

8-channel Mobile DVR
Digital Video Recorder

CRX3108

USER GUIDE

1st Edition

Safety Guide

Please read the below safety guide carefully for your safety.

1. Power, Installation, Storage

- Do not disassemble, repair, and reconstruct the device. There is a part with high voltage inside the device.
(The manufacturer is not responsible for malfunctions of altered device which can cause fire and electric shock.)
- Please unplug the power cable from device before installation.
- Please do not bend the power cable or leave on heavy object.
- Please do not bend the cables on back panel while operation.
- The device overwrites when recording storage (HDD, SSD, SD Card) is full. The recorded data would be removed while overwriting. (The manufacturer is not responsible for removed recording data from user's setting.)
- Recording data could be damaged and unrecoverable when storages (HDD, SSD, SD Card) are out of life cycle. Please replace the storage if the system has a warning message about storage. (The manufacturer doesn't take a responsibility for damaged data caused by user's lack of negligence.)
- The system status could be identified by LED in front of the unit. Please consult with your local seller when the device has a problem.
- Please place the unit on cool places and keep it away from hot, dusty, humid places.

2. Power, Installation, Storage

- Please don't install the device on place where strong magnetic or frequency is.
- Please don't put heavy loads on the device and be careful against strong shock or vibration.
- Please don't block a side hole for ventilation.
- Please unplug the device instantly when there is a smell of burning.
- Please check up the device periodically to maintain system's performance.

Before reading this user guide

This guide is to provide an information necessary to use the product. It includes a brief introduction and how to configure each part and function.

Please be noted the below before reading this documents.

- The copyrights of this documents is owned by the manufacturer and reproduction is prohibited without advance written permission.
- The manufacturer is not responsible for uncertified accessories and misuse of product.
- Please do not disassemble the product when it requires repair. Please consult with your local seller.
- Please use storages (HDD/SSD, SD Card) certified by manufacturer. You can consult the compatibility with your local seller.

Warning

System Shut Down

Forced shutdown during operation could damage to storage and system. Please do not pull out the power cable or turn off the power switch on back side while operation.

Operating Temperature

The device may not boot up after keeping it on low temperature below the specification for a long time. The device will automatically boot up when the temperature reaches to operating range after power supplies.

Security and Privacy

The device could be configured by local menu and recorded data could be played by local control. Please set up local password for security and privacy. Please keep the password securely.

INDEX

1. Introduction	1
2. System Components	2
3. Product	4
3-1 Front Panel	4
3-2 Rear Panel	5
4. Monitoring	6
4-1 System Start	6
4-2 System Shutdown	7
5. Live Screen	7
5-1 Live Screen Icon	7
5-2 Icons	8
5-3 OSD Information	9
5-4 Screen Layout	10
5-5 System Information	11
5-6 LED Status	12
6. System Menu	12
6-1 DEVICE	14
6-1-1 CAMERA	14
6-1-2 SIGNAL	15
6-1-3 G-SENSOR	16
6-1-4 EXT DEVICE	17
6-1-5 EMS	18
6-1-6 MISC	19
6-2 RECORD	20
6-2-1 MISC	20
6-2-2 CHANNEL SETUP	21
6-2-3 SD DUAL RECORD	22
6-3 EVENT	23
6-3-1 MOTION	23
6-3-2 ALARM IN	24
6-3-3 SIGNAL	25
6-3-4 G-SENSOR	26
6-3-5 SPEED / V-LOSS	27
6-4 SYSTEM	28

6-4-1 DATE/TIME.....	28
6-4-2 USER MANAGEMENT	29
6-4-3 SERVICE MENU	30
6-4-4 NETWORK.....	40
6-4-5 HAZARD	42
7. SEARCH and PLAYBACK	43
7-1 CALENDAR SEARCH	43
7-2 LOG SEARCH	44
7-3 PLAYBACK.....	44
8. BACKUP	46
8-1 VIDEO BACKUP	46
8-2 DRIVE DATA BACKUP	48
SPECIFICATION.....	49

1. Introduction

CRX3108 is a mobile digital video recorder which can records up to 8 channel camera inputs and compress the video data with H.264 codec. It can also record 8 channel audio signal with G.711 codec and save video/audio data to storages (HDD/SSD, SD Card).

With network connection, it sends video and images to server and the user can access to the device via network.

- Simultaneous recording and playback up to 8CH video/audio
- Supported resolution 5M/4M/3M/FHD(1080P)/HD(720P)/WD1/D1/HD1/CIF
- Dual recording with HDD/SSD, SD Card
- Auto recovery, auto format, overwriting on HDD/SSD
- HDD/SSD/SD Card status monitoring
- Local playback and backup
- Convenient search function (Calendar Search, Log Search)
- Various recording events (Continuous, Event recording, Alarm, G-sensor, Overspeed)
- 8 Alarm-inputs, 2 Alarm-outs
- Convenient Local UI
- PC Viewer software for playback and search

2. System Components

Please check you have all accessories including the package. The components may vary based on your region and seller. Storage might not be included in the package. Please consult with your local seller.

QTY	Name	Description	Picture
1	CRX3108	CRX3108 Main Unit	
1	CRX-GPS	GPS Module	
1	RH500	Storage Case (HDD/SSD)	
1 & 2	MPR11020901 (REAR) & MPR11021001 (SIDE)	Installation Brackets (Side x 2, Rear x 1)	
6 & 9	PAN+ 05*08(Black) & PAN+ 04*08(Black)	Screws for Brackets	
2	MKY03	Locking Keys for Storage	

QTY	Name	Description	Picture
2	MKY02	Locking Keys for Front Door	
2	CRX3-WH041-1	Camera Input Cable (4CH x 2)	
1	BRX-WH061	Video Out Cable	
1	CRX3-WH020-1	Power Cable	
1	CRX3-WH062-1	Digital IO & A/V Out	
1	CRX3-WH100-1	Car Signal Cable	

3. Product

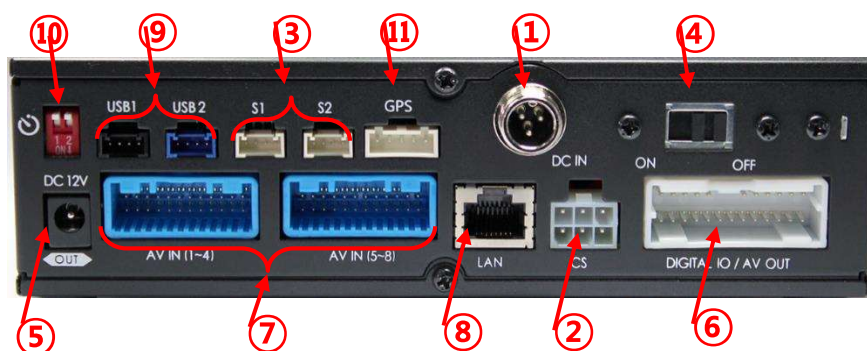
3-1 Front Panel



#	Name	Description
①	Front Lock	Front Door Locking Cover
②	LED	[POWER] Power On/Off Status
		[REC] Recording Status
		[ALARM] System Warning Status
		[LAN] Network Connection Status
	IR Receiver	IR Receiver for Remote Controller
③	Control Panel	[SER] Search, Backup

		[CH] Live Screen Layout Change
		[ESC] Back to previous screen
		[MENU] Menu or Confirm
		[FN] Functions
		[STA] Status
		[^v<>] Arrow Keys
④	HDD/SSD Tray	HDD/SSD cannot be removed while HDD/SSD key lock is ON. Please remove the storage when all LED turned off.
⑤	HDD/SSD key lock	You can turn on the device by HDD/SSD key lock.
⑥	SD Card Slot	SD Card slot should be locked for operation. Please unlock the slot first when you remove SD card.
⑦	Video Out	You can connect external monitor for live screen.
⑧	DC 12V Output	DC 12V power output for external device

3-2 Rear Panel



#	Name	Description
①	DC IN (Main Power)	Please connect each BAT+, BAT-, ACC+.
②	CS (Car Signal)	Please connect a cable for each car signal. (LEFT, RIGHT, BRAKE, REVERSE, SPEED, RPM)
③	S1, S2 (Serial Port)	You can connect external devices.
④	ON/OFF (Main Power Switch)	Please turn off the switch while installation.

⑤	DC 12V OUT	You can use 12V output for external devices.
⑥	DIGITAL IO/AV OUT	Digital IO and AV out cables could be connected for 8 alarm inputs / 2 alarm output and Audio/Video output.
⑦	AV IN (1~4) , AV IN (5~8)	Camera 1~4 : Video/Audio and 12V power supply Camera 5~8 : Video/Audio and 12V power supply
⑧	LAN	RJ45 connector for network
⑨	USB	USB type external devices could be connected.
⑩	DIP Switch	Switch 1 (Power-on Delay) UP (boot-up delay 1sec) / DOWN (boot-up delay 5 sec.) Switch 2 (Boot-up Temperature) UP (boot-up above -20°C / DOWN (boot-up above 0°C)
⑪	GPS	GPS module connector

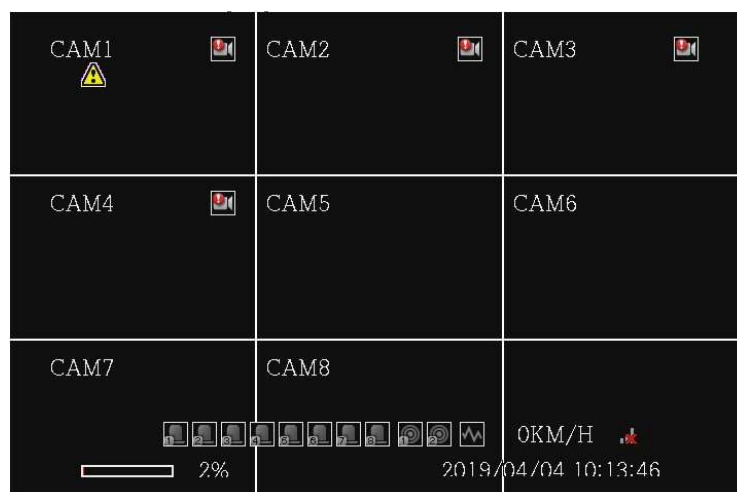
4. Monitoring

4-1 System Start

1. After installation, the system boots up when HDD/SSD key lock turns on.
2. It takes about 30 seconds for boot-up and you can see the below screen after boot-up.

Notes

1. You can control the main power by vehicle's main power switch or ignition (ACC) according to power supply connection.
2. Occasionally, it takes more than 1 minute for boot-up. This is a normal operation to check HDD/SSD.
3. [REC] LED is not turned on without HDD or SSD installed.
4. There would be a problem on camera or storage when [ALARM] RED LED is turned on or blinking. Please consult with your local seller for further support.

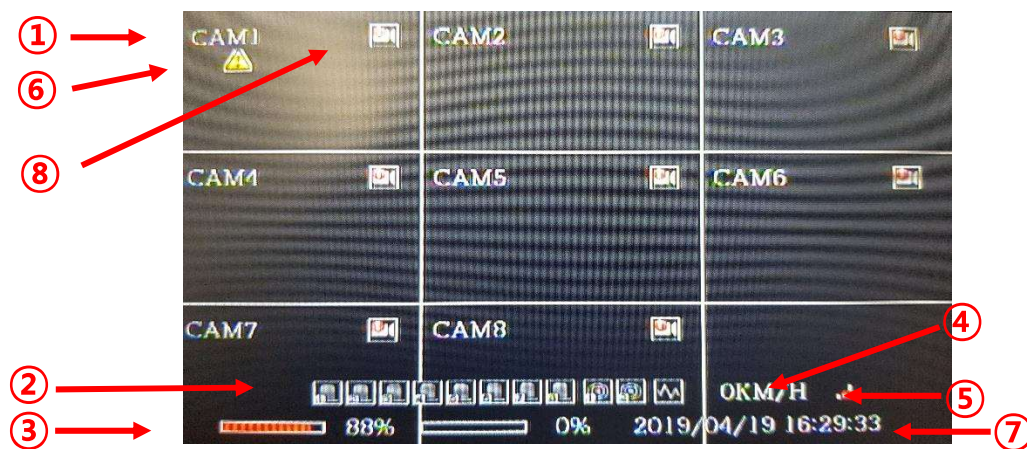


4-2 System Shutdown

1. The system is going to be shut down when HDD/SSD key lock turns off.
2. Please wait until all front LEDs are turned off before you remove HDD/SSD. The recorded data could be damaged when HDD/SSD is removed before shutdown.

5. Live Screen

5-1 Live Screen Icon



#	Name	Description
①	Camera Name	You can set up the camera name. (Default CAM1 ~ CAM8)
②	Alarm-in, Alarm-out	8 Alarm Inputs, 2 Alarm Outputs, G-sensor
③	Storage Capacity	HDD/SSD (Left), SD Card (Right)
④	Speed	Vehicle's current speed
⑤	Network	Network connection status
⑥	System Warning	System warning is displayed.
⑦	Date/Time	Displays current date and time.
⑧	Camera Status	Displays each camera's status

Notes

Alarm LED is turned on when system warning(⚠️) or video loss(📺) icon is displayed.

Please check the system for recording and camera status when you see the icons like ⚠️ or 📺.



5-2 Icons

Icon	Description
	Video Loss or Camera Disconnection
	Continuous Recording in Progress
	Event Recording in Progress
	Motion Detection
	Audio Recording in Progress
	System Warning
	5M resolution camera connected
	4M resolution camera connected
	3M resolution camera connected
	FULL HD resolution camera connected
	HD resolution camera connected
	SD resolution camera connected
	Alarm-in, Alarm-out, G-Sensor
	Alarm-in is activated
	Alarm-out is activated
	G-sensor is detected
	3G/LTE Status Initializing – Initializing Fail – Communication Fail – Connection Ready – Communication in Progress

	WIFI Status Initializing – Initializing Fail – Communication Fail – Connection Ready – Communication in Progress
	LAN Status Initializing – Initializing Fail – Communication Fail – Connection Ready – Communication in Progress

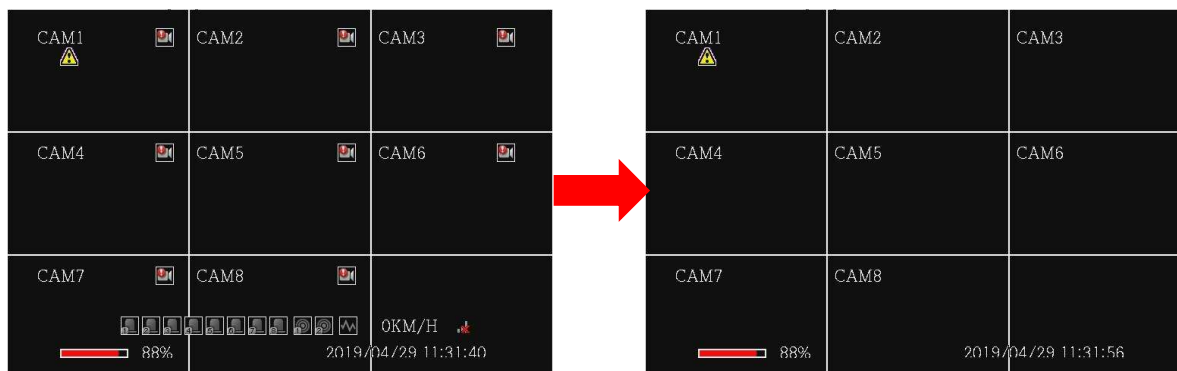
5-3 OSD Information

You can choose OSD information displayed on live screen.

There are 4 OSD screen mode and you can change it by [ESC] button.

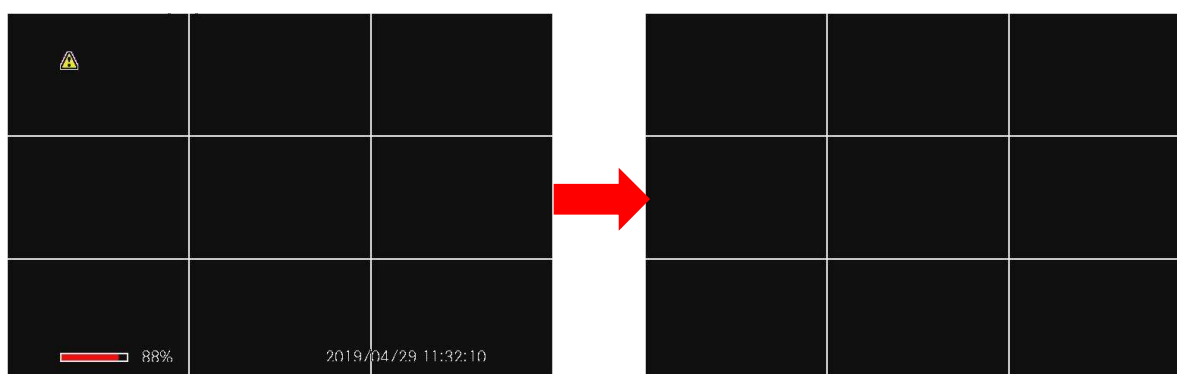
<All OSD information>

<Camera Name, System Warning, Storage Capacity, Date/Time>



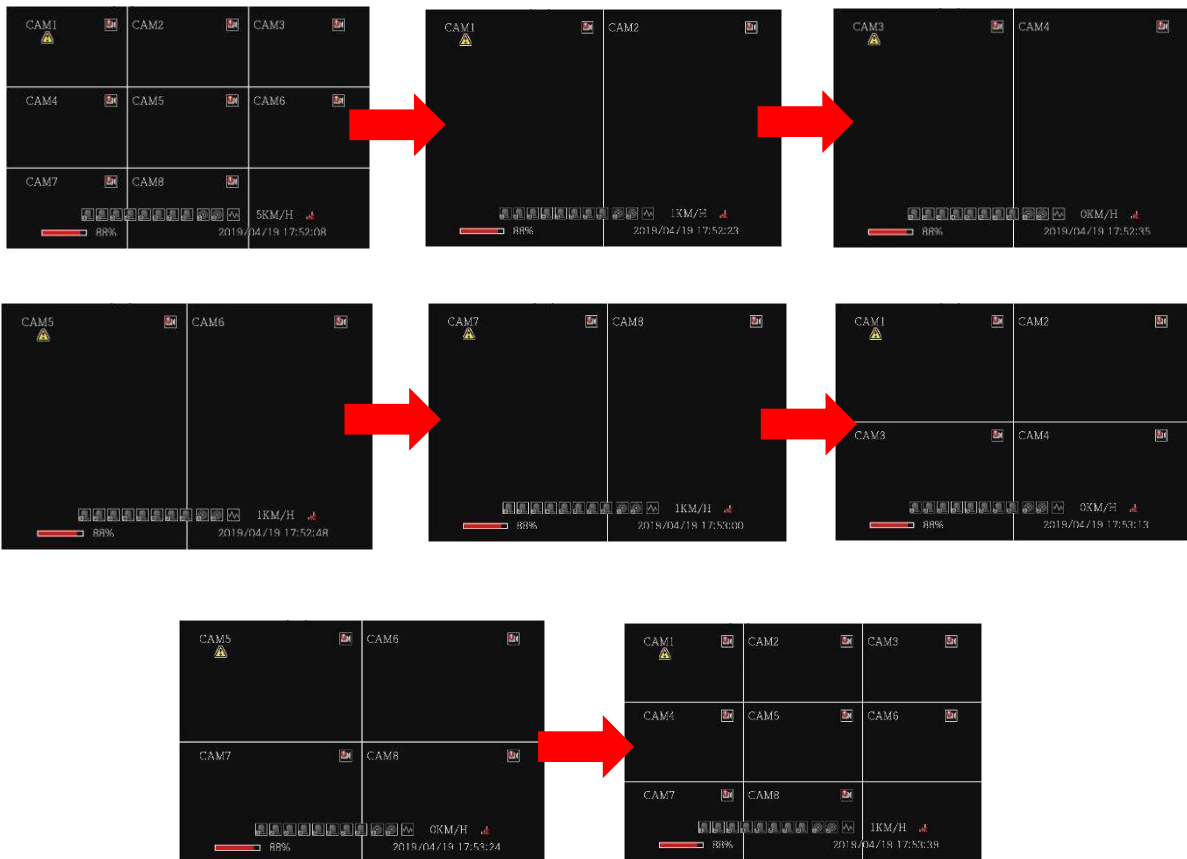
<System Warning, Storage Capacity, Date/Time>

<OSD turned off>



5-4 Screen Layout

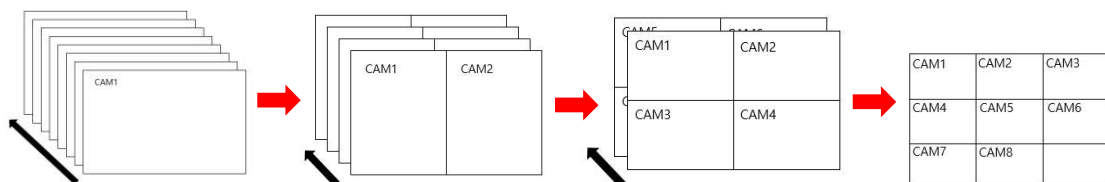
There are 7 screen layouts and you can change it by [<] button on live screen.



Full Screen

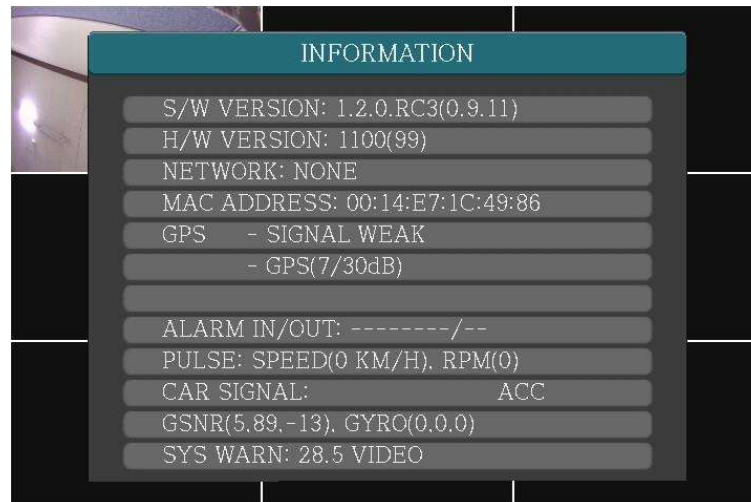
The system displays full screen from CAM1 to CAM8 sequentially by [CH] button on live screen. You can change the screen layouts from full screen to layout screen by [<] button.

The below is the layout changing sequence.



5-5 System Information

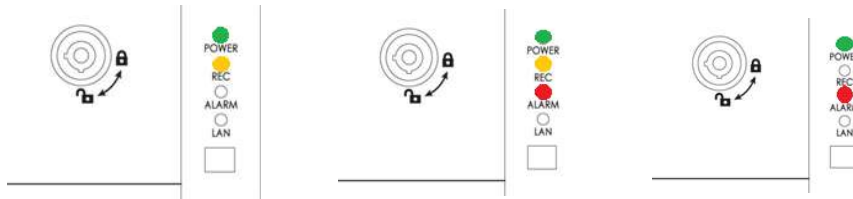
The system displays information screen when push [STA] button on live screen.



Item	Description
S/W Version	Displays system S/W version
H/W Version	Displays system H/W version
Network	Displays network connection status
MAC Address	Displays system MAC address.
GPS	Displays GPS information [Notes] Latitude/Longitude is displayed when GPS is working properly.
Alarm in / Alarm Out	Displays Alarm-in / Alarm-out status. [Notes] From left, 8 alarm-in and 2 alarm-out are displayed. The icon could be changed from 「-」 to 「1 ~8」 when alarm is activated.
Pulse	Displays pulse speed and RPM information. (This information could be displayed when SPEED and RPM cables are connected to vehicle.)
Car Signal	Displays car signal status. (The cables need to be connected with vehicle's LEFT, RIGHT, BRAKE, REVERSE signal)
GSNR, GYRO	GSNR (G-sensor's X/Y/Z value) GYRO (GYRO sensor's X/Y/Z value)
System Warning	Displays system warning message

5-6 LED Status

LEDs on front panel indicates the system's operation status about power supply, recording status, alarm, and communication.

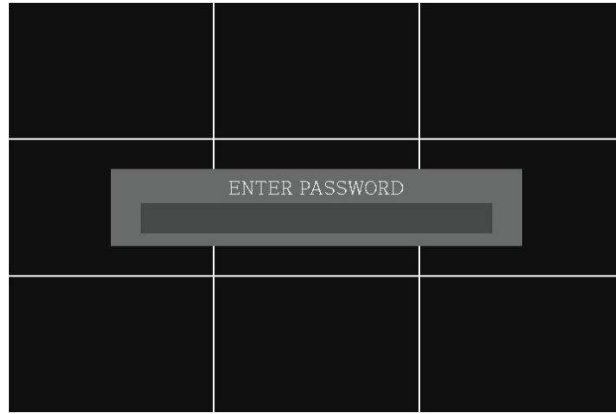


LED	Status	Operation
POWER (Green)	Off	System shutdown
	Steady	System start
REC (Orange)	Off	Not Recording
	Steady	Recording in Progress
	Blinking	HDD/SSD Format, Recovery
ALARM (Red)	Off	Normal Operation
	Steady	Storage Error, Storage Full
	Blinking	System Warning
LAN (Orange)	Off	Network Not Available, No USB Dongle or No SIM Card
	Steady	Network Connection Normal
	Blinking	Device Error or Network Error
SD REC (Green)	Off	SD Card is not in Recording, SD Card slide is not locked.
	Steady	SD Card Recording in Progress
	Blinking	SD Card Operation for Backup, Setting Upload/Download, Upgrade, Format, Recovery
SD NG (Red)	Off	No Recording Setup on SD Card (SD Card Normal)
	Steady	SD Card has recording setup (SD Card error or full)

6. System Menu

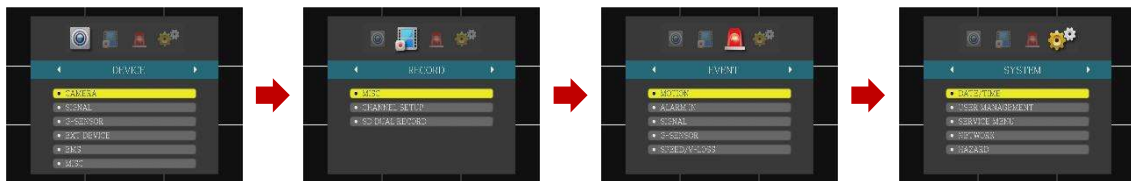
Entering main menu

You can enter the device main menu by [MENU] button on live screen. Password is required to enter the menu and you can skip it by [MENU] button if no password is set up.



Controlling menu screen

System menu consists of DEVICE, RECORD, EVENT, and SYSTEM. You can move the cursor by arrow button [^v<>]. You can enter each menu by [MENU] button and [ESC] button for previous menu. [MENU] button is also used for confirming the setting in menu screen.

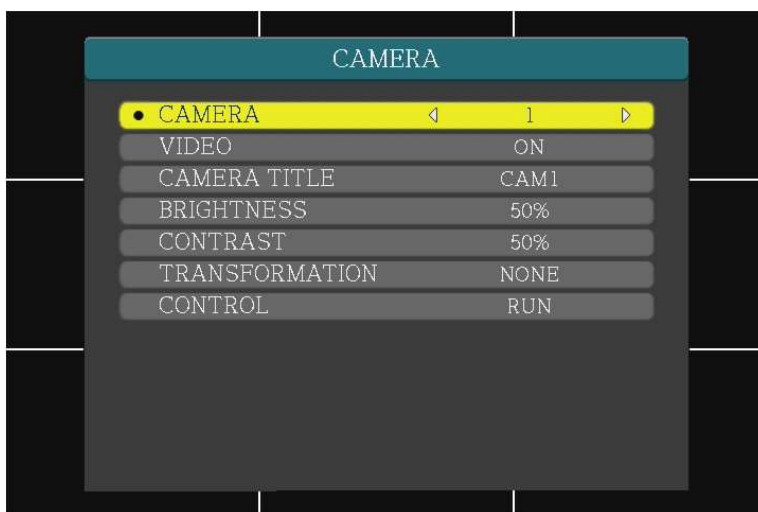


6-1 DEVICE

You can set up camera, signal, G-sensor, external devices, EMS and miscellaneous.



6-1-1 CAMERA



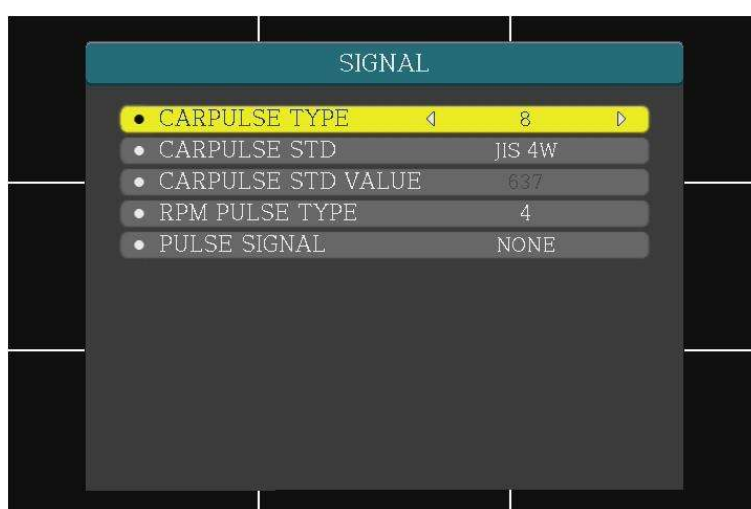
You can set up each camera's video, name, brightness, contrast, transformation, and controls.

- CAMERA : You can select the camera you want to set up. (1~8)
- VIDEO : You can enable or disable a camera.
- CAMERA TITLE : You can name a camera with alphabet and numbers up to 10 characters.
- BRIGHTNESS : You can set up the brightness of each camera from 10% to 100%.
- CONTRAST : You can set up the contrast of each camera from 10% to 100%.
- TRANSFORMATION : You can set up the video inversion vertically and horizontally.
- CONTROL : You can control the camera's set up menu.

Warning

1. Video OFF channel will be displayed on live screen but could not be recorded.
2. Video loss icon() will be displayed and alarm LED (RED) will be blinking when Video ON channel doesn't send video signal properly.
3. Please change VIDEO setting to OFF for channels which are not connected to cameras. If the channel without cameras are set to ON, Alarm LED keeps blinking.

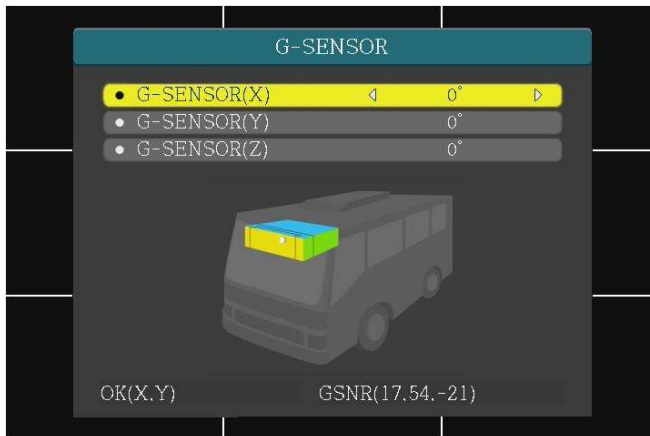
6-1-2 SIGNAL



You can set up the function related to car pulse, RPM, and pulse signal types.

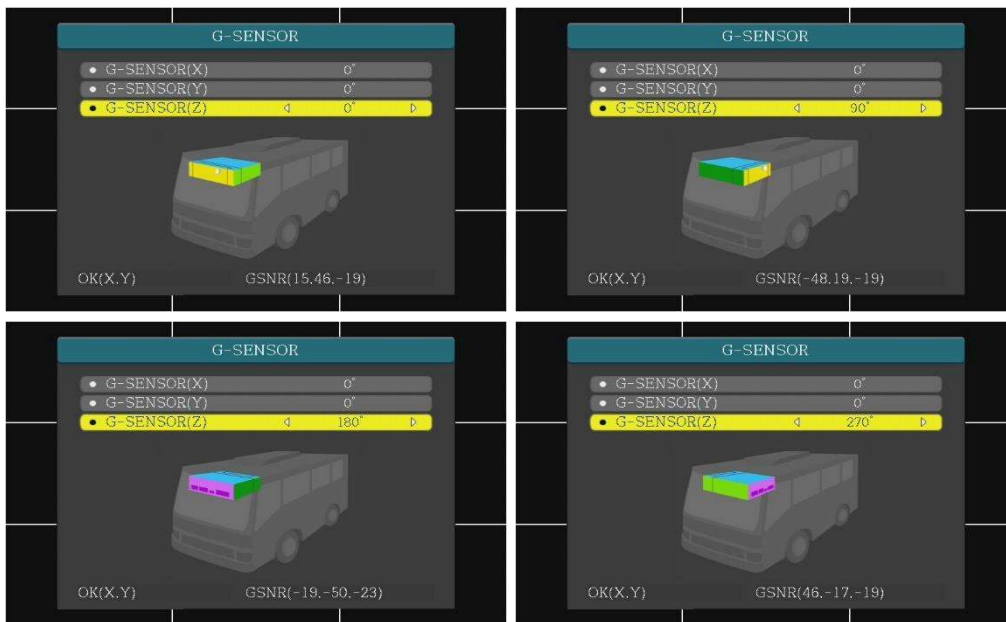
- CARPULSE TYPE : You can select type 1 to 25. Please check the vehicle's car pulse type.
- CARPULSE STD : You can select the standard among 「**JIS 4W/JIS 2W 3W/SAE/DIN/BNA/MANUAL**」. Please check the vehicle's car pulse standard.
- CARPULSE STD VALUE : You can set up a standard value for the vehicle's car pulse type and standard.
- RPM PULSE TYPE : You can select RPM type from 1 to 10 according to the vehicle's specification.
- PULSE SIGNAL : You can set up Pull-up, Pul-down, and none for pulse signal type.

6-1-3 G-SENSOR

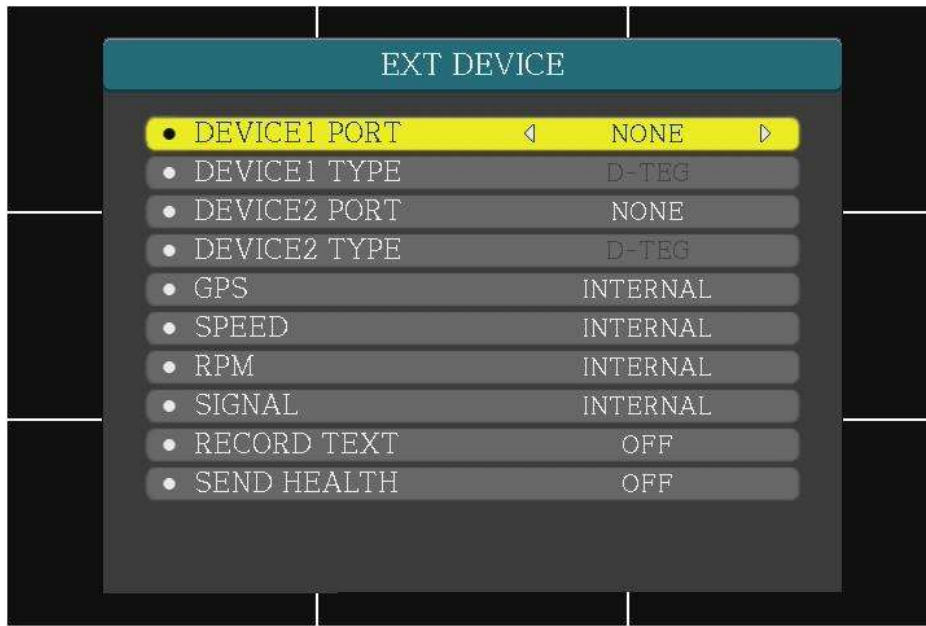


You can set up the initial calibration of G-sensor according to installation.

- You can change the X/Y/Z value among 0/90/180/270 degrees.
- Please check set up screen is same with actual installation.



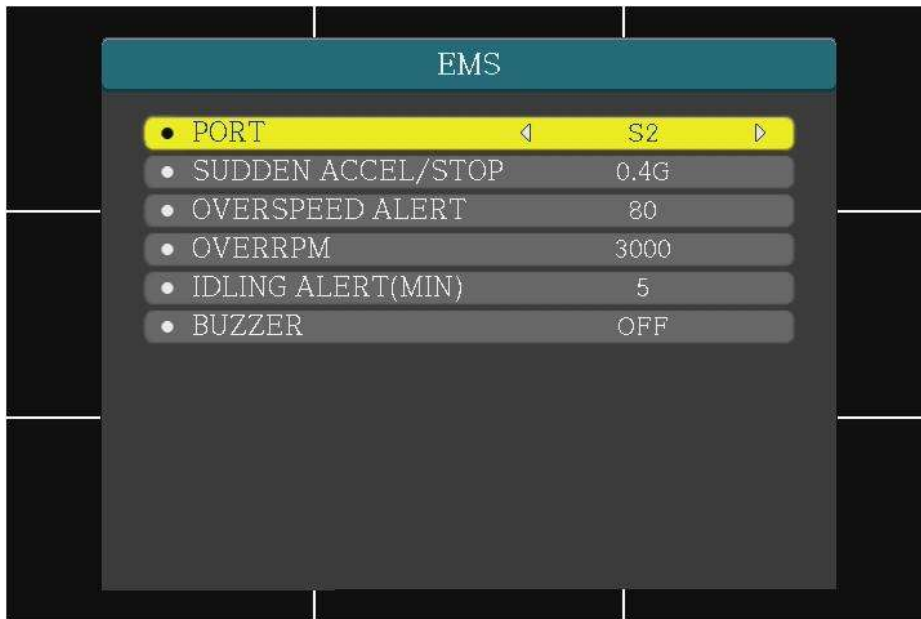
6-1-4 EXT DEVICE



You can set up external device connected to the product.

- **DEVICE PORT** : Please select the serial port connected to external device 1 or 2.
(OFF, S2, S3, S4, S5, S6)
- **DEVICE TYPE** : Please select the type of external device 1 or 2.
(D-TEG, ATBS OBDII, ELM327 OBDII, OMNICOMM, DL550A, ROADSCOPE7)
- **GPS** : Please select the device to receive GPS signal.
- **SPEED** : Please select the device to receive SPEED information.
- **RPM** : Please select the device to receive RPM information.
- **SIGNAL** : Please select the device to receive signal information.
- **RECORD TEXT** : You can enable/disable the function to record text from external device.
- **SEND HEALTH** : You can enable/disable to send health check to external device.

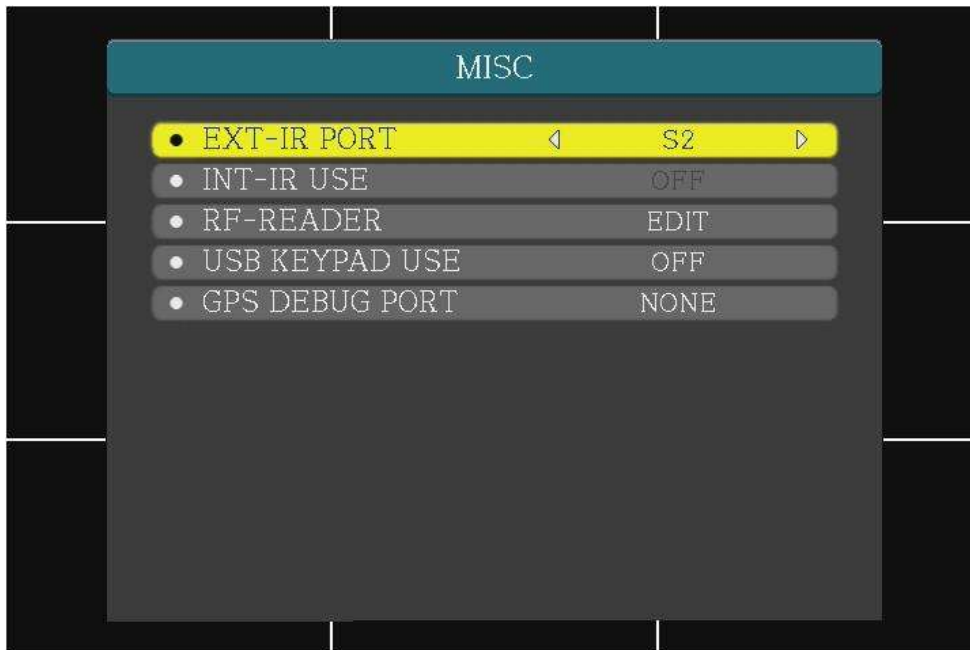
6-1-5 EMS



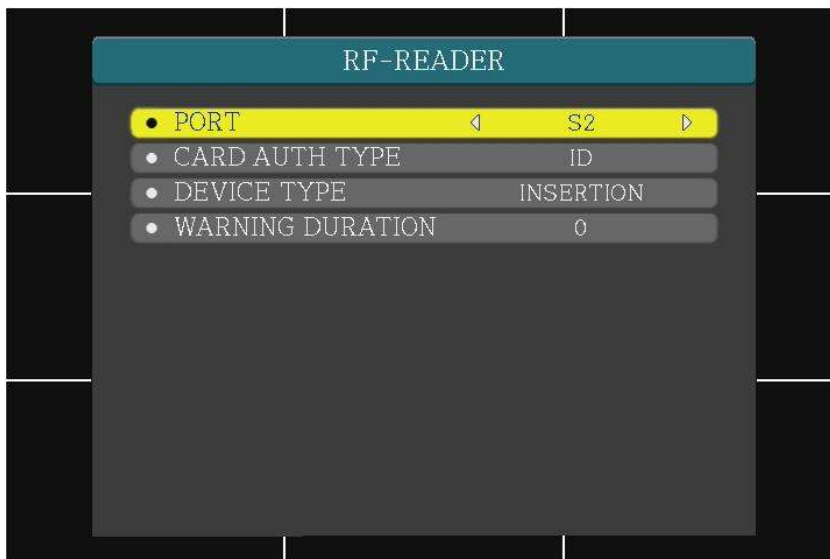
You can set up EMS device (Option Product).

- PORT : Please select a port connected to EMS device.
(OFF, S2, S3, S4, S5, S6)
- SUDDEN ACCEL/STOP : Please set up a criteria value.
(OFF, 0.1G ~1.0G) / Default 0.4G
- OVERSPEED ALERT : Please set up a criteria value for overspeed. (default : 80Km/h)
- OVERRPM : Please set up a criteria value for over RPM (default : 3000 RPM)
- IDLING ALERT(MIN) : Please set up a criteria value for idling in minute. (default : 5 min)
- BUZZER : You can enable buzzer for alarming.

6-1-6 MISC



- EXT-IR PORT : You can connect external IR receiver for specific serial port.
- INT-IR USE : You can enable/disable internal IR port according to external one.
- RF-READER : You can connect external RF reader device for driver identification.



- PORT : Please select a port connected to RF reader.
- CARD AUTH TYPE : Please select card authentication type.
- DEVICE TYPE : You can select insert or touch type for authentication.
- WARNING DURATION : Please set up the warning duration of RF reader.

6-2 RECORD

You can manage record settings like pre-event, post-event recordings.



6-2-1 MISC



You can set up PRE REC TIME, POST REC TIME, OVERWRITE, DATA PASSWORD.

- PRE REC TIME : Pre-event recording time can be set when continuous+event recording mode is activated. You can set the duration from 0 to 5 sec.
0 sec means no pre-event recording footage. 1 to 5 sec setup will record pre-event footage for set up duration.
- POST REC TIME : Post-event recording time can be set when continuous+event recording mode is activated. You can set up the duration from 10sec, 30sec, 1min, 5min, 10min, 30min, 1hour.

- **OVERWRITE** : The device would automatically overwrite the oldest video data when HDD/SSD storage is full.
- **DATA PASSWORD** : You can set up the password for HDD/SSD. The password is required when you playback the storage on DVRViewer.

6-2-2 CHANNEL SETUP



You can set up recording mode, resolution, frame, quality, audio for each channel.

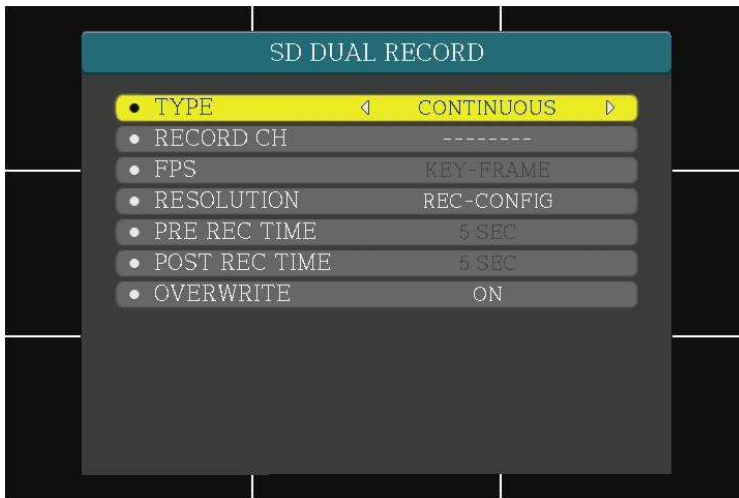
- **CHANNEL** : Please select a channel number you want to set up.
- **RECORD** : You can set up recording mode.
(Off / Continuous / Event / Continuous(Key Frame)+event / Continuous(ALL)+Event)
- **RESOLUTION** : You can set up the resolution.
「5M / 4M / 3M / 1080P / 720P / WD1 / D1 / HD1 / CIF」
- **FPS** : You can select FPS according to camera's resolution.
5M : Available for channel 1&2 (FPS 1,2,3,4,5,6,12 is available)
4M : Available for channel 1~4 (FPS 1,2,3,4,5,6,10,15 is available)
3M : Available for channel 1~4 (FPS 1,2,3,4,5,6,9,18 is available)
1080P, 1080P, 720P, WD1, D1, HD1, CIF : Available for all channels
(FPS 1,2,3,4,5,6,10,15,30 is available)
- **QUALITY** : You can select a video quality. (SUPER/HIGH/NORMAL)
- **AUDIO** : You can enable/disable audio recording.

Notes

If connected camera's resolution and FPS are different from setup values in device,

- **The camera below 720P : the lower resolution would be applied.**
- **The camera above 1080P : the camera's resolution would be applied and the lower frame setting would be applied.**

6-2-3 SD DUAL RECORD



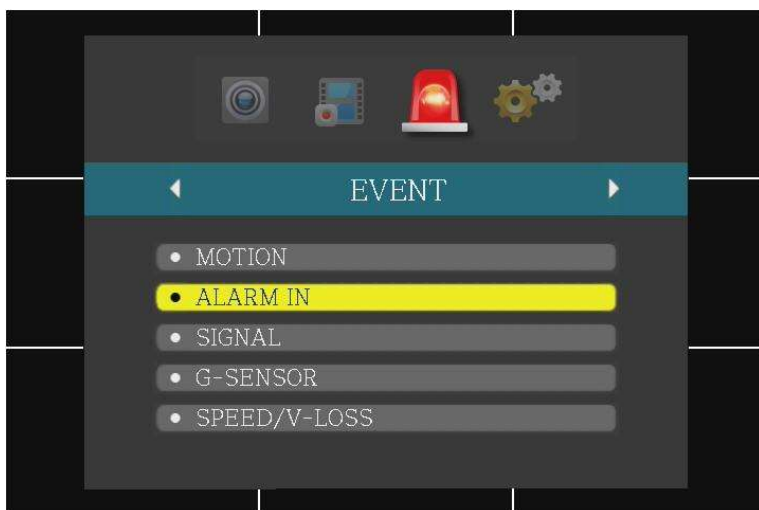
- TYPE : You can set up SD Card dual record mode.
(OFF, Continuous, Event, DRV)
- RECORD CH : You can select channels for SD Card dual record.
- FPS : This menu is enabled when you set up event recording on SD dual record mode.
 - ALL : The same FPS with RECORD setting would be recorded in SD.
 - KEY FRAME : 1 frame per second would be recorded in SD.* Recording FPS on PRE & POST event varies on ALL and KEY setting.
- PRE REC TIME
 - FPS setting is ALL : 0~5 sec
 - FPS setting is KEY : 0~15 sec
- POST REC TIME
 - FPS setting is ALL : 1, 2, 3, 4, 5, 10
 - FPS setting is KEY : 1, 2, 3, 4, 5, 10, 15, 30
- OVERWRITE : The device would automatically overwrite the oldest video data when SD storage is full.

Notes

PRE REC TIME and POST REC TIME could be activated in event recording mode only.

6-3 EVENT

You can set up the event related functions.



6-3-1 MOTION

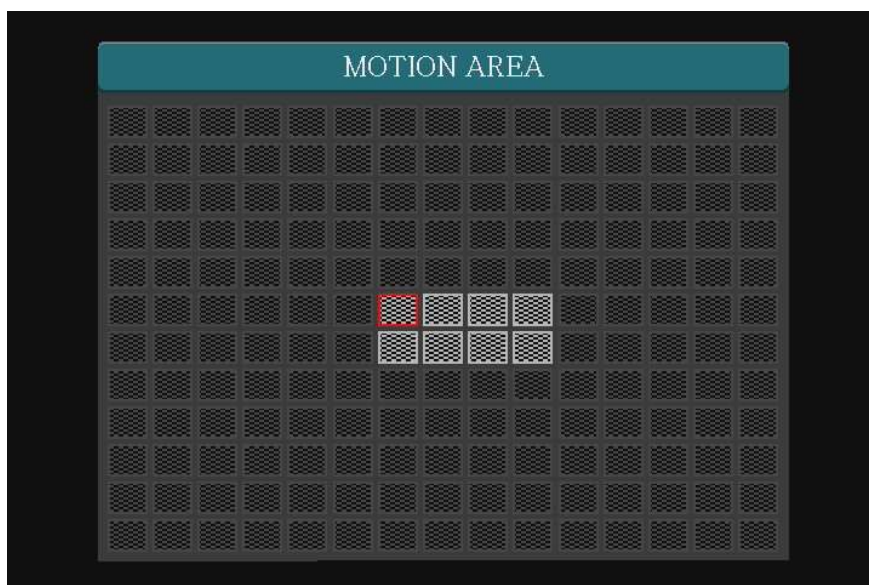
You can set up motion event recording.



- CAMERA : Please select a camera for motion event recording. (CH1~8)
- USE : You can enable/disable motion event recording for each channel.
- SENSITIVITY : Please select the sensitivity of motion event.
- AREA : You can set up a zone for motion event detection.

You can select a block for motion detection by [MENU] button.

You can set up or remove whole area by ALL/CLEAR menu.



- RECORD CH : Please select a channel for recording when motion event occurs.
- RECORD SD : You can enable/disable SD card recording for motion event.
- ALARM OUT 1&2 : You can set up alarm-out to external device connected to Alarm-out port.
Alarm-out duration is 「N/A, 1sec, 5sec, 10sec~60sec, ∞」.
- LIVEOUT CH : You can select a channel for liveout video when motion event occurs.
「N/A / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 2×2-1 / 2×2-2 / 3×3」
- LIVEOUT DURATION : You can set up the duration for liveout.
「1,3,5,10,20,30,40,50,60sec, ∞」
- STOP ENABLE : Motion event is enabled when vehicle is stopped only.

6-3-2 ALARM IN

You can set up Alarm-in recording in this menu.



- CHANNEL : Please select camera channel for alarm.
- USE : You can enable/disable alarm-in event recording.
- TITLE : You can set up a name of alarm.
- ALARMIN TYPE : Please select alarm-in type. Alarm 1 to 4 is voltage on/off and Alarm 5~8 is NO/NC.
- RECORD CH : You can select a camera channel for alarm-in event recording.
- RECORD SD : You can enable/disable SD card recording for alarm-in event.
- ALARM OUT 1&2 : You can set up alarm-out to external device connected to Alarm-out port.
Alarm-out duration is 「N/A, 1sec, 5sec, 10sec~60sec, ∞」.
- LIVEOUT CH : You can select a channel for liveout video when alarm-in event occurs.
「N/A / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 2×2-1 / 2×2-2 / 3×3」
- LIVEOUT DURATION : You can set up the duration for liveout.
「1,3,5,10,20,30,40,50,60sec, ∞」

6-3-3 SIGNAL

You can set up the recording triggered by car signal.

SIGNAL	
CHANNEL	1
USE	ON
TITLE	Left
RECORD CH	-----
RECORD SD	OFF
ALARM OUT1	N/A
ALARM OUT2	N/A
LIVEOUT CH	N/A
LIVEOUT DURATION	5 SEC

- CHANNEL : Please select a camera channel for signal.
- USE : You can enable/disable signal event recording.
- TITLE : You can set up a name of signal event.
- RECORD CH : You can select a camera channel for signal detect recording.
- RECORD SD : You can enable/disable SD card recording for signal detection.
- ALARM OUT 1&2 : You can set up alarm-out to external device connected to Alarm-out port.
Alarm-out duration is 「N/A, 1sec, 5sec, 10sec~60sec, ∞」.
- LIVEOUT CH : You can select a channel for liveout video when alarm-in event occurs.
「N/A / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 2×2-1 / 2×2-2 / 3×3」
- LIVEOUT DURATION : You can set up the duration for liveout.
「1,3,5,10,20,30,40,50,60sec, ∞」

6-3-4 G-SENSOR

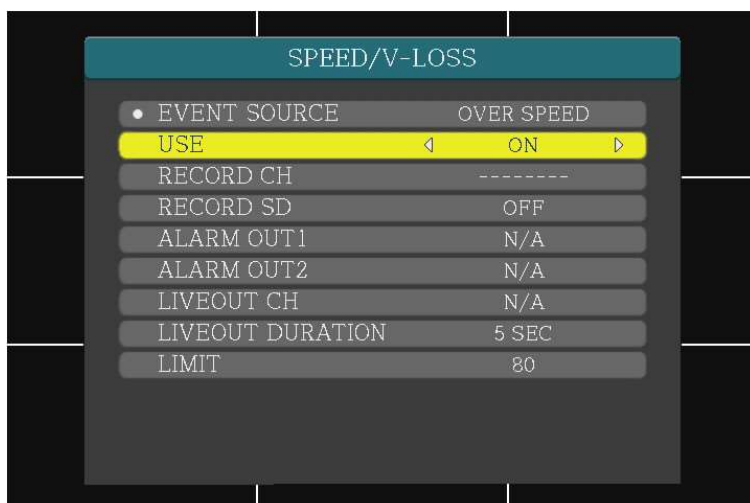
You can set up a recording based on G-sensor information.



- USE : You can enable/disable G-sensor event recording.
- RECORD CH : Please select a camera channel for G-sensor event recording.
- RECORD SD : You can enable/disable SD card recording for G-sensor event.
- ALARM OUT 1&2 : You can set up alarm-out to external device connected to Alarm-out port.
Alarm-out duration is 「N/A, 1sec, 5sec, 10sec~60sec, ∞」.
- LIVEOUT CH : You can select a channel for liveout video when alarm-in event occurs.
「N/A / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 2×2-1 / 2×2-2 / 3×3」
- LIVEOUT DURATION : You can set up the duration for liveout.
「1,3,5,10,20,30,40,50,60sec, ∞」
- ACCELERATION, DECELERATION, TURN, VERTICAL : You can set up a threshold for each G-sensor event from 0.1G to 1.0G.

6-3-5 SPEED / V-LOSS

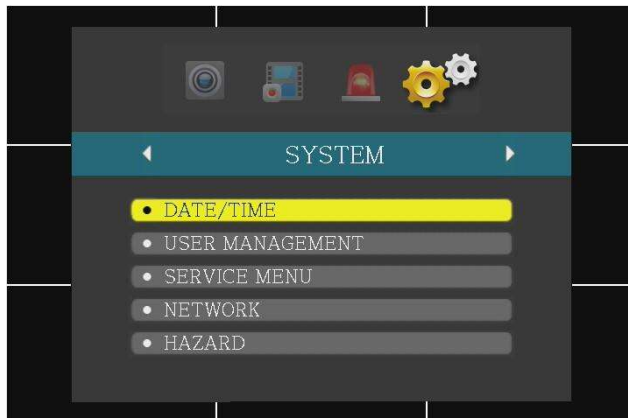
You can set up a recording based on speed and video loss event.



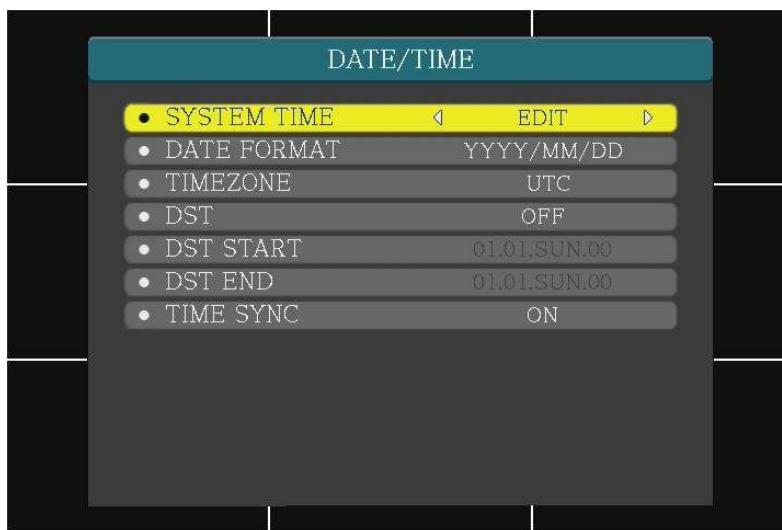
- EVENT SOURCE : You can select OVER SPEED or VIDEO LOSS.
- USD : You can enable/disable the event recording.
- RECORD CH : Please select a camera channel for overspeed, video loss event.
- RECORD SD : You can enable/disable SD card recording for overspeed, video loss event.
- ALARM OUT 1&2 : You can set up alarm-out to external device connected to Alarm-out port.
Alarm-out duration is 「N/A, 1sec, 5sec, 10sec~60sec, ∞」.
- LIVEOUT CH : You can select a channel for liveout video when alarm-in event occurs.
「N/A / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 2×2-1 / 2×2-2 / 3×3」
- LIVEOUT DURATION : You can set up the duration for liveout.
「1,3,5,10,20,30,40,50,60sec, ∞」
- LIMIT : You can set up a threshold for overspeed event. (0~999 km/h)

6-4 SYSTEM

You can manage system settings like date/time, user credentials, device maintenance, and network.

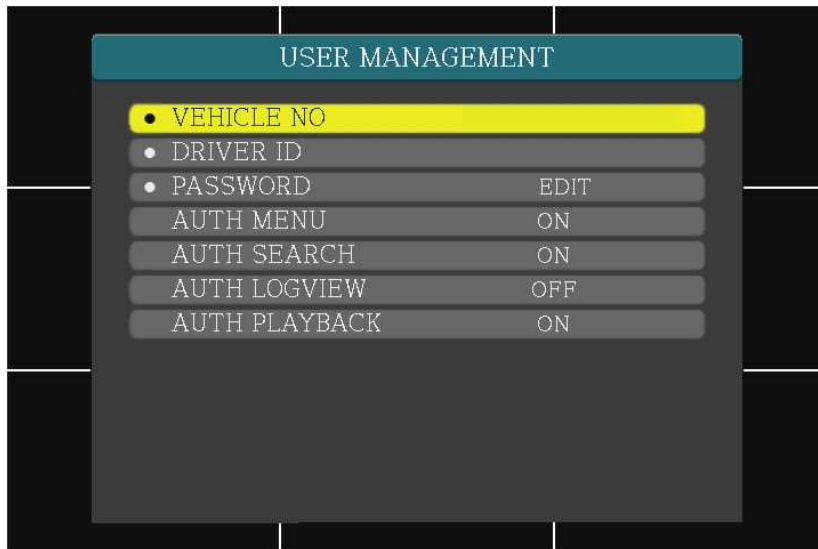


6-4-1 DATE/TIME

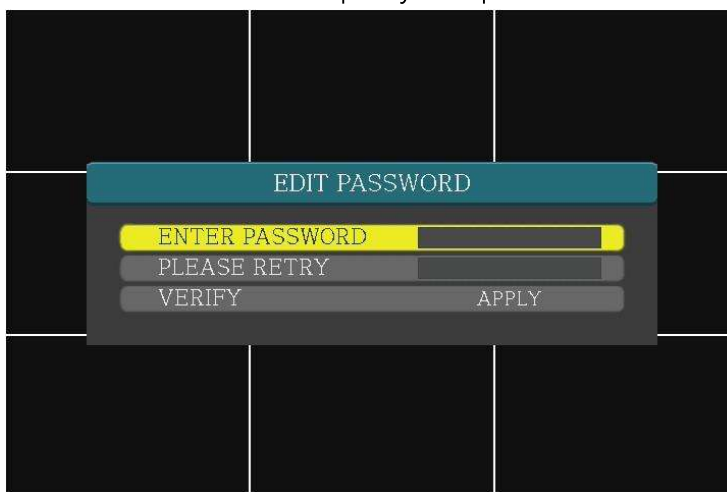


- **SYSTEM TIME** : You can set up system date and time.
- **DATE FORMAT** : You can set up data format like YY/MM/DD, DD/MM/YY.
- **TIMEZONE** : Please set up your timezone.
- **DST** : You can set up daylight saving time.
- **TIME SYNC** : Please turn on time sync to synchronize system time with GPS module.

6-4-2 USER MANAGEMENT

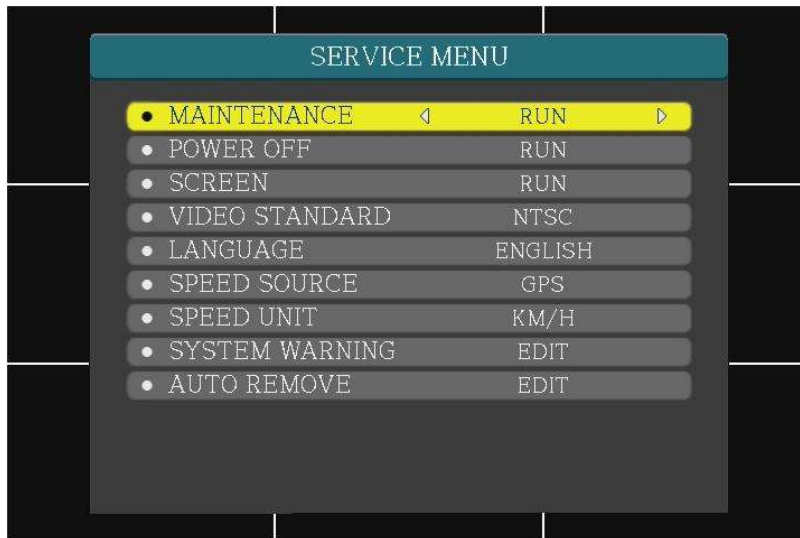


- VEHICLE NO : You can register the vehicle number up to 10 characters.
- DRIVER ID : It displays driver ID registered in SD Card or external RF reader. This is to identify driver ID with recorded data.
- PASSWORD : You can set up a system password.



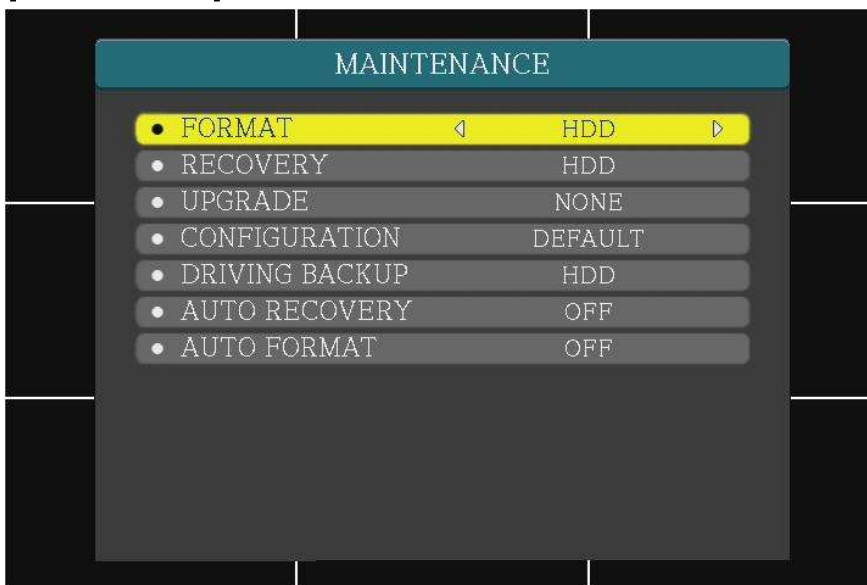
- AUTH MENU : Password is required for entering menu.
- AUTH SEARCH : Password is required for search menu.
- AUTH LOGVIEW : Password is required for log view.
- AUTH PLAYBACK : Password is required for playback.

6-4-3 SERVICE MENU



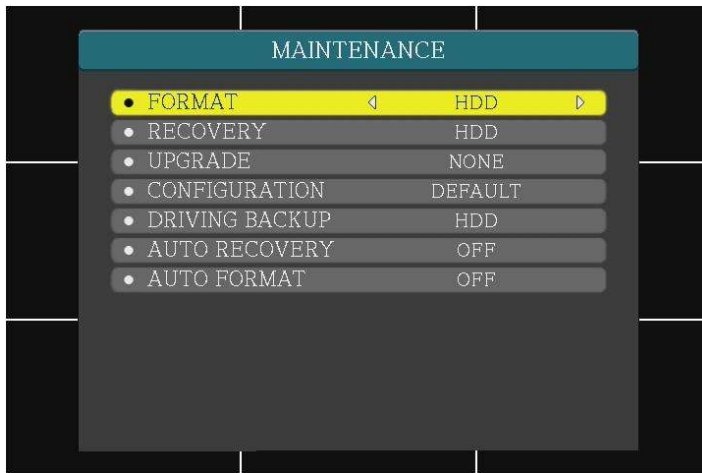
- MAINTENANCE : You can manage your storage installed in the device.
- POWER OFF : You can set up power options like shutdown delay and wakeup interval.
- SCREEN : You can manage screen options like default layout and sequence order.
- VIDEO STANDARD : Please set up video signal standard from NTSC or PAL.
- LANGUAGE : It supports English, Korean, Japanese, Chinese, Russian.
- SPEED SOURCE : Please select where speed data comes from. (GPS, CAR PULSE)
- SPEED UNIT : You can select speed unit from KM/H or MILE/H.
- SYSTEM WARNING : You can manage events for system warning.
- AUTO REMOVE : You can set up auto remove for video and drive data.

[MAINTENANCE]



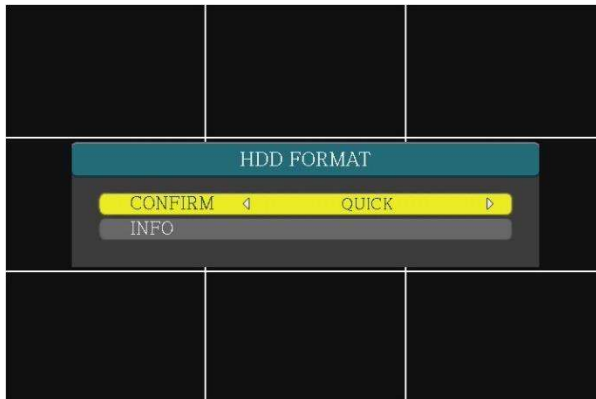
- **FORMAT**

You can format HDD/SSD/SD Card installed in device.



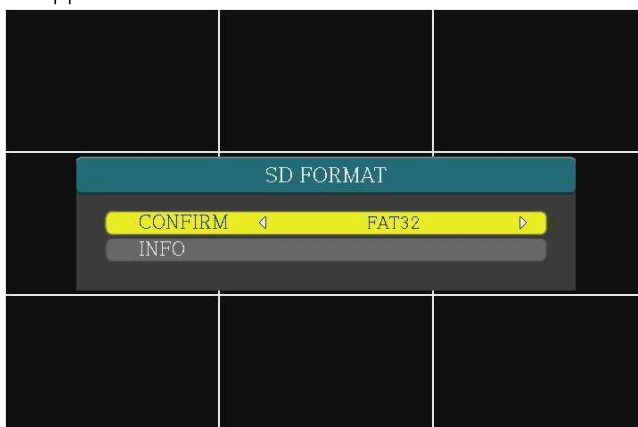
[HDD/SSD]

- It supports quick and raw format.



[SD FORMAT]

- It supports FAT32 or EXT4 format.



Notes

1. All data in storage would be deleted after formatting so please back up the important data before format.
2. Please format a storage with this menu when you install new HDD/SSD or SD card.
3. Storages not formatted with this menu is not compatible with the device.
3. Please use storages supplied by manufacturer. The manufacturer is not responsible for using uncertified HDD/SSD and SD card.

- RECOVERY

You can recover HDD/SSD and SD card when recorded data is managed. The recovery coverage depends on damage type and it doesn't guarantee a recovery of data for every cases. Storage physically damaged would not be recovered with this feature.

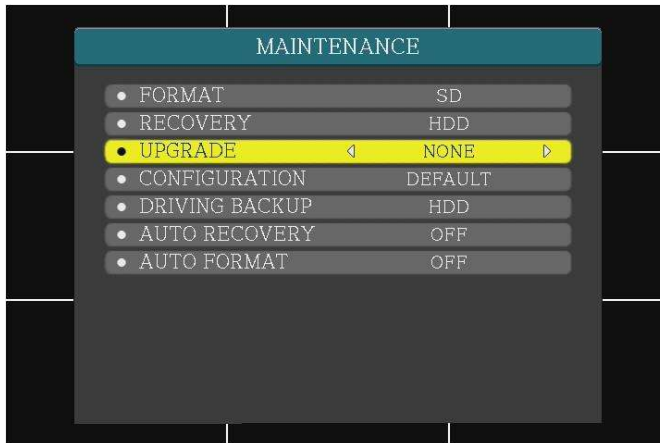


Warning

1. The product is to record a video data as a reference. It doesn't guarantee a video footage for every cases and video data may not be recovered from accident.
2. HDD/SSD and SD card are consumables and it requires periodical maintenance. Please backup importance data periodically.

● UPGRADE

You can upgrade system firmware via SD card or USB memory.



- FILE : Please select correct F/W file.
 - CONFIRM : You can start upgrading.
 - INFO : Progress would be displayed.
- (The system reboots automatically after upgrade.)

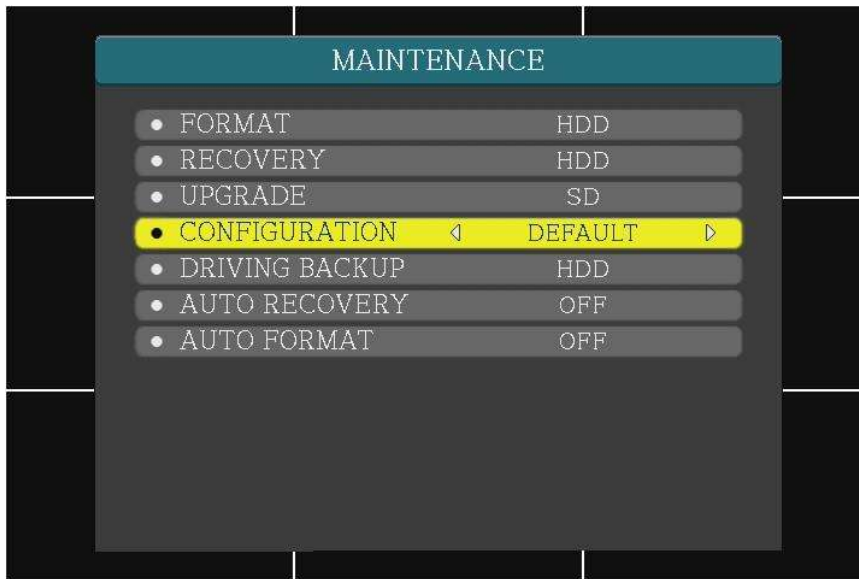


Warning

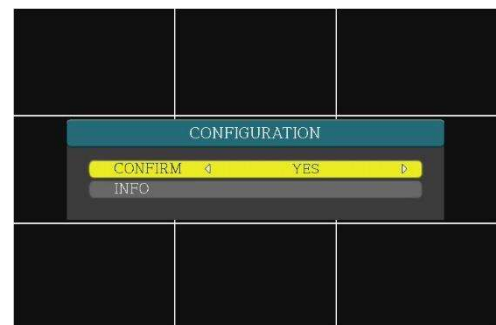
1. Please do not unplug the power supply during upgrade. It may damage the unit.
2. Please contact your local seller if you have a problem after upgrade.

- CONFIGURATION

You can initialize the system settings to default or factory default.



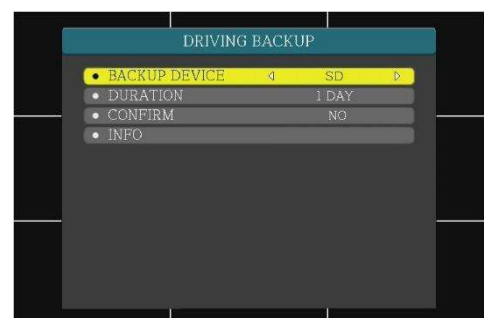
- CONFIRM : You can confirm the initialization.
- INFO : Progress would be displayed.
(The system reboots automatically after upgrade.)



- DRIVING BACKUP

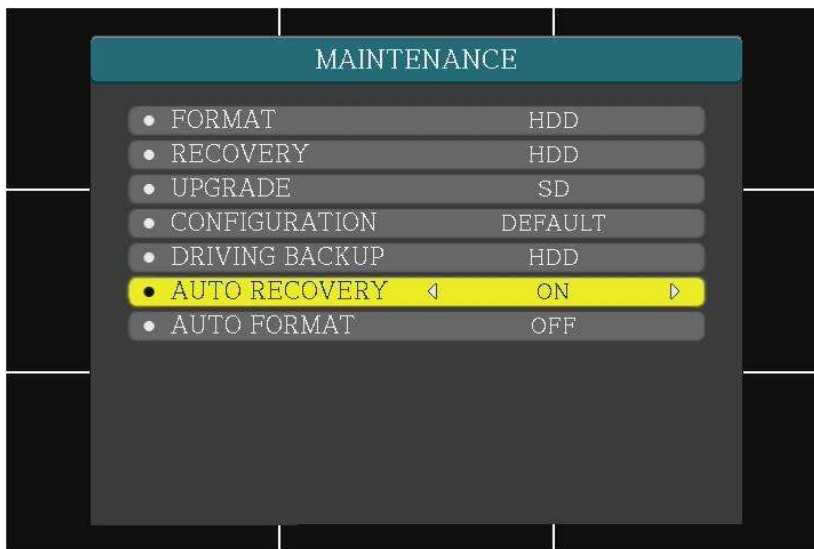
You can backup driving data recorded in storage.

- BACKUP DEVICE : Please select backup device.
(SD Card or USB)
- DURATION : You can select duration for backup data.
(1DAY, 3DAY, 1WEEK, ALL)
- CONFIRM : Start backup to selected device.
- INFO : Progress would be displayed.



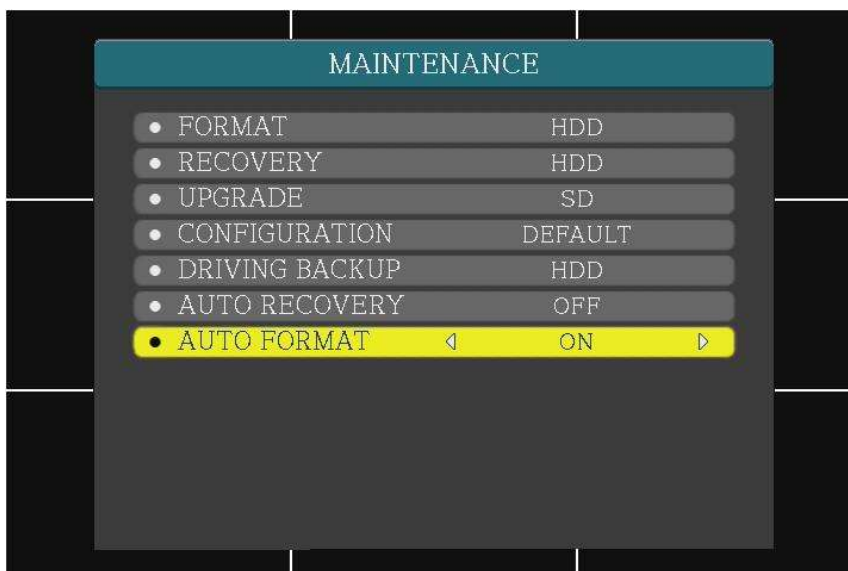
- AUTO RECOVERY

This feature would diagnose storage's file system. The system would try to recover it automatically when file system is abnormal. The system will be automatically formatted if AUTO RECOVERY is not done within 10 minutes. (AUTO FORMAT option is required to be enabled.)



- **AUTO FORMAT**

If AUTO FORMAT is enabled, the system is automatically formatted after AUTO RECOVERY.



[POWER OFF]

You can manage power options of the system.



- POWER OFF DELAY : The system's shutdown would be delayed for set up duration. The system should be installed with permanent power supply of vehicles. The duration could be up to 24 hours.
- REGISTER/WAKEUP INTERVAL : After the system is shutdown, it would boot up after REGISTER INTERVAL and operate for WAKEUP INTERVAL. This feature is to boot up and record video periodically while vehicle is parked.

[SCREEN MENU]

You can set up a live screen options.



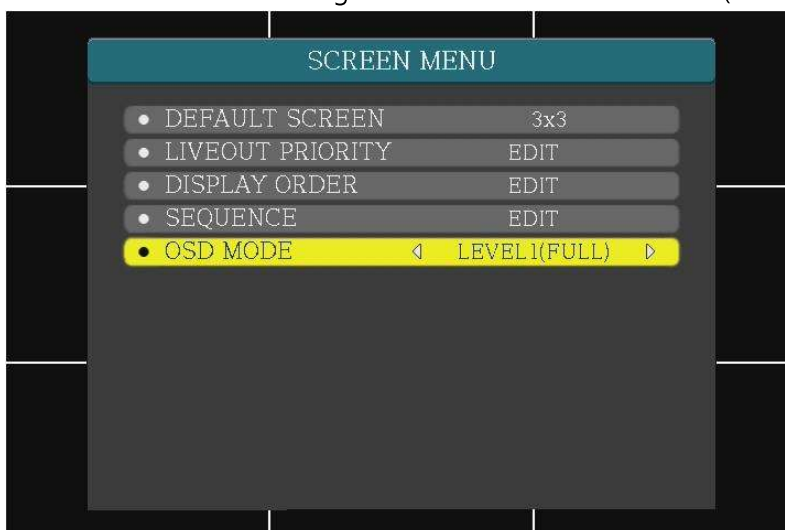
- DEFAULT SCREEN : You can set up a default layout for live screen.
(Channel 1~8, 1X2(1), 1X2(2), 1X2(3), 1X2(4), 2X2(1), 2X2(2), 3X3)
- LIVEOUT PRIORITY : You can set up a priority for each channel and layouts when events are triggered at the same time. 1 means the highest priority and 11 is the least.



- **DISPLAY ORDER** : You can allocate each camera channel from slot 1 to 8 of layouts. If AUTO ORDER is applied, cameras would be allocated sequentially from channel 1 to 8.
- **SEQUENCE** : You can change live screen layouts automatically.

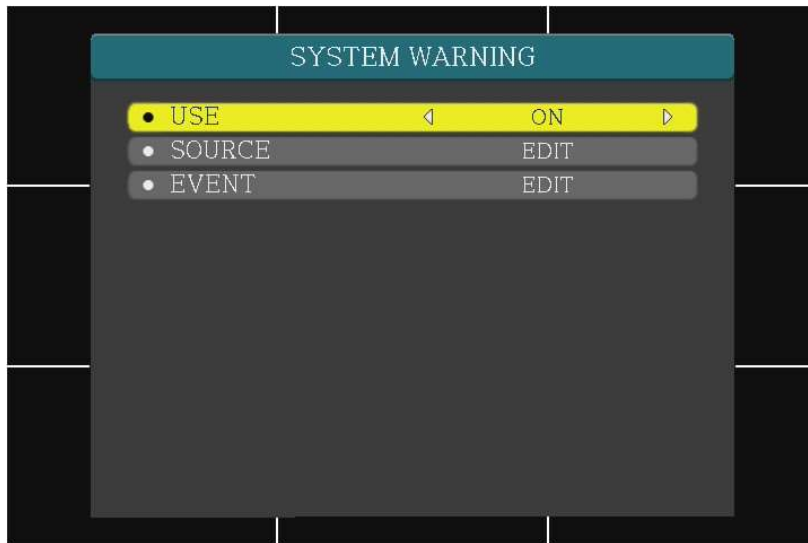


- **OSD MODE** : You can change a default OSD mode from 1 (FULL) to 4 (None).

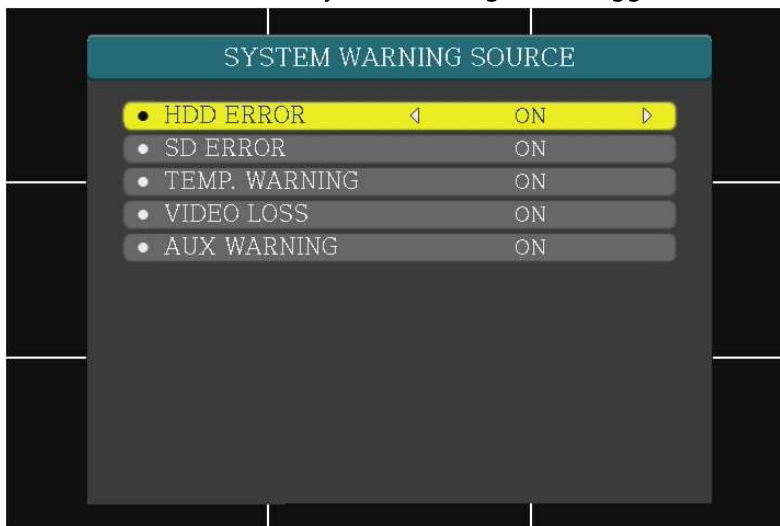


[SYSTEM WARNING]

You can select system warning event triggers and event action targets.

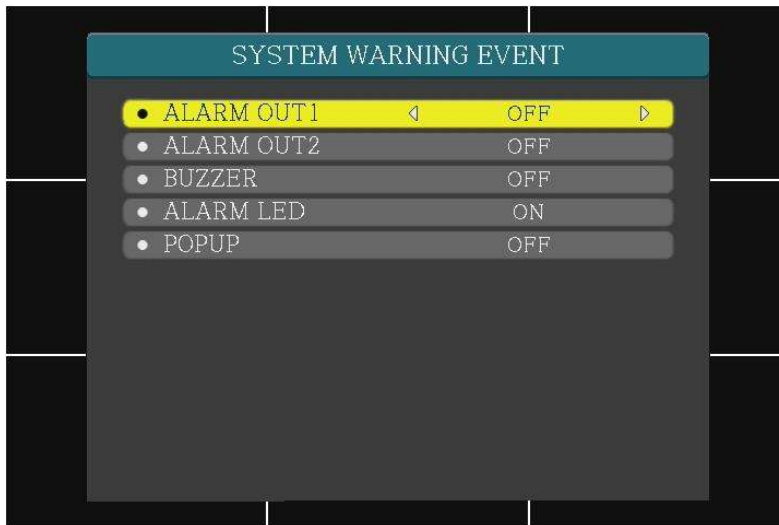


- USE : You can enable/disable system warning event.
- SOURCE : You can select system warning event triggers.



- HDD ERROR : HDD is not recognized or recording is failed.
- SD ERROR : SD Card is not recognized or writing is failed.
- TEMP. WARNING : The device temperature is over 80°C.
- VIDEO LOSS : Video signal is lost from cameras.
- AUX WARNING : The external device is disconnected.

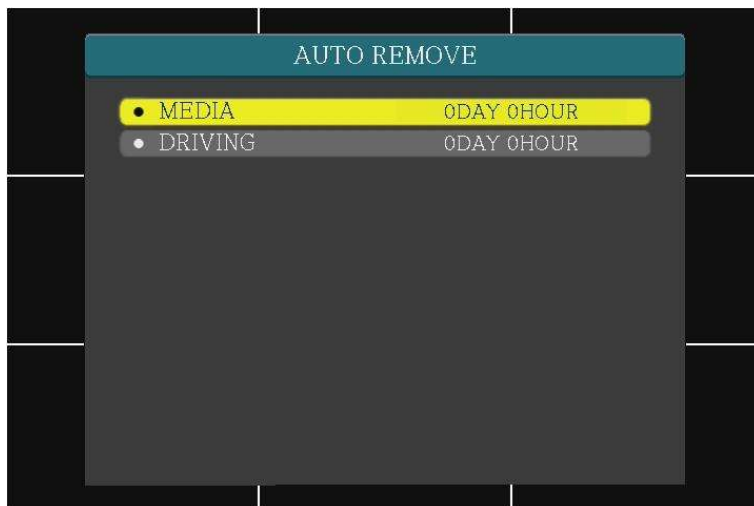
- EVENT : You can select a notification targets for system warning event source.



- ALARM OUT1&2 : ALARM OUT 1or 2 would be triggered upon system warning event.
- BUZZER : Buzzer would be activated.
- ALARM LED : Alarm LED turns on.
- POPUP : An event windows is popped up.

[AUTO REMOVE]

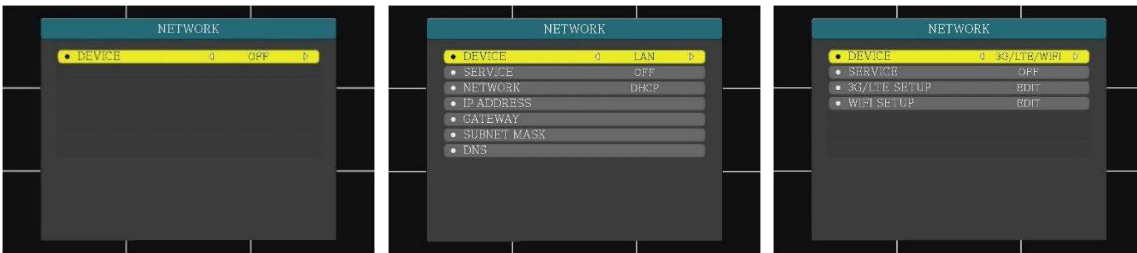
You can set up a duration to keep a data. The data would be deleted automatically after designated time duration,



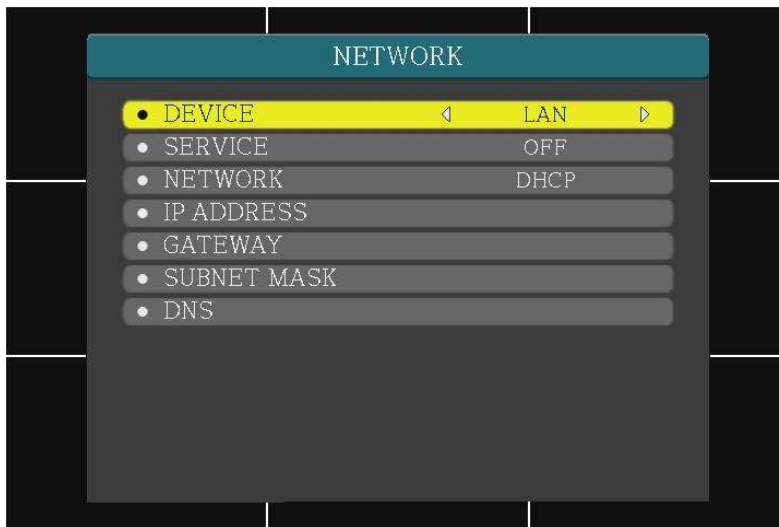
- MEDIA : Recorded video data
- DRIVING : Recorded driving data

6-4-4 NETWORK

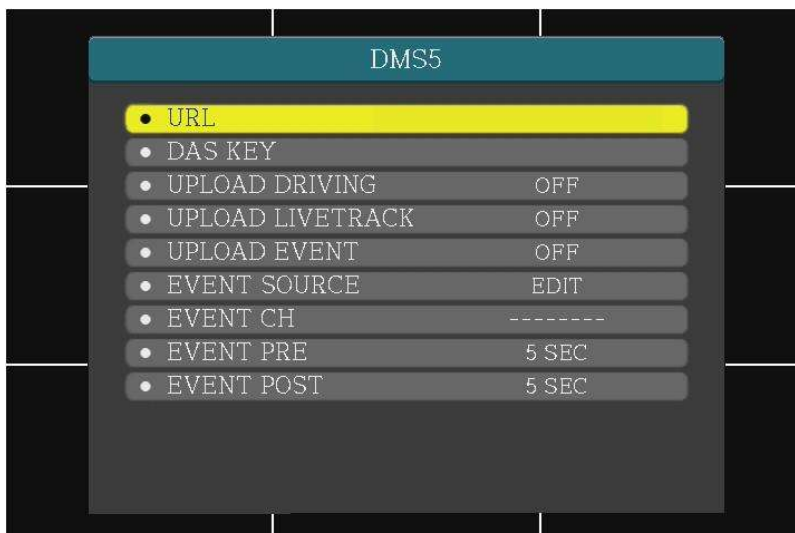
You can set up network options to make device communicate with server. Please contact your local seller for server information.



① LAN



- DEVICE : You can select LAN for wired connection or 3G/LTE/WIFI.
- SERVICE : You can manage server settings.



- URL : Please input server address supports DMS5 API.
- DAS KEY : Please enter DMS5 license key.

- UPLOAD DRIVING : Driving data is uploaded to server.
- UPLOAD LIVETRACK : Live tracking data is uploaded to server for every second.
- UPLOAD EVENT : Event data is uploaded to server.
- EVENT SOURCE : You can select events to be loaded to server.

- MOTION
- ALARM
- SIGNAL
- G-SENSOR
- SPEED



- EVENT CH : You can select a camera channel to be uploaded to server.
- EVENT PRE : You can set up between 0~10 sec as pre-event duration to be loaded to server.
- EVENT POST : You can set up between 0~10 sec as post-event duration to be uploaded to server.

(The uploaded image is 1 FPS regardless of record setting.)

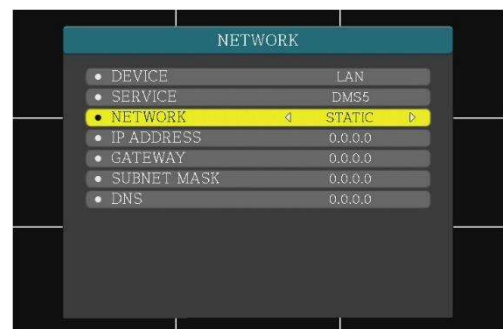
Notes

Please consult with your local seller to use DMS5 server service.

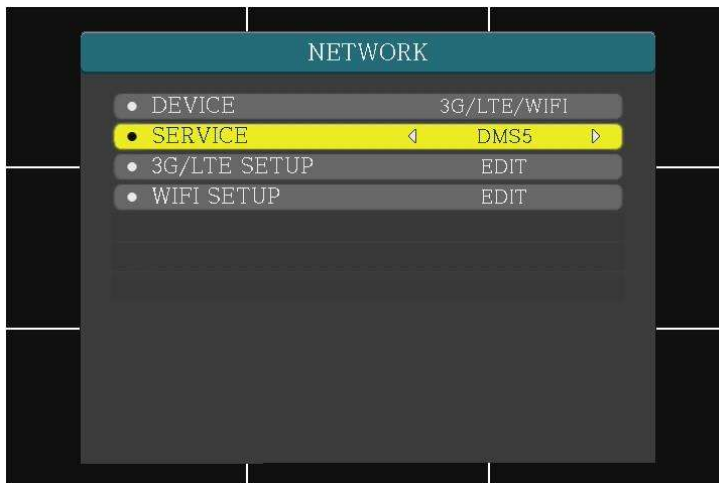
● NETWORK

DHCP : The device would receive network setting via DHCP server.

STATIC : You can set up network settings manually.



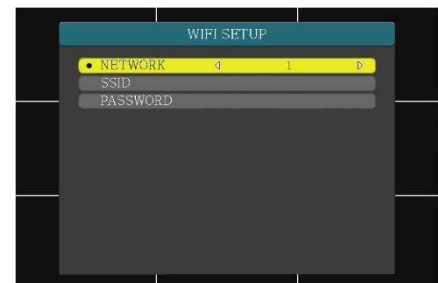
② 3G/LTE/WIFI



- DEVICE : 3G/LTE/WIFI
- SERVICE : It is same with LAN setting above.
- 3G/LTE SETUP
 - DONGLE : Please set up a type of 3G/LTE dongle. (Default : TYPE0)
 - APN, DIAL NO. USER/PASS : Please inputs settings according to carrier information of SIM.



- WIFI SETUP
 - NETWORK : You can register up to 10 AP.
 - SSID : Please enter SSID.
 - PASSWORD : Please enter password of AP.



6-4-5 HAZARD

You can register a zone to monitoring vehicles get in/out.



You need to make a hazard map with MAP Maker program supplied separately. Please contact your local seller to purchase it.

- RADIOUS : You can set up a radios to be set as hazard map.
(50, 100, 200, 300, 400, 500 meters, and 1Km)
- MAP NAME : It displays map name generated via Map maker tool.
- ZONE : You can select a zone from 0~255.
- LATITUDE : It displays a latitude for registered zone.
- LONGITUDE : It displays a longitude for registered zone.
- AUDIO : It plays a registered audio file when vehicle crosses a hazard zone.

7. SEARCH and PLAYBACK

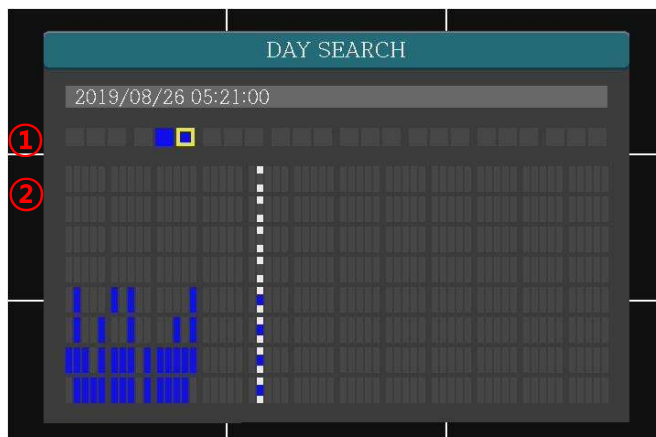
CRX3108 provides search and playback function from main unit. (Audio playback is not supported.) You can search and playback video by calendar search and log search.

7-1 CALENDAR SEARCH

1. Please press [SER] button on front panel.
2. Calendar would be displayed and dates with recorded data are in blue box.
3. You can select month, date, hour, minute sequentially.



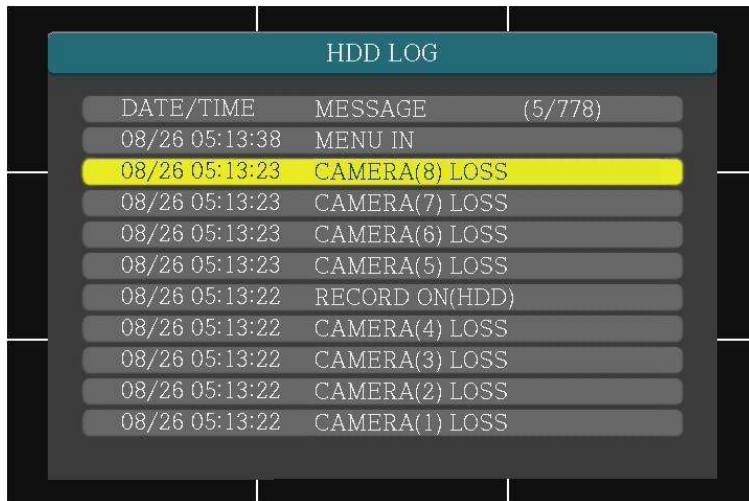
4. You can search hours by arrow button [<>] from 01:00 ~ 24:00 in selected date.
5. You can move the cursor to minute search window by [v] button and search minutes by [<>] button.
6. You can start playback by [MENU] button.



7-2 LOG SEARCH

CRX3108 saves every events in logs including system logs, setting changes, playback, backup, etc.

You can playback a video when a log is saved. You can enter the log menu by pressing [>] button on live screen.



HDD LOG		
DATE/TIME	MESSAGE	(5/778)
08/26 05:13:38	MENU IN	
08/26 05:13:23	CAMERA(8) LOSS	
08/26 05:13:23	CAMERA(7) LOSS	
08/26 05:13:23	CAMERA(6) LOSS	
08/26 05:13:23	CAMERA(5) LOSS	
08/26 05:13:22	RECORD ON(HDD)	
08/26 05:13:22	CAMERA(4) LOSS	
08/26 05:13:22	CAMERA(3) LOSS	
08/26 05:13:22	CAMERA(2) LOSS	
08/26 05:13:22	CAMERA(1) LOSS	

1. You can search the log you want to find a video by arrow button [^v<>].
2. Please press [MENU] button to playback a searched log.
3. Password is required if it is set up.
4. You can be back to log list screen by [>] button while playback.

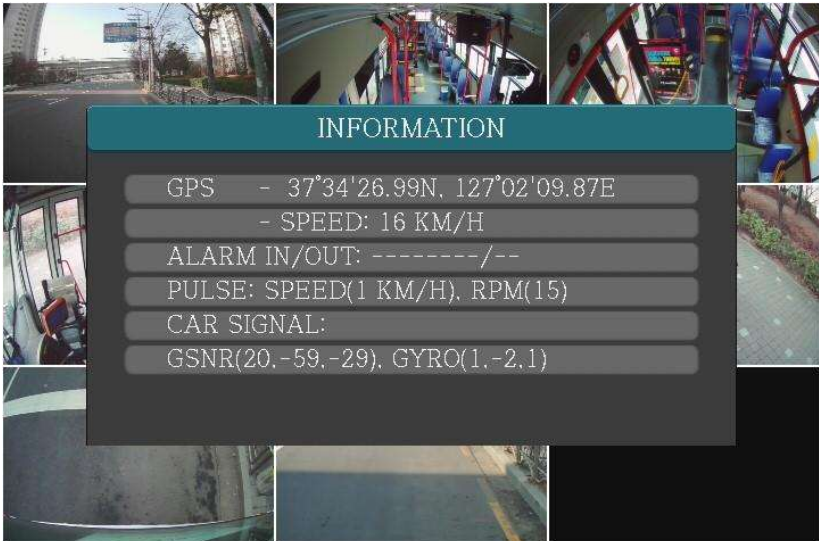
7-3 PLAYBACK

[Playback Screen]



[How to control playback screen via front panel]



Playback	-[>] : Increase playback speed (x1, x2, x4 ) -[<] : Decrease playback speed (x1, x2, x4 ) -[MENU] : Pause () -[>] on Pause : Playback by 1 frame forward () [<] on Pause : Playback by 1 frame backward () [MENU] on Pause : Playback starts.
Info.	-[STA] : Displays drive information of recorded video. (GPS, ALARM, PULSE, CAR SIGNAL, G-SENSOR&GYRO)  The screenshot shows a multi-camera view with an 'INFORMATION' overlay. The overlay displays the following data: - GPS - 37°34'26.99N, 127°02'09.87E - SPEED: 16 KM/H - ALARM IN/OUT: -----/-- - PULSE: SPEED(1 KM/H), RPM(15) - CAR SIGNAL: - GSRN(20, -59, -29), GYRO(1, -2, 1)
Search	-[SER] : You can search another dates by [SER] button during playback.
Cancell	-[ESC] : You can go back to previous screen.

- Playback Screen : Playback screen operates same with live screen setting.
- Icons on Playback screen.
 - Record icon is not displayed on channels with continuous recording.
 - Event recording icon is displayed on channel with event record setting.
 - Black screen means a channel without recorded video data.
 - Channel with video loss event displays video loss icon[].

NOTES

1. Playback supports 1 frame per second except X1 speed playback on full screen.
2. During playback, the device records 2 frames per second regardless of record settings.

8. BACKUP

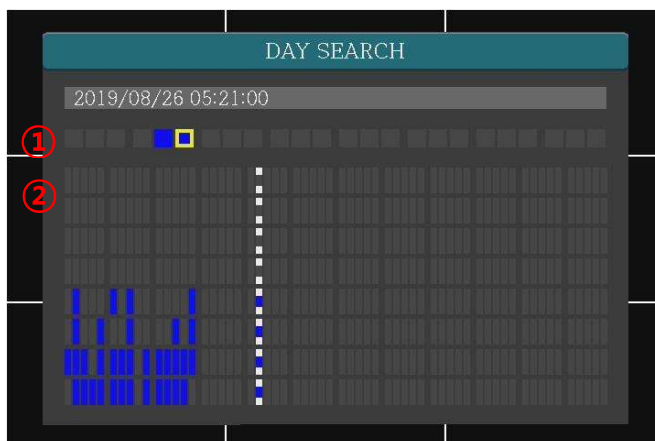
You can backup the recorded data in HDD/SSD to SD Card or USB memory.

8-1 VIDEO BACKUP

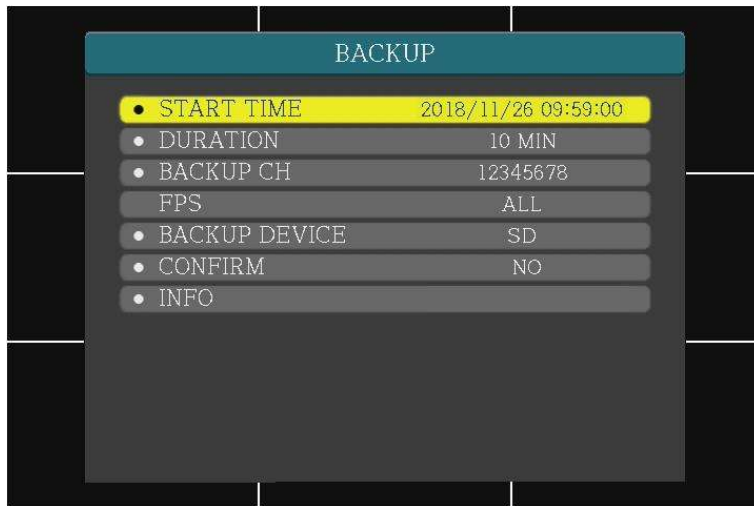
1. Please press [SER] button on live screen.
2. Please search a date you want to backup via calendar search.



3. Please select hour and minute you want to backup.



4. Please press [SER] button to recall BACKUP menu.



- START TIME : Selected time from calendar search is displayed and you can adjust it via arrow buttons.
- DURATION : Please set up a backup duration up to 60 minutes.
- BACKUP CH : Please select channels you want to backup.
- FPS : Please set up FPS for backup. (ALL, 1FPS, 1/2/3/6/12/20/30 frames per minute)
- BACKUP DEVICE : Please select a backup device. (SD Card or USB)
- CONFIRM : Start to backup.
- INFO : Backup progress is displayed. Beep sounds after backup is completed.

NOTES

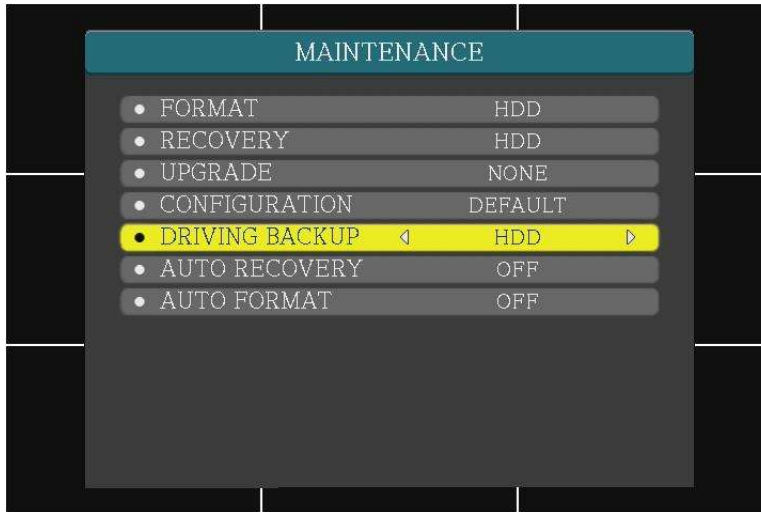
1. .MDT and .MDX files are generated after backup is finished.

JS_CRX (G:)				
이름	수정된 날짜	유형	크기	
0000000001_20181221_115900_001.mdt	2019-04-16 오후...	MDT 파일	115,218KB	
0000000001_20181221_115900_001.mdx	2019-04-16 오후...	MDX 파일	593KB	

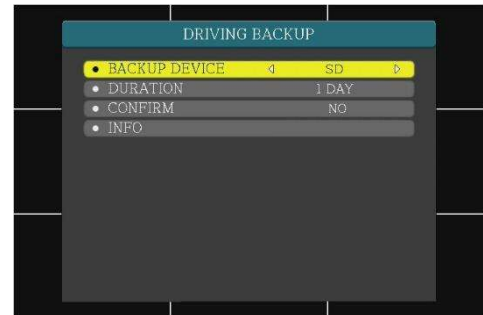
2. Other functions are not available during backup.

8-2 DRIVE DATA BACKUP

You can backup a drive data in HDD/SSD in MAINTENANCE menu.



- BACKUP DEVICE : Please select backup device.
(SD Card or USB)
- DURATION : You can select duration for backup data.
(1DAY, 3DAY, 1WEEK, ALL)
- CONFIRM : Start backup to selected device.
- INFO : Progress would be displayed.



SPECIFICATION

Function	Specification
Video Input/Output	Up to 8 channels / A/V output connector CVBS(NTSC/PAL) : front, rear panel
Audio Input/Output	Up to 8 channels A/V output connection Analog Audio : rear panel
Video & Audio Codec	H.264 / G.711
Record Resolution	5M (2592X1944), 4M (2560X1440), 3M (2048X1536) , FHD (1920X1080), HD (1280X720), WD1 (960X480) D1 (720X480), HD1 (720X240), CIF (352X240)
Record FPS	24(5M) / 60(4M) / 72(3M) / 180(FHD) / 240(HD, WD1, D1, HD1, CIF)
Record Mode	Continuous, Event (G-sensor, Alarm, Motion), Dual (Continuous+event0 SD Card dual recording
Local Playback	Video only, Calendar/Log Playback -4x, -2x, -1x, 1x, 2x, 4x, Pause 및 Step Playback / 3X3, 2X2, 1X1 Layout
Local Backup	Video / Drive Data to USB or SD Card
Alarm	Alarm-in(8EA) : 4 (NC/NO), 4 (Signal) / Alarm-out(2EA) : 2 (NC/NO)
LED	Power, Rec, Alarm, LAN
Storage	2.5" HDD or SSD
LAN	10/100 Mbps
G-sensor/Gyro	X/Y/Z Axis
I/O External Port	- Serial : 2EA (Rear) (Expandable up to 6EA) [Port 0 : Debug, EMS, Driver ID, IR Receiver, DT-STD, OBDII] [Port 1 : EMS, Driver ID, IR Receiver, DT-STD, OBDII] - USB : 2EA (Rear) [Wifi, 3G Dongle, Memory Stick, US400] - Power : 5V/500mA x 2
GPS (GNSS)	External GPS 1EA (GPS+GLONASS)
Signal	Signal : LEFT, RIGHT, BRAKE, REVERSE, ACC Pulse : RPM, SPEED (2Hz, PullUp/PullDown)
Input	Front Panel : Arrow, SER, CH, ESC, MENU, FN, STA
Power	Input : DC 12/24V, 7A/4A / Output : DC 12V 2A
Language	English, Korean, Japanese, Chinese, Russian
Operating Temperature	-10 °C ~ 45 °C
Operating Humidity	0 ~ 90 %
Weight	970g (Unit) + 110g (HDD) : 1.08Kg
Size	1DIN : 178mm(W) x 50mm(H) x 180mm(D)
Certificates	CE, E-mark, FCC, KC