

Digital Video Recorder | Security  
**CARPA1**

FC CE MODEL NO. CARPA120  
MADE IN KOREA

# USER MANUAL



## 2ch **CARPA120** DIGITAL DRIVING RECORDER

### DIGITAL DRIVING RECORDER

GPS TRACKING  
G-SHOCK SENSOR  
DRIVER PANIC BUTTON  
GPS TRACKER  
PC MANAGER FOR PLAY AND PRINT  
DUAL CONDENSER (DATA SECURE)

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## *Safety Precautions*

The following symbols are used to inform the customer of potential danger that could result from the misuse of the product or by using the product for purposes for which it was not intended. Misuse could cause overheating, electric shock, or fire, thereby resulting in personal injury or property damage. Please read the instructions in this manual carefully before operating the unit in order to ensure it is used safely.



### **Warning**

#### **Warnings**

Provides instruction that the customers should observe for preventing personal injuries and fatal service hindrances.



### **Caution**

#### **Cautions**

Provides instruction that the customers should observe for service hindrances and system damages.



### **Note**

#### **Notes**

Provides information additional to this manual.



### **Prohibition**

#### **Prohibitions**

Provides a list of prohibited actions when using the product.



### **Direction**

#### **Directions**

Provides a list of directions for the user.

## Warning



**Do not install, disassemble or modify the product at your discretion.**

Doing so could cause damage to the unit, electric shock or fire. For any service required, please contact our service center.



**Do not install the unit at a location other than that recommended in this manual.**  
Placing the unit in a location other than that recommended may result in a build up of heat during filming.



**Do not attempt to work with the unit while you are driving.**

Doing so presents the potential for an automobile accident. Stop your vehicle before handling the unit.



**Please use only the voltage rating allowed.**

Please use a power source with the correctly rated capacity. Failing to do so, could cause fire.



**Do not operate the unit if it not functioning correctly**

If water or any foreign substance has gotten into the unit or if there is any sign of smoke, stop using the product and contact our service center for servicing.



**Only a qualified installer should install this product in a manner other than that described in this manual.**

Installation methods vary depending on the vehicle and improper installation might cause damage to the vehicle and the product.



**When installing other electronic products in the vehicle, please be careful not to cut or damage the power cable of the unit.**

Doing so might cause damage to the unit, electric shock, or fire. For any service required, please contact our service center.



## Caution



**Do not remove SD card when power is connected.**

Doing so could damage the card and thereby cause the unit to malfunction.



When cleaning unit, do not use water, benzene, or alcohol. Simply wipe the unit with a soft, dry cloth

Attempting to use the substances listed above for cleaning could damage the unit



**Do not touch SD card with oily or wet hands.**

Doing so could damage the card and thereby cause the unit to malfunction.



**Do not exert force on the unit.**  
Do not drop the unit.

Doing so could damage the unit and cause it to malfunction.



**Use only authentic SD cards.**

Doing otherwise could result in loss of data.



**The GPS module requires warm up time when operating for the first time.**

After the GPS module is turned on, the warm up time may be a few seconds or a few minutes, depending on the receiving environment.



**Do not insert foreign objects into the SD card slot.**

Doing so could damage the unit and cause it to malfunction.



**When using the cigar/power jack as a source of power for the unit, ensure a proper connection.**

An improper connection could result in loss of data or card malfunction.



**Vehicles with tinted front windows may experience communication errors.**

The GPS might not work well in vehicles with tinted windows.



## Caution

1. Do not install, dismantle or convert the Product at your will.
2. If any part is used in addition to the parts provided by DS Telecom, please use the original or DS Telecom recommended parts only.
3. Do not operate the product outside the recommended power range.
4. Remove any material or heavy coating which may hinder video recording.
5. A change in position of the product may lead to changes in camera angles. Adjust the camera angle and check the recorded image.
6. Product damage or power disconnection by major accident may disable video recording.
7. In case of an accident, remove the power jack and remove the SD memory card. The corresponding incident may have been stored as an erasable normal recording instead of an event recording. Please check the recorded file.
8. Do not remove the SD memory card or turn the power off while data is stored to, or loaded or deleted from the SD memory card.
9. Check data stored in the SD memory card to see if the Product is operating properly. Format the SD memory card regularly. (FAT32)
10. Always use the recommended SD memory card to prevent data loss or product failure.
11. Do not dismantle or convert the SD memory card.
12. The battery level monitoring function may be turned off unexpectedly due to an abnormality of the vehicle, battery or by accessories fitted to the vehicle.

## Features

This Product is a digital driving record device designed to assist the driver's safety while driving. It records images and audio of the area in front of the vehicle and in the cab of the vehicle. It records evidence of accidents that occur either while the vehicle is being driven or while the vehicle is parked. It also acts as a deterrent to thieves and records the situation when commercial drivers have a conflict with their passengers



### Dual camera & sound recording

The 1.3mega pixel camera simultaneously records images and audio of the area in front of the vehicle and within the vehicle. The recording of images and audio of the inside of the vehicle is optional and may be turned off.



### 3D G sensor

The G sensor detects acceleration, deceleration, and shock by using a 3-axis sensor. Once the occurrence of an accident is sensed, the G sensor marks the event for easy recall by the included software.



### Voice instruction

Voice prompts are provided to inform the user of the operation status of the product and what actions need to be taken, if any.



### GPS Module

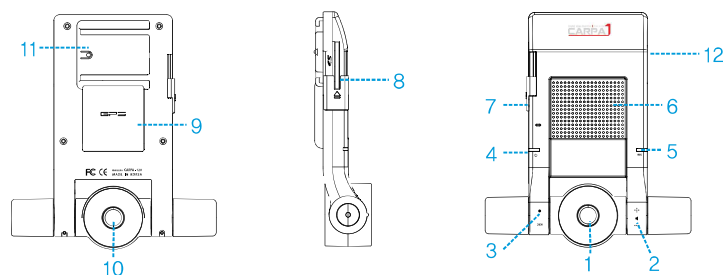
The GPS module receives location information that enables the site of an accident to be traced. It also enables the driving path of the vehicle to be determined by uploading into Google Maps.



### Video player for PC

A video player is built into the included SD card which enables the user to view the recorded images in VGA grade on any PC.

## Parts



| No. | Name                      | Description                                                 |
|-----|---------------------------|-------------------------------------------------------------|
| 1   | Indoor camera             | To video-record inside the car (selectable)                 |
| 2   | Volume button             | To control the volume of voice messages.                    |
| 3   | Mode selection button     | To select either Button recording or indoor recording (2ch) |
| 4   | Power LED                 | It indicates the status of power supply.                    |
| 5   | Operation LED             | It indicates the operation status of the Product.           |
| 6   | Speaker                   | For voice messages                                          |
| 7   | Power jack                | To connect the external power port                          |
| 8   | SD card slot              | To save recorded data into a SD card                        |
| 9   | GPS module                | To receive satellite radio (global positioning information) |
| 10  | Front camera              | To video-record the front of the car                        |
| 11  | Mount slot                | To connect the mount on the car                             |
| 12  | Video out port (optional) | To connect the Video out cable                              |

## ■ Package content



Main Device



User's Manual



SD Card adaptor



Mount Bracket



SD card



PC software  
(provided inside  
SD card)



Installation  
components



cigar jack Cable



DC fuse power cable  
(permanent)



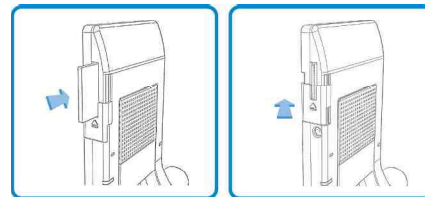
Video OUT  
cable

※ The warranty period for the SD memory card is 6 months, and for all other parts is 1 month.

※ Pictures of the parts may differ from the actual. Some parts may change in certain circumstances.

## To insert the Card

Periodical SD card formatting is necessary to prevent card failure.  
Failure to format may lead to card error, data loss or Product failure.



- 1 Insert the SD card before supplying power. The cut corner of the card should face downward when inserting. Lower the slot cover and insert the card to the end. (you will feel the card locking when fully inserted.)
- 2 Lift up the slot cover and connect the power. The power LED will illuminate.

### Caution

※ Caution: Insert the card to the end to avoid card failure. The golden area (the connection area) on the card should not be touched by hand or foreign materials to avoid card damage.  
Do not use the card for any other application than its original purposes. Some of the recommended SD cards may not be compatible if their (production) lots are not original.

### Always use the recommended SD memory card!

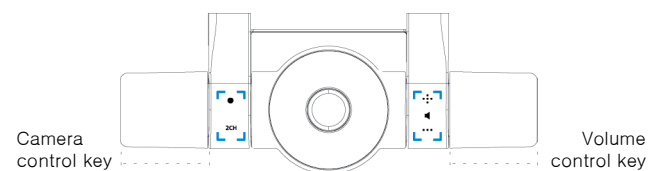
If you require more memory than the SD card provided with the Product package, we recommend [SanDisk](#). For SD cards of 2GB ~ 32GB, please refer to the recommended list.

Compatible cards: 2GB ~ 32GB **SD, SDHC, over class4**



| Memory         | 2GB     | 4GB     | 8GB     | 16GB     | 32GB     |
|----------------|---------|---------|---------|----------|----------|
|                | 2,048MB | 4,096MB | 8,192MB | 16,384MB | 32,768MB |
| Usable memory  | 1,707MB | 3,755MB | 7,518MB | 15,084MB | 30,268MB |
| Recording time | 1h 20m  | 3h      | 6h      | 12h 10m  | 24h 30m  |

## Operation control



| Items                    | Operating methods                    | Function                          | Voice Instruction                                      |
|--------------------------|--------------------------------------|-----------------------------------|--------------------------------------------------------|
| Volume control           | +                                    | high                              | 1,2,3,4,5                                              |
|                          | -                                    | low                               | 1,2,3,4,5                                              |
| Sensitivity control mode | Power connection at the '-' position |                                   | Entering to the sensitivity control mode.              |
|                          | -                                    | low                               | The current sensitivity is X                           |
|                          | +                                    | high                              | 1,2,3,4,5                                              |
|                          | 2CH                                  | mode release                      | Exiting from the sensitivity control mode.             |
| Indoor recording mode    | Power ON                             | Indoor recording (Default)        | Indoor recording is selected.                          |
|                          | 2CH                                  | Deselect indoor recording.        | Indoor recording is deselected.                        |
|                          | 2CH                                  | Select indoor recording (toggle). | Indoor recording is selected.                          |
| Button recording         | •                                    | Button recording mode (toggle)    | Recording begins.                                      |
| Installation mode        | Power On at the '+' position.        | TV-out                            | Entering to the Installation mode. TV-out is selected. |
|                          | Power OFF                            | TV-out deselected                 | Exiting from the Installation mode                     |
| Formatting               | •                                    | SD card format                    | Deleting previous data.                                |

## Main Functions

This page guides you through the initial installation and operation of CARPA-120

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## Video recording



Insert a SD card, connect the power supply, and the front and indoor recording will begin, Red light will illuminate and in 3~7 seconds blue light will flicker on REC.

Voice message: Indoor recording is selected, Recording begins.

※ If the SD card is to be removed, wait until the lamp is completely turned off to avoid card failure.

In case of a car accident, turn the power off on the Product and remove the SD card for safe keeping. (Otherwise, old data may be written off by new recordings. Data containing the accident should be kept safely as evidence.)

## Indoor recording select



Night recording is enabled with '4 infrared recordings'.

Upon connection of the power the indoor recording begins automatically. Turn the 2ch switch downward to stop the indoor recording.

Turn the 2ch switch downward once again to select the indoor recording.

Voice message: Indoor recording is deselected, Recording begins.

## Front recording (outdoor)



Video recording of the car front

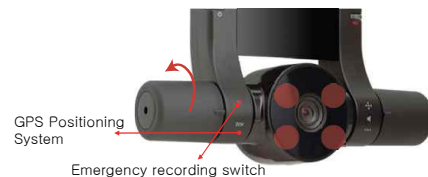
1,3m pixel camera tuning for the best picture quality. Recording angle is 120°.

## Constant recording while stationary

(The DC fuse power cable is sold separately.)

- If the Product is connected to a constant power supply, 24-hour recording is feasible. The car battery monitoring function will switch off the power before the battery is discharged. Installation or maintenance of the constant power supply should be assigned to an authorized technician to avoid safety or functional damage to the Product and for customer's safety and protection.
- In order to enable constant recording while stationary, the power cable must be connected to the fuse box (for constant power supply). The car battery monitoring function will switch off the power before the battery is discharged. If the car remains stationary for a long time, the car battery may be discharged.
- Within the memory size of the SD card, the constant video recording function while stationary can be selected. The recording is saved in the memory until the memory space is fully taken up. Once the memory is full, the recording continues overwriting the data saved earlier. The recording of an accident saved earlier in the memory may be overwritten by the lengthy and constant recording, and search of the particular data may be uneasy if the memory is full of data.
- Power consumption: 1.5w based on 12V~24V

## Emergency recording S/W



### Emergency Save switch

Turn the Emergency recording switch upward to save the video recording as the 'Event'.

## Volume control for voice messages



### Volume control for voice messages

Volume for voice messages can be adjusted to level 1 – 5.

## Speaker



### Speaker (for voice guide)

Easy and friendly voice messages are given at selection of functions of the Product. Please observe the voice messages. Voice messages can be adjusted to level 1 – 5.

## GPS Positioning System



### Vehicle positioning information

The GPS module fitted to the Product provides positioning information.

※ The module uses the same frequency as the Navigation and radio and as a result there may be interference

## To delete recording

2. 2ch recording selection switch



1. Volume UP/ DOWN

### Data deletion

To delete all data including normal recording(N), Button recording(B), Event recording(E).

#### 1. To delete by the volume switch

(This function is only available when the voice message of 'Data will be deleted due to insufficient memory' is given.)

To operate: Turn the volume switch downward.

Voice message: All data will be deleted. Please wait for a few minutes to complete. Data deletion is complete.

#### 2. Use of the 2ch recording selection switch (constantly selectable)

To operate: Turn the indoor recording switch upward and hold for about 3 seconds.

Voice message: All data will be deleted. Please wait for a few minutes to complete. Data deletion is complete.

## Monitor playback

TV Cable (sold separately)



1. Volume UP/ DOWN



Video out cable (optional part)  
(General-purpose 2.5 Φ4-pin terminal cable)



Navigation cable

Can check the recorded video data immediately on all monitors with an AV terminal including but not limited to a TV

- 1) Remove a rubber packing on a volume switch and connect a TV out cable to a terminal.
- 2) Plug in the power source and simultaneously maintain an emergency save switch turned in the O position.
- 3) The latest event video is output first and whenever selecting a switch as the '—' position, the previously recorded video is played in order from indoor to front.

## TV Out

(available by connecting the TV cable which is sold separately)

The current image may be viewed on your Navigation. (Navigation Output: PAL and NTSC compatible)

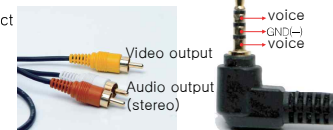
- 1) Remove the rubber packing from top of the volume switch and connect the TV cable.

- 2) To operate: While the volume switch is positioned at '+', connect the power.

Voice message: Entering to the installation mode. AV Out is selected. Indoor recording is selected. Recording begins.

- 3) The TV Out function is released if the power is disconnected.

Voice message: Exiting from the installation mode.



## Checking status of unit (Check the LED flickering indication)

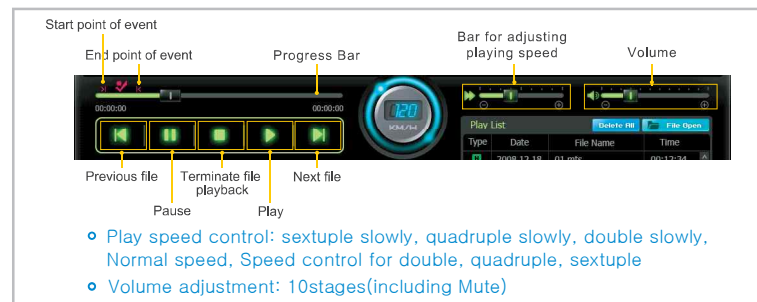
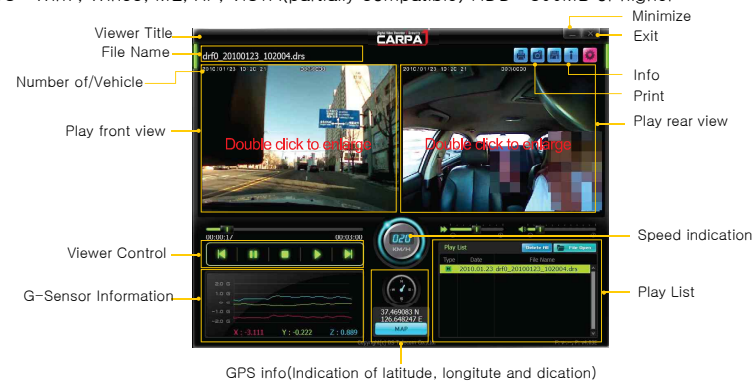
| Status                                                    | LED                                                                                                |                                                                                                     | Voice Message                                     |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------|
|                                                           | Right(Power)                                                                                       | Left (Status)                                                                                       |                                                   |
| Power ON                                                  |  Red            |                                                                                                     | In-car recording is selected.<br>Start recording. |
| Card not inserted/wrongly inserted                        |  Blinking Red   |  Red             | Could not find storage media.                     |
| Lack of storage space                                     |  Blinking Red   |  Blinking Red    | Lack of storage space.                            |
| Failed to recognize storage media                         |  Blinking Red   |  Blinking Violet | Failed to recognize storage media.                |
| Installation mode                                         |  Red            |  Violet          | Starting internal recording.                      |
| Sensitivity adjustment mode                               |  Red            |  Violet          | You've entered sensitivity<br>adjustment mode.    |
| Event recording (G sensor, event)                         |  Red            |  Blinking Violet | Starting to record.                               |
| During normal recording                                   |  Red            |  Blinking Blue   | Starting to record.                               |
| Sense GPS signal                                          |  Red            |                                                                                                     | Location information has been<br>detected.        |
| Unable to sense GPS signal                                |  Blinking Red  |  Blinking Blue  | This is shadowed area.                            |
| Cancel 2-channel recording<br>(Cancel internal recording) |  Red          |  Blue          | Internal recording has been canceled.             |
| Other errors (other than the power)                       |  Blinking Red |                                                                                                     |                                                   |

 : Lighting    : Flickering

## Checking status of unit

※PC requirements

CPU I: Pentium 1GHz or higher      Memory : 512 MB RAM or higher  
OS : Win7, Win98, ME, XP, VISTA(partially compatible) HDD : 500MB or higher



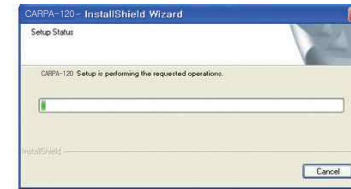
## Program installation



① Double-click on Setup.exe on the SD card.



② Installation is executed automatically.

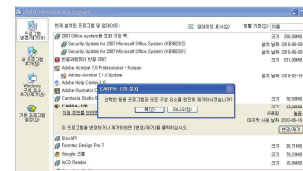


③ Click on Next.



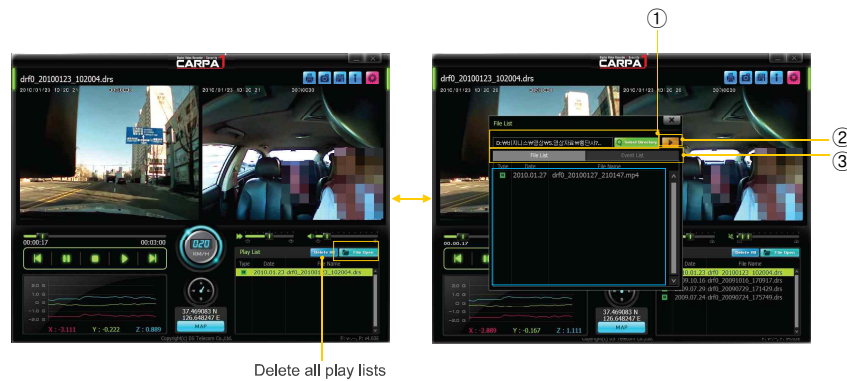
④ Click on Finish.

## How to remove a program



① Select a program on the pc control panel and delete.

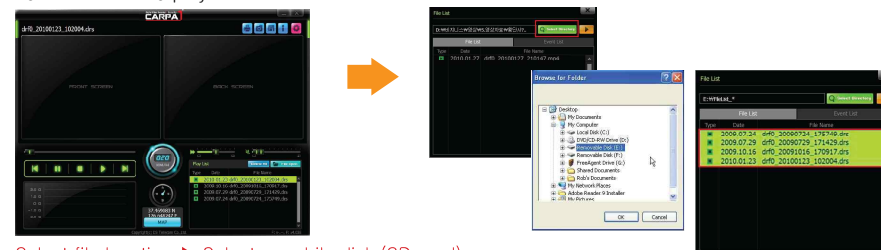
## Playing List



- ① → Indicate file location/Select Directory
- ② → Play the selected file. When multiple files are selected, add all the selected files to Play List
- ③ → View all files/View Event File
- File storage list will be shown in the blue box, if any.
- When the volume of shock sensed by G-sensor exceeds the reference or when the user presses emergency recording button, the image data recorded previously/after is protected according to the preset values.
- Protected image data is not overwritten and preserved unless protection is canceled.
- While a file selected from File List is being played, user can move to the previous or next file in File List.
- While a file selected from Event List is being, user can move to the previous or next file in File List.

## To run the program

To select a file to playback

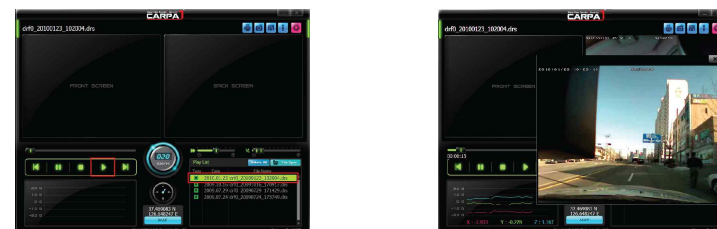


Select file location ► Select a mobile disk (SD card).

To open a file ► Select file location ► Select a mobile disk. ► Confirm ► Select a movie file to playback and click on the [▶] button.

Event files (E) and Normal files (E) are listed in timely manner.

Double-click to enlarge



The selected movie file is added to a Playback List. Select a movie file to playback and click on the [▶] button.

Double-click on the screen to enlarge the image during an indoor or a front recording file is playing.

## To identify type of recording files

Files are saved at 3-minute intervals by hour and day for easy retrieval. Files are also designated with letter **N** for normal recording, **E** for event (such as accident and impact) and **B** for emergency outdoor recording by button, for easy search.

**N** 2010,06,16 drf0\_ 20100616\_122551.drs

- drf0: an indoor recording file.
- drf1: a front recording file.
- drf files must consist of both drf0 and drf1 files to enable playback by the CARPA-100 program.

20100616\_122551.drs

The file names are saved in the form of 'year month day hour minute second'.

**N** 2010,06,16 drf0\_20100616\_122551.drs

### Normal recording (N)

A normal video recording is saved by the unit of 3-minute. Files are sorted by date and hour for easy search. If the memory space is fully used, the oldest file is erased to provide space for new

### **E** Event recording (E)

A video recording of impact of accident is saved in the Event list.

### **B** Emergency recording (B)

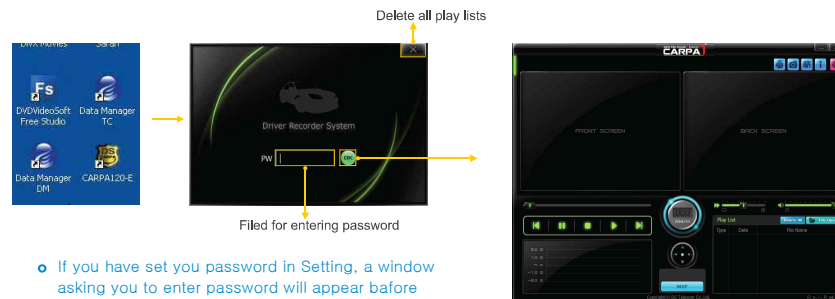
Button recording -: An external switch button is used to record an emergency event, and the file is saved as anEvent file.

## To view Event



Instead of viewing all files, only the Event files can be viewed as the files are marked with either **E** or **B** for easy and quick search.

## Program Security (ON/OFF)



- If you have set your password in Setting, a window asking you to enter password will appear before the program starts.



Speed Display

G-sensor X,Y,Z Information



Driving speed



- The built-in G-sensor enables detection of impact, acceleration or braking to be automatically recorded and saved.
- Triple axis (X,Y,Z), acceleration values and GPS data are saved. (X the front and the rear y left and right z up and down (height))
- The G-force detected by the G-sensors located vertically, horizontally and on right and left, is converted to numbers to indicate driving direction, turning direction and size and direction of impact in an accident.



Map

Superposition



Use of Google Map is recommended.  
The 'Map View' function is only available when the Internet is connected. Compatible with Google Map

With maps (Google Map)  
satellite and superposition information,  
driving route information is provided.

## To Playback



Select the CARPA-120 icon to execute the program.



### Print



- to print the screen/ the instant printing function



### Version Infirmware



- To view the Firmware version.
- To view the software version.



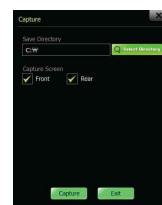
### File Save



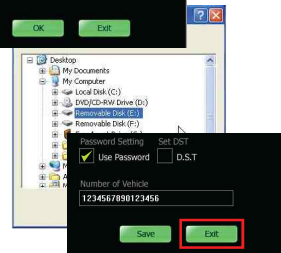
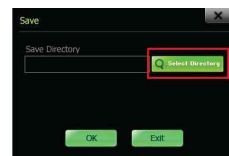
- During playback, the file can be saved on a PC as well.
- The file is converted to an mp4 file and saved.



### Screen Capture



- To capture the current screen. The saved file is added to the hard disk.



- Sensitivity Control: To control sensitivity.

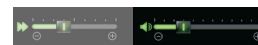
To set the shock sensitivity of G-sensor which detects a shock to a vehicle. The higher the number the higher the sensitivity. 1 for the lowest sensitivity. 5 for the highest sensitivity. Depending on the preset sensitivity, an event may not be recorded while stationary. Set the sensitivity suitable to your car and the user.

- Password setup

A password can be entered for playback. The password is saved in SD card.

- Save the car registration number

: The car registration number can be saved in SD card.



### Volume Control

in 5 levels (including 'Mute')  
Select level 1 for mute and level 5 for the highest volume.

## Updating firmware

- 1 Remove SD card from the main body and attach it to the memory card reader connected to the computer.
- 2 Connect the memory card reader to the USB port of the computer.
- 3 Copy the file to be updated to the firmware folder of SD card.
  - If there is no firmware folder in SD Card, create a new folder and change its name to Firmware, and then copy the downloaded file to that folder.
- 4 Attach SD Card to the product and connect the power for automatic update.



### Caution

Do not disconnect the cigar jack power or turn the vehicle's engine off while updating.  
Do not remove SD card while updating.

## Product size

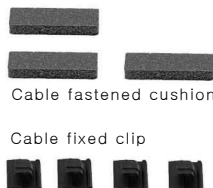
| Classification                           | Power Consumption       | Weight              | Size (WxLxH)      | Operating Temperature   |
|------------------------------------------|-------------------------|---------------------|-------------------|-------------------------|
| Unit                                     | 250 mA                  | 93g                 | 124 x 108 x 25    | -20℃ ~ +70 ℃            |
| Camera                                   |                         | GPS                 |                   | G-sensor                |
| 2Camera / 1,3M pixel CMOS digital sensor |                         | Internal GPS Module |                   | Internal 3D "G" sensor  |
| SD memory card                           |                         |                     |                   |                         |
| Voice REC.                               | Event                   |                     | Resolution        | Power Supply            |
| Internal MIC                             | Emergency button, shock |                     | 640 x 480 / 28fps | DC 12V~24V (Cigar jack) |

## Installation

### Contents



Main device



Cable fastened cushion

Cable fixed clip



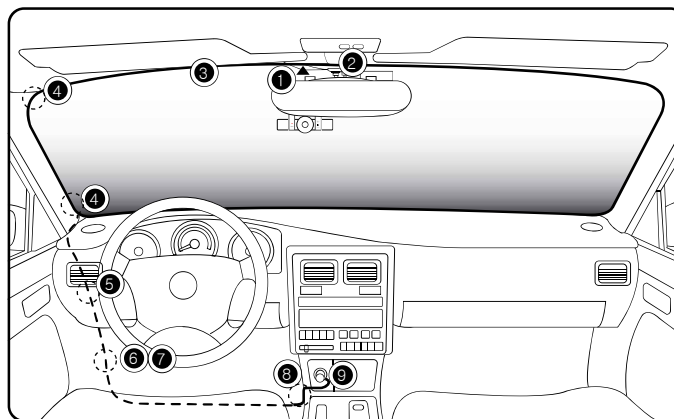
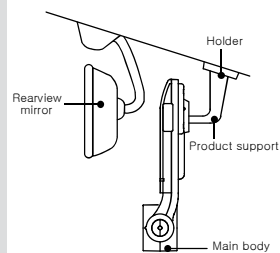
Cigar jack

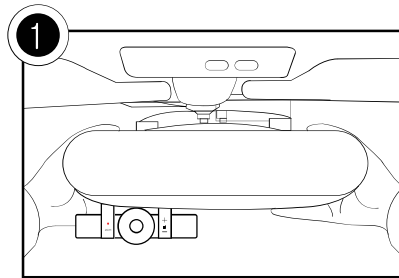


Mount bracket

### Cautions when installing the product

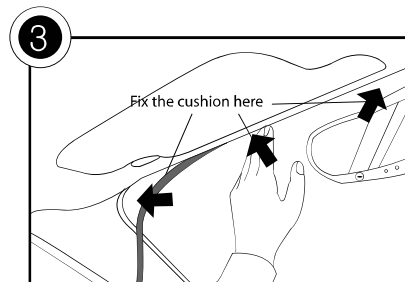
Please follow the below steps.  
Please note that if the product is attached on hot-wire, it might damage the hot-wire when removing the product later.  
When using double-stick tape, clean the surface with dry cloth before putting the tape.





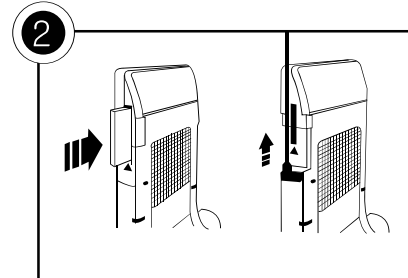
Remove the plastic from double-stick tage on the holder located on the upper rear of the rearview mirror. Attach the recorder so that the camera lens is placed below the rearview mirror, as shown above.

※ Apply force on the double-stick tape 4~5 times ensuring it is firmly attached.



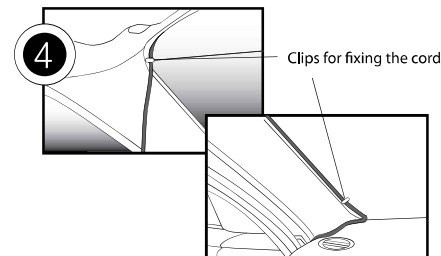
Push the power cord into the opening between the windshield and the roof. If the power cord seems loose, fix it with the provided cushions (on 3 spots.)

※ The cushions cannot be used in certain types of cars.



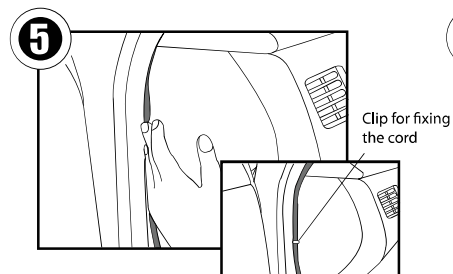
Insert SD card to the SD card slot on the side of the product. Plug the power plug into the power jack below the SD card slot.

※ Insert SD card before plugging in power jack

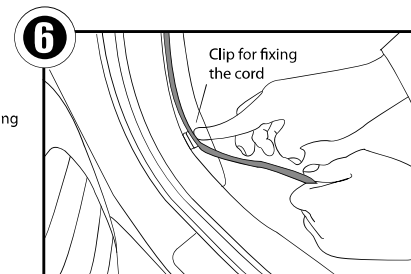


Continue to push the power cord to the sides (Using a thin plastic object such as credit card might be helpful). If there is no opening, fix the cord with the provided metal clips and double-stick tape (on 2 spots).

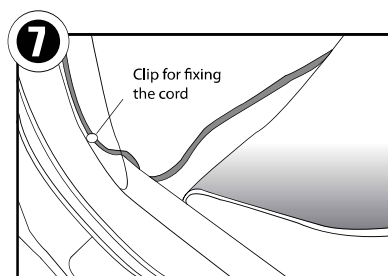
※ Remove dirt and dusts before attaching the tape  
 ※ When placing wires on the windshield with the clips.



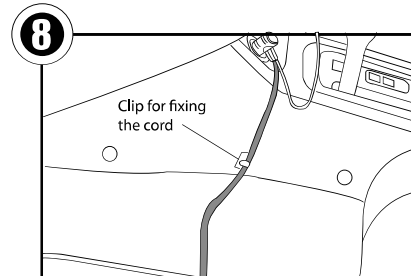
Open the door of the driver's seat and push the cord into the opening to the horizontal direction of the dash board. If it does not work well, try fixing the cord with the provided clips and double-stick tage. (on 1 spot)



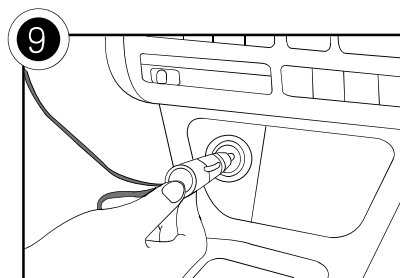
Fix the power cord to the bottom areas along the door frame.(on 1 spot)



Turn over the floor mat place the power cord to the console box in between the seats.



Fix the power cord to the console box using the provided clips and double-stick tage. This is the last step of installation.



Plug the cigar power plug into the cigar socket inside the car.

#### Check installation

Start the engine and if the power lamp on the left side of the main body turns on, installation is completed.

If the power lamp does not turn on, check if the connection is properly made.

Also, try removing dirt or dusts inside the cigar socket.

#### Safety Precautions (※ Please pay particular attention)

- Please do not install the product or adjust volume while driving as it might cause a car accident.
  - If there is a smoke or strange smell coming from the cigar socket, stop using the product immediately and visit us or one of our dealers.
  - Dusts in the cigar socket can cause a heat or fire. Regularly clean the dusts.
  - Check often if the main body is properly installed. Vibration can lead to disconnection and it might cause personal injury or damage of the product.
- ※ We are not liable for any kind of accidents occurred by the customers will be their sole responsibility.

## Troubleshooting

| Symptoms                                                                                                                                            | Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Remarks                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| The power is not turned on<br>(Voice or LED is not operating)                                                                                       | <ol style="list-style-type: none"> <li>1. See if power cable at the rear of the unit is correctly connected.</li> <li>2. See if the power cable fuse connected to the unit in the vehicle fuse box is normal.<br/>(When using power cable for connecting power)</li> <li>3. Format the sd memory card and upgrade the firmware.</li> </ol>                                                                                                                                                              | If the problem exists please contact us for after service.                                                                                              |
| Card error<br>Indication:<br>Card error, red LED<br>Voice:<br>"Error found with the card"                                                           | <ol style="list-style-type: none"> <li>1. See if the card is properly inserted.</li> <li>2. See if the card is authentic and normal.</li> <li>3. Format the sd memory card and upgrade the firmware.</li> </ol>                                                                                                                                                                                                                                                                                         | If the problem exists please contact us for after service.                                                                                              |
| Playback error<br>Upon running carpa120.exe, the executed screen disappears. carpa120 is opened but the file is not played.                         | <p>Start window→Input regedit→Confirm→HKEY_LOCAL_MACHINE→SOFTWARE→DStelecom→Carpa120→1.00.000→Delete config.</p> <p>Close the file and run carpa120 viewer.</p> <p>Check the PC specifications.<br/>CPU: min. Pentium 4/1 GHz<br/>HDD: min. 500MB, Memory: min 512MB RAM<br/>OS: Win98, ME, XP, Vista</p>                                                                                                                                                                                               | Should there still be any abnormality, contact A/S.                                                                                                     |
| GPS is not operating normally.<br>Abnormal running<br>Save date and time appear different from now.<br>Speed doesn't show when playing the picture. | <p>See if GSP module is properly attached.</p> <p>Check the installation of a terminal and the location and angle of installation.</p> <p>Format the sd memory card and upgrade the firmware.</p> <p>※ GPS may not work in closed environment such as indoors or tunnels.</p> <p>※ If you didn't drive for an extended period of time (more than 3 days) or if the unit has been operating in basement parking lot or dense building areas, it might take a longer time to resume normal operation.</p> | See if you are in shadowed area and try to disconnect the power and then reconnect it. If the GPS problem persists please contact us for after service. |
| Speaker error<br>No voice when playing.<br>No voice instruction from the product.<br>Noise in the voice instruction.                                | <p>Check if the indoor picture is deselected. If the indoor picture is deselected, voice is not recorded.</p> <p>Check if the speaker sound has an error uniformly.</p> <p>Check the power connection and unplug/re-plug in the power source.</p>                                                                                                                                                                                                                                                       | Should there still be any abnormality, contact A/S.                                                                                                     |



## Warranty Card



### About our service

- DS TelecomCo., Ltd warrant our products as follows according to Consumers Conflict Settlement Standards (Fair Trade Commission Bulletin No. 2008-31)
- When a service is requested, or other appointed servicing company will carry out the service.
- Warranty related inquiries will be responded within 7 days and repairs will be provided within 14 days after the date of such request.

|              |  |                |  |            |  |
|--------------|--|----------------|--|------------|--|
| Product name |  | Purchase date  |  | Serial NO. |  |
| Model        |  | Purchased from |  | Price      |  |

### Free repairs

Free repair services are only limited to the faulty products purchased within 1 year (warranty period). If the product is used for commercial purposes, the warranty period will be half a year.

| Types of problems                                                                                              |                                                                                              | Warranty provided      |                                                                  |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------|------------------------------------------------------------------|
|                                                                                                                |                                                                                              | Within warranty period | After warranty period                                            |
| Serious abnormality found within 10 days from the purchase date.                                               |                                                                                              | Replacement or refund  |                                                                  |
| Abnormality found with performance or functions during normal operation within 1 month from the purchase date. |                                                                                              | Product replacement.   |                                                                  |
| Reparable                                                                                                      | Up to 3 defects due to same cause.                                                           | Free repair            | Charged repair                                                   |
|                                                                                                                | More than 4 defects due to same cause.                                                       | Replacement or refund  | Charged repair                                                   |
| Non-reparable                                                                                                  | Parts for replacement are available but non-reparable (within parts available period)        | Replacement or refund  | Replacement after deducting fixed price                          |
|                                                                                                                | Non-reparable due to unavailability of parts for replacement (within parts available period) | Replacement or refund  | Refund by adding 10% to the amount after deducting fixed amount. |

### Charged repairs

#### 1) Cases not considered as defect

If you request a repair service for non-defects, you will be charged for the repair fee so please read the instruction carefully. (Non-reparable cases. Based on separate standards.)

|                                                                                        |                                                            |
|----------------------------------------------------------------------------------------|------------------------------------------------------------|
| • Instruction on how to operate the product or simple adjustment without disassembling | Free for the 1st time and to be charged from the 2nd time. |
| • Services related to external antenna or wired signal                                 |                                                            |
| • Reinstalling the product that was improperly installed by the sales representative.  |                                                            |
| • Cleaning inside of the product or removing dirt.                                     | Charged from the 1st time.                                 |
| • When defect has occurred due to foreign substance                                    |                                                            |

#### 2) Defects caused by customers

- When defect is caused by negligence, repairs or modification of the customer.
- When defect is caused by repairs done by a person other than engineers from or its appointed service center.
- When defect is caused by wrong electrical capacity. (e.g. When using 100v product with 120v power)
- Defects or damages caused by dropping of the product after installation.
- When defect is caused by using optional parts not authorized by

#### 3) Others

- When defect is caused by natural disasters (Stroke of lightning, fire, flood and etc)
- When the product is used with unstable power unable to protect from impulse voltage.
- When consumable parts are expired (batteries and etc)



