

21PRO

User Manual

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Main Feature

- 480 x 240 , 1.5" TFT LCD Screen
- 5.0MP FULL HD CMOS sensor
- 170° Super wide angle FOV(field of view) under 720P, 127 ° under 1080P 720P
- H.264 Compression into MP4 video format
- 20 Meters (60 Feet) Waterproof
- RF wireless remote controller (Power ON&OFF, Start & Stop video record)
- Support Timing record, Motion detect record, Auto record and Loop record
- Support Timing Capture (Self-timer) , Continuous capture
- Zoom focus available under 720P video record and Picture capture mode
- Video resolution option in setting:

16 : 9	Full HD 1920 x 1080P	30FPS
4 : 3	Full HD 1440 x 1080P	30FPS
16 : 9	HD 1280 x 720P	60FPS
16 : 9	HD 1280 x 720P	30FPS
4 : 3	WVGA 848 x 480	30FPS

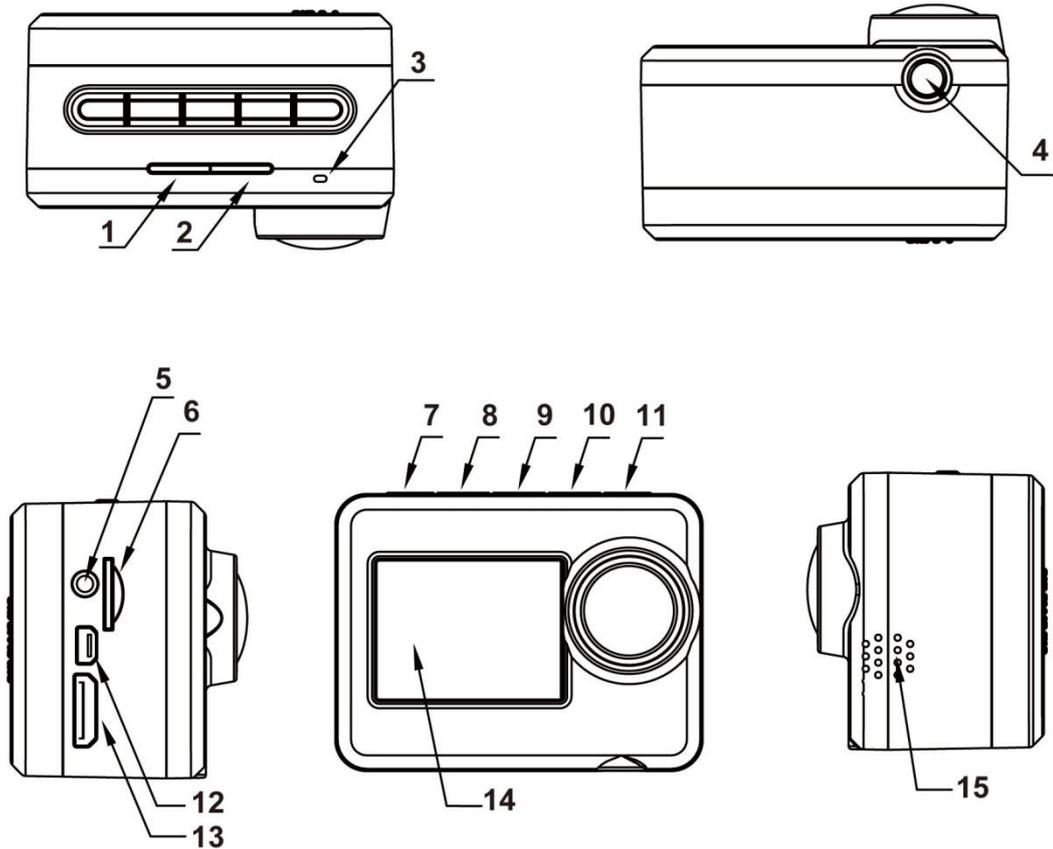
- Picture resolution option in setting:

4000 x 3000	12MP
3200 x 2400	8MP
2592 x 1944	5MP

- Video & Picture playback
- Support 1GB~32GB High speed TF (Micro-SD) memory card
- High speed USB2.0 interface for Power charge and Data transfer
- HDMI、 USB and RCA output optional

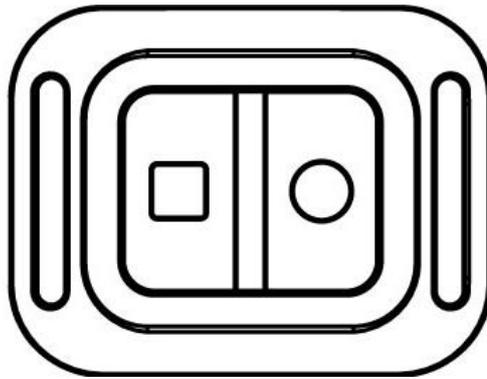
Install and Use

Camera body buttons



- | | |
|--|-------------------------------|
| 1.Video Record Indicator (red) | 8.UP & Zoom+ |
| 2.Power Indicator (red) & Power charge Indicator (green) | 9.Menu button |
| 3.MIC | 10.Down & Zoom- / Remote Pair |
| 4.Tripod screw hole | 11.Power ON & Picture Capture |
| 5.Audio output | 12.USB Port |
| 6.TF card slot | 13.HDMI Port |
| 7.REC&Confirm button | 14. TFT LCD |
| | 15. Speaker |

Remote controller

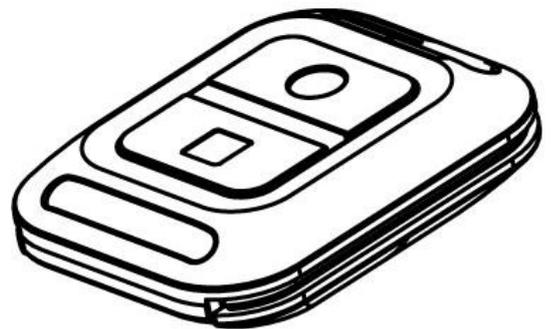


- Start video record
Remote to start video record only under Camera Powered ON, not valid if camera is OFF.

- Stop video record
Remote to power OFF directly or stop video record and then power OFF.

Remote Pair with Camera

Hold the "<" button under power OFF state (don't loose it), then press **POWER** button to turn ON the camera, then immediately press the button on the remote controller, after the camera turned ON, then loose the "<" button.



Note:

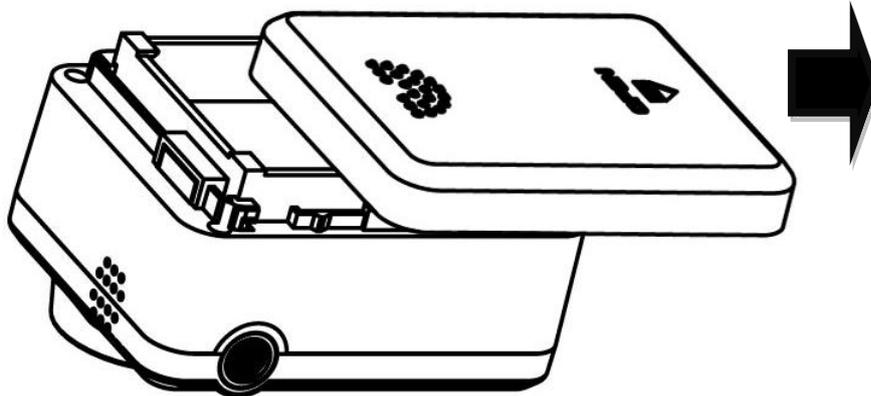
- Screen will keep dark during the pair process
- Camera will power ON automatically if paired successfully
- Camera will power OFF automatically if pairing failed

This operation only necessary when you bought new remote controller, pairing process has been did before leave factory.

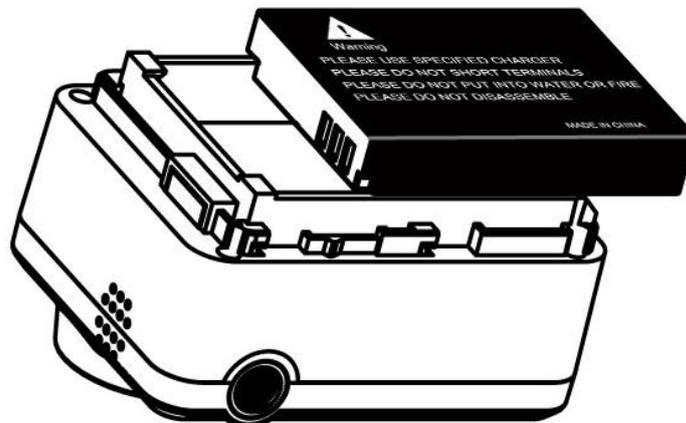
Install Battery

Please install the battery according to the graphic:

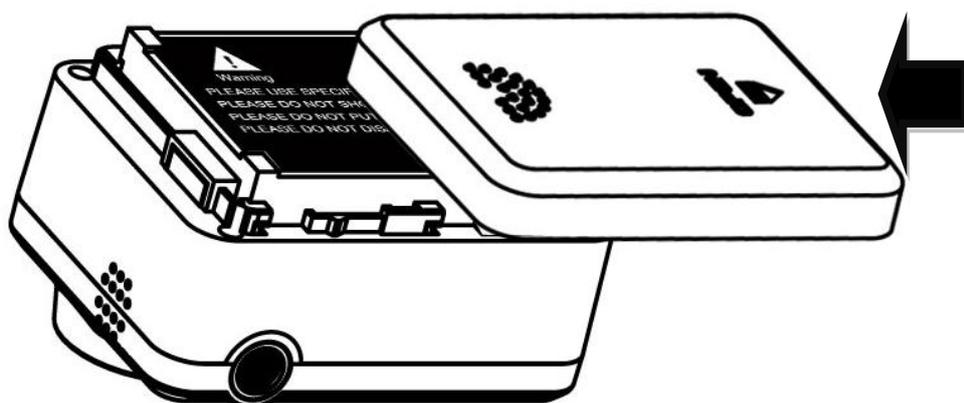
Open the battery cover



Install the battery (Note: label side face up)

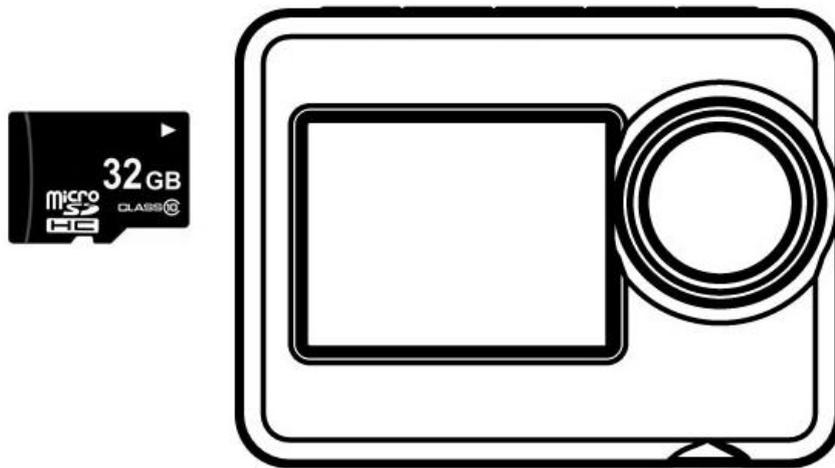


Close back cover



Install Memory Card

1. Install the TF card according to graphic



2. Camera without built-in memory, support 1GB~32GB TF card external memory expand

3. After installed the SD card, rest available memory could be checked on the screen

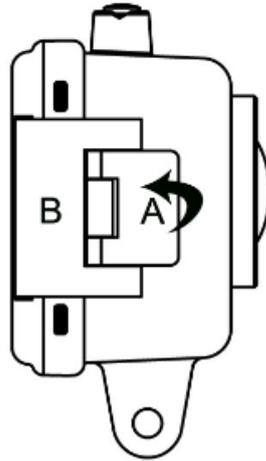
A camera screen displaying a skier in a red and yellow jacket on a snowy mountain. The screen shows technical data: resolution 1920x1080, frame rate 28000M, battery level, and time 15:33:24. The date 2010:09:21 and time 04/27/48 are also visible.	A black-bordered rectangle representing a screen, with a small SD card icon in the top center.	Screen won't display the SD card icon if without valid SD card installed correctly
		Screen will display the SD card icon if valid SD card installed correctly

Attention:

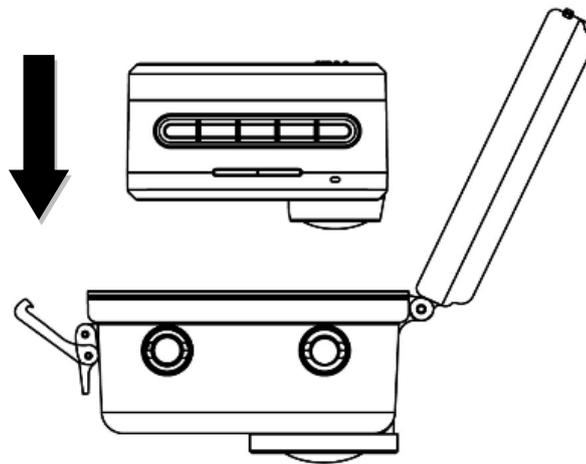
Please use the original SD card for good using experience. Bad or phony SD card would happen the problem like "can not read" or "file damaged". Please format the SD card in this camera before use it the first time.

Install waterproof housing

As arrowhead showed in graphic below, pull "A" locker, "B" locker will slack off at same time automatically

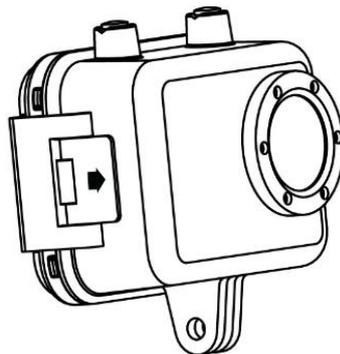


Put the camera into the waterproof housing as graphic below:

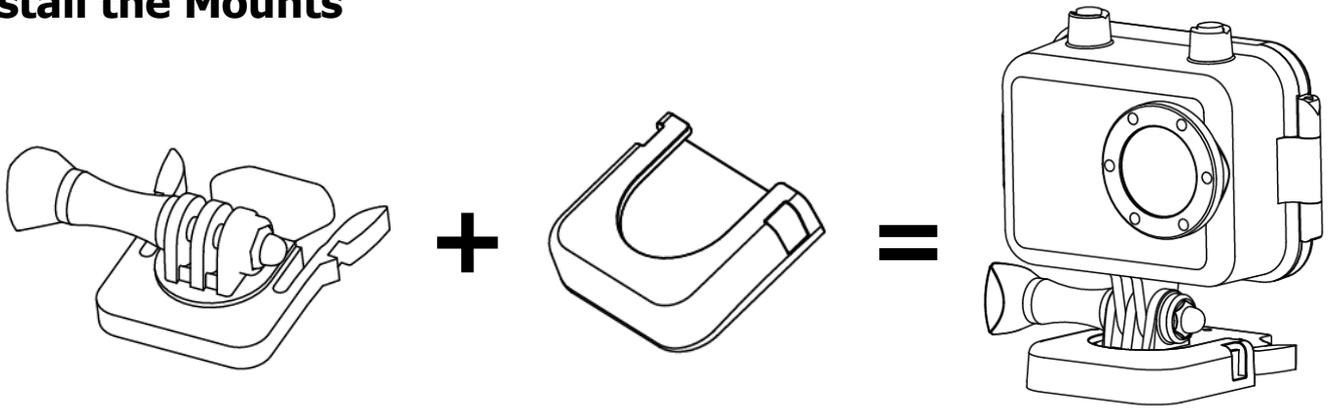


Close the cover

Close the locker "B" first, and then press the "A" locker to locked-in.

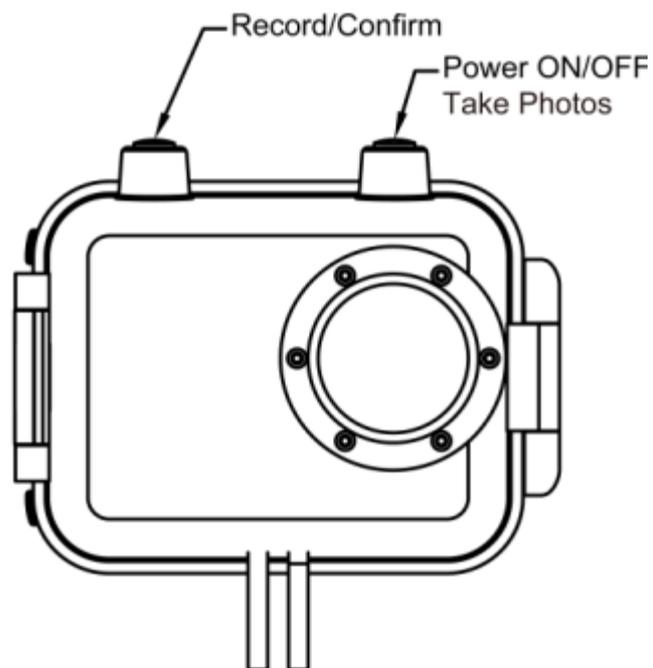


Install the Mounts



Please choose the suitable mount to finish the installation according to different use.

Waterproof Housing buttons instruction:



Note :

Waterproof housing max depth is 20 Meters (60 Feet)

A pot of fog or water globule would glue to the inside cover, it is allowed and won't effect the camera working.

Video record and Capture

1. Press **POWER** button turn on the camera, press **REC** button to start the video record, a red icon will flash on the screen during this time.



Press " <" and ">" button to zoom, press **REC** again to stop the video record and video will be saved at the same time.

2. Under power on state, press **POWER** button to take picture, the camera icon on the screen flash into red color and go back to white color during this time. Press " <" and ">" to zoom.



The camera support Continuous capture and timing record, please read page 32 for more detailed setting and operation.

Video Playback

Press MENU button to enter the main menu of camera, use "<" and ">" to choose the video folder, the quantity of video clips will display on the corner.



Press **REC** button to enter the folder, video clip thumbnail will showed like below:



Press "<" and ">" to choose the video clip, press **REC** to confirm, press again to start video playing



Delete files - Please read page 14 for more details.

Browse Pictures

Press **MENU** button to enter the main menu, use "<" and ">" to choose the picture folder, picture quantity will display on the corner.



Press **REC** button to enter the picture folder, picture thumbnail will show like below:



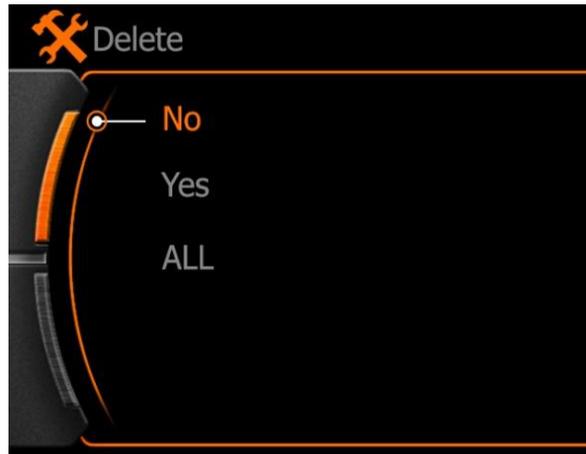
Press "<" and ">" to select picture for browsing, press **REC** to confirm, use "<" and ">" to browse other pictures.



Delete files - Please read page 14 for more details.

Delete files

Long press **MENU** button under playing back or browsing state, delete option menu will display on the screen



Use "<" and ">" to make setting:

No : cancel current operation and quit

Yes : confirm current operation and quite

ALL : confirm delete all files in the folder

Press **REC** button to confirm operation

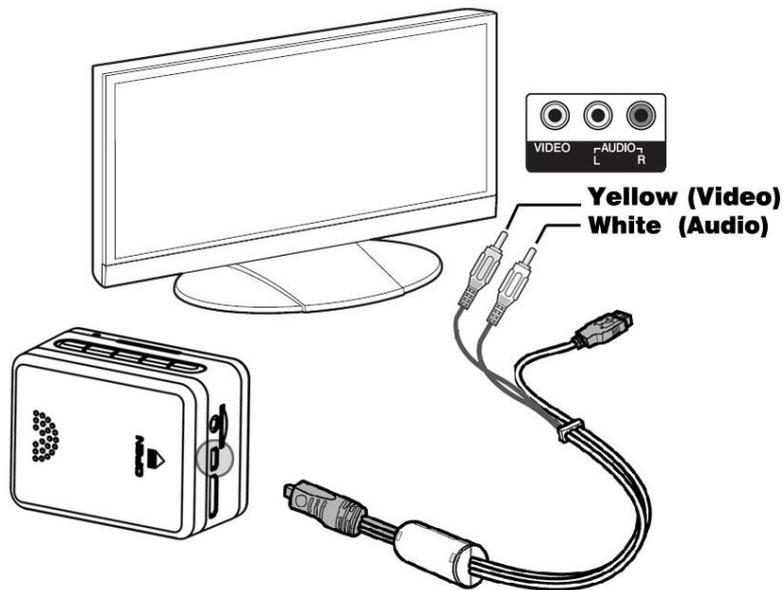
Attention :

The files will not be recover after deleted, recommend to make copy in the computer before make this operation.

Connect to Television

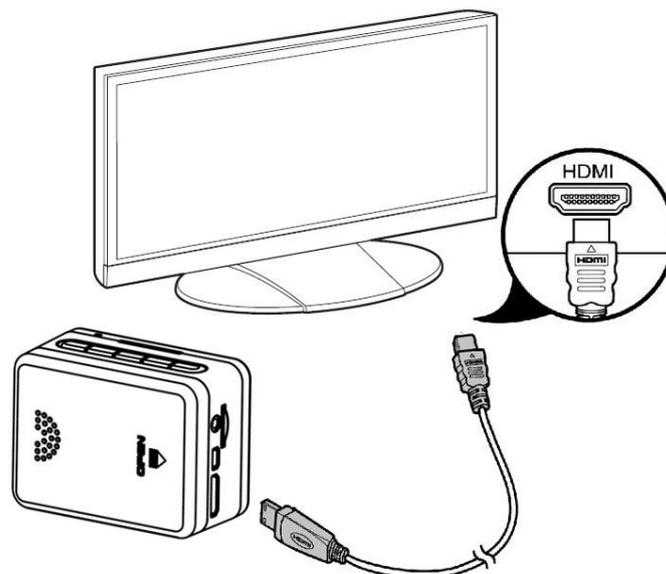
1. USB-RCA cable connect with TV (output)

Find out the USB-RCA cable in standard accessories, USB side insert to camera, RCA side insert to TV (Yellow for Video, White for Audio)



2. HDMI cable connect with TV (output)

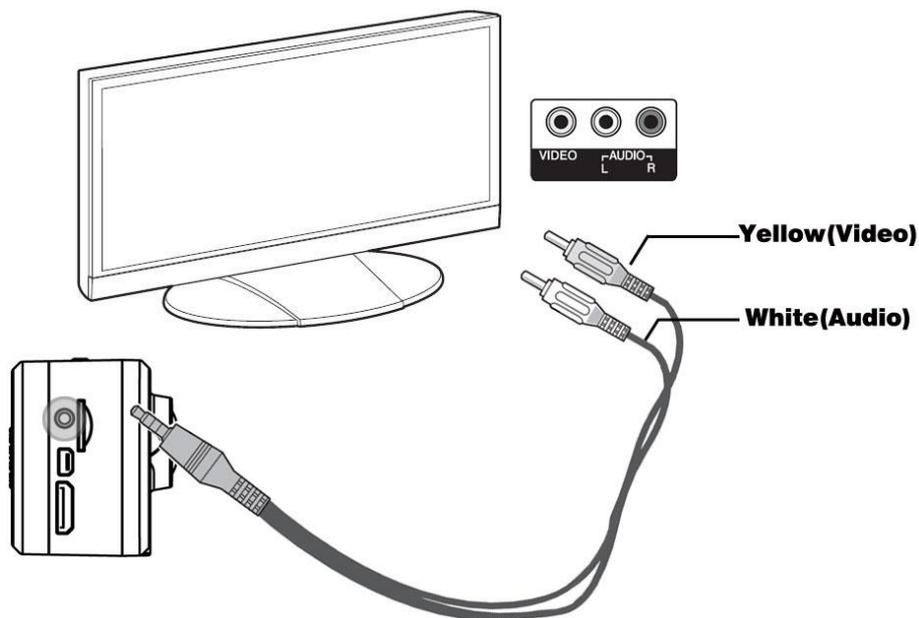
Please insert the **A** type connector to the TV , insert **C** type connector to camera



Note :

The video that output to TV is 1080P resolution when playing back video clip, real-time output display is 480i only.

3. **2.5mm - RCA** cable connect with TV (output)



2.5MM - RCA cable is not included in standard accessories.

Start playing back video clip or browse pictures

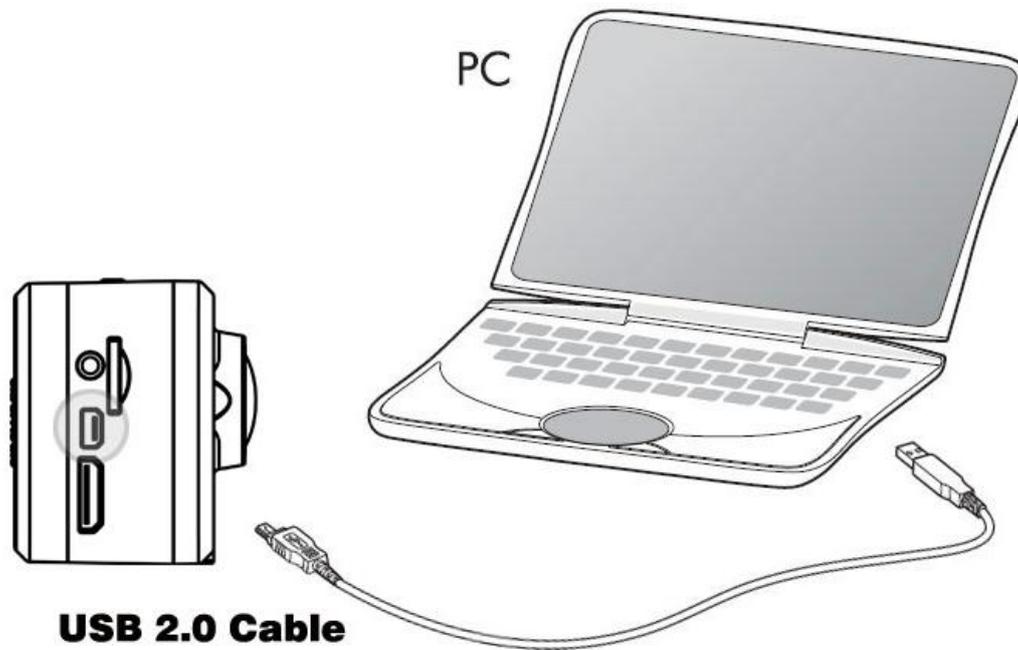
- a. Turn the TV to AV or HDMI input channel, power on the camera
- b. Press **MENU** button to enter main menu, press " < " and ">" to select video or picture folder, press **REC** button to enter
- c. Use " < " and ">" button to select the file to playing, press **REC** to confirm, press again to play.

Note:

Real-time output resolution to TV is 480i.

Connect with Computer

Connect the camera with computer via USB cable, available for data transfer, power charge and firmware update.



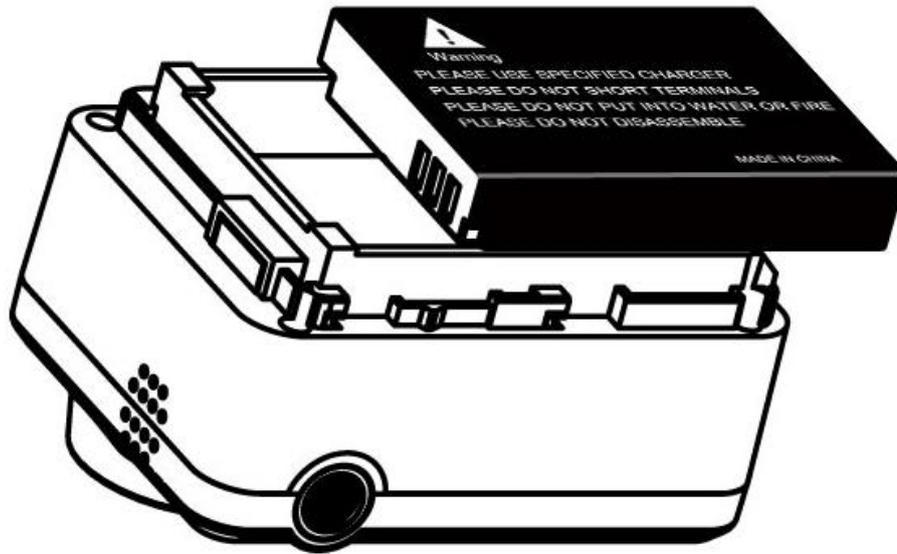
Power on the camera after connect it with the computer by USB cable, and the screen will display " USB connected" like graphic below, means successfully connected.



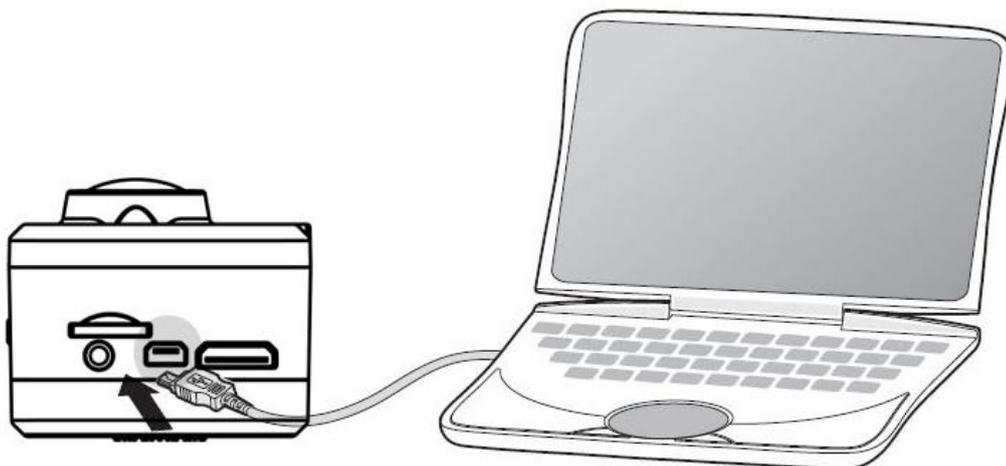
Removable disc will be found under " **My Computer**" , enter the disc and it is available to browse , copy or playback the media.

Battery Power Charge

Install the battery (Note: label side face up)



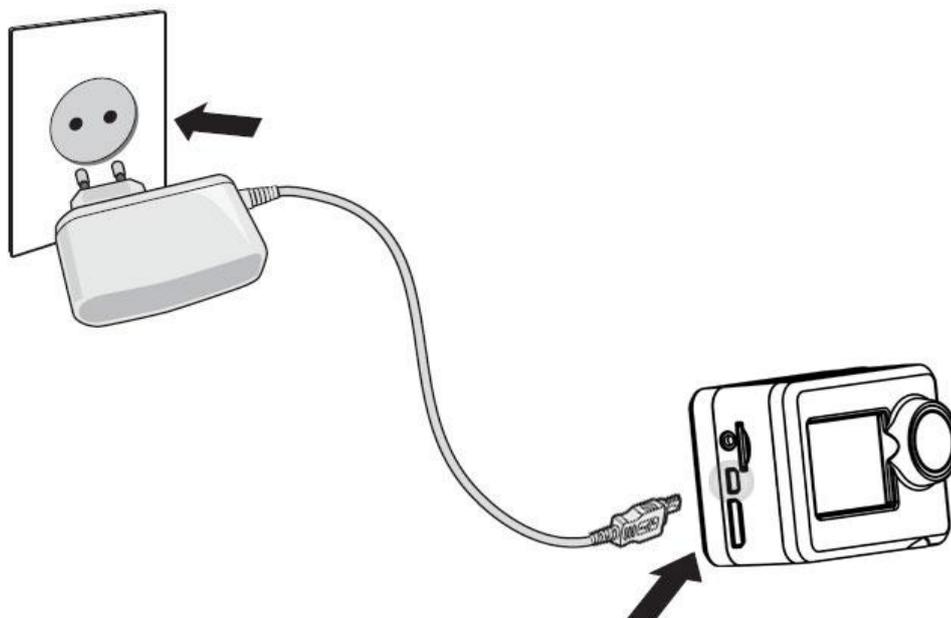
Charge by computer



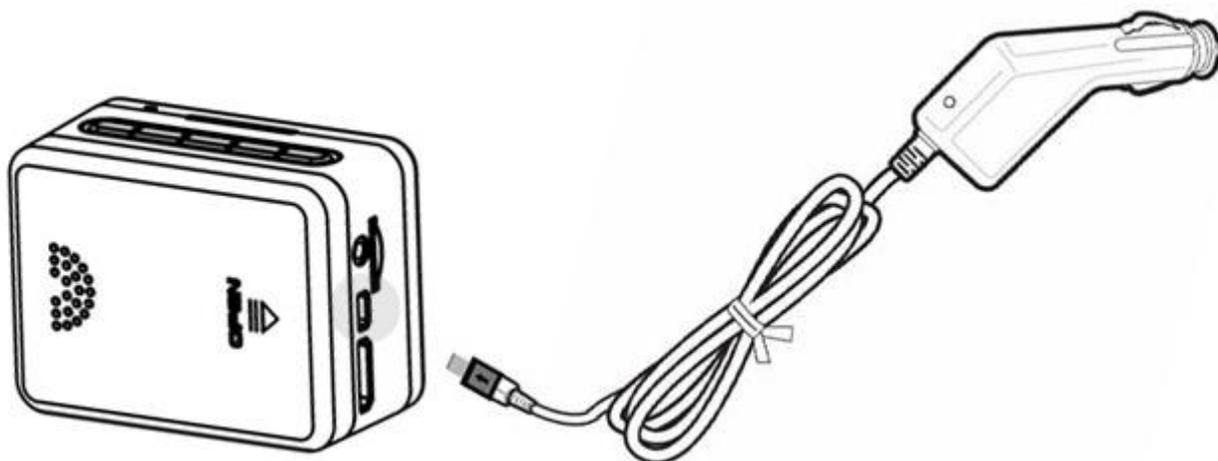
Note:

Power charge by computer, please make sure the camera is POWER OFF state. The green charging indicator will flash, indicator will turn off after full charged.

Charge by Wall charger



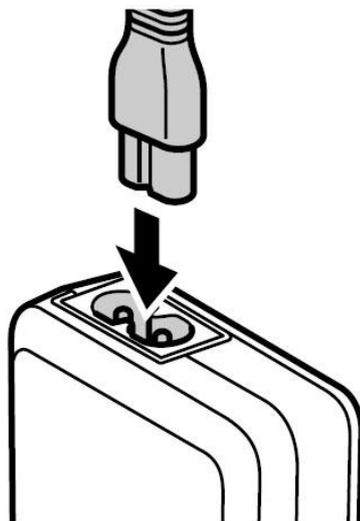
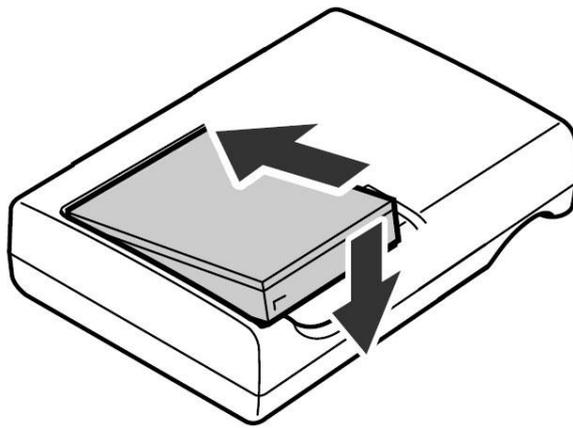
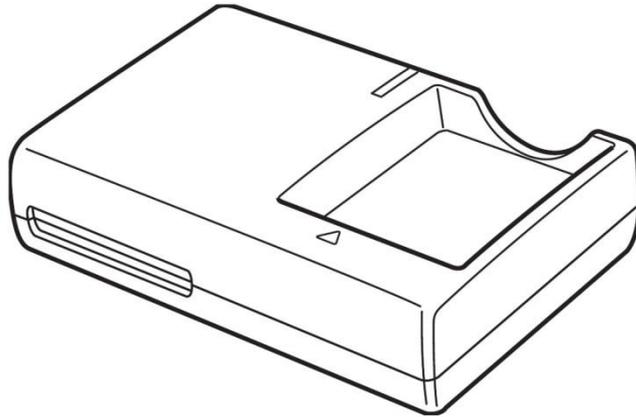
Charge by Cigar lighter charger



Attention: Only original power charger that offered in standard accessories available.

电池充电

d , Charge power via the charger ,



Full charge time and Using time

Full charge time	Standby time	Video Record Time
3.5 Hours in Power ON state	Approximately: 3.5 Hours	Approximately : 110 Minutes (1080P)
2 Hours in Power OFF state		

Battery Icon instruction

	> 75% electric quantity		> 35% electric quantity
	> 10% electric quantity		< 10% electric quantity

ATTENTION:

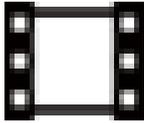
- a . Please uninstall the battery when camera is free
- b . Please do not exhaust the battery completely before power charge
- c . Full charge the battery in the first time will extend the battery life.

System Menu

Booting picture & screen instuction



Icon on Screen

1920x1080	Video resolution		Video record
28000M	Available rest memory		Picture capture
15 : 33 : 24	Rest time of video record in memory		Continuous capture
2010/09/21	Year/Month/Date		Memory card
04 : 27 : 48	System time		Battery

Main Menu



Video folder



Picture folder

If here has video clip or picture in the folder, on the corner of icon will display the quantity number like graphic below:



Video setting



System setting

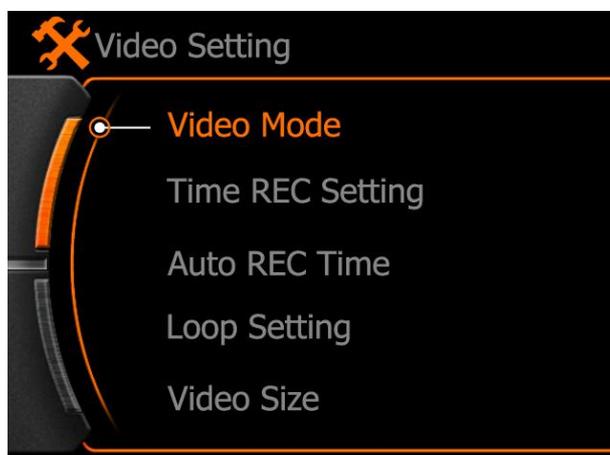
Record Setting

Record Mode

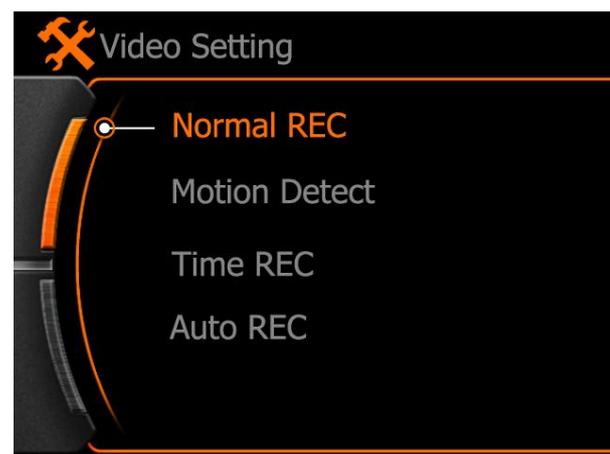
Press **MENU** button enter the main menu, and select the Record setting menu as below, press **REC** button to enter.



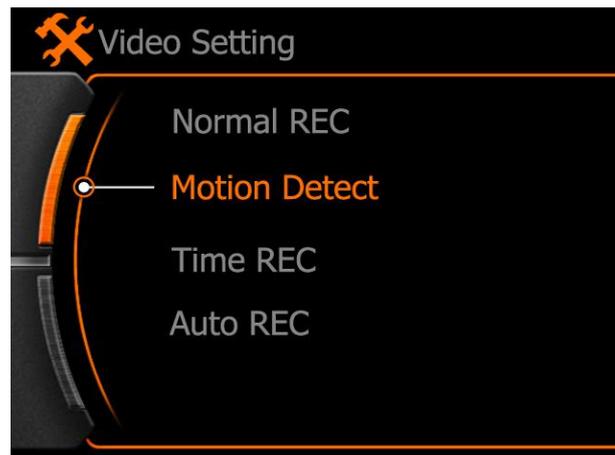
Video record setting menu will display as below:



- a. **Normal REC** : Means the camera will start the video record after press the **REC** button normally under real-time preview state, press **REC** button again to stop video record and save the video clip.



- b. **Motion detect:** Means the camera will start the video record only when the lens detected movement, camera will not stop video record until here without movement in the picture.

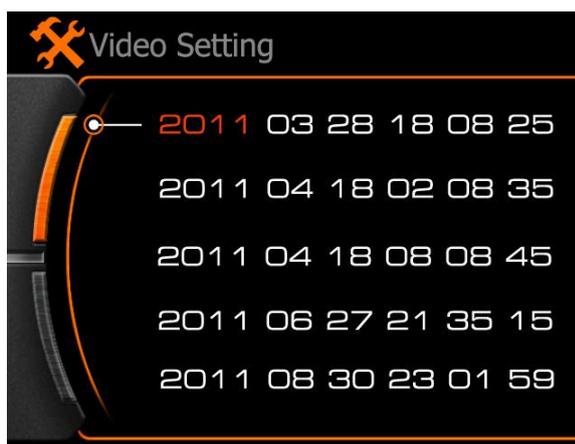
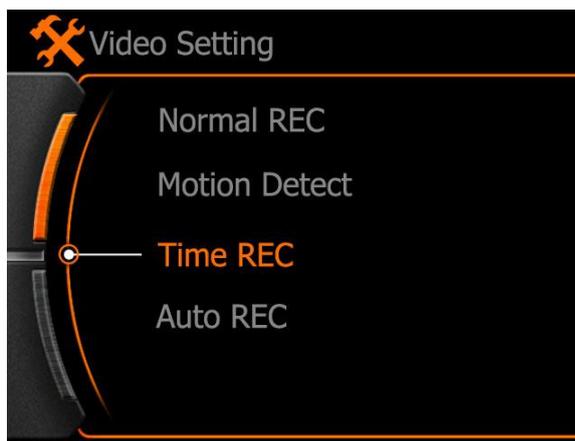


Note :

The movement detect will start after 10 second only when first time setting did.

First time default video record time is 1 minute, if here also have movement after recorded 30 seconds, system will continue record another 30 seconds, camera will not stop video record if movement always happen in the picture except battery empty or memory full.

c. Time REC: Set a time (local time) to start the video record automatically



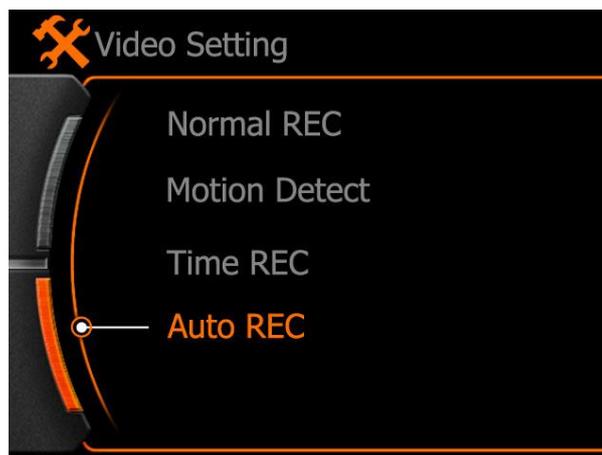
Red color means current option has been selected, use "<" and ">" to add / subtract the number, press REC button to next option. After first line setting finished, press ">" move down to set next time.



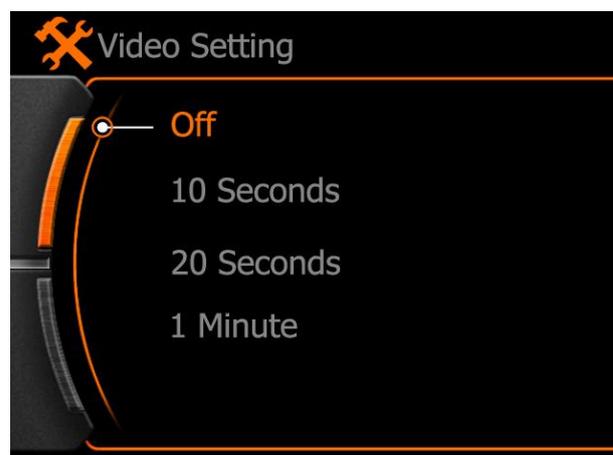
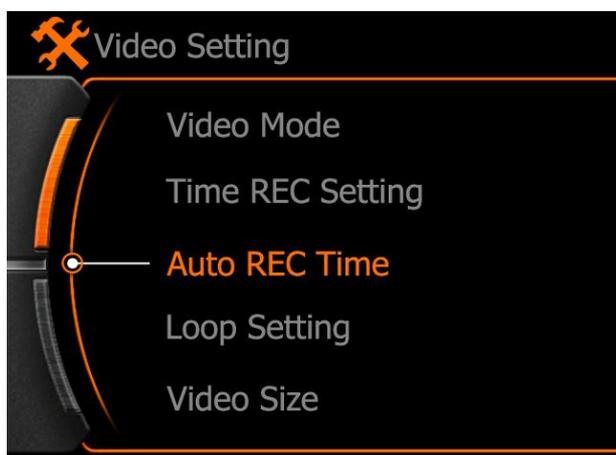
2011: Year, **03**: Month, **28**:Date, **18**:Hour, **08**:Minute, **25**: How long time of this record

The whole line will be **green** if setting finished, will be **white** if the setting time is the past, mean the setting is not valid. The longest video clip time is 99 minutes.

d. Auto REC: Camera will start video record automatically after power ON.



After the " Auto REC" option selected, then still need to set a time under " Auto REC time" as below:



OFF : Not activated

10 Seconds : Camera will start video record in 10 Seconds after power ON (start the vehicle).

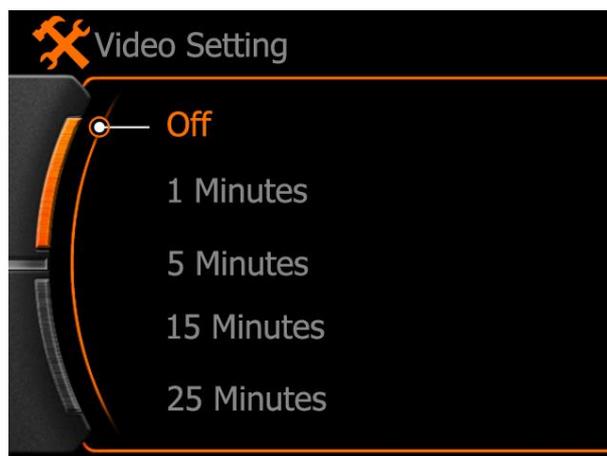
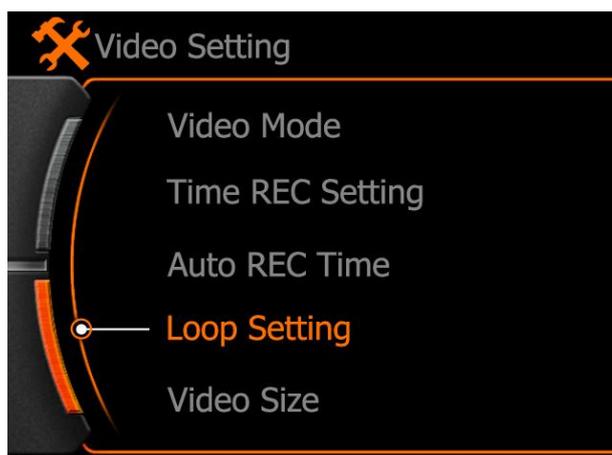
20 Seconds : Camera will start video record in 20 Seconds after power ON (start the vehicle).

1 Minute : Camera will start video record in 60 Seconds after power ON (start the vehicle).

Note : "Auto REC" function should work with the "Auto REC time" setting, this function is designed for car black box that used with cigar lighter charger in vehicle. Cigar lighter charger is custom made and special for this camera, other charger will not make this camera works. Cigar lighter charger is optional accessory.

Loop Record

The camera will delete the earliest video clip for newest video clip if memory is not enough.



Select the " Loop Setting" and press " REC" button to enter the time setting.

OFF : Loop record is not activated

1 Minute: 1 minute per video clip.

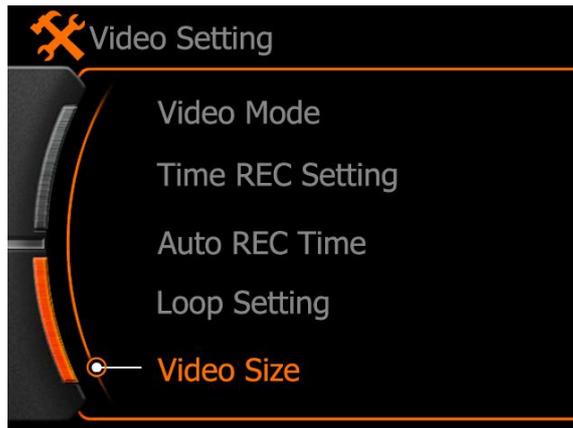
5 Minutes: 5 minutes per video clip.

Note:

Loop record only available under Normal record and Auto REC mode.

Video Resolution

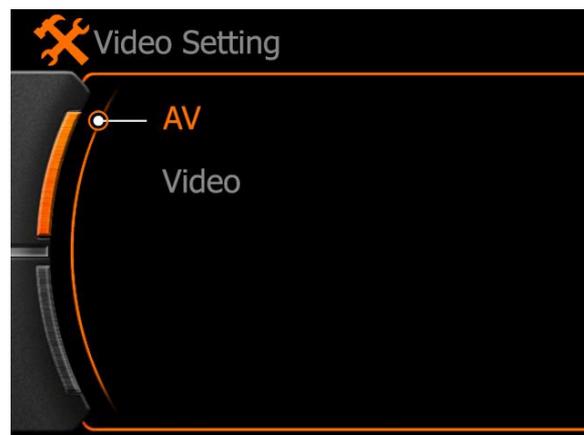
Choose suitable resolution for different purpose, lower resolution will save power and memory for longer time record.



Resolution		Frame Rate	Ratio
1920x1080	Full HD 1080P	30FPS	16 : 9
1440x1080	Full HD1080P	30FPS	4 : 3
1280x720	HD 720P	60FPS	16 : 9
1280x720	HD 720P	30FPS	16 : 9
848x480	QVGA	60FPS	4 : 3

Record Content

A setting option for " Audio and Video" (video clip with sound) or " Video " (video clip without sound) only.



Press **REC** button to confirm setting and quit.

Time Stamp

Date and Time will display on the video clip if " Enable" this feature.

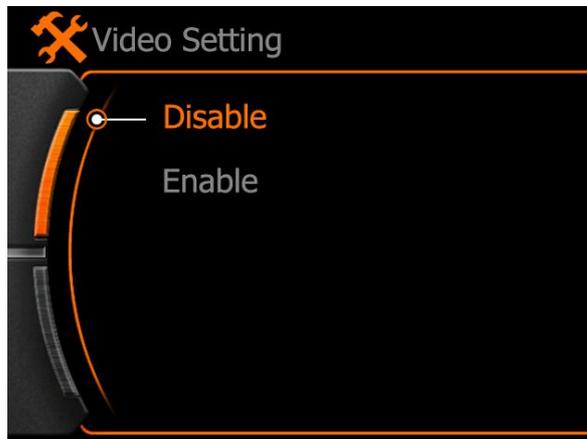
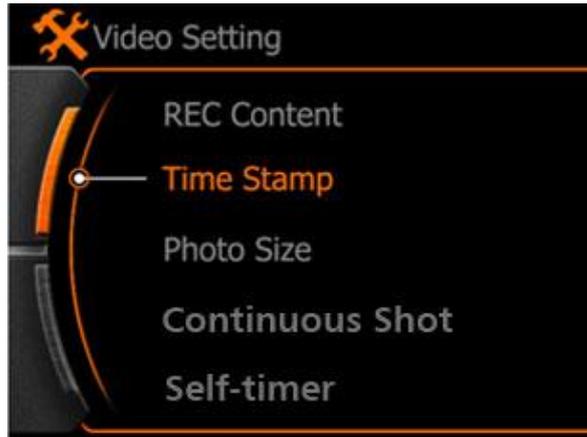
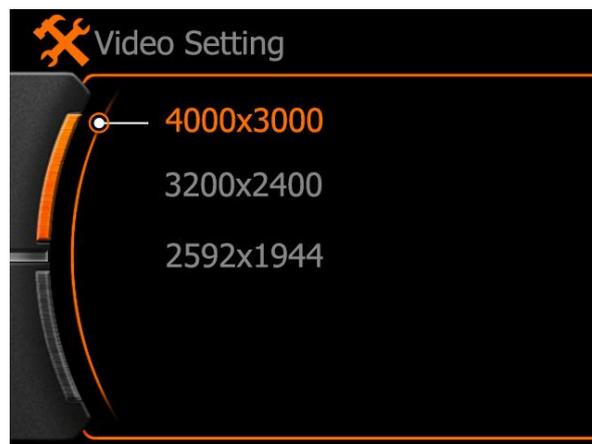
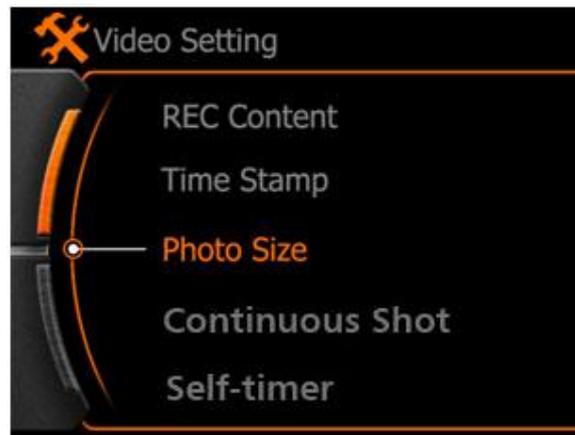


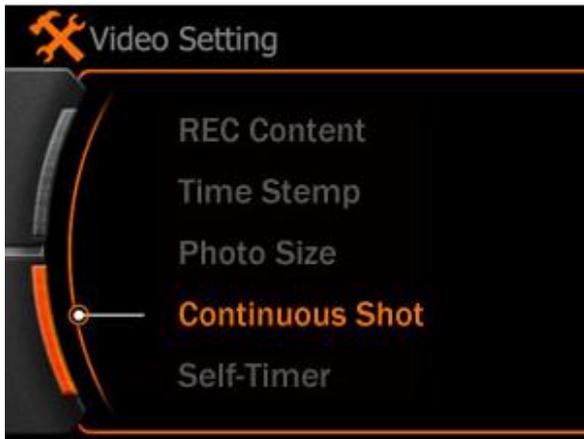
Photo Size

A setting option of the picture resolution when take a picture.



Continuous Shot

Press MENU to enter the main menu, use < > button to select “ Continuous shot” menu, press REC to confirm and choose the quantity of one shot.



Self-Timer

Press POWER button to active this feature, camera will take pictures in every 10 seconds if no other operation during this.



Note :

If will not available for the Continuous Shot and Self-Time feature after power OFF, will turn to normal capture automatically.

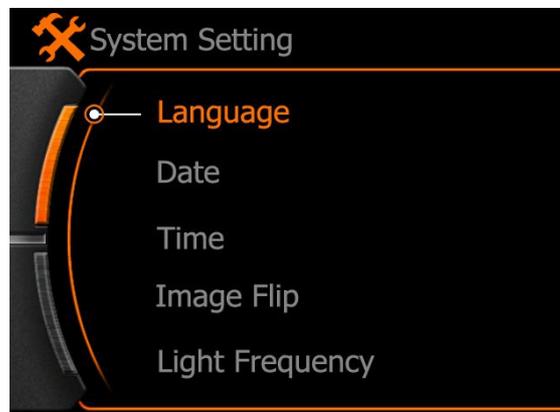
System Setting

Press **MENU** to enter the main menu, System setting icon showed as below, select and press **REC** button to enter.



Language Setting

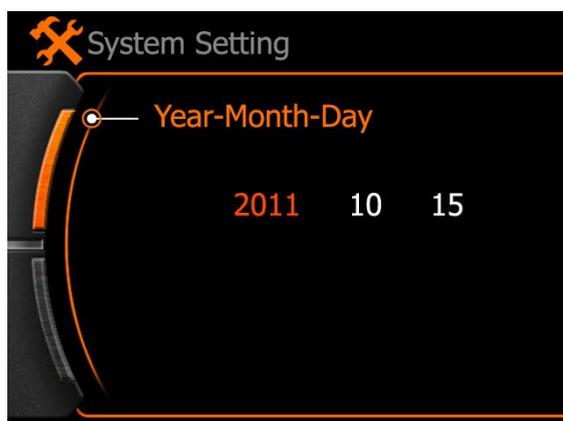
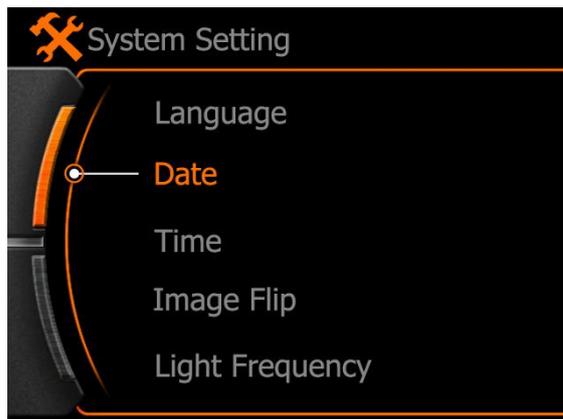
Select the language and press **REC** button to confirm.



Date & Time Setting

1.Date Setting:

Enter date setting, press **REC** to select the option, and press **REC** again to next option

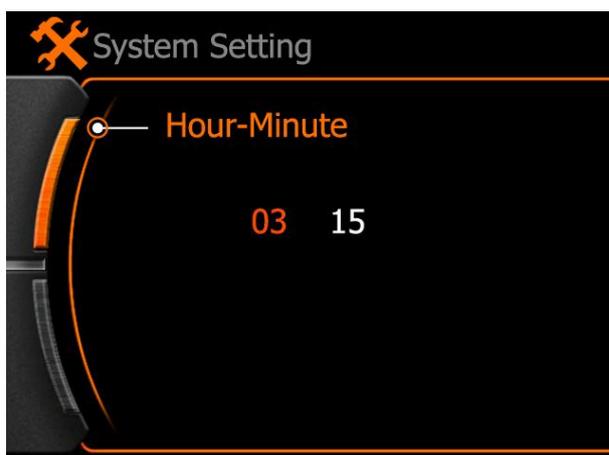
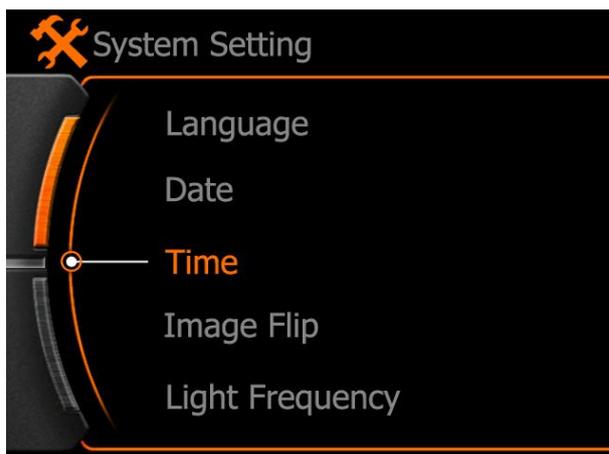


2011 : Year option, Red color means changeable

10 : Month option, press REC to select and use "<" or ">" to change

15 : Date option, press REC to select and use "<" or ">" to change

2. Time Setting



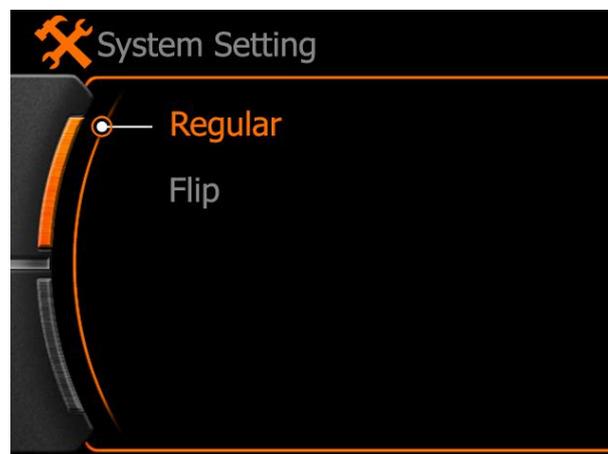
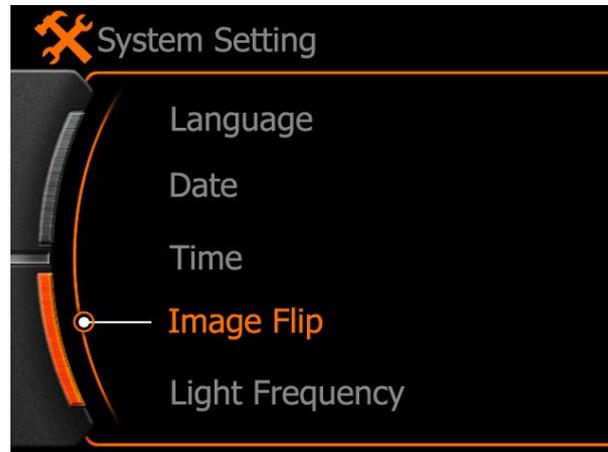
03 15

03: Hour 15: Minute

Same operation as date setting.

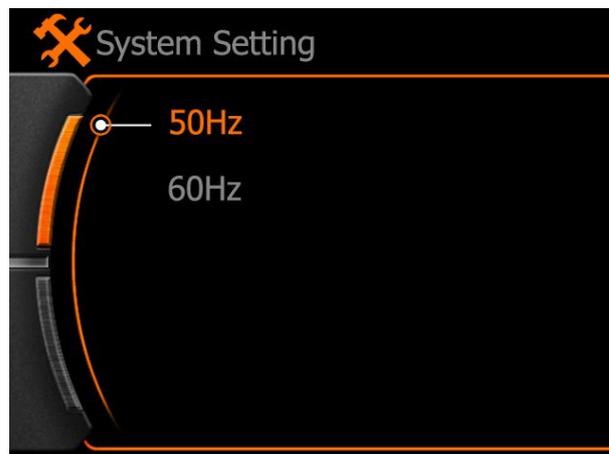
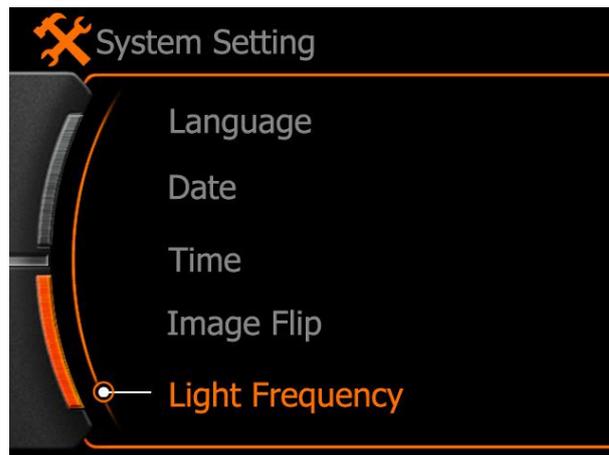
Image Flip

Active this function when you need to install the camera at upside down position, to make right video recorded. The recorded image will flip 180° .



Light Frequency

Please choose the correct frequency according to your country or area, picture would flash if incorrect frequency set.



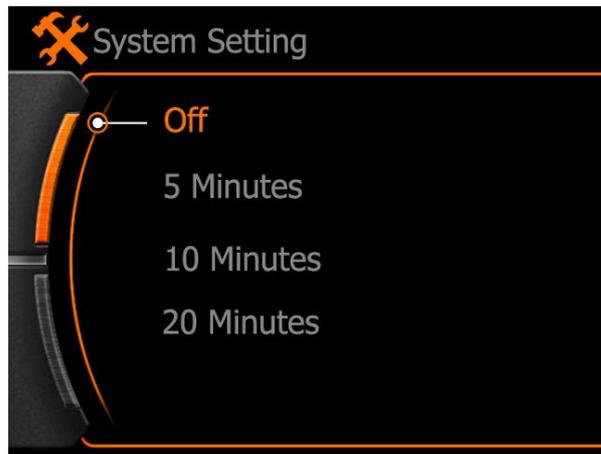
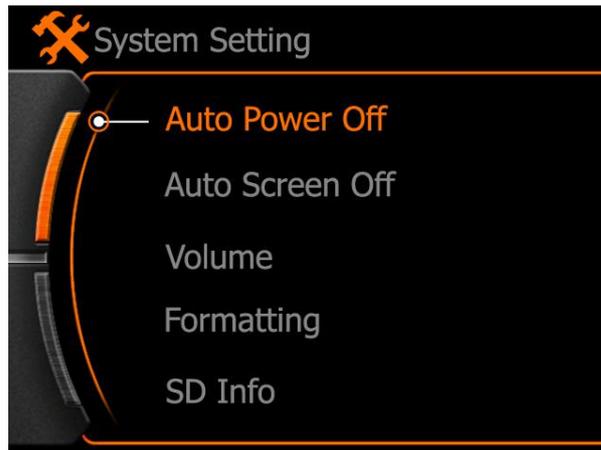
CHINA: 50Hz

USA: 50Hz

EU: 60Hz

Auto Power OFF

If you want the camera power off automatically after some time, then active this function and set a time.



Press **REC** button to enter and confirm setting.

OFF : Not actived

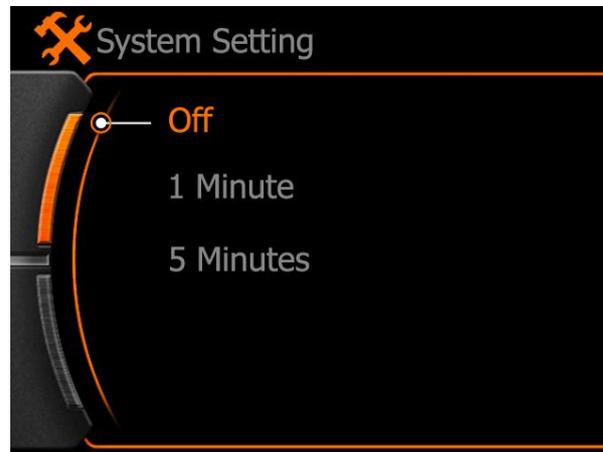
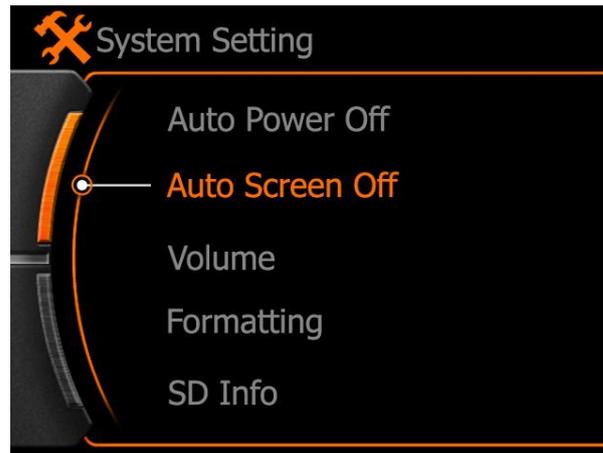
5 Mins : Camera will power OFF after 5 minutes whatever state

10 Mins : Camera will power OFF after 10 minutes whatever state

20 Mins : Camera will power OFF after 20 minutes whatever state

Auto Screen OFF

For power saving or other purpose, we would need to turn off the screen.



Press **REC** button to enter and confirm the setting.

OFF : Not activated

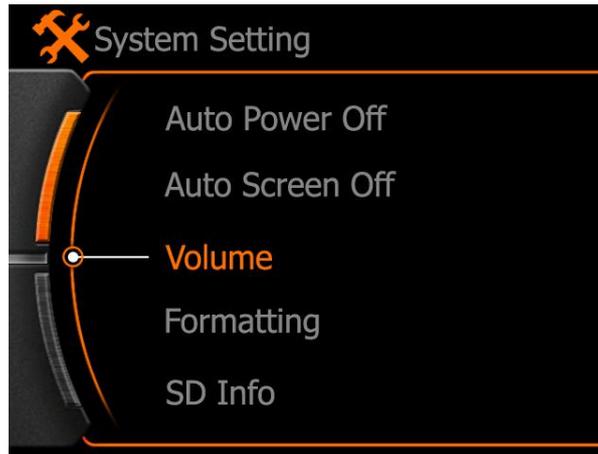
1Minute : Camera will turn off the screen automatically whatever state

5Minutes : Camera will turn off the screen automatically whatever state

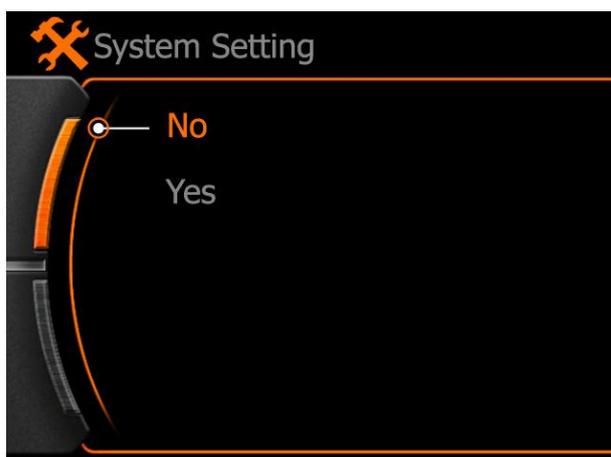
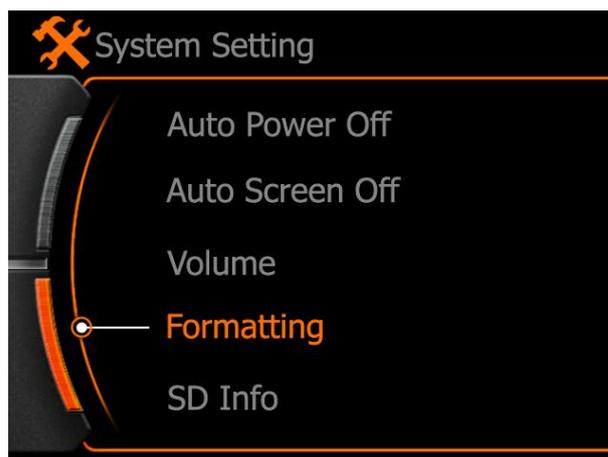
Recommend to turn on this function for longer time working.

Volume

Volume option for Button press and speaker.



Format

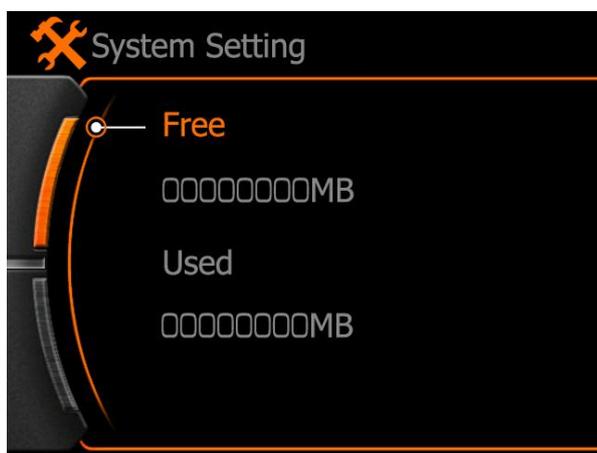
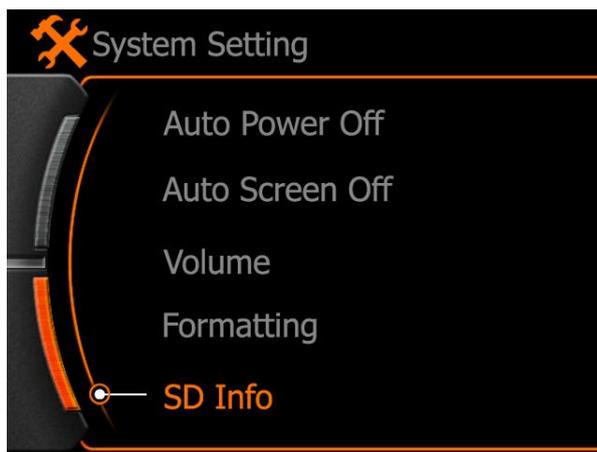


Note :

Date can not recover after formatted, please make copy before this operation.

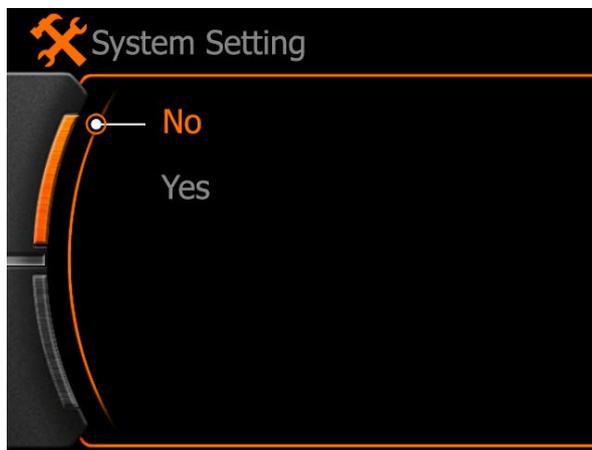
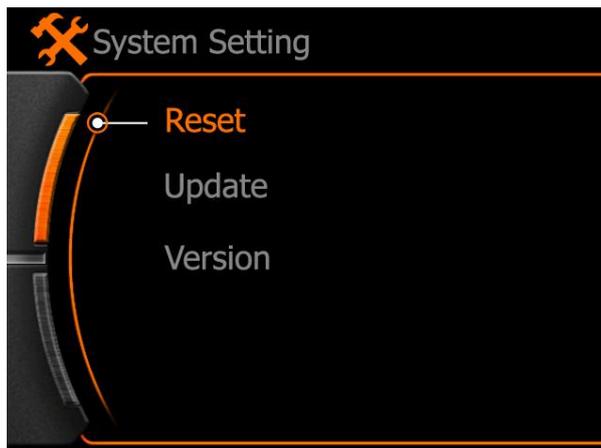
Memory Info

To show the used memory and rest available memory of SD card.



Reset

The system will reset to the factory-set if do this operation.



Note :

If the user updated the firmware, would need to reset the system once to make the software work normally.

Firmware Update

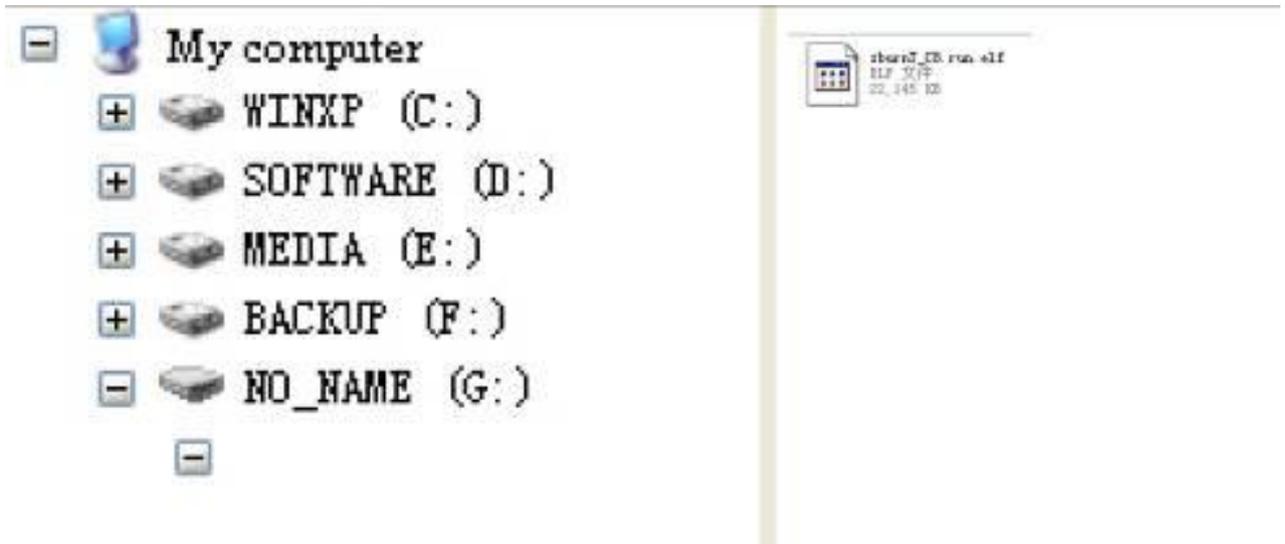
Download the firmware package from official website or local distributors website, the package as below:



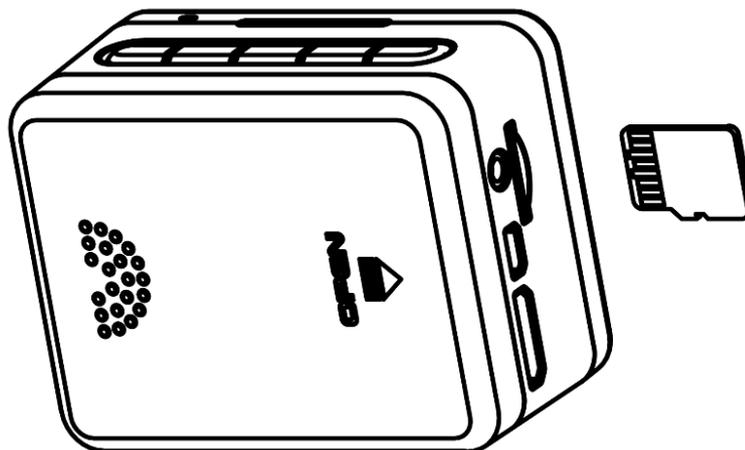
After released:



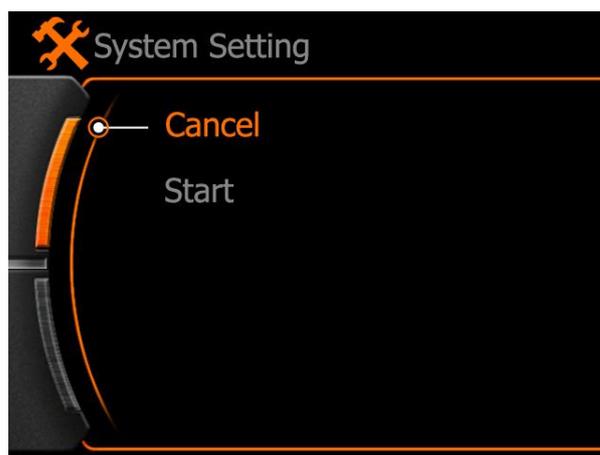
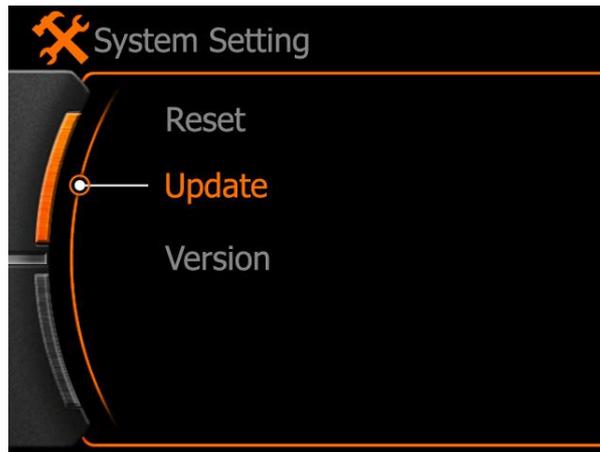
Copy the firmware "EGOHD1080P-V1.00.bin" to the root directory of SD card (Do not modify the file name)



Install the SD card



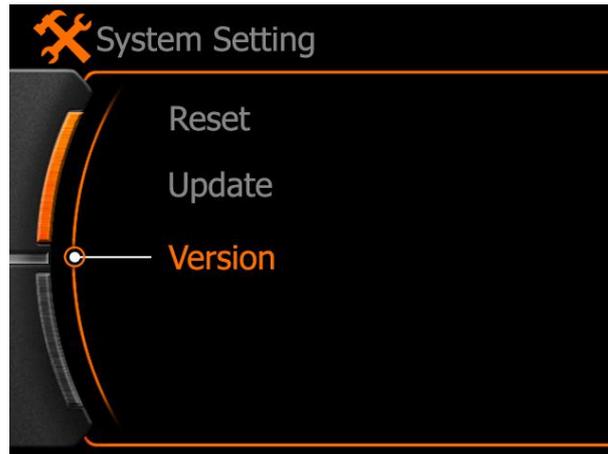
Firmware Update



Select " Start" and press REC button to confirm the update operation, camera will reboot automatically after finished, if here without correct firmware in the SD card, system will notice on screen.

Version

To check the version of current running software. (Model No. – Version)



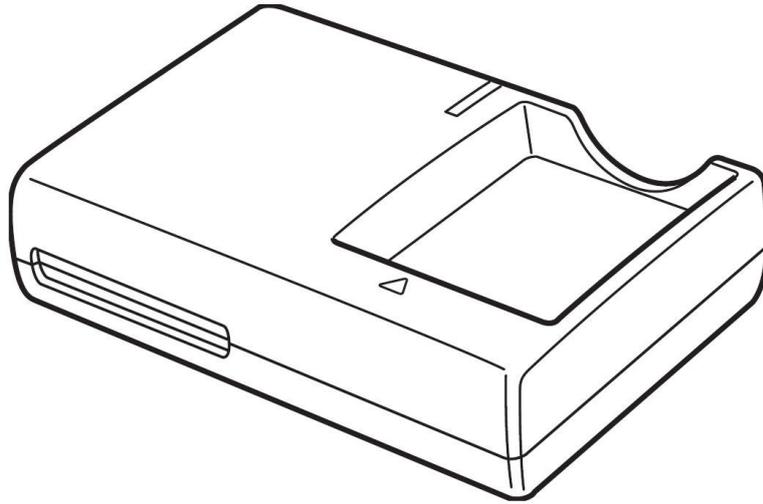
Specifications

	Item	Spec	Remark	
Basic Spec	Built in memory	32MB		
	TF Card	1-32GB	Support SDHC	
	LCD	size	1.5 inch	
		resolution	480x240	
	sensor	size	1/2.5 inch	CMOS
		Image pixel	2592H x 1944V	
	video	Output interface	HDMI/USB/RCA	
	audio	MIC	Built in	
		Output interface	HDMI/USB/RCA	
		speaker	Built in	
	PC interface	USB	USB 2.0	High speed
	Power	Battery	3.7[V], 800[mAh]	Li-ion battery
DC charger		DC 5V, 1200mA		
Main unit spec	Main unit dimension	58.6x31.2x44.8mm		
	weight	g	With battery	
	Waterproof housing dimension	75.3x37.9x58.5mm		
Other function	Motion detection	YES		
	Timing record	YES		
	Auto record	YES		
	Loop record	YES		
	Continuous capture	YES		
	Self-timer	YES		
	Zoom focus	YES		
	Time stamp	YES		

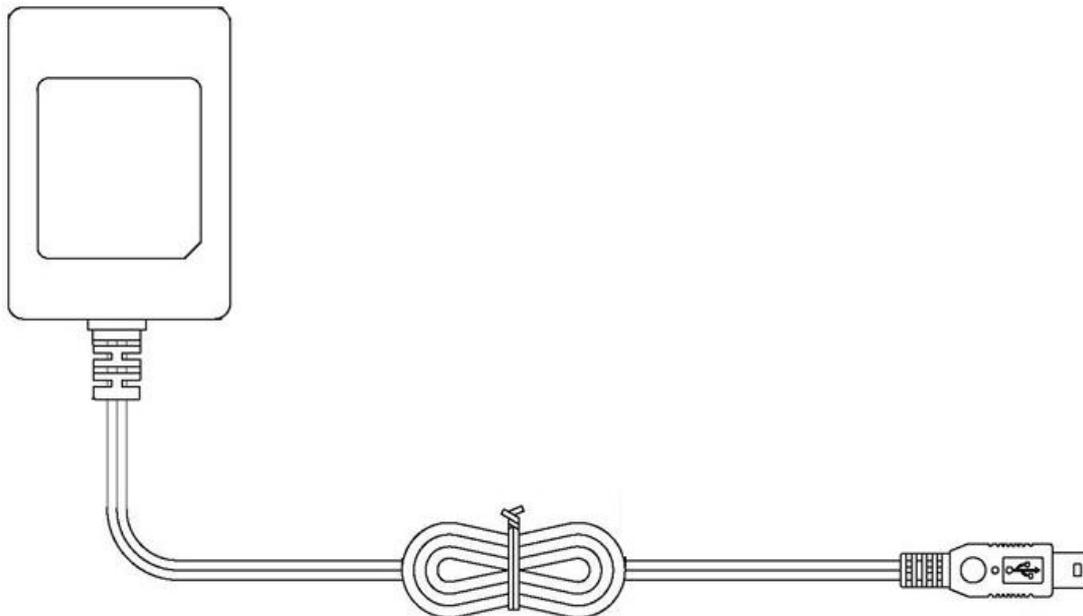
	Item		Spec	Remark
	Image flip		YES	180° upright
	Video quality option		YES	
	Support record under screen off		YES	
	File protection while low power		YES	
Record spec	Auto power OFF option		YES	5、 10、 20 minutes
	Video record	Optional	FULL HD1920x1080 30FPS	
			FULL HD 1440x1080 30FPS	
			FULL HD1280x720 60FPS	
			FULL HD1280x720 30FPS	
			QVGA 848x480 60FPS	
	Capture	Optional	4000 x 3000	12MP
3200 x 2400			8MP	
2592 x 1944			5MP	
Sound record		No		
Play back	Slide playback		No	
	Thumbnail browse		YES	2 x 3 Martix
	Video	Support	Full HD 1920x1080	HD 1280x720 WVGA: 848x480
			Full HD1440x1080	
			HD 1280x720	
	Frame rates	30 FPS	60 FPS	
	File format	FULL HD MP4 H.264/MPEG4		
	Playing speed	Optional	X1, X2,X 4,X 8	

Wall Charger

1 , Battery charger (Standard accessory)

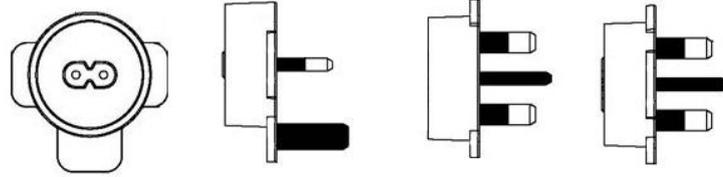


2 , Direct Charger (Optional accessory) :

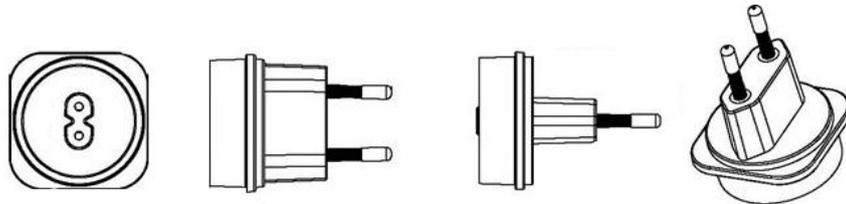


3 , Optional Adaptor :

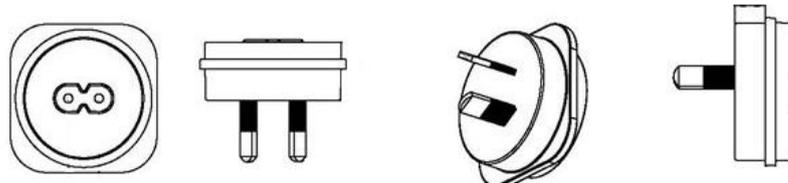
BS:



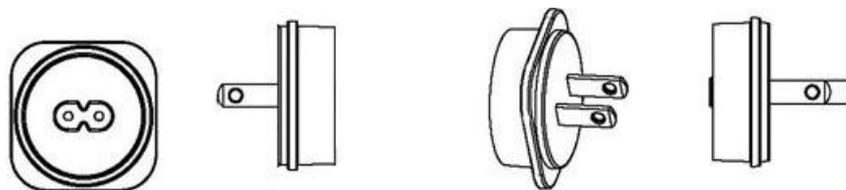
EU:



SAA:



USA:



Accessories



Disc Manual



Li-ion Battery



Remote controller



USB cable



Battery charger



Mount Protector



Lens Protector



Tripod attachment



Curved Adhesive Mount



Bar Mount



Flat Adhesive Mounts

Accessories



Short right angle attachment



Short straight attachment



Long right angle attachment



Standard mount



Offset mount



Tripod Mount Attachment



Please Recycle.

21PRO