ULTIMATE CAR DVR

BLACKSYS CF-100

USER GUIDE

2ch Full HD Car DVR with brilliant image

Simultaneous recording from both front camera with Full HD resolution (1920x1080, 30fps) and rear camera with HD resolution (1280x720, 30fps) provides superb high quality videos.

BlackSys

Notice

This product helps you to use the recorded video as a reference in case of car accident. The recorded video by this product carries no legal binding force.
CammSys will not be responsible for any legal conflict and damage caused by recorded or non-recorded video.

- For safety, do not operate this product while driving such action may result in injury or accident.

- An accident at very low speed or impact may not trigger emergency recording and could be recorded as a normal file.

- Recording may not be executed in case the product is defect caused by car accident or other reason.

- Recording can be distorted under the condition where brightness suddenly changes like passing through a tunnel,
  direct sunlight reflection during the day time or where light is not available at night time.

- All right to hardware, software and relevant data are reserved by CammSys Corp. and protected under copyright Law.
  In case of illegal copy and process, not only civil compensation but criminal punishment based on protection of intellectual
  property rights can be engaged.

- Do not use the product for other purpose rather than Car DVR.

- In case of recording other's voice without permission, you will be liable for legal responsibility.

- CammSys will not be held responsible for damage caused by negligence, careless and improper management of user.

Table of contents

Caution

Before use the product, check if operation and video recording goes well.

⚙ Installation and Management

- Keep the camera lens clean by preventing dust or foreign substance from coming into contact with the lens.
  Otherwise, this may result in video distortion. If another object is placed nearby it may be reflected in the window.
  So keep the area clear around the installed Camera.

- If installation location of the product is changed, it may not record properly even if it worked after initial installation.
  Therefore, install the product firmly and do not give an excessive shock or force to move the product.

- Continuous change of product location from the windshield may cause weakening of adhesive strength and the product
  can fall off in the end.

- Check that position of SD card is correct before inserting.

- In the case of using the power from the vehicle (DC fused power), please disconnect the power cable
  if you do not use the product for a long time. (It may cause discharge the battery.)

- Do not switch power off while firmware is upgrading. It may cause malfunctioning.

- Long term use of this product or in case of severe vibration may cause change in camera angle.
  Correct the angle or location of product on a flat location whilst parked.

- Do not use chemicals or detergents to clean the product. This can result in a malfunction.

- Never cause excessive shock to or inject a foreign substance into the product.
  Causing excessive force or shock or injecting a foreign substance into this product can cause malfunction.

- Avoid high temperature (direct sunlight) or high humidity during normal operation of product.

- Do not disassemble or repair this product.
  It can cause malfunction and such action will result in the product being void of all warranty/service provisions.

Caution

🔲 SD Card Use

✓ Be sure to turn OFF the power and the LED is OFF before removing or inserting the SD card. Removing the SD card while product is in use can cause a malfunction.

- U se the authorized SD card which the manufacturer/distributor provided.
  If unauthorized SD cards are used, it may cause malfunctioning and loss of recorded Data.

- Do not disassemble or repair this product. It can cause malfunctioning and will void warrantee.

- SD card is an expendable supply. After a period of use, it may not able to record data correctly.
  Please change the SD card to a new one. Data can be lost and damaged if data is kept in SD card for a long time.

- If you want to keep the videos, back up the data onto other storage devices such as HDD, CD and USB.
  Keeping the data in SD the card only, may cause data loss and damage.

- Check the recorded data of SD card in a regular basis and format to make sure of trouble free recording.

🔌 Use of Power

- This product is designed to be plugged into a cigar jack power only. In the case of using any other power source from the vehicle, consult with your local vehicle dealer. Please note this method is outside of manufacturer's responsibility under any circumstances and cannot be held liable for damage or injury.

- Use only the authorized cigar cable contained in the product box. Avoid connection of power supply without knowledge and experience. Avoid using DC fuse power cable for permanent power.

- Do nnot remove or insert SD card while power is turned on, it can cause serious error of the product. Make sure to turn OFF the power and LED is OFF before removing or inserting the SD card. Removing the SD card while product is in use it can cause damage of video file.

Main features

FULL HD (1920x1080)

Full HD resolution for high quality video

F 1.8 lens with SONY Exmor sensor provides brighter and clear high quality Full HD images.

REAR CAMERA HD(1280x720)

HD rear camera

720P HD resolution with 30fps

CONTINUOUSLY RECORDING

Normal Recording

Recording starts when ignition turned on and continuously recording video images and saving files per 1 minute. If memory is full, recording starts overwriting from the oldest file by deleting them in order.

MOTION DETECTION

Motion Detection in Parking Mode

When motion is detected during parking or stopping, recording get started for a certain time and if motion is not detected, recording is put on standby without recording. This mode stores only necessary videos, SD card memory is managed efficently.

EVENT

3D G-Sensor

3-axis G-Sensor detects vehicle impact, brake, acceleration and automatically record video images and store files in a separated folder to avoid overwriting.

Main features

Parking Mode Recording

Parking mode activates automatically when vehicle stops for a certain amount of time if DC fuse power cable is connected and any damage of vehicle can be recorded.

PARKING

Super Capacity (backup battery)

Built-in super capacity secures safe storage of recorded data even when power supply is disconnected caused by unexpected accident or impact.

SUPER CAPACITY

Front and Rear recording

Front with Full HD, Rear with HD resolution at 30 fps respectively.

2CH CAMERA

LED Lighting

Security LED in front indicates that Car DVR is installed in this vehicle and it's always on while Car DVR is powered on. Rear LED with blue color indicates state of each function such as recording, GPS reception.

SECURITY LED

Voice Guide/Recording

Kind voice guide announces each action and state. Built-in microphone records voice and surround sound which helps situation analysis in case of video in accident.

VOICE REC

Main features

130°	### 130° Angle of View 130° Diagonal angle of lens can record wider angle of view.
PLAYER	### Dedicated PC viewer BlackSys software(PC viewer) provides not only video playback and but video analysis.
EMERGENCY REC	### Emergency Button Recording User can record event manually with emergency button during driving, parking and accident. Recording total 30 sec. including 10 sec. before and 20 sec. after from the time of pressing emergency button is performed. The recorded video is stored in event folder.
SDCARD FORMAT	### Manual Format Manual format is available without PC. (p.26)
VIEWER ZOOM	### Zoom in through PC viewer Zoom in the important points of video through PC viewer.

Main features

Location and route information (Optional GPS)

Optional high-sensitive GPS(SiRF 4) records vehicle speed, route and location information which synchronizes with Google Map to display the driving path.

GPS

Video Out (Optional Cable)

Video Out cable synchronizes with any media players for the real-time video monitoring.

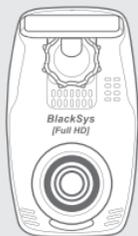**VIDEO OUT**

DC Fuse Power Cable (Optional Cable)

If DC fuse power cable is connected, recording is available during parking mode.

※ Long use recording through DC fuse power cable may cause discharge of battery and malfunctioning of product. So please unplug the cable in this case.

DC FUSE POWER CABLE

Name of the components

Actual components may be different with pictures and some components can be changed in case.
If package doesn't include below components, please contact a retail shop or company where product was sold.
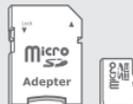
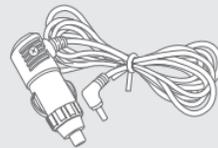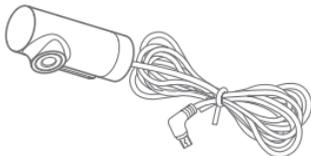## ∷ Standard components

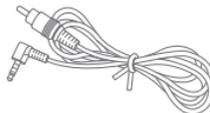| Main unit	User's manual	Cable Holder	Micro SD Card	Cigar Jack cable

∷ Optional Components

HD Rear Camera	External GPS module	Video Out cable	DC Fuse Power Cable

Name of the components

Speaker
Action state, Voice guide

Camera lens
For video recording

BlackSys
[Full HD]

Surveillance LED
LED indicator for parking
or video recording

Emergency Recording button
For manual Recording

Sound control button
Speaker control button (-)

Sound control button
Speaker control button (+)

Emergency

REC *BlackSys* GPS

REC LED
Recording state indication

GPS LED
GPS connection state indication

MIC
Recording video
and voice simultaneously
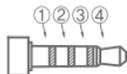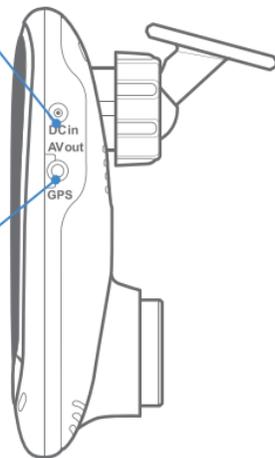
Name of the components

Power Terminal
For supplying power to the main unit

A/V Out Port
Video review by connecting to external device

GPS Port
For checking location and speed of vehicle through dedicated PC viewer

Holder
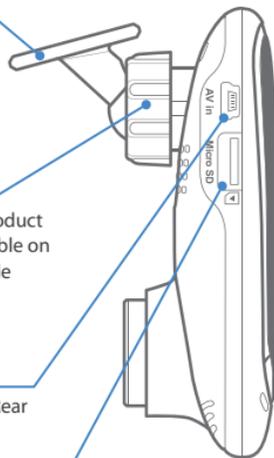For attaching main unit to windshield

Clamping lever
For fixing holder to product and adjustment available on up/down, left/right side
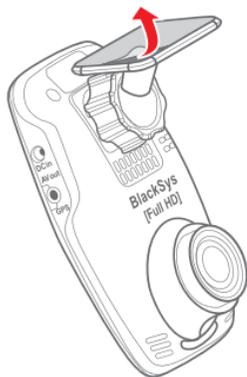
Rear Camera connection port
Mini USB port for HD Rear Camera

Micro SD card slot
External Mirco SD card port

① GND
② AV OUT
③ GPS Data
④ Power

Installation

1. Attaching double-sided adhesive tape

Wipe up the foreign matters or moisture completely from the location of installation. Remove the release paper on double sided tape and attach it to the holder and remove the red adhesive protector.
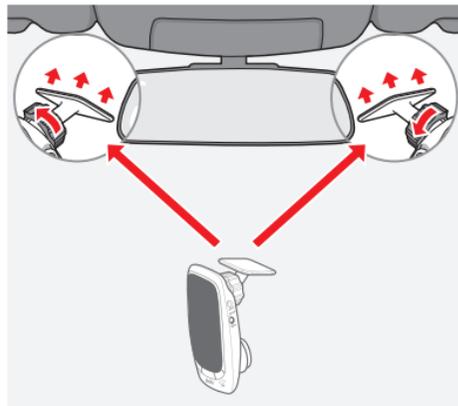
2. Installing unit

Installation is recommended on the left/right of room mirror. Tightly fasten the adhesive of holder to the windshield by pushing it. Adjust the angle of camera to record forward and unit to be vertically installed. Finally, tighten the clamping lever.

※ If a video from navigation system or dashboard reflect in windshield, it can affect video quality. so avoid it.

Installation
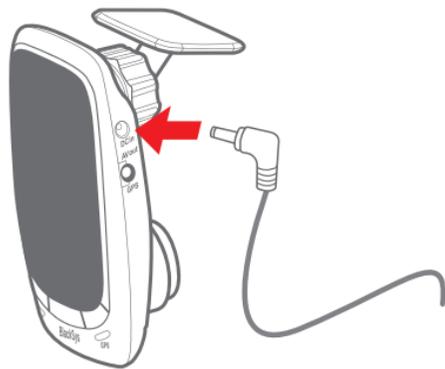
3. Power cable arrangement and connection

By using the cable holders, arrange the Cigar jack cable
and connect it to the DC IN port(upper hole).
If car navigation system is installed on the car, it is
recommended to connect video out cable (option)
to navigation system to adjust by checking the current
view of the camera.
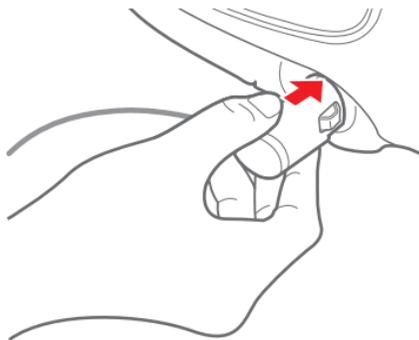
4. Power cable connection and check the LED state

After inserting the Cigar jack cable (Power cable) into
cigar jack, turn on the car ignition. If all LEDs of power
status are on, installation is completed.

Installation

N T - 9 7 1 2
N9-13420-003
Made in Korea
CE [c FC

※ Caution ※
Install arrow to the up
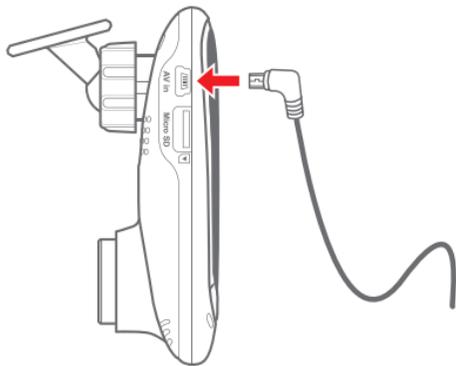
1. Rear Camera Installation

Connect cable of Rear Camera to the AV in port of Front
Camera (main unit). Clean up the cable of Rear Camera
from the location of installation.
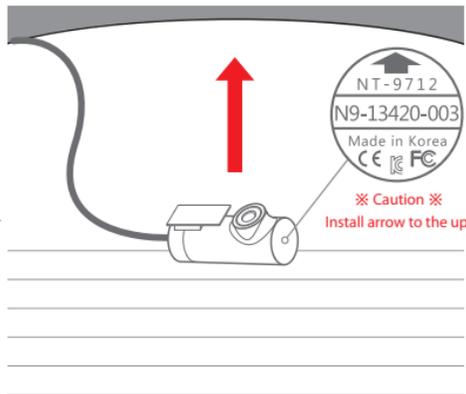
2. Installation

Wipe up the foreign matters or moisture completely
from the location of installation. Remove red cover in
double sided tape and attach it to the rear windshield.
Installation is recommended on the middle of rear
windshield and holder should be forwarded to the
left side.

※ Tinted windows may cause unclear image of video
from rear camera. Avoid tinted window.

Function

Normal Recording file, Event Recording file and Parking mode Recording file are stored and if external SD card is full, overwriting gets started from the oldest file.
Overwriting gets started from the oldest files in order, regular data back-up is required to save important data.

📹 Normal Recording

- Recording starts when vehicle power is turned on and recorded data are stored in SD card. **("Normal" folder)**

📹 Parking Mode Recording

- 10 minutes after parking or stopping the car, if no motion is detected, it converts to Parking mode recording automatically.
  (In case of using DC fuse power cable or product is connected with a vehicle battery)

- If motion is detected consistently and driving is resuming, it converts Normal recording again.

- When it detects impact during Parking mode(Motion detection), the video file is stored in **("PARK" folder)**.

  ※ Long period of parking may cause discharge of a vehicle battery.

📹 Last Scene Recording

- Though power supply is disconnected caused by accident or manually, last scene is recorded and stored by using built-in super capacity battery.

📹 EVENT Recording

- If Acceleration sensor(G-Sensor) detects impact, sudden unintended acceleration and quick braking or manually pressing the event button during the car runs, it records 30 sec. of video to the **("EVENT" folder)**.(10 sec. before and 20 sec. after the event)

※ If power is disconnected within 2 min. after power is on, recorded file can be broken.
※ The less G-Sensor figure, the less shock sensitivity. (Initial settings come with 3 level. 1 is insensitive, 3 is medium, 5 is sensitive)

Mode		Button	Voice guide	LED state		
				REC	GPS	Parking
Power	ON	X	X	On	Off	Off
	OFF	X	Car DVR is ending.	Blinking	Blinking	Off
Recording start		X	1CH recordings are getting started.	On	Off	Off
			2CH recordings are getting started	On	Off	Off
TV OUT	Connected	X	X	On	Off	Off
	No connected	X	X	On	Off	Off
GPS	Connected	X	GPS is connected. (1 time if connected)	On	On	Off
	No connected	X	-	On	Off	Off
SD Card format	Format Mode	Keep pressing Emergency button over 8 sec.	Do you want to format SD CARD?	On	Off	Off
	Format start	▲ Button	SD CARD is getting formatted.	Blinking	Blinking	Blinking
	Format cancel	▼ Button	SD CARD is not formatted.	On	Off	Off
FW update		Updating automatically if update file is existing in SD card.	Update is starting.	Blinking	Blinking	Blinking

Function

Mode		Button	Voice guide	LED state		
				REC	GPS	Parking
EVENT Recording	Automatic	X	Sound effect 1	🔵		⬭
	Manual	Pressing Emergency button shortly	Sound effect 1 + Sound effect 2	🔵		⬭
Voice Recording	ON	▼ Keep pressing over 3 sec.	Voice recording is starting.	🔵 (3 times flickering)		⬭
	OFF	▼ Keep pressing over 3 sec.	Voice recording is ending.	🔵 (3 times flickering)		⬭

※ Motion Detection: motion is detected during Parking Mode, Parking LED is flickering per sec.

Error

※ CF-100 supports SD card from 16 to 32GB.

Mode	Button	Voice guide	LED state		
			REC	GPS	Parking
No SD card	X	Please insert SD CARD.	🔵	🔵	⬭
SD card error	X	SD CARD cannot be read.	🔵	🔵	⬭
Camera error	X	Camera is out of order.	🔵	🔵	⬭
Low capacity memory card	X	SD CARD is not compatible.	🔵	🔵	⬭

How to install PC Viewer

PC Viewer Installation

Insert SD card to the PC or download software from **www.blacksys.co.kr > Support > Download** and execute.
Once installation is completed,
click CF-100 Player and execute it.
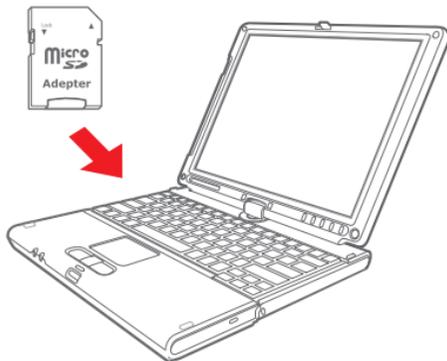
CF-100
Player

Uninstallation

1. Control panel > Program uninstallation & change
   > Uninstall CF-100 Player

2. C:₩Program Files(x86)₩BlackSys₩CF-100 Player
   ₩ Uninstall CF-100Player

3. Execute Start > All program
   > CF-100 Player > Uninstall CF-100Player

Recommended System for PC viewer

- OS : Windows XP SP3, Vista(32bit), 7(32/64bit)
- H/W : Pentium 4 2.8GHz over / 1G RAM over
- Web browser : MS Internet Explore 8.0 over
- Direct X ver. : Direct X 9.0(JUNE2010) over
- Other : Windows.NET Framework 3.5 over

How to install PC Viewer

Software installation
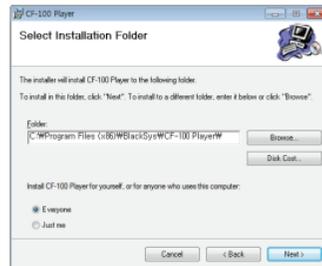
1. Execute download & Setup.exe
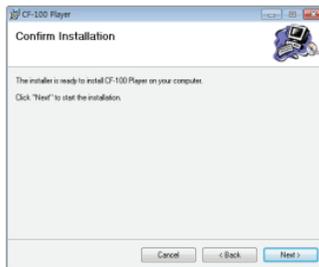

BlackSysPlayer.
msi

setup.exe

2. Installation preparation

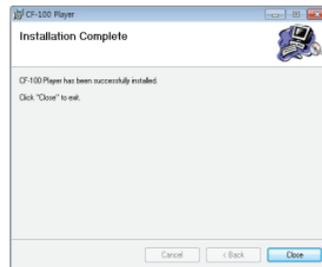Welcome to the CF-100 Player Setup Wizard

The installer will guide you through the steps required to install CF-100 Player on your computer.

WARNING: This computer program is protected by copyright law and international treaties.
Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil
or criminal penalties, and will be prosecuted to the maximum extent possible under the law.

3. Installation folder choice

Select Installation Folder

The installer will install CF-100 Player to the following folder.

To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

Folder:
C:\Program Files (x86)\BlackSys\CF-100 Player\

Install CF-100 Player for yourself, or for anyone who uses this computer:

◉ Everyone
◯ Just me

4. Installation start

Confirm Installation

The installer is ready to install CF-100 Player on your computer.

Click "Next" to start the installation.

5. Installation in process

Installing CF-100 Player

CF-100 Player is being installed.

Please wait ...

6. Installation completion

Installation Complete

CF-100 Player has been successfully installed.

Click "Close" to exit.

How to install PC Viewer

Software uninstallation
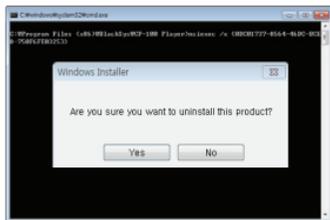
1. Click Start

2. Click All program and search Uninstall CF-100Player

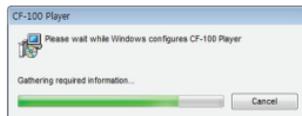3. Chose CF-100Player > Uninstall CF-100Player

4. Click **[Yes]** for uninstall

5. Uninstallation preparation

6. Uninstallation in process

How to install PC Viewer

: Screen Minimization

: Full Screen / Previous Screen

: Close

Viewer Screen

ALL : All video file list
NORMAL : Normal video file list
EVENT : Event video file list
PARKING : Parking video file list

Play list

Map view

Progress bar

G-Sensor Data Review

GPS Speed (Km/h ↔ mph)

Version information :

: Volume Control

: Image Brightness Control

Configuration :

Video Screen Capture :

: Enlargement of a part of Screen

Print :

: Screen Vertical

Folder open :

: Screen Horizontal

Select drive :

: Move to Previous File in the List

CH 1 : Playback front camera

: Move to 1sec. Before

CH 2 : Playback rear camera

: Playback and stop video

MAP : Map enlargement

: Move to 1sec. After

: Move to Next File in the List

: Move to Next Frame

※ PC viewer enlargement(basic screen view): if scroll up mouse in front video while it´s playing, video size enlarge 0.2 times each and total 2.8 times are available.(1 ~ 15 level)
※ PC viewer enlargement(full screen view): if scroll up mouse in front video while it´s playing, video size can enlarge 0.2 times each and total 2.2 times are available.(1 ~ 12 level)

How to install PC Viewer

🖥 Drive open

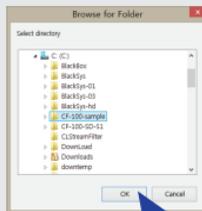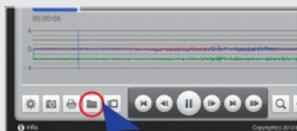- [🖥] Select SD card wish to open and click "OK".
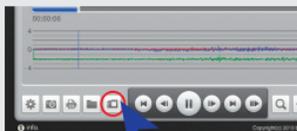
- Video files in the selected drive are displayed in time order.

- Select file wish to open and double click in the file list

  [▶] or click play icon for the video play.

📁 Folder open

- [📁] Select folder open icon and select folder wish to open in the folder search window. Click OK.

How to install PC Viewer

Settings

Audio Recording	: OFF / ON
Speaker	: 0-10 (Volume Control)
G-Sensor Sensitivity Control	: Low-High (1~5)
Parking Entry time	: OFF/5min./10 min./20 min./30 min.
Parking LED	: OFF / ON
Time Zone	: GPS Time Zone setting
Date & Time Setting	: ☑ Check V mark and set d/m/y/time/min/sec
Save	: Save setting figures in SD card
Default	: Change setting to default

User

User's name
Vehicle plate no.

How to update firmware

📥 Firmware update

✔ Please follow the below process in case of updating firmware.

① Remove SD card from the unit.
- Turn off the ignition first and remove cigar jack cable from the unit.

② Access our webpage (www.blacksys.co.kr > Support > Download) and download the latest update file.

③ Connect SD card to PC and paste downloaded latest update file(CF100update.tar) to the root of removable disk.

④ Insert SD card which contains latest update file to the unit.
- Turn on the ignition and connect cigar jack cable to the unit.

⑤ All LEDs are on and upgrade gets started and once upgrade is completed, recording goes on automatically.
- Do not disconnect power cable while update is in process. It can cause malfunctioning.

🏠 How to download Firmware and Software

- Access our webpage (www.blacksys.co.kr > Support > Download) and download the latest update file.

- Complete Installation software to the PC.

※ Internet connection is required to download firmware and software.
※ Please check notice before upgrading firmware as firmware upgrade may change some functions of the product.

How to format SD card

Check the virus and format the SD card in a regular basis (twice a month at least) to avoid disadvantage caused by storage error such as non-recording and abnormal recording.

🖥 PC format

    ① Insert or connect SD card to PC.

    ② Click **[Start]** → **[My Computer]**

    ③ Place mouse pointer in **[Portable USB drive]** SD card and click the right button of mouse. then click the **[Format]**.

    ④ Once click the **[Start]** button, format is started.

- FAT 32 format is required if SD card recognition and record error happen.

- Change SD card if PC doesn't recognize SD card or format is not able to be completed.

- If SD card contains other data, it can cause malfunctioning. Therefore, please remove it.

※ As SD card is expendable supply, manufacturer is not responsible for any data loss and damage.
   Also, manufacturer cannot guarantee the recorded data in SD card.

📠 Manual format   Manual format is available without PC.

    ① To format press Emergency button for 8 sec. until voice guide "Do you want to format SD Card ?" is announced.

    ② If press left **[▲]** button, voice guide "SD CARD is getting formatted" is announced and format gets started.

    ③ Once format is completed, it starts rebooting automatically and recording.

Technical Specification

Model Name		CF-100
Camera	Lens	Front: 2M Pixels / Rear: 1M Pixels
	Angle of View	Front: 130° Rear: 120°
	Sensitivity	1.0 LUX
Function	Video / Voice Encoding	H.264(AVI) / PCM
	Resolution	Front : 1920(H)x1080(V) Full HD, Rear : 1280(H)x720(V) HD
	Recording Mode	NORMAL (70% of memory space, 1min./file, 30 frame/s)
	Option	EVENT (20% of memory space, 30sec./file, 30 frame/s)
		Auto Parking Mode (1min./file, 30frame/s)
	Rec. Method	In case SD Card is full, it deletes the oldest files in order
	Voice Recording	Built-in microphone records voice and surround sound
	Format	Micro SD Card Format
	External GPS	SiRF 4 (Option)
	Shock Sensor	Tri-axial shock detection G-Sensor
	Memory Storage	Memory Storage Micro SD Card (16G ~ 32G)
	Rec. Frame	Max. 30fps
Display	External Video Output	NTSC (Composite)
	External Playback	PC Media player & PC Viewer
	Video Analysis	Video Analysis through PC Viewer software
Temperature	Operation	-20℃ ~ 70℃
	Storage	-30℃ ~ 80℃
Power	Operation	DC 12V ~ 24V (±0.3V) / CIGAR JACK CABLE
Dimension(mm)		58(w) X 100(L) X 34(H)

Customer Service

We don't take any responsibility for the data loss during the service. Please back up the date before applying for service.

CammSys Customer Service

- Address : 6F Daeil B/D, 681-17, Yeoksam-dong, Gangnam-gu, Seoul, 135-081 Korea
- Opening hour: 09:00 ~ 18:00 (Mon. ~ Fri.)
- Closed : Saturday, Sunday, and Public Holiday

If you come to customer service center, service personnel will care for the service timely and properly.
For further information regarding customer service, please refer to www.blacksys.co.kr/en

82-70-4680-2595

Warranty

🕐 Warranty period

- Product(main unit): 12 months from the purchase date(But, if purchase date is not clear, it can be applying 3 months warranty after manufacturing date)
- Accessory(expendable supply): 6 months including SD card.(In case of using DC fuse power cable, memory card life can be shorter than general use)
- Service parts holding period: 5 years after stopping sales

	Type of Damage	Compensation standard	
		Within Warranty Period	After Warranty Period
Claim a service for trouble caused in a normal use condition	Claim a service for a main part within 10 days after purchase	Replacement or refund	Not applicable
	Claim a service for a main part within 1 month after purchase	Replacement or Free repair	Not applicable
	Claim a service for faulty unit	Free repair	Repair at cost
	Repair is not available	Replacement or refund	Replacement or refund after depreciation
	Replacement is not available	Refund at cost	Applicable by bylaw
	Claim a service for a main part within 1 month after unit exchange	Refund at cost	Applicable by bylaw
	Same defect over 3 times	Replacement or refund	Not applicable
	Multi defect over 5 times	Replacement or refund	Not applicable
	Lost by service center during repair service	Replacement or refund	Applicable by bylaw
Claim a service for not holding service parts within service parts holding period	Trouble caused in a normal use condition	Replacement or refund	Not applicable
	Customer's negligence or fault, Functional defect	Repair at cost	
Damaged unit from distribution		Replacement	Not applicable
Damaged unit from installation		Replacement	Not applicable
Customer's negligence or fault, Functional defect	Repair is available	Replacement at cost	Applicable by bylaw
	Repair is not available	Repair at cost	Repair at cost

※ Warranty period is 12 months after purchase.
※ We provide product repair and replacement services within the warranty period in accordance with the consumer protection regulations.
  (the Korea Fair Trade Commission Directive 2008-3)

Warranty Card

Model Name	CF-100			
Manufacturer				
Serial No.				
Purchase Date				
Warranty Period	12 months from the purchase date (But, if purchase date is not clear, it can be applying 3 months after manufacturing date)			
Customer Information	Name		Tel.	
	Address			
Retail Shop	Name		Tel.	

※ The warranty for the product is benefited by the details on the warranty card.
※ Warranty period is counted from the purchase date. So get the purchase date.
※ This warranty card is not reproduced.

MEMO

CAMMSYS