INTOVA

Born in Hawaii - Built for the World

Sport HD II

Xtreme Imaging

Table of Contents：

Notes: This manual contains important safety and operating information. Please read all the information carefully before you use the device to avoid accidents and keep it for future reference.

Preface：

Thank you for purchasing the Intova Sport HD II waterproof action camera! Key features of the model SP1 N include: 1080P Full HD, built in LCD screen, full menu control buttons for easy operation, a rugged, ergonomic and compact outer casing that is waterproof to 60 meters/200 feet and floats Sport HD II will help you enjoy high quality video and photos for all your recreational activities

Visit www intova net to view the wide range of mount options available to help fully utilize this great camera Enjoy!!

Main features：

* Video resolution：1080P　　（1920×1080　　30fps）
　　　　　　　　　　　720P　　　（1280×720　　　60fps）
　　　　　　　　　　　720P　　　（1280×720　　　30fps）
　　　　　　　　　　　WVGA1　（848×480　　　60fps）
　　　　　　　　　　　WVGA　　（848×480　　　30fps）
　　　　　　　　　　　VGA　　　（640×480　　　30fps）

* Photo resolution：12M　　4000X3000Pixels (by interpolation)
　　　　　　　　　　　8M　　　3200X2400Pixels (by interpolation)
　　　　　　　　　　　5M　　　2592X1944Pixels
　　　　　　　　　　　3M　　　2048X1536Pixels

* 1 5 inch TFT LCD
* 4x Digital Zoom *(Zoom function cannot be used in 1080P mode.)*
* 140° wide angle lens
* Built in rechargeable 1450mAh lithium-ion battery
* Supports Micro SD card up to 32GB (class 6 minimum, for 1080p video recording class 10 is recommended)

Accessories：

User's manual CD / USB cable / TV out cable / hand strap

Computer operating system requirements：
PC computer operating system requirements for playback of 1080p and 720p video:
- Windows XP (Service Pack 2 or later)/Vista/Windows 7/Windows 8
- 1 GB of system RAM minimum
- 3 2 GHz Pentium 4 processor or faster
- Direct X 9 0c or later
- Video card with 256MB of RAM minimum
- Recommended screen resolution 1600x900 (minimum 1024x768)

Macintosh computer operating system requirements for playback of 1080p and 720p video:

- Mac OSX (version 10 4 11 or later)
- 1 GB of system RAM minimum
- 2 0 GHz Intel Core Duo or faster
- Video card with 256MB of RAM minimum
- Recommended screen resolution 1600x900 (minimum 1024x768)

Computer operating system requirements for playback of VGA video.
Windows 2000/XP :

- 128 MB RAM, more than 125 MB free disk space
- Available USB Interface
- Recommended screen resolution 1024 × 768 pixels or higher
- 16-bit color or higher display adaptor

Windows Vista :

- 800MHz processor and 512 MB of system memory
- 20GB hard drive with at least 15GB of available space
- Support for Super VGA graphics
- Available USB Interface

Windows 7 :

- 1 GHz or faster 32-bit(x86) or 64-bit (x64) processor
- 1GB RAM (32-bit) or 2GB RAM (64-bit)
- 16GB available system RAM(32-bit), 20GB(64-bit)
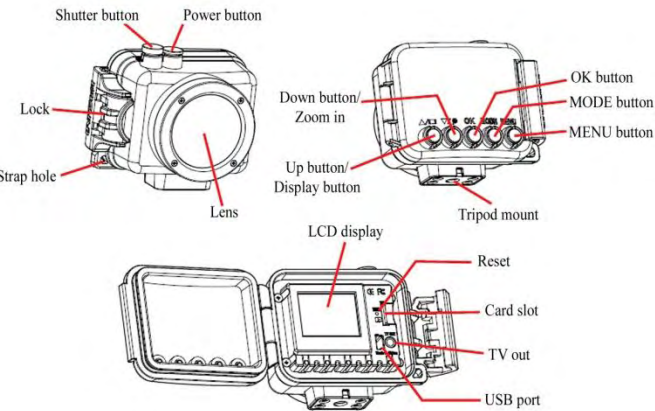- WDDM1 0 or higher version driver's Direct X9 graphics device

Macintosh :

- Power Macintosh G3 500 MHz or higher
- Mac OS X version 10 2 6 or later
- 128 MB or more available system RAM (256 MB recommended), 150 MB free disk space
- 800 x 600 or higher-resolution monitor displaying millions of colors

Handling notice before use：

• Do not attempt to take apart the camera as there are high voltage parts and dangerous electric shock can occur

• If the camera is dropped or smashed and internal parts are exposed, do not touch as there is a danger of electric shock

• Do not leave the camera in direct sunlight or near heat sources as these can damage the camera

• If camera becomes hot during use, turn off the power immediately

• For storage, remove the memory card and keep camera in a cool, dry place with housing door slightly open

• SPI floats Intova flotation strap (optional accessory) is recommended as extra precaution for water use

Product Structure：

Shutter button Power button

Lock

Strap hole

Lens

Down button/
Zoom in

Up button/
Display button

OK button
MODE button
MENU button

Tripod mount

LCD display

Reset

Card slot

TV out

USB port

Basic：

Open the housing：

Follow the indicated directions in the figure below to open the housing Sometimes a vacuum seal may occur, use thumb press system to open

Insert memory card：

Follow the indicated direction in the figure below to insert Micro SD memory card After the card is inserted, the icon will be shown on the LCD

* Please turn off the power when inserting or removing the memory card.
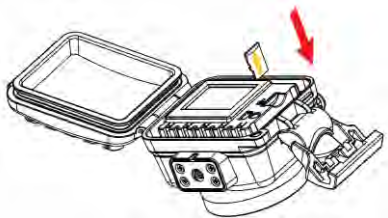
Notice：

1. Format the memory card before use

2 If the camera does not work with the memory card, please try a new card

3 The camera can't record video or take photos without a properly inserted memory card

USB charging and transferring：

Connect your computer to SP1 N with the USB cable After connection, press the

power button, and then use Up/Down buttons to select MDSC/CHARGE/OPEN
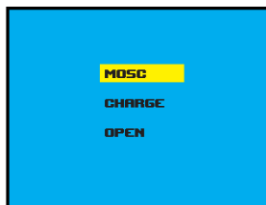
MDSC： Enter to download video or image files

CHARGE： Charge or recharge the battery power Full charging time is around 6 hours

OPEN: Recharge the battery power and operate the camera

TV OUT：

Connect SP1 N and TV with the TV cable to display the files on TV

Basic operations：

Video Mode- Idle	Recording Video	Picture Mode

FUNCTIONS:

📹 Video

📷 Photo

▶ Playback

POWER：

Short **Press** "POWER" button to turn on, and long press "POWER" button to turn off

MODE SWITCH：

Press the "MODE" button to switch between VIDEO/PHOTO

VIDEO/CAMERA:

Press "SHUTTER" button to begin video recording or to snap photo

Picture in VIDEO:

Press "OK" button to take a photo while video recording

PLAYBACK：

When in either video mode-idle or photo mode, press the "OK" button to enter Playback mode to view video and image files

DISPLAY：

When in either video or picture mode, press "UP" button to turn off LCD to save the battery power

RESET：

If camera shuts down and/or is unresponsive, use a tooth pick or sharp tool to insert into "RESET" hole to restart the camera

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Video mode：

The default setting of SP1 N is video mode　Press "Shutter" button to begin recording and press again to stop recording

Digital zoom：

　　Use the "Down" button to zoom in on the scene while selecting targets　The zoom factor will be displayed on the LCD, and can be increased to a maximum of 4X (NOTE: resolution drops as image is magnified)

* Zoom function cannot be used in 1080P mode.

Display in video mode：

The following icons show the various settings displayed on the LCD in idle Video mode
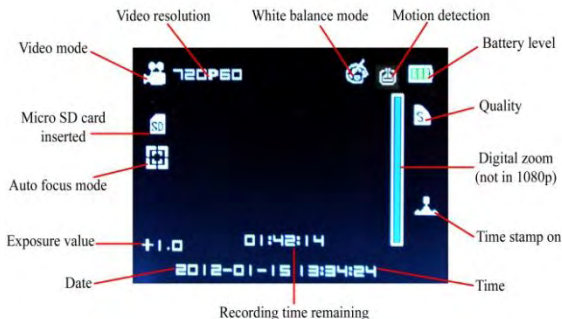
Video resolution — White balance mode — Motion detection
Video mode
Battery level
Micro SD card inserted
Quality
Auto focus mode
Digital zoom (not in 1080p)
Exposure value
Time stamp on
Date
Recording time remaining
Time

Blinking red dot (recording in progress)
Picture in video (orange color when photo is taken)
Video recording time
Time

Settings :

In the Video mode, press "MENU Button", and use the "UP / DOWN" buttons to select the option of the desired adjustment setting
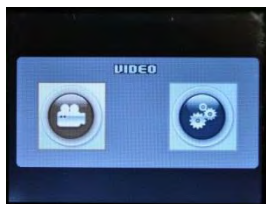
The following screens show the adjustable settings in the Video mode They include QUALITY / RESOLUTION / MOTION DETECTION / VIDEO DURATION/ LOOP VIDEO / UPSIDE DOWN / MUTE / IMAGE EFFECT / SCENE MODE / FLICKER / CONTRAST / SHARPNESS / ISO / WHITE BALANCE / EXPOSURE VALUE / AF MODE
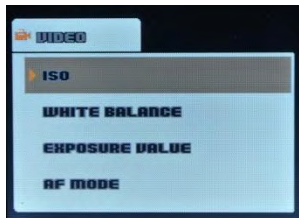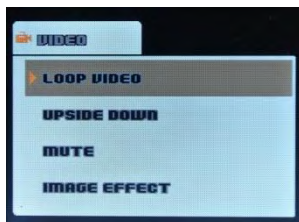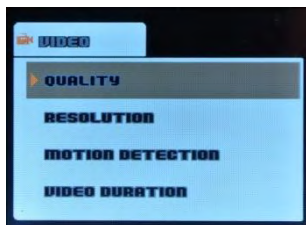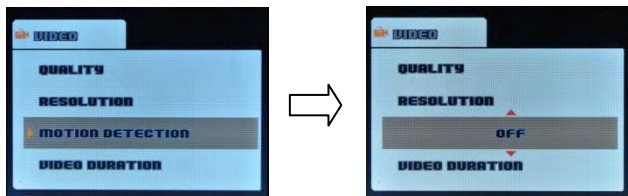
1. VIDEO

*QUALITY: This option adjusts the quality of the picture between normal and super fine
Use the "UP / DOWN" buttons to select "QUALITY", and press "OK" button to enter into
the setting There are SUPER FINE/FINE/NORMAL/ After selection, press "OK button" to
confirm, then press "MENU" button twice to return to main screen
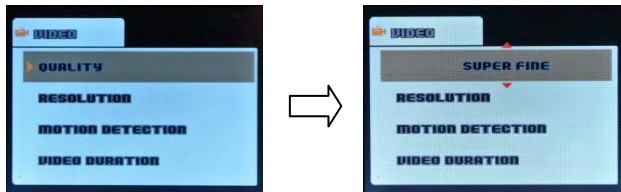
*RESOLUTION: This option adjusts the resolution of the video between 1080P, 720P,
WVGA and VGA Use the "UP/DOWN" buttons to select "RESOLUTION", and press
"OK" button to enter into the setting There are 1080P30 / 720P60 / 720P30 / WVGAP60 /
WVGAP30 / VGA After selection, press "OK" button to confirm, then press "MENU"
button twice to return to main screen
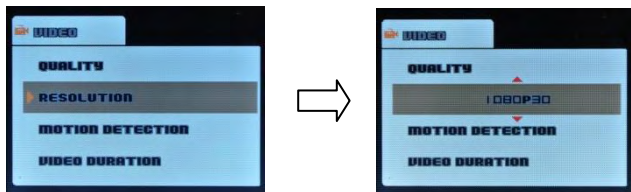
*MOTION DETECTION: This option automatically detects motion and begins recording
Use the "UP / DOWN" buttons to select "MOTION DETECTION", and press "OK" button
to enter into the setting Options are OFF and ON After selection, press "OK" button to
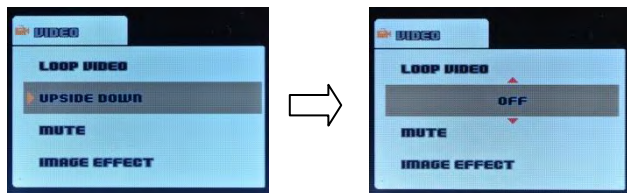confirm, then press "MENU" button twice to return to main screen

*VIDEO DURATION: This option adjusts the duration of each video file recorded Use the "UP / DOWN" buttons to select "VIDEO DURATION", and press "OK" button to enter the setting There are ANY DURATION / 3MIN / 5MIN / 10MIN / 15MIN After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
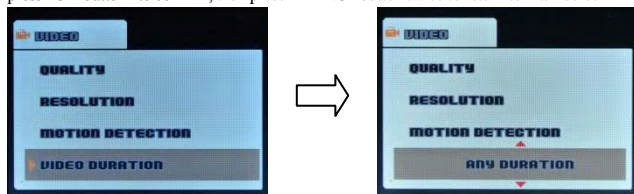

*LOOP VIDEO: This option disables or enables video files to be recorded over when the SD card memory is full Use the "UP / DOWN" buttons to select "LOOP VIDEO", and press "OK" button to enter into the setting These are ON and OFF After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
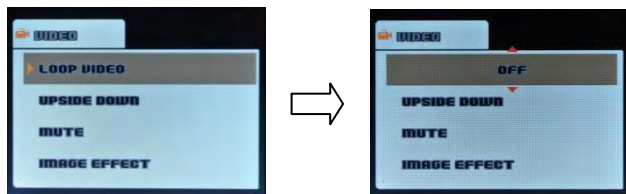
* UPSIDE DOWN (Video Flip): In the setting list, use the "UP / DOWN" buttons to select "upside down", and press "OK" button to enter into the setting Choose ON or OFF, and press "OK" button to confirm the selection, then press "MENU" button twice to return to main screen
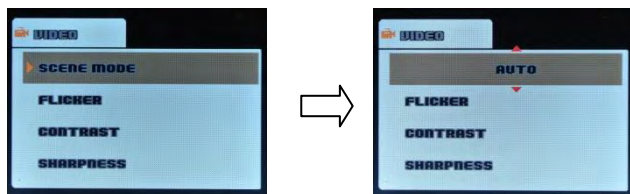
*MUTE: In the setting list, use the "UP / DOWN" buttons to select "MUTE", and press "OK button" to enter into the setting There are YES and NO to turn on / off audio recording After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
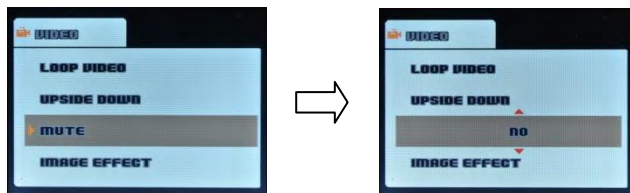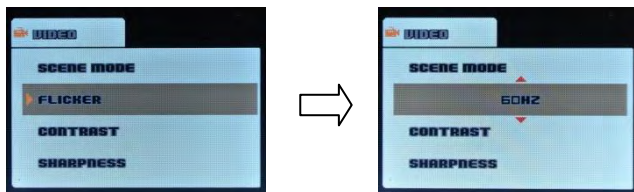

 * IMAGE EFFECT: In the setting list, use the "UP / DOWN" buttons to select "EFFECT", and press "OK button" to enter into the setting There are OFF / VIVID / BLACK-WHITE / NEGATIVE / SEPIA / ART After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
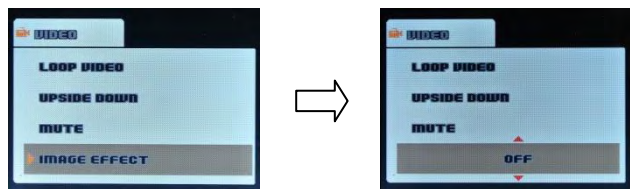
* SCENE MODE: use the UP / DOWN buttons to select "Scene Mode", and press "OK" button to enter into the setting There are NIGHT SCENE / SPORTS / LANDSCAPE / SUNSET / SAND, SNOW / SPOTLIGHT / DIVING / AUTO After selection, press "OK" button to confirm, then press "MENU" button twice to return to main screen
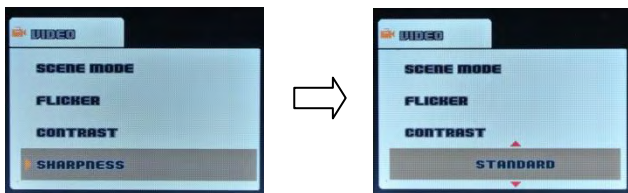
*FLICKER: This option adjusts the video between 60 Hz and 50 Hz use the "UP / DOWN" buttons to select "Flicker", and press "OK" button to enter into the setting There are 50Hz/60Hz After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
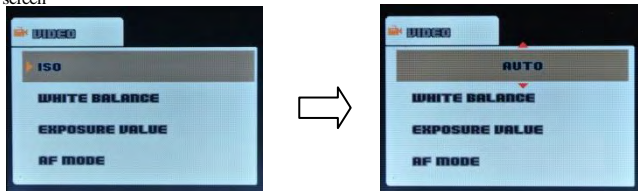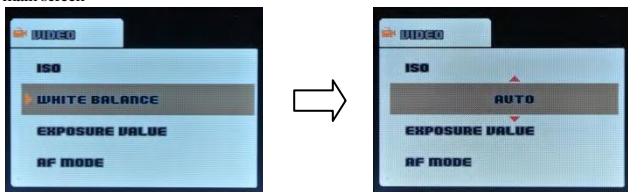

*CONTRAST: This option adjusts the contrast of the video recording In the setting list, use the "UP / DOWN" buttons to select "CONTRAST", and press "OK" button to enter into the setting There are STANDARD/ENHANCE/SOFT After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
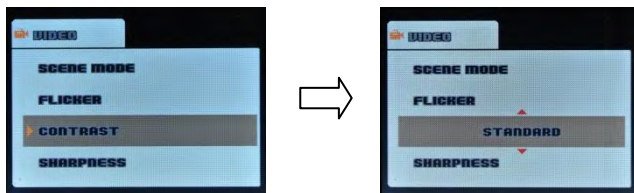
*SHARPNESS: This option adjusts the sharpness of the video recording In the setting list, use the "UP / DOWN" buttons to select "SHARPNESS", and press "OK" button to enter into the setting There are STANDARD/SHARP/SOFT After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

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*ISO: This option adjusts the sensitivity of the sensor The higher the value the brighter and grainier the video In the setting list, use the "UP / DOWN" buttons to select "ISO", and press "OK" button to enter into the setting There are AUTO/100/200/400/800 After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
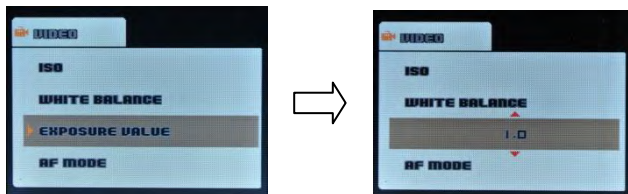

*WHITE BALANCE: This option adjusts the white balance of the video Use the "UP / DOWN" buttons to select "White Balance", and press "OK" button to enter into the setting There are AUTO/SUNNY/CLOUDY/FLUORESCENT/INCANDESCENT/MANUAL After selection, press "OK" button to confirm, then press "MENU" button twice to return to main screen

When selecting MANUAL white balance mode and exiting menu, monitor will show blinking manual white balance icon Aim camera at white balance board and press shutter button to set To reset manual white balance again, turn camera off and on to get blinking icon

EXPOSURE VALUE: This option adjusts the brightness and darkness of the video In the setting list, use the "UP / DOWN" buttons to select "EXPOSURE VALUE", and press "OK" button to enter into the setting The range is -2 0 to 2 0 After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
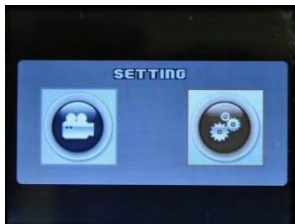
*AF MODE: use the "UP / DOWN" buttons to select "AF MODE", and press "OK" button to enter into the setting There are CENTER/AVERAGE/SPOT After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
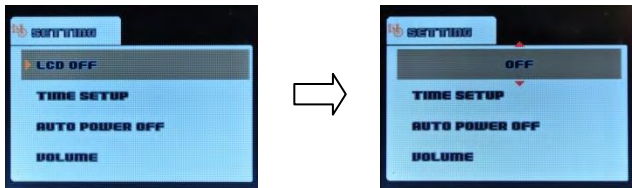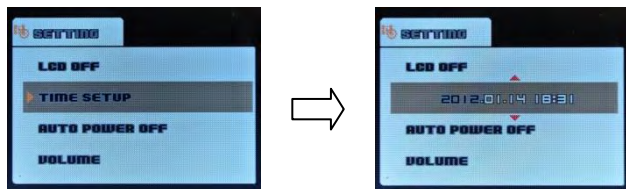

SETTINGS:
In the Video mode, press "MENU" button, and use the "UP / DOWN" buttons to select the option of the desired adjustment setting
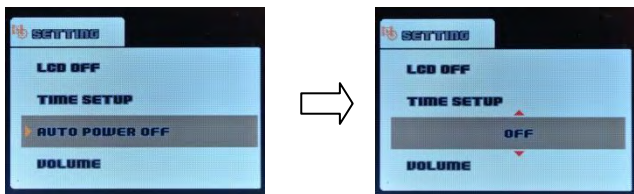

*LCD OFF: This option adjusts the time it takes for the LCD to automatically turn off In the setting list, use the "UP / DOWN" buttons to select "LCD OFF", and press "OK" button to enter into the setting There are OFF/30 sec/1 min/3 min After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
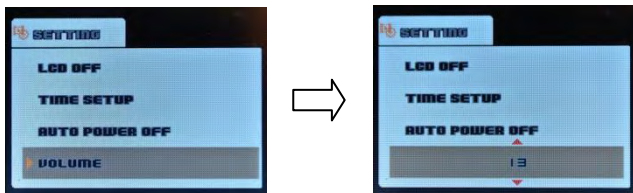

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*TIME SETUP: This option lets you set up the time and date In the setting list, use the "UP / DOWN" buttons to select "TIME SETUP", and press "OK" button to enter into the setting Use UP/DOWN buttons to change, and "MENU" button to go to next selection Press "OK" to confirm, then press "MENU" button twice to return to main screen

*AUTO POWER OFF: This option adjusts the time it takes for the SP1 to automatically turn off In the setting list, use the "UP / DOWN" buttons to select "AUTO POWER OFF", and press "OK" button to enter into the setting There are OFF/30 sec/1min/3 min After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*VOLUME: This option adjusts the volume of the audible notification beeps In the setting list, use the "UP / DOWN" buttons to select "VOLUME", and press "OK" button to enter into the setting The range is 0 to 13 After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
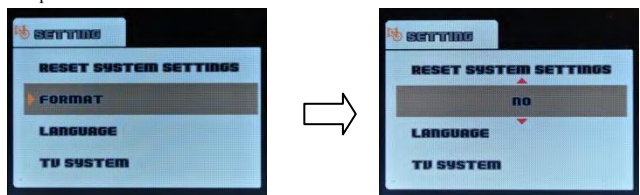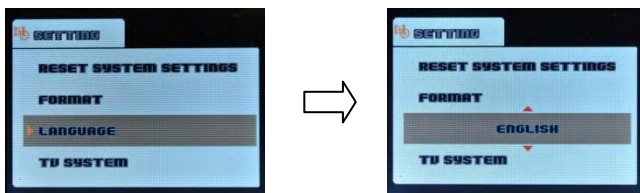
*RESET SYSTEM SETTINGS: This option resets all options back to default   In the setting list, use the "UP / DOWN" buttons to select "RESET SYSTEM SETTINGS", and press "OK" button to enter into the setting   There are YES and NO   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*FORMAT: This option formats the Micro SD card, thereby erasing all data   In the setting list, use the "UP / DOWN" buttons to select "FORMAT", and press "OK" button to enter into the setting   There are YES and NO   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
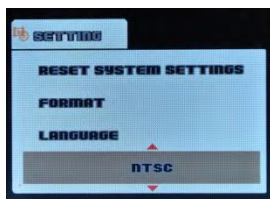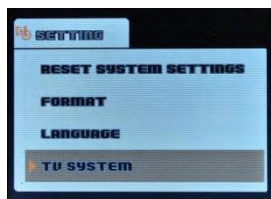

*LANGUAGE: This option lets the user select the menu language   In the setting list, use the "UP / DOWN" buttons to select "LANGUAGE", and press "OK" button to enter into the setting   There are ENGLISH / CHINESE (Traditional or Simplified) / JAPANESE / FRENCH / GERMAN / DUTCH / PORTUGUESE / SPANISH / KOREAN / ITALIAN   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

***TV SYSTEM:** use the UP / DOWN buttons to select "TV SYSTEM", and press "OK" button to enter into the setting There are NTSC and PAL After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen



*STAMP: This option turns on or off the time stamp while recording the video In the setting list, use the "UP / DOWN" buttons to select "STAMP", and press "OK" button to enter into the setting There are DATE/TIME or OFF After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*BEEP SOUND: This option enables or disables the audible notification beeps In the setting list, use the "UP / DOWN" buttons to select "BEEP SOUND", and press "OK" button to enter into the setting There are ON or OFF After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
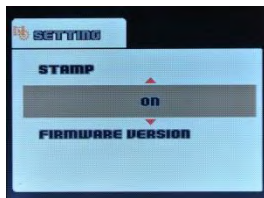
***FIRMWARE VERSION:** This option checks the firmware version of the camera
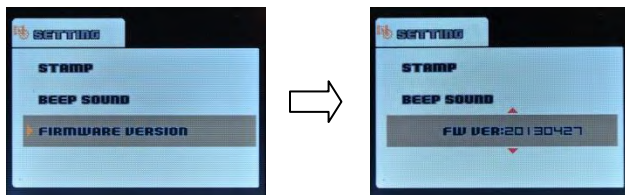
Photo mode：

Press the **MODE button** to enter the Photo mode Adjust the SP1 to take photos of the objects (viewed from the LCD), press the Shutter button to take photos

Digital zoom：
Use the "Down" button to zoom in on the scene while selecting subjects The zoom factor will be displayed on the LCD, and can be increased to a maximum of 4X (the resolution drops as an image is magnified)
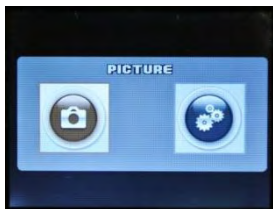
Photo Mode Display：
The following icons show the various icon settings displayed on the LCD in Photo mode
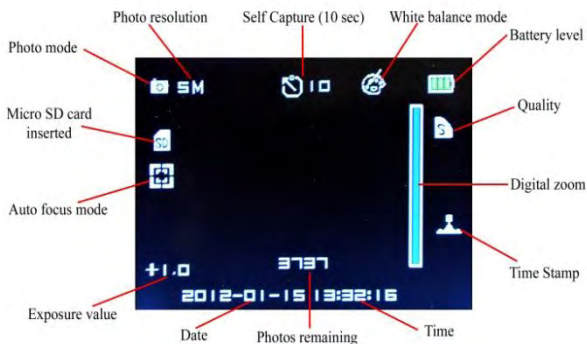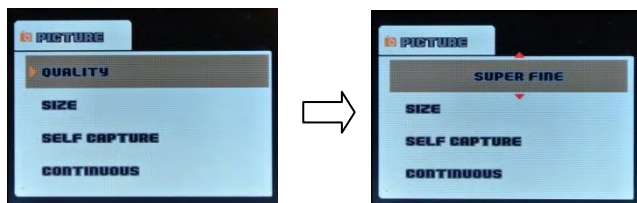
Settings：

In the Photo mode, press the "MENU Button", and use the UP / DOWN buttons to select the option of the desired adjustment setting


The following icons represent all of the functional settings in the Photo mode They include QUALITY / SIZE / SELF CAPTURE / CONTINUOUS / TIME LAPSE / UPSIDE DOWN / IMAGE EFFECT / SCENE MODE / FLICKER / CONTRAST / SHARPNESS / ISO / WHITE BALANCE / EXPOSURE VALUE / AF MODE
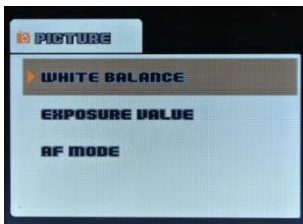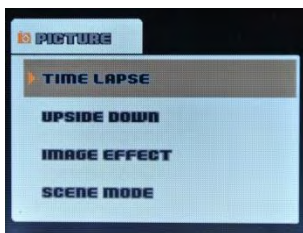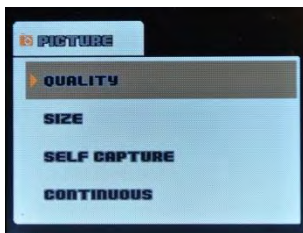
*QUALITY: This option adjusts the compression of the JPEG picture   Use the "UP / DOWN" buttons to select "QUALITY", and press "OK" button to enter into the setting   There are SUPER FINE/FINE/NORMAL/ After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen


*SIZE: This option adjusts the resolution of the picture between 3-12 megapixel   Use the "UP / DOWN" buttons to select "SIZE", and press "OK button" to enter into the setting   There are 12MP / 8MP / 5MP / 3MP   After selection, press "OK button" to confirm, then press MENU button twice to return to main screen
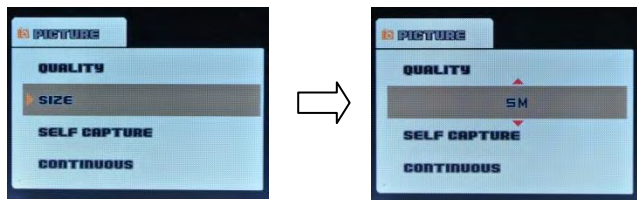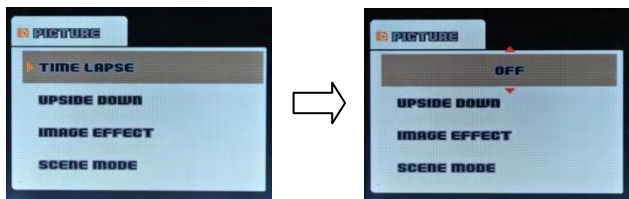

*SELF CAPTURE: use the "UP / DOWN" buttons to select "SELF CAPTURE", and press "OK button" to enter into the setting   There are OFF and ON   After selection, press "OK button" to confirm, then press MENU button twice to return to main screen
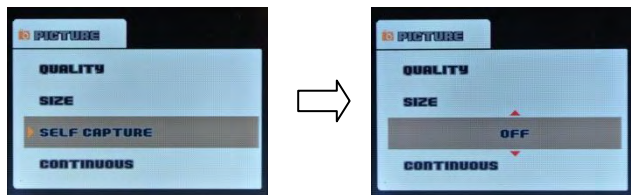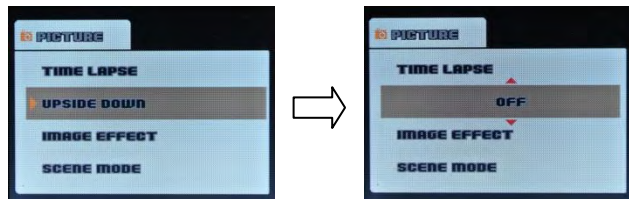
*CONTINUOUS: use the "UP / DOWN" buttons to select "CONTINUOUS", and press "OK button" " to enter into the setting   There are OFF / 3 PIC / 5 PIC / 10 PIC   Press "OK button" to confirm, then press "MENU" button twice to return to main screen
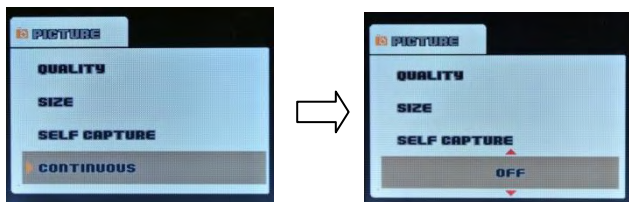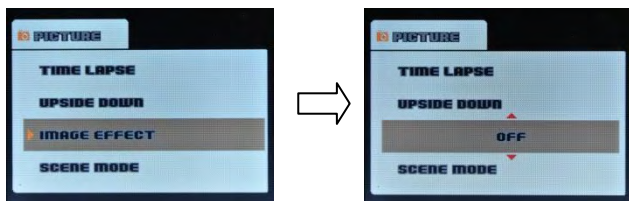

*TIME LAPSE: use the "UP / DOWN" buttons to select "TIME LAPSE", and press "OK button" " to enter into the setting   Use the "UP / DOWN" buttons to select 60 sec /30 sec /10 sec/ 5 sec / 3 sec / 2 sec / OFF, and press "OK button" to confirm, then press "MENU" button twice to return to main screen
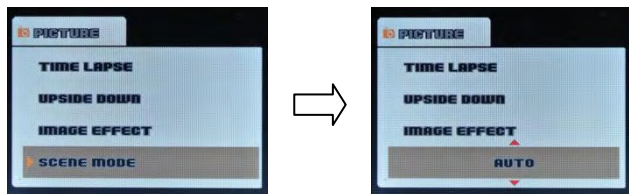

*UPSIDE DOWN: use the "UP / DOWN" buttons to select "UPSIDE DOWN", and press "OK button" " to enter into the setting   There are OFF and ON   After selection, press "OK button" to confirm, then press MENU button twice to return to main screen


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*IMAGE EFFECT: use the UP / DOWN buttons to select "DIGITAL EFFECT", and press "OK button" to enter into the setting There are OFF/ VIVID / BLACK-WHITE / NEGATIVE / SEPIA / ART After selection, press "OK button" to confirm, then press MENU button twice to return to main screen
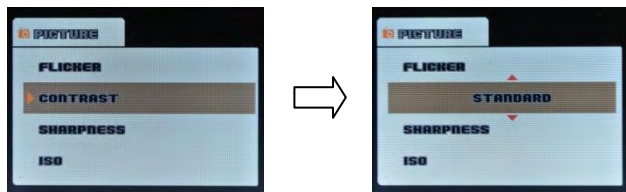

*SCENE MODE: use the UP / DOWN buttons to select "SCENE MODE", and press "OK button" ", and press "OK button" to enter into the setting There are AUTO/NIGHT SCENE/ SPORTS / LANDSCAPE / SUNSET / SAND, SNOW / SPOTLIGHT / DIVING / After selection, press "OK button" to confirm, then press MENU button twice to return to main screen
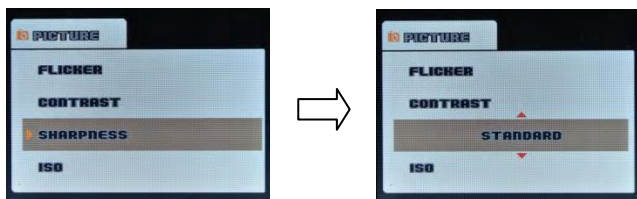

*FLICKER: This option adjusts the video between 60 Hz and 50 Hz use the "UP / DOWN" buttons to select "Flicker", and press "OK" button to enter into the setting There are 50Hz/60Hz After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
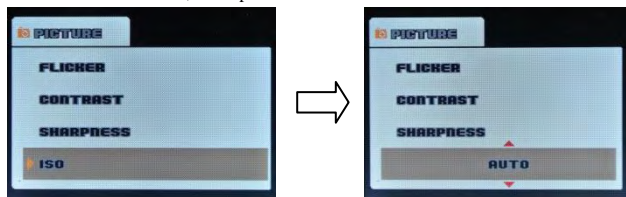

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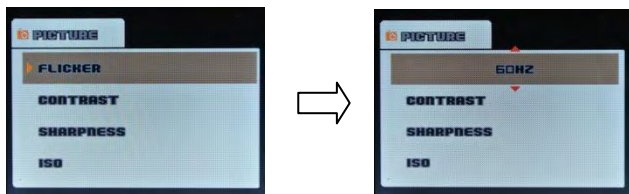
* CONTRAST: This option adjusts the contrast of the picture use the UP / DOWN buttons to select "CONTRAST", and press "OK button" to enter into the setting There are STANDARD / ENHANCE / SOFT / After selection, press "OK button" to confirm, then press MENU button twice to return to main screen

*SHARPNESS: This option adjusts the sharpness of the picture use the UP / DOWN buttons to select "SHARPNESS", and press "OK button" to enter into the setting There are STANDARD / SHARP / SOFT / After selection, press "OK button" to confirm, then press MENU button twice to return to main screen


*ISO: This option adjusts the ISO value (the higher it is the brighter the picture but the grainier the picture quality) Use the UP / DOWN buttons to select "ISO", and press "OK button" to enter into the setting There are AUTO / 100 / 200 / 400 / 800 After selection, press "OK button" to confirm, then press MENU button twice to return to main screen
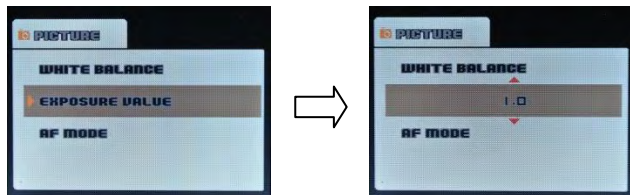

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*WHITE BALANCE: This option adjusts the white balance of the picture   Use the "UP /
DOWN" buttons to select "White Balance", and press "OK" button to enter into the setting
There are AUTO / SUNNY/ CLOUDY / FLUORESCENT / INCANDESCENT /
MANUAL After selection, press "OK" button to confirm, then press "MENU" button twice
to return to main screen
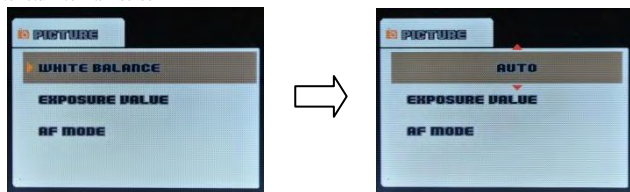
When selecting MANUAL white balance mode and exiting menu, monitor will show blinking
manual white balance icon Aim camera at white balance board and press shutter button to set
To reset manual white balance again, turn camera on and off to get blinking icon

*EXPOSURE VALUE: This option adjusts exposure of the picture (changing it between
dark and bright)   The higher the value, the brighter the picture becomes In the setting list,
use the "UP / DOWN" buttons to select "EXPOSURE VALUE", and press "OK" button to
enter into the setting The range is -2 0 to 2 0 After selection, press "OK button" to confirm,
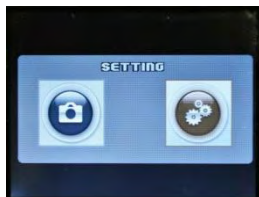then press "MENU" button twice to return to main screen

* AF MODE: use the UP / DOWN buttons to select "AF MODE", and press "OK" button to
enter into the setting There are CENTER/AVERAGE/SPOT/ After selection, press "OK
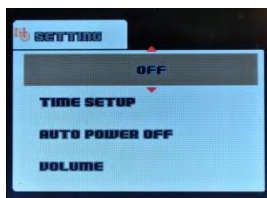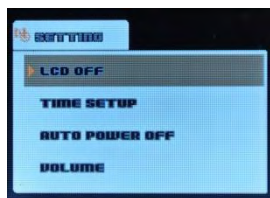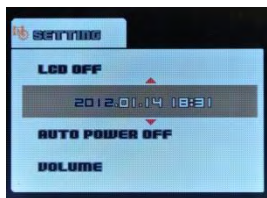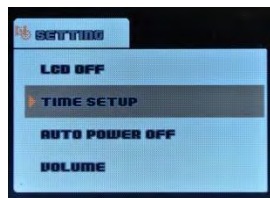button" to confirm, then press MENU button twice to return to main screen
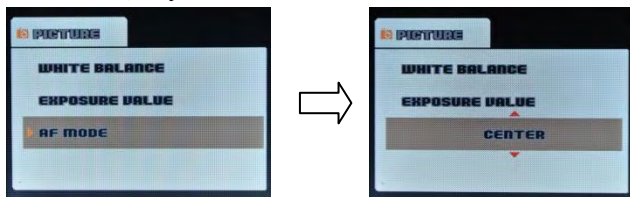
SETTINGS: use the UP / DOWN buttons to select "setting", and press "OK" button to enter into the setting

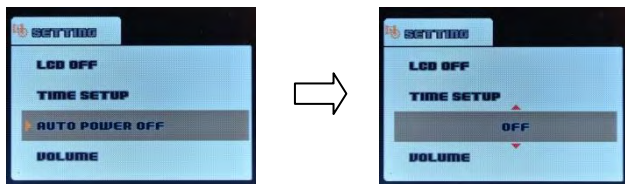
*LCD OFF: This option adjusts the time it takes for the LCD to automatically turn off   In the setting list, use the "UP / DOWN" buttons to select "LCD OFF", and press "OK" button to enter into the setting   There are OFF/30 sec/1 min/3 min   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
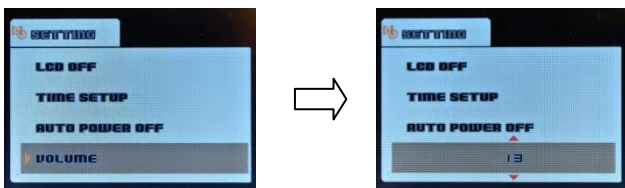

*TIME SETUP: This option lets you set the time and date   In the setting list, use the "UP / DOWN" buttons to select "TIME SETUP", and press "OK" button to enter into the setting   Use UP/DOWN buttons to change and "MENU" button to go to next selection   Press "OK" to confirm, then press "MENU" button twice to return to main screen
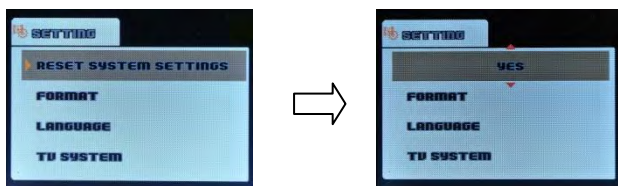
*AUTO POWER OFF: This option adjusts the time it takes for the DV to automatically turn off In the setting list, use the "UP / DOWN" buttons to select "AUTO POWER OFF", and press "OK" button to enter into the setting There are OFF / 30 sec / 1min / 3 min After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*VOLUME: This option adjusts the volume of the audible notification beeps In the setting list, use the "UP / DOWN" buttons to select "VOLUME", and press "OK" button to enter into the setting The range is 0 to 13 After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*RESET SYSTEM SETTINGS: This option resets all options back to default In the setting list, use the "UP / DOWN" buttons to select "RESET SYSTEM SETTINGS", and press "OK" button to enter into the setting There are YES and NO After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*FORMAT: This option formats the Micro SD card, thereby erasing all data   In the setting list, use the "UP / DOWN" buttons to select "FORMAT", and press "OK" button to enter into the setting   There are YES and NO   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
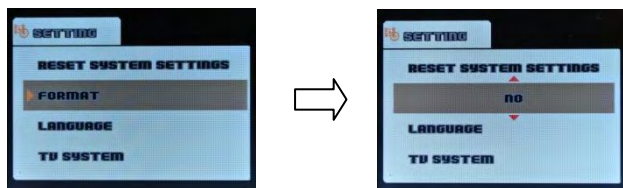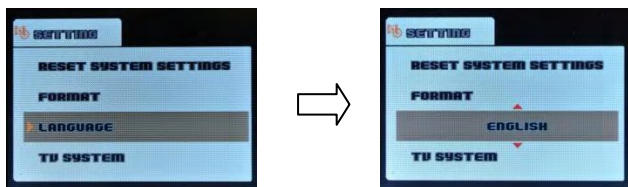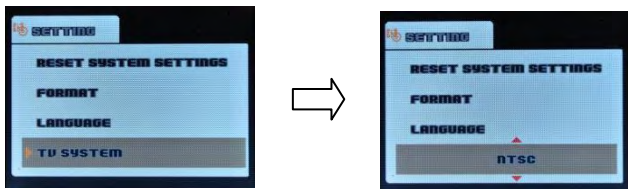

*LANGUAGE: This option lets the user select the menu language   In the setting list, use the "UP / DOWN" buttons to select "LANGUAGE", and press "OK" button to enter into the setting   There are ENGLISH / CHINESE (Traditional or Simplified) / JAPANESE / FRENCH / GERMAN / DUTCH / PORTUGUESE / SPANISH / KOREAN / ITALIAN   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen

*TV SYSTEM: use the UP / DOWN buttons to select "TV SYSTEM", and press "OK" button to enter into the setting   There are NTSC and PAL   After selection, press "OK button" to confirm, then press MENU button twice to return to main screen

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*STAMP: This option turns on or off the time stamp when taking pictures   In the setting list, use the "UP / DOWN" buttons to select "STAMP", and press "OK" button to enter into the setting   There are DATE/TIME or OFF   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
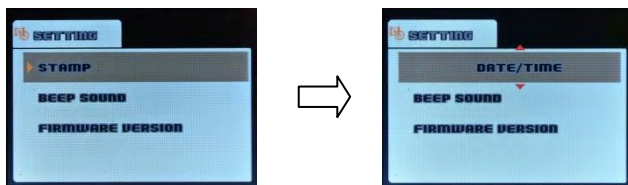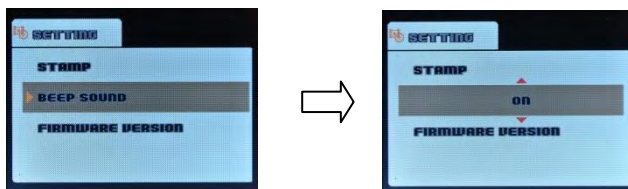

*BEEP SOUND: This option enables or disables the audible notifications   In the setting list, use the "UP / DOWN" buttons to select "BEEP SOUND", and press "OK" button to enter into the setting   There are ON or OFF   After selection, press "OK button" to confirm, then press "MENU" button twice to return to main screen
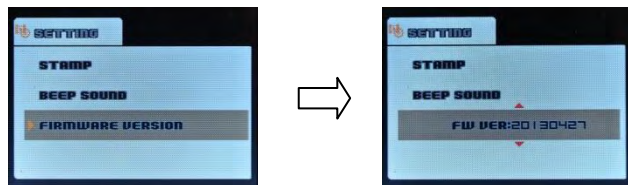

*FIRMWARE VERSION: This option checks the firmware version of the camera

Playback mode：
*VIDEO PLAYBACK：

Under video mode, press "OK" button to enter into playback mode Use "UP/DOWN" buttons to scroll and press "OK" button to select the video to be viewed   Press "OK" button to play it   Also, press "OK" button once again to stop the video, or press "DOWN" button to fast forward and "UP" button to slow down the file
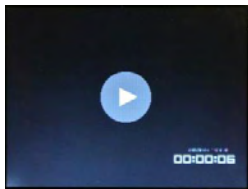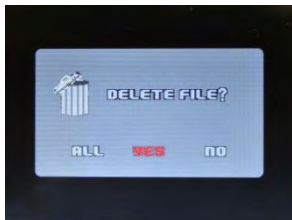

*PHOTO VIEWING AND SLIDESHOW：

Under photo mode, press "OK" button to enter into view photo mode   Use "UP/DOWN" buttons to scroll and press "OK" button to select the picture to be viewed   Press "UP/DOWN" buttons to scroll through pictures or press "OK" button to begin slideshow When viewing slide show, press "OK" button to stop slideshow Press "MODE" button to return to selection screen   Press "MODE" button again to return to main screen

* DELETE： In either the video or picture selection screen, use "UP/DOWN" buttons to select the video or photo to be deleted, and press "MENU" button Use "UP/DOWN" buttons to select **YES** (Single image), **ALL** (deletes either all videos or all pictures) or **NO.** Press "OK" button to confirm

Specifications:

Effective Sensor	1/ 2.5 5.0MP CMOS SENSOR			
LCD Screen	1.5 TFT-LCD 480*240			
Photo Resolution & Possible number of shots	12M 4000*3000 JPG about 1000pcs /4GB			
	8M 3200*2400 JPG about 1300pcs/4GB			
	5M 2592*1944 JPG about 1800pcs/4GB			
	3M 2048*1536 JPG about 3100pcs/4GB			
Video Resolution & possible recording time	Mode of Video	QUALITY：Super Fine	QUALITY：Fine	QUALITY：Normal
	1920*1080P 30 fps，MP4 format	About 42 min (4GB)	About 50 min (4GB)	About 63 min (4GB)
	1280*720P 60 fps，MP4 format	About 50 min (4GB)	About 56 min (4GB)	About 84min (4GB)
	1280*720P 30 fps，MP4 format	About 63min (4GB)	About 84 min (4GB)	About 127 min (4GB)
	848 x 480P 60 fps，MP4 format	About 63min (4GB)	About 84min (4GB)	About 127min (4GB)
Lens specification	F/2. 4 f=3. 35 mm 140 wide angle			
Built-in microphone	Yes			
Operation Tone	Available			

Battery capacity	3.7V/ 1450mAh
Power consumption	1.6W
Continuous recording	About 2.5 hrs (LCD on), 3 hrs (LCD off)
Charging spec.	DC5V 1A or above
Charging time	About 5 hrs
USB port	USB2.0 High Speed
Type of Memory	Micro SD card (class 6 minimum, class 10 recommended for HD video)

Capacity of Memory	2GB-32GB
Depth rating	Waterproof to 200 ft / 60M
Weight	6 oz / 170g
Dimension	(2.8x3.3x2.4)in / (7x8.4x6)cm
Standard Accessories	USB Cable，AV Cable，User Manual, Lens cap

NOTE: As a result of continual improvements, the design and specifications
of the product within may differ slightly to the unit illustrated on the packaging.