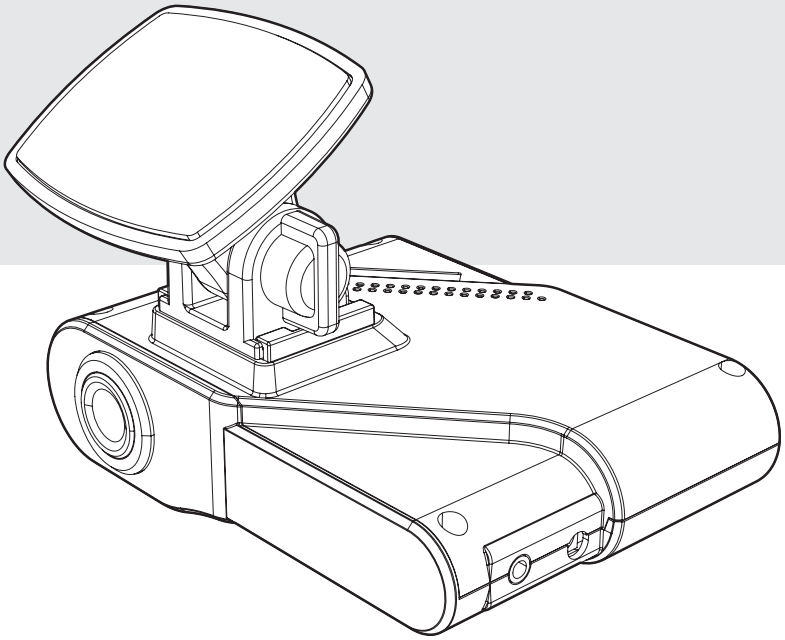
mobitech

1CHANNEL DRIVING VIDEO RECORDER

Instruction Manual

DR-1000

Thank you for purchasing this product.
For proper usages and application,
Please read this instruction manual thoroughly.



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* Design and specifications are subject to change without notice.

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Safeguard instructions

Please read the "Safety Rules" carefully before using this product. Following the safety rules prevents users from damages related with the misuse of the product. It is very important to follow these safety rules. We state "Caution" and "Warning" to clarify any potential risk for a damage associated with the misuse of the product.

NOTICE	**This information is for user's reference for better usability.**
CAUTION	**This information is for preventing damage or shorten the life time of the products.**
WARNING	**This information is for preventing bodily harm or even death and use should follow this safety rules.**

CAUTION

Do not shock to the product.
- It may cause damage or malfunction for product.

Do not place near magnet.
- It may cause malfunction and trouble.

Keep the internal GPS without any obstacle near of it like high pass, navigation.
- It may cause problem on GPS signal receipt rate.

GPS function needs loading time when it power on.
- It needs from few seconds to minutes depending on signal receipt environment.

In case of metallic tinting on front window may cause telecommunication problem or poor recording quality. - In metallic tinting car may cause GPS signal receipt problem.

In case of suddenly changing of brightness such as tunnel enter/exit or extremely dark place, the recording quality may be low.

When you drive dark place, recommend you to turn on the headlight (fog light) to record with high quality.

When install ordinary power cable, should contact to a specialty store. (The place of fuse box is varying depending on each car manufacturer. Please check the car manual before installation)

To safe usage on battery, please disassemble ordinary power cable when you do not drive for a long time (over 3 days). We recommend disassemble to safe driving even though this cable contains a function for preventing battery dead.

The front glass and camera lens should be kept clean.
- If it is dirty, the recording image may be low.

Attach the product recommended place.
- If it is installed other place, the image may be swerved.

Do not disassemble, repair and remodeling.
- It may cause malfunction and injury, can not get warranty.
- Make inquiries to agent for repair and checkup.

⚠ WARNING

Do not place near of air bag effective range.
- It may cause malfunction of air bag or accident, injury due to hitting monitor by air bag.

Keep clean dust on power socket.
- It may cause electronic shock and fire by bad connection.

Do not put a pin or needle on the hole or crack in the body.
- In case of inserting them, stop to operate, it may cause electronic shock, fire and malfunction.

Do not use in problem condition as like smoking, smell something burn.
- It may cause fire. Stop to use and make inquiries to agency.

Should install while power off. (After install products, connect DC jack)
- It may cause to electronic shock or malfunction.

Do not operate the product while driving.
- It may cause an accident. Stop in a safe place and operate.

Do not put the product in place where sudden temperature increasing and should use on optimum voltage, temperature and humidity.
- It may cause to electronic shock or malfunction.

Do not pull cord with a jerk, should catch a plug and pull. Do not use damaged cord.
- It may cause cord malfunction, electronic shock and fire.

Do not clean exterior with alcohol, volatility or oily solvent. Neither keep touching rubber and plastic for long time. - It may cause change of surface, fall of paint, malfunction and fire.

Attach the product on the front window firmly.
- Clean the front window and fix it firmly, otherwise it may be detached due to temperature/humidity/dust/shock.

⚠ Please take care below notice for SD card. we do not have responsibility for data loss or damage caused by not complying below rules.

Please use only authenticity SD card
- Manufacturer do not have a responsibility for not in usage of adulterated card.

Do not put a foreign substance in to SD card slot.
- It may cause a malfunction or SD card inserting problem.

Do not touch SD card with wet or oily hand.
- It may cause malfunction due to card damage.

Push the SD card fully.
- It may cause a malfunction.

Before pull SD Card out, please check the power off status.
- If you pull SC Card out during power on status, it may cause malfunction or data loss.

SD card is consumable. It would not support normal recording due to damage memory as time goes by. Please check the warranty period of SD Card.

In case of storage SD card, please use case.
- The data may be damaged by a static while storage or moving.
- We do not have a responsibility for data lost caused by user's mistake.

Please unlock SD card data.
- If it is set as data lock, recording is not available.

Normally SD card has a life time for usage. (It is different from each manufacturer.)
- If you find data lose after long time usage, please replace new SD card.

In case of important data, please store it on other device as a backup.
- The data may be lost for long time usage.

Do not pull out SD card while working status such as data backup and format.
- It may cause a serious damage on SD card.

Please check and backup the data stored on SD card and we recommend format SD card regularly.
- The data my be lost for long time usage.

Do not disassemble or remodel SD card.
- It may cause a serious damage on SD card.

Do not drop or shock on SD card.
- It may cause a serious damage on SD card.

When you purchase SD card separately, please check SD card availability depending on manufacturer.
- This product supports up to 32GB.

⚠ Please take care below notice for built-in battery. We do not have responsibility for damage caused by not complying below rules.

Built-in battery is an auxiliary usage for safe saving recording image while the power is not supplied. Please connect and use main power supply for normal recording.
- Unless connect main power supply, it does not work properly.

Battery is consumable, so the recording time may be reduced after 6 months. (The life time is different depending on using condition.)
- If you find a problem that the last recording is not saved continuously, the battery life may be a cause. Pease inquire after sales service center or dealer for battery replacing. (Provide at a cost)

Do not put the product in place where sudden temperature increasing and should use on optimum voltage, temperature and humidity.
- It may cause to electronic shock or malfunction.

When it takes long time not in use, the battery may leak.
- If the leakage is covered on the skin, please wash it with running water. If it is in your eyes, do not rub your eyes and go to the doctor after washing with running water.

1 Feature

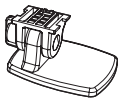
· All car accident records
· Parking mode function : Ordinary power cable(option) connecting
· Wide angle of view (130°) support (Built-in WDR CAMERA)
· Voice recording support while image recording.
· Speaker Alert
· Built-in GPS antenna
· Built-in 3G-Sensor (Front/Rear, Left/Right, Up/Down shock sensing and recording)
· SD CARD use (Max. 32GB)
- If the recording image exceeds SD Card capacity, it deletes images from the oldest file and records continuously.
· Emergency battery equipped

*** WDR : Wide Dynamic Range**

2 Box Contents

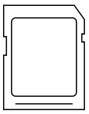
*** Before use this products, please check below contents. If there is something missing parts, please contact sales agent.**

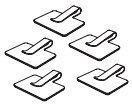
DVR


Stand Ass'y

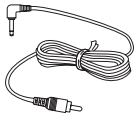
Instruction Manual

Cigar Cable


SD CARD(option)


Accessories

PC Viewer Install CD


V-OUT Cable (option)

Ordinary power cable (option)

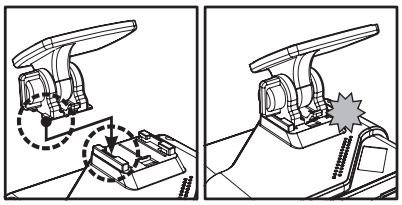
3 Installing the recorder in your vehicle

⚠ Prior to installation, check the followings :

- To ensure safe installation, always perform installation procedures in a bright place with no vehicle traffic.
- Before installation, always turn off the engine and pull out your car key.
- DO NOT use any other cables than the power cigarette cable included.
- The glass to be equipped with the camera should be kept clean.
- For vehicles with excessive window tinting, the recorded images may appear dark.
- Keep the internal GPS without any obstacle near of it like high pass, navigation.
- If use navigation and vehicle monitor, the image could be reflected on the front glass and it might effect on the recording quality. To prevent this problem, please set the direction not to be reflected the image.

⚠ If the product is separated from the glass it could be occurred car accident. Please clean the front glass and fix it firmly.

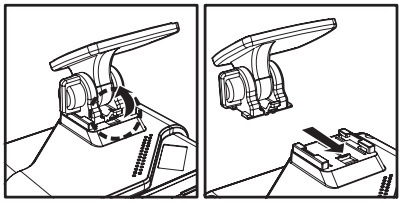
1. Mounting / Removal of the stand



Mounting the stand

1. Make sure that the connection areas of the stand and the product are aligned well, and push in the product forwards.
2. If mounted properly, it will be fixed with "click" sound.

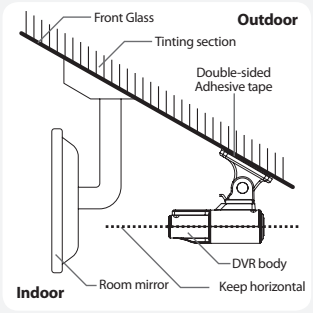
*** If necessary, it is allowed to first attach the stand to your vehicle, and then assemble it with the product.**



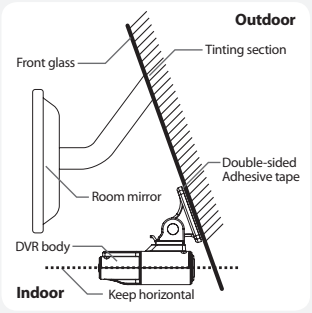
Removing the stand

1. Slightly lift up the knob on the back of the assembled stand in the direction of arrow, and then remove as shown in the figure.
2. At this moment, be careful not to lift too strongly up the knob on the back of the stand. Otherwise, it may be damaged.

2. How to install



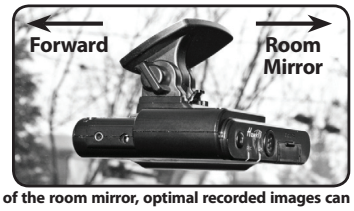
Car



Bus or Truck

1. As shown in the above figure, position it so that it does not obstruct your front view and at the same time, lens viewing angle does not overlap the tinting section.
2. Once it has been completely installed, keep it horizontal as shown in the left figure. Otherwise, normal images may not be obtained during recording.

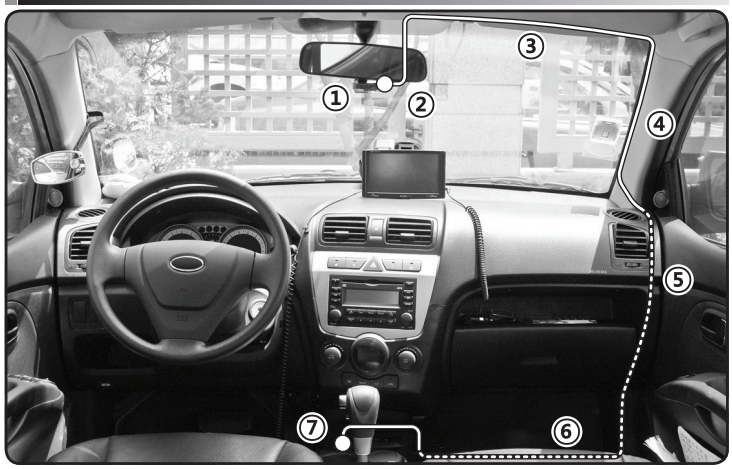
3. Recommended installation location



If installed at the center of glass window in the front of the room mirror, optimal recorded images can be obtained.

If it is difficult to install as like above picture, it can be installed on left or right of room mirror. Install the product on the middle of vehicle otherwise the image may lean to one side.

4. Wiring diagram



*** The above wiring diagram may vary with the kind of vehicle.**

⚠ Once wiring and installation have been completed, check the followings:

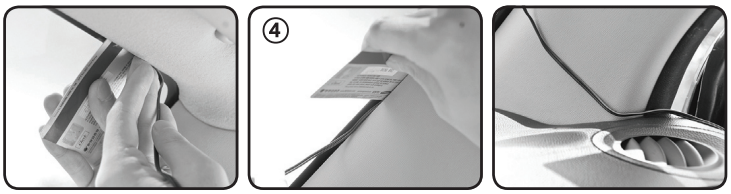
- After installation, get the engine started. Then, the GPS LED will light up, which indicates normally completed installation.
- If the GPS LED fails to light up, check the cable connections and subsequently, remove dust or impurities from the cigarette socket.

5. Detailed procedure of installation

Prior to installing the product, remove thoroughly any impurities and dust from the place of front window for adhesive tape. Peel off the protective film of double-sided adhesive tape on the stand, and firmly attach to the glass window in the front of the room mirror. Following attachment, release the stand fixing lever to adjust it so that it is at a level with the ground, and tighten firmly again.

*** Regarding the attachment position of the stand, avoid the heating wire and coating (tinting) areas on the top of the front glass. If installed in the tinting area, the quality of recording may be deteriorated and heating wires may be damaged when removing the stand.**

Once it has been at a level with the ground after angle adjustment, connect the product to the cigarette jack. Push in the cigarette cable in the slit between the front glass and the roof. At this time, use a thin and hard object for convenient handling.

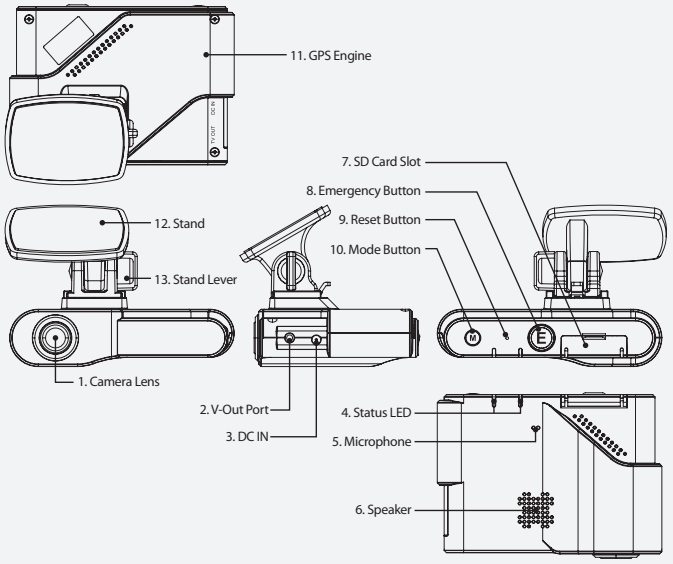


Continue to arrange the cable up to the joint between the front glass and the side frame. If required, use the clips for cable arrangement supplied with the product. After cable arrangement around the front glass, open the front seat door.

Draw the cable out between the front seat door and the side of dash board, and with the enclosed clips for cable arrangement, fix it down as far as the front seat door frame and beneath the footing. At this time, too loosely arranged cable may be damaged when opening/closing the door or getting into/out of the vehicle.

Slightly lift up the mat under the front seat, and then arrange the cable across the seat. After arrangement, put the mat in place again, pull out the cable to the side of the console box, fix with the clips for cable fixation, and put the cigarette plug into the cigarette socket.

4 Components and their functions



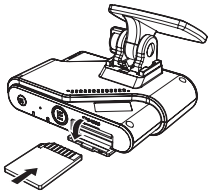
1. Camera Lens	Lens intended for outside imaging (WDR : Wide Dynamic Range)
2. V-Out Port	Video output port (enabling to check recorded images in real time)
3. DC IN	A port intended to connect the power cigarette cable (DC 12~24V)
4. Status LED	Record / GPS status indicator LED
5. Microphone	Built-in microphone
6. Speaker	Output speaker of all kinds of auditory warning signals (MONO)
7. SD Card Slot	A slot intended to insert the SD card
8. Emergency Button	For emergency recording and screen capture
9. Reset Button	System reset button
10. Mode Button	Audio recording ON/OFF, Parking mode ON/OFF
11. GPS Engine	Internal GPS engine
12. Stand	Stand for fixation on glass window (double-sided adhesive tape)
13. Stand Lever	Stand / product-fixing lever (enabling to adjust its angle)

5 Preparations for operation

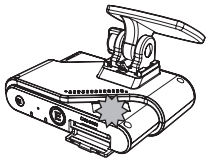
⚠ Before using the SD card, check the followings:

- Always use the original SD card only. If not, data loss may happen.
- The SD card can be inserted regardless of the power On/Off status of the product. As soon as it is inserted, it will reset the internal software and then operate.
- To remove the SD card, first turn off the vehicle engine, and check that the GPS LED lights out (not more than 20 sec. required). Then, remove the SD card. If remove SD card on power on status, it sounds beef and can not complete recording. And it may cause recording image delete or not be able to use SD card anymore.

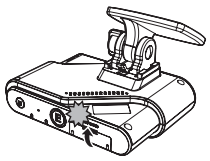
1. Inserting the SD card



Open the card slot and insert the SD card like the picture.

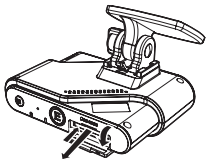


Push fully in the card until it seems to be caught by something inside.

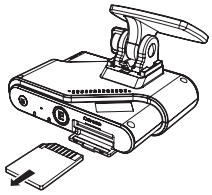


Once the card has been completely inserted, close the slot lid.

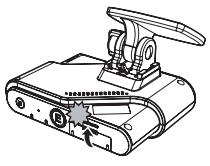
2. Removing the SD card



Open the slot lid, and press gently the SD card. Then, it will come out.



Pull fully out the SD card.



After removing the SD card, close the slot lid.

⚠ Be sure that the SD Card direction and SD Card is inserted correctly to the product. Or this will make an error.

6 Operation

⚠ Before operating this product, please take case below point.

- Do not operate on driving.
- Recording is possible when SD card is inserted.
- If remove SD card while recording, some part of image might be deleted.(with beep sound)

1. Power ON/OFF

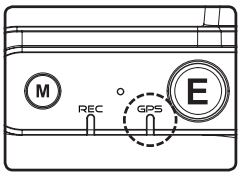
1. This product has no power ON/OFF button. To power on, start up the engine while the power cigarette cable has been connected to the body. Then the power on with beep sound.
2. If the engine is turned off, the GPS LED will remain lighted up for at most 20 seconds (powered by batteries), and will light automatically out, and will light automatically out with beep sound.

*** While recording function finishes, it is powered by the batteries built in. After recording function finishes, the file is securely saved followed by power off.**

The product does not power off by itself after engine off when it connected to battery by ordinary power cable. If you want to power off, please disassemble ordinary power cable and product.

2. Checking the received GPS data

After inserting the SD card, start up the vehicle engine. Then, the product will power on. At the same time, while auditory signals are heard, it will detect GPS signals. It will detect GPS signal with beep sound.



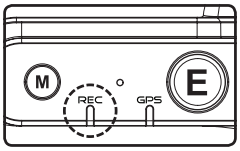
GPS functions can be used to estimate the user's driving route, speed, time (duration) and distance.

- Within the GPS coverage : Green GPS LED will light up.
- Out of the GPS coverage : Red GPS LED will light up.

3. Video recording

Once installation and wiring procedures have been completed, start up the engine with the SD card inserted. Then, it will power on without any other additional operation, and recording will start simultaneously.

*** Factory Default : Dual Recording Mode (User can change recording mode on Recording setting / refer to page 27)**



Depending on recording mode, REC LED blinks.

- Normal recording : It blinks very shortly at intervals of 1 second.
  - Voice recording ON(Green LED) / Voice recording OFF(Yellow LED)
- Event recording : It blinks five times per 1 second.(Red LED)

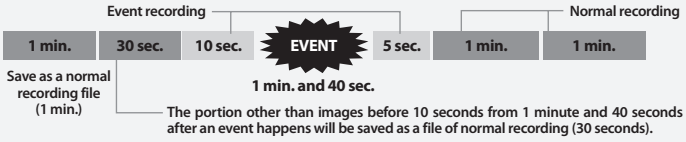
Recording mode & time

*** Normal recording : Independent of events, it continues recording at intervals of 1 min.**

*** Event Recording : It performs recording just for 10 seconds before and 5 seconds after an event (accident) happens. (15 seconds in total) Event recording starts with beep sound.**

*** Dual Recording : Both normal recording and event recording are used. If any event (impact) is detected during normal recording, normal recording will stop and instead, event recording will start. After event recording, normal recording will resume.**

Ex) If an event happens 1 minute and 40 seconds after starting recording:



The words, 'an event happens' mean to detect any impact when it is given. The higher is the sensitivity, finer shocks or impacts are detected. On the other hand, the lower is the sensitivity, simply strong shocks or impacts only are detected. It is possible to adjust the intensity of detection (sensing) in the PC VIEWER MANAGER.(refer to page 27)

When the recording image is over SD card capacity, it deletes image orderly from the oldest one. And normal and event recording rate is allocated 3:1 from SD card capacity.

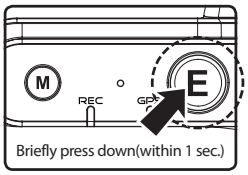
Ex) In case of 2GB SD card

Recording mode	Saving folder	Maximum storage
Normal recording	Normal	About 1.5GB (If it is over 1.5GB, it deletes image orderly from oldest one and record new one.)
Event recording	Event	About 0.5GB (If it is over 0.5GB, it deletes image orderly from oldest one and record new one.)

4. Emergency recording / Instant capture

Emergency recording

Emergency recording function is intended to activate manually recording in an unexpected event or when it is necessary to save images at discretion. Such images will be saved in [EVENT] folder of the SD card.



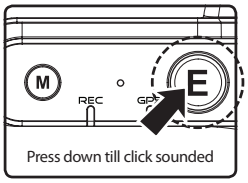
Briefly press down(within 1 sec.)

- Simply(briefly) press down [E] button during operation. Then, manual video recording will be enabled with beep sound.
- Recording procedures are same as those for event recording. (10 seconds before / 5 seconds after pushing the button)

*** This function will be disabled during event recording.**

Instant capture

Instant capture function is intended to photograph and save the front view in an unexpected event or when it is necessary to save the taken photographs at discretion. Such photographs will be saved in [CAPTURE] folder of the SD card.



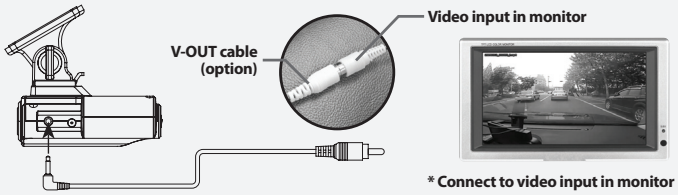
Press down till click sounded

- Press and hold down [E] button during operation. Then, manual photographing will be enabled.
- It sounds click, saved as JPEG file format.(*.jpg)
- If your vehicle runs fast or at night, the quality of photos taken may be poor.

*** This function will be disabled during event recording.**

5. Real-time displaying

If a V-OUT cable(option) is used to connect the product to a monitor for vehicles only, real-time recording will function and recorded images can be viewed. (Video Output activated only / Audio Output disabled)



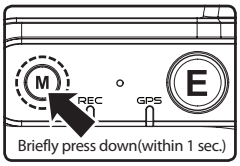
*** Connect to video input in monitor**

*** Always use the included cable only. If any other cable is used, it may operate abnormally.**

*** Connection terminal may be different depending on monitors. In this case user should purchase gender separately.**

5. Functions of MODE button

Voice recording ON/OFF (Default : ON)

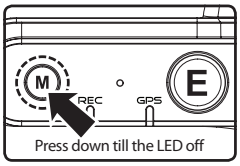


Briefly press down(within 1 sec.)

While using the product, press [M] button shortly. Then the voice recording is started. To stop the recording, press [M] button again.

*** Voice recording ON : REC LED color green**
*** Voice recording OFF : REC LED color yellow**

Parking mode : Ordinary power cable(option) connecting



Press down till the LED off

While using the product, press [M] button till the LED lamp off and on. To stop the parking mode, then press M button shortly.

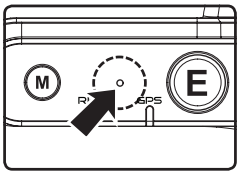
*** Parking mode ON : REC/GPS LED alternate blinking**
*** Parking mode OFF : REC/GPS LED blinking stop**

1. **QVGA(320x240)** recording in the parking mode
2. From the parking mode, it will change to the normal recording(no event recording), a file takes **10 minutes recording time.**
3. In the parking mode, if a vehicle moves, then it will be changed to the previous recording mode. **(it will take some second to minutes based on the vehicle and road status.)**
4. It is not saved **the 3G-sensor and GPS information** in the parking mode.

⚠ If it is not set to the parking mode, then the normal recording starts when a vehicle is parked. In this case, the recording time could be shorten, So the parking mode is recommended.

7. System RESET (Restart)

System reset function is used in the event of any fault(s) during operation or when it stops suddenly.



Using a thin object(Ex. pin), press down the RESET button. Then, it will be reset and restarted.

7 PC VIEWER MANAGER

Recommended PC specifications for PC VIEWER MANAGER

CPU : Pentium 4 2.0GHz or more
OS : WINDOW 98/ME/2000/XP/VISTA/WINDOW7
VIDEO : Geforce 4 or more
Memory : 1GB RAM or more
HDD : 1GB or more supported

*** What is PC VIEWER MANAGER?**

It is an exclusive software application for DVR only, designed to enable its user to check the video contents recorded during driving as well as to check driving route/GPS data/shock graphs.

1. How to install PC VIEWER MANAGER

It needs to install for PC viewer program.
Insert enclosed CD to PC and install the program as below after double click "setup.exe" file.

When installation is finished, directly to the icon is create.
Double click the icon and execute the program.

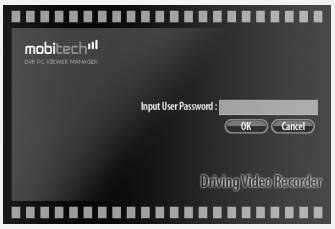
2. How to execute PC VIEWER MANAGER

Double click DR-1000 icon then below screen is appeared and PC VIEWER MANAGER is executed.

Loading screen

When it is executed above image is appeared. After loading complete, the program is executed automatically.

Input password



When you set the password on setting menu this screen is appeared. Input a password, then program is executed. (Please refer to Page 28)

If the password is not correct, above message is appeared.

Once the SD card has been normally connected to your PC and the PC VIEWER MANAGER is running, video data saved in the card is displayed in the file list.

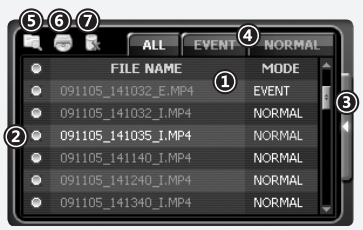
First select a desired video file to be played in the file list, and click PLAY Button. Then, the selected video file will be played.

*** If any recorded video file does not appear in the file list, please check again that the SD card has been correctly connected to your PC.**

3. About user interface

1. Play screen	A field where recorded images are viewed
2. 3G-sensor / Play position	Indicates 3G-sensor information display and play position.
3. Volume control	Controls the volume. (Mute / Volume +,-)
4. Movie control	Stop/Previous File/Backward/Play(Pause)/Forward/Next File
5. Play speed control	Controls play speed. (1/4 x speed ~ 4 x speed)
6. Exit	Exits the program.
7. Minimize	Minimizes the program window. (into the Task Bar)
8. File list	Displays a list of the playable files saved in the SD card.
9. Extend file list	Shows additional file lists.
10. Map info.	Displays the driving route on the map.
11. GPS info.	Displays the current GPS information received during driving.
12. Screen capture	Captures the screen being played as JPEG file.
13. Configuration	Displays configuration window where the user can make detailed settings.
14. Program info.	Displays the version and information on the software program.

4. File list



1. File list	Displays the files saved in the SD card.
2. Select	Selects and deselects a file.
3. Extend list	Extends the file list into an additional window.
4. Sort	Sorts All/Normal/Event Files.
5. Import	Imports a desired video file.
6. Export	Save a selected file in the hard disc.
7. Delete	Deletes a selected file in the SD card.

1. Select file

1. There are Select buttons (tick boxes) in the front of each file name. (No. 2 in the above figure)
2. Click a Select button, and the file will be selected. (Multiple files can be selected)
3. Click the top Select button, and all the files will be selected; click again, and all the files will be deselected

2. Export file (save in the hard disc)

1. Select a single file or several files desired to be saved in the hard disc, in the file list.
2. Next, click [Export] button. Then, save it in "My documents\DVR backup\".

When the file is saved, left message is appeared. (it disappears after 1 second)

Unless choice a file and press [export] button, left message is appeared. (it disappears after 1 second)

3. Import file

1. Click [Import] button in the file list.
2. Once Explorer window appears, select a video file(s) and then, click OK button.

4. Delete file

1. Select and tick a single or multiple file(s) desired to be deleted in the file list.
2. Next, click [Delete] button, and the file(s) will be permanently removed from the SD card.

*** Note that it is impossible to recover any deleted files which have not been saved in the hard disc.**

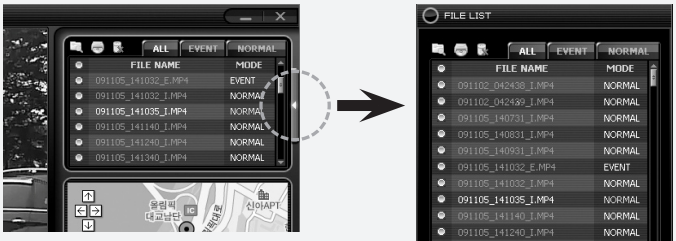
When file is deleted, left message is appeared. (it disappears after 1 second)

Unless choice a file and press [delete] button, left message is appeared. (it disappears after 1 second)

5. Sort file

1. Enables the user to sort All/Event/Normal files in the file list.
2. Click [ALL], and all the files in the SD card will be displayed in the list.
3. Click [EVENT], and EVENT files in the SD card will be displayed in the list.
4. Click [NORMAL], and NORMAL files in the SD card will be displayed in the list.

6. Extend file list



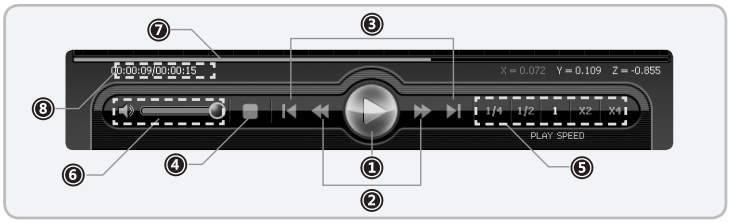
Normal file list screen

1. Click [Extend List] button to view more files at a time.
2. Click [Extend List] button to extend the list, and a separate window of file list will appear on the right side. Click it again, and normal file list screen will be returned.

Extended file list screen

All saved video file names consist of [YY/MM/DD_Hour/Minute/Second_EVENT or Not Indicated]. Regarding event indication, Normal Files are marked with I and Event Files with E.
Ex) 20090312_181059_I : indicates normal files saved at 06:10:59 on March 12, 2009.

5. Movie control



1. Play / Pause	Plays and pauses the selected file in the file list (toggle button)
2. Backward / Forward	Plays the screen several seconds after(before) the current image being played.
3. Previous/Next File	Plays the previous (next) file in the file list.
4. Stop	Stops the file being played.
5. Set Play Speed	Sets the play speed of video being played. (1/4 X speed ~ 4 X speed)
6. Volume Control	Controls the volume and sets mute function.
7. Play Location	Displays the current play location in the image being played.
8. Play Duration	Displays play duration/ total running time.

- **Normal Play** : Select a desired file to be played in the file list, and click Play button.
- **Skip** : Click Backward/Forward button, and playing will be skipped at regular intervals.
- **Play Previous / Next File** : Click Previous / Next File button, and the previous/next file in the file list will be played.
- **Control Play Speed** : Control play speed to view slowly and carefully important scenes or to skip unnecessary scenes. (1/4 x speed ~ 4 x speed)
- **Volume Control** : Drag Volume Control button to control the volume (for higher volume, drag it to the right). Click Speaker button, and Mute function will be activated; click again, and it will be returned to the normal status.

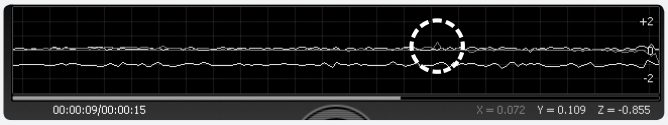
6. Screen capture

- Click screen capture button during playing, and the screen being played will be saved as an image file.
- File format and Save path : JPEG / Same path as Export File List. [My documents\DVR backup\]

Capture image can be display on other program of WINDOWS.
(ex. ALsee, windows image viewer, sketch board, etc.)

7. 3G-SENSOR

If any shock is detected during video recording, timeframe-specific graphs will be generated as shown below. On the following graphs, severely vibrating points (marked with dotted lines) indicate the time when shocks are given.



- **G-SENSOR graphs indicate vehicle vibration based on X/Y/Z axis.**
  (X axis: front/rear shocks / Y axis: left/right shocks / Z axis: up/down shocks)
- **3G-SENSOR sensitivity can be adjusted in Configuration menu.**

8. Checking the route

It is possible to check driving routes on the map.

1. You can move the map by arrow button.
2. You can zoom in/out by +/- button.

9. Checking GPS information

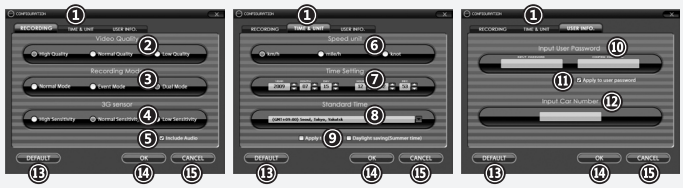
It is possible to check the current driving speed, time, direction and location information at the time of driving.

Date and time at the time of driving
Driving speed at the time of driving (Graphics)
Direction at the time of driving
Location at the time of driving
Driving speed at the time of driving (Numerical value)

10. Configuration

Click configuration button to open the configuration window.

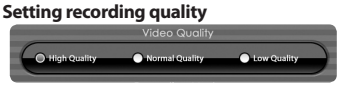
Recording settings | **Time / Unit settings** | **Input user info.**



1. Menu	Selects recording settings, time/unit setting, input user information.
2. Recording Quality	Sets the quality of recording.
3. Recording Mode	Selects the mode of recording.
4. Sensitivity of Shock Sensor	Sets the sensitivity of 3G-SENSOR.
5. Recording Option	Selects whether audio recording is included
6. Speedometer Unit	Selects the indication units for GPS information speedometer.
7. Date/Time	Sets the current date/time.
8. World Standard Time	Selects the world standard time.
9. Time Option	Selects whether the set time will be applied to the product / summer time.
10. User password setting	Set the password for PC VIEWER MANAGER.
11. Apply to user password	Apply the password for PC VIEWER MANAGER.
12. Car Number setting	When set the car number, it will be appeared on play screen.
13. Default Setup	Set up all the settings to factory default. (factory-default setting)
14. OK	Saves the setting(s).
15. Cancel	Cancels the setting(s).(Close)

Recording settings

· Setting recording quality

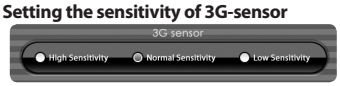


- High Quality : high-definition recording (heavy capacity)
- Normal Quality: medium-definition recording (mediate capacity)
- Low Quality : low-definition recording(low capacity)

· Setting recording mode

- Regular Mode: Regular recording at intervals of 1 min
- Event Mode: Recording activated only in an event(15 sec.)
- Dual Mode: Event recording activated in an event during normal recording / After event recording, it returns to normal recording.

· Setting the sensitivity of 3G-sensor



- High Sensitivity: even insignificant shocks can be detected.
- Normal Sensitivity: usual shocks are detected.
- Low Sensitivity: only significant shocks can be detected.

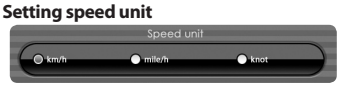
*** The optimal sensitivity of shock sensor varies with the kind of vehicle. Accordingly, first perform driving test with the three levels of sensitivity, and then set the appropriate sensitivity.**

· Setting recording option

- Include Audio: Audio recording activated during video recording.

Time / Unit settings

· Setting speed unit

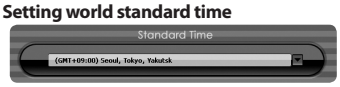


- Set the speed unit indicated in the PC VIEWER program.

· Setting date / time

- Set the current date and time. GPS time has the priority. So date/time setting is an option. in case, manually, this time/date could be set.

· Setting world standard time



- Set the local standard time

*** Please set the local standard time correctly. Or the device time could be wrong.**

· Time option

- Apply to RTC: If this box is ticked, the date and time set above will be applied to the product. (the time saved in the product will be cleared.)
- Daylight saving(Summer time): selects whether summer time will be applied.

*** It may be different from real time because the time information from checking "Apply to RTC" is applied after SD card inserting.**

*** Though you adjust the time on setting mode, if it receives GPS signal, the time will be set as GPS time.**

Input user informations

· Input user password

- Input Password : Input password
- Confirm Password : Input password again for confirmation.

*** Password is available maximum 8 digits. (special character, number and character are available)**

The left message will be appeared unless input password is correct.

· Apply to user password

- Apply to user password : This applies password to program, then it is available to use this program after input password.

· Input car number

- Input Car Number : Input car number for user. The number will be appeared on play screen.

8 Specifications

Video Input Channel	WDR CMOS Camera (130° Viewing Angle)
Recording Resolution	Normal : 640x480 / Parking : 320x240
Recording Frame	Normal : 30fps/2Mbit, 1.5Mbit, 1.2Mbit / Parking : 30fps/0.5Mbit
Recording Quality	High Quality(2Mbit) / Normal Quality(1.5Mbit) / Low Quality(1.2Mbit)
Recording Memory	16MB/min, 13MB/min, 10MB/min
Video Compression	MPEG-4
Recording Mode	Continuation recording / Event recording / Dual recording
3G-Sensor function	O
GPS Antenna	Internal
Audio Recording	O
Function Button	Image Capture, Emergency, Audio ON/OFF, Parking Mode ON/OFF
Backup Battery	O
Power	DC 12~24V
LED Indicator	O
Google Map Link	O
PC VIEWER MANAGER	O
Operating Temperature	-10°C ~ 60°C
Storage Temperature	-20°C ~ 70°C
Dimension	98(W)x25(H)x72.3(D) mm (Body only)
Weight	74g (Body only)

Parking mode : Ordinary power cable(option) connecting

FEATURE

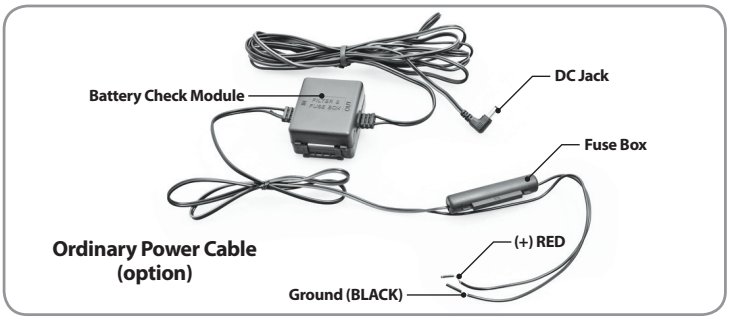
Parking surveillance mode means continuous recording mode on parking status which supports power from car battery even in power off status. (Similar with CCTV)

It supplies Ordinary power cable (Option) which has automatic block off a low voltage so that it could prevent engine starting problem due to a dead battery.

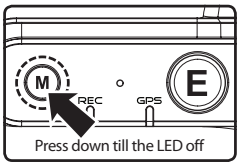
- It blocks off the power automatically when the battery voltage is lower than 12V. The recording time is varying depending battery capacity.

NOTICE

1. When install ordinary power cable, should contact to a specialty store. (The place of fuse box is varying depending on each car manufacturer. Please check the car manual before installation)
2. Please use enclosed genuine ordinary power cable. Or it may cause a serious problem on the product or car fir.
3. Ordinary power cable is only available for power voltage 12V.
4. To safe usage on battery, please disassemble ordinary power cable when you do not drive for a long time (over 3 days). We recommend disassemble to safe driving even though this cable contains a function for preventing battery dead.
5. The recording time is varying depending on battery capacity.
6. Do not remodel ordinary power cable.
7. We do not have any responsibility for repair, exchanging or refund by improper use.
8. We do not support exchanging or refund after unsealing except on product defective.
9. We do not have any responsibility for a damage caused by not following this notice.



Parking mode ON/OFF



While using the product, press [M] button till the LED lamp off and on. To stop the parking mode, then press M button shortly.

*** Parking mode ON : REC/GPS LED alternate blinking**
*** Parking mode OFF : REC/GPS LED blinking stop**

1. **QVGA(320x240)** recording in the parking mode
2. From the parking mode, it will change to the normal recording(no event recording), a file takes **10 minutes recording time.**
3. In the parking mode, if a vehicle moves, then it will be changed to the previous recording mode. **(it will take some second to minutes based on the vehicle and road status.)**
4. It is not saved **the 3G-sensor and GPS information** in the parking mode.

If it is not set to the parking mode, then the normal recording starts when a vehicle is parked. In this case, the recording time could be shorten, So the parking mode is recommended.

MEMO

MEMO

INSTRUCTION MANUAL

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