mini0906

User's Guide For

DASH CAMERA

SAFE DRIVE

Please read this manual carefully before using.
This manual should be kept for future reference.

Warning:
The dash camera should be set up before driving.
Concentration should always be maintained on the task of driving.
Let the dash camera record accidents caused by others not by yourself.

The manual may be different with the camera according version update.

PRECAUTIONS

– Do not expose the dash camera to dusty, dirty or sandy conditions, if these gets into the camera or on the lens it can damage the components.

– The normal operating temperature of the dash camera is -10°C to 60°C (14°Fto 140°F), it is environment temperature (air temperature in vehicle); and the storage temperature is -20°C to 80°C (-4°F to 176°F) environment.
Please refer the temperature curve chart in XXX section.

– Do not expose the dash camera to high temperatures.
High temperatures can shorten the life span of electronic device, and extremely high temperature will shorten the battery and/or degrade the plastic components. Please notice extreme temperatures can achieve 70°C (158°F) or even higher in parked vehicles under direct sunlight. Expose the dash camera in strong sunlight with Motion Detection mode or Parking Guard mode recording may cause the dash camera malfunction or damaged.
There is temperature protection in this camera which will shut the camera down when the camera temperature reach 90°C (194°F) but please notice that is just a auxiliary method.
Keep the camera recording in high temperature condition will be on yourself risk.

– Do not expose the dash camera to a cold environment.
Extremely low temperatures can also damage the electronic components; if there is water moisture in cold environment, freezing water can cause damage, as can thawing.

– Do not try to dismantle or open the casing. Doing so may result in electrical shock and will most likely result in damaging the dash camera. Dismantle the camera will make it out of warranty.

– Do not mistreat the dash camera, dropping, sudden impact, and vibration can cause damage.

– Do not clean the dash camera with chemicals, cleaning solution or a high concentration detergent. Only a slightly damp cloth should be used.

UPGRADING

Please download the latest firmware from www.mini0906.com
to upgrade the camera for improved stability and extra functions.

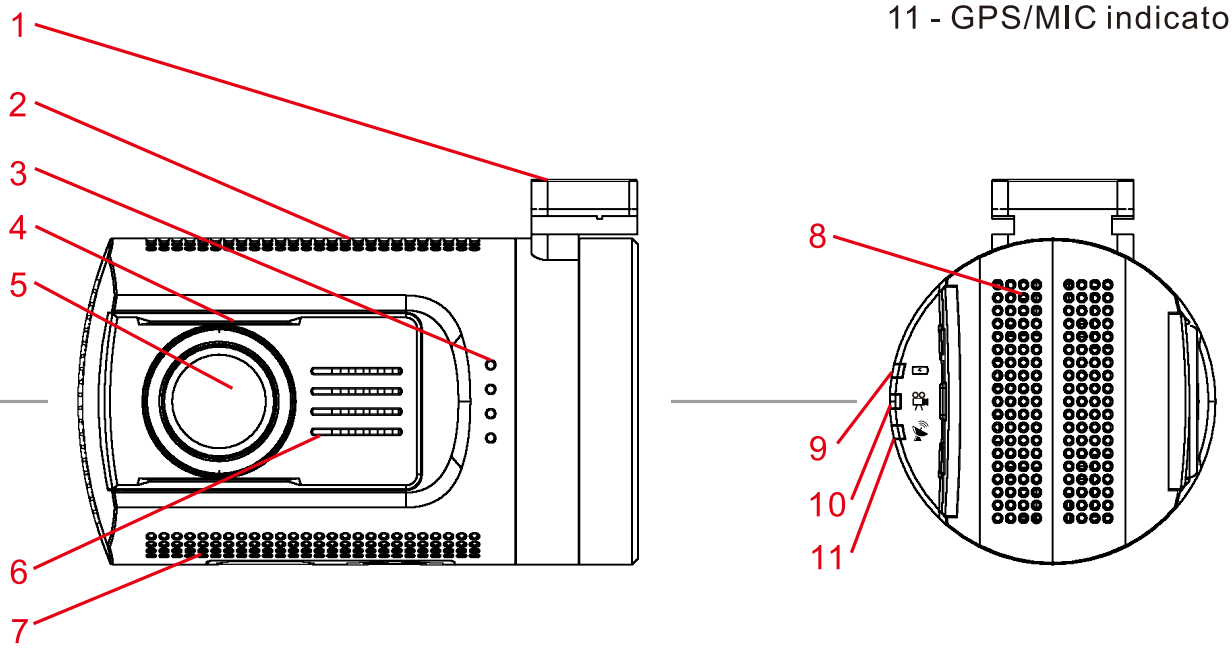
Extract the FIRMWARE.BIN file to the root folder of your microSD card; insert the card into your dash camera and power on. The camera will auto examine the FIRMWARE.BIN file and start upgrading with the LED blinking but blank screen. then the camera will automatically reboot to recording after upgrading finished.
Enjoy~

The FIRMWARE.BIN file will be automatically deleted after upgrading to avoid repeated upgrading when next boot up.

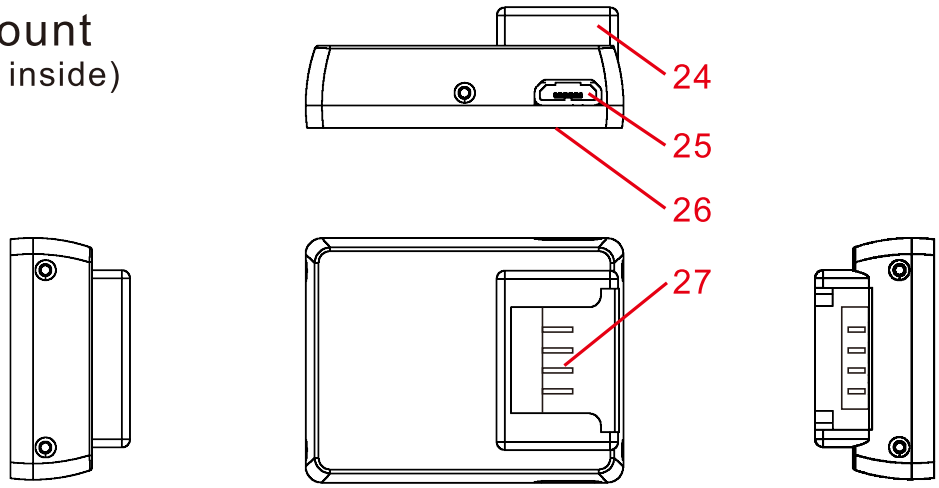
APPEARANCE

dash camera body

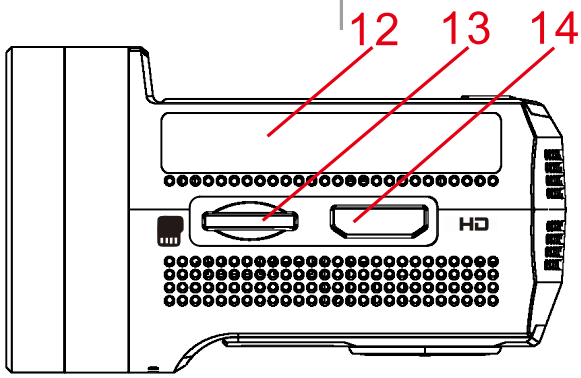
1 - mount receptacle
2 - top cooling holes
3 - speaker holes
4 - CPL mounting bar
5 - lens
6 - front cooling holes
7 - bottom cooling holes
8 - side cooling holes
9 - power indicator
10 - recording indicator
11 - GPS/MIC indicator

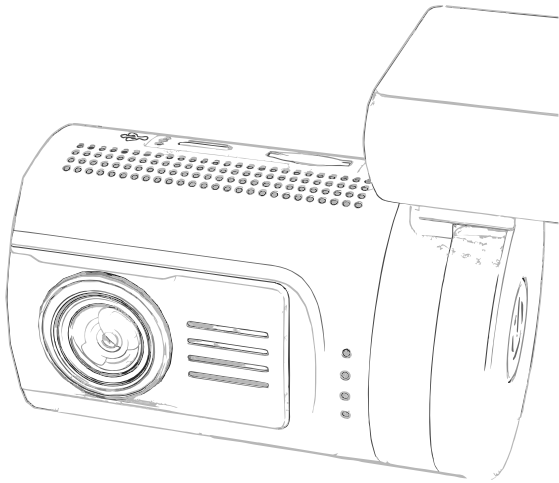


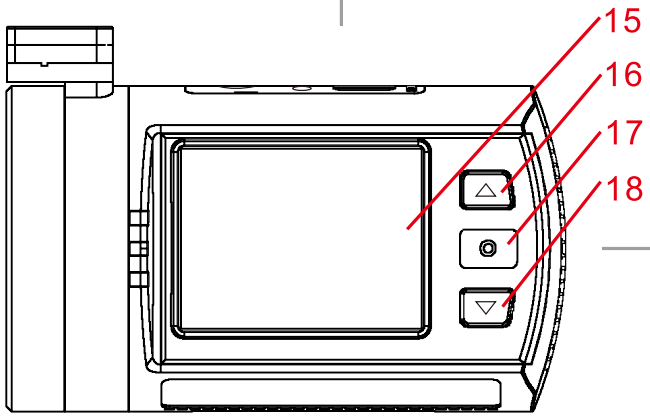
sticker mount
(GPS logger inside)

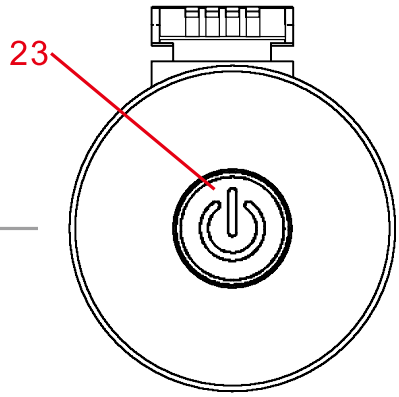


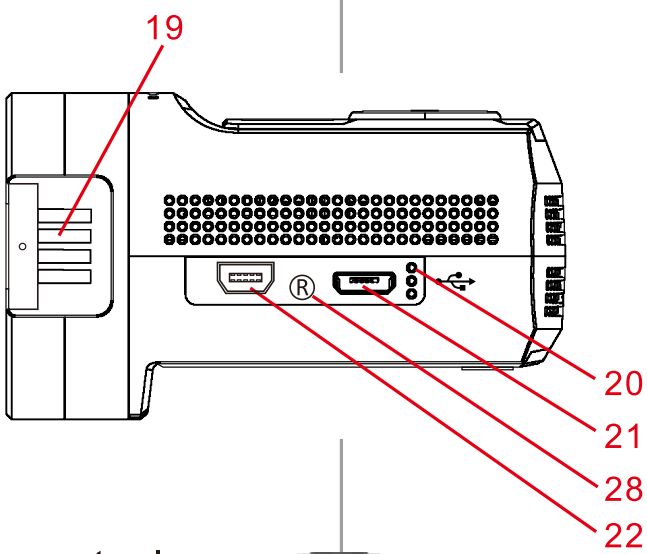
APPEARANCE











RF remote controler

12 - sticker area
13 - microSD card slot
14 - HDMI output
15 - 1.5" TFT screen
16 - UP button
17 - OK button
18 - DOWN button
19 - mounting contacts
20 - MIC holes
21 - microUSB port
22 - rear camera receptacle
23 - POWER button
24 - mount receptcle
25 - microUSB port
26 - VHB pad
27 - mounting contacts
28 - reset button

OPERATION

Read this chapter to know how to operate the camera.

TURN ON /OFF YOUR CAMERA

You may turn on the camera by pressing the power button.
You may turn off the camera by holding the power button for 2 seconds.
The camera is also pre-configured to auto turn on and start recording once it receives power, e.g. when the vehicle engine is started with a cigar charger to power the camera.
The camera is also pre-configured to auto stop recording and turn off once it loses power, e.g. when the vehicle engine is stopped.
The camera is also preconfigured to auto turn off if it is in standby mode for a long time without any button operation.
There is no lithium battery built in the camera so it can't be power on without external power supply. The built in super capacitor only help to finish the last file after power supply cut off; and the super capacitor need half hour to recharge.

STORAGE CARD PREPARATION

The camera supports single microSD card up to 128GB. It is recommended to use high speed microSD card (higher than Class 6, SDHC/SDXC compatible) to avoid storage problems.
Dash cameras write data to the microSD card in high speed so there will be file segments created; it is recommended to re-format the microSD card monthly to keep the file system tidy.
Please be noticed the camera was pre-set to high bit rate recording so the lower speed storage card will cause many recording problems.

RECORDING A VIDEO

When the camera is standby, press the OK button to start video recording.
When the camera is recording, press the OK button to stop and enter standby.
The camera is pre-configured to auto start recording once it receives power, i.e. when the vehicle engine is started.

TAKING A PHOTO

When the camera is in recording mode, hold the OK button for 2 seconds to take a photo.

PLAYBACK ON CAMERA

When the camera is in standby mode, hold the DOWN button to enter playback mode.
When the camera is in playback mode, hold the DOWN button to back to standby mode.
When the camera is in playback mode, press the UP and DOWN buttons to highlight the video or photo you want to review, then press OK button to play/view.
When the camera is playing/viewing a video or photo, hold the UP button to active the sub menu then choose DELETE, PROTECT, PLAYBACK mode; press UP and DOWN buttons to highlight and then OK button to perform the action.

PLAYBACK ON TV

If you want to playback the videos or photos on big screen TV, a HDMI cable (optional accessory) is need for connection.
When HDMI connected, the operation will be same as when playback on camera screen.

PLAYBACK ON COMPUTER

If you want to playback the videos or photos on computer, a microSD card reader (optional accessory) is needed.
The GPS PLAYER program download link is placed in the PLAYER.TXT in the root folder of microSD card, which can playback the recorded videos with GPS traces.
You can also use a compatible media player to playback the video files directly without GPS trace. (You may need a codec for the media playback to decoding the MOV videos, K-lite Codec Pack is recommended.)
If you don't have a microSD card reader on hand, you can connect the camera with your computer with the supplied microUSB-USB cable; the dash camera will be recognized as a mass storage device on computer.

RECORDING MUTE VIDEO

When the camera is in either standby or recording, you can press the UP button to mute the microphone inside camera any time. Press the UP button again to cancel mute status.

SOS MANUAL PROTECT VIDEO

The camera support automatic loop recording which means the oldest video will be over-written by new video when the card is almost full, unless the video is protected (read-only file attribute) then the next file will be over-written.
The camera can auto protect videos if the G-sensor data exceeds the configured threshold, a small lock icon will show on screen when file protected; the icon will disappear when a new file was created.
You can also manually protect the video by pressing the DOWN button; a small lock icon will show on screen when file protected. Hold the DOWN button to cancel protected status, the lock icon will disappear.

REMOTE CONTROL

When the camera is in standby or recording mode, press the button on remote control to take a photo, hold the button for 1 second to protect current video.
There is a small blue LED on the remote control for working status indicating.
You can replace the CR2032 battery in the remote control if the blue LED is dark which means the battery was drain.

SETTING UP THE CAMERA

The camera is pre-configured to provide you a simple plug and play experience - the default setting are the most popular options.
If you are not satisfied with the default setting, you can customize your own favorites.
When the camera is in standby, hold the UP button to enter the setting menu.
Use the UP and DOWN buttons to highlight the subjects you want to configure, press OK button to select; then press UP and DOWN buttons to choose the option you want, press OK button to confirm and exit.
Hold UP button to quit SETTING.
Please review the SETTING section to learn about setting subjects.

TIPS

PRESS operation means press the button down then release quickly;
HOLD operation means press the button down and wait around 1 second for related operation.
This works for all the operation in this manual.

SETTING

The camera is pre-configured to provide you a simple plug and play experience - the default setting are the most popular options.
If you are not satisfied with the default setting, you can customize your own favorites.
Please read this section to help to customize the camera setting, when you require a slightly different experience.

VIDEO RESOLUTION

Here you can choose the video resolution you want to use; higher resolution videos will take more storage space.

options:
- **1080P30+1080P30**
- 1080P30+720P30
- 720P30+720P30
- 1920x1080P60

] dual channel camera mode

- 1920x1080P 60
- **1920x1080P 30**
- 1280x720P 60
- 1280x720P 30

] single channel camera mode

VIDEO QUALITY

Here you can adjust the video quality; the quality will affect video grain, sharpness, contrast and so on. Better quality videos will result in higher bit rate and take more storage space.

options:
- **Super Fine**
- Fine
- Normal

AUTO EXPOSURE METERING

Here you can set the measuring area for Auto Exposure; this setting will affect the video brightness and quality.
CENTER is recommended if there is no special requirement.

options:
- **CENTER**
- AVERAGE
- SPOT

EXPOSURE COMPENSATION

Here you can manually adjust the Exposure Values to improve the image brightness. An unsuitable setting will make the image too bright or too dark.

options:
- -2.0
- -1.0
- **0.0**
- +1.0
- +2.0

WHITE BALANCE

Here you can set the image white balance mode to improve the colour balance in video/image in different weather and lighting conditions. AUTO is recommended to fit most conditions.

options: **AUTO**
DAYLIGHT
CLOUDY
TUNGSTEN
FLUORESCENT

FLICKER

Here you can set the image sensor flicker frequency to fit your AC power frequency and reduce the effect of flickering lamps. Otherwise the traffic light or road lamp maybe flickering all the time.
if you are not sure about the AC frequency in your country please research the article "List of Worldwide AC Voltages and Frequencies" to find out then set the flicker here.

options: **50Hz**
60Hz

ROTATE IMAGE 180°

When you want to mount the camera up-side-down, this setting will help to rotate the screen and recorded image 180° so the video appears the correct way up when you playback on computer or TV. The button functions will be reversed at the same time so that the UP button is still at the top after the camera rotated.

options: **OFF**
ON

REAR CAMERA FLIP

This setting help to flip the rear camera image up-side-down to fit your fixup location & direction of the rear camera.

options: **OFF**
ON

LOOP RECORDING

The camera supports automatically loop recording when the card is full. Here you can set the segment length according your requirement. (please be noticed the maximum file size limit on FAT32 card is 4GB)

options: 1 MINUTE
3 MINUTES
5 MINUTES
10 MINUTES

TIPS

When you hold the UP button to quit SETTING, the setting will be saved. If you haven't hold UP button to quit but use POWER button to power off or use RESET button to re-boot the camera, the setting may not be stored. Please take care the correct operation process.

SETTING

PARKING GUARD

Parking Guard function is used to monitor the vehicle outside for safety after vehicle parked, with a Parking Guard Hardwire Kit (optional accessory) as power source.
When the vehicle engine turned off, the Parking Guard Hardwire Kit will send a signal to the dash camera; the camera will switch to Parking Guard status and record low frame rate videos to save storage space, and start motion and vibration monitoring.
Once there is motion detected or G-sensor value actives, the camera will turn to normal frame rate recording until 15 seconds after the trigger stop; then the camera will be back to monitoring status again.
When the vehicle engine started, the Parking Guard Hardwire Kit will send a signal to the dash camera; the dash camera will switch to normal recording mode.
If you don't want to use Parking Guard function, please turn it OFF here.
if there is no Parking Guard Hardwire Kit connected, the function can't be activated.
The air temperature in vehicle may get too high in summer, so the built-in temperature protection will help to keep the camera safe on Parking Guard mode. The camera will automatically turn off when the mainboard temperature go up to 90°C (194°F) and automatically turn on when the mainboard cooling to 65°C(149°F).

options: **OFF**
ON

MOTION DETECTION

Motion detection is used to reduce the amount of storage space used. When there isn't obvious motion detected the camera will switch to standby mode; once motion over the threshold value is detected, the camera will start recording and continue until 15 seconds after the motion stops. Please press OK button to start after setting.
Here is the function switch.

options: **OFF**
ON

BEEP SOUND

Here you can switch the boot sound and button sound according your requirement. Please check the camera status sometimes to make sure the camera works fine, if you turn the sound off.

options: **ON**
OFF

GREEN INDICATOR

Here you can define the indicating function of the Green Indicator.

options: **GPS STATUS**
MIC STATUS

G-SENSOR SENSITIVITY

The G-sensor is used to detect the 3-axis impacting forces (vibration acceleration). If any impact over the threshold value is detected, the current recording file will be locked (protected) to avoid being over-writen. Here you can define the sensitivity threshold value.

options: OFF
LOW
MEDIUM
HIGH

POWER OFF DELAY

If there is no button action when the camera is on standby mode, the camera will auto power off to save power (unless the camera is on Motion Detection mode). Here you can define the delay time.

options: **1 MINUTE**
3 MINUTES
5 MINUTES
OFF

SCREEN OFF DELAY

If there is no button action when the camera is on standby or recording mode, the camera will auto turn off the screen to save power.
You can press the POWER button to turn off/on screen at any time.
Here you can define the delay time.

options: **15 SECONDS**
30 SECONDS
1 MINUTE
OFF

GPS STAMPING

The dash camera can record your driving trace and stamp the GPS data on video.
Please notice there maybe electronic interference on GPS signal from camera, radar detector, wireless transmitter, or something else; which will delay the GPS connecting or mistake the GPS data.
Here you can define the GPS data stamping method.

options: OFF
LOG ONLY
STAMP ON

SPEED STAMPING

The dash camera can record your driving speed and stamping the speed data on video. Here you can define the speed data stamping method.
Please set the GPS STAMPING to LOG ONLY or ON first if you need speed stamping.

options: **OFF**
KM/H
KPH

DRIVER NUMBER STAMPING

The dash camera can stamp your driver number or customized phrase on video.
Please define the driver number or phrase in next title.
Here is the switch.

options: **OFF**
ON

DRIVER NUMBER

Here you can define the driver number or customized phrase to stamp on the vide.
Total 9 characters or numbers.

000000000

SETTING

DATE STAMPING

Here you can define the date stamping format on video.

options: **OFF**
YYMMDD
MMDDYY
DDMMYY

TIME STAMPING

Here you can define the time stamping format on video.

options: **OFF**
12 HOURS
24 HOURS

DATE TIME SETTING

Here you can set the system date and time manually.
The date & time information will be automatically updated once GPS connected.

+00:00 2017/05/30 13:14
time zone *date* *time*

The time zone should be set before GPS can correctly update the time.
You may need to manually add or minus time zone for daylight saving time.

LANGUAGE

Here you can set the language you prefer.

options: **ENGLISH**
РУССКИЙ

FORMAT CARD

Here you can format the microSD card in camera.
Please be noticed all files will be lost once you start the formatting process.
it is recommended to re-format the microSD card every month to remove the file segments and keep the file system tidy.

options: **NO**
YES

RESTORE DEFAULTS

Here you can restore all the settings to the factory default settings.

options: **NO**
YES

FIRMWARE VERSION

Here you can find the version information of the current firmware in your camera. You may need this information when you are trying to upgrade the camera to a later firmware.
The firmware version is sorted by release date, the suffix number means the sequence on that date.

0906FW 20170530 V1

TIPS

The REMOTE CONTROLLER unit can be.stuck to somewhere for easy operating with the round VHB sticker provided; but please be noticed that should not effect the driving. The button of remote controller is big enough for blind operating so please keep your eyes on traffic.

SPECIFICATION

camera specification

Novatek NT96663 chipset with 2GB DDR3
front camera SONY IMX290/291 2MP CMOS image sensor
front lens 130° diagonal view field F1.7 aperture
rear camera SONY IMX322/323 2MP CMOS image sensor
rear lens 145° diagonal view field F2.0 aperture
1.5inch TFT LCD panel screen
dual channel recording 1080P30fps + 1080P30fps MAX
signal channel recording 1080P60fps MAX
H.264 coding MOV file format
supports microSD storage card up to 128GB exFAT format
supports Wide Dynamic Range boost
supports GPS trace logging (with built-in GPS mount)
supports G-sensor file protection
supports one-key SOS manual file protection
supports exclusive remote control for file protection or take photo
supports movement detection
supports temperature protection and real-time display
supports parking guard (with exclusive parking guard hardwire kit)
supports up-side-down mounting
supports HDMI output to HDTV to playback
support 160° vertical rotating and 6 degree horizontal offset
supports magnetic Circular Polarizing Filter (CPL)
built-in 5.4V 2.5F super capacitor back up battery

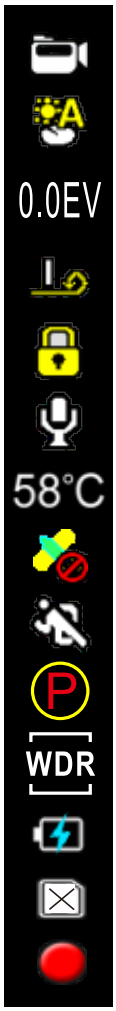
camera box content (standard GPS version)

dash camera body
rear camera kit
6m length extend cable for rear camera
built-in GPS sticker mount
RF remote controller with VHB pad
2° and 4° angle mounting wedges
wedge mounting KB1.4*6mm screws
5V 2A cigar lighter charger
microUSB-USB data cable
cable clips
VHB sticker pads
VHB sticker removing cord
lens cleaner
manual
optional: microSD card, 24mm CPL filter, sucker mount, Parking Guard hardwire kit, microSD-USB card reader, miniHDMI-HDMI cable

PC System Requirements

Windows XP or later operating system, MAC 10.1 or later
Intel Pentium 4 2.8GHz CPU or above (recommended 3GHz)
at least 2GB RAM or above (recommended 4GB)
internet connection (for GPS log playback)

UI



VIDEO RECORDING MODE

WHITE BALANCE

EXPOSURE COMPENSATION

LOOP RECORDING

FILE LOCKED

MICPHONE ON

MAINBOARD TEMPERATURE

GPS CONNECTING

MOTION DETECTION

PARKING GUARD

WDR BOOST

POWER CHARGING

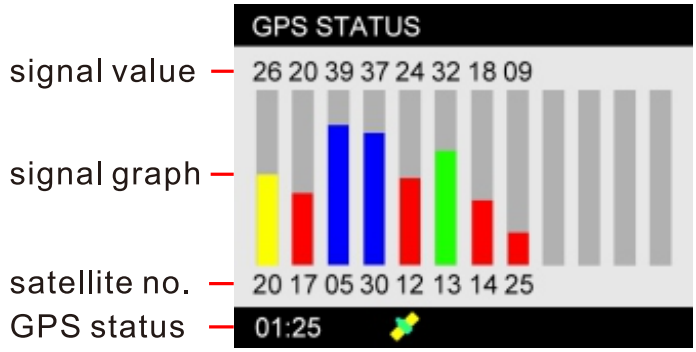
CARD STATUS

RECORDING

SYSTEM DATE

SYSTEM TIME

RECORDING TIME



signal value

signal graph

satellite no.

GPS status

hold the OK button and power to active GPS TESTER

PLAYER

VIDEO AREA

MAP AREA

PROGRASS BAR

SPEED

G-SENSOR

FILE LIST

CONTROL CENTER

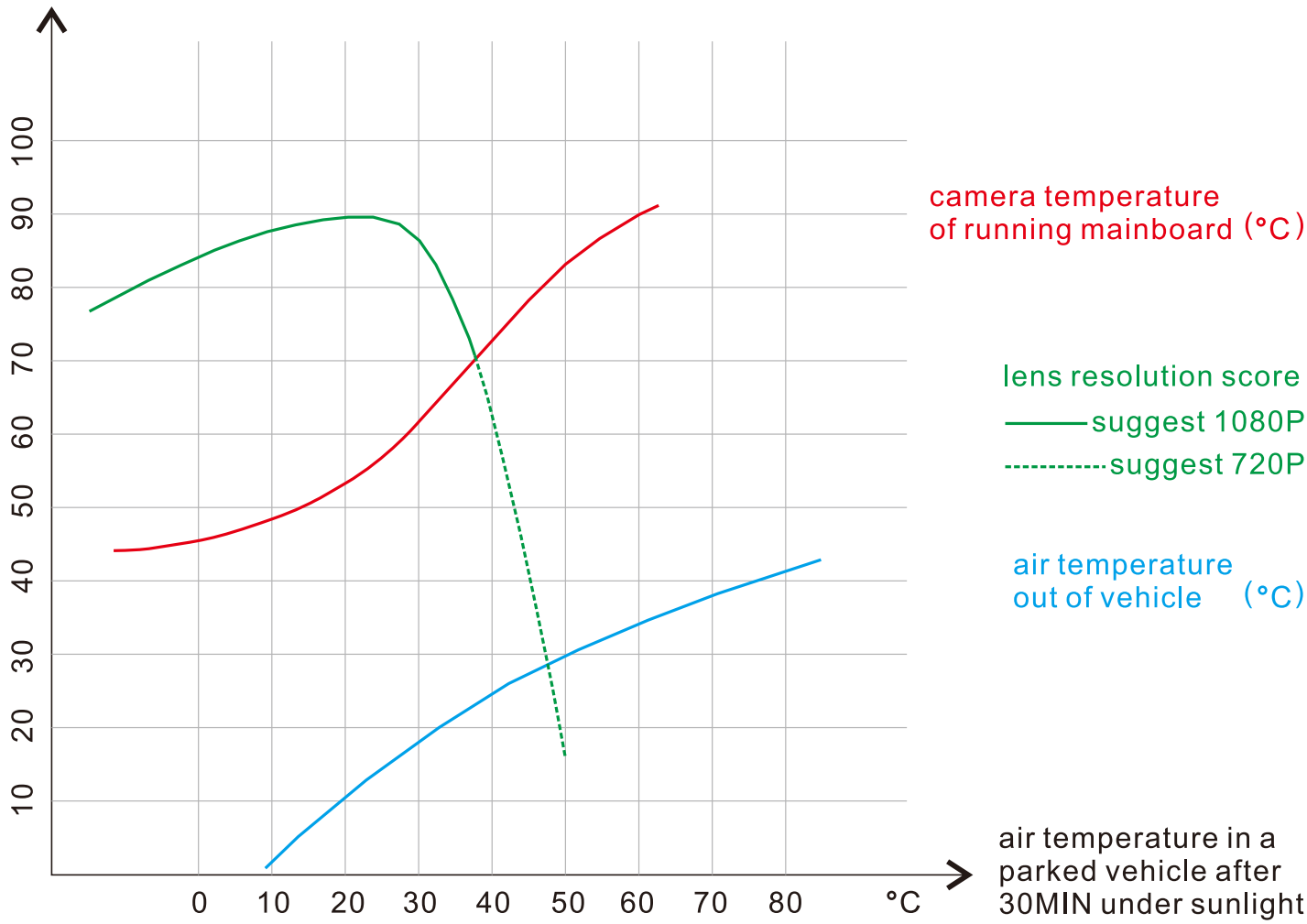
This image maybe different with the real one according to version update.

TEMPERATURE IN VEHICLE

When a vehicle parked in direct sunlight, the vehicle inside temperature will dramatic increase in the first 10 minutes and then stable after 25 minutes baking. Please refer the figure below to find out the temperature difference between inside and out side of the vehicle.
The temperature can achieve 70°C (158°F) or even higher in parked vehicles under direct sunlight in summer, it is dangerous for all consumer electronics.
Expose a dash camera in strong sunlight with Motion Detection mode or Parking Guard mode recording may cause the dash camera malfunction or damaged.

TEMPERATURE PROTECTION

The temperature protection function in this camera which shut the camera down when the camera temperature reach 90°C (194°F) will help to reduce the risk and still protect your vehicle all the time even under sunlight, with Parking Guard or Motion Detection function.
Please be noticed the temperature protection is just a auxiliary method, keep the camera recording in high temperature condition will be on yourself risk.



air temperature & in vehicle temperature & camera mainboard temperature figure

please notice this is a reference figure, the curves will be different in different condition.

MOUNTING

The dash camera is designed for easy& quick mounting to your windshield with VHB sticker pad.
1st, insert the camera to the sticker mount with power cable plugged into either the mount or camera body;
2nd, simulate the unit on your windshield with the camera powered on, rotate the camera vertically to find the best mounting location;
3rd, you may need to fit the wedge(s) if you want to mount at an offset location from the top center of the windshield; just screw the wedge(s) to the mount bracket or use the VHB pads in the accessory bag. (screws KB1.4*6mm also in the accessory bag);
4th, stick the VHB sticker pad to the mount bracket or wedges, and attach to your windshield, hold the mount for a few seconds to ensure good adhesion;
5th, power on the camera and check the camera display again.

when you want to demount the camera, just slide the camera out from the mounting bracket; no need to take the sticker mount down from windshield.

When you want to remove the sticker mount from your windshield, please use the thin cord (in accessory bag) with a sawing action to cut between the VHB sticker and your windshield and pull the cord to break the mount off from your windshield; then remove the sticker residual with WD-40 spray.
Please don't break off the sticker mount with a rigid crowbar, which may damage the sticker mount or your windshield.

If you have to place the camera offset from top center of windshield, you need to use the wedges to adjust the camera view direction. There are two wedges attached in accessory bag, one is 2° angle and another is 4° angle. With those you can mount the dash camera at a 2°, 4° or with both together 6° offset location.
(you can use the attached VHB pads or KB1.4*6mm screws to mount the wedges to the sticker mount.

sticker mount
with 2° wedge

sticker mount
with 4° wedge

sticker mount
with 2° + 4° wedges

There is also a sucker mount for your choice if you don't want to use sticker mount, see the image at right.
With the sucker mount you can easily take the camera and mount to another vehicle when you want; but please be noticed the sucker mount is much bigger than sticker mount because structure limit. Please refer the image difference.
The operation of sucker mount is almost same as sticker mount, it have GPS built in also.
The sucker mount is a optional accessory.

POWER SOURCE

The dash camera can be powered by cigar lighter charger (standard accessory) or hardwire kit (optional accessory).

Cigar lighter charger is a easy & fast connecting method for cameras, the only thing you need to do is plug the charger into the cigar lighter socket in your vehicle. The camera will be powered once the vehicle engine started.
The disadvantage is cigar lighter charger is it will engage your cigar lighter socket, and maybe alignment difficulty for the long cable.

Hardwire kit is used to solve the problem above. The 12V/24V leads are connecteto the car fuse or car battery and the 5V lead is connected to your camera. The output power from Parking Guard Hardwire Kit can be constant to support the Parking Guard function of your camera. There is Battery Drain Protection in Parking Guard Hardwire Kit to protect the vehicle battery from drain.
You may need some professional skill to install the Parking Guard Hardwire Kit.

Please take care of the un-qualified cigar lighter chargers and hardwire kits on market.
The accessories without EMC compatible may bring interference to radio receiver or GPS antenna.
The hardwire kits may drain your vehicle battery to 11.5V even if the vehicle is a 24V accumulator.

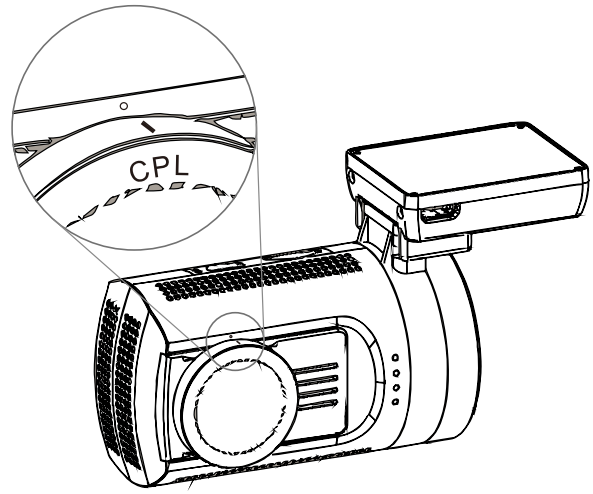
ACCESSORIES

All the accessories listed in this page are optional.

CPL filter

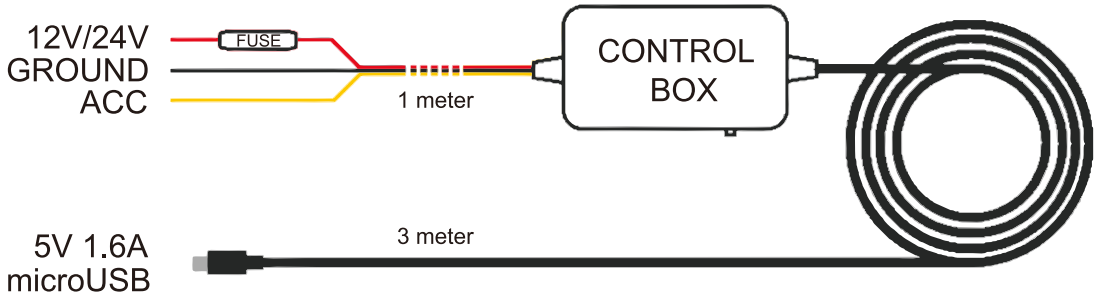
Reduce the reflection from shiny surface like vegetation, sweaty skin, water surface, glass, road, and let the natural color come through at the same time.
Some of the light coming from the sky is also polarized to give a more dramatic sky and high contrast clouds, rendering outdoor scenes crisper with deeper color tones.
Align the white line on CPL with the dot on camera and rotate for best reflection reducing effect.

CPL filter is highly recommended for mini0906 camera.



Parking Guard Hardwire Kit

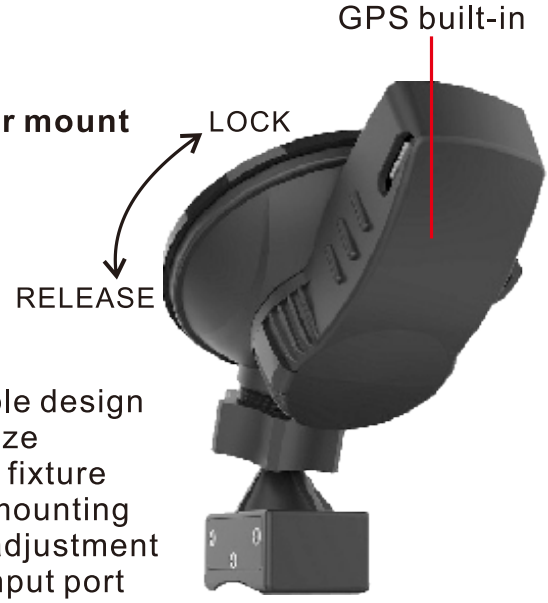
The Parking Guard Hardwire Kit is used on mini0906 and other cameras which support Parking Guard function, to protect your vehicle when it parked.
It also can be used as a high quality common hardwire kit on no Parking Guard function cameras, to power the camera and protect your battery from drain.



HDMI cable

miniHDMI to HDMI adapter cable

sucker mount



invisible design
mini size
sturdy fixture
easy mounting
easy adjustment
dual input port

TROUBLESHOOTING

Can't record a video or take photo?

Please check if there is enough storage space on the microSD card, or if you have LOOP RECORDING set to OFF, or if all the files are protected (read-only attribute).

Camera stop record and turn off?

Please use a high speed microSD card class6 at least, because the data stream (bit rate) of high definition video is huge, it is a big challenge for low quality card.

"File Error" prompt while playback a video?

The camera use a super capacitor as backup battery to save the last video when engine stop, it can only power the camera for seconds; the capacitor need half hour to recharge to full. If you power on & off the camera frequently there is not enough power in capacitor so the last file will be corrupted. The File Error problem may happen after continual short driving.

Image is blurred?

Please check if there is dust, fingerprint or something else on the lens; use the lens cleaner to clean the lens before using.
Please remember to remove the lens protecting film before first using.
And please notice the definition will be effect by extreme temperature; there will be definition decrease when the camera inside temperature reach 70°C(158°F) at the meantime the vehicle air temperature is 40°C(104°F). Please refer the temperature cure chart.

Horizontal stripes on image?

Please adjust the setting of FLICKER depends on the local power supply frequency with 50Hz or 60Hz.

Recording not stop?

That is the MOTION DETECTION working, please cover the lens to black then press OK button to stop, then you can get into SETTING or PLAYBACK mode.
When the MOTION DETECTION is ON, the camera will auto start recording when a moving object appears in the range of camera view; when the motion ceases the recording will stop automatically until next motion appears. It is not easy to turn Motion Detection function off with the camera in hand unless cover the lens.

Auto Power Off set doesn't work?

Please turn off the MOTION DETECTION and PARKING GUARD or cut off power supply. In MOTION DETECTION or PARKING GUARD mode the camera will work all the time, it will not automatically turn off until power supply cut off.

Compatible with 256GB card?

The camera support exFAT storage device format so big capacity storage can work theoretically; but please notice if there are too many files in the device there maybe stability problem for the camera to index, address and overwrite.

Any maintenance should be performed?

The camera record videos in high bit rate so there will be file segments created on microSD card after long time recording & overwrite; Please re-format the microSD card monthly to keep the file system tidy. Please remember to backup the important files to computer before format operating.

Occasional not responding?

Please use the top RESET button to reset the camera temporarily, then submit the working condition and related files to service@mini0906.com so we can find out what happened then maybe debug the firmware.
It is recommend to do a RESTORE DEFAULT settings to check out again.

More questions?

Please feedback on www.mini0906.com or mail to service@mini0906.com

MINI DASH CAMERA

MORE THAN A DASH CAMERA

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