Card.
E02441	Couldn't format cards.	
E02442	Write Protect cards found. Couldn't format.	Disable SDHC Memory Card write-protection.
E02444	No SDHC Cards found. Couldn't format.	Insert an SDHC Memory Card.
E02460	System error. Couldn't delete files.	Contact your supplier.

Error Message (continued)

No.	Message	Measure
E02461	Couldn't delete files.	Check the card information, and proceed as follows according to the information. **CARD PROTECT:** Release the write-protect switch of the SDHC Memory Card. **UNFORMATTED:** Replace with the formatted SDHC Memory Card. **NO CARD:** Insert an SDHC Memory Card. **Others:** Replace the SDHC Memory Card with another one.
E02470	System error. Couldn't restore files.	Contact your supplier.
E02471	Couldn't restore files.	
E02481	Write error on slot1. Record cannot be continued.	Be sure to use the correct procedure to remove and load SDHC Memory Cards. Replace an SDHC Memory Card that is not recognized after inserting it in the SDHC Memory Card slot and closing the SDHC Memory Card slot cover.
E02482	Write error on slot2. Record cannot be continued.	
E02483	Write error on slot3. Record cannot be continued.	
E02484	Write error on slot4. Record cannot be continued.	
E07671	CAMERA1 communication error. Please check the CAMERA1.	The Color Camera may not be correctly connected. Check whether the camera cable (included in the Color Camera) is correctly connected to the Color Camera. Contact your supplier if this measure does not solve the problem.
E08601	Playback and record cannot be executed.	Close the SDHC Memory Card slot cover.
E08602	The recorder's fan has stopped.	Contact your supplier.
E10400	Radar model file was not found.	
E10401	More than 10 radar model files were found.	
E10402	Invalid radar model file was found.	
E10403	Radar model file cannot be read.	
E10410	Radar communication error. Please check the radar setting.	
E15751	VUP Card found on slot1. Record cannot be started.	A card for upgrading is inserted. Data cannot be written to the card.
E15752	VUP Card found on slot2. Record cannot be started.	
E15753	VUP Card found on slot3. Record cannot be started.	
E15754	VUP Card found on slot4. Record cannot be started.	
E15755	Unsupported Card found on slot1. Record cannot be started.	The inserted card cannot be used. Check card type.
E15756	Unsupported Card found on slot2. Record cannot be started.	
E15757	Unsupported Card found on slot3. Record cannot be started.	
E15758	Unsupported Card found on slot4. Record cannot be started.	
E15759	Unformatted Card found on slot1. Record cannot be started.	An unformatted SDHC Memory Card has been inserted. Replace it with a formatted SDHC Memory Card.
E15760	Unformatted Card found on slot2. Record cannot be started.	
E15761	Unformatted Card found on slot3. Record cannot be started.	
E15762	Unformatted Card found on slot4. Record cannot be started.	

No.	Message	Measure
E15763	Write Protect Card found on slot1. Record cannot be started.	The write-protection switch on the SDHC Memory Card is set to the "LOCK" position. Slide the write-protection switch away from the "LOCK" position.
E15764	Write Protect Card found on slot2. Record cannot be started.	
E15765	Write Protect Card found on slot3. Record cannot be started.	
E15766	Write Protect Card found on slot4. Record cannot be started.	
E15767	No SDHC Cards found. Record cannot be started.	No SDHC Memory Card is inserted. Insert an SDHC Memory Card.
E15768	Write Error. Record cannot be started.	The SDHC Memory Card cannot be written to. Replace the SDHC Memory Card.
E15769	Card Full. Record cannot be started.	The following conditions may have occurred. • There is no space left on the SDHC Memory Card. • Files contained in one of the SDHC Memory Cards inserted in the SDHC Memory Card slots 1, 2, 3, and 4 exceed 5,000 files. Replace the SDHC Memory Card with an SDHC Memory Card with free capacity, or free up space in the SDHC Memory Card for new data. (free space of more than 10 MB)
E20801	Recorder reboots by unrecoverable card ejection error.	Be sure to use the correct procedure to remove and load SDHC Memory Cards.
E20802	Please reinsert the card or reboot the system.	Check the SDHC Memory Card and re-insert it, or reboot the recorder.
E20901	Firmware Update FAILED!	An error occurred during the update. • Check whether the update file for the recorder has been correctly copied to the SDHC Memory Card or USB memory device. • Reformat the SDHC Memory Card or USB memory device before use. • Use another USB memory device. • Check whether there are multiple update files on the SDHC Memory Card or USB memory device. • Check whether there are multiple SDHC Memory Cards and/or USB memory devices containing update files. • An SDHC Memory Card with a \DATA folder cannot be used for updating. • A USB memory device containing a folder other than the \WIDKEY folder cannot be used for updating.
E20911	Microcontroller Update FAILED!	An error occurred during the update. The recorder reboots automatically to restart an update. Contact your supplier if the problem persists.
E20912	Unsupported Microcontroller Detected!	The recorder has broken down. Contact your supplier.
E20921	AG-RCP30 Update FAILED!	An error occurred during an update of an AG-RCP30 connected to the recorder. The recorder reboots automatically to restart an update. Contact your supplier if the problem persists.
E20922	Unsupported Control Panel Detected!	A Remote Control Panel not supported by the recorder was detected. Disconnect the Remote Control Panel.
E22420	Officer's information file cannot be loaded.	The officer data file (WID∗∗∗∗∗.TXT) is corrupted. Create a new officer's data file, save it to a USB memory device and re-register it.
E22421	Since you are not an administrator, you cannot open this menu.	You are not registered as an administrator and cannot open this menu. Ask a registered administrator for assistance.
E22422	Officer's information file cannot be loaded.	There is no Officer Registration file or it contains the wrong data. Create a correct Officer Registration file (WOFFICER.TXT), copy it to a USB memory device and reload it.
E22423	Admin's information file cannot be loaded.	There is no Administrator Registration file or it contains the wrong data. Create a correct Administrator Registration file (WADMIN.TXT), copy it to a USB memory device and reload it.
E22425	Classification list cannot be loaded.	There is no classify file or the content of the file is incorrect. Copy the correct classify file (CLASSIFY.TXT) to the USB memory device and reregister it.

Error Message (continued)

No.	Message	Measure
E22426	Menu copy failed.	For copying to a USB memory device, connect a write-enabled USB memory device. For copying to a recorder, connect a USB memory device that contains data.
E22427	Source information file cannot be loaded.	There is no source file or the content of the file is incorrect.
E22428	Shift information file cannot be loaded.	There is no shift file or the content of the file is incorrect.
E22429	Area information file cannot be loaded.	There is no area file or the content of the file is incorrect.
E22432	Service log copy failed.	Copying service log is failed. Connect a writable USB memory device and try copying again.
E22448	Operation was canceled to start streaming.	Streaming starts, and the operation is canceled. Wait until streaming ends.
E25410	GPS communication error. Please check the GPS module.	An error occurred in the GPS module. Consult your supplier.
E27201	Storage capacity was not enough to transfer the file.	Capacity of the server is not enough for uploading data, and uploading is canceled.
E27202	File transfer was completed. Restore file remained.	Upload was completed, but video files not restored remain on the SDHC Memory card.
E27203	File not found in SDHC cards.	No file for uploading is found on an SDHC Memory card.
E27401	Write Protect cards found. Couldn't start file transfer.	A read-only SDHC Memory Card is found, and uploading cannot be started.
E27403	Media error. File transfer was incomplete.	A read/write error was detected with the media. Replace the SDHC Memory Card with another one.
E27405	Storage write error. File transfer was incomplete.	A verification error has occurred in the server storage, and uploading cannot be completed.
E27407	No SDHC Cards found. Couldn't start file transfer.	No SDHC Memory card is inserted, and uploading cannot be started.
E27430	Couldn't start file transfer.	Upload cannot be started. Check the network connection.
E27431	File transfer was incomplete.	Upload cannot be completed because of network trouble.
E27499	System error. File transfer was incomplete.	A system error has occurred, and uploading cannot be completed.
E28201	USB storage capacity was not enough to export.	Use other USB memory device that is not full.
E28202	Export was completed. Restore file remained.	Restore the file not yet restored, and export it again.
E28203	File not found in SDHC cards.	There are no files to export. No export operation needed.
E28400	No USB storage devices found. Couldn't start export.	Connect a USB memory device.
E28401	Write Protect cards found. Couldn't start export.	Set the SDHC Memory Card write-protect switch away from the write-protect position.
E28402	All USB storages are read only. Couldn't start export.	Connect a write-enabled USB memory device.
E28403	Media error. Export was incomplete.	Replace the SDHC Memory Card or the USB memory device.
E28404	USB storage file system error. Couldn't start export.	Replace the USB memory device.
E28405	USB storage write error. Export was incomplete.	
E28406	Found update file in USB storage. Couldn't start export.	Delete the update file on the USB memory device.
E28407	No SDHC Cards found. Couldn't start export.	Insert an SDHC Memory Card with recorded files.
E28409	Couldn't start export.	Replace the SDHC Memory Card with another one.
E28499	System error. Export was incomplete.	Reboot the recorder.
E28880	USB storage was ejected. Export was incomplete.	Do not remove the USB memory device while exporting data. Reconnect the USB memory device and export again.

Error Message (continued)

No.	Message	Measure
E28881	USB storage was inserted. Export was incomplete.	Export the data again.
E29400	Unsupported camera connection.	A camera is connected only to the [CAMERA 4], [CAMERA 5], or [CAMERA 6] connector. Check the input.
E29401	No CAMERA1 video signal.	[CAMERA 1] connector input cannot be detected. Check whether the signal is input to the [CAMERA 1] connector.
E29402	No CAMERA2 video signal.	[CAMERA 2] connector input cannot be detected. Check whether the signal is input to the [CAMERA 2] connector.
E29403	No CAMERA3 video signal.	[CAMERA 3] connector input cannot be detected. Check whether the signal is input to the [CAMERA 3] connector.
E29404	No CAMERA4 video signal.	[CAMERA 4] connector input cannot be detected. Check whether the signal is input to the [CAMERA 4] connector.
E29405	No CAMERA5 video signal.	[CAMERA 5] connector input cannot be detected. Check whether the signal is input to the [CAMERA 5] connector.
E29406	No CAMERA6 video signal.	[CAMERA 6] connector input cannot be detected. Check whether the signal is input to the [CAMERA 6] connector.
E30400	Network setting parameter error.	Network settings are not correct. Check the network settings.

Camera Connection and Combination of Cameras

Combination of cameras depends on the cameras connected to the recorder. Available combination is as shown below. Selectable combination of cameras depends on the detected cameras.
- If only CAM4, CAM5, and CAM6 are set to OFF, preset patterns, 4Ch-QUAD, 4Ch-PANORAMA, 5Ch-QUAD, and 5Ch-PANORAMA, cannot be selected.
- If all of CAM1, CAM2, and CAM 3 are set to OFF, preset patterns, 4Ch-PANORAMA and 5Ch-PANORAMA, cannot be selected.
- If two channels of CAM1, CAM2, and CAM 3 are not connected, preset patterns, 5Ch-PANORAMA cannot be selected.

Selectable preset patterns depends on the detected cameras.
- If CAM1 is set to OFF, any combination of cameras indicated by "1" cannot be selected.
- If CAM2 is set to OFF, any combination of cameras indicated by "2" cannot be selected.
- If CAM3 is set to OFF, any combination of cameras indicated by "3" cannot be selected.
- If any of CAM4, CAM5, or CAM6 is set to ON, a pattern indicated by "456" can be selected.

Camera connection				Combination of cameras																			
1	2	3	456	1	2	3	1, 2	1, 3	2, 3	1456	2456	3456	1456P	2456P	3456P	1, 2456	1, 3456	2, 3456	3, 2456	1, 2456P	1, 3456P	2, 3456P	3, 2456P
0	x	x	x	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
x	0	x	x	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0	0	x	x	1	2	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
x	x	0	x	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0	x	0	x	1	—	2	—	3		—	—	—	—	—	—	—	—	—	—	—	—	—	—
x	0	0	x	—	1	2	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0	0	0	x	1	○	○	2	3	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—
x	x	x	0	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
0	x	x	0	1	—	—	—	—	—	○	—	—	2	—	—	3	—	—	—	—	—	—	—
x	0	x	0	—	1	—	—	—	—	—	2	—	—	○	—	—	—	3	—	—	—	—	—
0	0	x	0	○	○	—	1	—	—	○	○	—	○	○	—	2	—	—	—	3	—	—	—
x	x	0	0	—	—	1	—	—	—	—	—	2	—	—	○	—	—	—	3	—	—	—	—
0	x	0	0	○	—	○	—	1	—	○	—	○	○	—	○	—	2	—	—	—	3	—	—
x	0	0	0	—	○	○	—	—	1	—	○	○	—	○	○	—	—	2	3	—	—	○	○
0	0	0	0	○	○	○	1	○	○	○	○	○	○	○	○	2	3	○	—	○	○	○	—

1 Ch   2 Ch   4 Ch   5 Ch

P : Panorama
0 : A camera is connected.
x : A camera is not connected.

� Preset number of recommended combination of cameras

○ Selectable combination of cameras

Status Display

The Status Display shows messages about the operating status of the SDHC Memory Card and the recorder. Take action as appropriate for each status.

Status Display	Measure
CARD FULL	The following conditions may have occurred. • There is no space left on the SDHC Memory Card. • Files contained in one of the SDHC Memory Cards inserted in the SDHC Memory Card slots 1, 2, 3, and 4 exceed 5,000 files. Replace the SDHC Memory Card with an SDHC Memory Card with free capacity, or free up space in the SDHC Memory Card for new data.
CARD PROTECT	The write-protect switch of the SDHC Memory Card is set to "LOCK". Move the switch to enable writing.
VUP CARD	Writing is not possible on an SDHC Memory Card intended for version upgrade. Replace the card with one that is not intended for version upgrade.
UNFORMATTED	The SDHC Memory Card is not formatted. Replace it with a formatted card.
NO CARD	No SDHC Memory Card is inserted. Insert an SDHC Memory Card.
READ ERROR	An error occurred while reading. File playback is not possible, or the associated meta information cannot be displayed correctly.
UNSUPPORTED	**Archive screen**: The file is unsupported. Playback is not available. **Live screen**: The memory card is unsupported. For the memory card supported, refer to "Usable memory cards" in Operating Instructions Section 1: Before Use.
PLAY ERROR	A decoder malfunction occurred. Playback is not available. Reboot the recorder.

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Service Log

The operation history of the recorder can be obtained as service logs.

Contents

The items shown below can be obtained as service logs.

■ Normal operation

Items	Level	Character strings	Timing
Starting (start, restart)	N	Power On	just after start
Ending (all power off, restart)	N	Power Off	just before end
Starting (start, restart)	N	System Start AG-CPD20 4.xx.xxx.0 Serial No. Destination	just after start
Ending (all power off, restart)	N	System End	just before end
Ending with power off	I	System End Acc	when occurred
Restarting by restart operation	I	System End Reboot	when occurred
Recording start	N	Rec File Start factor slot1 data/yyyymmdd/mmhhss.av	when occurred
Recording end	N	Rec Stop End factor	when occurred
Restoring a file (succeeded)	N	Restore File slot1 data/yyyymmdd/mmhhss.av	when occurred
Deleting a file (succeeded)	N	Delete File slot1 data/yyyymmdd/mmhhss.av	when occurred
Formatting SDHC Memory cards	N	Format	when occurred
Deleting all files	N	DeleteAll	when occurred
Application: transition to live mode	I	Mode Live	when occurred
Application: transition to play mode	I	Mode Play	when occurred
Application: transition to administrator mode	I	Mode Admin	when occurred
Application: transition to upload mode	I	Mode Upload	when occurred
Registering data from a USB memory device	I	Load Admin/Officer/… number of cases	when occurred
Exporting start	I	Export Start	when occurred
Exporting end	I	Export End	when occurred
Uploading start	I	Upload Start	when occurred
Uploading end	I	Upload End	when occurred
Upgrading start	I	Vup Start New 4.xx.xxx.0	when occurred
Upgrading end	I	Vup End	when occurred
Upgrading without menu display start	I/N	VupMenuless Start	when occurred
Upgrading without menu display end	I/N	VupMenuless End	when occurred
Menu exporting start	I	MenuExport Start	when occurred

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

Service Log (continued)

Items	Level	Character strings	Timing
Menu exporting end	I	MenuExport End	when occurred
Menu importing start (with or without menu display)	I	MenuImport Start	when occurred
Menu importing end (with or without menu display)	I	MenuImport End	when occurred
Initializing personal data	I	Clear Personal	when occurred
Resetting to the factory default settings	I	Clear All	when occurred
Resetting to the factory default settings without menu display	N	ClearMenuless All	when occurred
Detecting the remote control panel connection	I	CP Attach 3.xx.xxx.x	just after start when occurred
Detecting the remote control panel disconnection	I	CP Detach	when occurred
Detecting the SDHC Memory card slot door open	N	Slot Open	just after start when occurred
Detecting the SDHC Memory card slot door closed	I	Slot Close	just after start when occurred
Recognizing SDHC Memory cards in slots 1 to 4	I	Card Slot1 PA-SV16G (CLASS6) Total capacity, free capacity, serial No., etc. (hexadecimal number of MID//PRV//PSN//MDT) Card Slot2 NO CARD Card Slot3 NO CARD Card Slot4 NO CARD	just after start when the SDHC Memory card slot door closed
Detecting a USB memory device inserted	I	USBMem Attach 0/1	just after start when detected
Detecting a USB memory device removed	I	USBMem Detach 0/1	when detected
Changing a USB memory device status	I	USB Front/Rear VendorID // ProductID // manufacturer // product // serial	just after start when occurred
Changing GPS status	I	GPS On	just after start when occurred
Changing GPS status	I	GPS Off	just after start when occurred
Adjusting the GPS time (other than PPS)	I	GPS Adjust	when occurred
Radar gun connection status	I	Rader Detect model name	First data reception after start-up
Camera connection status (1 to 6)	I	Camera 1=On 2=Off 3=..	just after start when occurred
Network connection status	I	Net PC=192.168.xx.xx UPLOAD=NONE WIRELESS=NONE	just after start when occurred
Front-End and Back-End application connection status	I	PC FE=192.168.xx.xx BE=NONE	when status changed

N (NOTICE): When a specified event is occurred
I (INFO): Debagging message

Service Log (continued)

■ Error (displayed)

Items	Level	Character strings	Timing
Record error	E	Rec Error "error number" "factor number"	when occurred
SDHC Memory card format error	E	Format Error "error number"	when occurred
All deletion error	E	DeleteAll Error "error number"	when occurred
Play error	E	Play Error "error number"	when occurred
Export error	E	Export Error "error number"	when occurred
Upload error	E	Upload Error "error number"	when occurred
Upgrading error	E	Vup Error "error number"	when occurred
Menu export error	E	MenuExport Error "error number"	when occurred
Menu import error	E	MenuImport Error "error number"	when occurred
Others	E	Misc Error "error number"	when occurred

E (ERROR): When an error is generated

■ Error (not displayed)

Items	Level	Character strings	Timing
Restoration error	E	Restore Error slot1 data/yyyymmdd/mmhhss.av	when occurred
Deletion error	E	Delete Error slot1 data/yyyymmdd/mmhhss.av	when occurred
Upgrading error without menu display	E	VupMenuless Error "factor number"	when occurred

E (ERROR): When an error is generated

Playback with the remote control panel is not available at present. Upgrading is scheduled for the future.
For playback, it is recommended to use the Front-End application or Back-End Client application.

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Service Log (continued)

Format

The format of the service log is as shown below.

```
<TS>UTC 2008-11-22 00:48:09</TS><LV>N</LV><OP>Power On</OP>
<TS>2008-11-22 09:48:12</TS><LV>N</LV><OP>System Start AG-CPD20 4.xx.xxx.0 ABCD123456 usa</OP>
<TS>2008-11-22 09:48:23</TS><LV>N</LV><OP>Slot Close</OP>
<TS>2008-11-22 09:48:27</TS><LV>N</LV><OP>Card Slot1 PA-SV16G (CLASS6) 15814656 15814560 1//88//2080763F//7B</OP>
<TS>2008-11-22 09:48:27</TS><LV>N</LV><OP>Card Slot2 NO CARD</OP>
<TS>2008-11-22 09:48:27</TS><LV>N</LV><OP>Card Slot3 NO CARD</OP>
<TS>2008-11-22 09:48:27</TS><LV>N</LV><OP>Card Slot4 NO CARD</OP>
<TS>2008-11-22 10:23:45</TS><LV>N</LV><OP>Rec File GPIO1 slot1 data/20081122/102345.av</OP>
<TS>2008-11-22 11:07:32</TS><LV>N</LV><OP>Rec Stop STOP</OP>
<TS>2008-11-22 12:13:30</TS><LV>N</LV><OP>System End Acc</OP>
<TS>2008-11-22 12:13:35</TS><LV>N</LV><OP>System End</OP>
<TS>2008-11-22 12:13:37</TS><LV>N</LV><OP>Power Off</OP>
```

<TS> (Time Stamp): The local time is automatically added upon obtaining other user log. However, the times for the Power On log, upgrading without displaying menu during start-up, and initializing to the factory default settings during start-up are the UTC times.

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