VTR400E
User Manual

Contents

0. Before Using VTR400E

◆ All the contents of this manual are protected according to the federal and international copyright laws.

◆ The product and its information shown in this manual are sole properties of its manufacturer.

◆ All the rights to the program used for this product belong to its manufacturer and are protected by federal and international copyright laws. Any duplication, modification, production and distribution of this product and its programs without prior written consent by the manufacturer is prohibited. Violators are subject to imprisonment of up to five years and/or maximum monetary penalty of up to 5million USD as set by governing authorities.

◆ The manufacturer holds the rights to all the software and hardware of this product. Any act of unauthorized reproduction and distribution will be punishable in accordance with the federal and international copyright protection law.

◆ This manual is based on the most current conditions of the product at the time of first release and may require technical and/or editorial updates/omissions that are subject to change without prior notice.

◆ Some changes may be made to the product for the purpose of improvements without prior notice.

◆ It is recommended that users should read the manual carefully before using the product for safety.

1. Overview

The product is designed to store video and audio information to assist as a secondary safety device while driving and during parked. Videos taken from the device may be used as a circumstantial reference data to help identify the scene of various events.

◆ Please install and use the product properly according to the user's manual

◆ The company will not be held responsible for failures or accidents that might occur due to improper use,

◆ The Manufacturer is NOT responsible for accidental failures and failures that may occur due to improper use, installation, modification. Provided PC viewer program can run on a PC with XP/Vista/Win 7. It is recommended to use a PC with CPU-intel core2 Quad Q6600@ 2.4GHz, 32GB of Ram or equivalent as the minimum specification.

◆ The product and the user manual can be changed without prior notifications.

◆ The manufacturer holds the rights to all the software and hardware of the product.

◆ Please refrain from making changes to the device while vehicle is in motion for the purpose of safety.

The intent of this product is to help promote driving safety and protection of users and their investments.

◆ Scope of warranty and responsibilities

This product should only be used as an ancillary device for recording and storing videos while vehicle is in motion and/or parked. The manufacturer will NOT be responsible for the loss that could occur from any recording failures, data loss and product defects while product is in use. The manufacturer does NOT guarantee 100% recording of video coverage. Some videos may not record dependent on varying circumstances. Please drive responsibly and keep all local regulations.

◆ Precautions for using the memory card

Please Check data once a week to confirm proper operations

Format the micro SD memory card twice a month to maximize stability and longevity of the card.

Purchase of a new memory card is recommended every 6 months to ensure best quality of video.

Removal of the memory card or turning its power off while recording is in progress may cause stored data to be deleted.

It is recommended to back up and store important video data once captured on your device.

3. Cautions In Use

Safety precautions must be followed to prevent possible accidents and risks by using the product in a safe and proper manner. The manufacturer is NOT responsible for negligence of manual instructions.

Warning: Serious injuries or death could occur.

Do NOT place the product in a heating device such as a heater, microwave and ovens to dry when wet as this can cause explosion.

Do NOT use chemical detergents such as benzene, thinner or alcohol to clean the device as it can cause fire.

Do NOT disassemble device as it may cause electric shocks and void all warranty

Please operate device while vehicle is parked for safety.

◆ **High-Quality recording of videos**

   This product shoots High Definition videos for clarity both day and night for optimal viewing pleasure. HD videos are taken during vehicle motion and/or while vehicle is parked.

◆ **Wi-Fi Function**

   This product supports 4Ch live videos and recorded video playbacks via smart phone(Android/iOS) using provided mobile application. Wi-Fi reception distance may change due to varying communication circumstances.

◆ **Continuous Recording**

   This product supports continuous recording function that will record videos continuously while in motion and while parked.

◆ **Event (Impact) Recording**

   During vehicle impact, the shock is detected by a three-axis acceleration sensor which records data for 30 seconds total(with 10seconds before impact and 20 seconds after) to be stored in event folder of memory

◆**Recording while parked**

   This product supports recording function while the vehicle is parked with motion and impact triggers.

◆ **Auto Memory Management Cycle System**

   This product has Auto Memory Management Cycle System which deletes files starting with the oldest to the latest in order to continue storing new videos recorded.

◆ **Backup Function**

This product has a backup power function to finish and store video during impact where an impact severe enough may result in unwanted power disconnection.

◆ **Digital zooming**

During video playback on the provided PC viewer, videos can be digitally zoomed in and out for enhanced viewing experience.

◆ **Checking the Recorded Data through the PC viewer**

4 Channel Simultaneous play back is available through the provided viewer program

◆ **Checking the Videos in Real Time**

Once the system is properly installed, the GPS Module will identify the video locations in real time through the usage of video out onto a monitor (HDMI and VGA connections are available)

◆ **Voltage cutoff program with timer is available to prevent battery discharge.**
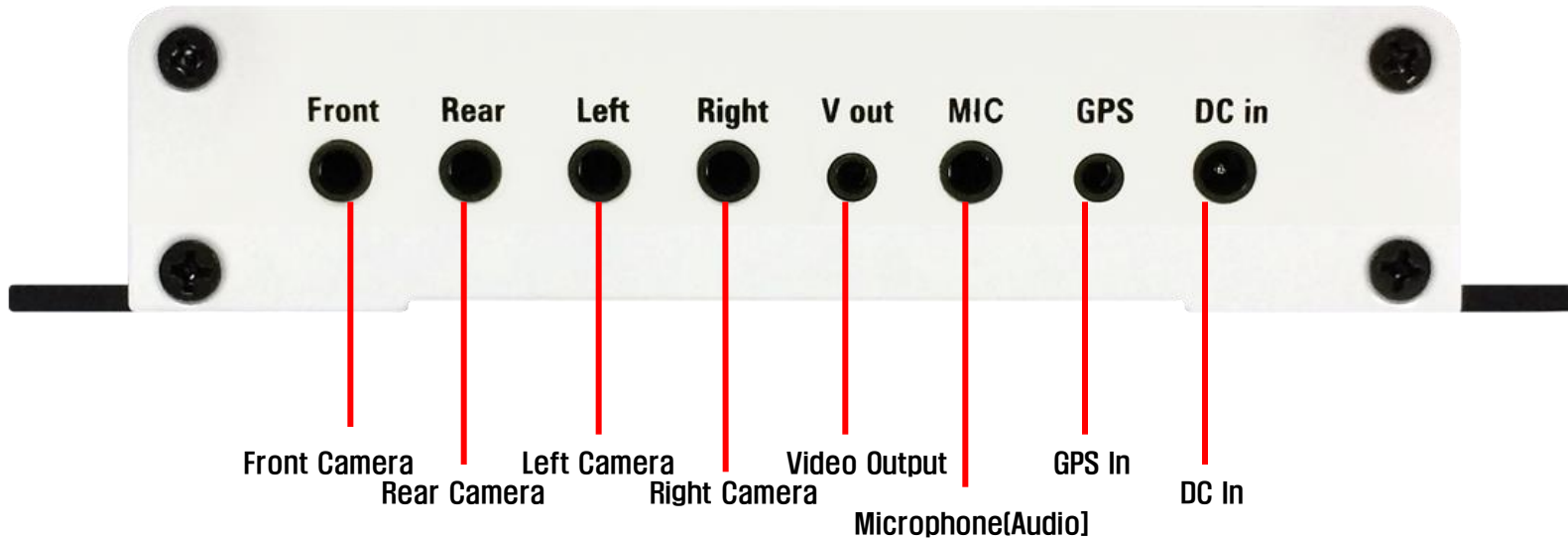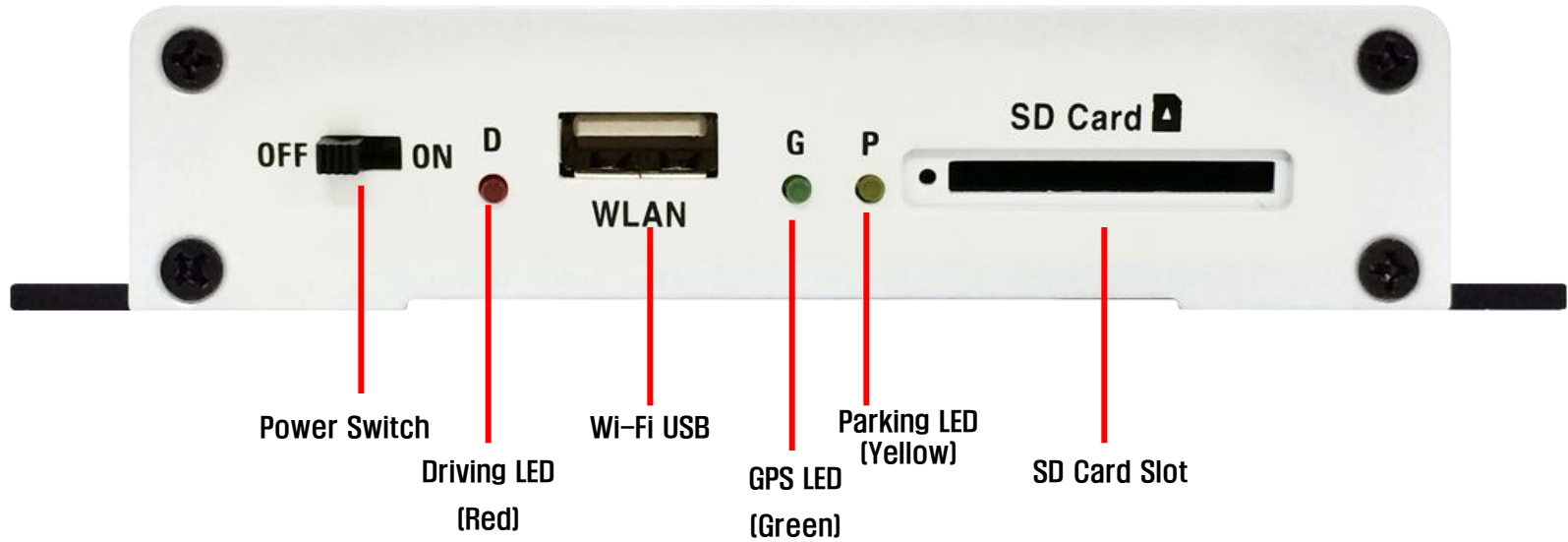
The product has an embedded power cutoff unit, which will help prevent the battery from becoming discharged when continuous power is in use. During the Parking mode, when the voltage reaches a certain level as set for the voltage cutoff, the device will be turned off to prevent itself from causing the battery to be discharged. There are four stages in the voltage cutoff as well as four stages of voltage cutoff with the use of a timer.

◆ **Saving the driving records**

Date/Time/Mileage is recorded while driving and parked through the usage of a properly mounted GPS Module. The information can be seen in the provided PC viewer.

5. Exterior Names and Functions

OFF | ON D WLAN G P SD Card

Power Switch
Driving LED
(Red)
Wi-Fi USB
GPS LED
(Green)
Parking LED
(Yellow)
SD Card Slot

Front Rear Left Right V out MIC GPS DC in

Front Camera
Rear Camera
Left Camera
Right Camera
Video Output
Microphone(Audio)
GPS In
DC In

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6. Functions and Buttons

Buttons	Operation	Status	LED indications	Buzzer
-	Switch on.	System preparation	The yellow and led LEDs are turned on. They will be turned off when the booting process ends.	Long beep
-	Switch off.	The file that is being currently recorded ends safely after the power is turned off.	The yellow and red LEDs will stay turned on until they are turned off at the time of ending.	-
-	Entering the GPS data.	GPS operation	The green LED will blink.	-
Wi-Fi	Formatting the SD card (only possible in the continuous recording mode).	Formatting the SD card after rebooting the system	The green, yellow and blue LEDs will blink alternately.	Long beep when starting, which will be repeated 3 times
	Audio recording ON/OFF	Audio recording ON	The red LED will blink slowly (every 1 second).	
		Audio recording OFF	The red LED will blink normally (every 3 seconds).	
-	Updating.	When successfully updating through the SD card.	The yellow and red LEDs will blink alternately. When the updating process ends, the system will be rebooted for operation.	Short beep, beep when starting\n\nShort beep, beep when ending
		When failing to update through the SD card.	The yellow and red LEDs will be turned off after waiting while staying turned on. The system will be rebooted for operation.	Short beep, beep, beep, beep when failing, which will be repeated 3 times

Buttons	Operation	State	LED indications	Buzzer
Continuous recording	The ACC power is turned on while the battery power is on.	One-minute video files will be stored in the continuous folder.	The red LED will blink every one second (The yellow LED is turned off).	Long beep when the saving process starts.
Event recordings	When shock is caused.	A video, taken from 10 seconds before the incident to the 20 seconds after it, will be stored in the event folder.	The red LED will blink fast every 0.1 second (the yellow LED is turned off)	Short beep, beep when the saving process starts. Short beep only when the process ends.
Recording of motions monitored while parked	The ACC power is turned off while the battery power is on. When some motion or shock happens.	A video, taken from 10 seconds before the motion to the 20 seconds after it, will be stored in the parking folder.	Monitoring: The yellow LED will blink every 1 second. Recording: The yellow LED will blink fast every 0.1 second. (The red and green LED is turned off.)	Enters the parking mode: long beep

Caution: 1. When the GPS connection (reception) occurs, the green LED will blink during the operation, instead of the red LED.

When the is disconnected red LED will blink during the operation, instead of the green LED.

[Automatic updating]

1.   Through the provided viewer installed onto a PC, the updated file can be installed from the memory card automatically. After connecting the Memory to the PC, click the button on the top left side of the viewer' s main screen.

2.   The current firmware version for the firmware updating can be checked through the 4HD MDVR update manager window.

3.   It is required to check whether the firmware update file location is the drive where the memory card is connected.

4.   Click the "Update" button to allow the upgrade file (main_d12-hd-XX_1.00.XXXX-20160106.ko) to be copied into the memory card.

Caution: If the Windows security warning message is displayed after the update button is clicked, the 'Unblock' button must be clicked. If the 'Continuous Block' is clicked, it will be impossible to perform updating afterwards due to security issues related to Windows. Users need to pay attention to it.
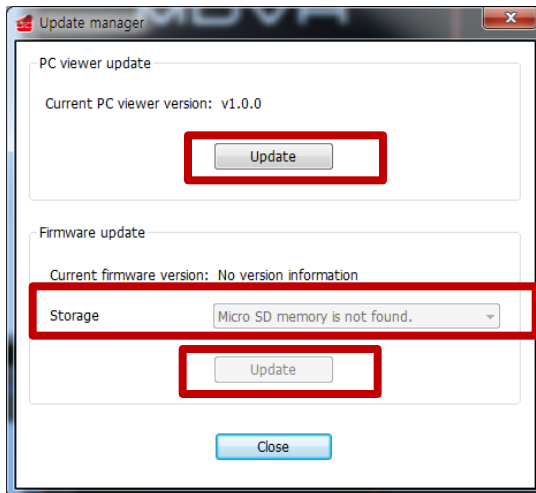
[Automatic updating]

5.   After the power for the black box is turned off, the Memory needs to be inserted into the main body of the black box.

6.   Required to supply power to the black box.

7.   Required to wait for about 10-20 seconds.

8.   As the updating starts, the LEDs will blink and short beeping sound will be generated.

9.   When the updating process ends, the LEDs will be turned off, and, at the same time, a short beep buzzer sound will be generated. After a short while, the black box will get started again.

Caution: Even when the system gets restarted after formatting is performed according to the formatting menu embedded in the main body, the previous setting conditions will be maintained.

[How to upgrade by Wi-Fi]

1.   Run the specific application on user's smart phone.

2.   Touch a remote search menu to Home menu.

3.   Touch a remote firmware upgrade menu after adding and checking the system.

4.   Check if the upgrade is possible after checking the present and the latest firmware version.

5.   Touch the remote firmware upgrade button if the upgrade is available after checking.

6.   As the updating starts, the red and yellow LEDs will blink and short beep sound will be generated.

7.   When the updating process ends, the red and yellow LEDs will be turned off, and, at the same time, a short beep buzzer sound will be generated. After a short while, the Quattro will get started again.

[Manual updating]

1. The firmware update file needs to be copied into the Memory

    The Memory must be formatted first through the specific PC viewer or through the main body of the black box before
    copying the update file (main_d15_1.23.4567-20150226.ko.bin).

2. Required to insert the Memory into the main body of the black box after powering off the black box.

3. Required to supply power to the black box.

4. Required to wait for about 10–20 seconds.

5. As the updating starts, the LEDs will blink and short beeping sound will be generated.

6. When the updating process ends, the LEDs will be turned off and, at the same time, a short beep buzzer sound will
    be generated. After a short while, the black box will get started again.

Caution: When the system gets restarted after the format is performed (according to the formatting menu embedded in
    the main body) the previous setting conditions will be maintained.

After purchasing the product, consumer is asked to check for all components that are included in the package. If a component is damaged or missing, please contact retailer for prompt replacement.

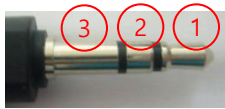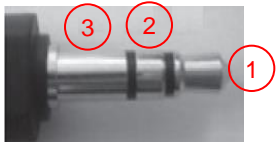| Basic						
	Main Body	USB Wi-Fi	GPS	VIDEO Cable	Continuous Power Cable	Manual
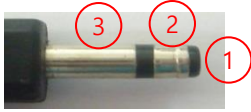
Option			
	SD Memory card (16,32,64,128GB)	External MIC	Cigar Power Cable

The images shown above may appear different from the actual look. Product images and specs are subject to change without prior notice.

9. PIN Layout

Socket	Image	Description
Power (DC socket)		① GND ② ACC ③ BAT(B+)
GPS (2.5ø Phone Jack)		① VCC(3.6~6V DC) ② Rx ③ GND ④ Tx(GPS Signal Output)
AV (2.5ø Phone Jack)		① Video Out ② None ③ GND
VIDEO (3.5ø Phone Jack)		① Video In ② VCC(5.0V) ③ Audio Line-In(Nonuse of rear, left/right) ④ GND
MIC IN (2.5ø Phone Jack)		① MIC ② NC ③ GND

10. Cautions for Installation

▶ It is recommended to install the device in an area with a flat surface. The ignition must be turned off while installing.

▶ Please check the power supply first before installing the system onto a vehicle. Also check to make sure the cameras in front / rear / left / right are functioning properly before continuing to install.

▶ All the necessary components are included in the package for installation. Unless installing power to the cigarette lighter adapter, please seek a professional installer when installing directly to the vehicle fuse box. (Professional knowledge is required to install directly to the fuse box)

▶ Please be sure to insert the SSD or the SD correctly before power is supplied.

▶ Do Not install device in obstruction to the driver's line of sight for safety.

▶ Please neatly tuck away all cables for safety and aesthetics.

▶ Please clean the glass prior to installing cameras for best adhesion.

▶ Installation should be performed in a safe and bright location.

▶ Please note tinted glass and heat wires on rear widows will decrease quality of videos.

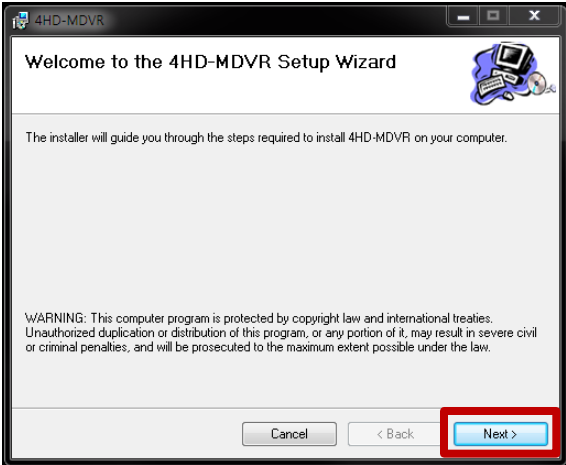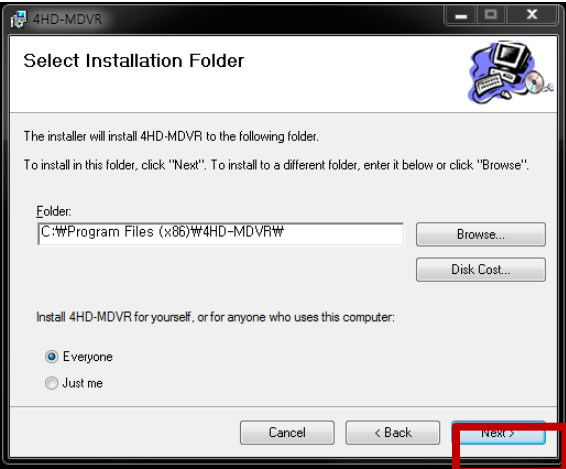▶ Please remove the protective vinyl covers on the front and rear camera lenses before use.

1. Execute 4HD_MDVR.msi, the setup file for the specific viewer for the black box, which is stored in the storage and then follow the procedure as shown below for installing the viewer.
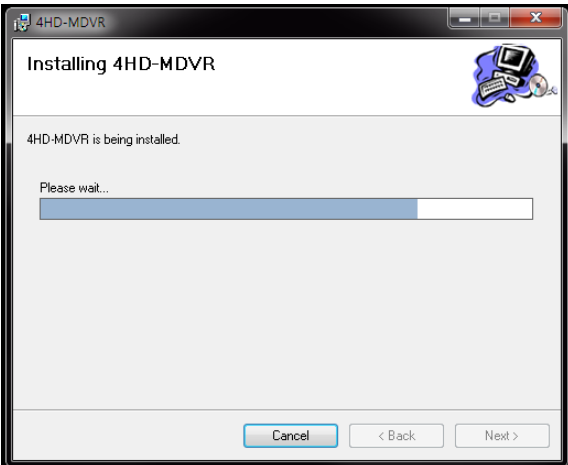
1
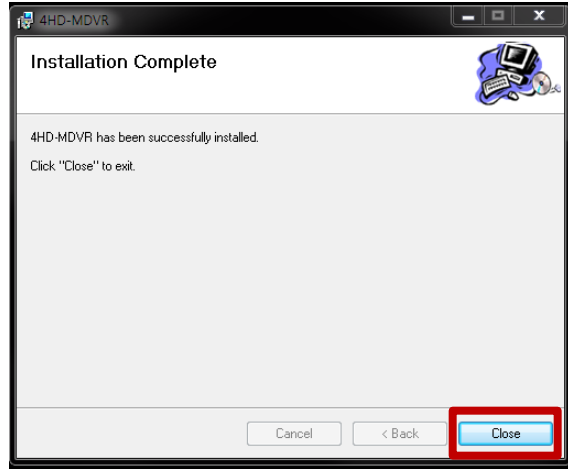
2

3

4

1.   Select the icon on the wallpaper of the Windows or the start menu on the Windows, and check whether "4HD-MDVR"

      is installed as shown below.

2.   Execute "4HD-MDVR".

3.   The viewer can be removed by executing "4HD-MDVR_uninstall" on the start program.

- The information of latitude, longitude, speed and map is displayed only when the GPS module, an optional item, is connected.
- The function for enlarging and minimizing the screen can be used by clicking the target screen, and then moving the mouse wheel button.
- **Warning:** While the specific viewer is being executed, if the "User Account Control" dialog is displayed, user must select the "Yes" button.

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1. **Program version information**

   This provides the version information of the specific viewer and the firmware of the black box and supports the direct link to the home page's download center. The version information can be checked when the storage is connected to a PC. In addition, the specific viewer and the firmware can be updated automatically.

   Warning: While the specific viewer is being downloaded, if the "Windows Security Warning" is displayed, users must select the "Unblock" button.

2. **Full screen**

   For switching between full screen and normal screen.

3. **Minimize**

   For minimizing the specific PC viewer to the windows task bar.

4. **End the PC viewer**

   For ending the specific PC viewer.

5. **Previous/next file playback**

   While a video is being played back, this will help change to the previous file or the next file and play it back.

6. **Move to the previous/next frame**

For moving to a video taken in the unit of every 10 seconds before or after an incident.

7. **Start playback**

For starting to play the selected file back from the list. Play the temporarily recorded video back again.

8. **Stop playback temporarily**

For temporarily stopping the file that is being played back currently.

9. **Stop playback**

For stopping the file that is being played back currently.

10. **Screen print**

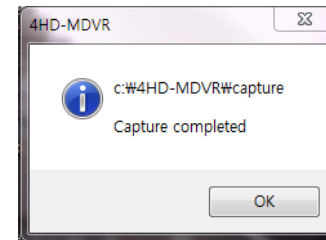For printing out the selected video (Front or rear) in full scale

through a printer.

11. **Screen capture**

For saving the selected video (Front or rear) as a JPG file in full scale.

12. **Control volume**

For controlling the volume ranging from 0 to 10.

13. **Playback speed control**

The video can be played back at the speed of the 1/4, 1/2, 1, 2 or 4-times playback rate.

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14. **Acceleration/Speed graphs**

The toggle buttons individually show the acceleration and speed graphs. The speed graph can be displayed only when the GPS module, an optional item, is installed.

16. **Black box environment setting**

For storing the set environment of the black box in the storage. The setting can be performed after the storage is connected to a computer.

17. **Map on/off**

For displaying the driving location information on a map while a video is being played back. This function can be supported only when the GPS, an optional item, is installed.

18. **Playback list generation and storage formatting**

For retrieving all files or a list of files that are sorted out according to their types, in order to play the data back that are stored in the storage. This function supports the correction of errors that the storage has.

19. **Open file**

Search a recording file to play.

20. **Time Bar Zoom in, Zoom Out**

Zoom in, out of time bar below.

| 50s | 00s | 10s | 20s | 30s | 40s | 50s | 00s | 10s | 20s | 30s |
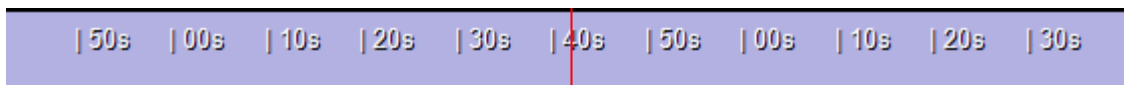
◆ For viewing a video in maximized window while it is being played back, it is required to double-click on the screen.
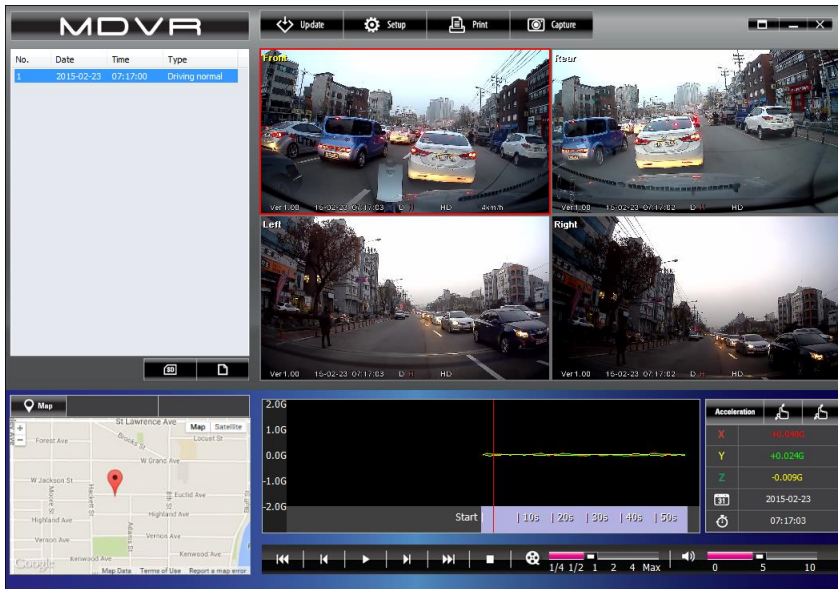
[Normal Window]

[Maximized Window]

1. Maximized window: double-clicking will shift the video to be maximized.

2. Back to the previous screen: While in the maximized window mode, double-clicking the mouse will bring the screen back to the previous screen.

◆ In the maximized window mode, a red-colored digital zooming box will be brought up at the bottom
   left of the screen.

[Before digitally zoomed]

[When digitally zoomed]

1. Scrolling the mouse wheel forwards or backwards will enlarge or reduce the screen.

2. Moving the mouse while clicking it on the screen will move the box onto the target part of the screen.

◆ When it comes to the video data that are stored in the storage of the black box, all of the data or the data that are sorted out based on types can be selected and played back. It is also possible to format, recover and test storage.
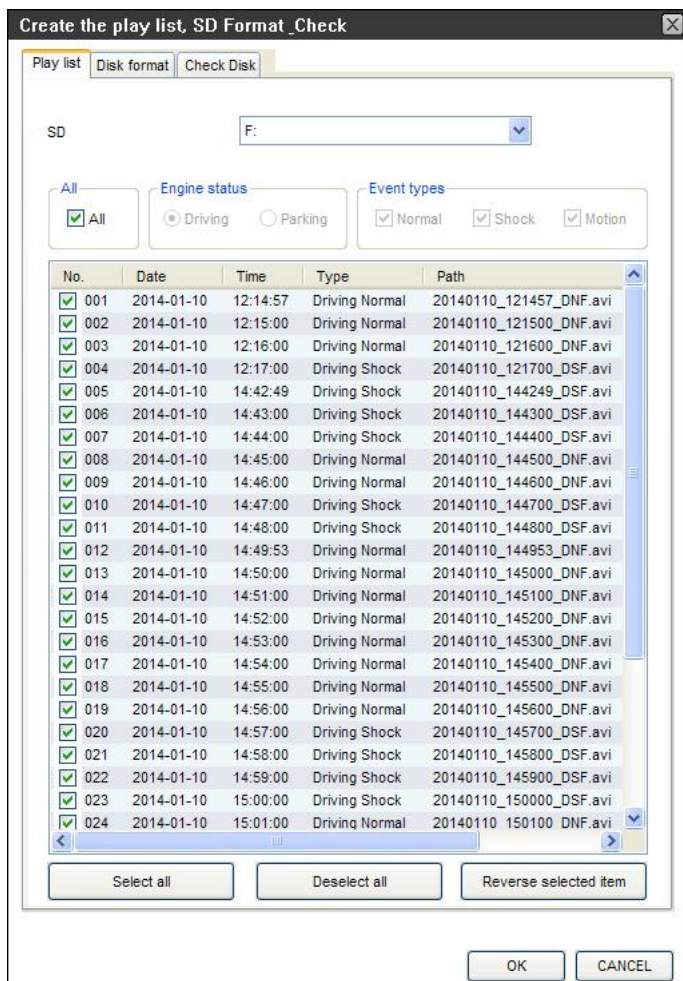
1.   Take out the storage that is inserted in the black box, and connect it to a computer.

2.   Select the [SD] button on the viewer's main screen. Then, as shown in the figure on the left, all the black box data included in the storage will be searched before they are displayed through the playback list tab.

3.   Play list: For selecting the location and type of a video.

4.   SD location: For changing the location of the storage that stores videos.

5.   Type: For selecting the type of a video that the user wants to play again, and playing back the selected video.

6.   Select all, Deselect all and Reverse selected item: For selecting and deselecting the files from the list and also for reversing the state of the selected items.

7.   OK: Playing back after bringing the selected data on the list to the file list window of the main screen.

8.   CANCEL: For ending the playback list generation window and the disk formatting window.

[Gravitational acceleration graphs]

◈ While a video is being played back, it is possible to see the three-axis gravitational acceleration graphs as shown in the figure on the left. The three-axial directions include the front-rear direction, the left-right direction and the up-down direction.

[Speed graph]

◈ While a video is being played back, it is possible to see the driving speed graph or the speed. This can be displayed only when the GPS module, an optional item, is installed.

[Latitude/Longitude/Playback time]

◈ While a video is being played back, it is possible to see the information related to the latitude, the longitude and the playback time as shown in the figure on the left. This can be displayed only when the GPS module, an optional item, is installed.

◆ **Black box setting**: Click the [⚙ Setup] button on the specific viewer's main screen to open the black box setting window as shown below. The window shows the tabs for Viewer setting/Environment setting/Time setting/Audio and video setting/Version information. Please connect the storage to a computer before running this function.
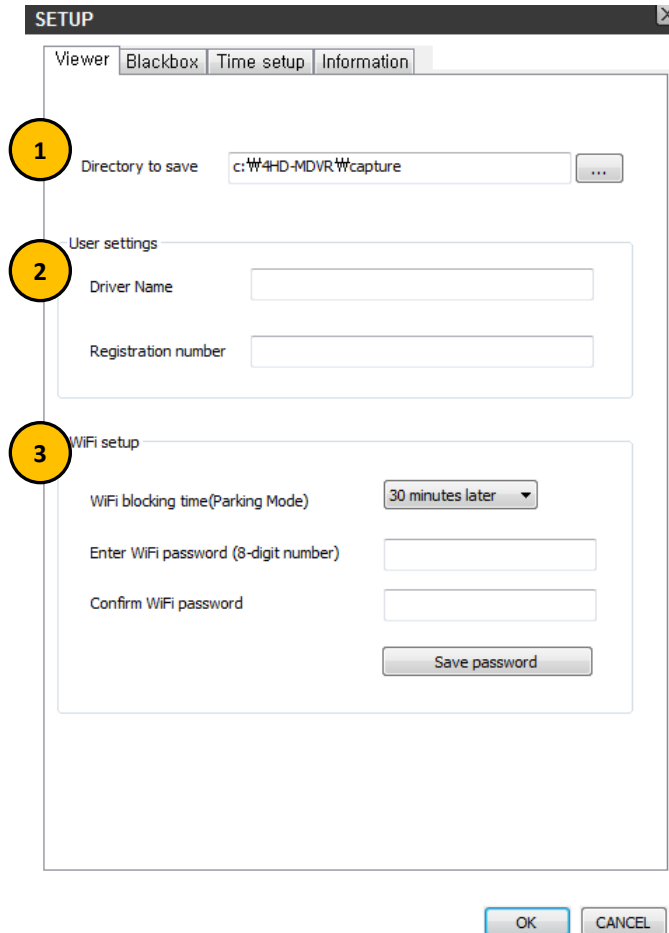
1. Directory to save: For designating the path for the captured images.

2. User settings: For entering the driver's information and the car number. It would be helpful if individual drivers use their own memory cards separately.

3. Wi-Fi setup
   1) Wi-Fi blocking time(Parking Mode)
      For setting the duration of Wi-Fi available
      in parking mode.
      Options: 5 minutes, 30 minutes, 1 hour, 2 hours
      Default: 30 minutes later
   2) Enter Wi-Fi Password(8-digit number)
      For entering the Wi-Fi password.
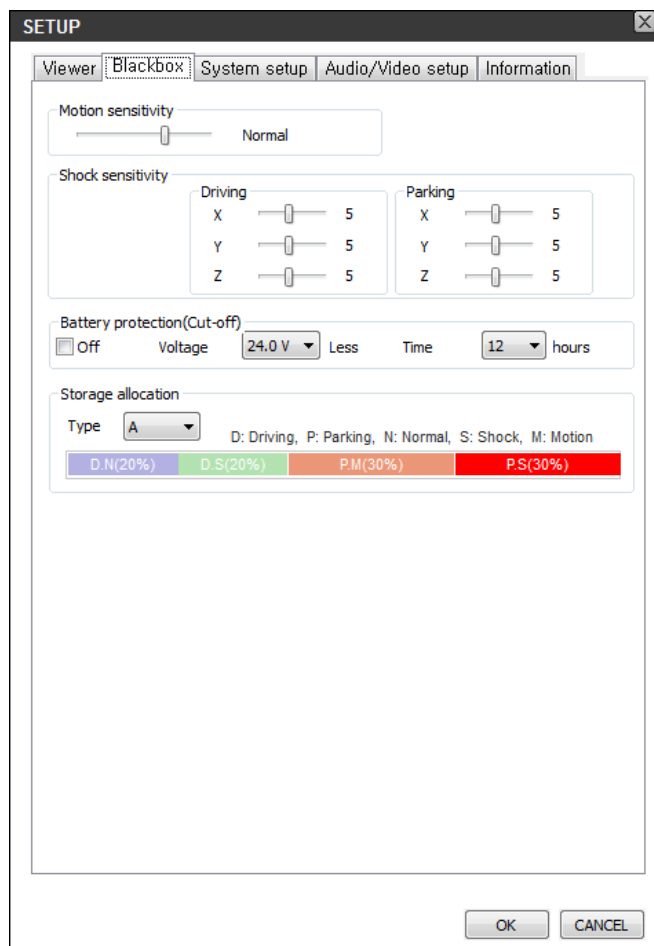
1. Motion sensitivity: For adjusting the sensitivity of the sensor that detects a motion (while parked). It is possible to choose among the four levels: high, medium, low, and no use.

2. Buzzer: For turning on or off the buzzer.

3. Shock sensitivity: For adjusting the sensitivity of the sensor that detects shock. The higher the value becomes, the lower the sensitivity gets, and vice versa (Select: Stages 1-10)

4. Battery protection(Cut-off): For setting the cutoff voltage and the cutoff time. The cutoff will take place when one of the two conditions is met. There are four stages of the cutoff reference voltage that can be selected,
   12V : 11.6V, 11.8V, 12.0V, 12.2V, 12.4V
   24V : 23.6V, 23.8V, 24.0V, 24.2V, 24.4V

5. Storage allocation: For deciding the disk space usage.

   D: Driving, P: Parking N: Normal, S: Shock, M: Motion

   A : D.N 20%, D.S 20%, P.M 30%, P.M 30%

   B : D.N 10%, D.S 30%, P.M 40%, P.M 20%

   C : D.N 40%, D.S 20%, P.M 20%, P.M 20%

   D : D.N 60%, D.S 40%

6. Video: For setting the video quality of each channel.

   Options: STANDARD, HIGH or SUPER

7. Frame rate: For setting the frame rate of each channel.

   Options: 1, 5, 10, 15, 20, 25 or 30 frames per second

8. Mirror, Flip : For setting the Mirror and Flip of each channel.

9. Audio record: For turning on or off the audio recording.
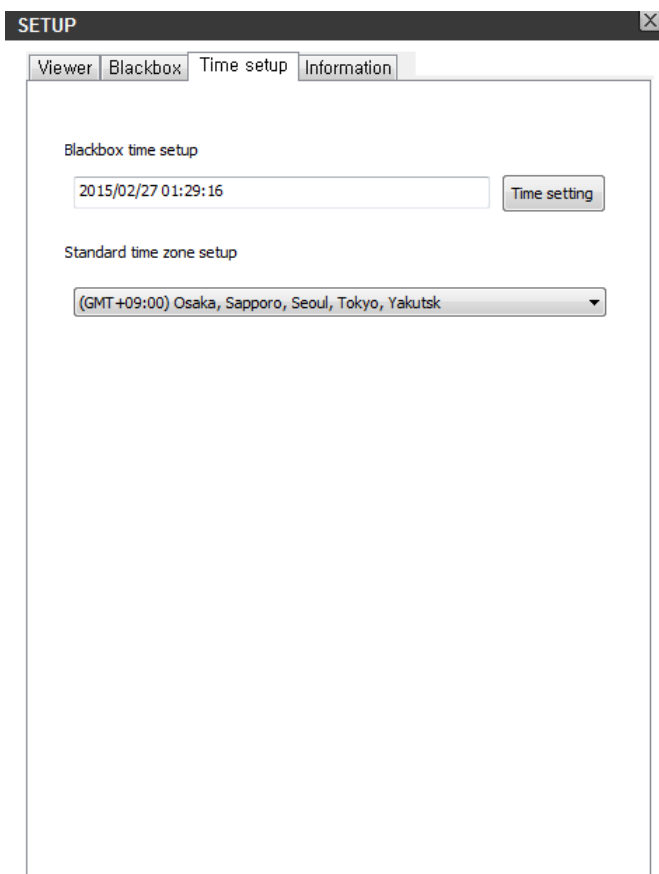
[Time setting]

1. It is possible to set the black box time and the standard time by selecting the time setting tab.

2. Blackbox time setup: If there is no GPS module in the product, it will be impossible to set the black box time. It is required to insert the storage into the black box unit immediately and supply power to it after setting the time in order to minimize the difference between the set time and the current time.

3. Standard time zone setup: For setting the GMT time for individual countries. The default will set as the time read from the PC (Korea standard time – GMT +09:00 Seoul)

4. Pushing the Ok button when completing the selection process will complete the environment setting process.
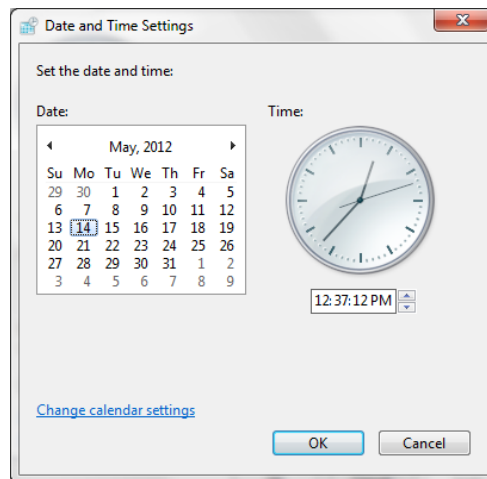
Tip: It will help reduce the difference between the black box time and the current time if the user changes the time through the [Date and Time Information] menu and then insert the storage into the black box.

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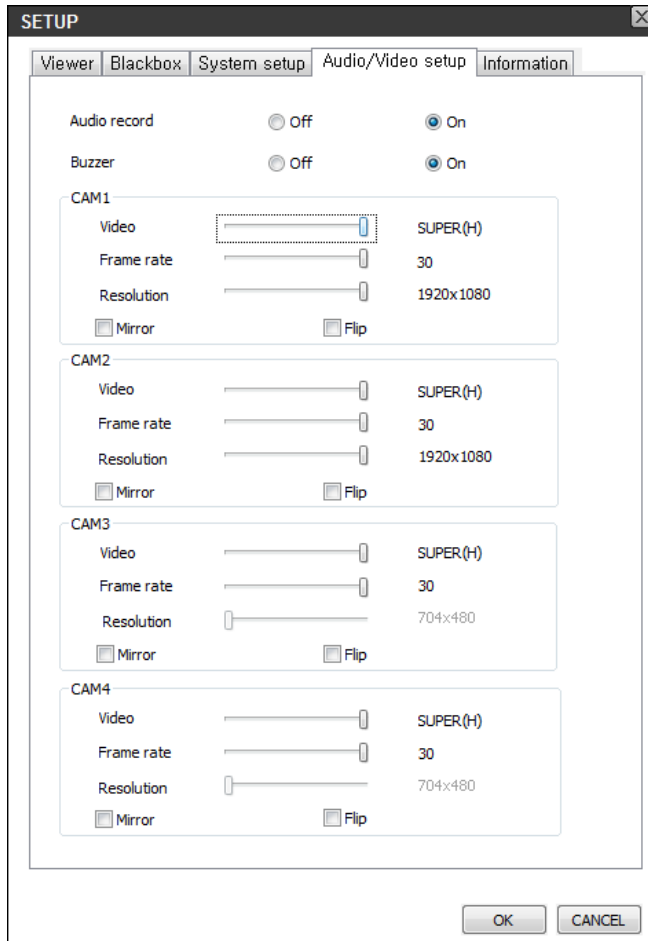
[Audio and Video setting]

1. Audio Recording: Save audio recorded file to CAM1 with external Microphone input, possible to set audio record on/off.

2. Buzzer Setting : Buzzer(Beep) on/off setting is available.

3. Possible to set Image Quality, Frame rate and Resolution.

- Video Image Quality : Possible to set Image Quality of Camera 1~4 CH. [Normal/ High/ Very High]

- Frame Rate : Possible to set Frame Rate of Camera 1~4CH. [1/5/10/15/20/25/30FPS]

- Resolution : Possible to set Resolution of Camera 1~4 CH. [1920X1080/ 1280X720/ 704X480]

4. Video Reverse
    - Left/Right (Mirror): Set Mirror or Non-Mirror.
    - Up/Down(Flip): Set Flip or Non-Flip.

20. Checking and Recovery of Storage

◆ Checking and recovery of the SD card: This process is for correcting errors that the SD card has or finding and recovering faulty sectors. If other applications are accessing the SD card, they should be ended before continuing this process.

[Storage checking and recovery basic screen]
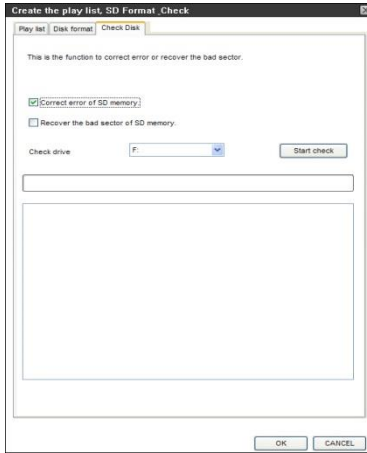
1. Take out the SD card that is inserted in the Quattro and connect it to a computer.

2. Selecting the [SD] button on the viewer's main screen will bring up the SD card checking and recovery tab, which will help check and recover the SD card as shown in Figure (1).

3. Checking the SD card will help detect basic errors of a memory card, and also help correct errors, detect and recover faulty sectors.

4. The Figures (2) and (3) show the test results of checking the memory card.

[Normal SD card test results 1]
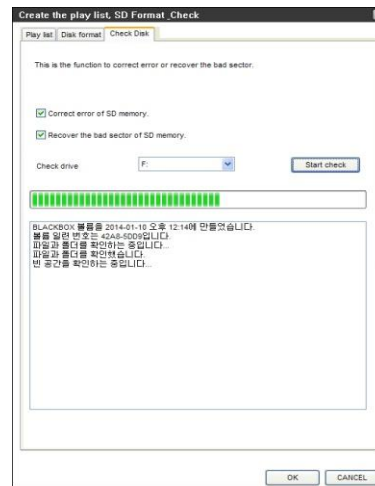
[Normal SD card test results 2]

21. Preparations for using the Wi-Fi function

The Wi-Fi function will be automatically turned on when the Quattro is booted up if the mini USB Wi-Fi dongle is connected.

1. Connect the mini USB Wi-Fi dongle to the main body.
2. When the mini USB Wi-Fi dongle's green LED blinks, it means that the system is operating normally.

[Parking mode]

1. When driving mode is set to parking mode, the mini USB Wi-Fi dongle connection will be turned off.

[For Android phones]

1. Execute "Play Store" icon from the smartphone.
2. Search "4HD MDVR" through the search window.

[For iPhones]

1. Execute "App Store" icon from the smartphone.
2. Search "4CH MDVR" through the search window.

Precautions:
- Downloading can take place only for smartphones based on the Android or iOS.
- Impossible to have simultaneous accesses for the link with the black box.
- While the Quattro is linked, the use of Internet is restricted.
- Video playback or some functions may not work well in some types of smartphones.
- The connection distance may vary depending on the environment and communication related to using the system.

◆ Wi-Fi Connection - Android

[Password Settings]

1. Select [Real Time Monitoring] or {Remote Search].

2. Touch **1** button and mobile list is opened.

3. Select searched mobile and insert initial password (12345678).

[Mobile add or delete]

Touch **2** button to add or delete mobile.
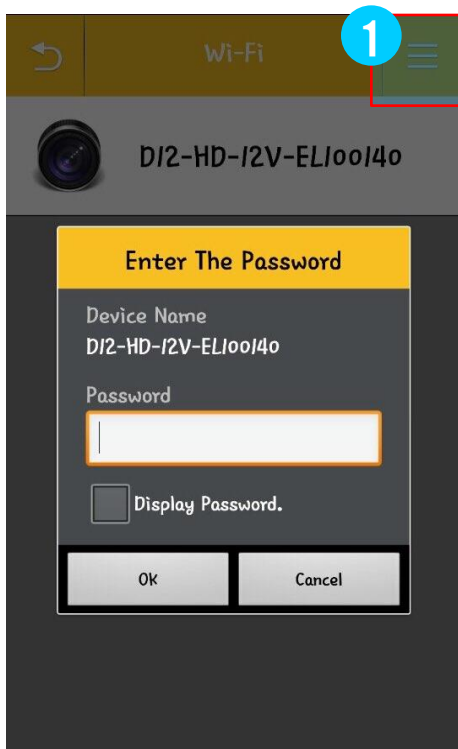
[Password Settings]   [Mobile add or delete]

This unit has a default password for customer's convenience. Please change the password to your preferred setting for security purpose. User can change the password by touching **2** button with an 8 digit numeric combinations.
※ User can change password through the Provided program.

◆ iPhone Wi-Fi Connection
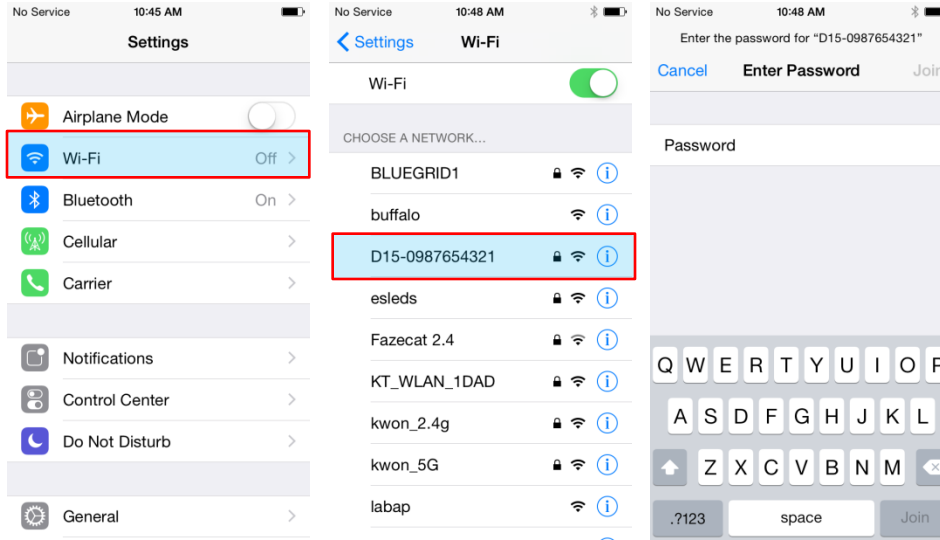
[Wi-Fi Settings]   [Select the Wi-Fi name]   [Input Password]

1. Select [settings] – [Wi-Fi].

2. Select the searched name of unit that is supplied and input the password.
   Default password is '12345678'

3. Once Wi-Fi is confirmed ("connected") user can begin using Wi-Fi App.

This unit has a default password for customer's convenience. Please change the password to your preferred setting for security purpose. User can change the password on the main display menu with an 8 digit numeric combination.   ※ User can change password through the Provided program.

◆ Main Menu
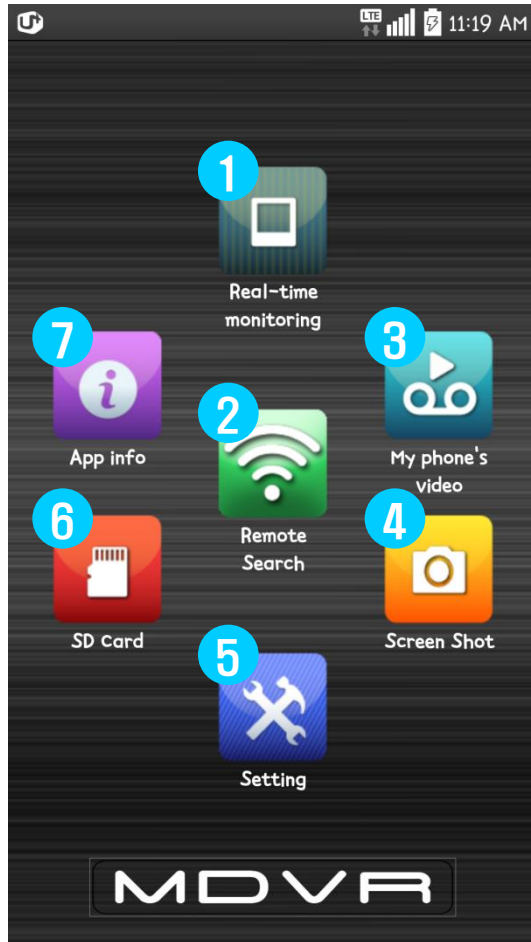
1	Real-time monitoring	Real Time Live Display for Front and Rear view
2	Remote Search	Remote playback and operation for setup, SD card format, Firmware upgrading and Emergency set.
3	My phone's video	Playback and upload to Youtube through remote search and download.
4	Screen Shot	Check live snap shot
5	Settings	Android - Support SD card set and Smart phone archiving location set. iPhone – Set black box password.
6	SD Card	Playback recorded data when the SD card is inserted into the Android phone ※ iPhone not support
7	App info	Displays software version, website, customer support center information.

◆ Real Time Monitoring ▷
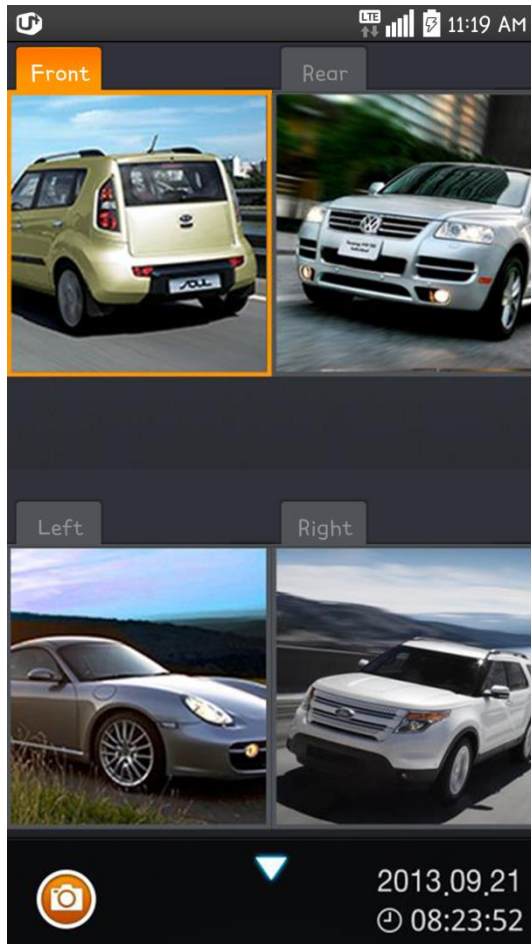
- Main Menu > Real Time Monitoring > Select a Model

  : User can check front , rear , right, left view as real time.

- User can make Full screen mode or split screen mode with double

  touch on the screen.

- User can select a front, rear, left, right view at the full screen mode

  through an arrow direction that activates when touching the

  screen once.

- User can see rotated screen when the smart phone has an auto

  screen rotation feature.

User can screen capture that selected image through the capture
button at the left bottom. 📷
※ User can check the captured image [Main menu – Screen shot]

◆ Remote Search

Device
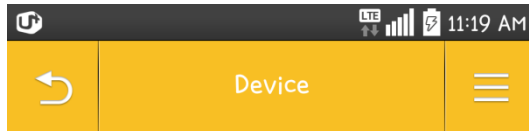
D15-201502170002

1 Remote File Search
2 Remote Setup
3 Emergency Setup
4 Remote SD Card Formatting
5 Firmware Upgrade
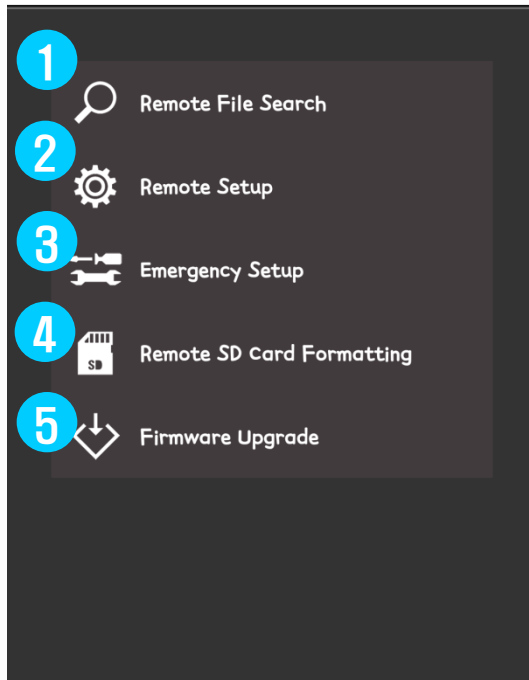
1. Remote File Search : User can check the recorded image list and playback the downloaded video

2. Remote Setup　　 :　User can check the image at [My phone image]

3. Emergency Setup　 : Remote Setup
(Date and time, Video, Audio and Sensor sensitivity, blocking voltage)

4. Remote SD Card Formatting　: SD card format remotely
　※ iPhone can format at [remote setup]

5. Firmware Upgrade : Remote firmware upgrade

◆ Remote File Search

- User can check the recorded image data through the mobile app.
  The data is saved as an event list as [Entire, Driving, Driving Shock, Parking Motion, Parking Shock]. (Recorded image file type is an avi format and each file is 1 minute.)

- User can playback the selected image and smart phone will download the selected image from black box.
  Use can check at [Main Menu > My Phone Image]

- User can sort and select from the recent or later file with [Time Sort]

- User can not delete the original image through remote search

- FBLR xx numbering 0=front, 1=rear, 2=left, 3=right image
- If some smartphones will not work properly, due to its own performance then install the exclusive smart phone player app.

◆ Remote Setup
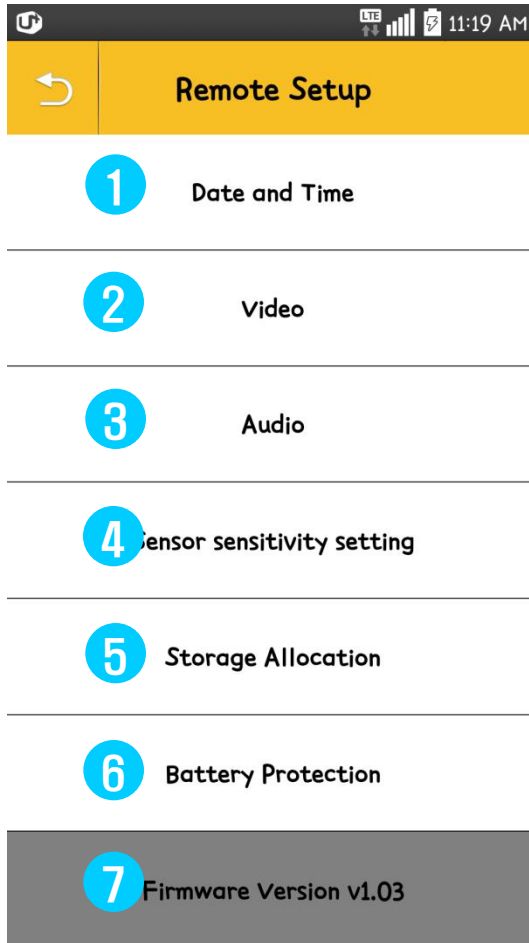
Remote Setup	
① Date and Time	1. Date and Time : Set the standard date and time
② Video	2. Video : Set resolution, frame rates, video quality.
③ Audio	3. Audio : Set audio recording and buzzer sound on/off
④ Sensor sensitivity setting	4. Sensor Sensitivity : Set Sensitivity level for driving, parking motion.
⑤ Storage Allocation	5. Storage Allocation : Set the storage space rates for recording type.
⑥ Battery Protection	6. Battery Protection : Set battery discharge blocking on/off, blocking voltage, blocking time.
⑦ Firmware Version v1.03	7. Firmware Version : Current firmware version

◆ Remote Setup > Details

Date and Time

Set Time
2015/3/9 11:24:11

Set Global Time

(GMT+09:00) Osaka, Sapporo, Seoul, Tc ▼

| OK | Cancel |

Video

Channel Select

Front ▼

Frame Rate

30 ▼

Quality Settings

Super ▼

Mirror
○ ON   ● OFF

Flip
○ ON   ● OFF

| OK | Cancel |

[Date and Time]

Set date and time. Select Time Zone

Black Box will reboot when date and time is change.

[Video]

User can set each view's Frame Rates, Video quality, Mirroring

and Flip function.

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◆ Remote Setup > Details
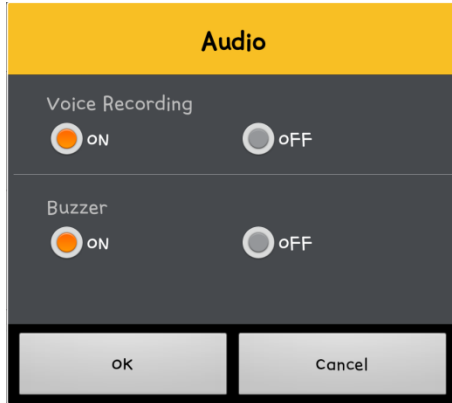
[Audio]

User can set Voice recording on/off and Buzzer on/off

[Sensor sensitivity settings]

User can set driving status, parking motion and motion sensitivity.

- Driving : 1 to 10 steps

- Parking : 1 to 10 steps

- Parking motion detection sensitivity : none / low / medium / high

◆ Remote Setup > Details

Storage Allocation

20:20:30:30
10:30:40:20
40:20:20:20
60:40:0:0

Normal | Motion
Shock | Shock
Driving | Parking

OK | Cancel
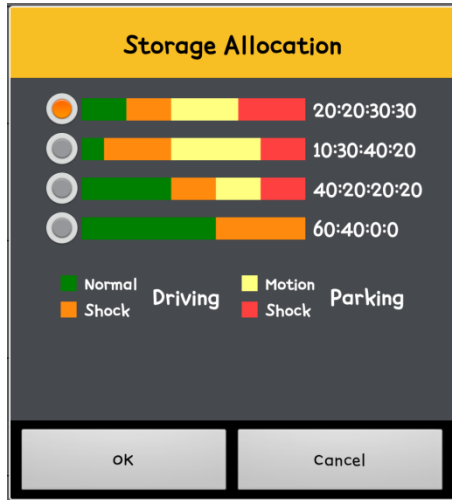
[Storage Allocation]

User can set 4 different recording patterns with recording rates for Driving, Driving shock, Parking motion and Parking shock.

- A : Driving Normal 20%, Driving Shock 20%, Parking Motion 30%, Parking Shock 30%
- B : Driving Normal 10%, Driving Shock 30%, Parking Motion 40%, Parking Shock 20%
- C : Driving Normal 40%, Driving Shock 20%, Parking Motion 20%, Parking Shock 20%
- D : Driving Normal 60%, Driving Shock 40%, Parking Motion 0%, Parking Shock 0%

Battery Protection

Block Discharge Setting
☐ oFF

Blocking voltage | 12.0 V ▼
Time under | 12 hours ▼

OK | Cancel
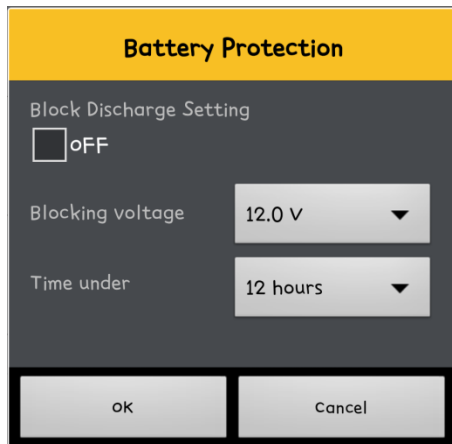
[Battery Protection]
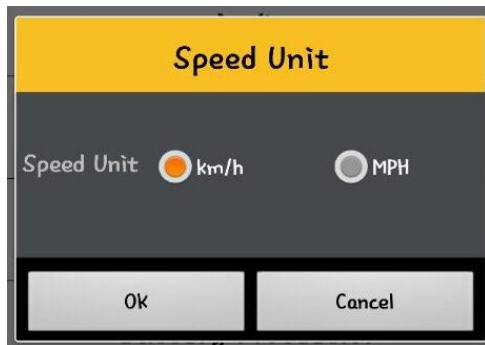
User can set Discharge protection on/off, blocking voltage on/off

and blocking duration.

Blocking Voltage :

- 12V : 11.6, 11.8, 12.0, 12.2, 12.4

- 24V : 23.6, 23.8, 24.0, 24.2, 24.4

- Blocking Duration : None, 6 Hours, 12 Hours , 24 Hours, 48 Hours

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◆ Remote Setup > Details

Speed Unit

Speed Unit ⦿ km/h ◯ MPH

Ok   Cancel

[Speed Indicate Unit]

Set Vehicle Speed Unit either km/h or MPH.

Vehicle Information

Vehicle (License plate) Number

Ok   Cancel

[Vehicle Information]

Set information of Driver's vehicle.

◆ Emergency Setup
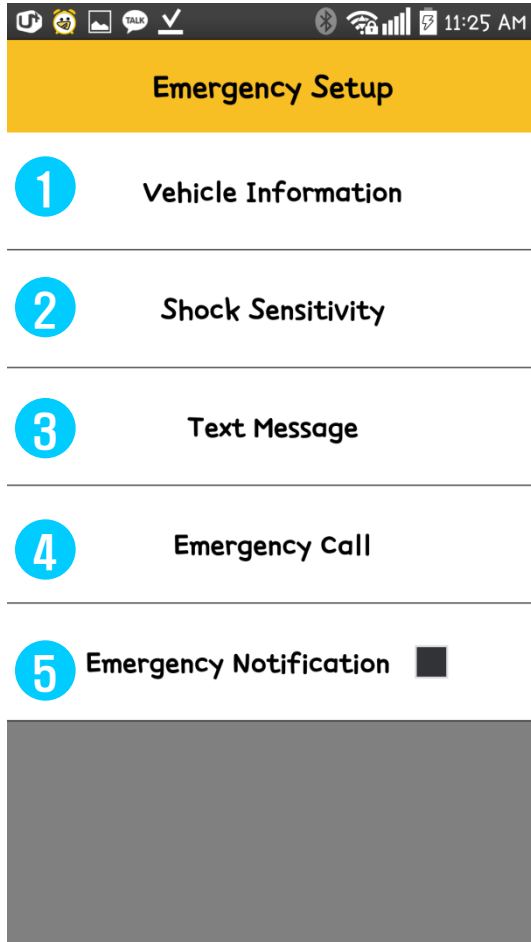
- User can set 'sending message and voice" in an emergency situation or upturn.
- User can set vehicle Information(Plate number, Driver Name), Shock sensitivity when Emergency function is activated, Emergency Notification.

※ IPhone does not support Vehicle information and text message.

Emergency function is activated when the smart phone is connected to black box through Wi-Fi.

◆ Remote SD card Formatting

User can format the SD card remotely.

※ iPhone : [Remote Setup – Remote SD Card formatting]
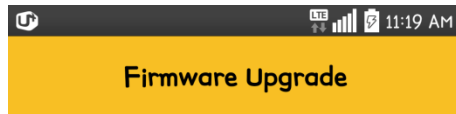
◆ Firmware Upgrade – Android

- User can upgrade the black box firmware remotely without using the SD card directly.
- Application will show 'updating with latest version' when the current version is lower.

※ iPhone firmware upgrade – Refer to next page.

- Black box will reboot when the SD card format and firmware upgrade successfully completes.
- Try to connect later when the Smart phone can't connect and there is a delay. External environments can affect connection.
- Date fee can bill to smart phone user when remote firmware upgrading. It is up to smart phone users to accept this condition.

◆ Firmware Upgrade – IOS
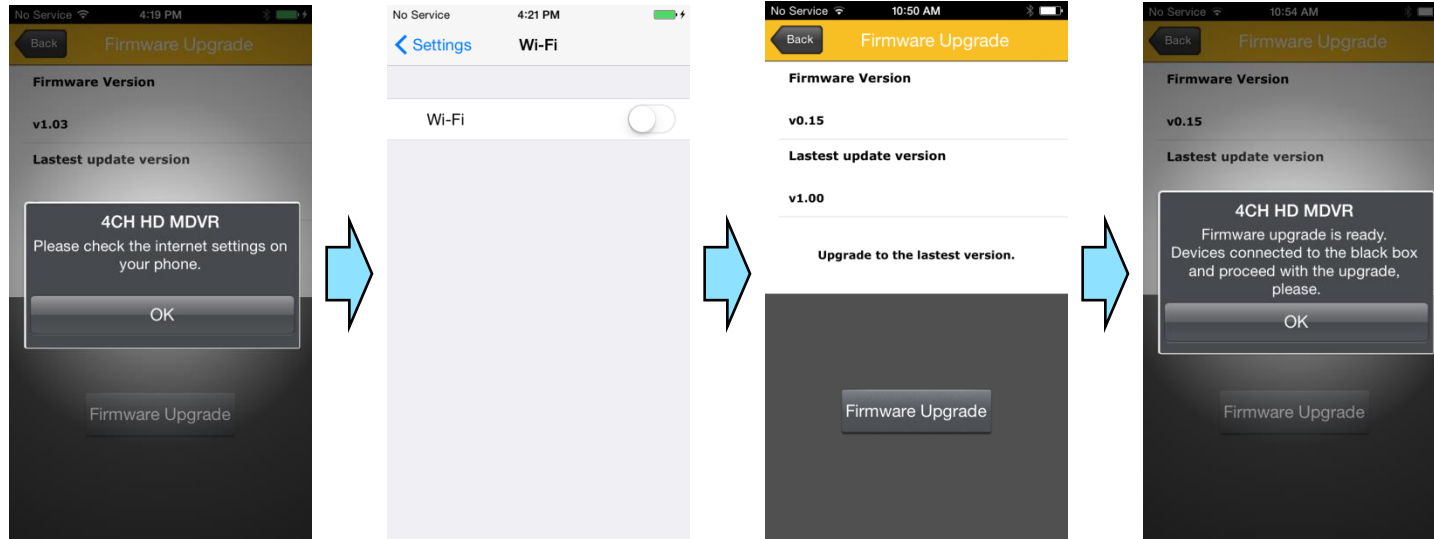
1. User will see a message saying "connect 3G/4G" when remote upgrading. Connect to Wi-Fi or a 3G/4G wireless network.

2. Connect to app and check the current firmware version and if you need upgrade then touch the [Firmware Upgrade]

3. After downloading the firmware, a message will show "Ready for Firmware upgrade". Connect to Black box then firmware upgrading will begin.

4. Black box will be restart when firmware upgrading is complete.

* User can download latest firmware through wireless network only.

- Black box will reboot when the SD card format and firmware upgrade successfully completes.
- Try to connect later when the Smart phone can't connect or there is a delay. External environments can affect connection.
- Date fee can bill to smart phone user when remote firmware upgrading. It is up to smart phone users to accept this condition.

◆ My phone's video

- User can check the downloaded video with [Remote Search]

  (Saved format is in AVI and every data has 1 minute length video)

- User can play videos without download.

. Select to show [Time sorting] and [Delete] menu at the bottom.

  - [Time Sorting] : Sort by latest video or oldest video.

  - [Delete] : Delete all or selected

  - [Youtube Upload] : User can uploading the video to Youtube with smart

    phone.

- FBLRxx numbering 0=front, 1=rear, 2=left, 3=right image
- If some smartphones will not work properly due to its own
  performance then install the exclusive smart phone player app
- Date fee can bill to smart phone user when upgrading the video
  to Youtube. It is up to smart phone users to accept this condition.

◆ Screenshot
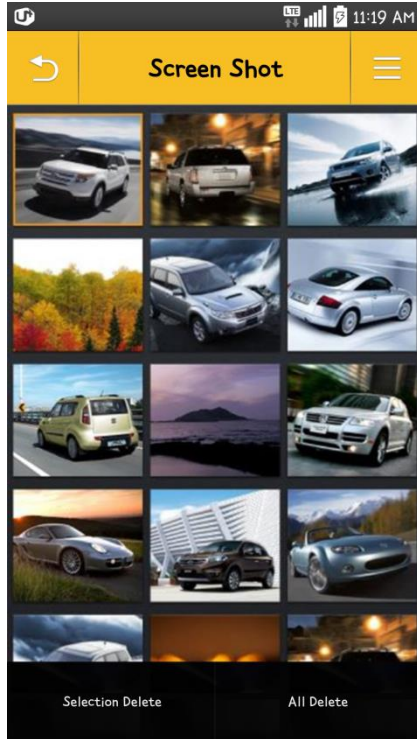
[Screen Shot List]
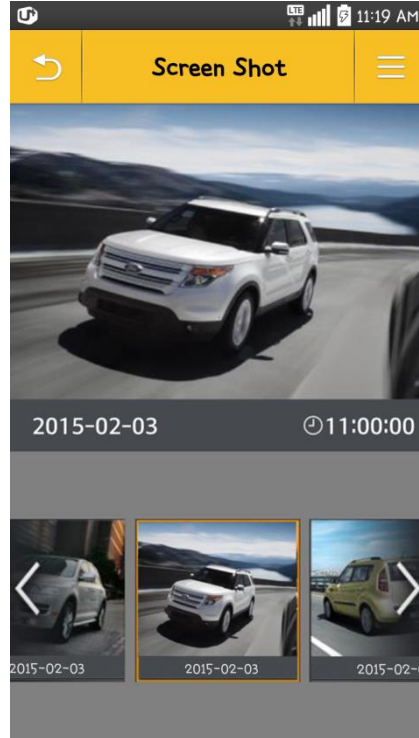
[Screen Shot Detailed]

- User can check images captured with [Real Time Recording] mode.

- User can check bigger image with detailed screen from the [Screen Shot] List.

- User can delete all or selected images with this button.

User can delete the selected image through long duration on the touch screen.

◆ Settings ⚙
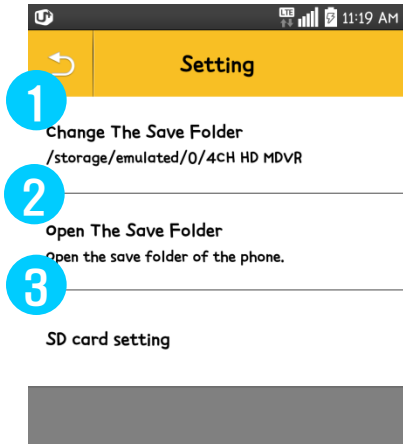
[Android]

1. Change saving path : Changing the saving path to Smart phone.

2. Load to default the saving folder : Return to the default path.

3. SD card setting : User can set the black box values. Insert the black box SD card to smart phone.

4. Settings : Refer to [24. App – Remote Search > Remote Setting]

- Try to connect later when the Smart phone can't connect or there is a delay. External environments can affect connection.
- Date fee can bill to smart phone user when remote firmware upgrading. It is up to smart phone users smartphone contact condition. .

[IOS]
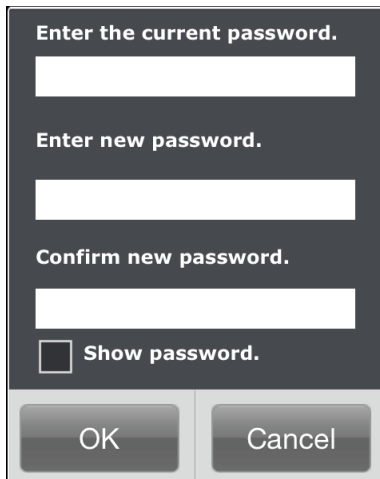
1. User can set Black box device password.

2. Password must be 8 numerical digits. Black box will reboot after password is set.

3. If user changed the password then input the Wi-Fi password again in order to connect.

This unit has a default password for customer convenience.
Please change the password in case of an abnormal connection.
User can change the password on the main display menu and set the 8 digit numbers.
※ User can reset the password through the exclusive viewer only.

◆ SD card

- User can delete the black box SD card data. Insert the black box SD card to smart phone.

- Data is sorted by [Entire, Continuous, Event, Parking Motion, Parking Shock] (Data format is AVI and stored in 1 minute.)

. Select [≡] , will show [Time sorting] and [Delete] menu at the bottom.

  - [Time Sorting] : Sort by latest video or oldest video.

  - [Delete] : Delete all or selected

  - [Youtube Upload] : User can upload the video to Youtube with smart phone.

❖ iPhone not support

- FBLRxx numbering 0=front, 1=rear, 2=left, 3=right image
- If some smartphones will not work properly due to its own performance then install the exclusive smart phone player app

[For Android phones]

1. Execute "Play Store" icon from the smartphone.
2. Search "Quattro" through the search window.

Precautions:
- Downloading can take place only for smartphones based on the Android OS.
- Impossible to have simultaneous accesses for the link with the black box.
- While the Quattro is linked, the use of Internet is restricted.
- Video playback or some functions may not work well in some types of smartphones.
- The connection distance may vary depending on the environment and communication related to using the system.

1. Black box folder: For storing data. Individual video files will be stored at every 1 minute continuously.

  - **Continuous file ex**) blackbox₩15₩02₩23₩07₩20150223_071700_DNB.avi : A continuous driving file of rear camera at 07:17, February 23, 2015.

  - **Event file** While in the continuous recording mode, if there is shock or if needed to record an event manually, a video file of the incident, taken for 30 seconds totally from 10 seconds before to the 20 seconds after it, will be stored.

  ex) blackbox₩15₩02₩26₩20150226_113000_DSB.avi : An event file of rear camera from 11:30 00 sec to 59sec, February 26, 2015.

  -**Parking file:** While in the parking mode, if there is a motion monitored while parked, a video file of the incident, taken for 30 seconds totally from 10 seconds before to the 20 seconds after it, will be stored.
  ex) blackbox₩15₩02₩27₩01₩20150227_012510_PSF.avi: A parking shock file of front camera from 01:25 10sec to 40sec, February 27, 2015.

  ex) blackbox₩15₩02₩26₩23₩20150226_230017_PMF.avi: A parking motion file of front camera from 23:00 17sec to 47sec, February 26 2015.

  -**Log file:** For storing various system logs, shock levels, events and hourly GPS-based positions.
  When the usable memory is exceeded, the oldest file will be deleted before the storing process continues

  ex) blackbox₩15₩02₩26₩23₩log.txt : A system information file generated from 23:00min to 23:59min, February 26 2015.

2. **Setup folder**: For the user setting.

3. **4hd_mdvr_v1.0.0_150226.msi** : A file for installing the specific PC viewer.

[Table1] Storage assignment for each recording mode by type and memory   Unit: MB

Type	Capacity(GB)	Capacity(MB)	Reservation	95%	Continuous	Parking	Event
A	16	16,384	819	15,565	3,113	9,339	3,113
A	32	32,768	1,638	31,130	6,226	18,678	6,226
A	64	65,536	3,276	62,260	12,452	37,356	12,452
A	128	131,072	6,553	124,519	24,904	74,711	24,904
B	16	16,384	819	15,565	1,557	9,339	4,670
B	32	32,768	1,638	31,130	3,113	18,678	9,339
B	64	65,536	3,276	62,260	6,226	37,356	18,678
B	128	131,072	6,553	124,519	12,452	74,711	37,356
C	16	16,384	819	15,565	6,226	6,226	3,113
C	32	32,768	1,638	31,130	12,452	12,452	6,226
C	64	65,536	3,276	62,260	24,904	24,904	12,452
C	128	131,072	6,553	124,519	49,808	49,808	24,904
D	16	16,384	819	15,565	9,339	0	6,226
D	32	32,768	1,638	31,130	18,678	0	12,452
D	64	65,536	3,276	62,260	37,356	0	24,904
D	128	131,072	6,553	124,519	74,711	0	49,808

[Table 2] Storage assignment ratio for each recording mode by type   Unit: %

Type	Continuous	Parking	Event
A	20%	60%	20%
B	10%	60%	30%
C	40%	40%	20%
D	60%	0%	40%

◆ Name : VTR400E

◆ Size : 105 x 107 x 22 mm (Main Body)

◆ Storage Device and Capacity : 32,64,128GB Class 10 MLC SD Memory Card

      (Up to ~128GB / MLC Type SDXC Card Class 10 is recommended)

◆ Recording : Continuous recording, event recording and recording of monitored events while parked

◆ Front Camera : Full HD / HD / VGA

◆ Rear Camera : Full HD / HD / VGA

◆ Left, Right Camera : HD / VGA

◆ Saving frame rate : Drive Mode - Max. 120 fps / Parking Mode – Max. 120 fps (30fps/CH)

◆ Saving resolution : Drive Mode – Full HD / HD / VGA / Parking Mode – Full HD / HD / VGA

◆ Audio : External Microphone

◆ Video Output : Stereo Jack (3-axis)

◆ Acceleration sensor : 3-axis

◆ G P S : SIRF-IV (Option)

◆ Working Voltage : DC 12V / 24V

◆ Power Consumption : Max. 7.2W (when Monitor, GPS, Camera connected)

◆ Operating temperature : -4℉ ~ 158℉ (-20℃ ~ 70℃)

◆ Storage temperature : -40℉ ~ 185℉ (-40℃ ~ 85℃)

◆ OS for PC Viewer : Windows XP or Higher Versions

※ The exterior and specification of the product may change without any notice in advance for the purpose of improving the product .

26. Warranty

The product warranty period is 1 year.

Except for the main body, separate warranty periods will be applied for ancillary components and expendable items.

◆ The warranty service will be provided based on what is described in the warranty.

◆ The warranty period will be calculated from the purchased date, so, users must provide purchased date info and receipt.

◆ Refer to the 'consumer compensation regulations' for more details of the warranty service.

◆ If replacement is required, all the replacement parts will be new or refurbished similarly

◆ Manufacturer is not responsible for repairing or replacing until a defective product is returned. (No Refunds will be given)

◆ Users are required to keep the warranty and the product serial number as they will not to be reissued.

◆ Be careful about copy products as the company does not provide services for the products that are not authentic.

Product warranty		
Product name	VTR400E	
Manufacturing No.		
Warranty period	1 year from the purchased date of	
Customer	Name	Contact
	Address	
Sold by	Name of the shop	Contact
	Address	

	Cases that require consumer compensation		A/S service within the warranty period	A/S service after the warranty period
Failures of the performance or the functions occurs naturally while using the product in normal conditions.	When a major repair work is required within 10 days after purchasing the product		Replacement	None
	When an important part needs to be repaired within 1 month after purchasing the product.		Replacement	
	When a major repair work is required within 1 month after the product is replaced.		Replacement	
	When impossible to replace the product		Refunding	
	When possible to repair	When a defect is found	Free-of-charge repair	Paid repair or paid replacement
		When failure occurs (4th occurrence) again even after the product was repaired 3 times already for the same defect.	Replacement	
		When failure occurs (5th occurrence) again even after the product was repaired 4 times already for problems with various parts.		
	When impossible to repair	If the company lost the product for which a customer requested a repair work.		Paid repair or paid replacement
		When impossible to repair the product as there is no part available for the repair work within the period in which the parts should be kept in storage by the company.		
		When impossible to repair even when repair parts are available.		Paid repair or paid replacement
1) Cases in which failures occur due to the user's mistakes. - When a user is careless in handling the product (When the product fails or gets damaged due to dropping, shocks, breaking, excessive operation or mistakes in using the product) - When the user makes the product fail or get damaged on purpose or by mistakes. - When the product fails or gets damaged as users themselves or a third-party person repaired or modified the product. - When the product fails or gets damaged as the parts, expendable items and optional items that are not designated by the company were used. 2) Other cases - When the product gets damaged due to natural disasters (Including fires, flooding and earthquakes) - The lifetime of expendable items runs out - Due to external causes			Paid repair	Paid repair
* Except for the main body, separate warranty periods will be applied for ancillary components and expendable items				

Users should back up (Separate saving) periodically important data saved in a product that provides storage function. It would be necessary to delete the data in the storage unit inevitably depending on cases. In relation to that, all the data stored in the storage device may be deleted while providing A/S services. Considering that, users must back up all the important data before requesting A/S services.

When it comes to the products that are submitted to the customer center for A/S services, the company will think that their data are backed up by the users themselves, and will not back up any data separately. Considering that, users should understand that the company will not be held responsible for any loss of data accordingly.

When users use a package delivery service, there is a risk of shock or damage. Considering that, users should package the product in a way that will not expose it to impact. Users are recommended to write down their names, addresses, contacts and contents of failures, which will help us facilitate the repairing process.

Symptoms	Measures
The time of the black box not correct.	When there is no GPS module, it is required to select the black box setting menu on the specific viewer in order to set the time through the time setting menu.
Power not turned on	Check the power on/off switch.
	Check whether the continuous power cable is connected correctly. (Black: Ground/Red: B+/Yellow: ACC power)
No GPS information received	Check the connection between the black box and the GPS socket.
No buzzer sound heard	Check whether the buzzer sound is applied or not by selecting the audio/video setting menu on the black box setting menu of the specific viewer.
No audio recorded	Check whether the audio recording is applied or not by selecting the audio/video setting menu on the black box setting menu of the specific viewer.

Address

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Fullerton, CA 92831

Toll Free: 888-941-3060

For International: 714-446-0543

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info@visiontechamerica.com

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