CAMOS

4CH HD Driving Video Recorder

CD-2004MT

INSTRUCTION MANUAL

Thank you for purchasing this product. For correct application and usage instructions, please read this instruction manual thoroughly.





* When using an SD card over 64GB, be sure to format the SD card using PC viewer manager before use.

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PRECAUTION BEFORE USE





Please prevent the loss of power during an update. If power is lost during an update, the product may no longer function.





Do not place near a magnet. - It may cause a malfunction.



Keep the internal GPS antenna free from any obstructions. - Obstructions may cause a problem with GPS signal reception.

The GPS function has a loading time when first powered on. - The GPS needs from a few seconds to a few minutes depending on signal reception strength.



 - If the message 'Sound device open error' is displayed twice, please re-run the viewer installation after confirming that the sound device is working properly.

FEATURES

- HD / CVBS resolution
- TVI / AHD / CVBS camera compatible
- IP69K (waterproof/dustproof) / aluminium die-cast case
- Output: HD VIDEO OUT x1 / CVBS VIDEO OUT x1
- H-264

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- Automatic recording when power is on (in the case of an external impact or if an accident occurs while driving)
- Exclusive PC Viewer Manager software
- SD card lock system
- · Various audible alerts (memory card issue, events, firmware update etc.)
- External GPS antenna
- 3G shock sensor
- Free Voltage (DC 12V~24V, Max.32V)
- · Supports triggers (connected to rear camera)
- Wi-Fi dongle for long distance Wi-Fi transfer (optional)
- · Supports voice recording via external microphone (MIC) (optional)
- External emergency recording button (optional)

2 BOX CONTENTS

* If the body and parts mentioned below are not included when you purchase this product, contact the shop where you purchased the product,



The images of each item shown above are for illustrative purposes only and may differ from the actual items supplied. Each item is subject to change without notice.

3 NAME AND FUNCTION OF EACH PART

CD-2004MT

- 1. LED lights
- 2. Forced power switch
- 3. SD card slot
- 4. Memory key lock



Cable Connection



4 INSTALLATION



Please read the following points prior to installation.

- -Turn off the product before installation, and ensure the vehicle key is not inserted and turned on at any time during the installation.
- Only use the cables supplied. Do not use any other unverified cable.
- Any vehicle with dark or metallic tinting may have a negative influence on the GPS signal strength.
- Be sure to eliminate potential wave interferences around the GPS antenna and completely separate from other devices and cabling, such as a hi-pass filter, navigation equipment etc.



GPS antenna connection

Connect the DVR to a GPS antenna to collect data including driving route, speed, time, direction and location information.

* Recommended GPS antenna installation position





Ensure GPS antenna does not overlap the tinted section of the window.



Install with the "GPS" engraved side facing upward.



- * Receiving a GPS signal could be impaired by tinting or a coating material on the window. It is not a product fault, but a situation caused by metallic tinting or a metal component in the glass such as heat/demister wires. In this case, relocate the antenna to a place where there are no obstructions.
- * Before attaching the GPS antenna, clean the surface and then secure firmly with double-sided tape, making sure the "GPS" engraved side is facing upward. The attached double-sided tape will reach maximum strength after 24 hours.



* Only the LEDs with a good connection to the external device are indicated. All camera LEDs will flash when an event occurs.

Buzzer & LED Operation

Status	Feature	CAM1 LED	CAM2 LED	CAM3 LED	CAM4 LED	MIC LED	GPS LED	Wi-Fi LED	Buzzer
Desting	Normal Booting	Blinking after turning on	Turn on	Turn on	Turn on	0			
Booting	Booting Error	Tum off after turning on	Turn off after turning on	Turn off after turning on	Tum off after tuming on	Tum off after tuming on	Tum off after turning on	Tum off after turning on	0
Turn Off	Normal Turn Off	Tum off after turning on	Turn off after turning on	Turn off after turning on	Tum off after tuming on	Tum off after turning on	Tum off after turning on	Tum off after turning on	0
	Driving(Normal)	Blinking	Blinking	Blinking	Blinking	-	-	-	-
Recording Mode	Shock(Event)	Blinking	Blinking	Blinking	Blinking	-	-	-	0
widde	External(Trigger)	-	-	-	-	-	-	-	-
Firmware	UP DATE	Blinking	Blinking	Blinking	Blinking	Blinking	Blinking	Blinking	0
	Normal	Blinking	Blinking	Blinking	Blinking	-	-	-	-
Camera	Error	Tum off after turning on	Turn off after turning on	Turn off after turning on	Tum off after tuming on	-	-	-	0
міс	Connect	-	-	-	-	Turn on	-	-	-
(AUDIO)	No Connection	-	-	-	-	-	-	-	-
	Connect - Receiving	-	-	-	-	-	Turn on	-	-
GPS	Connect - Not Receiving	-	-	-	-	-	Blinking	-	-
	No Connection	-	-	-	-	-	-	-	-
ETC	SD CARD FORMAT	Blinking	Blinking	Blinking	Blinking	Blinking	Blinking	Blinking	-

5 OPERATION



Please note the following before operating the product.

- Do not touch the device while driving.
- Connect the GPS, VIDEO OUT and MIC before turning on the vehicle.
- After powering on the device, it may reboot. This is not a device fault.
- Recording is only possible when the SD card is inserted.
- If the SD card is removed while in operation, some or all of the data may be lost.
- Always remove the SD card by using the "Safe Hardware Removal" option on a PC.

Powering On/Off & Removing the SD Card



- 1. After inserting the SD card, the cover must be closed to turn the device on. If not, the device will not turn on.
- Always lock the device with the key lock in order to prevent the ejection of the SD card due to an accident or shock. (SD card key lock)
- 3. Unlock using the enclosed key, then open the cover and wait a minimum of two seconds before removing the SD card

Please insert the SD/micro SD card with the chip/contacts facing upward.

Recording Status and LED Confirmation





- All LED lights turn on for 12 seconds after successfully booting. Then, CAM 1 to 4 lights turn on for four seconds. CAM 1 to 4 lights will then flash every second for five seconds. after which drive recording will start.
- * Please check the power or SD card connection status if the device does not boot within 30 seconds.



Recording Mode

- 1. CAM 1 to 4 LEDs will flash every second after recording starts.
- If a shock (EVENT) occurs, the LEDs on CAM 1 to 4 flash five times within a second from the start to the end of the event.



CAM 1,2,3,4

- 1. If the camera is connected, the corresponding LED light will flash every second. (E.g. when only CAM 1 is connected, the light for CAM 1 only will be on.)
- CAM LED lights will not turn on if there is an issue with the corresponding camera's connection.



MIC

- 1. The MIC LED will turn on when a microphone is connected.
- 2. The MIC LED will be off when a microphone is not connected.



GPS

- When a GPS antenna is connected, it begins searching for a signal. The GPS LED will turn on when the signal is received. The LED light flashes every second when the signal reception is poor.
- 2. The GPS LED will be off when a GPS antenna is not connected.



Wi-Fi

- 1. The Wi-Fi LED will turn on when the Wi-Fi is connected (E.g. when configuring FTP settings).
- 2. The Wi-Fi LED is turned off when the Wi-Fi is not connected.
- 3. The Wi-Fi LED flashes after connecting and when transmitting data.



Finished Recording

1. All LEDs turn off and then turn back on at the end of a normal, successful recording.

Firmware update



Firmware update

- The previous version of firmware will be updated automatically if a new update file is found during initial booting.
- 2. All LEDs flash every two seconds until the firmware update finishes.
- * Please make sure the power stays on while updating.



Please carefully read the below information if using an SD card over 64GB.

- The CAMOS DVR supports automatic formatting (FAT32) when a memory card larger than $64 {\rm GB}$ is first used.
- Only format memory cards using the PC Viewer Manager software.
- Proceed with the firmware update only after formatting the SD card via the PC Viewer Manager. (The firmware update might not proceed after formatting on a PC, depending on the file system selected (e.g. exfat). In this case, reformat using the PC Viewer Manager only, which will use the correct format (FAT32). The firmware update will now proceed as normal.)

Error Check



Error Check

- All LEDs flash every second when an error occurs or the SD card is removed with power being connected. There will be a continuous audible beep until the SD card is re-inserted or the power is turned off.
- * The device turns on/off when the cover is opened and closed. Please insert or remove the SD card by opening and closing the cover with the engine off in order to prevent damage to recorded data stored on the SD card.

RECORDING MODE & TIME Continuous Recording Section Event Recording Section 1. Continuous Recording (NORMAL) *Normal recording videos are saved in the NORMAL folder. Continuous Recording : DVR will record in two-minute files. 2min 2min 2min 2min 2min 2. Event Recording (EVENT) *Event recording videos are saved in the EVENT folder. E.g. 1: In the event of an accident Records 10 seconds before and 20 seconds after the event with an audible beep (30 seconds overall). Continuous Continuous Recording Recording 2min 2min 2min 2min Accident 205 10s Continuous Recording (two minutes) Duplicated Saved as file Recording Video

Event recording for 30 seconds total

E.g. 2: In the event of an accident within 15 seconds after recording started

Continuous recording file (15-second video) / event recording file. (30 seconds)



E.g. 3: Consecutive events

The additional event video is generated after the first event video.



* An additional event video is not generated in the middle of an event.

3. Forced Recording (MANUAL)

*Forced recording videos are saved in the MANUAL folder.



1) Extension Emergency Button (optional)

Install the emergency recording button within easy reach of the driver to start a forced recording when necessary.

* This button is connected to the remote control receiver input.





When using a 512GB SD card with either of the 960H video resolutions, the default two-minute file recording time is increased to four minutes.



The time to save the recorded video can vary and depends on the used capacity of the SD card, amount of cameras used, configured settings and recording quality.

In some cases, videos have one to two seconds of duplicated footage with the next video, which helps to prevent image loss. This is not a fault. E.g. Normal video time of 2 min. and 2s.

SCREEN FEATURES / SCREEN LAYOUT

	0010/00/04		
3L 5\	019709724 0RIVING: NO /ER: 1.0.7.N	14:15:55 © X RMAL ④ 0KM/H 19-09-02⑥ X⑦L	

1. Current Time	Displays the current date and time.
2. GPS Connection	Displays the GPS connection status (connected = O , not connected = X).
3. Recording Status	Displays the recording status (NORMAL / GSENSOR / MANUAL).
4. Speed	Displays the speed when the GPS is connected (Km/h, MPH).
5. Version Information	Displays the firmware version.
6. MIC Connection	Displays the microphone (MIC) connection status (connected = M, not connected = X).
7. Image Quality	Displays the recording quality (normal image quality = L / high image quality = H).

* Screen Configuration with Single/Multiple Cameras Connected.



Example of screen configuration with only one connected.



Example of screen onfiguration with four cameras camera connected.

6 PC VIEWER MANAGER

Recommended Specifications for Running PC VIEWER MANAGER

CPU : Pentium Series or higher OS : WINDOWS 7/ 8/ 10 Memory : 2GB RAM HDD : 1GB Free Space Authorized User : Administrator

- * If videos saved in the SD card are more than a week older than the current PC time, when you open a file in the PC VIEWER, a message is displayed that states the SD card needs to be formatted.
- * Please format the SD card regularly to prevent errors.
- * If the recording list does not show up in PC VIEWER, check the drive letter selected to ensure you are looking on the SD card.

Recorded File Naming Convention



The file naming convention is "Channel_Numbering_Date_Time_N/A_N/A_Recording Mode". For the end letter (recording mode): "N" stands for normal recording, "G" stands for event recording by an impact, and "S" stands for Wi-Fi setting (saving images during an impact). Eg. ch1_0183_20200128_180426_753_56991_N.avi

The file was recorded on 28th Jan 2020 18:04:26 using ch1, normal recorded file.

Organize 🔻 Share wit	th 🔻 Burn			
▲ ☆ Favorites	Name	Date modified	Туре	Size
M Desktop	ch1_1251_20140305_081634_606_119902	2014-03-05 오전 8:	Video Clip	80,070 KB
Recent Places	ch1_1252_20140305_081834_575_119902	2014-03-05 오전 8:	Video Clip	94,978 KB
	ch1_1253_20140305_082034_542_119902	2014-03-05 오전 8:	Video Clip	94,504 KB
4 词 Libraries	ch1_1254_20140305_082234_510_119902	2014-03-05 오전 8:	Video Clip	94,790 KB
Documents	ch1_1255_20140305_082434_478_119902	2014-03-05 오전 8:	Video Clip	94,851 KB
Music	ch1_1256_20140305_082634_446_119902	2014-03-05 오전 8:	Video Clip	94,263 KB



* The channel selection window appears when a new SD card is recognized or after the SD card is formatted through the viewer. Please select the channel.

Select the channel	×
© 201	© 40H
Confirm	Cancel

- * Please install PC Viewer Manager onto your PC from the "Viewer" folder in the SD card.
- * Please remove the "Viewer" folder after the installation of PC Viewer Manager.
- * After formatting the SD card, you can download the PC Viewer Manager setup file from the Camos website: www.camos.co.kr.

PC VIEWER MANAGER INSTALLATION ISTRUCTION

※ Double-click setup.exe to start the installation.



3. Specify the installation location and click [Next].





X Viewer's Software is subject to change without notice.

The latest viewer version is available for download from CAMOS website.

User Interface Instructions



1. Play screen	Displays quad recorded video.		
2. 3G sensor	Displays 3G sensor information.		
3. Volume control	Adjusts sound (mute/volume +,-)		
4. Playback control	Previous file/Backward/Play(pause)/Forward/Next file		
5. Play speed control	Adjusts playback speed (x1/4 \sim x4)		
6. Minimize	Minimizes the program window to the taskbar		
7. 1:1 screen	Fit the recorded video to the viewer window size		
8. Full screen	Displays the recorded video in full screen (press ESC to return to normal playback screen).		
9. Maximization	Maximizes the program window to monitor screen size.		
10. Exit	Ends the program.		
11. Open file	Opens a recorded video file.		
12. File search	Searches the file list by date and time.		
13. Map	Displays driving route on the map.		
14. GPS info.	Displays GPS information.		
15. Output of Event Report	Displays report format data.		
16. Send file	Saves the data in bmp or avi format.		
17. Configuration	Change setting values.		

Recorded Video Playback Instructions





Disk Read

- 1. ① Click on the "Folder" button to display the Disk Read screen.
- ② On the Disk Read screen, select the connected drive and press the OK button to display a list of files.
- If the connected drive cannot be verified, directly browse and read the recorded file after clicking on the "Open Another Folder" button.

File List Change

- 1. ④ The Viewer software can convert and display all files, event recording files, and LOG data in the file list.
- 2. [ALL]: Show all files on the SD card.
- 3. [EVENT]: Display event files on the SD card.
- [LOG]: Identifies the type of event recorded and displays a timestamped list.

File Playback

1. ⑤ Double click on a specific time slot to continuously play through the videos.

Expanded file list screen



Expand File List

 Click the "Expand list" button to open a window to the right of the screen, showing more files. Click (again to return to the original file list.

Mode Change



EX 1:4 SPLIT



EX 2 : CAM 1

- 1. Four images are displayed after running the viewer and selecting a file (refer to image EX1)
- The selected part of the screen is zoomed-in when you double click it during playback. Double click it again to return to the previous screen (refer to image EX2).





CAM 3



CAM 4

Map Information Instruction



Click the ① button to expand the map screen.

Click the ① button again to return to the main display.

Checking GPS information

It is possible to view the vehicle's speed, time, direction and location information at the time video was recorded.



Additional Functions



Click the ① button to show the accident report. Click the Add Memo button to comment on the pin board of the accident report. This will appear on the printed image. Click the print out button to print.



Click the ② button to save an image of the currently playing video.

1. Backup Type : Click "AVI" to save as a video.

Click "BMP" to save as an image.

2. Select the save location on the PC

Configuration

Click the Config	uration button to open the Con	figuration window.
	H/config dat	×
Speed Unit	O Kmith O MPH	DVR Version : Firmware Version : 0.0.0N PC Viewer Version : 1.2.0N
3 3G Sensor		WARING: This computer program is protected by copyright law and international breates.
Mic on	•	Unaufforced diplication or distribution of this program, or my portion of it, may result in severe dud or criminal pensities, and will be proceeded to the maximum extent possible under the law-
5 Time Setting	Apply 12 - 10 - 13 - 30 - syme	Memory BLACKBOX (II:)
6 Standard		UPLOAD FILE O OFF O ON
UTC +00:00 Londor	n,Lisbon Daylight Saving	JPG/AVI EVENT AVI → ETR LIDI 175.210 *** ** /V0(1) ***
	Input Password Confirm Password	FTP ID CD-2004MT FTP PW *** AP SSID Gmos AP PW ***
Car Number	001	DEFAULT

1. Speedometer Unit	Selects the units for GPS speedometer (Km/h/MPH).
2. Recording Quality	Sets the quality of recording. (High/Normal)
3. Shock Sensitivity	Sets sensitivity of the 3G sensor [6 options: 1(insensitive) \rightarrow 5(sensitive) / 0(off)]
4. Audio Recording	Selects whether audio recording is enabled.
5.UTC	Selects the Universal Time Coordinated. (Sync button displays the time set on the computer)
6. World Standard Time	Selects the world standard time.
7. Summer Time Apply	Applies daylight savings time.
8. User password setting	Sets password in the PC-viewer. (up to eight digits, special characters/numbers/letters available)
9. Car Number setting	Sets a user car number to be displayed in the screen during recording.

* UTC time is the initial setting value.

* UTC time is the initial seturity volte: * Please select your city and click the button 'sync' to set your time.

* Time would be set accurately, if you use our GPS for video recording.

Speed Unit	🔘 Kmith 🔍 MPH	DVR Version : Firmwore Version : 0.0.0 1
Video Quality	🔘 High 🛛 Normal	WARDING: This cours day sport an is ranke ted by consided
3G Sensor	● 0 0 1 ● 2 ● 3 ● 4 ● 5	law and international treaties.
MIC ON	۵	Unauthorized duplication or distribution of this program, or any
		portion of it, may result in severe dvi or criminal penalties, and will be propercised to the maximum extent ponaltie under the law.
Time Setting	. Anobi	Memory BLACKBOX (H: 1)
2020 11		inclusive and a second s
Standard		JPG/AVI EVENT AVI V
	0.1.6000	CARDENCE, SCHOOL AND
UTC +00:00 Londo	Daylight Saving	FTP URL 175.210.***.** /V0L1/ ***
UTC +00:00 Londo	Daylight Saving	FTP URL 175.210.*** /VOL1/ *** FTP ID CD-2004MT FTP PW ***

10. Version Info.	Displays software version and information.
11. Memory	Check the path to the SD card
12. SD card Format	Formats the connected SD card.
13. Default Setup	Resets all settings to factory default.
14. Save	Saves the setting(s).
15. WiFi setting	Set up for Wi-Fi (optional)



The Viewer settings are saved to the connected SD card. If you connect and use multiple storage media at the same time, please be sure to check the location of the SD card written to in [(iii) Memory] as the settings from another drive may be overwritten or applied.



The following characters are available to input for the configuration setting.

- FTP URL : English Alphabet, Arabic Numerals, _ : / .
- FTP ID : English Alphabet, Arabic Numerals, _ : + . ,
- FTP PW : English Alphabet, Arabic Numerals, _ : + . , ! @
- AP SSID : English Alphabet, Arabic Numerals, _ : + . , ! @, Space bar
- AP PW : English Alphabet, Arabic Numerals, _ + . !, Space bar

SPECIFICATION

Video signal	Input	4 Channel input (TVI or CVBS)
	Output	HD 1 Output / CVBS 1 Output
Audio signal		1 Input
Recording Resolution		4Channels HD(1920x1080), CVBS(1920x1080)
	Frame	30fps
	Mode	Normal / Event (G-sensor) / Manual
Compression		H.264
Memory		SD Card (min.16GB ~ max.512GB)
Power supply		DC 12~24V (with super cap) max.32V
Operating temp	perature	-10°C ~ 60°C
Storage temperature		-20°C ~ 70°C
Dimension (W/D/H)		198 x 34.5 x 100 mm
Weight		822g (DVR Only)

Instruction Manual